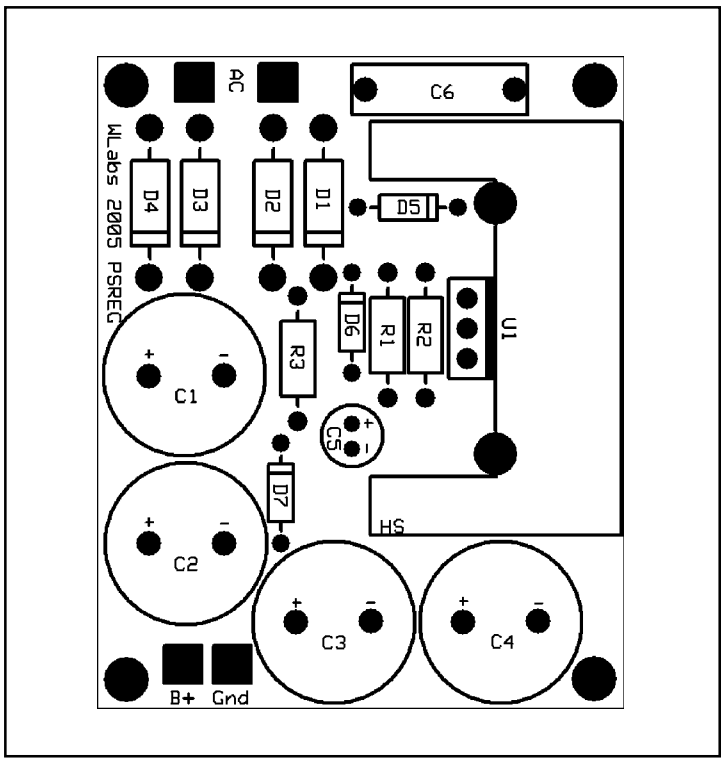
PS-REG Regulated Power Supply

The PS-REG is a high quality low voltage regulated power supply. It is recommended for use with solid state preamplifiers, active crossovers, filters, CD players, filament supplies and other circuits with low-to-medium current requirements. The PS-REG's voltage can be fixed from + 5 volts to + 24 volts by the selection of a few resistors, and its output is capable of supplying up to 1.5 ampere of current. The figure on page 2 depicts the schematic diagram of the PS-REG circuit.

PS-REG Parts List

D1-D4	3A/100V	Schottky Low Noise Diodes
D5-D7	1A/100V	Diode
C1-C4	2200uf/35V	Nichicon Electrolytic Capacitor
C5	22uf/35V	Nichicon Electrolytic Capacitor
C6	0.1uf/250V	Wima Film Capacitor
R1	Select*	1% Metal Film Resistor
R2	Select*	1% Metal Film Resistor
R3	1k/.5watt	1% Metal Film Resistor
U1	LT1085CT	LT Voltage Regulator
T1		Transformer
HS		Heatsink w/hardware
CB		Circuit Board
ST		Standoffs

* See notes for determining resistance value.



PS-REG Power Supply Component Placement Diagram

PS-REG Assembly Instructions

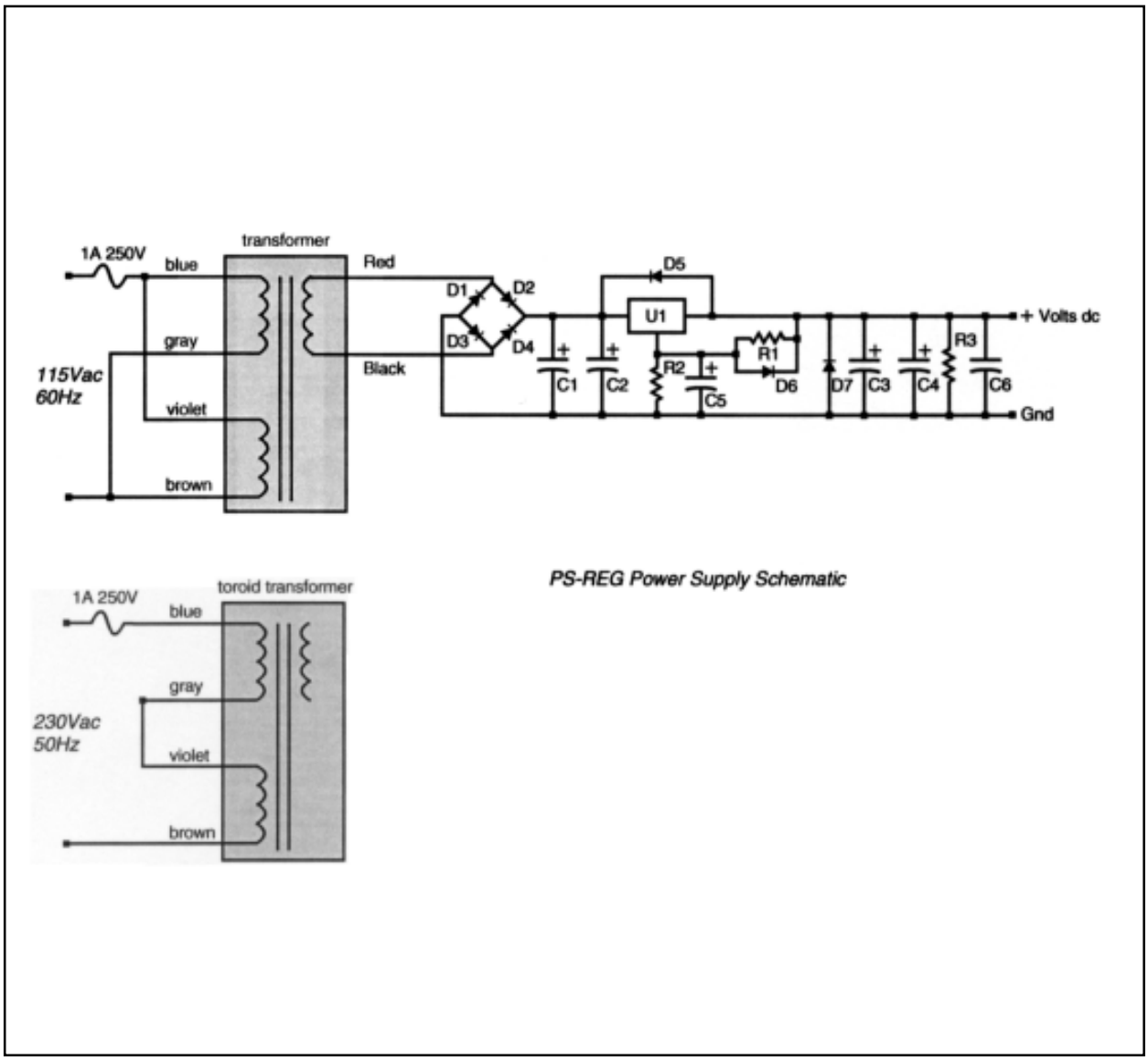
The PS-REG is a small, relatively simple circuit that can be assembled in approximately one half hour. Please follow the stuffing guide shown on the previous page and note polarities of the bridge rectifiers, electrolytic capacitors, diodes and voltage regulators.

The following equation can be used to calculate the resistor values required for a specific output voltage:

$$Vout = 1.25 (1 + R2/R1) + R2 (50 \times 10^{-6})$$

The table below lists resistor values for several common voltages. If you order our kit, be sure to specify which voltage you will be using, and we will send you the correct values.

Resistance		Voltage	Resistance		Voltage
R1 = 1.40 Kohm	R2 = 4.02 Kohm	+ 5 Volts	R1 = 0.95 Kohm	R2 = 12.1 Kohm	+ 18 Volts
R1 = 1.21 Kohm	R2 = 10.0 Kohm	+ 12 Volts	R1 = 1.91 Kohm	R2 = 33.2 Kohm	+ 24 Volts
R1 = 1.00 Kohm	R2 = 10.5 Kohm	+ 15 Volts			



PS-REG Power Supply Schematic Diagram

Recommended Assembly Sequence

We recommend you follow the assembly sequence outlined below. Before starting check your kit for all components.

1) Install and solder resistors and diodes (note polarity of diodes). Note: Install D5 on the bottom side of the circuit board.
2) Install and solder capacitor C5 (note polarity).
3) Install and solder Wima capacitor C6.
4) Install and solder the electrolytic capacitors C1 thru C4 (note polarity).
5) Attach heatsink to the regulator U1.
6) Install regulators and solder to the circuit board. The heatsinks should mount flush with the circuit board and the heatsink's pins also soldered to the board. Place a small piece of electrical tape under the heatsink so that it does not make contact with the solder pads for diode D5.
7) Attach transformer wires to the circuit board as outlined on the previous page (note the transformer can be wired for both 120Vac or 240Vac).

PS-REG Checkout and Test

Inspect all solder joints under a bright light. Look for voids, bad joints and solder bridges. Power-up the PS-REG before connecting to your circuit. Check the output voltage with a voltmeter to insure correct operation.