



PEQ15

*5-Band Parametric Equalizer
with Subwoofer Output*

Congratulations on your purchase of a Planet Audio Equalizer.

It has been designed, engineered and manufactured to bring you the highest level of performance and quality, and will afford you years of listening pleasure.

Thank you for making Planet Audio your choice for car audio entertainment!

USER'S MANUAL

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How an equalizer is used

The Planet Audio PEQ15 parametric equalizer is a high-fidelity signal processor/preamplifier that allows you to control the relative levels within the audible frequency spectrum of a stereophonic system.

It is intended for use in a car audio system which includes amplifiers in the signal path AFTER the equalizer, and provides Front, Rear and Subwoofer LOW LEVEL outputs via RCA connectors.

Product architecture

This parametric equalizer consists of five several audio filters each for a different range of frequencies. The processing applied to the front/rear outputs is different than that applied to the sub channel, to provide added benefits to the sub channel reproduction.

Front and rear channel equalization

The full-range signal delivered to the front and rear outputs are served by a 4-band set of controls with frequency ranges follows:

LOW: 20-70Hz
LOW-MID: 150-400Hz
MID: 1.5-4kHz
HIGH: 4-20kHz

The center frequency of each control is tuned using a trim pot to the left of each control. Each control permits adjustment within a range of approximately 1-1/2 octaves.

Once you have set the center frequency, you can elect to cut or boost the output level by up to 18dB as desired at those frequencies.

The slope of the controls is 12dB/octave. This means that the boost or cut will “roll off” 12dB from the center frequency. For example, if you set the MID control to 1kHz at the full 18dB boost level, you can expect the signal level at 500Hz and 1.5kHz to be boosted by approximately 6dB; at 250Hz and 2.25kHz you would expect no boost to occur.

Subwoofer channel filtering and level control

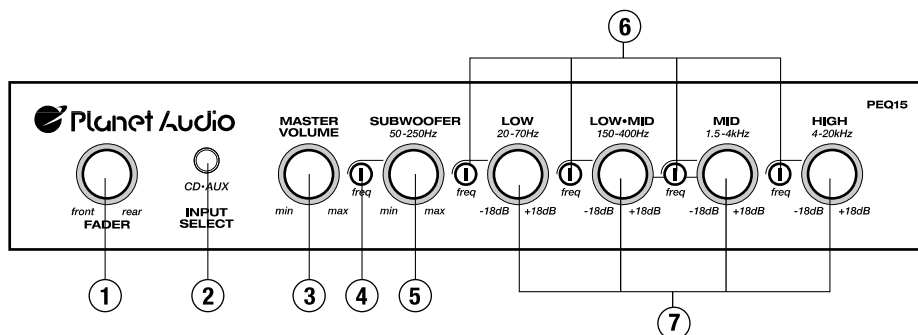
The subwoofer channel employs a low pass crossover with a frequency range of 50-250Hz. Once you have used this control to establish the high end frequency limit for the sub channel, you can then independently control the subchannel volume level.

The slope of the low pass frequency control is a relatively gentle 12dB/octave. Since the frequency range of the sub channel is, by definition, fairly narrow (maximum 200Hz total range, or about 2-1/2 octaves) and the slope gentle, the filter+volume control approach gives you a quasi-parametric control with the added benefit of avoiding distortion at the upper end of the sub’s frequency range.

For example, if you set the low pass control at 100Hz (and the volume control flat), you can expect a 12dB drop at 200Hz and a 24dB drop at 400Hz. If you then turn the volume control to the maximum, you can expect 18dB gain in the range of frequencies up to 100Hz, 6-12dB gain in the range 100-200Hz and 0-6dB gain in the range 200-300Hz.

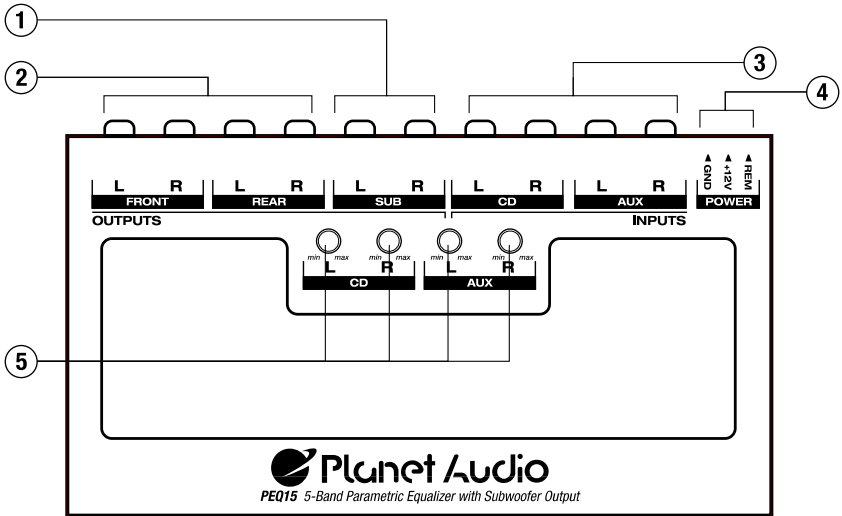
From an listening standpoint, the net effect is very similar to a parametric control, but provides the additional benefit of a built-in sub crossover.

Front panel controls and features



- 1 FADER**
Use this control to balance the sound level between front and rear speakers as desired.
- 2 INPUT SELECT (CD or AUX)**
This button permits you to select the equalizer input source. The unit features separate rear panel RCA inputs for your indash receiver (CD) and another source (for example, a DVD player).
- 3 MASTER VOLUME CONTROL**
Use this control to adjust the overall output volume level.
- 4 SUBWOOFER CROSSOVER FREQUENCY SELECTOR**
Use this control to select the highest frequency to be sent to the subwoofer channel. Choose a frequency between 50Hz and 250Hz.
- 5 SUBWOOFER VOLUME CONTROL**
Use this knob to set the volume level for the subwoofer channel.
- 6 FRONT/REAR CHANNEL CENTER FREQUENCY SELECTORS**
Use these controls to select the center frequencies for boosting/cutting in the signal provided to the front and rear output channels. Frequency ranges for each control are:
 LOW: 20-70Hz
 LOW-MID: 150-400Hz
 MID: 1.5-4kHz
 HIGH: 4-20kHz
- 7 FRONT/REAR CHANNEL BOOST/CUT CONTROLS**
Use these knobs to to set the desired amount of boost or cut (from -18dB to +18dB) for each of the frequency bands within the signal provided to the front and rear output channels.

Top panel controls and features



① **SUBWOOFER CHANNEL
RCA OUTPUTS**

② **FRONT AND REAR CHANNEL
RCA OUTPUTS**

③ **CD AND AUX CHANNEL
RCA INPUTS**

④ **POWER CONNECTIONS**
Please note that the PEQ15 has an automatic turn-on circuit, so that in addition to the (+) and ground connections, it is necessary for you to connect the REM terminal to the REM terminal on your head unit.

⑤ **CD AND AUX CHANNEL INPUT
GAIN CONTROLS**

Use these controls during setup to balance the gain for each of the two input sources.

Installation

Before installing your new Planet Audio equalizer, please become familiar with all the information contained in this manual.

Choose a mounting location where the unit will not distract or otherwise interfere with the driver's ability to control the vehicle.

Use only the installation parts and hardware provided with the unit to ensure proper installation. Using other parts can cause malfunction and possible damage to your Planet Audio equalizer.

Avoid installing the unit in a location which is subject to high temperatures, direct sunlight, hot air from such sources as heaters or exhaust lines, or where it will be subject to contact with dust, dirt, moisture or excessive vibration.

Mounting the equalizer

The PEQ15 is designed to be installed to the underside of your vehicle dashboard or other similar surface using the screws and brackets provided. Install the unit securely, according to the diagram below.

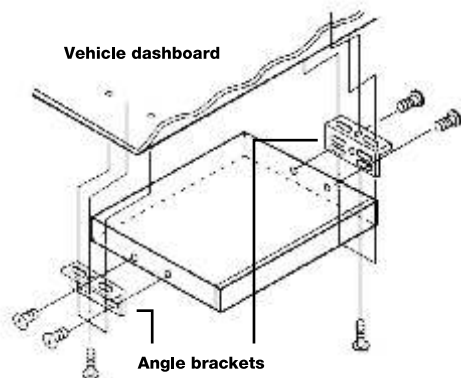


Figure 1 Mounting the equalizer

Turning on the power

The PEQ15 has internal ON/OFF circuitry which responds to turning ON or OFF the head unit of your car audio system. This requires that your head unit have a remote turn-on lead available on the rear panel (which most head units have).

With this convenient remote turn-on/off feature, you never have to worry about turning off the power to the equalizer when you shut off the audio system.

Audio connections

Review the diagrams on the next two pages and connect the unit as shown.

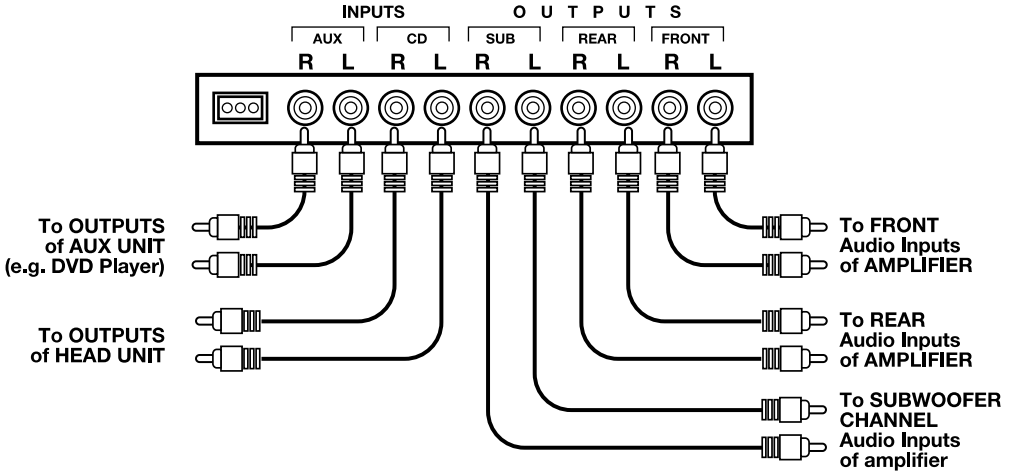


Figure 2 Audio input and output wiring

Power connections

Please note that this equalizer contains an internal ON/OFF switch, which is activated when the head unit is turned on. For this reason, in order to use this equalizer, your head unit must have a remote-turn on lead.

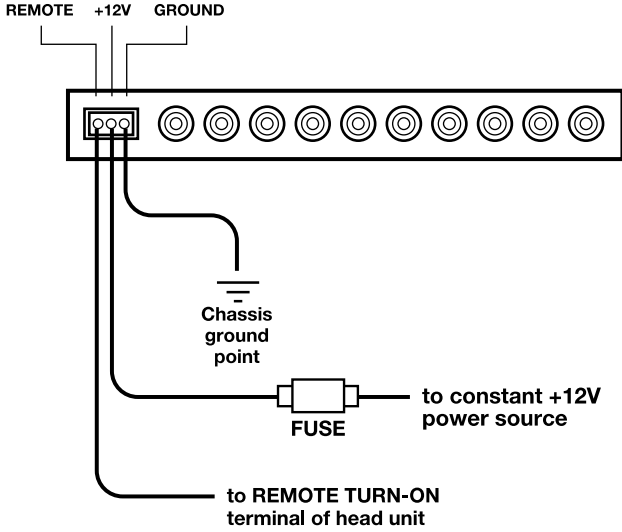


Figure 3 Power connections

Specifications



PEQ15

5-Band Parametric Equalizer with Subwoofer Output

Front/Rear EQ center frequency ranges	LOW: 20-70Hz LOW-MID: 150-400Hz MID: 1.5-4kHz HIGH: 4-20kHz
Sub channel EQ crossover range	50-250Hz
Equalization range	+/- 18dB (boost/cut)
Frequency response	10Hz-50kHz (+/- 1dB)
Signal-to-Noise Ratio	110dB (ref. 1V input)
THD	0.005%
Channel separation	82dB (at 1kHz)
Output impedance	50k Ohms
Power supply	11-15V negative ground
Output voltage	7V
Dimensions (W x D x H)	7.2" x 3.8" x 1.3"

All specifications subject to change without notice.