

POWER SYSTEM

clarion
CAR AUDIO  BEYOND

PEQ460

**OPERATION
INSTALLATION
MANUAL**

INTRODUCTION

The Clarion PEQ460 is a full-featured four-band parametric equalizer specifically designed for the mobile environment. Although it is housed in a one-half DIN enclosure, the PEQ460 provides a number of exceptional features in its compact size, such as:

- Active gain preamplifiers with adjustable input sensitivity
- Volume control with up to 7 volts RMS of output
- Four-band parametric equalizer with 18db boost/cut
- Rotary adjustable center frequencies on all four bands
- Specific bandwidth for each band plus high frequency shelving
- Low noise BI-FET op-amp design yields minimum distortion
- On board 30V bi-polar switching power supply
- Subwoofer outputs and level controls
- Subwoofer frequencies adjustable 35Hz – 250Hz
- Universal half-DIN chassis for ease of installation
- Gold-plated RCA input connectors
- 20db headroom eliminates signal overload
- Auxiliary input switch
- Individual left and right gain controls for aux input

For optimum performance, the PEQ460 should be installed by an authorized Clarion dealer. The fine tuning capability of the PEQ460 is best adjusted with a spectrum analyzer during installation.

ABOUT THE MANUAL AND WARRANTY

To start enjoying your new Clarion PEQ460, please read the instructions listed in this manual. Keep all instructions for future reference. Please fill out and send in the enclosed warranty card to protect your purchase and aid in warranty service. Also, **save your original sales receipt as proof of purchase.**

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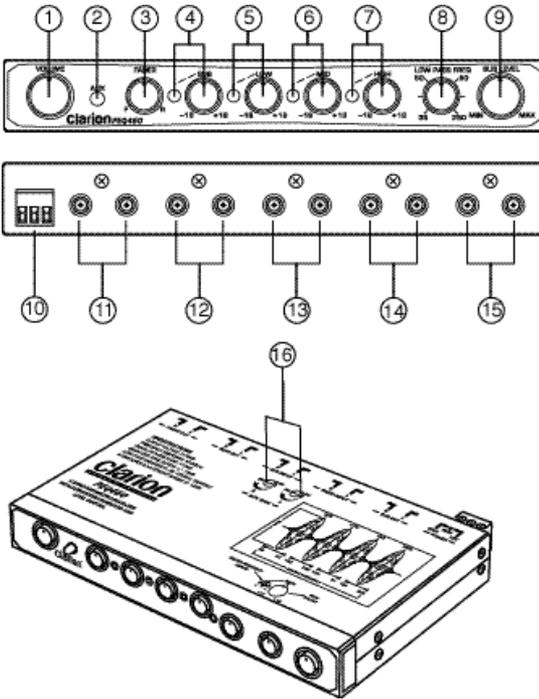
DESCRIPTION

The Clarion PEQ460 is a four band parametric equalizer. Each frequency band is individually adjustable to correct acoustical problems in the vehicle.

The PEQ460 also features a subwoofer crossover, subwoofer level control and a master system volume control. The subwoofer output makes use of a built-in

18dB per octave electronic crossover that is continuously variable from 35Hz to 250Hz.

Built into the PEQ460 is an auxiliary input that allows use with portable devices (such as an MP3 player) or a video system.



- | | |
|----------------------------------|-----------------------|
| 1. Volume Control | 9. Sub Level Control |
| 2. Aux Switch | 10. Power Plug |
| 3. Fader Control | 11. Sub Output |
| 4. Sub Frequency Adjustment | 12. Radio Input |
| 5. Low Frequency Adjustment | 13. Aux Input |
| 6. Mid Frequency Adjustment | 14. Rear Output |
| 7. High Frequency Adjustment | 15. Front Output |
| 8. Low-Pass Frequency Adjustment | 16. Aux Gain Controls |

CONTROL GLOSSARY

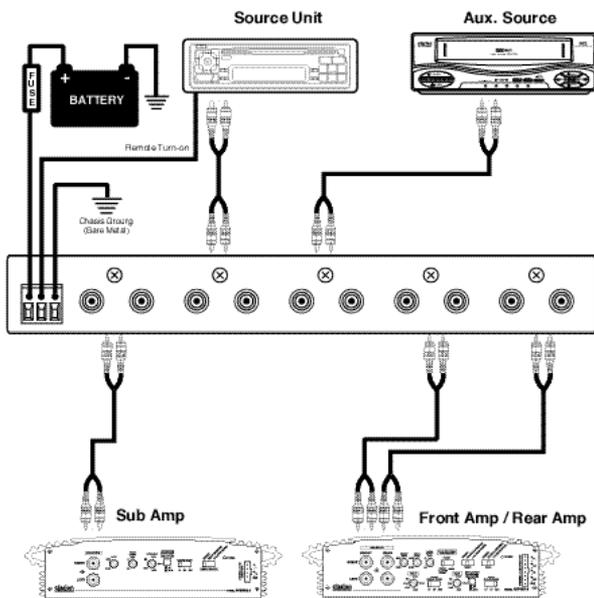
- **Volume Control** - This is the master volume control for the system.
- **Fader Control** - This is used to balance the sound between the front and rear speakers.
- **Aux Switch** - This allows you to select between the main input and an

auxiliary source.

- **Equalizer Band Center Frequency Adjustment** - This adjustment allows you to change the center frequency for each of the four frequency bands.
- **Equalizer Gain Controls** - The parametric controls allow individual gain adjustment for each of the four frequency bands.
- **Low Pass Frequency Adjustment** - This allows the subwoofer crossover frequency to be adjusted between 35Hz-250Hz.
- **Subwoofer Level Control** - This is the volume control for the subwoofer. The subwoofer level control allows you to adjust the subwoofer volume at any time to match any listening preference.
- **Aux Gain Controls** - These controls allow individual left and right input gain adjustment for the auxiliary input.

APPLICATIONS

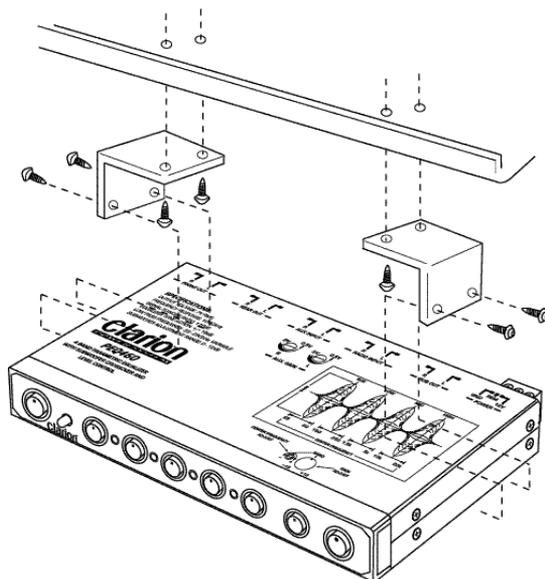
The system diagram below will help you plan your own installation.



MOUNTING PRECAUTIONS

The PEQ460 parametric equalizer can be mounted next to the source unit or under the dash with the supplied mounting brackets. For easy system set-up, mount the equalizer so the front panel controls will be easily accessible from the driver's seat after installation. In addition, observe the following precautions:

1. Check clearances on both sides of a planned installation before drilling any holes or installing any screws.
2. When routing RCA cables, keep them away from power cables and output speaker wires.
3. Do not allow liquids or foreign objects to enter the unit.
4. If the unit should become wet, turn off all power and ask your authorized Clarion dealer to clean or service the unit.



WIRING PRECAUTIONS

Read all wiring precautions. If you are not sure of the connections, contact your authorized Clarion dealer.

1. This unit operates on an automotive 12V negative ground power source and requires additional mobile audio components for proper operation.
2. Disconnect the negative (-) lead of the battery before making any power connections.
3. A good chassis ground connection is critical to the performance of your Clarion equalizer. Use the shortest ground wire possible and securely connect to the car chassis along with the source unit ground to minimize resistance and avoid noise problems.
4. Extra cable can cause signal loss and act as an “antenna” for noise. Use only high-quality RCA cables that are no longer than necessary to make a direct connection with the source unit and amplifiers.

5. If you are using a source unit, without a remote turn-on lead, the PEQ460 can be turned on with a switched accessory lead. You can find this accessory power source in the factory harness at the back of the radio. It is the lead that turns on and off with the key.

SYSTEM SET-UP

Setting System Volume

After completing the system wiring, follow the steps below to properly adjust the PEQ460.

1. Turn the master volume control on the PEQ460 and the amplifier gain controls to their minimum setting.
2. Turn the Sub/Lo/Mid/High Frequency controls to the center position.
3. Turn the source unit on and increase the volume until distortion is heard, then reduce volume just below this point.* Once the source unit volume has been set, it will no longer be used. Always use the volume control on the PEQ460 as the master (main) volume control. It has better electronics, higher S/N ratio and is more linear than any source unit volume available.

**This is the maximum usable musical signal for this source unit. turning the volume beyond this point will increase noise and distortion without an increase in musical signal.*

Setting Equalizer Controls

The PEQ460 provides a parametric adjustment band for each of four frequency ranges: sub, low, mid, and high frequency. The center frequency of each band is adjustable to allow fine tuning of the acoustical response of the vehicle. To ensure an accurate adjustment, Clarion recommends the use of a spectrum analyzer for this process.

1. Using the supplied adjustment tool, select the desired center frequency for each of the four bands.
2. Increase or decrease the Equalizer Gain Controls as necessary.
3. Use the diagram below as reference for the adjustments.

AUXILIARY INPUT

The PEQ460 has a built-in auxiliary input that allows use with portable devices (such as an MP3 player) or a video system.

1. Plug the auxiliary source into the auxiliary RCA input.
2. With the auxiliary switch in the main position, turn equalizer volume control to a normal listening level.
3. With the auxiliary source in play mode, switch to the auxiliary source.
4. Adjust the auxiliary input gain controls, located on the top panel of the PEQ460, so that the volume of the auxiliary source matches the volume of the main source.

TROUBLESHOOTING**Problem**

Unit does not work; no lights.

Solution

- Power wires are not connected. Check battery and ground wiring at unit; check battery connections.

Problem

Sound is distorted.

Solution

- Source unit volume is set too high. Reduce source unit volume.
- EQ controls are set too high. Turn EQ controls to the center position and listen for distortion again. If problem still occurs, see your authorized Clarion dealer.
- Speakers may be damaged. Consult your authorized Clarion dealer.

Problem

No sound from unit.

Solution

- Wrong input is selected. Press Aux Switch so that main inputs are on.
- No Remote-On. Using a volt meter, check for +12V from Remote-On source.

PRODUCT SPECS

Adjustable Parametric Frequencies:	SUB 20-60Hz, LOW 120-300Hz, MID 1.0-2.4 KHz, HIGH 7.0-20.0 KHz
Boost/Cut:	18dB
S/N Ratio:	110dB
Frequency Response:	10Hz -50KHz +/-1dB
Maximum Output Voltage:	7V RMS
THD:	0.005
Input Sensitivity:	50mV- 3V RMS
Head Room:	20dB
Input Impedance:	10K Ohms
Output Impedance:	50K Ohms
Stereo Separation:	82dB/1kHz
Operating Voltage:	11 - 15V Negative Ground
Size:	24mm H x 178mm W x 110mm D



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