

OPERATOR'S MANUAL

EPX-205

Active Two-Way Crossover



Precision Power

Amplifiers, Signal Processors and Accessories

MADE IN THE U.S.A.

MADE IN THE U.S.A.

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U.S.A.

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1-800-62-POWER



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CONGRATULATIONS

Congratulations! You have taken advantage of our new Precision Power High Performance Mobile Audio Equipment. In your selection of our EPX-205, you will notice its unique capabilities, high-tech design, and use of "tomorrow's" technology today.

Precision Power is a proven world leader in mobile audio electronics. Specializing in the design, engineering, and manufacturing of our state-of-the-art amplifiers, crossovers, equalizers, and accessories. These products will help to further enhance your personal sound system.

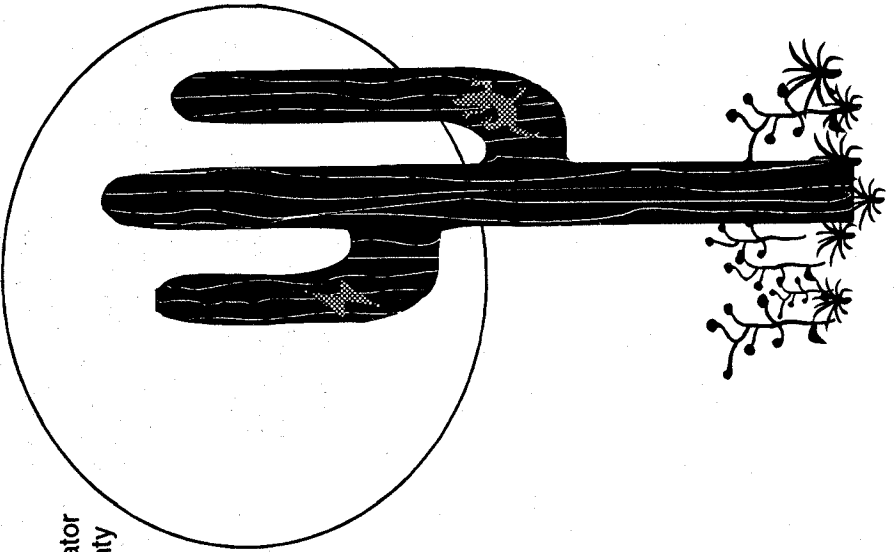
To achieve optimum satisfaction and highest quality performance from your new amplifier, please read this manual thoroughly before installation. Keep the manual in a safe place and refer to it as you continue to refine your system. If you encounter difficulties during or after installation and are unable to resolve the problem, please contact your PPI dealer or call Precision Power during business hours (8am to 5pm MST) at 1-800-62-POWER for further assistance.

CAUTION The use of a high-powered stereo system may cause hearing loss or damage. While Precision Power systems are capable of "concert level" volumes with incredible accuracy, they are designed for you to enjoy the subtleties created by musicians for listening at reasonable sound pressure levels. The use of a high power stereo system may impair your ability to hear traffic sounds, thus may constitute a traffic hazard. PPI advises lower volume levels while driving.



FEATURES

- * Ultra-Wide Bandwidth Circuitry
- * Low Pass Level Adjustment
- * 12 dB/Octave Crossover Slopes
- * Adjustable Crossover Points
- * 40 Hz to 5K Hz Frequency Range
- * x10 Frequency Range Switch
- * Subsonic Filter
- * Conductive Plastic Potentiometers
- * Gold RCA Input Connectors
- * On Board Power Supply or Phantom Powered
- * Internally Fused
- * Remote Turn-on
- * LED Power Indicator
- * Two-Year Warranty
- * Made in the USA



GLOSSARY

The following terms are used within this manual. Since they may be unfamiliar, definitions are provided as follows.

- Attenuation** To limit a signal by making it smaller or weaker.
- Low Pass** The set of frequencies (15 Hz to 5K Hz) which constitute a range or band, that are passed, high frequencies are attenuated. The cutoff points are user-defined within the specifications of the product (40 Hz to 5K Hz).
- High Pass** The set of frequencies (40 Hz to 100K Hz) which constitute a range or band, that are passed, low frequencies are attenuated. The cutoff points are user-defined within the specifications of the product (40 Hz to 5K Hz). Power supplied to accessories from a PPI amplifier.
- Phantom Power** Low current automatic switching circuit which is connected to the source unit via the blue wire when the EPX-205 is powered using the supplied power harness.



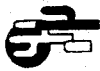
SPECIFICATIONS

| | |
|--|----------------------------|
| Signal-to-Noise Ratio | >102 dB |
| Total Harmonic Distortion (1K Hz, 1 VRMS) | .005 % |
| Low Level Adjustment | -INFINITY to +10 dB |
| Frequency Response (within bandpass) | < +/- 1 dB |
| Crossover Slopes | 12 dB/Octave |
| Crossover Frequencies | 40 Hz to 500 Hz (-3 dB) |
| x10 Crossover Frequencies | 400 Hz to 5K Hz (-3 dB) |
| Input Impedance | 10K ohm |
| Maximum Output | 8 VRMS (10K ohm load) |
| Dimensions | 1" H x 6.78" W x 3.71" D |



TOOLS NEEDED FOR INSTALLATION

- * Phillips Screwdriver
- * 7/64" Allen Wrench
- * Drill & Bit
 - size is personal preference
(we suggest a .110 bit for #6 metal screws)
- * 2 Screws & 2 Washers
 - size to match with drill bit
 - type is personal preference
(we suggest #6 metal screws)



INTRODUCTION

The EPX-205 electronic crossover is extremely versatile in actively dividing the input signal into the different frequency ranges. It features controls for the low pass frequencies, low pass level adjustment, high pass frequencies, and an independent times-ten (x10) switch for each of the low pass and high pass frequencies. All of the filters for the crossover slopes are 12 dB/Octave that have been phase corrected for a smooth transition between bands. Also included is a second-order subsonic filter (-3 dB @ 15 Hz). This keeps any low frequency noise and rumble from interfering with your system's low frequency performance. Enhancing the EPX-205's capabilities for even the most complex installations, is the suitability of being "cascaded" or "stacked" as many times as necessary. Refer to the Sample Hookup Configurations for assistance in this area.



INPUTS

The EPX-205 has paralleled inputs providing flexibility for the user. On the rear panel (Refer to Fig. A), the user is provided with a choice of using either the RCA-jacks for the left and right inputs or the DIN-jack input when using other PPI products. Connect the inputs to either a source unit, equalizer or signal processor's outputs.

OUTPUTS

Two DIN-jack outputs (low pass and high pass) are provided on the rear panel of the EPX-205. (Refer to Fig. A) These outputs allow multi-amplifier or multi-crossover flexibility. The outputs connect directly to other Precision Power components, such as amplifiers or crossovers. A DIN-to-RCA adapter is available for connection to other manufacturer's products.

Connect the low pass output lead into the input of the subwoofer/low pass amplifier. Connect the high pass output lead into the input of a high pass amplifier. Refer to the Sample Hookup Configurations for additional variations.

INSTALLATIONS

POWER

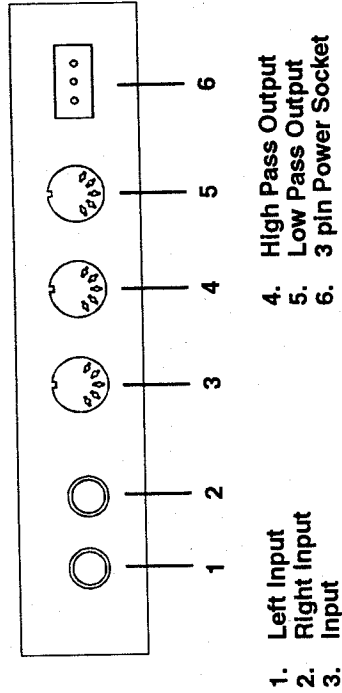
The EPX-205 may be powered either from the vehicle's 12-volt battery, any 12 volt DC supply, or from a Precision Power amplifier. If a Precision Power amplifier is used in the system, it can provide power for the EPX and other accessories by interconnecting the system using DIN cables which carry "phantom" power along with audio signals. The accessories will turn on and off with the amplifier(s). If a Precision Power amplifier is not used in the system, or if it isn't practical to use DIN interconnects, the EPX can be connected to +12 volts, chassis ground, and a remote switching +12 volt source for turn-on by means of a 3-wire harness, which is provided. This harness plugs into a mating socket on the rear panel of the EPX. (Refer to Fig. A) The wires are color coded as follows:

- +12 Volts Red Wire
- Chassis Ground Black Wire
- Remote Turn-On Blue Wire

The +12 volt connection is fused inside the unit. Therefore, a fuse is not required within the power harness. The internal fuse is not user-replaceable. If the EPX-205 does not power up, contact your dealer or Precision Power at 1-800-62-POWER for assistance.

Note: When a power harness and DIN signal interconnects are used on the EPX-205 simultaneously, the +12 volt power will override the DIN's "phantom" power for the EPX only. PPI accessories may still be "phantom" powered through the DIN interconnects by a PPI amplifier. The EPX does not "phantom" power other accessories.

FIG. A Rear Panel of the EPX-205





CONTROLS



CONTROLS



LOW PASS LEVEL

The Low Pass Level control adjusts the output level (gain) of the subwoofer/low pass frequencies from -infinity to +10 dB, relative to the input signal level. This control is located to the left on the front panel of the EPX-205. (Refer to Fig. B)

LOW PASS FREQUENCY

The Low Pass Frequency control adjusts the crossover roll-off point (-3 dB) of the subwoofer/low pass frequencies. Frequencies above the selected crossover point will be attenuated on the low pass output at a rate of 12 dB/Octave. This control is located to the right of the Low Pass Level control on the front panel of the EPX-205. (Refer to Fig. B)

LOW PASS FREQUENCY x10

This switch multiplies the Subwoofer/Low Pass Frequency range by 10. When the switch is in the "in" position the frequency range will be 400 Hz to 5K Hz. When the switch is in the "out" position the frequency range will be 40 Hz to 500 Hz. This control is located to the right of the Low Pass Frequency control on the front panel of the EPX-205. (Refer to Fig. B)

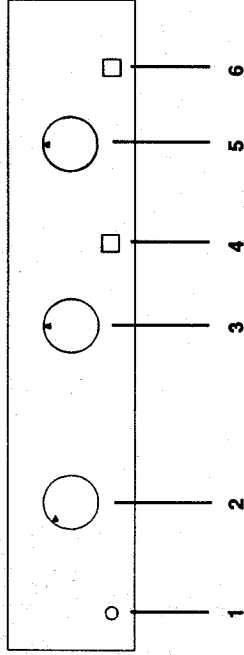
HIGH PASS FREQUENCY

The High Pass Frequency control adjusts the crossover roll-off point (-3 dB) of the high pass frequencies. Frequencies below the selected crossover point will be attenuated on the high pass output at a rate of 12 dB/Octave. This control is located to the right of the Low Pass Frequency x10 switch on the front panel of the EPX-205. (Refer to Fig. B)

HIGH PASS FREQUENCY x10

This switch multiplies the High Pass Frequency range by 10. When the switch is in the "in" position the frequency range will be 400 Hz to 5K Hz. When the switch is in the "out" position the frequency range will be 40 Hz to 500 Hz. This control is located to the right of the High Pass Frequency control on the front panel of the EPX-205.

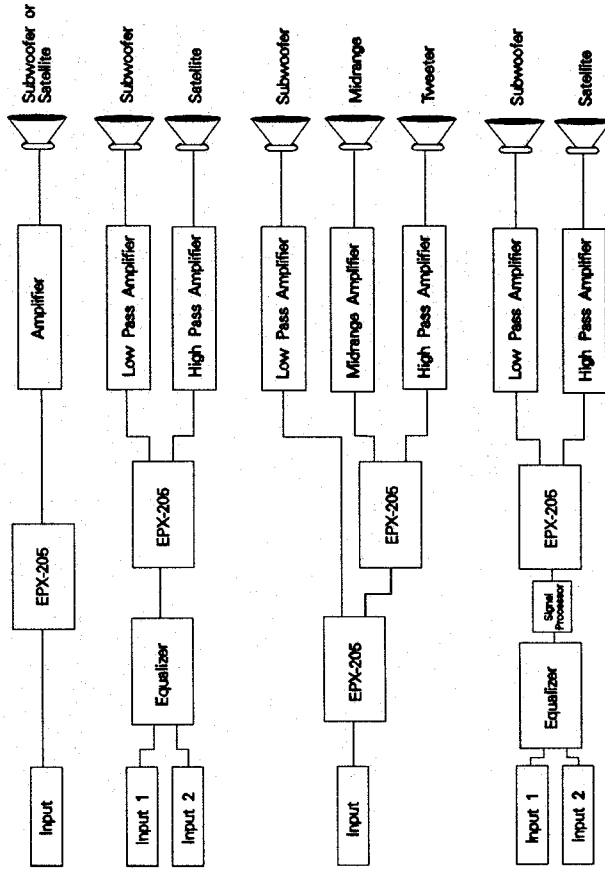
FIG. B Front Panel of EPX-205



1. On/off Indicator
2. Low Pass Level Adjustment
3. Low Pass Frequency Adjustment
In: 400Hz-5KHz
Out: 40Hz-500Hz
4. Low Pass Frequency x10 Switch
In: 400Hz-5KHz
Out: 40Hz-500Hz
5. High Pass Frequency Adjustment
6. High Pass Frequency x10 Switch
In: 400Hz-5KHz
Out: 40Hz-500Hz



SAMPLE HOOKUP CONFIGURATIONS



MOUNTING

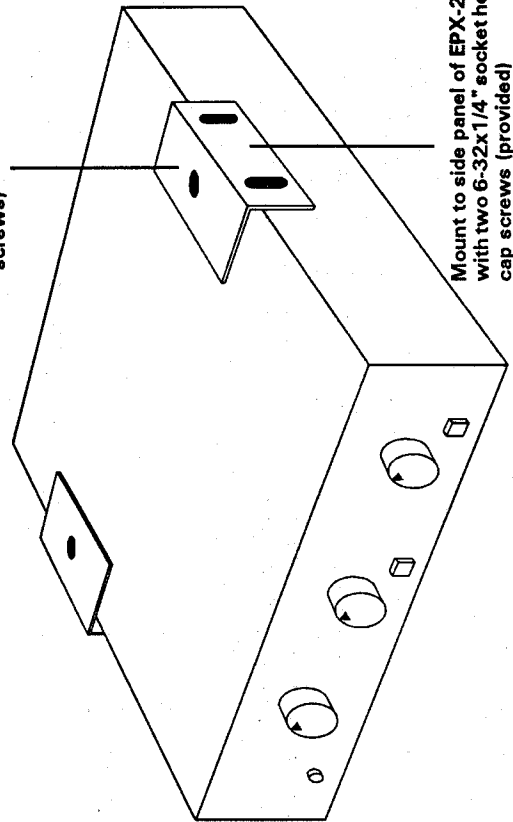
For under dash or floor mounting applications, two brackets are provided. This allows adjustment of the EPX-205 into the desired operating position. (Refer to Fig. C) The brackets are connected to the crossover by two 6-32 x 1/4" socket head cap screws (provided). Secure to underside of dash or floor with single metal screw, we suggest #6 metal screws, (not provided).

If the unit is to be mounted in a dashboard, console, or other type of panel, a 31/32" x 6 25/32" rectangular hole should be cut to clear the chassis. A minimum depth of 6 1/2" is required behind the panel to allow space for the connection cables. You will need to supply brackets and screws for in dash mounting. We suggest securing with #6 metal screws.

Precision Power has added two 4-40 Phillips Head screws in the event the unit needs to be removed from within the dash. First, remove the front plate screws and insert the 4-40 screws 1/4" into the front plate through the chassis. **Be careful not to strip the threads.** Next, remove screws from side brackets. Gently pull on the 4-40 screws removing the EPX from the brackets and dash. **Do Not pull on the knobs, it may damage the unit.**

FIG. C Under Dash or Floor Mounting of EPX-205

Fasten bracket to dash or floor with single metal screw (not provided, we suggest #6 metal screws)



Mount to side panel of EPX-205 with two 6-32x1/4" socket head cap screws (provided)



SYSTEM TUNING

In order to achieve maximum signal-to-noise performance from a high quality auto stereo system, it is desirable to use high signal levels wherever possible in the interconnection cables. High signal levels will reduce the effect of induced noise. The peak level of an audio signal is usually determined by the clipping level of electronic components. The following procedure should be used as a guide when the system installation is complete.

Adjusting equalizer input gains:

1. Turn equalizer's volume control to minimum.
2. Turn source unit volume 1/2 to 3/4 of maximum. If available on your unit, set the output level to maximum. Some units may have a switch.
3. If available, set selector switch to either Input 1 or Input 2.
4. Adjust all equalizer input gains to minimum.
5. For the chosen input play the respective music source, such as a cassette, CD, or FM station. A loud music selection is desired.
6. For the chosen input, increase the left input gain control until the onset of audible distortion. Then decrease the gain prior to the immediate point of audible distortion. This setting will minimize system background noise and prevents overloading of the equalizer. Adjust, for the same input, the right input gain control for the proper left/right balance.
7. Set selector switch to the alternate source unit, if used, and repeat steps 5 and 6.
8. Adjust EPX-205 crossover next.

SYSTEM TUNING



Adjusting crossover input gains:

1. Adjust all of the EPX-205's Low Pass Level (gain control) to 0 dB, 1/2 of maximum sensitivity.
2. Adjust all amplifier gains to 1/2 of maximum sensitivity.
3. Turn the volume knob on the equalizer to a maximum of 3 o'clock.
4. Increase the gain (clockwise) on the first EPX-205 until the onset of audible distortion. Then decrease the gain (counterclockwise) prior to the immediate point of audible distortion. This setting will minimize system background noise and prevents overloading of the EPX.
5. Repeat step 4 for any remaining crossovers in the system.
6. Adjust amplifier input gains next.

NOTE: In many multi-crossover/accessory systems, the gain of some crossovers/accessories may need to be further decreased to achieve proportional balance.

Adjusting amplifier input gains:

1. Adjust all amplifier gains to 1/2 of maximum sensitivity.
2. Turn the volume knob on the equalizer to a maximum of 3 o'clock.
3. Increase the gains on the amplifier until the onset of audible distortion. Then decrease the gains prior to the immediate point of audible distortion. This setting will minimize system background noise and prevents overloading of the amplifier.
4. Repeat step 3 for any remaining amplifiers in the system.

NOTE: Depending on the sensitivity of the system's preamp(s), the gain of the amplifier(s) may not need adjustments. Also, in many multi-amplifier systems, the gain of some amplifiers may need to be further decreased to achieve proportional balance.



TROUBLESHOOTING

If for some reason your system fails to operate properly, please refer to this guide. If you are unable to resolve the problem, consult your dealer or call Precision Power at 1-800-62-POWER for further assistance.

NO SOUND

Is the power LED illuminated?

Be sure Turn-On lead is connected. Check signal leads. Check gain control. Check source unit's volume level.

If 'phantom' powered...

Check to see that at least one amplifier is working. Check DIN cables.

NO SOUND IN ONE CHANNEL

Check Audio Leads.

Inspect for short circuit or open connection.

Identify working channel.

Reverse Left and Right crossover inputs to determine if it is occurring before the crossover.

If opposite channel now functions.

Problem is ahead of crossover, meaning before the inputs.

If same channel now functions.

Problem is with rest of the system. (i.e. incorrect wiring, faulty amplifier or crossover).

WEAK SOUND

Check Mono Bridge and Bi Amp Crossover Switches on other devices prior to the EPX-205.

Depress switches to ensure proper position with respect to the installation.

If problem is with crossover...

Have your dealer inspect the unit.

Check gain and/or level control on all units.

Make sure correct balance exists between lows and highs.

Check crossover output wiring.

Make sure lows and highs are wired to the correct amplifier. Make sure equalizer and crossover frequencies are the correct range for your particular speakers.



THANK YOU

Thank you again for choosing Precision Power's EPX-205 to enhance your system. Your complete satisfaction is important to us. If you have any comments please feel free to write us.

To update your system with our state-of-the-art equipment we invite you to try our other products. Please consult your PPI dealer for further information.

Precision Power is the competitive edge





LIMITED WARRANTY

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Precision Power, Inc. (PPI) warrants its amplifiers and accessories to be free from defects in materials and workmanship under normal use and service for a period of two years from the date of original purchase. The extent and conditions of PPI's Limited Warranty are as follows:

1. PPI warrants that it will either repair or replace at no charge, any unit which PPI's examination discloses to be defective and under warranty, provided the defect occurs within two years from the date of purchase, and the product is returned immediately to PPI.
2. The date of purchase of a PPI Amplifier and/or Accessory must be established by an original sales receipt which must accompany the article being returned for warranty work.
3. The provisions of this warranty shall not apply to any PPI unit 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.
4. PPI does not authorize any other person to assume any other liability in connection with its products. THIS WARRANTY IS THE ONLY EXPRESS WARRANTY MADE BY PPI APPLICABLE TO ITS PRODUCTS. ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE APPLICABLE TO PPI'S AMPLIFIERS AND/OR ACCESSORIES IS LIMITED IN DURATION TO THE DURATION OF THIS LIMITED WARRANTY. PPI 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.

5. Your unit will be serviced on an in-warranty basis within the warranty period for the correction of warranted defects. Do not return the article to your dealer. Return the article including your name, telephone number, and return address with the description of the problem to:

Precision Power
Warranty Department
4829 South 38th Street
Phoenix, AZ 85040

TO RETURN ARTICLES OUT OF WARRANTY. Return the article, postage prepaid, in the original protective carton. Include in the package 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. Fifty Dollars (\$50.00) labor, plus parts will be charged for all product repairs. The repaired unit will be returned to the customer with an itemized statement, C.O.D.