



KICKER[®]
MULTICHANNEL AMPLIFIER

ZX350.4, ZX650.4, ZX850.4



Four Channel Models: ZX350.4 / ZX650.4 / ZX850.4

Congratulations on your KICKER purchase!

Please record your purchase information and keep your sales receipt for validation of warranty.

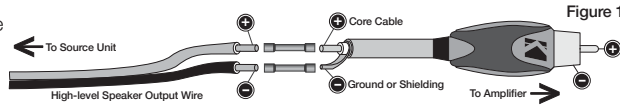
Authorized Kicker Dealer: _____
 Purchase Date: _____
 Amplifier Model Number: _____
 Amplifier Serial Number: _____

Installation

1. Mounting Choose a structurally sound location to mount your Kicker amplifier. Make sure there are no items behind the area where the screws will be driven. Choose a location that allows at least 4" (10cm) of open ventilation for the amplifier. If possible, mount the amplifier in the climate-controlled passenger compartment. Drill four holes using a 7/64" (3mm) bit and use the supplied #8 screws to mount the amplifier.

2. Wiring Disconnect the vehicle's battery to avoid an electrical short. Then, connect the ground wire to the amplifier. Make the ground wire short, 24" (60cm) or less, and connect it to a paint and corrosion free solid metal area of the vehicle's chassis. Adding an additional ground wire of this same gauge (or larger) between the battery's negative post and the vehicle chassis is recommended.

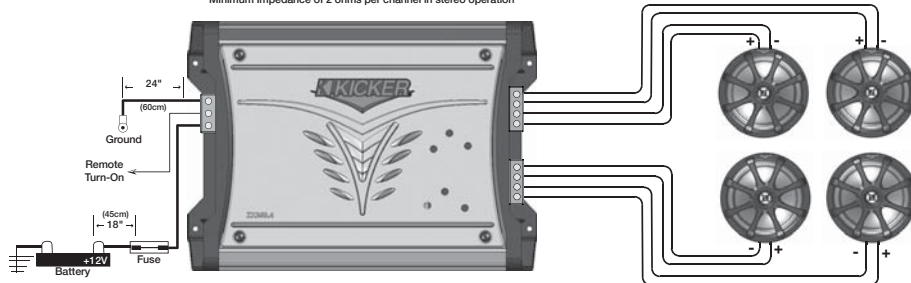
The ZX amplifier has dual input sensitivity differential RCA inputs which will receive either high or low level signals from your car stereo's source unit. Ideally, when connecting the source unit to the amplifier, the ZX amplifier's input level switch should be set to "LO" and a low-level signal should run from the source unit's stereo RCA output to the stereo RCA input on the end panel of the amplifier using RCA interconnect cable. If a low-level stereo RCA output is not available on the source unit, the signal can be delivered to the amplifier using the high-level speaker outputs on the source unit. Set the input level switch on the end panel of the amplifier to "HI". Crimp and solder RCA connectors to the end of the speaker wire running from the high-level speaker outputs on the source unit and connect the wire to the RCA Inputs on the end panel of the amplifier as shown in Figure 1. Keep the audio signal cable away from factory wiring harnesses and other power wiring. If you need to cross this wiring, cross it at a 90 degree angle.



Install a fuse within 18" (45cm) of the battery and in-line with the power cable connected to your amplifier. If you ever need to remove the amplifier from the vehicle after it has been installed, the ground wire should be the last wire disconnected from the amplifier--just the opposite as when you installed it. See the chart on the following page for power and ground wire size, and fusing recommendations.

3. Configuration The following diagrams show the most common configurations for your Kicker ZX series amplifier.

Figure 2
Four Channel Operation (Stereo)
 Minimum Impedance of 2 ohms per channel in stereo operation



ZX.4 AMPLIFIER

Figure 3
Bridged Operation (Mono)
 Minimum impedance of 4 ohms while in bridged operation

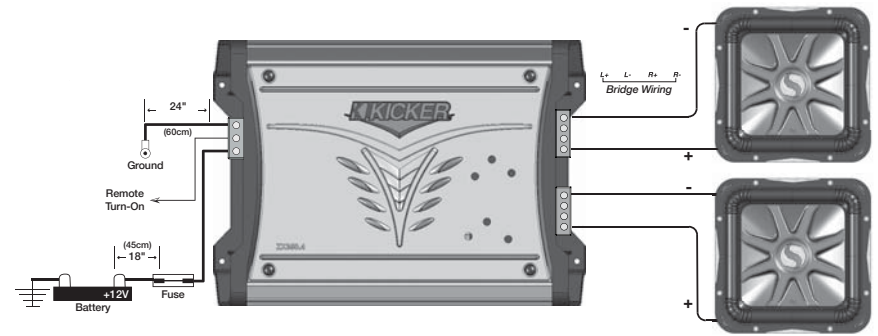
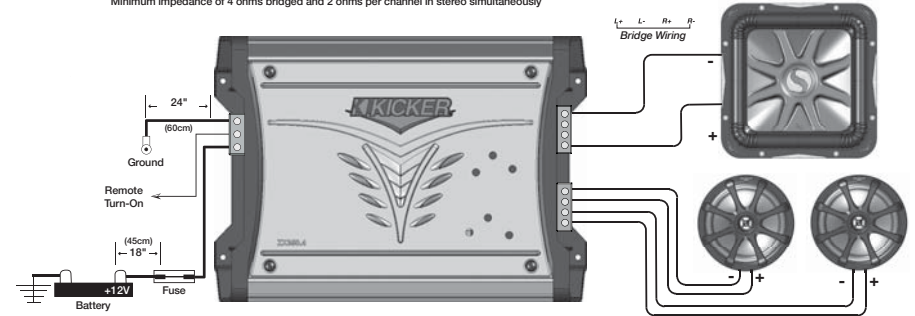


Figure 4
Stereo and Mono Operation Simultaneously (SAMS)
 Minimum impedance of 4 ohms bridged and 2 ohms per channel in stereo simultaneously



Model ZX350.4	1 (ONE) 40 AMPERE FUSE	Power Ground Wire 8GA
Model ZX650.4	1 (ONE) 80 AMPERE FUSE	Power Ground Wire 4GA
Model ZX850.4	1 (ONE) 120 AMPERE FUSE	Power Ground Wire 2GA

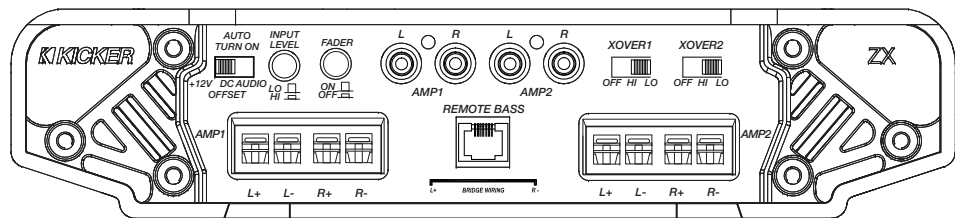
Performance

Model	ZX350.4	ZX650.4	ZX850.4
RMS Power in Watts, all channels driven @14.4 Volts, 4Ω stereo, ≤ 1% THD+N	60 x 4	120 x 4	175 x 4
@ 2Ω stereo, ≤ 1% THD+N	90 x 4	170 x 4	215 x 4
@ 4Ω mono, ≤ 1% THD+N	175 x 2	325 x 2	425 x 2
Length: in(cm)	13 1/2 (34.2)	20 (50.7)	23 1/4 (59)

Specifications common to all models:

Height: in(mm)	2 1/8 (54mm)
Width: in(mm)	9 5/8 (244mm)
Frequency Response, ± 1 db:	20 Hz - 20 kHz
Signal-to-Noise Ratio:	>95db, a-weighted, re: rated power
Input Sensitivity:	Low Level: 125mV-5V High Level: 250mV-10V
Selectable Electronic Crossover:	Variable HI, LO or OFF (bypass), 50 - 200Hz, 12dB per octave
Bass Boost:	Variable 0 to +18dB Bass Boost @ 40Hz

Operation



1. Automatic Turn-On Selection The ZX series offers three different automatic turn-on modes that can be selected on the end panel; +12V, DC Offset, and Audio. Using either the DC Offset or Audio mode causes the REM terminal to have +12V out for turning on additional amplifiers.

Remote Turn-On Set the switch to **+12V** to use the remote turn-on lead from your source unit. Run 18 Ga wire from the Remote Turn-On Lead on your source unit to the terminal labeled REM between the amplifier's positive and negative power terminals. This is the preferred automatic turn-on method.

DC Offset Turn-On If Remote Turn-On is not an option, the next best setting is **DC Offset**. The DC Offset mode detects a 6 volt surge from the HI Level speaker outputs when the source unit has been turned on.

Signal Sense Turn-On The **Audio** setting is the final alternative for Automatic turn-on. This is a Signal Sense turn-on method that detects the incoming audio signal from your source unit and automatically turns on the amp. This turn-on method will not work properly if the input gain control is not set appropriately.

2. Input Level The RCA inputs on Kicker ZX amplifiers are capable of receiving either Hi or Low-level signals from your source unit. If the only output available from your source unit is a Hi-Level signal, simply press in the Input Level switch on the amplifier. Refer to the wiring section of this manual additional instructions.

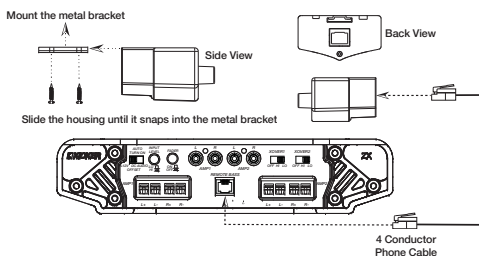
3. Crossover Switch Use the XOVER switch on the end panel of the amplifier to set the internal crossover to OFF, HI or LO. When the switch is set to OFF, a full bandwidth signal will be amplified. Set the switch to HI if you want the amplifier's internal crossover to serve as a high-pass filter. Set the switch to LO if you want the amplifier's internal crossover to serve as a low-pass filter. Never change the crossover "OFF/HI/LO" switch setting with the audio system on!

4. Input Gain Control The input gain control is not a volume control. It matches the output of the source unit to the input level of the amplifier. Turn the source unit up to about 3/4 volume (if the source unit goes to 30, turn it to 25). Next, slowly turn (clockwise) the gain on the amplifier up until you can hear audible distortion, then turn it down a little.

5. Bass Boost Control The variable bass boost control on the top of the amplifier is designed to give you increased output 0 - 18dB at 40 Hz. The setting for this control is subjective. If you turn it up, you must go back and adjust the input gain control to avoid clipping the amplifier.

6. Crossover Control The variable crossover on the top of the amplifier allows you to adjust the crossover frequency from 50-200Hz. The setting for this control is subjective; 80Hz is a good place to start.

7. RemoteBass(Level Control) When the crossover on your ZX.4 series amplifier is set to LO pass, you have the ability to control the output level of the amplifier remotely. To mount the remote bass level control, simply screw the metal bracket to the chosen location. Then slide the housing onto the bracket until it snaps into place. Run the cable from the controller to the "Remote Bass" jack on the amplifier chassis.



Troubleshooting

If your amplifier does not appear to be working, check the obvious things first such as blown fuses, poor or incorrect wiring connections, incorrect setting of crossover switch and gain controls, etc. There is an illuminated red badge on top of the amplifier denoting the power state of the amp in addition to the Protection LED on the end panel of your Kicker ZX series amplifier. When the red badge is lit this indicates the amplifier is turned on and the amplifier is functioning properly.

RED Badge Light off, no output? With a Volt Ohm Meter (VOM) check the following: 1) +12 volt power terminal (should read +12V to +16V) 2) Remote turn-on terminal (should read +12V to +16V) 3) Check for reversed power and ground connections. 4) Ground terminal, for proper conductivity. 5) Check for blown fuses.

RED Badge Light on, no output? Check the following: 1) RCA connections 2) Test speaker outputs with a "known" good speaker. 3) Substitute source unit with a "known" good source unit. 4) Check for a signal in the RCA cable feeding the amplifier with the VOM meter set to measure "AC" voltage.

End Panel LED flashing with loud music? The yellow LED indicates low battery voltage. Check all the connections in your vehicle's charging system. It may be necessary to replace or charge your vehicle's battery or replace your vehicle's alternator.

End Panel LED on, no output? 1) Amplifier is very hot. →Thermal protection is engaged. Test for proper impedance at the speaker terminals with a VOM meter (see the diagrams in this manual for minimum recommended impedance and multiple speaker wiring suggestions). Also check for adequate airflow around the amplifier. 2) Amplifier shuts down only while vehicle is running. →Voltage protection circuitry is engaged. Voltage to the amplifier is not within the 9-16 volt operating range. Have the vehicle's charging and electrical system inspected. 3) Amplifier will only play at low volume levels. →Short circuit protection is engaged. Check for speaker wires shorted to each other or to the vehicle chassis. Check for damaged speakers, or speaker(s) operating below the minimum recommended impedance.

No output from one channel? 1) Check the balance control on source unit 2) Check the RCA (or speaker input) and speaker output connections for the channel 3) Swap the RCA (or speaker input) cable from left to right. If the problem changes sides then you have a bad RCA (or speaker input) cable or source unit problem. 4) Swap the speaker output wire from left to right. If the problem changes sides then you have a bad speaker cable, passive crossover network and/or speaker.

Alternator noise-whining sound with engine's RPM? 1) Check for damaged RCA (or speaker input) cable 2) Check the routing of RCA (or speaker input) cable 3) Check the source unit for proper grounding 4) Check the gain settings and turn them down if they are set too high.

Poor stereo image or reduced bass response? →Check system phasing by turning the balance control from left to right. If there is more bass output when turned to either side, then check your speaker wiring, passive crossover networks and speaker terminals for proper positive and negative connections. Reverse a speaker connection from positive to negative on the stereo/subwoofer channel(s); if the bass improves, the speaker was out of phase.

Ground Noise? →If you are using only one pair of RCA inputs, connect the RCA cable to the AMP1 inputs. Kicker amplifiers are engineered to be fully compatible with all manufacturers' head units. Some head units may require additional grounding to prevent noise from entering the audio signal. If you are experiencing this problem with your head unit, in most cases running a ground wire from the RCA outputs on the head unit to the chassis will remedy this issue.

No Fader? →When using both sets of low-level (RCA) or high-level (speaker wire) inputs, the fader button must be pushed in.

Please Note: Modern high performance speakers have a lower DC Resistance than what used to be available. The Kicker Coaxial and Component speakers are rated at four ohms (some DC Resistances may be as low as 3 ohms) and work with any amplifier designed to operate at a four ohm load. If you want to use two Kicker Coaxial or Component speakers on a single channel of your amplifier wire the speakers in series. This will improve the sound quality, lower the total harmonic distortion and lessen the thermal load at the amplifier. This may prevent an amplifier from shutting down, due to over-current protection circuitry.

CAUTION: When jump starting the vehicle, be sure that connections made with jumper cables are correct. Improper connections can result in blown amplifier fuses as well as the failure of other critical systems in the vehicle.

If you have more questions about the installation or operation of your new KICKER product, see the Authorized KICKER Dealer where you made your purchase. For more advice on installation, click on the SUPPORT tab on the Kicker homepage, www.kicker.com. Choose the TECHNICAL SUPPORT tab, choose the subject you are interested in, and then download or view the corresponding information. Please E-mail support@kicker.com or call Technical Services (405) 624-8583 for unanswered or specific questions.



Model ZX350.4
60 x 4 @ 4 ohms, 14.4Vdc, 1% THD, CEA-2006 (Watts)
Signal to Noise Ratio -95
CEA-2006 (ref: 1W, A-weighted)

Model ZX650.4
120 x 4 @ 4 ohms, 14.4Vdc, 1% THD, CEA-2006 (Watts)
Signal to Noise Ratio -91
CEA-2006 (ref: 1W, A-weighted)

Model ZX850.4
175 x 4 @ 4 ohms, 14.4Vdc, 1% THD, CEA-2006 (Watts)
Signal to Noise Ratio -90
CEA-2006 (ref: 1W, A-weighted)

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