



# opti

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# Lanzar<sup>®</sup>opti

AMERICAN CRAFTED PERFORMANCE



PERFORMANCE

OPTI 2000D

OPTI 2600D

OPTI 3200D

OPTI 4000D

OPTI 4600D

OPTI 5000D

Owner's Manual

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*Lanzar* OPTI OWNER'S MANUAL

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## **INTRODUCTION**

Thank you for purchasing the Lanza OPTI Class-D amplifier. Rest assured you have purchased a quality product designed and engineered to give you many years of uncompromised musical service. The OPTI Class-D amplifier has been designed using the latest in electronic technology available today.

This mono subwoofer amplifier is the result of advanced high speed switching technology that overcomes the less-efficient classAB design. The OPTI Class-D amplifier reflects your true appreciation for powerful bass reproduction in the mobile environment.

This amplifier is designed for low-frequency information only and it is not capable of reproducing any mid/high-frequency information.

This is due to the noise introduced into the signal by the switching speed of the power supply, which must be filtered out of the audio signal.

The power supply incorporated into OPTI amplifier is a DC to DC switching power supply designed to have adequate headroom for even the most demanding peak and dynamic range found on today's CDs and recording.

**Opti**

### **PROTECTION LED COMES ON WHEN THE AMPLIFIER IS POWERED UP.**

- Check for shorts on speaker leads.
- Check that the volume control on the head unit is turned down low.
- Remove speaker leads, and reset the amplifier. If the Protection LED still comes on, then the amplifier is faulty.

### **AMPLIFIER(S) GETS VERY HOT.**

- Check that the minimum speaker impedance for that model is correct.
- Check for speaker shorts.
- Check that there is good airflow around the amplifier. In some applications, an external cooling fan may be required.

### **DISTORTED SOUND**

- Check that the Level control(s) is set to match the signal level of the head unit.
- Check that all crossover frequencies have been properly set.
- Check for shorts on the speaker leads.

### **HIGH SQUEAL NOISE FROM SPEAKERS.**

- This is always caused by a poorly-grounded RCA patch cord.

## **TROUBLESHOOTING**

Before removing your amplifier, refer to the list below and follow the suggested procedures. Always test the speakers and their wires first.

### **AMPLIFIER WILL NOT POWER UP.**

Check for good ground connection.

Check that remote DC terminal has at least 13.8v DC.

Check that there is battery power on the +terminal.

Check all fuses.

Check that Protection LED is not lit. If it is lit, shut off amplifier briefly and then repower it.

### **HIGH HISS OR ENGINE NOISE (ALTERNATOR WHINE) IN SPEAKERS.**

Disconnect all RCA inputs to the amplifier(s)-if hiss / noise disappears, then plug in the component driving the amplifier and unplug its inputs. If hiss / noise disappears, go on until the faulty / noisy component is found.

It is best to set the amplifier's input level as insensitive as possible. The best subjective S/N ratio is obtainable this way. Try to drive as high a signal level from the head unit as possible.

## **Opti FEATURES**

### ▪ **CLASS-D DESIGN**

Low - frequency information for subwoofer only.

High efficient power

### ▪ **POWER SUPPLIES**

Stiffly regulated PWM power supplies.

MOSFET switches maintain rated power over a wide range of battery voltages.

### ▪ **LOW PASS FILTER**

Adjustable from 50Hz to 150Hz with a slope of 24dB per octave.

This allows for the adjustment of the upper point of the frequency bandwidth and the respective subwoofer.

### ▪ **VARIABLE SUBSONIC FILTER**

Adjustable from 15Hz to 45Hz with a slope of 24dB per octave.

This allows for the attenuation of frequencies that are mostly inaudible and cause unnecessary strain on the amplifier.

### ▪ **PROTECTION CIRCUITRY**

Protection against thermal, Overload and short circuit conditions.

### ▪ **REMOTE DASH-MOUNT GAIN CONTROL**

This amplifier come complete with a compact remote GAIN CONTROLLER which can be conveniently mounted on or under the dashboard of your car.

### ▪ **VARABLE BASS FREQUENCY**

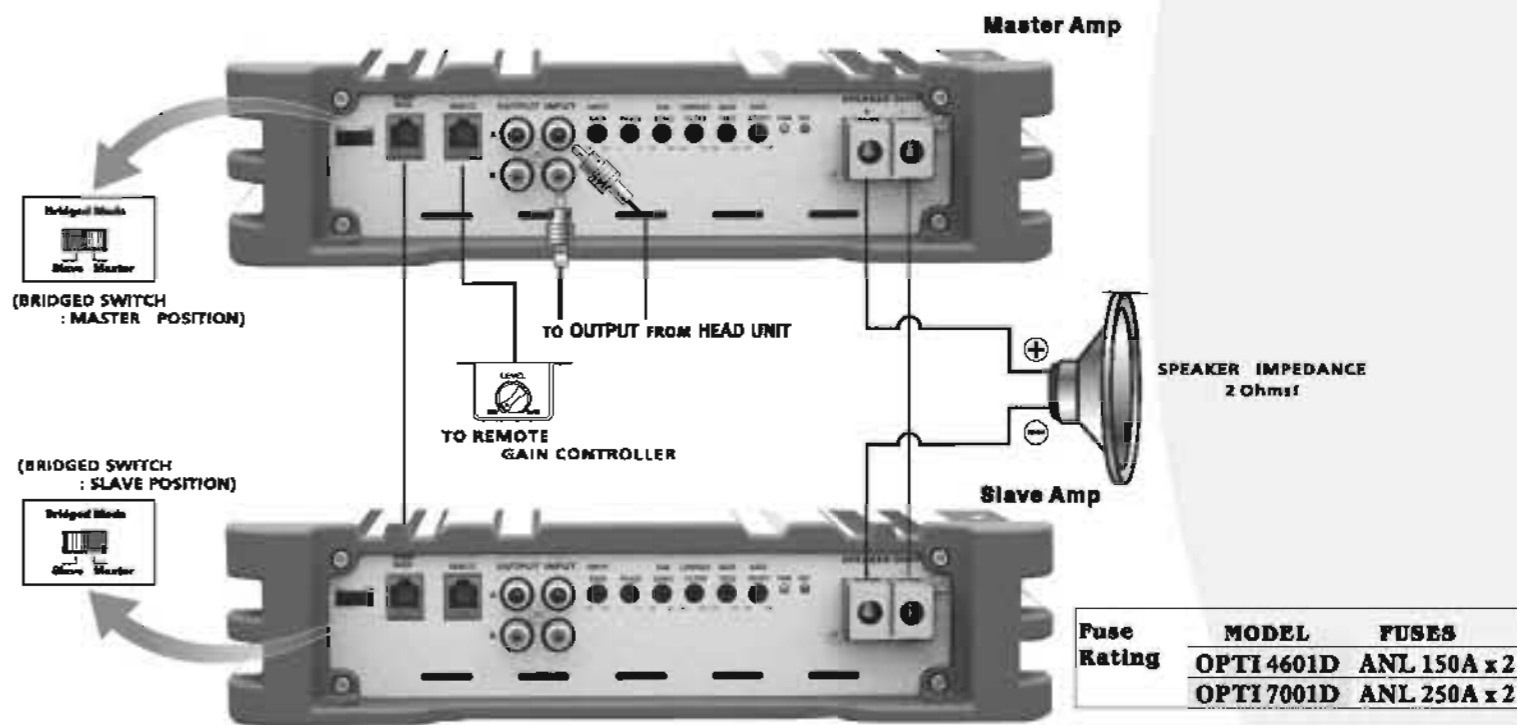
This knob dials in the center frequency of the BAS BOOST circuit from 30 to 80Hz.

## SPECIFICATIONS

MODEL	OPTI 2001D	OPTI 2601D	OPTI 3201D
RMS Power, INTO 4 Ohms	380W MONO	610W MONO	730W MONO
RMS Power, INTO 2 Ohms	700W MONO	1070W MONO	1350W MONO
RMS Power, INTO 1.3 Ohms	1200W MONO	1670W MONO	2100W MONO
RMS Power, INTO 0.5 Ohms	2000W MONO	2600W MONO	3200W MONO
THD at 1 Watt, 4 Ohm	0.1%	0.1%	0.1%
Signal-to-Noise Ratio, below rated power output	90dB	90dB	90dB
Frequency Response, at 1 Watt, 4 Ohm	15Hz to 150Hz (+/-3dB)	15Hz to 150Hz (+/-3dB)	15Hz to 150Hz (+/-3dB)
Damping Factor at 20Hz, 4 Ohm	400	400	400
Low Pass Filter	50Hz~150Hz, 24dB/Octave	50Hz~150Hz, 24dB/Octave	50Hz~150Hz, 24dB/Octave
Variable Subsonic Filter	15Hz~45Hz, 24dB/Octave	15Hz~45Hz, 24dB/Octave	15Hz~45Hz, 24dB/Octave
Variable Bass Boost Control	0~+18dB	0~+18dB	0~+18dB
Variable Bass Boost Frequency	30~80Hz	30~80Hz	30~80Hz
Phase Shift Control	0 to 180	0 to 180	0 to 180
Input Sensitivity	200mV to 6V	200mV to 6V	200mV to 6V
Input Impedance	10K Ohm	10K Ohm	10K Ohm
Line Output Impedance	100 Ohm	100 Ohm	100 Ohm
Dimensions(Inches)	9.44" x 2.52" x 15.74"	9.44" x 2.52" x 17.71"	9.44" x 2.52" x 19.68"
Fuse Rating	40A x 3	ANL 150A	ANL 200A

## SYSTEM WIRING

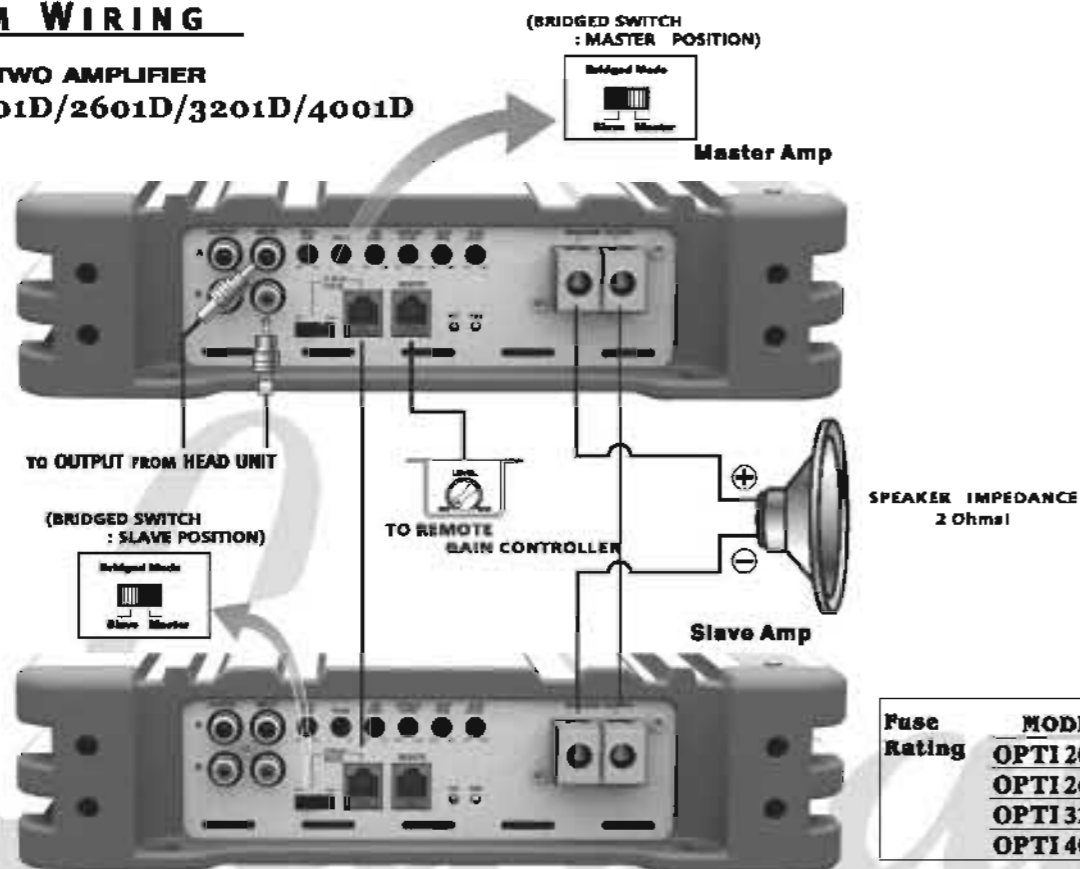
### BRIDGING TWO AMPLIFIER OPTI 4601D/7001D



Bridging two amplifiers can be done only between two amplifiers of the same model number.

## SYSTEM WIRING

### BRIDGING TWO AMPLIFIER OPTI 2001D/2601D/3201D/4001D



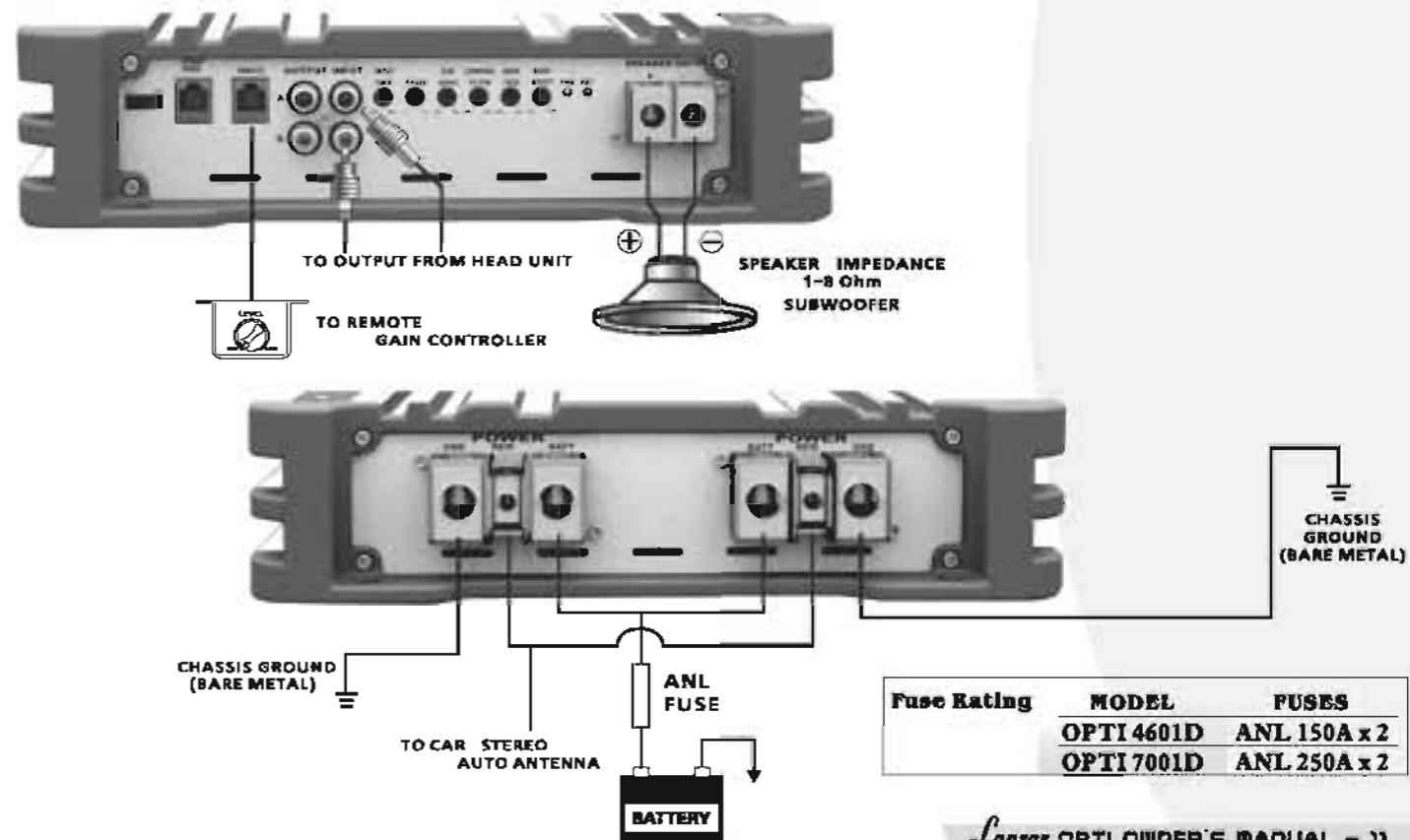
Bridging two amplifiers can be done only between two amplifiers of the same model number.

## AMPLIFIER INSTALLATION

MODEL	OPTI 4001D	OPTI 4601D	OPTI 7001D
RMS Power, INTO 4 Ohms	1020W MONO	1050W MONO	1600W MONO
RMS Power, INTO 2 Ohms	1730W MONO	1980W MONO	3070W MONO
RMS Power, INTO 1.3 Ohms	2800W MONO	3000W MONO	5180W MONO
RMS Power, INTO 0.5 Ohms	4000W MONO	4600W MONO	7000W MONO
THD at 1 Watt, 4 Ohm	0.1%	0.1%	0.1%
Signal-to-Noise Ratio, below rated power output	90dB	90dB	90dB
Frequency Response, at 1 Watt, 4 Ohm	15Hz to 150Hz (+/-3dB)	15Hz to 150Hz (+/-3dB)	15Hz to 150Hz (+/-3dB)
Damping Factor at 20Hz, 4 Ohm	400	400	400
Low Pass Filter	50Hz~150Hz, 24dB/Octave	50Hz~150Hz, 24dB/Octave	50Hz~150Hz, 24dB/Octave
Variable Subsonic Filter	15Hz~45Hz, 24dB/Octave	15Hz~45Hz, 24dB/Octave	15Hz~45Hz, 24dB/Octave
Variable Bass Boost Control	0~+18dB	0~+18dB	0~+18dB
Variable Bass Boost Frequency	30~80Hz	30~80Hz	30~80Hz
Phase Shift Control	0 to 180	0 to 180	0 to 180
Input Sensitivity	200mV to 6V	200mV to 6V	200mV to 6V
Input Impedance	10K Ohm	10K Ohm	10K Ohm
Line Output Impedance	100 Ohm	100 Ohm	100 Ohm
Dimensions(Inches)	9.44" x 2.52" x 21.65"	10.62" x 2.52" x 21.65"	10.62" x 2.52" x 28.34"
Fuse Rating	ANL 250A	ANL 150A x 2	ANL 250A x 2

**OPTI 4601D/7001D**

1. Find a suitable location in the vehicle to mount the amplifier.
2. Make sure there is sufficient air flow around the intended mounting location.
3. Bolt the amplifier to the mounting surface.
4. Connect the power ground terminal to the nearest point on the chassis of the car. Keep this ground wire less than one meter (39") in length. Use 4 gauge or 0 gauge wire.
5. Connect the remote terminal to the remote output of the head unit using 14 gauge.
6. Connect an empty fuse holder within 300mm (12") of the battery and 4 gauge or larger high quality cable from this fuse to the amplifier location.
7. Make sure there is no fuse in this fuse holder. Then make the connection to the "BATT" connection on the amplifier.
8. If multiple amplifiers are being used, use cables (each with its own fuse at the battery) or a #0 or a #2 cable from the fuse holder at the battery to a distribution block at or near the amplifier's location.
9. Connect all line inputs and outputs using high-quality RCA-RCA cables.
10. Insert fuse(s) at the battery fuse holder(s).
11. Recheck all connections before powering up.
12. Set all level controls to their least sensitive positions and set all crossover controls, switches, etc. to the desired frequency or position.
13. Once the system is powered up, set the volume control on the head unit to about the 2 o'clock position, and then set all the amplifiers' level controls for maximum output level.
14. Further fine tuning of the various controls may be necessary to obtain the desired results.





## SYSTEM WIRING

OPTI 2601D/3201D/4001D



TO OUTPUT FROM HEAD UNIT

TO REMOTE GAIN CONTROLLER

SPEAKER IMPEDANCE  
1-8 Ohm  
SUBWOOFER



CHASSIS GROUND  
(BARE METAL)

TO CAR STEREO  
AUTO ANTENNA

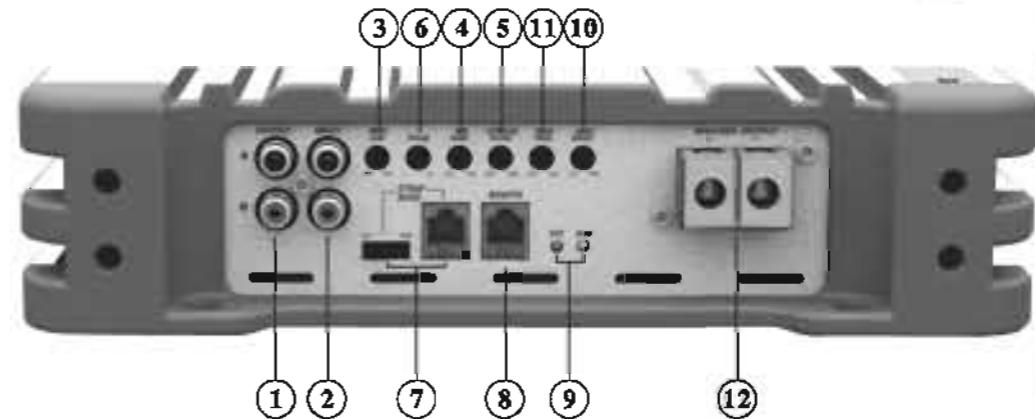
ANL FUSE

BATTERY

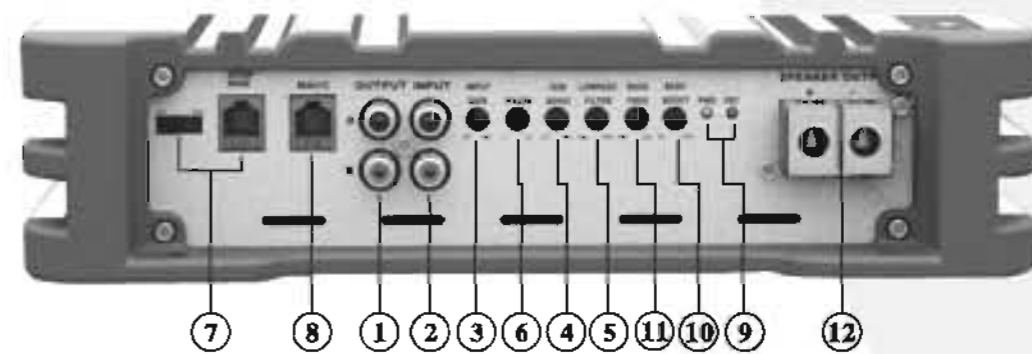
Fuse Rating	MODEL	FUSES
	OPTI 2601D	ANL 150A
	OPTI 3201D	ANL 200A
	OPTI 4001D	ANL 250A

## FEATURES AND CONTROLS

OPTI 2001D/2601D/3201D/4001D



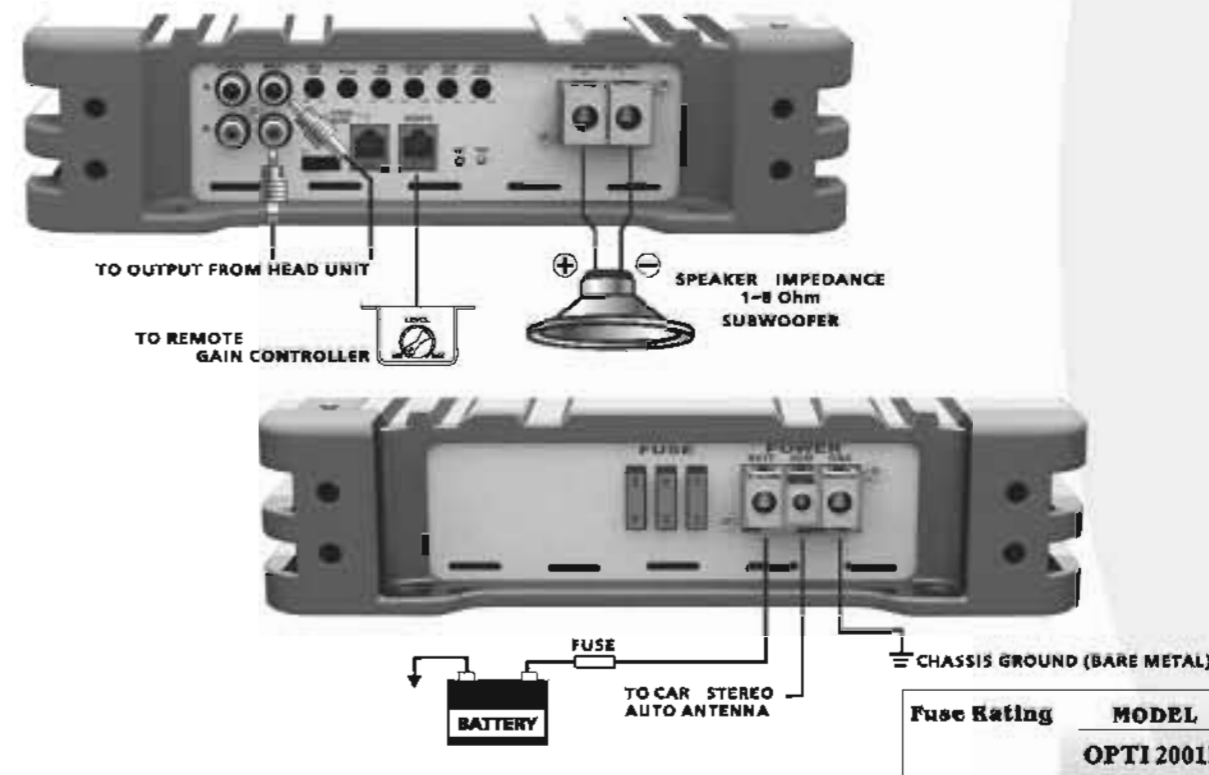
OPTI 4601D/7001D



## FEATURES AND CONTROLS

OPTI 2001D

1. **Line Out RCA Jacks** - The LINE OUT allows you to build multiple amplifier systems with out having to use splitter cords to distribute the signal. Now it is simple a matter of bringing one set of RCAs into the first amplifier, then using the line out RCA jacks as the feed to the next amplifier.
2. **Input RCA Jacks** - These inputs are for signal cables from the source. Always use high quality shielded RCA cables.
3. **Level Control**- Enables the matching of input levels to the output levels from the head unit(or other signal source).
4. **Variable Subsonic Filter**- 15Hz~45Hz
5. **Variable Low Pass Filter**- When Crossover Mode Selector is in Low Pass Mode, this control limits the frequencies which will be distributed to the speakers to those below the value to which this is set within the range50~150Hz.
6. **Phase Shift control** - Allows you to change the phase of your subwoofer from 0 to 180 degrees to help compensate for timing differences between drivers.
7. **Bridged Mode**
8. **Bass Boost Remote Control Input**
9. **Power & Protection Indicators**- Provide instant information on status of amplifier, including short-circuit and thermal overload alerts.
10. **Variable Bass Boost Control**- 0~18dB.
11. **Variable Bass Boost Frequency**- 30~80Hz.
12. **Speaker Terminal.**



Fuse Rating	MODEL	FUSES
	OPTI 2001D	40A x 3