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User's Manual

Car amplifier u-Dimension ProX 500.24 Comp 4-channel

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ProX 840.4 COMP

ProX 500.24 COMP

INTRODUCTION

Amplifiers provide high-performance sound reinforcement for your mobile audio equipment. Its versatility enables compatibility with optional Equalizers, Frequency Dividing Network Crossovers, and other audio processors in a customized system. The Multi-Mode bridging capabilities allow flexibility in hosting several different speaker configurations.

to achieve optimum performance, We suggest that your stereo components are installed by an authorized dealer. It is highly recommended that you read this Owners Manual before beginning installation.

FEATURES

- Doubled sided PCB assembly, glass fibered epoxy through hole technology
- Gold plated RCA jacks, luxurious speaker and power terminals
- 4 Gauge Gold Plated power terminal
- Turn-on delay, turn-off muting
- Dual PWM (pulse-width-modulated) power supply
- Protection circuitry against thermal and electrical overload, short circuit, DC-offset
- Floating ground technology for maximum noise reduction
- Power indicator & Protection indicator
- Power supply +12 VDC, negative ground
- BIC (Balanced Input Circuitry) inputs
- 1 Ohm stable

WARNING

High powered audio systems in a vehicle are capable of generating "Live Concert" high levels of sound pressure. Continued exposure to excessively high volume sound levels may cause hearing loss or damage. Also, operation of a motor vehicle while listening to audio equipment at high volume levels may impair your ability to hear external sounds such as; horns, warning signals, or emergency vehicles, thus constituting to a potential traffic hazard.

PLANNING YOUR SYSTEM

Before beginning the installation, consider the following:

a. If you plan to expand your system by adding other components sometime in the future, ensure adequate space is left, and cooling requirements are met.

b. Should you use high or low level inputs?

Your Amplifier has been designed to accept either High-Level (*speaker outputs from your radio*) or Low-Level (*Pre-Amp outputs from your radio*) signal source.

If your radio/source is equipped with Pre-Amp outputs, it is possible to utilize them to drive the Amplifier and connecting (Amplifier) to the 2 rear speakers.

Then, use the built-in power of your radio to drive the 2 front speakers.

c. Are your components matched? The peak power rating of your speakers must be equal or greater than the Amplifier's. They also must be 1 - 8 Ohms impedance. (*This information is normally printed on the speaker magnet*)

d. Consider both the length of your leads, and routing when determining the mounting location. Pre-Amp input Jacks require a length (*depending on location*) of high quality shielded male to male RCA patch cord.

MOUNTING YOUR AMPLIFIER

The mounting position of your Amplifier will have a great effect on its ability to dissipate the heat generated during normal operation. It has an ample heat sink for heat dissipation, and also designed with a thermal shut-down protection circuit, making it reasonably tolerant of mounting variations. Any configuration which allows moving air to be directed over the cooling fins will improve heat dissipation dramatically, DO NOT enclose the amplifier in a small box or cover it so that air cannot flow around fins.

Temperatures in car trunks have been measured as high as 175°F (80°C) in the summer time. Since the thermal shut-down point for the Amplifier is 185°F (85°C), it is easy to see that it must be mounted for maximum cooling capability. To achieve maximum advantage of convection air flow in an enclosed trunk, mount the amplifier in a vertical position, on vertical surface.

Cooling requirements are considerably relaxed when mounting inside the passenger compartment since the driver will not often allow temperatures to reach a critical point. Floor mounting under the seat is usually satisfactory as long as there is least 1 inch (2Cm) above the Amplifier's fins for ventilation.

- a. Select a suitable location that is convenient for mounting, is accessible for wiring, and has ample room for air circulation and cooling.
- b. Use the amplifier as a template to mark the mounting holes. Remove the Amplifier and drill 6 holes. USE EXTREME CAUTION, INSPECT UNDERNEATH SURFACE BEFORE DRILLING.
- c. Secure the Amplifier using the screws provided.

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CONNECTING THE POWER

CAUTION

AS A PRECAUTION, IT IS ADVISABLE TO DISCONNECT THE VEHICLE'S BATTERY BEFORE MAKING CONNECTION TO THE +12 VOLT SUPPLY WIRE.

4 GAUGE (Thicker if planning for additional Amplifiers) wire is recommended for both the power and ground wires. 20 Gauge, for the remote turn-on wire, Both types available at most Mobile Audio Dealers or Installation shops.

GROUND: To Vehicle Chassis

To avoid unwanted ignition noise caused by ground loops, it is essential that the Amplifier be grounded to a clean, bare, metal surface of the vehicle's chassis.

NOTE

GROUND WIRE SHOULD NOT BE EXTENDED MORE THAN 3 FT. (1 METER).
USNG THIS METFOD CAN CAUSE TURN ON AND TURN OFF TRANSETS (NOISE)

+12 Volt(Fused) Constant Power: To Battery (+)

Due to the power requirements of the Amplifier, this connection should be made directly to the positive (+) terminal of battery. For safety measures, install an in-line 50 Amp Fuse Holder (not included) as close to the battery positive (+) terminal as possible.

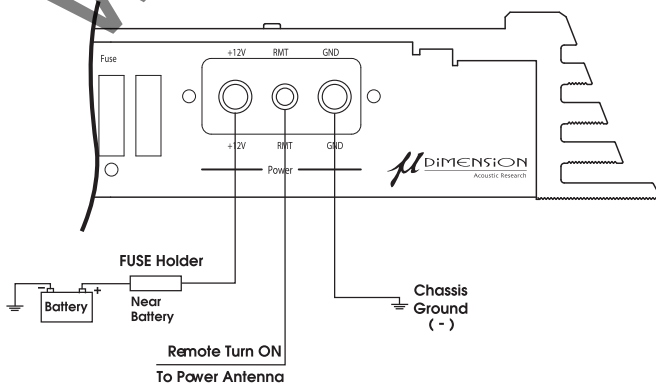
With an ampere rating not to exceed total value of fuses in amp.

Remote Turn-On Input: To Power Antenna output of Car Stereo

This Amplifier is turned "ON" remotely when the vehicle's stereo is turned "ON".

NOTE

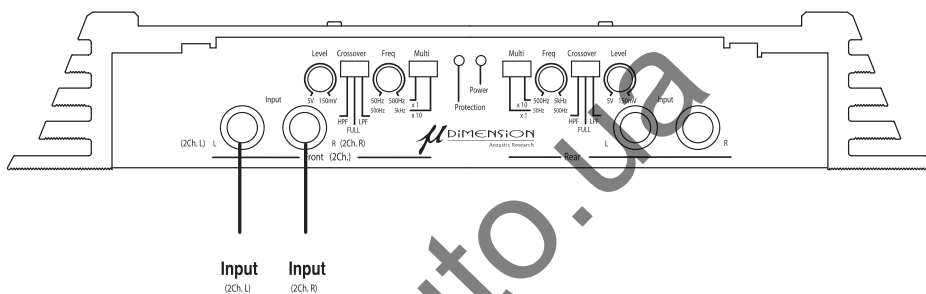
IF YOUR RADIO DOES NOT HAVE A +12 VOLT OUTPUT LEAD WHEN THE RADIO IS TURNED ON, "RMT" TERMINAL ON THE AMPLIFIER CAN BE CONNECTED TO VEHICLE'S ACCESSORY CIRCUIT THAT IS LIVE WHEN THE KEY IS "ON".



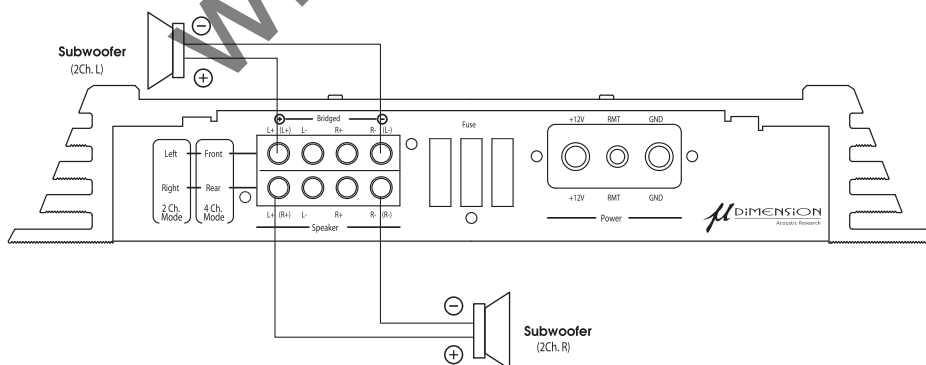
ProX 500.24 2 Channel Mode Operation

1. Please open the bottom cover & change the Input Select S/W to 2Ch, from 4Ch.
(Because the factory default is 4Ch.)
2. Connect the RCA Jack to Front L & R Input, but please do not connect Rear L & R Input.
3. Please connect the speaker wire to the speaker terminal as below.

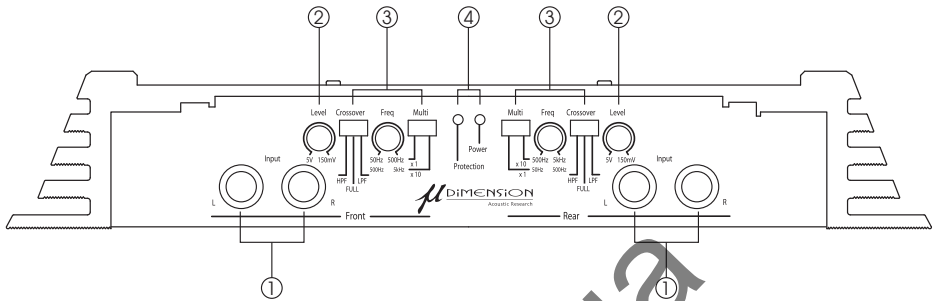
ProX 500.24 Front



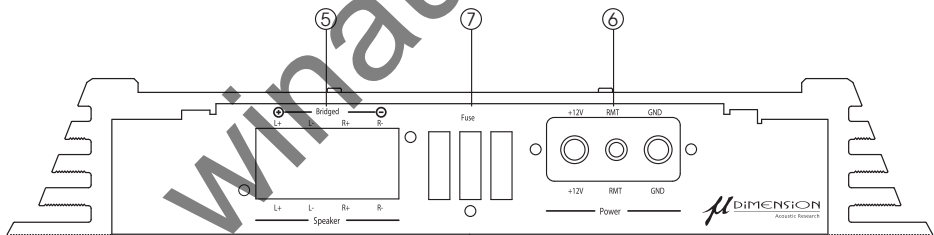
ProX 500.24 Rear



ProX 840.4 ProX 500.24 Front



ProX 840.4 ProX 500.24 Rear



1. Signal Input RCA jacks

It allows left("L") and right ("R") input channels to be connected to the amplifier using RCA jacks.

Please use high performance audio cable!

2. Input level control

The input sensitivity can be adjusted to the output voltage of your radio using the input level control, The input level control does not adjust volume! Optimum setting of the control gives you a sufficiently larger regulating zone for your car stereo combination without any distortion or overloading.

- The "LEVEL" control allows an adjustment from 5.0V to 150mV

To adjust the input sensitivity, turn the controls fully counter clockwise to minimum.

Adjust the car radio unit volume knob to maximum volume, and then turn the level controls on the amplifier clockwise until audible distortion occurs. Now turn CCW for a bit and the adjustment is done.

An incorrect level control adjustment not only has a negative effect on sound impression but can also destroy your speakers!

3. Crossover

Move the "XOVER" switch into "H" position to use this filter. The crossover frequency (HPF FREQ) is variable from 50 Hz to 500 Hz or from 500 Hz to 5kHz by the "X1 / X10" switch position and can be individually adjusted. Turn CW to set to a higher frequency, CCW to set to a lower frequency.

Move the "CROSSOVER" switch into "LOW" position to use this filter. The crossover frequency (LPF FREQ) is variable from 50 Hz to 500 Hz OR FROM 500 Hz to 5 KHz by the "X1 / X10" switch position and can be individually adjusted. Turn CW to set to a higher frequency, CCW to set to a lower frequency.

4. Power indication and Protection circuitries (Indicator protection)

The green LED indicator on side panel provides a visual indication that the amplifier is turned on.

The red LED indicator provides a visual indication that a problem exists and the protection circuitry has protected the amplifier by shutting it down. Turn the system off and correct the problem before turning the system back on.

- Thermal protection: the amplifier will shut down if its temperature exceeds a safe operating level. The amplifier will remain off until it cools to a safe operating temperature. Exercise care, the exterior of the amp may get uncomfortably hot to touch before shutting down.
- Overload: the amp will shut down if electrical current demands exceed safe level (can be caused by low impedances or by incorrect input level adjustment).
- Short circuit: the Amplifier will shut down if a short circuit condition exists (can be caused by poor insulation or by a damaged voice coil)
- D.C. offset protection: the amplifier will shut down if an unsafe D.C offset condition on the amplifier output exists, in order to avoid further damage to the speakers.

5. Speaker output terminal

The speakers are connected to this terminal in accordance with the mode of operation.

6. Terminal for power supply connection

Terminal for connection of the power supply (+12V DC, GND) and the remote-turn-on cable (REM).

Never bridge fuses or exchange for types with higher rating!

7. Integrated fuse

Protects the Amplifier and the electrical system if there is a fault. A blown fuse or fuses indicates a problem that should be corrected before the fuse is replaced! Always replace the fuse with a fuse of the same value of fuse. Never substitute a larger value fuse.

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TROUBLESHOOTING

Before removing your Amplifier, refer to list below and follow suggested procedure. Speakers and their wires should be tested first.

No Output:

- a. confirm that all terminal strip connections are firmly connected.
- b. Check in-line and built-in fuses. Both "+12V" and "REM" terminals must have +12 Volts to chassis ground.
- c. Confirm that signal source(*Car Radio/ deck, EQ, X-over etc.*) is connected and is supplying output signal.
To confirm that Amplifier is working, connect an RCA patch cord to LEFT & RIGHT low-Level inputs of Amplifier only(*Do not connect the other end of the patch cord*). Briefly tap the center pin of each(*disconnected*) RCA plug on the other(*disconnected*) end with your finger. This should produce a noise(*feedback*) in the speakers.

Only One Channel works:

- a. confirm that speaker terminal strip connections are firmly connected.
- b. Check "BALANCE" control on Car Stereo(or signal source) to verify it is at mid-point.
- c. If using RCA Low-Level inputs, reverse the input plugs at the Amplifier(*right to left or vice versa*).
If the channel that is silent reverses position, the problem is in the Car Stereo (*EQ, X-over, or other signal source*) or connecting cable.

Weak Output

- a. Check Input Sensitivity control adjustment.

Noise in Audio

- a. If noise is a "whine" that goes up and down with engine speed, confirm that Amplifier and any other source unit(*Radio, EQ, X-over etc.*) is properly grounded.
- b. A "clicking" or "popping" noise at a rate that follows engine speed is generally induced by the vehicle's ignition system.
Confirm that the vehicle is equipped with resistor plugs and plug wires. Or, ignition system may need service.
- c. Speaker and input wires should not be routed next to wires that interconnect lights and other accessories/equipment.
- d. If above steps do not improve/clear noise interference, the system should be checked by a professional mobile audio installer.

SPECIFICATIONS

	ProX 840.4	ProX 500.24
Channel	4	2ch / 4ch
BIC	Yes	N/A
SMD Tech.	Yes	N/A
Load impedance @ Stereo	1 ohm stable	1 ohm stable
Load impedance @ Bridged	2 ohm stable	2 ohm stable
4 ohms / 1ch	100W	65W(4ch) 190W(2ch)
2 ohms / 1ch	150W	95W(4ch) 250W(2ch)
1 ohm / 1ch	210W	125W(4ch) N/A(2ch)
Fuse	25A x 3	25A x 2
S/N ratio	105 dB	95 dB
Input Sensitivity	150m-6V	150m-6V
Sub-sonic	N/A	N/A
HPF	50-500 Hz or 500 Hz-5 KHz, 12dB/oct.	50-500 Hz or 500 Hz-5 KHz, 12dB/oct.
LPF	50-500 Hz or 500 Hz-5 KHz, 12dB/oct.	50-500 Hz or 500 Hz-5 KHz, 12dB/oct.
Dimension (Length)	390mm (440mm)	330mm (380mm)

*LPF: Low Pass Frequency HPF: High Pass Frequency

*Specifications are subject to change without notice



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