

PPI 4050 Operation Manual

PPI-4050

Features

150 Watt Bi-amplified four channel design (40x2/50x2) specifically optimized for subwoofer-satellite systems.

Class AB biased discrete, Bi-Polar transistor output circuitry featuring 100% solid-state construction.

On-board electronic crossover with independent high and low pass selectable filters to individually tailor the response characteristics of each speaker system.

Switchable on-board low-pass bridging for 150 watt mono subwoofer applications.

Front and rear adjustable input sensitivity for balancing high and low pass amplifier sections.

Dual independent high efficiency switch mode power supplies for true component Bi-amplified performance.

Crossover defeat switch for full range operation.

Soft-start circuitry to eliminate turn-on transients.

Internal protection against thermal overload, short circuit, and improper speaker load.

DIN and Gold RCA input jacks.

Sealed Modular Potentiometers.

LED Power indicator.

Flame proof power resistors throughout.

Assembled with all stainless steel hardware.

Computer grade double sided glass reinforced epoxy circuit board.

Phantom power to drive outboard accessories.

100% functional test and burn-in.

Two year warranty.

PPI-4050

Specifications

Input Sensitivity: 0.3 - 2.0 V

Power Output: 230 watts RMS at 0.025% THD at 12 volts DC

Frequency Response: 10Hz-50kHz + 0.5dB

Signal to Noise Ratio: 98dB

Damping Factor: Greater than 500

Dynamic Headroom: 2.0dB

Weight: 9.1 LBS.

Dimensions: height 2.15"
 length 15.0"
 width 8.0"

Recommended Speaker impedance levels

Stereo Operation 2 - 8 Ohms

Mono (Bridged) Operation 4 - 16 Ohms

Always use 16 gauge or larger wire for speaker connection.

Operation Manual for PPI-4050

Gain Adjust

The hole on the input end of the amplifier labeled GAIN is for accessing the slotted shaft that adjusts input sensitivity. The sensitivity can be adjusted from .3V to 2V. To increase the sensitivity or to make the amplifier louder with a fixed input signal level turn the slotted shaft clockwise. To adjust the input sensitivity, adjust the amplifier input sensitivity to minimum (full CCW). Then adjust your radio volume knob to maximum, now turn the slotted shaft clockwise until audible distortion occurs.

Recommended Fuses

PPI 4050 - 20 AMP

Recommended Speaker Impedance Levels

High Frequency Output.....4 - 16 ohms

Low Frequency Output (Stereo)..4 - 16 ohms

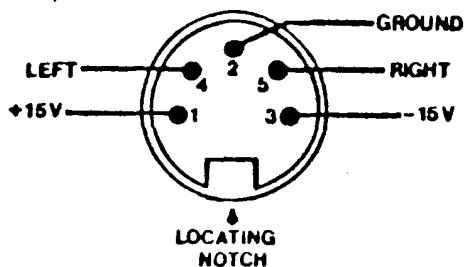
Low Frequency Output (Mono)...8 ohms minimum

Always use 16 gauge or larger wire for speaker connection.

Wiring

Input Connections

Two RCA jacks (left and right channel) and one five pin DIN jack (female) provide input for low level (line out) signal connections. Both inputs (RCA and DIN) are paralleled and feature adjustable input sensitivity.



Turn-on Connections

Blue wires

These sensing wires are located on the speaker harness and should be connected to the power antenna lead. If no such connection is available a separate switch or electric device must be used to control the amplifier turn-on circuit with +12V.

Battery Connection

(Two long wires with in line fuseholders).

The 12 volt wiring harness consists of two long power wires with fuseholders on one end and two (one foot) battery hook-up wires with a fuseholder on one end and a large ring terminal on the other end. Connect the shorter wires directly to the positive terminal of the battery. The fuses near the battery are designed to prevent fire or damage to the car should a battery wire short to ground between the battery and the fuses near the amplifier. This second set of fuses offers additional protection for the amplifier's dual power supplies.

When routing long power wire start from amplifier, avoiding sharp corners or creasing. Cut off excess wire after reaching battery connector. Slip on black fuse cap, strip power wire 1/8 inch, insert stripped wire into silver rivet cap and thoroughly solder. After cooling thoroughly clean flux off rivet cap. (With ten gauge red wires it is necessary to remove some wire strands in order for rivet cap to properly fit).

Ground Connection

This large black wire should be grounded to a welded chassis member. Use #8 sheet metal screw being sure to remove any paint from the surrounding metal. Do not lengthen the ground wire. Failure to adhere to this procedure may result in excessive system noise.

PPI-4050

Wiring - Speaker Connections

High Frequency Amp

Orange/black wire: Left channel high frequency positive.

Yellow/black wire: Right channel high frequency positive.

2 Black Wires: Negative wire for above wires

Blue Wire: Turn on

Low Frequency Amp

Orange wire: left channel low frequency positive

Yellow wire: Right channel low frequency positive

2 Black Wires: Negative wiring for above wires

Blue Wire: Turn on

DO NOT CONNECT BLACK WIRES OR SPEAKER GROUND TERMINALS TO CHASSIS GROUND.

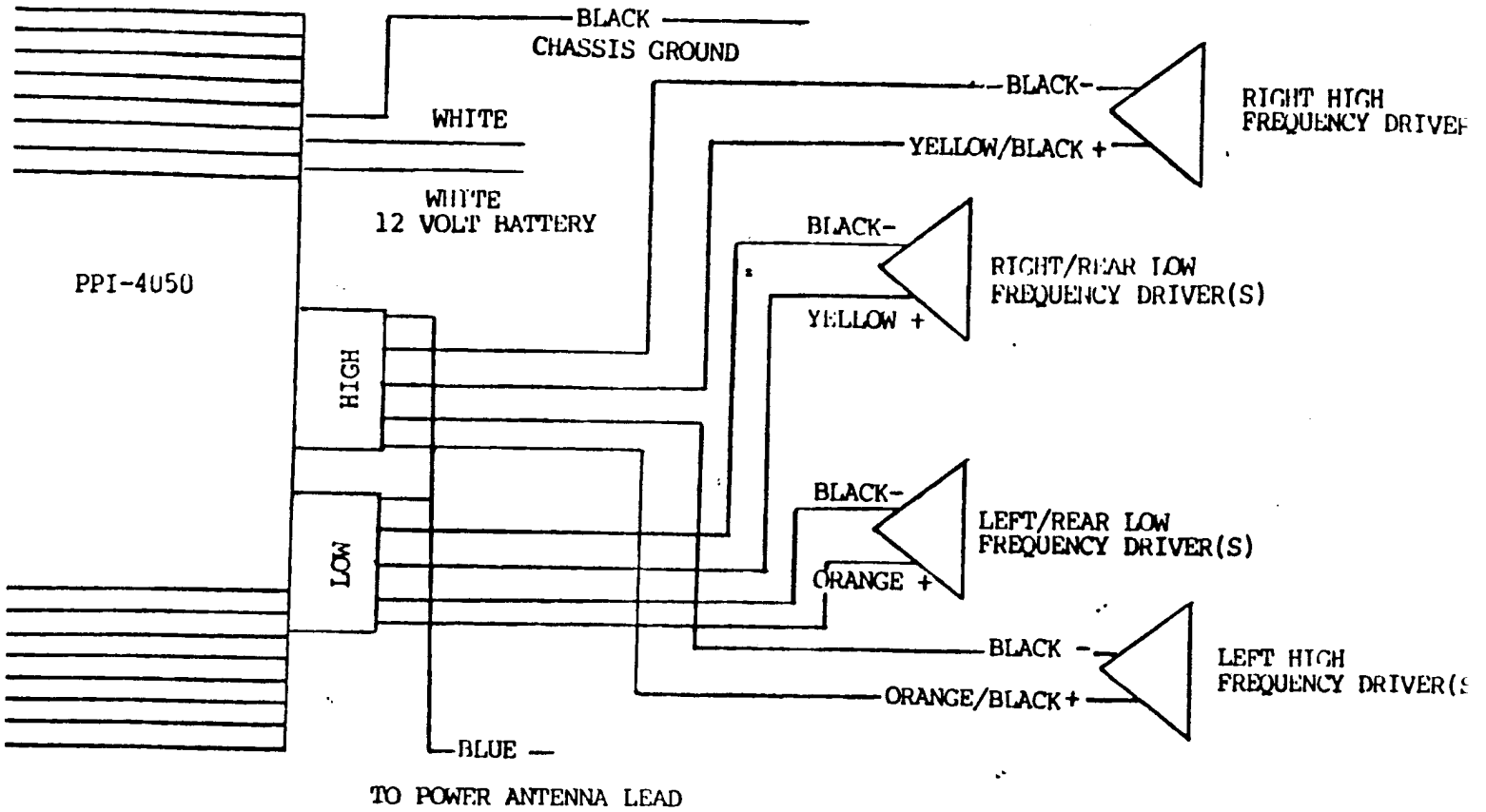
Wiring of low end amp in Mono Bridged mode (see diagram).

Yellow Wire: Speaker Positive

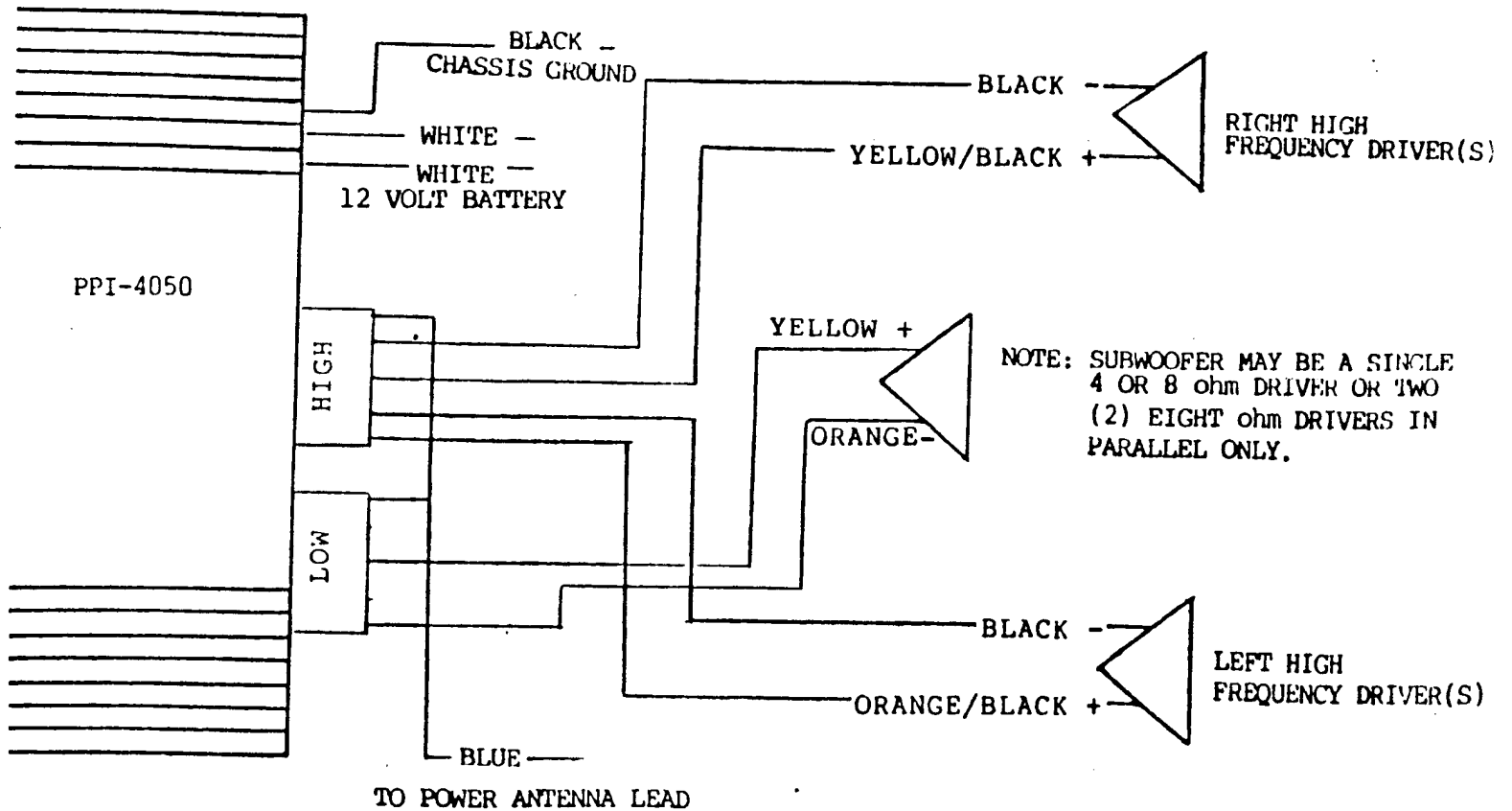
Orange Wire: Speaker Negative

Black Wire: Do not use. (Insulate wires to avoid shorting).

STEREO/BI-AMP FULL RANGE SYSTEM
 MONO/BRIDGE SWITCH OUT POSITION)



BI-AMPLIFIED SYSTEM/MONO LOW PASS (BOTH SWITCHES IN)



BI AMP CROSSOVER

WARNING: TO PREVENT DAMAGE TO SPEAKERS DO NOT REMOVE HIGH OR LOW FREQUENCY CHIP WITH AMPLIFIER ON.

The crossover divides the signal into its high and low frequency components. The two signals are then routed to the high and low end amps respectively.

The crossover function is defeated with the Bi-amp crossover switch in the out position. This allows a full range signal to be routed to both the high and low end amps.

The crossover is adjusted by removing bottom enclosure. Care must be taken with this procedure because the enclosure also provides pressure to power supply and output devices against the heatsink.

1. Before removing enclosure please note the bowing effect of enclosure between opposing sides. With a pencil trace the bow against the end plate with the power and ground wires.

2. Remove the enclosure by removing 6 screws securing it with a 7/64 Allen wrench. Pull enclosure straight up and out. Set enclosure on a clean surface in the same direction as it was removed.

3. Remove crossover modules by carefully pulling straight up on module with pliers. Replace with desired modules noting that the high pass module socket is located adjacent to an IC chip with a yellow mark.

4. Replace bottom enclosure and insert screws. Gently turn each screw two or three times until threads take hold. Starting from the end plate with the pencil trace, gently torque screws on each side with equal force working your way to opposite end of amplifier. Repeat this last step until proper bow, matching pencil trace mark, is obtained.

!!!!WARNING!!!! DO NOT OPERATE AMPLIFIER WITH BOTTOM REMOVED!!!!

To operate the high end section of the amplifier full range with the crossover engaged, remove the high end chip (next to the yellow dot). To operate the low end section of the amplifier full range with the crossover engaged, insert a 20KHZ chip in the low end chip socket.

The amplifiers are shipped with a 150 Hz frequency chip in both the high and low crossover sockets.

Frequency chips available:

80 Hz 100 Hz 150 Hz 200 Hz 250 Hz 500 Hz 1 KHz 3.5 KHz
5 KHz 20KHz

Mono bridge:

The mono bridge switch when engaged (pushed in) converts the stereo signal to the low end amp to a mono signal. It also bridges the low end amp. This allows the use of a single driver sub woofer.

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 repair free of charge or replace at no charge, any unit which PPI's examination shall disclose to be defective and under warranty, which defect occurs within two years from the date of purchase and provided 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 part which is 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 OR 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 limitation 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
7901 East Pierce Street
Scottsdale, AZ 85257

TO RETURN ARTICLES OUT OF WARRANTY. Return the article postage prepaid package 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.

Further information regarding system design is presented in the accessory manual which covers the use of PPI pre-amps, bridging modules, and crossovers.