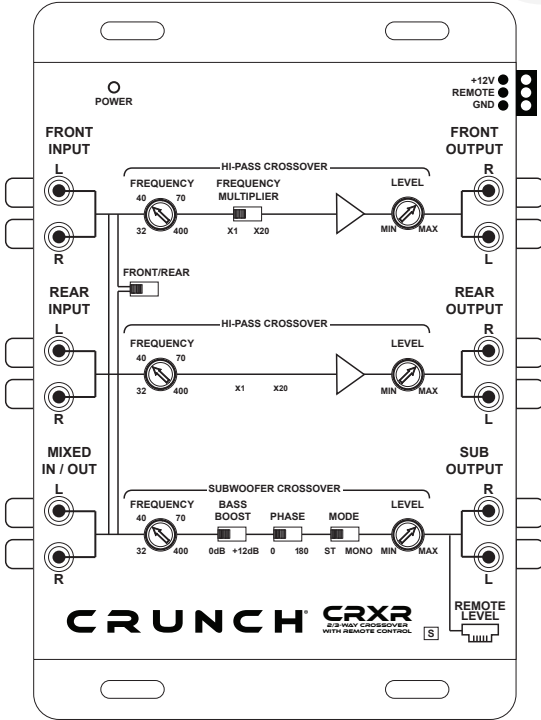


# CRUNCH<sup>®</sup>

## Operators Guide



**CRXR**

Thank you for purchasing the CRUNCH CRXR 2 / 3-Way crossover. This model operates as either a 2 or 3-way crossover with an 18dB / Octave subwoofer crossover with remote gain control module. This unit will provide filtered signals to front and rear amplifiers, and Low Pass subwoofer output using a single pair of inputs. Please read the entire manual to ensure proper connections and application.



## CAUTION



Always consider consulting a professional audio installer before installing any audio components. Be careful and take your time. Do not let wires make contact with metal edges or hot engine components.

## Product Features

### **Bass Boost with Quasi-Parametric Equalization**

A sealed enclosure causes the woofers frequency response to roll off at a rate is 12dB per Octave below the enclosures resonant frequency. Our Bass Boost Quasi-Parametric Equalization circuitry provides a single Octave boost at 12dB at 45Hz to ensure smooth and accurate bass response.

### **DC / DC Regulated Switching Power Supply**

This power supply design provides constant voltage regardless of the battery's voltage to ensure constant output performance at all times.

### **Frequency Multiplier**

The front High Pass section is equipped with a frequency multiplier switch that can be used to multiply the crossover frequency points. With the additional selectable crossover points, system settings become precise.

### **Rear Input Switch**

Using this switch, a rear signal output can be delivered from a single input source without having to use an adaptor to split the input cables.

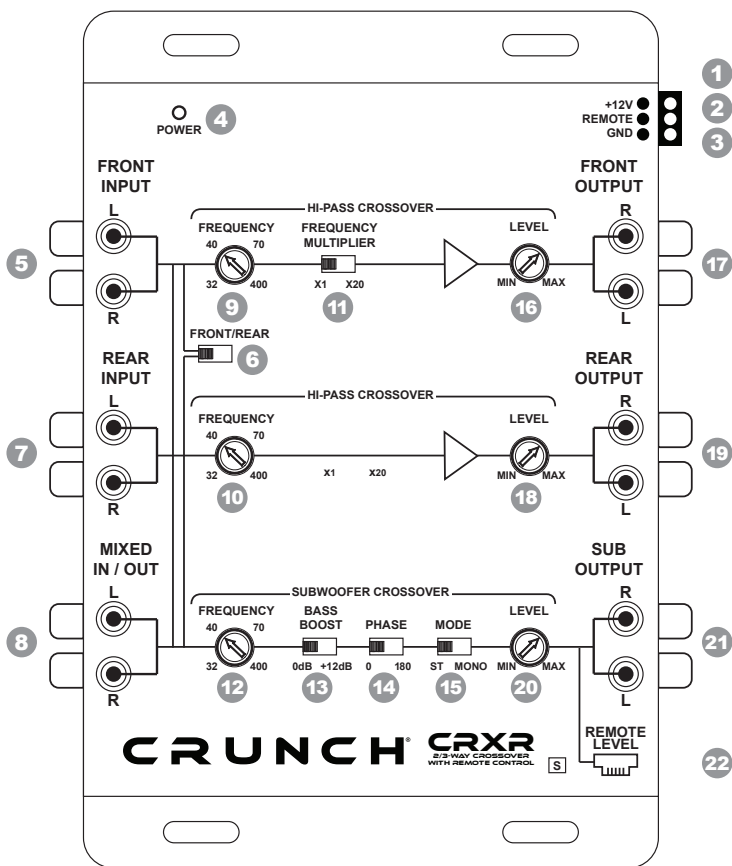
### **Front / Rear Inputs with Front / Rear / Sub Outputs**

This unit has front and rear pre-amp inputs with front and rear outputs as well as a constant subwoofer output that is independent of the fader position on the source unit.

### **Adjustable Output Level Control**

### **Stereo / Mono Subwoofer Control Switch**

### **Remote Level Control via Under-Dash Module**



## Functions & Operations

- 1 **Power Input Terminal:** Connect to battery + positive terminal with 5 amp in-line fuse.
- 2 **Remote Turn-On Terminal:** Connect to the source unit (radio / CD player) remote turn-on or accessory wire. This wire should get +12 volts when the source unit is turned on and 0 volts when turned off.
- 3 **Ground Input Terminal:** Connect to chassis ground.
- 4 **Power Indicator:** The power light will illuminate green when the unit is turned on.
- 5 **Left / Right Front Channel Signal Inputs:** Connect to the Front (L & R) channel output of the source unit.

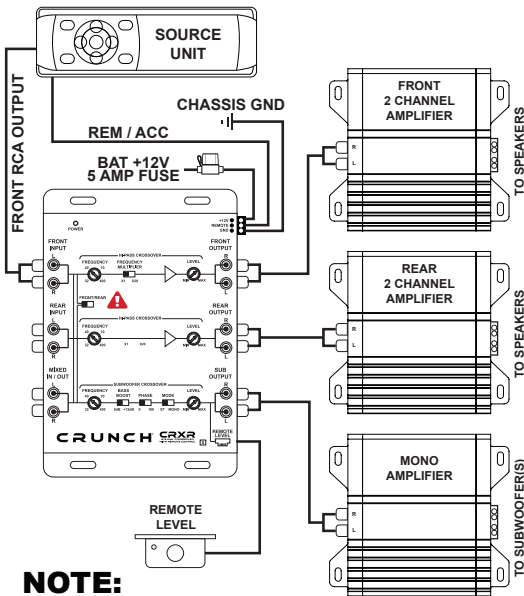
## Functions & Operations Cont.

- 6 **Front / Rear Input Switch:** In the FRONT position, the input signals coming in through the front channel signals are split and directed to the front and rear channels simultaneously. This feature is engaged when the source unit has no front / rear or subwoofer channel output. In the REAR position, if the source unit has front & rear RCA outputs, disengage the rear inputs by placing the switch in REAR position.
- 7 **Left / Right Rear Channel Signal Inputs:** Connect to the rear (L & R) channel output of the source unit. Make sure that the REAR INPUT switch is in the REAR Position.
- 8 **Left / Right Mixed In / Out Terminals:** As an INPUT terminal, connect the subwoofer output of the source unit. As an OUTPUT terminal, connect to the front channel input terminal of another electronic crossover in a multi-crossover system.
- 9 **Front Channel High-Pass Frequency Selector:** In the x1 position, the high-pass crossover frequency range is adjustable from 32Hz to 400Hz and in the x20 position, the frequency range is adjustable from 640Hz to 8KHz. This allows for fine tuning.
- 10 **Rear Channel High-Pass Frequency Selector:** Allows selection of REAR Channel High-Pass frequency from 32Hz to 400Hz.
- 11 **Front Channel High-Pass Frequency Multiplier:** In the x1(times one) position, the Front High-Pass frequency is adjustable from 32Hz to 400Hz and the x20(times twenty) the frequency is adjustable from 640Hz to 8KHz.
- 12 **Subwoofer Frequency Selector:** Adjustment of the Low-Pass crossover frequency for the subwoofer channel from 32Hz to 400Hz.
- 13 **Bass Boost Switch:** When activated, this circuit provides a single Octave boost of 12dB at 45Hz to equalize the sub enclosure.
- 14 **Phase Inverter:** In the "180" Position, the unit shifts the sub output signal 180 degrees out of phase relative to the front and rear output signals.
- 15 **Subwoofer Stereo / Mono Switch:** Selects stereo or mono for the subwoofer output.
- 16 **Front Channel Output Level Control:** Allows for adjustment of the front channel output signal.
- 17 **Left / Right Front Channel Output Terminals:** Connect to the amplifier front channel left / right inputs.

## Functions & Operations Cont.

- 18 **Rear Channel Output Level Control:** Allows for adjustment of the rear channel output signal level.
- 19 **Left / Right Rear Channel Output Terminals:** Connect to the amplifier rear channel left / right inputs.
- 20 **Subwoofer Output Level Control:** Allows for adjustment of the subwoofer channel output signal level.
- 21 **Left / Right Subwoofer Output Terminals:** Connect to the amplifier subwoofer or non-fading output.
- 22 **Remote Level Control:** This is the under-dash mounted bass remote module which adjusts the Low-Pass level.

## 2 Channel Source Unit Setup



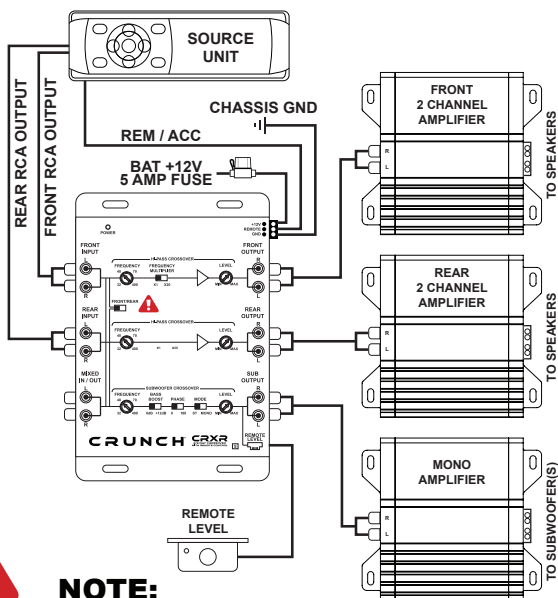
FRONT/REAR



### NOTE:

For 2 Channel source unit operation, be sure the "REAR INPUT" switch is in the **FRONT** position. This will direct the audio input signal to both front and rear outputs.

## 4 Channel Source Unit Setup



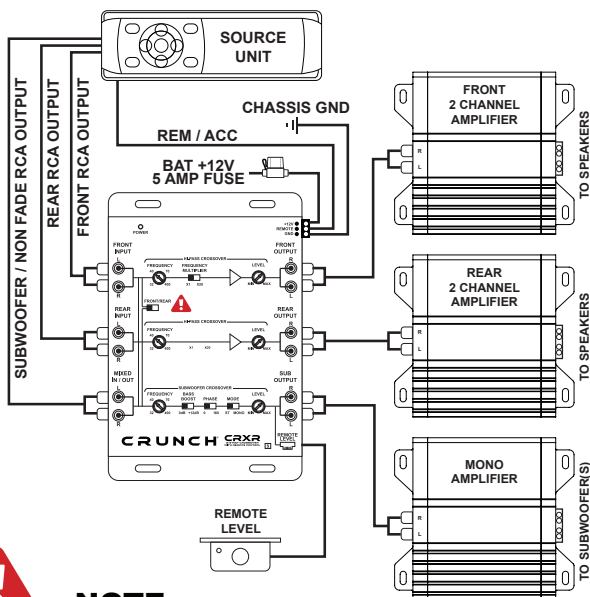
### NOTE:

FRONT/REAR



For 4 Channel source unit operation, be sure the "REAR INPUT" switch is in the **REAR** position.

## 5 Channel Source Unit Setup



### NOTE:

FRONT/REAR



For 5 Channel source unit operation, be sure the "REAR INPUT" switch is in the **REAR**

## Diagnosics & Trouble Shooting

The key to finding the problem in a troubled sound system is to isolate parts of that system in a logical fashion to track down the fault and correct the issue.

The diagnostic system will not shut down the crossover or the amplifier(s), although the amplifier(s) own protection circuitry may shut the amplifier(s) down should a fault status occur. At which time you will need to consult the owners manual for that particular amplifier.

### *Low Output Power*

- 1) Check that level controls have been set up properly
- 2) Make sure that the battery voltage, as measured at the amplifier(s) and crossover +12 volt and ground terminals, is 11volts or more.
- 3)Check all +12 volt and ground connections.

### *Fuses Blowing*

- 1) Insure that the voltage to the unit does not exceed 15 volts.
- 2) A short on the main +12 volt cable from the battery to the vehicle chassis will cause the main fuse to blow.
- 3) If the CRXR is blowing fuses continually with only +12 volt, ground and remote leads connected, the unit may be faulty.

### *Fuses Blowing*

- 1) Check all fuses.
- 2) Check all connections.
- 3) Measure the +12 volt and remote turn on voltages at the amplifier(s) and crossover terminals. If these are non existent or low, take voltage measurements at fuse holders, distribution blocks, the head unit's +12 volt and remote leads to localize the problem.

### *Hiss, or White Noise*

- 1) High levels of white noise usually occur when level controls are turned up too high – reduce the levels until the noise is no longer present.
- 2) Another problem that can cause excessive hiss, is a noisy head unit – unplug the crossover input RCA's, and if the hiss level reduces, the source unit is at fault.

### *Electrical Interference*

The inside of an automobile is a very hostile electrical environment. The multitude of electrical systems, such as the ignition system, alternator, fuel pumps, air conditioners, to mention just a few, create radiated electrical fields, as well as noise on the +12 volt supply and ground. To try and eliminate this noise, run a wire from the radio ground wire to the ground input on the crossover.

### *Ticking or Whine that changes with engine RPM*

- 1) This problem could be caused by radiation pickup of RCA cables that are too close to a fuel pump or a distributor.
- 2) Check that the head unit ground is connected straight to the vehicle chassis, and does not use factory wiring for ground.
- 3) Try to supply the head unit with a clean +12 volt supply directly from the battery +, instead of using a supply from the in dash wiring/fusebox.

### *Constant Whine*

This type of noise can be more difficult to pinpoint, but is usually caused by some kind of instability, causing oscillations in the system.

- 1) Check all connection, especially for good grounds.
- 2) Make sure that no speaker leads are shorting to exposed metal on the vehicle chassis.
- 3) RCA cable are notorious for their problematic nature, so check that these are good, in particular the shield connections.

# CRUNCHCARAUDIO.COM

## WARRANTY

Maxxsonics USA Inc. warrants this product, to the original consumer purchaser, to be free from defects in material and workmanship for a period of one (1) year from the date of purchase. Maxxsonics USA Inc. will, at its discretion, repair or replace defective products during the warranty period. Components that prove to be defective in materials and workmanship under proper installation and use must be returned to the original authorized Maxxsonics USA Inc. retailer from where it was purchased. A photocopy of the original receipt must accompany the product being returned. The costs associated with removal, re-installation and freight are not the responsibility of Maxxsonics USA Inc. This warranty is limited to defective parts and specifically excludes any incidental or consequential damages connected therewith. To view the full warranty, please visit the website.

Crunch products are designed and engineered in the USA by

**MAXXSONICS®**

[www.maxxsonics.com](http://www.maxxsonics.com)

CR CRXR QSG 01 - rev1