

HIFONICS

Operator's Guide



HFEQ-2

Thank you for purchasing the HIFONICS HFEQ-2 4-Band Equalizer/ two-way crossover. This unit has both a pre-amp equalizer and crossover to provide the multi-speaker system of your vehicle with improved sound performance. 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.

Features

- **TWO COLOR (RED/BLUE) CONTROL KNOB LEDS**
- **2-CHANNEL UNBALANCED LINE INPUT**
- **DESIGNATED SUBWOOFER UNBALANCED OUTPUT**
- **SUBWOOFER X-OVER FREQUENCY CONTROL**
- **INPUT LEVEL CONTROL ADJUSTMENT**
- **MONO/STEREO SELECTION**
- **FADER CONTROL**
- **HALF DIN CHASSIS SIZE**
- **MOUNTING HARDWARE (INCLUDED)**
- **MID BASS/SUB BASS/MID RANGE/TREBLE CONTROL**

Mounting and Hardware

Prior to mounting, connect the wires to ensure proper operation.

MOUNTING

1. Select the desired mounting location, either under the dash or in the dash. Make sure that there is adequate depth for the HFEQ-2.
2. Use the mounting brackets and hardware provided. Make sure there is proper clearance for the mounting bracket screws when attaching under the dash. Use caution to ensure there are no wiring harnesses behind the dash panel (where the mounting screws are fastened).
3. Route the power, ground, and remote wires away from moving parts to prevent pinching or shortened wires.

WIRING

1. **Power Wire:** The power wire should connect to a constant or switched +12 volt source with a **(1 Amp) provided** in-line fuse. We recommend that you use the radio constant or switch +12 volt source.
2. **Ground Wire:** Connect the ground wire to a clean chassis ground point. Be sure to remove all paint and primer to expose clean metal. Use a ring terminal and lock or star washer to secure the ground wire.
3. **Remote Wire:** The remote wire should be connected to the source until remote or antenna wire that provides +12 volts when the source unit is "on" and 0 volts when the source unit is turned "off."

Functions & Operations

- 1 Volume Control:** The audio level (volume) can be increased or decreased with this illuminated VOLUME control knob.
- 2 Subwoofer Control:** The Subwoofer output level is controlled by the SUB illuminated knob.
- 3 Fader Control:** Allows to control the front and rear output levels.
- 4 Input Selection:** Allows to select input channel 1, 2 (AUX).
- 5 LED Selection:** Allows to change the control knob back light illumination color from red to blue.
- 6 Sub Bass Control:** This control allows to adjust the sub bass volume at 45Hz to increase or decrease.
- 7 Mid Bass Control:** This control allows to adjust the mid bass volume at 120Hz to increase or decrease.
- 8 Mid Range Control:** This control allows to adjust the mid bass volume at 2.2KHz to increase or decrease.
- 9 Treble Control:** This control allows to adjust the treble volume at 12KHz to increase or decrease.
- 10 Power Connectors:** This is the input jack that supplies power, ground and remote.

The 12+ Volt Terminal Connects to either constant +12 volts or to an accessory switched +12 volt source. The radio power wire is preferred source. (This is a fused power wire).

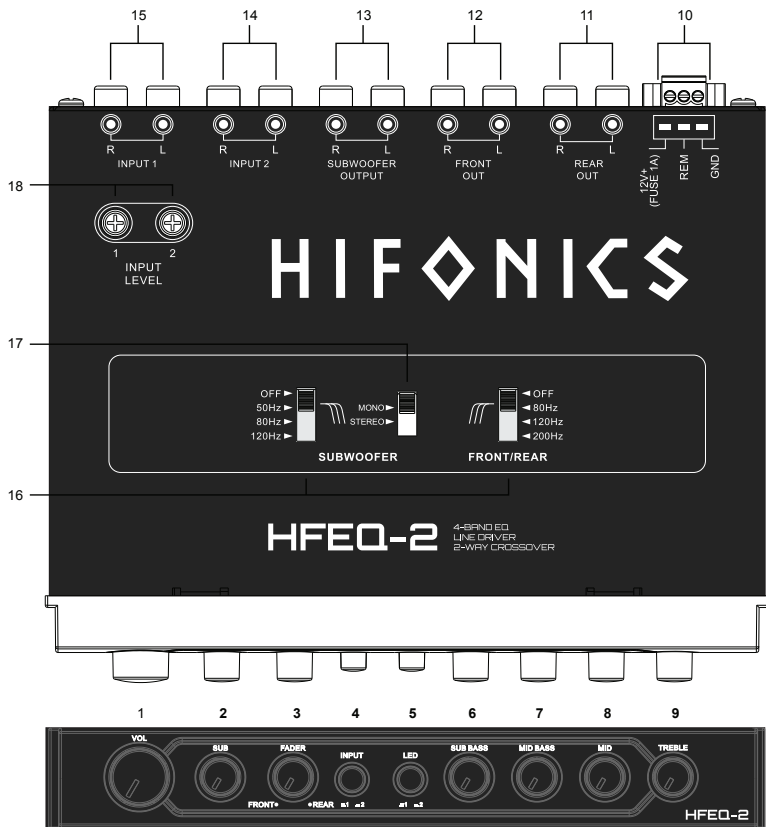
The Ground Terminal Connect to chassis ground.

The Remote Terminal Connect to the source unit remote or antenna output wire that provides +12 volts when the source unit is "on" and 0 volts when the source unit is turned "off."

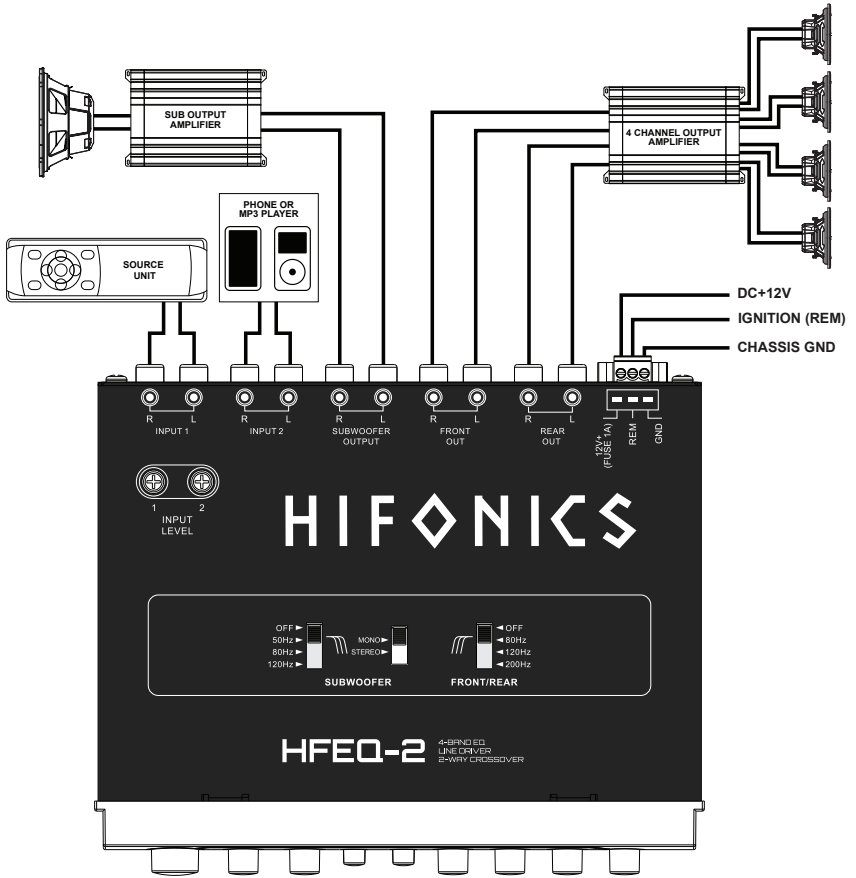
- 11 Front Outputs:** This is high pass output to be connected to the amplifier(s) inputs for front speakers.
- 12 Rear Outputs:** This is high pass output to be connected to the amplifier(s) inputs for rear speakers.
- 13 Subwoofer Outputs:** The subwoofer left & right are low pass outputs when crossover is used and are connected to the subwoofer amplifier(s) inputs.
- 14 Input 2 (AUX):** Channel 2 input from the source unit (radio/CD player) have L & R unbalanced inputs which are directly routed to the internal EQ and passed through to the Channel 2 outputs. Each input can be chosen independently by the input selector switch.

Functions & Operations

- 15 **Input 1 (AUX):** Channel 1 input from the source unit (radio/CD player) have L & R unbalanced inputs which are directly routed to the internal EQ and passed through to the Channel 1 outputs. Each input can be chosen independently by the input selector switch.
- 16 **Front/Rear Subwoofer Frequency Switch:** This switch allows you to choose between three different frequency settings or allow full-range (in the "Off" position) for the subwoofer or front/rear output.
- 17 **Stereo/Mono Switch:** This allows you to select stereo or mono for the subwoofer output.
- 18 **Input Level (Gain) Control:** This input level control can be adjusted to match the source unit line-level sensitivity.



4-Channel Source Unit Setup



Diagnostics & 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. 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 11 volts 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 HFEQ-2 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 nonexistent 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, and air conditioners, 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 equalizer.

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 connections, (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, especially the shield connections.

Specifications

OUTPUT CHANNELS (LEFT/RIGHT)	FRONT/REAR/SUBWOOFER
INPUT CHANNELS (LEFT/RIGHT)	INPUT 1 / INPUT 2
INPUT RANGE OF GAIN CONTROL (dB)	>40
MAXIMUM INPUT VOLTAGE (V)	>10
INPUT IMPEDANCE (K-OHMS)	>20
MAXIMUM OUTPUT VOLTAGE	>9
VOLUME GAIN (dB)	>40
-3dB LOW PASS FREQUENCY (Hz)	50>80>120
-3dB HIGH PASS FREQUENCY (Hz)	80>120>200
LOW PASS/HIGH PASS SLOPE/OCTAVE	12
EQUALIZATION FREQUENCIES (Hz)	45>120>2200>12000
EQUALIZATION CYT OR BOOST (dB)	18
DISTORTION AT 1kHz - 1V (%)	.01
CHANNEL SEPARATION AT 1kHz (dB)	>80
SIGNAL TO NOISE RATIO (dB)	>100
FREQUENCY RESPONSE (Hz) (-1dB)	10-50K

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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 it's discretion, repair or replace defective products during the warranty period. Components that prove to be defective in materials and workmanship under proper installation 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.

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