

MANUFACTURER'S LIMITED TWO YEAR WARRANTY
LEGACY SOUND CORP. warrants this unit to be free from defective material or workmanship and will repair or replace this unit or any part thereof if it proves defective in normal use or service within two (2) years from the date of original purchase.

Our obligation under this warranty is limited to repairing or replacing, at our discretion, the defective instrument or any part thereof when it is returned, transportation prepaid to the Legacy Service Center, at the address below. This warranty will be considered void if the unit has been tampered with, improperly serviced, subjected to abuse or misuse or if installed in a commercial vehicle. This warranty does not cover accidental damage. When returning this unit for service, please include \$15.00 for return postage and handling. Send your unit to:

LEGACY SERVICE CENTER
1600 63rd Street
Brooklyn, NY 11204

IMPORTANT: Pack carefully in original carton, if possible. We are not responsible for damage incurred in returning items for repair. A letter stating your exact street address, daytime phone number, and the problem you are experiencing should be included. You must also enclose a copy of the original receipt as proof of date of purchase.

FOR YOUR PROTECTION
Completely and immediately mail the unit to the address above so that we may contact you directly in the event a safety notification is issued in accordance with the 1972 Consumer Product Safety Act, or for other reasons Legacy may deem necessary.

TECHNICAL SUPPORT HOTLINE
Our technical department will gladly assist you with any questions you may have about our products. They cannot, however, tell you the status of a repair, or handle other customer service situations.

1-800-934-2277
Monday through Thursday, 9AM to 5PM
Friday 9AM to 2PM Eastern.

LEGACY®
www.legacycaraudio.com

LEGACY®
SHARP
STEEL



LA-499
LA-799
LA-1099
LA-1999
LA-2499
LA-3199
LA-4299

HIGH SPEED
CAR AMPLIFIER
USER'S MANUAL



Congratulations

on your purchase of a new

Legacy SHARP STEEL Series amplifier !

Legacy amps are some of the most advanced car amplification products available. These quality audio products are designed and engineered to afford you years of uncompromised musical service. Legacy has utilized the latest electronic technologies in order to deliver a superb listening experience.

This innovative system has been designed utilizing a 12 V DC Negative Ground power supply. The Legacy Sharp steel Series amps incorporate two to eight MOSFETS in the different models.

This design produces enough available voltage to supply the main amplifier sections, and still have a huge amount of reserve voltage for peak "high demand" situations.

The Legacy line has been designed to ensure adequate headroom for even the most demanding peaks and dynamic ranges found on today's CD's and recordings. Used properly, these amplifiers will provide you with years of listening pleasure.

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Legacy Sharp Steel Amplifier Features

LA-499/799/1099/1999

73199/4299 also feature:

- Soft turn on/off circuit
 - Variable gain control
 - Remote turn on/off
 - Hi/low level inputs
 - Power on LED indicator
 - LED protection indicator
- Blue light illumination
 - Fully adjustable electronic crossover network
 - Remote control Bass boost (0 - +18dB @ 60Hz)
 - 2 ohm stereo stable
 - Bridgeable into 4 ohms
 - MOSFET PWM power supplies

Specifications

OUTPUT POWER

RMS @ 4 OHMS
4 OHMS
MAX OUTPUT
BRIDGE MODE

FREQUENCY RESPONSE

10Hz-30 KHz

INPUT IMPEDANCE

10 k-Ohms
100 Ohms

INPUT SENSITIVITY

250 mV
2.5V

POWER SUPPLY VOLTAGE

14.4 VDC/NEG GD (10.5-16V)

MATCHING SPEAKER IMPEDANCE

2-4 OHMS
4-8 OHMS

MAXIMUM CURRENT DRAW

15 A

DIMENSIONS, W x H x L, inches (mm)

11.33 X 1.85 X 8.25
(288 X 47 X 209)

NET WEIGHT, LBS (KG)

5.29(2.4)

LA-499 2CH amplifier

2 X 40W
4 OHMS
2 X 800W
1 X 800W

10Hz-30 KHz

10 k-Ohms
100 Ohms

250 mV
2.5V

14.4 VDC/NEG GD (10.5-16V)

2-4 OHMS
4-8 OHMS

15 A

11.33 X 1.85 X 8.25
(288 X 47 X 209)

5.29(2.4)

LA-799 2CH amplifier

2 X 75W
4 OHMS
2 X 550W
1 X 1100W

10 k-Ohms

2-4 OHMS
4-8 OHMS

20 A

11.33 X 1.85 X 12
(288 X 47 X 305)

7.28(3.3)

LA-1099 4CH amplifier

4 X 75W
4 OHMS
4 X 1100W
2 X 1100W+2200W X1
or 2X2200W

2-4 OHMS
4-8 OHMS

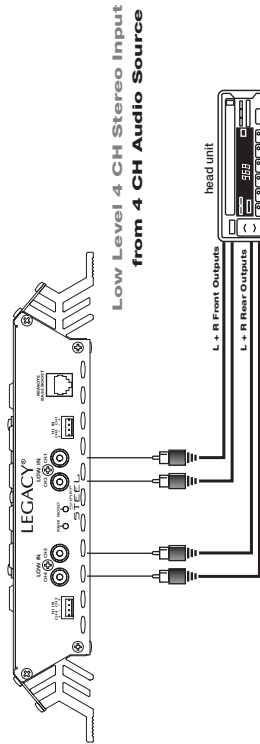
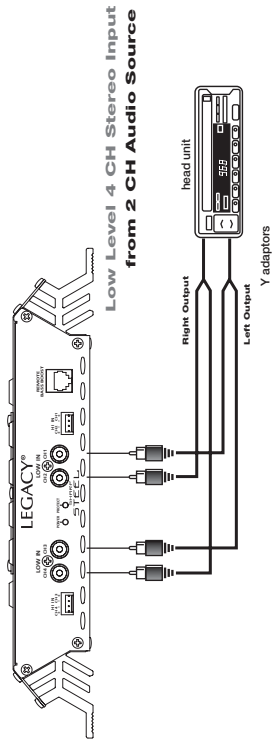
30 A

11.33 X 1.85 X 17
(288 X 47 X 432)

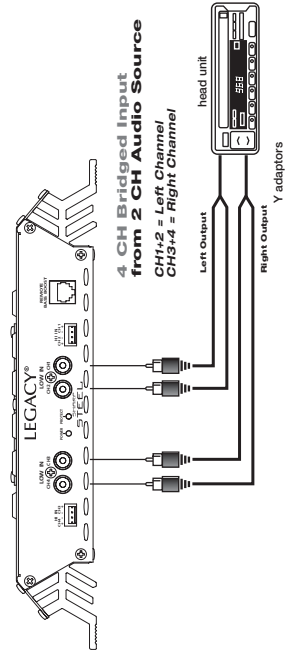
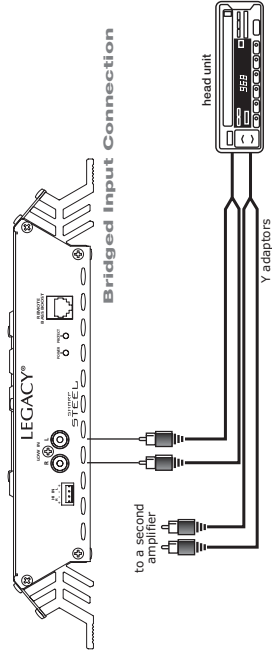
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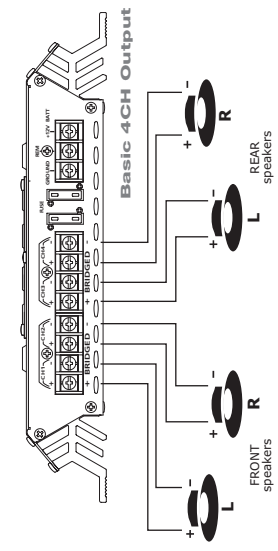
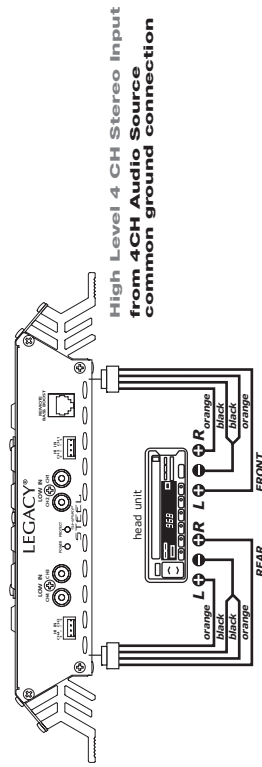
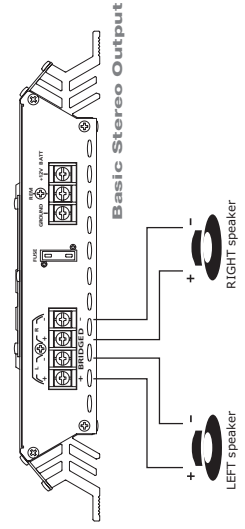
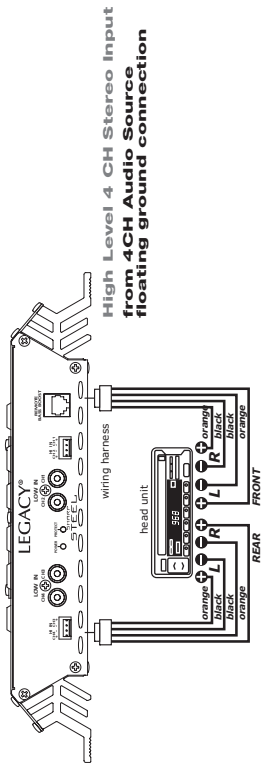
Features and Specifications

LA-1099
4CH AMPS



LA-499
LA-799
LA-1999
LA-3199
LA-4299
2CH AMPS

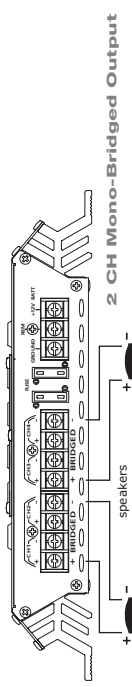
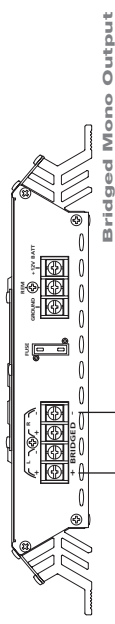
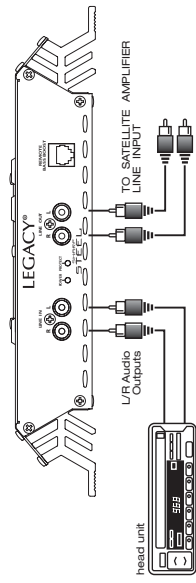




LA-499
LA-799
LA-1999
LA-3199
LA-4299
4 CH AMPS

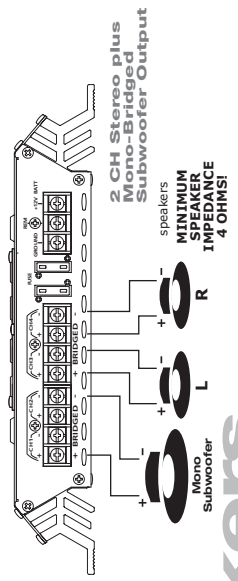
LA-2499
MONO CHANNEL
AMPS

Low Level Stereo Input Connection



LA-1099
4 CH AMPS

Speaker Output Connection



inputs/Speaker
Input Connections/Speaker Connection

Speakers
Speaker Connections

Amplifier will not power up.

- Check for good ground connection.
- Check that remote DC terminal has at least +12v 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 re-power it.

High hiss or engine noise (alternator whine) in speaker.

- 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.

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 up low.
- Rewire speaker leads, and reset the amplifier. If the Protection LED still comes on, then the amplifier is faulty.

Amplifier(s) gets very hot.

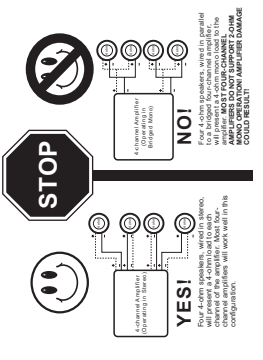
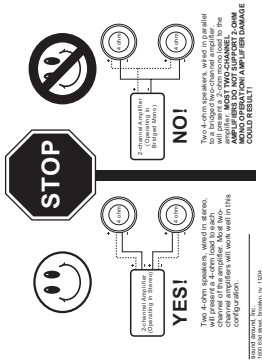
- Check that the minimum speaker impedance for that model is not exceeded.
- Check for speaker shorts.
- Check that there is good airflow around the amplifier. In some applications, an external cooling fan may be required.

Distorted sound

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

High squeal noise from speakers.

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



troubleshooting Troubleshooting

Legacy Sharp Steel Amplifier Features

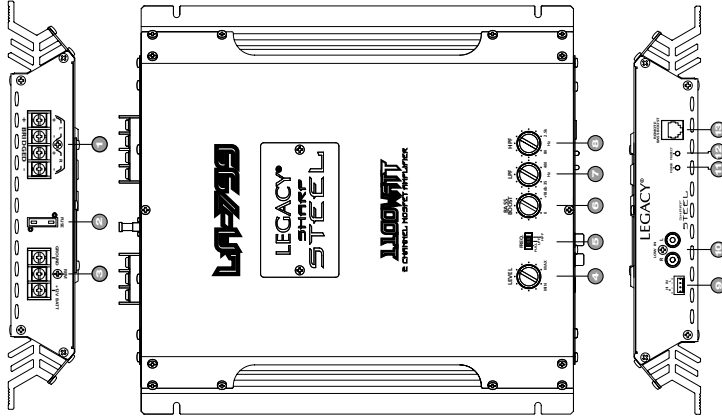
- 2499 also feature:
 - Mono Block Subwoofer Amplifier
 - 2 Ohm Stable
 - MOSFET Power Supply
 - Gold Plated RCA Inputs for Line Input & Bypass Output.
 - Solid Plated Terminals for Speaker Output and Power Input.
 - Thermal, Overload and Short Protection
 - Variable Sub-sonic Filter (15Hz-40Hz, 24dB/Octave)
 - Variable Low-pass Filter (20Hz-250Hz, 24dB/Octave)
- Blue Light Illumination
- Phase Control 0-180 degree
- Remote Bass Control
- Input Impedance : 10K Ohms
- Soft Turn On/Off
- Advanced Protection Circuitry
- S/N Ratio:>90cB

Specifications

	LA-1999 2CH amplifier	LA-3199 2CH amplifier	LA-4299 2CH amplifier	LA-2499 Mono channel amplifier
OUTPUT POWER				
RMS @ 4 OHMS	2 X 185W	2 X 200W	2 X 300W	280W mono
MAX OUTPUT	2 X 210W	2 X 1550W	2 X 2100W	280W mono
BRIDGE MODE	1 X 1900W	1 X 3100W	1 X 4200W	2800W mono
FREQUENCY RESPONSE	10Hz-30 KHZ			20-250Hz(+3dB)
INPUT IMPEDANCE				
LOW LEVEL INPUTS	10 k-Ohms	10 k-Ohms	10 k-Ohms	10 k-Ohms
HIGH LEVEL INPUTS	100 Ohms	100 Ohms	100 Ohms	100 Ohms
INPUT SENSITIVITY				
LOW LEVEL INPUTS	250 mV	250 mV	250 mV	250 mV
HIGH LEVEL INPUTS	2.5V	4V	4V	4V
POWER SUPPLY VOLTAGE	14.4 VDC/NEG GD (10.5-16V)	14.4 VDC/NEG GD (10.5-16V)	14.4 VDC/NEG GD (10.5-16V)	14.4 VDC/NEG GD (10.5-16V)
MATCHING SPEAKER IMPEDANCE				
STEREO MODE	2-4 OHMS	2-4 OHMS	2-4 OHMS	2 OHM
BRIDGE MODE	4-8 OHMS	4-8 OHMS	4-8 OHMS	STABLE
MAXIMUM CURRENT DRAW				
STEREO MODE	30 A	50 A	70 A	40 A
BRIDGE MODE	11.33 X 1.85 X 15 (288 X 47 X 381)	11.33 X 1.85 X 19 (288 X 47 X 482)	11.33 X 1.85 X 21 (288 X 47 X 532)	11.33 X 1.85 X 12 (288 X 47 X 305)
DIMENSIONS, W x H x L, inches (mm)	9.04(4.1)	11.46(5.2)	13.01(5.9)	7.36(3.34)
NET WEIGHT, LBS (KG)				

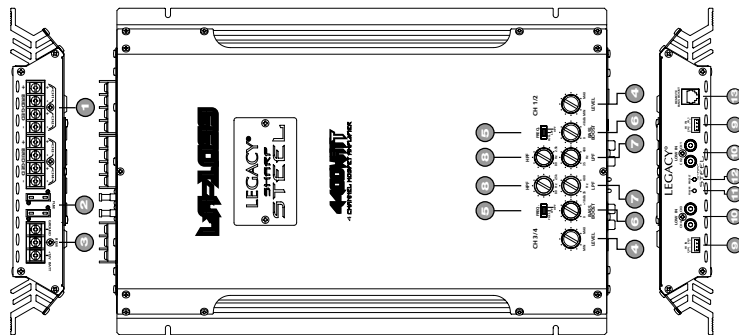
shades

Features and Specifications



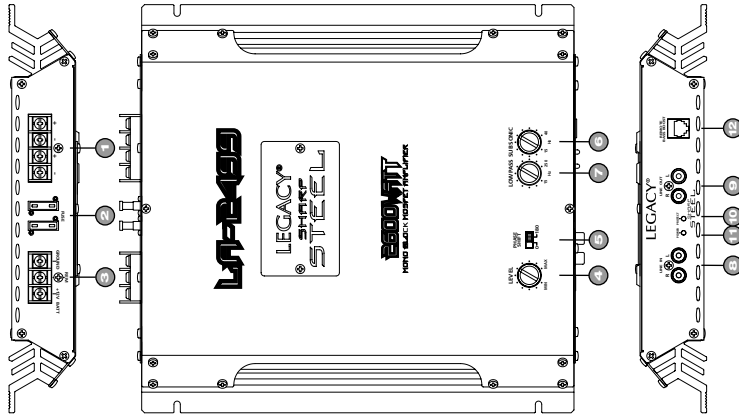
LA-499/799/1999/3199/4299

- Speaker Terminals**
Connect the speaker wires to the terminals on the back of the amplifier. The terminals are labeled for high impedance and minimum impedance loads. The terminals face upwards for easy wiring in tight situations.
- Fuse**
This amplifier, as well as the automobile electrical system from which it draws power, is designed to operate under normal conditions.
- Power Supply Terminals**
Connect the power supply wires to the terminals on the back of the amplifier. The terminals are labeled for high impedance and minimum impedance loads. The terminals face upwards for easy wiring in tight situations.
- Input Level Control**
Use the Input Level Control knob to adjust the output of the head unit to the amplifier. If distortion is present, reduce the setting of this control.
- Crossover Mode Switch**
If the amp is being used to power a crossover system, set to either "BYPASS" or "CROSSOVER" mode.
- Bass Boost Control**
This control allows the bass signal level sent to the speakers.
- Low Pass Control**
Permits you to adjust the crossover frequency from 35 Hz to 400 Hz to suit the subwoofers.
- High Pass Control**
Permits you to adjust the crossover frequency from 80 Hz to 2.5 kHz to suit the tweeters.
- High Level Input (Low Impedance)**
Use these if your car stereo does not have a high level input. The high level input is connected to the head unit to these inputs.
- Low Level Input (High Impedance)**
This unit is provided with gold-plated RCA input terminals. Use these if your car stereo has RCA inputs. Connect these inputs to the RCA outputs from your head unit.
- Power LED Indicator**
This LED is illuminated when the REMOTE ON signal is input to the unit.
- Protection LED Indicator**
This LED is illuminated if the amplifier detects an input overload, a speaker short circuit, or a thermal overload. If the Protection LED is illuminated at that time, it is a warning that the amplifier has entered protection circuitry to become activated. If the amp shuts off because of a thermal overload, allow it to cool down before attempting to restart. If the amp shuts off because of a speaker short circuit, conditions before attempting to restart the amp. To reset the amp, turn the REMOTE power off and on again.
- Remote Bass Boost**
Plug in the Remote Bass Boost Control wire in here.



- 1 **Speaker Terminals**
The terminals are 14K Gold plated for high conductivity and minimal noise. 14K Gold plating for high conductivity upwards for easy wiring in tight situations.
- 2 **Fuse**
Protects the amplifier as well as the automobile electrical system from input circuit conditions.
- 3 **Power Supply Terminals**
- 4 **Input Level Control**
Adjusts the gain of the amplifier. If distortion is present, reduce the setting of this control.
- 5 **Crossover Mode Switch**
Allows you to change the phase of your subwoofer. Adjusts the crossover frequency from 35 Hz to 400 Hz to suit the subwoofers.
- 6 **Bass Boost Control**
Permits you to increase the bass signal level sent to the speakers.
- 7 **Low Pass Control**
Permits you to adjust the crossover frequency from 35 Hz to 400 Hz to suit the subwoofers.
- 8 **High Pass Control**
Adjusts the crossover frequency from 80 Hz to 2.5 kHz to suit the tweeters.
- 9 **High Level Input (Low Impedance)**
Use these if your car stereo does not have a high level input. Connect the speaker output from the head unit to these inputs.
- 10 **Low Level Input (High Impedance)**
This unit is provided with gold plated RCA input jacks. Using RCA type patch cords, connect the RCA outputs from your head unit to the RCA inputs for your amplifier.
- 11 **Power LED Indicator**
This LED is illuminated when the REMOTE ON system is turned on.
- 12 **Protection LED Indicator**
The protection circuitry in the amp will disable it if it senses an input overload. When this occurs, the PROTECT LED will be illuminated. At that time, if the protection circuitry to become activated, caused the amp shut off because of a thermal overload, allow it to cool down before attempting to restart. If the shutdown occurred because of an input overload, conditions before attempting to restart the amp.
- 13 **Remote Bass Boost**
Plug in the Remote Bass Boost Control wire in here.

LA-1099 Features and Controls

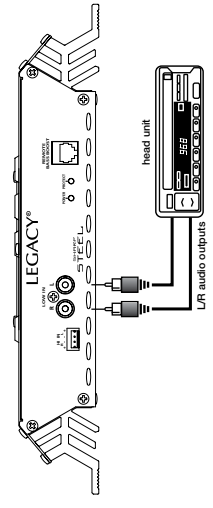


- 1 **Speaker Terminals**
The terminals are 14K Gold plated for high conductivity and minimal noise. 14K Gold plating for high conductivity upwards for easy wiring in tight situations.
- 2 **Fuse**
Protects the amplifier as well as the automobile electrical system from input circuit conditions.
- 3 **Power Supply Terminals**
- 4 **Input Level Control**
Adjusts the gain of the amplifier. If distortion is present, reduce the setting of this control.
- 5 **Phase Shift Switch**
Allows you to change the phase of your subwoofer. Adjusts the crossover frequency from 35 Hz to 400 Hz to suit the subwoofers.
- 6 **High Pass Subsonic Filter**
Adjustable from 19 Hz to 40 Hz with a slope of 24dB per octave. This filter is used to filter out frequencies that are mostly inaudible and cause unnecessary strain on the amplifier.
- 7 **Crossover Low Pass Filter**
Adjusts the crossover frequency from 35 Hz to 400 Hz to suit the subwoofers. This filter is used to filter out frequencies that are mostly inaudible and cause unnecessary strain on the amplifier.
- 8 **Low Level Input (High Impedance)**
Use these if your car stereo does not have a high level input. Connect the speaker output from the head unit to these inputs to the RCA outputs from your head unit.
- 9 **Low Level Output (High Impedance)**
This unit is provided with gold plated RCA Output jacks to the RCA inputs for your amplifier.
- 10 **Protection LED Indicator**
The protection circuitry in the amp will disable it if it senses an input overload. When this occurs, the PROTECT LED will be illuminated. At that time, if the protection circuitry to become activated, caused the amp shut off because of a thermal overload, allow it to cool down before attempting to restart. If the shutdown occurred because of an input overload, conditions before attempting to restart the amp.
- 11 **Power LED Indicator**
This LED is illuminated when the REMOTE ON system is turned on.
- 12 **Remote Bass Boost**
Plug in the Remote Bass Boost Control wire in here.

LA-2499 Features and Controls

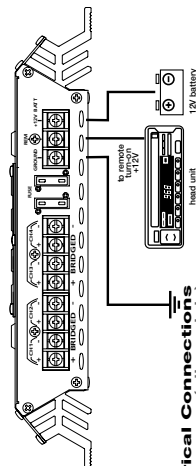
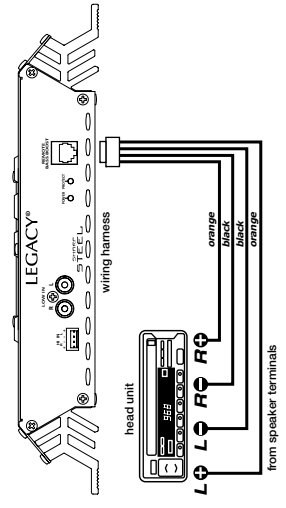
LA-499
LA-799
LA-1999
LA-3199
LA-4299
2CH AMPS

Low Level Stereo Input Connection



High Level Stereo Input Connection

PLEASE NOTE! Using high level inputs, do not use the low level RCA inputs at the same time!



Making Power Connections

1. Connect the +12V terminal directly to the car battery (+) terminal.
2. Connect the GROUND terminal directly to the car battery (-) terminal OR to a good clean, paint-free chassis ground point.
3. To ensure a good ground, and to prevent "motor-boating" noise in the system, make an additional connection from the car battery (-) terminal to the chassis of the stereo unit, using 12 gauge minimum wire.
4. Connect the REMOTE terminal to an external switch for positive 12V turn-on-off. This may be connected to the head unit power antenna lead.

Electrical Connections (all models)

This amplifier comes complete with all mounting hardware required. Please remember that this is a high-power unit, which generates considerable electrical energy and heat. Therefore, be sure to install the unit in a place with sufficient airflow, a minimum of dust, and no moisture. Allow enough space around the cooling fins to permit reasonable airflow and cooling.

- Before you drill or cut any holes, investigate your car's layout very carefully. Take care when you work near the gas tank, fuel lines, hydraulic line and electrical wiring.
- Do not operate the amplifier when it is unmounted. Attach all audio system components securely within the automobile to prevent damage, especially in an accident.
- Do not mount this amplifier so that the wire connections are unprotected or in a pinched condition, or likely to be damaged by nearby objects. Be sure to select a location inside your vehicle which has adequate ventilation.
- Before making or breaking power connections in your system, disconnect the vehicle battery. Confirm that your head unit or other equipment is turned off while connecting the input jacks and speaker terminals.
- If you need to replace the power fuse, only replace it with a fuse identical to that supplied with the system. Using a fuse of a different type or rating may result in damage to your system which isn't covered by the manufacturer's warranty.

Setting Up and Tuning On Your New Amplifier

After all electrical connections have been made, and physical installation is complete, turn on your stereo and listen for the amplifier to turn on. If there are any unusual noises from the speakers, turn the stereo off and recheck ALL wiring.

Assuming the amplifier turn on normally, you may have to adjust the LEVEL control(s) to match the output levels from your head unit. Follow these steps:

1. Set the volume control on your head unit to about the 2/3 position.
2. Adjust the amplifier LEVEL control(s) to an average listening position.
3. Turn the head unit volume all the way down, and listen for background noise.
4. Start your vehicle, and again, listen for background noise.
5. By fine tuning the LEVEL control(s), you can reduce background and engine noise, if present.

These adjustments should only be made once. After that, use the head unit volume control to adjust the system volume, not the LEVEL control(s).

CAUTION: Never turn the LEVEL control(s) up any higher than you need to get clear sound at 2/3 volume on the head unit.

Electrical Wiring and Installation

inputs
Input Connections

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