

Owner's Manual
Electronic Crossover

PPI-X3

PPI • 4829 South 38th Street • Phoenix, Arizona 85040-2964 • USA

80-000X3-FZ



*This is where
life begins...*

Thank you for choosing **PPI** audio equipment. Now, HANG ON! **PPI** products are engineered and manufactured to deliver a wild ride of performance, sound quality, and reliability. This **PPI** product reflects our commitment to offer you versatility and quality for years of incredible power and listening enjoyment!

SERVICE

Do not attempt to service **PPI** products yourself. Performing exploratory surgery on your audio equipment yourself will void the warranty. All parts of your **PPI** gear have been built to our specifications. These parts are not made available to any unauthorized **PPI** dealer nor are they for sale. Our goal is to make sure that your **PPI** product will always perform as good as the day it was purchased. Contact your authorized **PPI** dealer about obtaining any warranty service through **PPI**. (See Warranty inside back cover.)

CAUTION!

The extended use of a high powered audio system may result in hearing loss or damage. While **PPI** systems are capable of "Concert Level" volumes, they are also designed for you to enjoy at more reasonable levels all of the creative expressions made by musicians. Please stay seated while driving and observe all local sound ordinances.

For your records...

model number _____

serial number _____

purchase date _____

Features

- 2/3-Way Active Crossover w/ x10 Frequency Multiplier Switch
- High Level Input
- Remote Sub-level Control
- 0-180 Degree Subwoofer Phase Switch
- Active Bandpass Switch
- Butterworth 12dB/octave Slopes
- Detented Frequency Selection Controls
- Gold RCA Input and Output connectors
- PowerLock Power, Ground and Remote connector
- PWM Power Supply
- Led Power Indicator
- **QBASS™** Bass Boost

Specifications

- Signal-to-Noise Ratio >102dB
- Total Harmonic Distortion (1KHz, 1VRMS) 0.01%
- Crossover Slopes: 12 dB/octave Butterworth
- Crossover Frequencies:
 - Front HighPass 50Hz to 8kHz
 - Rear HighPass or BandPass 50Hz to 8kHz
 - Subwoofer 5Hz to 800Hz
- High Level Input Voltage 2-7.5VRMS
- Low Level Input Voltage 150mV-2.5VRMS
- Maximum Output (10 K Ω Load) 4 VRMS
- Supply Voltage 9-15 VDC
- Dimensions 6 3/16" W
6 7/8" L
1 1/4" H

Specifications

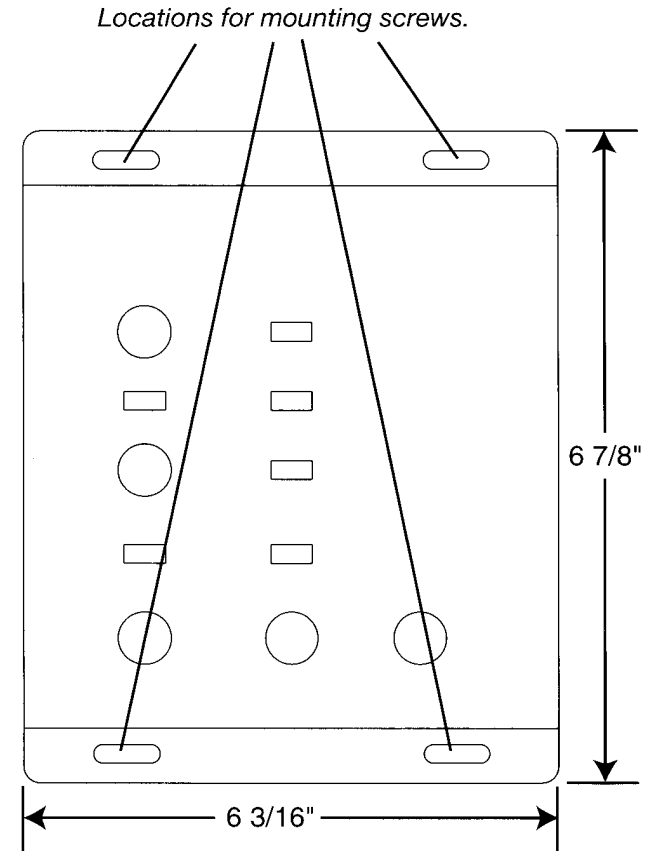
X3 frequency controls are detented. Each “click” counted from the 50Hz mark corresponds to a specific frequency. Refer to this chart and page 6 for set-up instructions

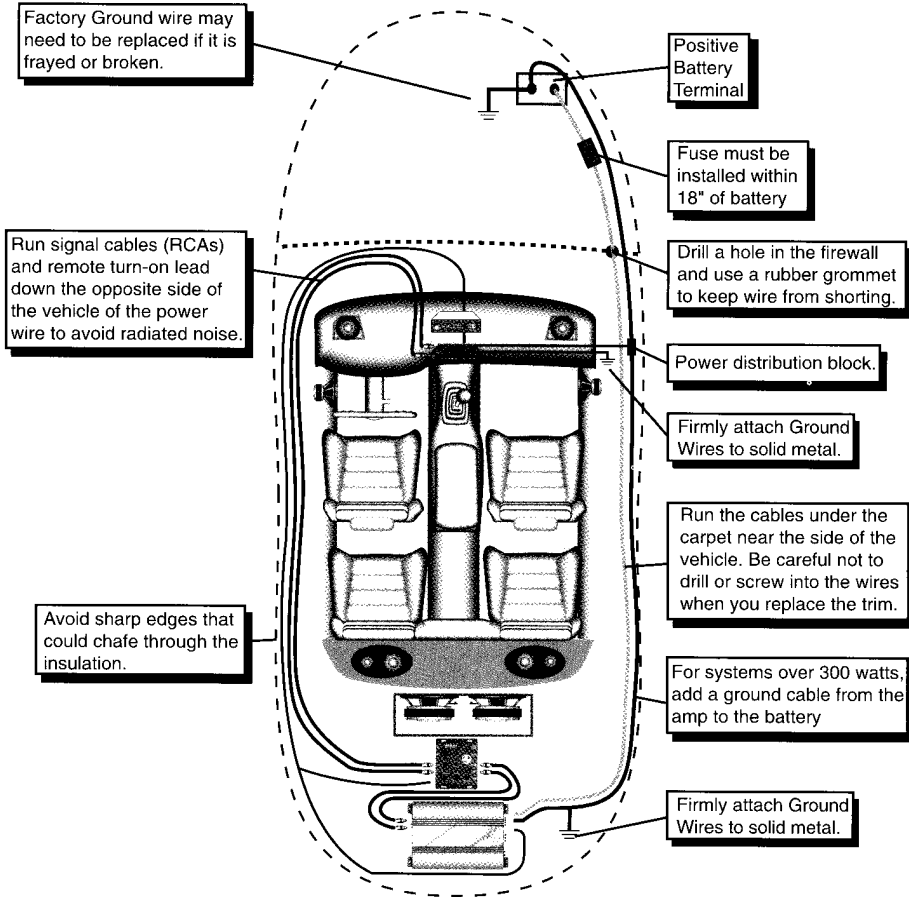
DETENTS	POSITION	FREQUENCY
1	7 O'clock	50 Hz
2		54Hz
3		58Hz
4		62Hz
5		66Hz
6		70Hz
7		74Hz
8	9 O'clock	80Hz
9		92Hz
10		105Hz
11		117Hz
12		129Hz
13	12 O'clock	140Hz
14		152 Hz
15		174Hz
16		200Hz
17		217Hz
18	1 O'clock	231Hz
19		249Hz
20		267 Hz
21		292Hz
22		320Hz
23	2 O'clock	360Hz
24		424Hz
25		480Hz
26		512 Hz
27		568Hz
28	3 O'clock	607Hz
29		637Hz
30		663Hz
31		671Hz
32		680 Hz
33	5 O'clock	688Hz
34		698Hz
35		710Hz
36		725Hz
37		738Hz
38	750Hz	
39	765Hz	
40	790Hz	
41	800 Hz	

Mounting

To prevent damage to the **PPI-X3** while driving, mount it in a secure place. Choosing the appropriate location will depend upon your vehicle and the complexity of your system design. Typical mounting locations for your new **PPI-X3** include the trunk or passenger compartment (floor or under seat). Never mount the component in a location that would subject it to immersion or exposure to water.

Once a location has been chosen, securely mount the **PPI-X3** with four mounting screws. Be Careful! Inspect the area underneath to be sure you are not drilling into wires, etc. that could be damaged by the drill bit or screws.



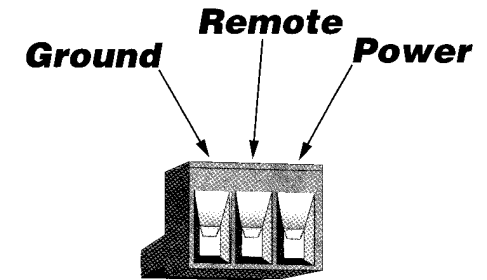


⚠ Before beginning, disconnect the negative (-) terminal of the battery prior to working on the positive (+) terminal to prevent a short to ground. This is important, unless you want to spend the rest of your life with a nickname like "Sparky," or "Smokey." Reconnect the negative terminal only after all connections have been made.

The next step is to connect the Power, Ground, and Remote wires to your **PPI-X3**. The power wire should run from the mounting location through the vehicle to the battery or power distribution block. Avoid sharp corners, creases, and sharp body parts. When passing through any metal wall (i.e. firewall etc.), a grommet must be used to prevent the wire from chaffing and shorting to ground.

The ground wire should be of the same gauge as the power wire. As a rule of thumb, use as short a length of wire as possible.

Find a location near the Crossover that is metal (the floor is ideal) and clean an area about the size of a quarter to bare metal. Drill a pilot hole in the middle of this area. Be Careful! Inspect the area underneath to be sure you are not drilling into wires, brake or fuel lines, etc. Terminate the wire with a ring connector and attach it to the bare metal using a #8 sheet metal screw and washer (not supplied). We suggest crimping and/or soldering this connection. After the connection is complete, coat the area with silicone or some similar material to prevent rust from developing.

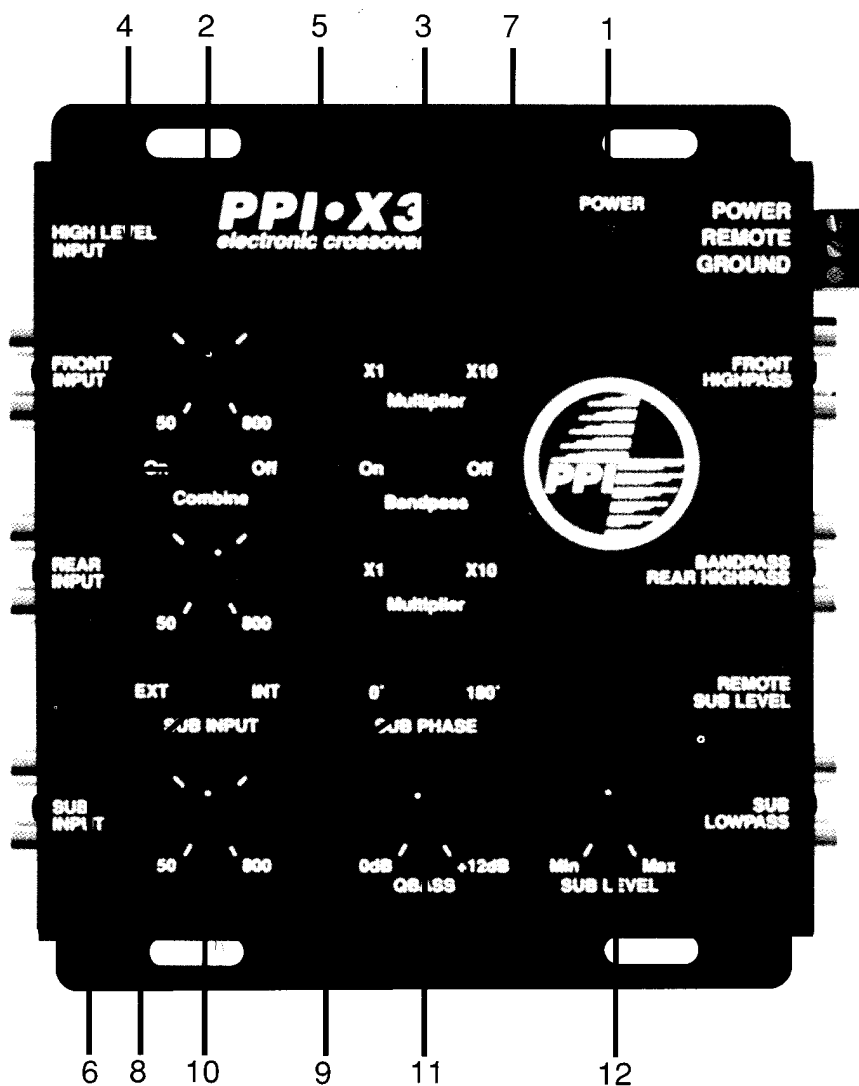


Finally, the remote wire needs to run to the power antenna (or amplifier remote) lead of the head unit. This wire supplies a 12 volt signal to the **PPI-X3** when the main system is activated.

Once you have routed the power, ground, and remote wires through the vehicle, it is time to connect the wires to the **PPI-X3**. Be sure that you have not reconnected the ground cable to the negative post of the battery.

Cut off excess wire and, using wire strippers, strip the power, ground and remote cables about 1/8 inch. Locate the power, ground, and remote **Powerlock** connector (supplied). On the top of the connector are three slotted screws. With a small flat-bladed screwdriver, loosen the screws before attempting to insert the cables. After you have inserted the stripped end of each cable into the connector, secure it by tightening the associated screw. Check that each connection is tight. If the wires are secure, the connector may be plugged into the **PPI-X3**.

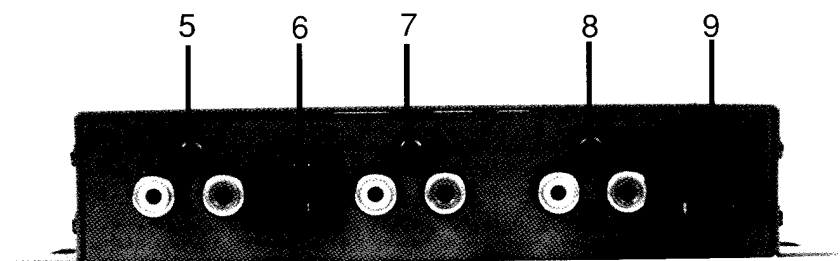
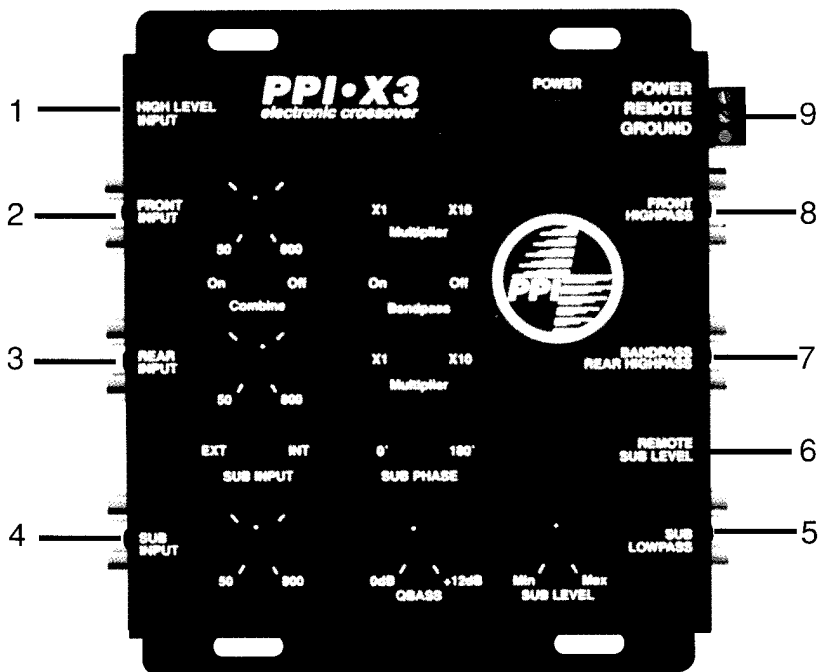
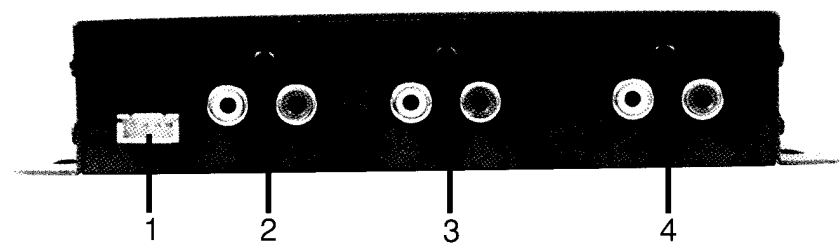
Functions



Functions

- 1. Power LED:** Red light indicates power on.
- 2. Front Channel Highpass Frequency Control:** This detented knob controls the frequency of the front Highpass output from 50-8kHz
- 3. Multiplier:** This switch multiplies the Front Channel Highpass Frequency Control from 50-800Hz (x 1) to 500-8kHz(x10). Switch to the left to multiply (x 1) and to the right to multiply (x10).
- 4. Combine:** This switch combines the Front and Rear inputs if only one RCA pair is available for signal input. Switch to the left to combine inputs and to the right to use separate inputs.
- 5. Bandpass:** This switch allows the Front channel crossover to function as a 2 way crossover. It will send a lowpass crossover frequency, at the same frequency that the front channel is highpassed, so that you can run an active bandpass out of the Bandpass/Rear Highpass RCA output.
- 6. Rear Channel Highpass Frequency Control:** This detented knob controls the frequency of the Rear Highpass output from 50-8kHz
- 7. Multiplier:** This switch multiplies the Rear Channel Highpass Frequency Control from either 50-800Hz (x 1) to 500-8kHz(x10). Switch to the left to multiply (x 1) and to the right to multiply (x10).
- 8. Sub Input:** This switch allows you to use the Rear Input to supply signal to the Subwoofer Input section of the crossover if a dedicated RCA is not available to do so.
- 9. Sub Phase:** This switch allows you to invert the subwoofer phase from 0 to 180°.
- 10. Sub Frequency Control:** This detented knob controls the frequency of the Subwoofer output from 50-800Hz.
- 11. Qbass:** This knob allows for a boost at 40Hz up to 12dB.
- 12. Sub Level:** Allows you to control the subwoofer level up to 10dB.

Functions



Functions

1. High Level: Connect your speaker wire output from the headunit to these wires. Use this method if your radio is not equipped with RCA outputs.

2. Front Input: Gold plated RCA inputs. Plug in the RCA cables from the front channel of your radio here.

3. Rear Input: Gold plated RCA inputs. Plug in the RCA cables from the Rear channel of your radio here.

4. Subwoofer Input: Gold plated RCA inputs. Plug in the RCA cables from the Subwoofer channel of your radio here, if equipped. If not, slide the Sub Input switch on the top of the crossover to INT to use the signal from the rear input for the Sub Channel.

5. Sub LowPass: Gold plated RCA outputs. Run the RCA cable to the Subwoofer amplifier RCA input.

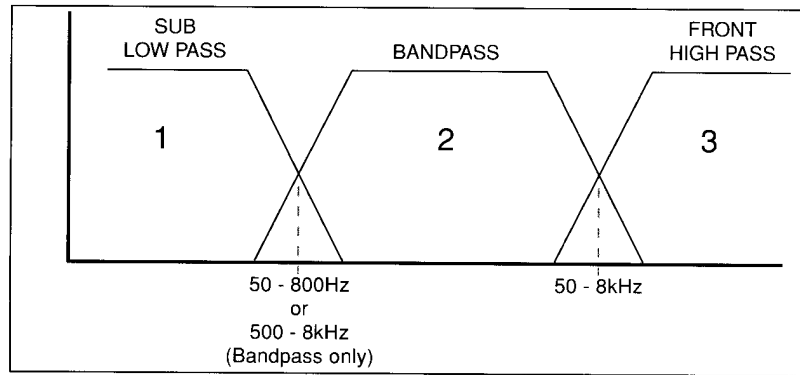
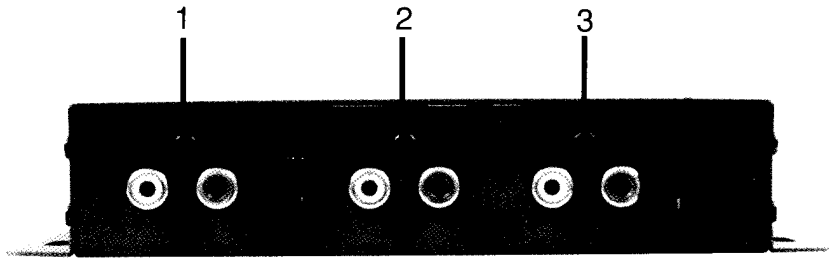
6. Remote Sub Level: Plug the remote sub level control into this jack. Run the remote sub level control to a position in the passenger area to allow control of the sub level.

7. Rear or BandPass HighPass: Gold plated RCA outputs. Run the RCA cable to the Rear Speaker or midrange speaker amplifier RCA input.

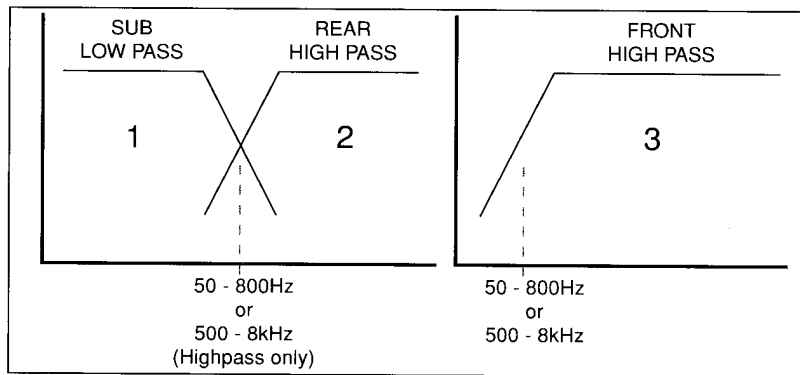
8. Front HighPass: Gold plated RCA outputs. Run the RCA cable to the Front speaker or tweeter amplifier RCA input.

9. Power: After connecting the Power, Ground and Remote wires to the Powerlock connector, plug the connector in here.

Functions

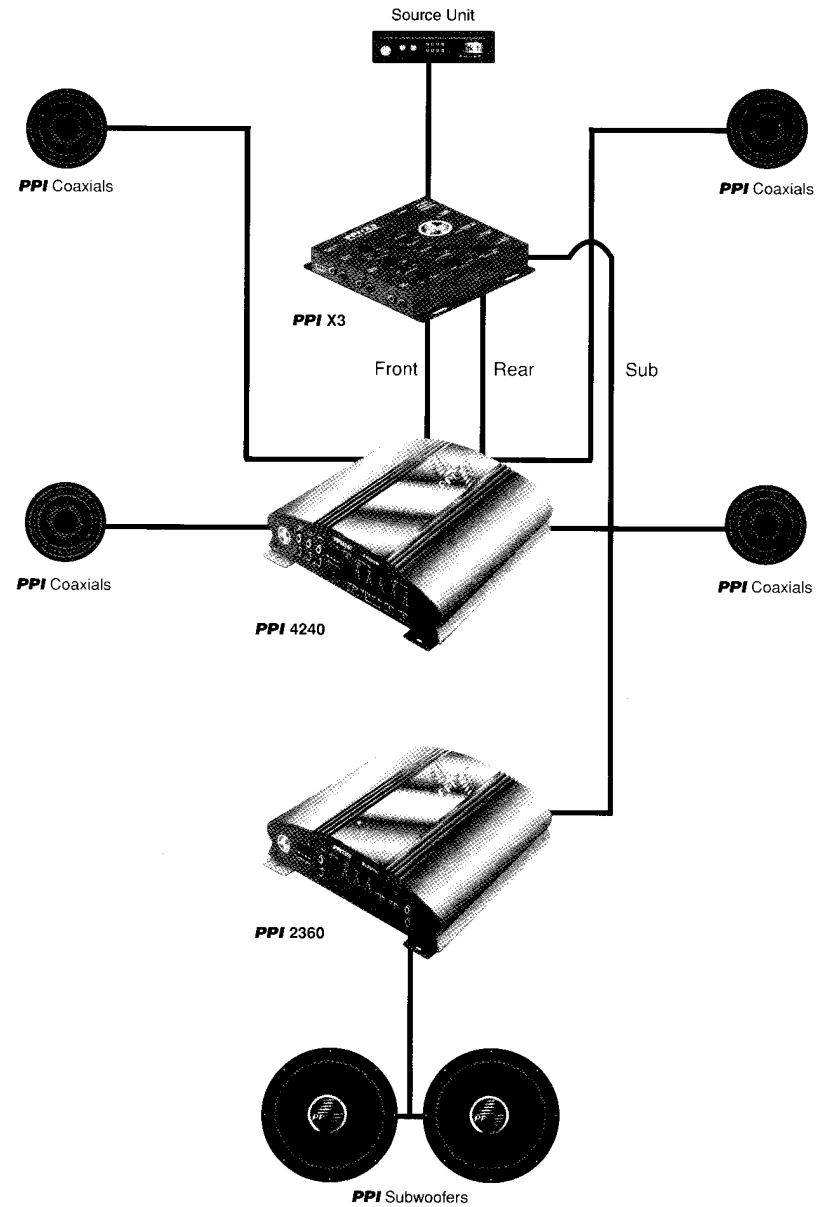


3 way system

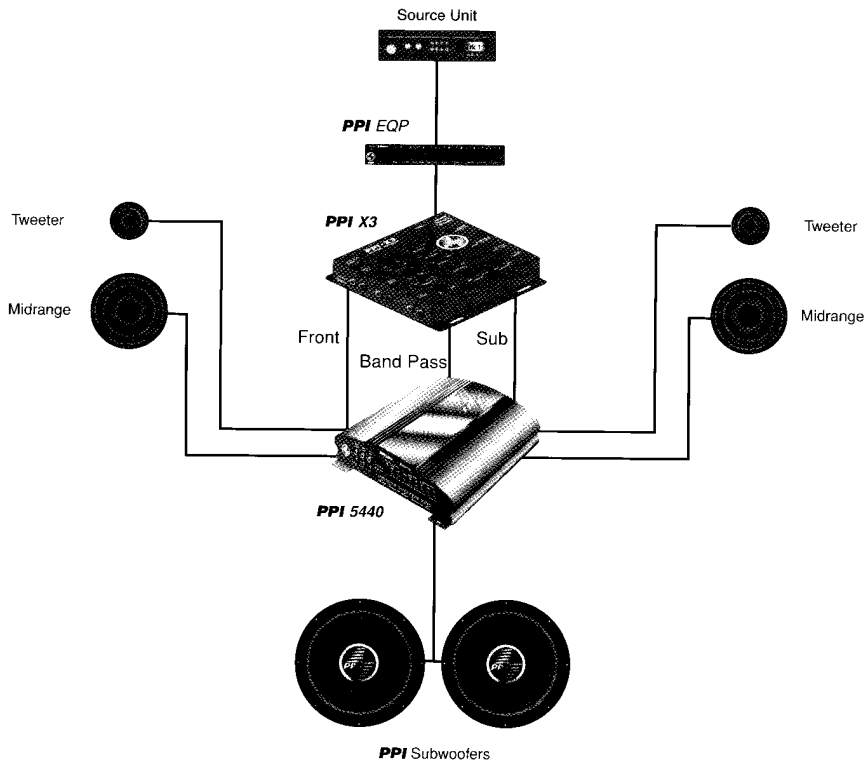


2 way system
with front and rear fader

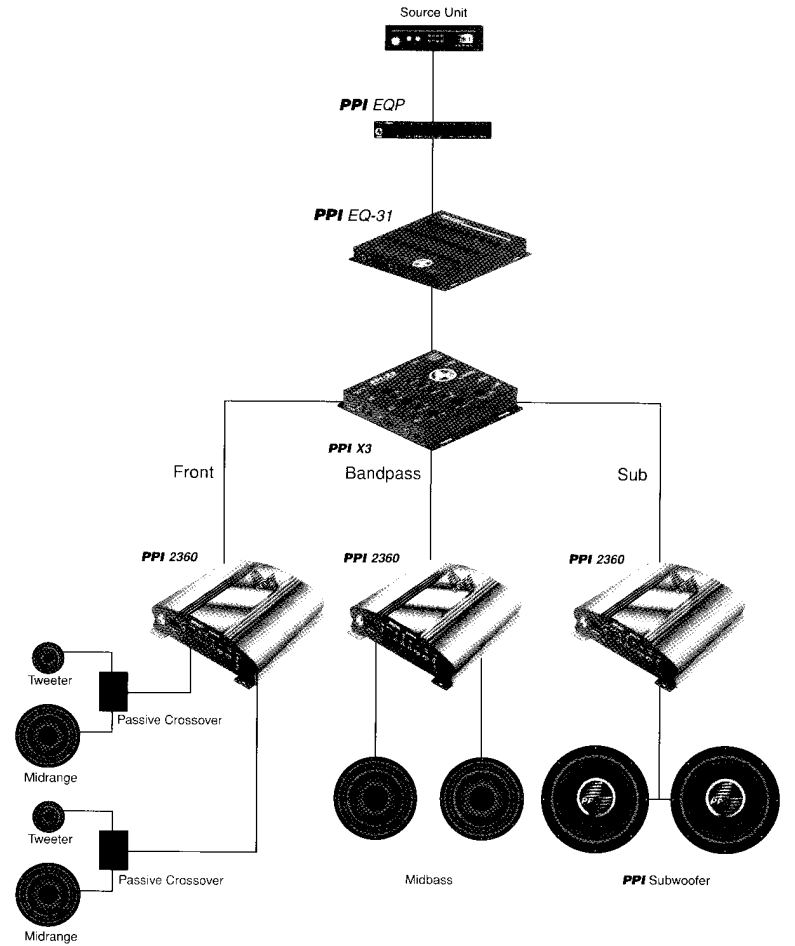
System Diagram



System Diagram



System Diagram



Troubleshooting

NO SOUND

YES

Check input cables for signal by connecting them straight to the subwoofer amplifier.

ANY SOUND NOW?

YES

Problem is in the crossover. See your local authorized **PPI** dealer or call: 1-800-62-**POWER**.

Is the LED lit?

NO

Check power and remote turn-on wire for voltage. Make sure ground wire is secure.

NO

Problem is elsewhere in the system. Check the head unit and amplifiers.

SOUND IN ONE CHANNEL ONLY

Reverse left and right RCA outputs for one band (i.e. subwoofers).

SOUND IS NOW IN?

OPPOSITE CHANNEL

Reverse RCA inputs.

SOUND IS NOW IN?

SAME CHANNEL

Problem is in the amplifier, speakers or associated wiring of the silent channel.

OPPOSITE CHANNEL

Reverse RCAs at head unit (Check balance control).

SOUND IS NOW IN?

SAME CHANNEL

Problem is in the crossover. See your local authorized **PPI** dealer or call: 1-800-62**POWER**.

OPPOSITE CHANNEL

Problem is in the head unit.

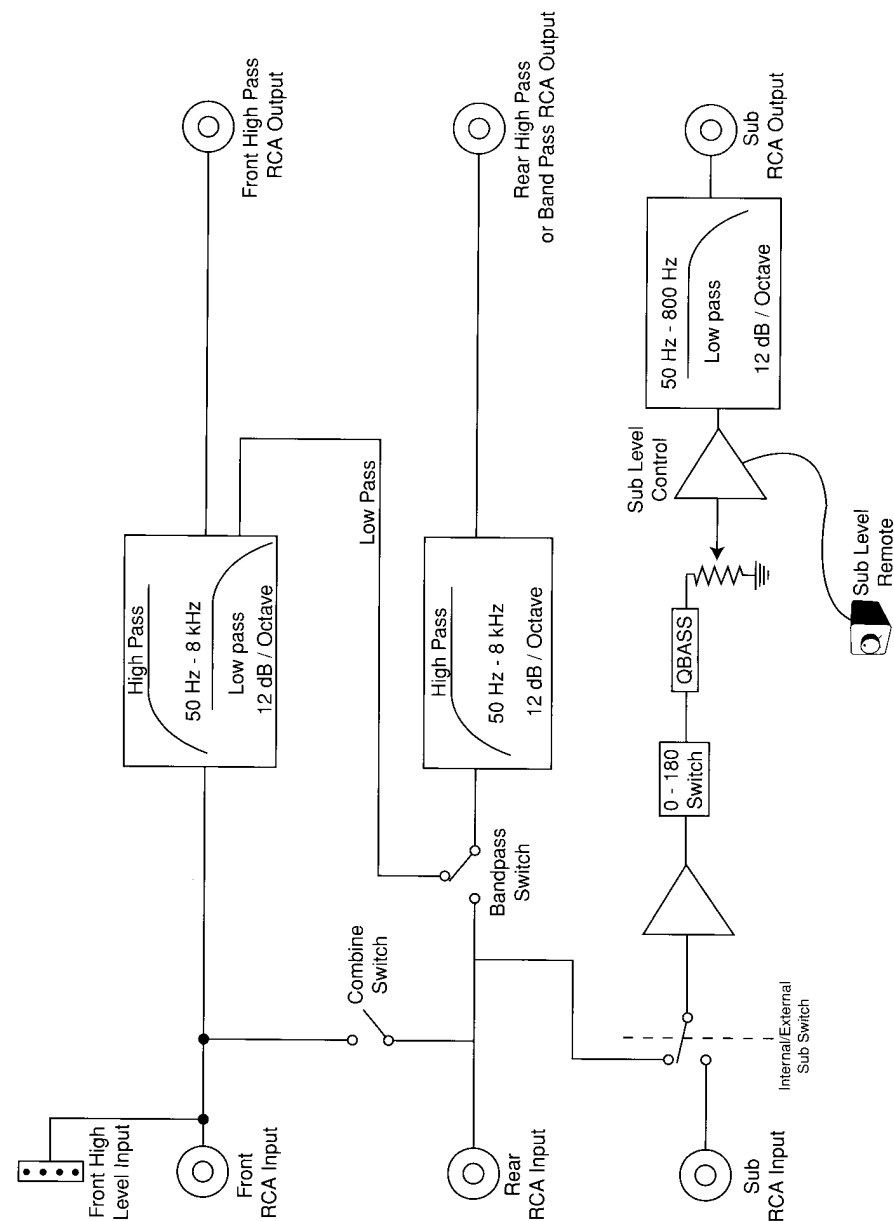
SAME CHANNEL

Problem is in the RCA cables.

LOW OUTPUT FROM ONE BAND

Check crossover frequencies for low pass points set higher than high pass points and check gain control on the affected amplifier(s). If low output is still a problem contact your local authorized **PPI** dealer or call 1-800-62**POWER**.

Block Diagram



3-Year Limited U.S.A. Warranty

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. PrecisionPower, Inc. (PPI) warrants its products to be free from defects in materials and workmanship under normal use and service for a period of three (3) years from the date of original purchase when the unit is installed by an Authorized Dealer. Non-Authorized Dealer installed products carry a one (1) year parts and ninety (90) days labor limited warranty. The extent and conditions of Limited Warranty are as follows:

1. Authorized Dealer Installed Products: PPI will either repair or replace at no charge, to the original purchaser, any unit which PPI's examination discloses to be defective and under warranty, provided the defect occurs within three (3) years from the date of original purchase when the unit is installed by an Authorized Dealer and the product is returned immediately to PPI. This warranty is not transferable.

2. Non-Authorized Dealer Installed Products: PPI will either repair or replace at no charge, to the original purchaser, any unit which PPI's examination discloses to be defective and under warranty, provided the defect occurs within ninety (90) days from the date of purchase and the product is returned immediately to PPI. Warranty claims beyond ninety (90) days for Non-Authorized Dealer Installed Products will be for parts only and will extend for one (1) year from the date of purchase. This warranty is not transferable.

3. The date of purchase and proof of Authorized Dealer Installation of a PPI product must be established by an original sales receipt which must accompany the article being returned for warranty work.

4. This warranty shall NOT apply to any PPI product found to have the original factory serial number removed or defaced. All products received (by PPI) for in warranty or out of warranty repair, with their original serial numbers removed or defaced, will NOT be repaired and will be returned to sender, freight collect. Refer to original packaging for the serial number of your component speakers.

5. The provisions of this warranty shall not apply to any PPI product used for a purpose for which it is not designed, which has been repaired or altered in any way, or which has been connected, installed, or adjusted other than in accordance with the instructions furnished in PPI's owner's manual. Nor shall this warranty apply to any part which has been subject to misuse, neglect, or accident.

6. PPI does not authorize any other persons to assume any other liability in connection with its products. THIS WARRANTY IS THE ONLY EXPRESS WARRANTY MADE BY PRECISIONPOWER APPLICABLE TO ITS PRODUCTS. ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE APPLICABLE TO PRECISIONPOWER PRODUCTS IS LIMITED IN DURATION TO THE DURATION OF THIS LIMITED WARRANTY. PRECISIONPOWER SHALL NOT BE LIABLE FOR THE INCIDENTAL, CONSEQUENTIAL, OR COMMERCIAL DAMAGES RESULTING FROM THE BREACH OF THIS WRITTEN WARRANTY. Some states or provinces do not allow the exclusion or limitation of incidental or consequential damages or limitations on how long an implied warranty lasts; so the above limitations or exclusions may not apply to you.

7. Your product will be serviced on an in-warranty basis within the warranty period for the correction of warranted defects. If improper operation of your PPI product should occur, contact your Authorized Dealer for assistance with the return and factory repair of your PPI product. If an Authorized Dealer is not available, return the unit including your name, telephone number, return address, a copy of your sales receipt, and a description of the problem to:

PrecisionPower, Inc.
Service Department
4829 S. 38th Street
Phoenix, AZ 85040-2964

TO RETURN PPI PRODUCTS OUT OF WARRANTY: Return the unit, postage prepaid, in the original protective carton. Please include a description of the problem and, if desired, a request for an estimate of repair costs. Unless a request for an estimate is included, the unit will be repaired as necessary. Please contact PPI Customer Service at 1-800-62-POWER for questions concerning out of warranty repair charges. Repaired unit will be returned with an itemized statement, C.O.D.