



VCT-2110  
VCT-2210  
VCT-2310  
VCT-2410  
VCT-2510



AMERICAN CRAFTED PERFORMANCE

*Owner's Manual*

## congratulations...

Congratulations on , our purchase of a Lanza VECTOR , series **amplifier**. You have purchased a quality product designed and engineered to give you many years of uncompromised musical service. VECTOR series amplifiers are designed with the latest technology available, which provides headroom for even the most demanding peaks and dynamic ranges found on modern CD's and recordings.

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# Lanza

# features and specifications

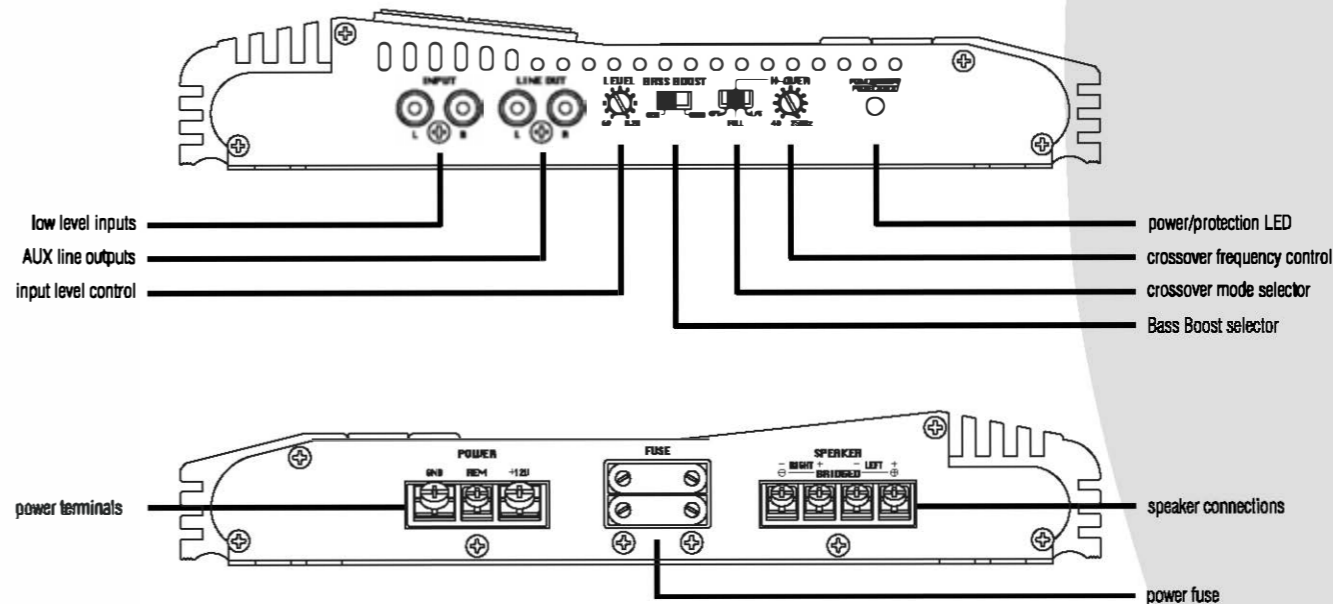
2 ch amp VCT-2110 • VCT-2210

# features and controls

2 ch amp VCT-2110 • VCT-2210

- crossover mode selector** When used with normal, full range system, set this switch to "FULL". If you wish to use the internal crossover to power a driver or specific frequency range, use the "LPF" or "HPF" FOR the "LOWPASS" OR "HIGHPASS" settings.
- input level controls** Enables the matching of input levels to the output levels from head unit (or other signal source). The input sensitivity of adjustment ranges from 6V to 200mV.
- crossover frequency control** When crossover mode selector is in HIGHPASS mode, this control sets the lower frequency limit for audio program sent to the speakers. When crossover mode selector is in LOWPASS mode, this control sets the upper frequency limit for audio program sent to the speakers. The crossover is continuously variable adjustment from 40 to 250 Hz.
- bass boost selector** This selector switch permits the bass level an increase of 18dB. (VCT-2110/2210)
- low level input** This amp features RCA type jacks for high impedance input. Use these with car stereo output which uses RCA type connector cables.
- high level input** If your car stereo jacks are not RCA type output, use the high-low level input adaptor to connect the speaker output leads of carstereo and the RCA input jacks of amp.
- AUX line outputs** This amp features RCA jacks for AUX line outputs. Use these for unlimited system expansion to the next VECTOR.
- power LED** This indicator is illuminated in GREEN when power is applied.
- protection LED** This indicator is illuminated in RED when the built-in protection circuitry is activated.
- power fuse** The fuse protects the amplifier and your car's electrical system from short circuit conditions.
- power terminals** Use these connectors to deliver power, ground, and remote turn-on control to the amplifier.
- speaker connectors** These terminals are to guarantee high conductivity and minimum signal loss.

output power @ 14.4V DC, 1KHz	VCT-2110	VCT-2210
<b>RMS Power @ 4 Ohms</b>	50 Watts x 2	100 Watts x 2
<b>THD @ 4 Ohms</b>	75 Watts x 2	150 Watts x 2
<b>RMS Power @ 2 Ohms</b>	75 Watts x 2	150 Watts x 2
<b>THD @ 2 Ohms</b>	100 Watts x 2	200 Watts x 2
<b>Maximum Power Output</b>	500 Watts x 2	1000 Watts x 2
<b>Bridged Power at 4 Output</b>	1000 Watts x 1	2000 Watts x 1
<b>frequency response</b>	15 Hz-30 KHz	
<b>input impedance</b>	10K Ohms	
<b>low level inputs</b>	10K Ohms	
<b>input sensitivity</b>	200mV-6V Adjustable	
<b>low level inputs</b>	200mV-6V Adjustable	
<b>S/N ration</b>	>95dB	
<b>channel separation</b>	>65dB	
<b>crossover filters</b>		
<b>low Pass</b>	40 Hz-250 Hz	
<b>high Pass</b>	40 Hz-250 Hz	
<b>bass boost</b>	0 / +18dB	
<b>matching speaker impedance</b>	2-4 Ohms	
<b>stereo mode</b>	4-8 Ohms	
<b>bridged mode</b>	4-8 Ohms	
<b>maximum current draw</b>	30A	40A
<b>power supply voltage</b>	14.4V DC Neg. Ground (10.5-16V)	
<b>dimensions (W x H x L)</b>		
<b>mm</b>	270 x 44.5 x 228	270 x 44.5 x 305
<b>inches</b>	10.63 x 1.75 x 9	10.63 x 1.75 x 12



# features and specifications

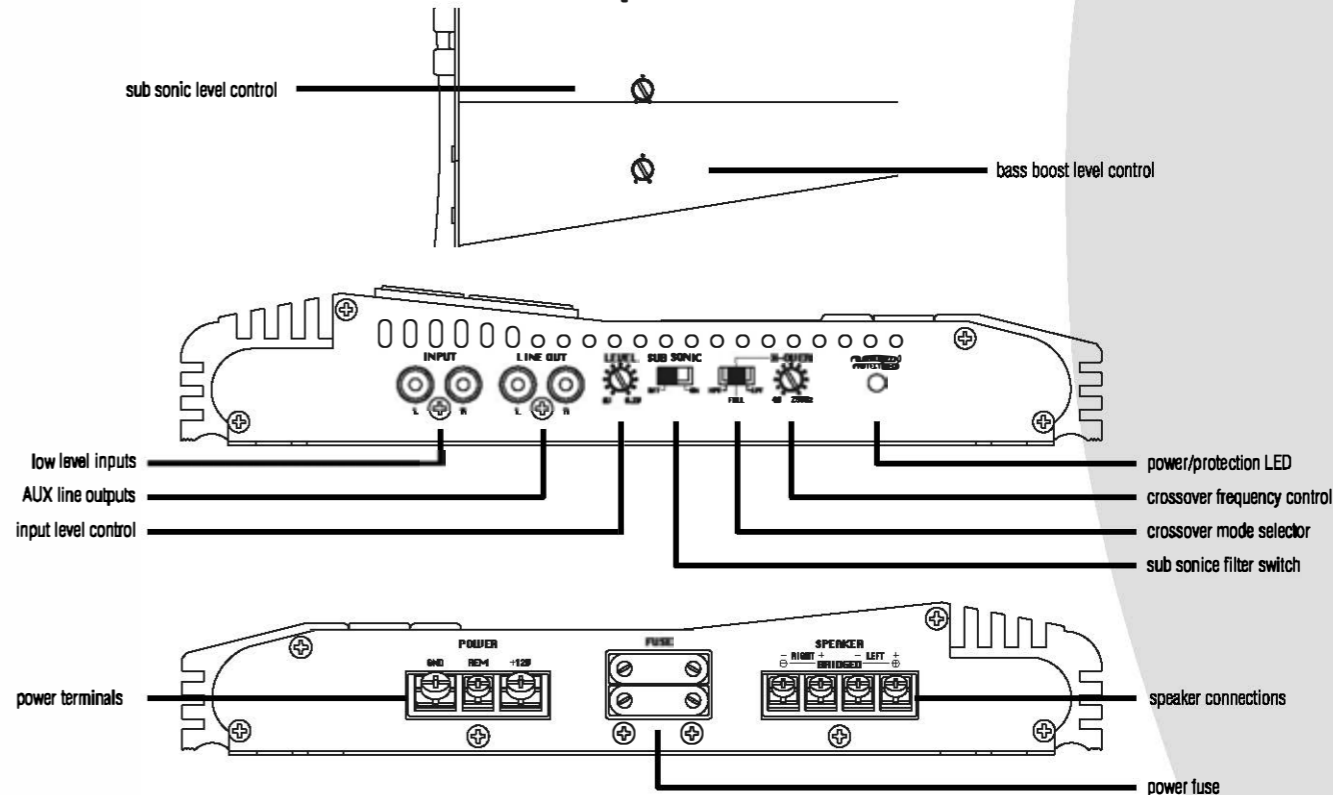
2 ch amp VCT-2310 • VCT-2410 • VCT-2510

- crossover mode selector** When used with normal, full range system, set this switch to "FULL". If you wish to use the internal crossover to power a driver or specific frequency range, use the "LPF" or "HPF" FOR the "LOWPASS" OR "HIGHPASS" settings.
- input level controls** Enables the matching of input levels to the output levels from head unit (or other signal source). The input sensitivity of adjustment ranges from 6V to 200mV.
- crossover frequency control** When crossover mode selector is in HIGHPASS mode, this control sets the lower frequency limit for audio program sent to the speakers. When crossover mode selector is in LOWPASS mode, this control sets the upper frequency limit for audio program sent to the speakers. The crossover is continuously variable adjustment from 40 to 250 Hz.
- bass boost level control** This control permits adjustment of the bass level up to an increase of approximately up to 18dB. (VCT-2310/2410/2510)
- sub sonic control** When the sub sonic selector switch is in "ON" mode, this filter control permits continuously variable adjustment from 10 to 100Hz. (VCT-2310/2410/2510)
- low level input** This amp features RCA type jacks for high impedance input. Use these with car stereo output which uses RCA type connector cables.
- high level input** If your car stereo jacks are not RCA type output, use the high-low level input adaptor to connect the speaker output leads of car stereo and the RCA input jacks of amp.
- AUX line outputs** This amp features RCA jacks for AUX line outputs. Use these for unlimited system expansion to the next VECTOR.
- power LED** This indicator is illuminated in GREEN when power is applied.
- protection LED** This indicator is illuminated in RED when the built-in protection circuitry is activated.
- power fuse** The fuse protects the amplifier and your car's electrical system from short circuit conditions.
- power terminals** Use these connectors to deliver power, ground, and remote turn-on control to the amplifier.
- speaker connectors** These terminals are to guarantee high conductivity and minimum signal loss.

	VCT-2310	VCT-2410	VCT-2510
<b>output power @ 14.4v DC, 1KHz</b>			
<b>RMS Power @ 4 Ohms</b>	150 Watts x 2	200 Watts x 2	300 Watts x 2
<b>THD @ 4 Ohms</b>	250 Watts x 2	300 Watts x 2	450 Watts x 2
<b>RMS Power @ 2 Ohms</b>	250 Watts x 2	300 Watts x 2	450 Watts x 2
<b>THD @ 2 Ohms</b>	300 Watts x 2	400 Watts x 2	650 Watts x 2
<b>Maximum Power Output</b>	1500 Watts x 2	2000 Watts x 2	2500 Watts x 2
<b>Bridged Power at 4 Output</b>	3000 Watts x 1	4000 Watts x 1	5000 Watts x 1
<b>frequency response</b>	15 Hz-30 KHz		
<b>input impedance</b>	10K Ohms		
<b>low level inputs</b>	200mV-6V Adjustable		
<b>input sensitivity</b>	200mV-6V Adjustable		
<b>low level inputs</b>	200mV-6V Adjustable		
<b>S/N ratios</b>	>95dB		
<b>channel separation</b>	>65dB		
<b>crossover filters</b>			
<b>low Pass</b>	40 Hz-250 Hz		
<b>high Pass</b>	40 Hz-250 Hz		
<b>bass boost</b>	0 ~ +18dB		
<b>sub sonic filter</b>	10-100 Hz		
<b>matching speaker impedance</b>			
<b>stereo mode</b>	2-4 Ohms		
<b>bridged mode</b>	4-8 Ohms		
<b>maximum current draw</b>	50A	60A	60A
<b>power supply voltage</b>	14.4V DC Neg. Ground (10.5-16V)		
<b>dimensions (W x H x L)</b>			
<b>mm</b>	270 x 44.5 x 381	270 x 44.5 x 432	270 x 44.5 x 532
<b>inches</b>	10.63 x 1.75 x 15	10.63 x 1.75 x 17	10.63 x 1.75 x 21

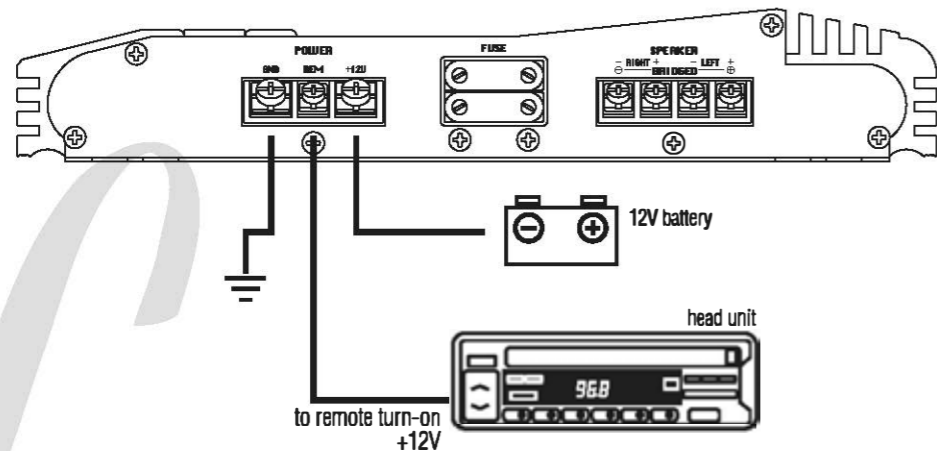
# features and controls

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# electrical connections

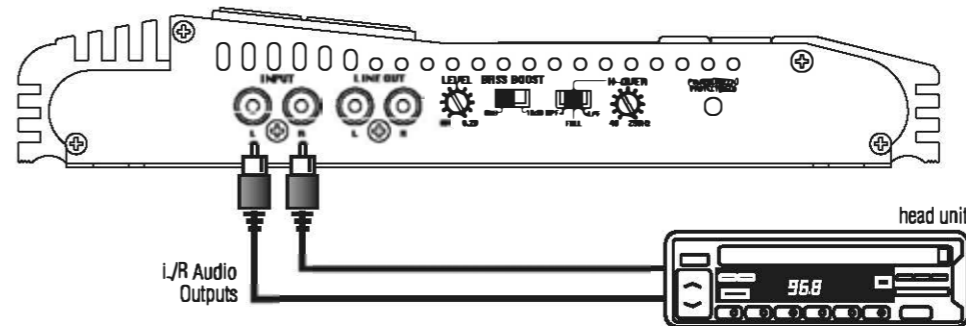
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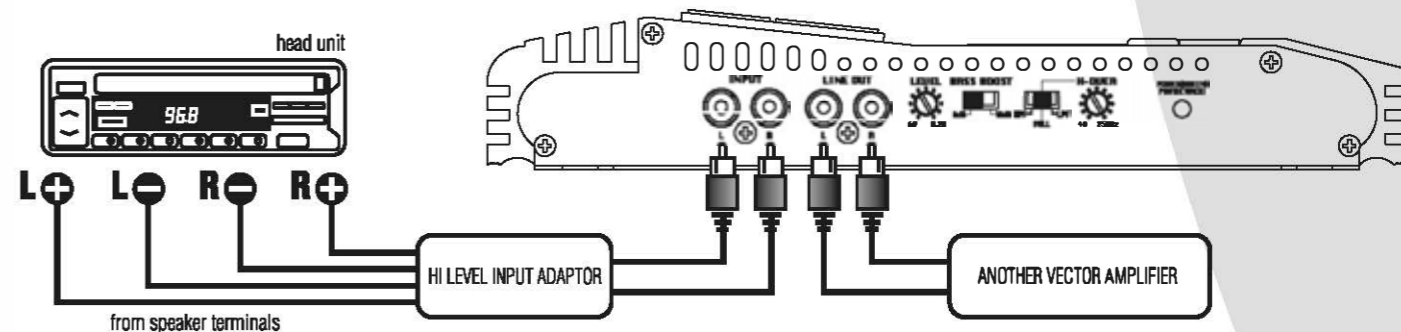
# stereo input connections

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## using low level inputs



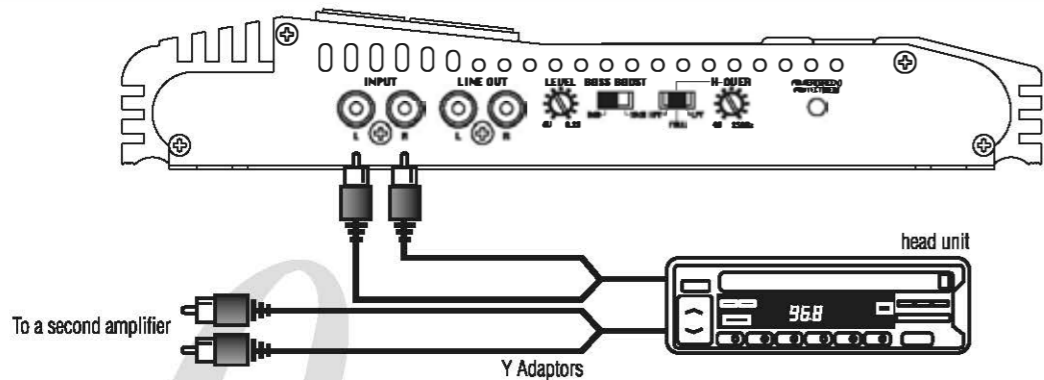
## using high level inputs



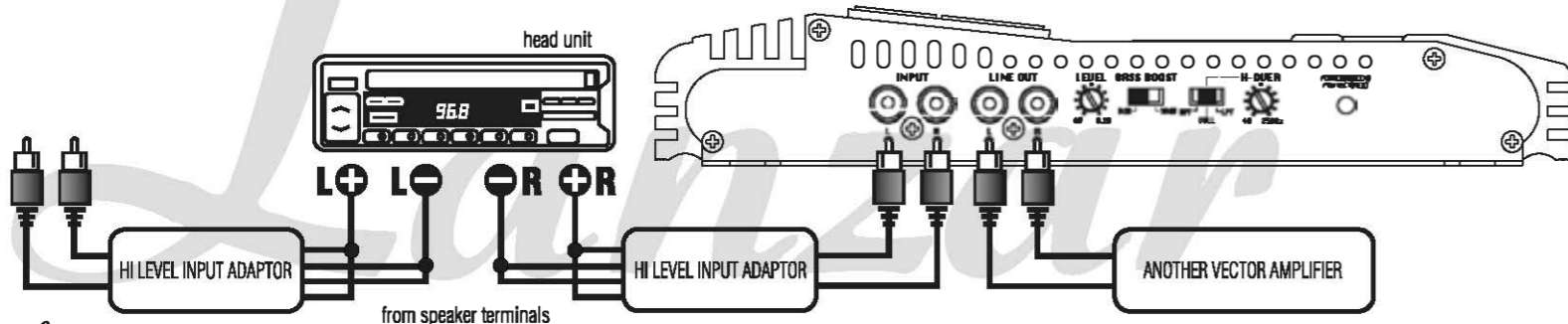
# mono input connections

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using low level inputs



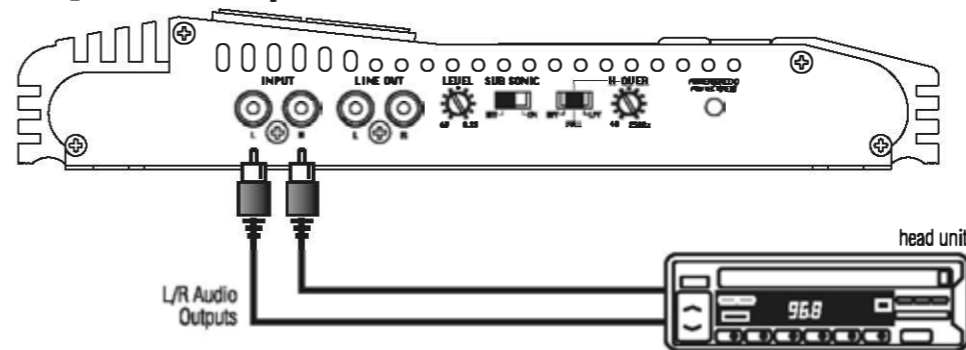
using high level inputs



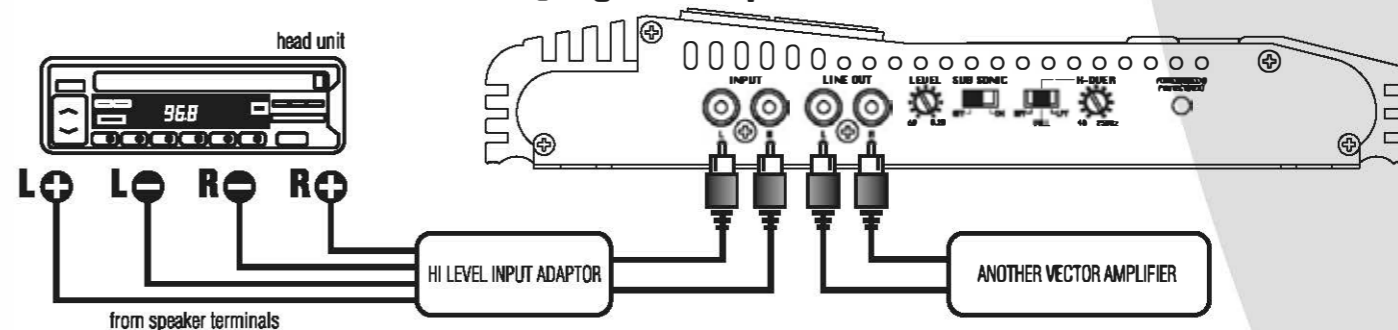
# stereo input connections

2 ch amp • VCT-2310 • VCT-2410 • VCT-2510

using low level inputs



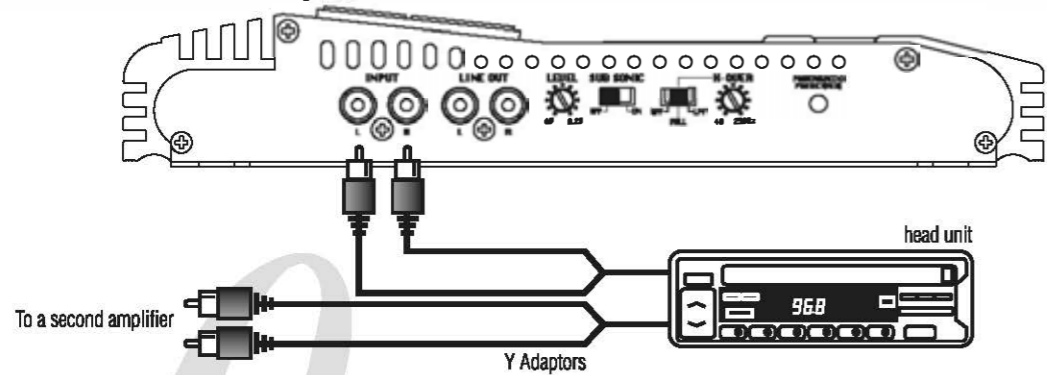
using high level inputs



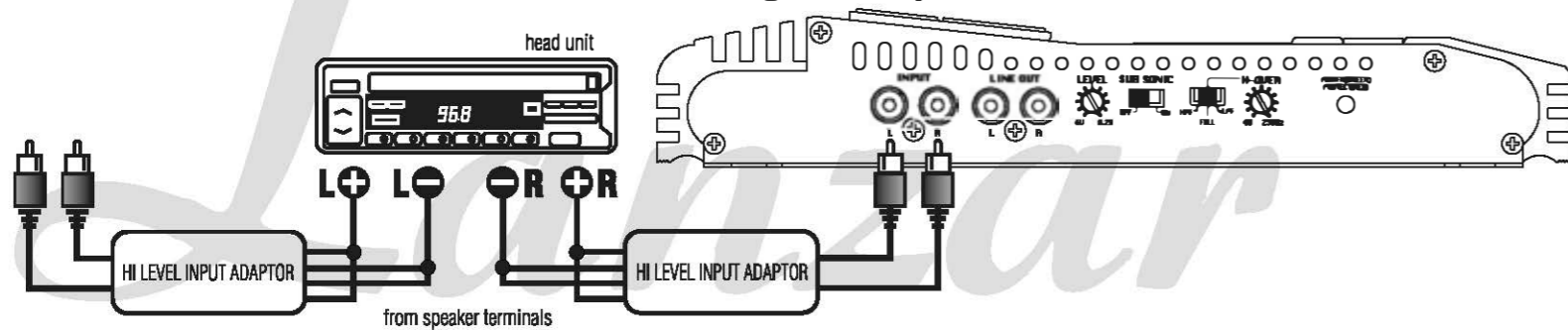
# mono input connections

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using low level inputs



using high level inputs



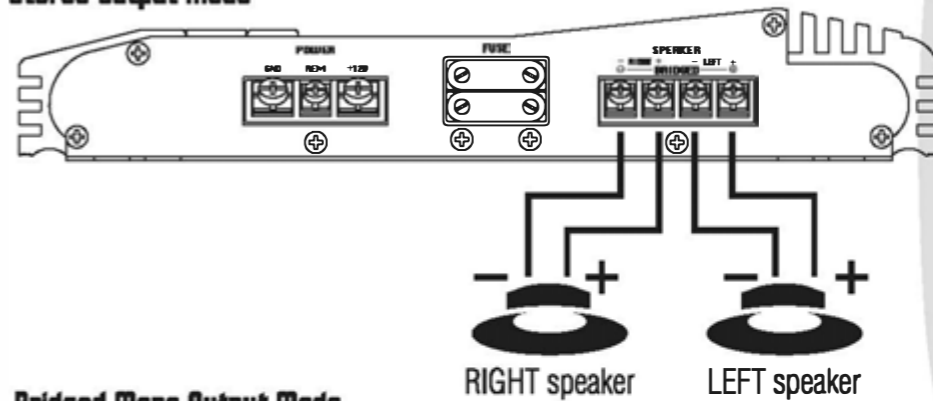
# speaker connections

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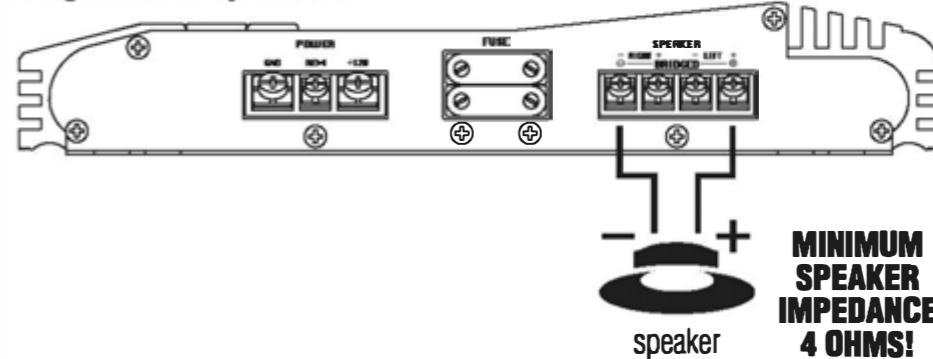
VCT-2310 • VCT-2410

VCT-2510

Stereo Output Mode



Bridged Mono Output Mode





# mounting and installation

## mounting

Your new Lanzar Vector Series amplifier comes complete with all required mounting hardware. When determining a suitable location in your vehicle for the amp, please remember that it is a high-power electronic device capable of generating high heat.

For this reason, **always choose a location in your vehicle which has low vibration, adequate ventilation, a minimum of dust, and no moisture.** Be sure to mount the amp in such a manner as to allow reasonable airflow over the cooling fins.

**Mark the location for the mounting screw holes** by positioning the amp where you wish to install it and use a scribe (or one of the mounting screws) inserted in each of the mounting holes to mark the mounting surface. If the mounting surface is carpeted, measure the hole centers and mark with a felt tip pen.

**Before attempting to drill the mounting holes, take note of any wires, lines or other devices in your vehicle which may be located behind the mounting surface!** Then drill pilot holes in the mounting surface for the mounting screws and insert them. Tighten the screws securely.

## wiring tips

**When making electrical connections to your amplifier, please observe the following:**

Use at least 8 gauge wire for power and ground connections.

Wire the amplifier directly to the car battery.

For the ground connection, use the shortest possible wire to a good chassis ground point.

Wire the Remote connection to the auto start lead of your head unit, equalizer or power antenna.

## FUSES

**About power fuses:**

Lanar Vector Series amplifiers feature built-in fuse systems. These fuses protect both the amplifier and the electrical system in your vehicle from fault conditions. If you ever need to replace the fuse in your Lanar Vector Series amp, use a fuse of exactly the same type and rating. A different type or rating of fuse may result in damage or fire.

# troubleshooting

## protection circuitry

The built-in protection circuitry in the Lanar Vector Series amplifiers will disable the amplifier if it senses an input overload, a speaker short circuit, or extreme temperature conditions.

When the protection circuit is activated by any of these conditions, the Protection LED will be illuminated.

If this occurs, carefully inspect the system to determine the source of the problem.

- If the shutdown was a result of a thermal overload condition, allow the amplifier to cool down before attempting to restart it.
- If the shutdown was a result of an input overload, or speaker short circuit, be sure to correct the condition before restarting.

The amplifier can be restarted by turning the remote power OFF and then ON again.

### No output.

Confirm that all terminal strip connections are secure and tight.

Check both in-line and built-in fuses. Both the +12V and the Remote terminals must have +12v referenced to chassis ground.

Confirm that the audio signal source (car radio, equalizer, etc.) is connected and is supplying output signal. To check if the amp is supplying signal, unplug the cables from the signal source (but leave them plugged into the amp). Briefly tap the center pin of each of the disconnected RCA plugs with your finger. This should produce a noise (feedback) in your speakers.

### Only one channel works.

Confirm that all terminal strip connections are secure and tight.

Check the Balance control on the head unit (or other source) to verify that it is set to its midpoint.

If you are using the Low Level RCA input, reverse the input plugs at the amplifier (i.e., switch the L with the R). If the channels which is silent switches to the other side, the problem is either in the head unit/other source or the connecting cables.

### Weak output.

Readjust the Input Level Control(s) to better suit the input signal.

### Noise in the audio.

If the noise is a "whine" whose pitch follows the engine speed, confirm that the amplifier and any other signal sources (head unit, etc.) are properly grounded.

If the noise is a "clicking" or "popping" noise whose rate follows the engine speed, this usually means that the vehicle is equipped with resistor spark plugs and wires, or that the ignition is in need of service.

Check the routing of the speaker and input wires to make sure they are not adjacent to wires which interconnect lights and other accessories.

If the above steps fail to improve or clear noise interference, the system should be checked by a professional mobile audio installer.