



PSL410

LEGENDS 500

POWER SUPPLY

Owners Manual



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1 Welcome!

Thank you for purchasing your new PSL410 power supply. Before operating or installing the unit, please read this manual thoroughly and retain it for future reference. Additional copies of this manual are available upon request or from our website at <http://www.rtzaudio.com>.

All units are carefully packed to endure the rigors of shipping and handling. However, please inspect all contents and packaging immediately upon receipt. Please report any problems to us immediately. In the event of damage, retain all shipping and packaging materials for shipper damage claims inspection.

The PSL410 is designed to deliver a lifetime of trouble free operation. If you experience any problems or difficulties, please contact us directly. Do not attempt to modify, alter or repair the unit yourself. Each unit has been carefully tested and packed prior to shipment. Any unauthorized modifications may destroy the unit or severely degrade performance and void the warranty.

2 Overview

The PSL410 is a linear mode power supply designed to power RTZ UX410 module racks and is API 500 Series voltage compatible delivering bipolar +/-16V and +48V phantom power. Each PSL410 power supply can power one UX410 rack (ten 500 modules @150mA each) and delivers a maximum peak load current of 1.5A. Forced air cooling is provided by a long-life low-noise DC fan for maximum cooling efficiency.

The PSL410 is road-rugged unit and was designed as a heavy duty alternative to self-contained power supplies. This large linear supply is particularly well suited for audio applications and delivers clean high current DC regulated power to UX410 racks. The enclosure is made from heavy gauge steel that provides additional shielding and heat sinking.

3 Power and Safety Fuses

The PSL410 is capable of 115V or 230V operation by changing a strapping block within the power entry module. All units ship from the factory with the default setting for 115V AC operation. Please contact us direct if you need to order or configure the unit for 230V operation.

The front panel LED's provide power and fuse status for the 16V and 48V power rails. The 16V LED's should light when power is applied to the unit. The 48V LED lights only when the 48V switch is enabled and the unit is powered up.

The PSL410 unit contains internal fuses for the DC fuses. The internal fuses should only be replaced by qualified service persons with all power and cords removed from the unit. Check the AC mains fuse if all LED's fail to light when power is applied to the unit.

3.1 AC Mains Fuse

The AC mains fuse is mounted on the rear panel above the DIN power entrance connector. The PSL410 can be configured for 115V or 230V operation and uses one of the fuse types listed in Table 1 based on the line voltage selected at the power entry module.

Table 1 – AC Line Fuse Requirements

Voltage	Type	Part#
115V	T5A 250V TIME-LAG	BK/MDL-5
230V	T2.5A 250V TIME-LAG	BK/MDL-2-1/2-R

3.2 DC Branch Fuses

The front panel DC safety fuses provide branch circuit protection for all UX410 racks connected the PSL410 supply. The LED's beside each fuse indicate power status and will fail to light if a fuse is blown.

Table 2 – DC Branch Fuse Requirements

Voltage	Type	Part#
16V	2.5A 250V TD SLOW BLOW	BK/S506-2.5-R
48V	315mA 250V TD SLOW BLOW	BK/S506-315-R

3.3 DC Power Supply Connector Wiring

The DC power cable to the PSL410 requires a six pin XLR connector and cable. Separate power and analog grounds are maintained all the way through to unit and back to the power supply for maximum ground signal noise suppression.

Noisy components like relays and LED Vu meters typically reside on the “power ground” while critical audio circuits reside on the “analog ground”. These grounds eventually meet at a central “star ground” within the PSL410 power supply to provide a central common ground while keeping the analog and power grounds separate throughout the rack.

Table 3 – 6 Pin XLR DC Connector Wiring

Pin	Description
1	+16V Power In
2	-16V Power In
3	+48V Power In
4	Power Ground
5	Analog Ground
6	Chassis Ground

4 Installation and Connections

The PSL410 is designed for standard 1U 19” rack mounting. Ideally, the unit should be mounted where cool air flows around all sides of the unit. Do not obstruct the flow of air on the sides or rear of the PSL410; air must be able to flow around the sides and rear of the unit at all times. Do not place the unit near strong magnetic fields and noise sources such as power amplifiers, power supplies, transformers, motors, florescent lighting, computers, etc. Mount the power supply away from any audio module racks or other audio gear to avoid magnetic field radiation from the PSL410’s large internal supply transformer.

The power supply **MUST** be properly grounded at the AC outlet connector. Never bypass the third ground prong on the power plug as this creates a serious hazard and potential electrical shock. The chassis ground stud on the rear of the unit may be used to ground the chassis to an electrical earth ground also. Consult a certified electrician if you are unsure of proper grounding or any AC mains connections to the unit.

The internal fan is thermostatically controlled and the speed of the fan increases as the temperature of the unit rises. The fan will run at lower speeds with less fan noise under light load or temperature conditions. However, the fan will run at higher speeds if the unit is under heavy load or placed in a hot environment. The supply should always be placed in as cool an area as possible with plenty of air flow available to avoid heat problems.

5 Specifications

Dimensions	4.32" (H) x 5.70"(W) x 10.50"(L)
Weight	10.5 lbs
Cooling	Convection with forced air fan
Temperature Rating	0 to 50°C full rated, derated linearly to 40% at 70°C.
Temperature Coefficient.....	±0.01%/°C maximum.
Stability.....	±0.05% for 24 hours after warmup.
Efficiency.....	55%
AC Mains Input Range	115V Operation, 108-130V AC 230V Operation, 213-250V AC
Maximum DC Output Load Current.....	16V DC @ 1.5A 48V DC @ 150mA

LIMITED WARRANTY

RTZ Audio warrants this product to be free of defects in material and workmanship for a period of 5 years to the original owner. This warranty is enforceable by the original purchaser and is transferable to a subsequent single owner via resale by the current owner. The current owner must provide positive dated proof of the original purchase in the form of the original sales receipt, original canceled check, or other form of positive original proof.

To request warranty service, the owner must call or contact RTZ Audio in writing to obtain return authorization and instructions concerning shipment. All authorized returns must be sent to RTZ Audio postage prepaid, insured and properly packaged. All warranty service returns must include positive proof of purchase from the original sale.

During the warranty period RTZ Audio shall, at its sole and absolute option, either repair or replace free of charge any product that proves to be defective upon inspection by RTZ Audio or an authorized repair representative.

This warranty does not cover claims for damage due to abuse, neglect, alteration or attempted repair by unauthorized personnel and is limited to failures arising during normal use that are due to defects in material or workmanship in the product.

IN NO EVENT WILL RTZ AUDIO BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL OR OTHER DAMAGES RESULTING FROM THE BREACH OF ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING AMONG OTHER THINGS, DAMAGE TO PROPERTY, DAMAGE BASED ON INCONVENIENCE OR ON LOSS OF USE OF THE PRODUCT, AND, TO THE EXTENT PERMITTED BY LAW, DAMAGES FOR PERSONAL INJURY. Some states do not allow the exclusion of limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state. This warranty only applies to products sold and used in the United States of America. For warranty information in all other countries, please contact RTZ Audio directly.

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