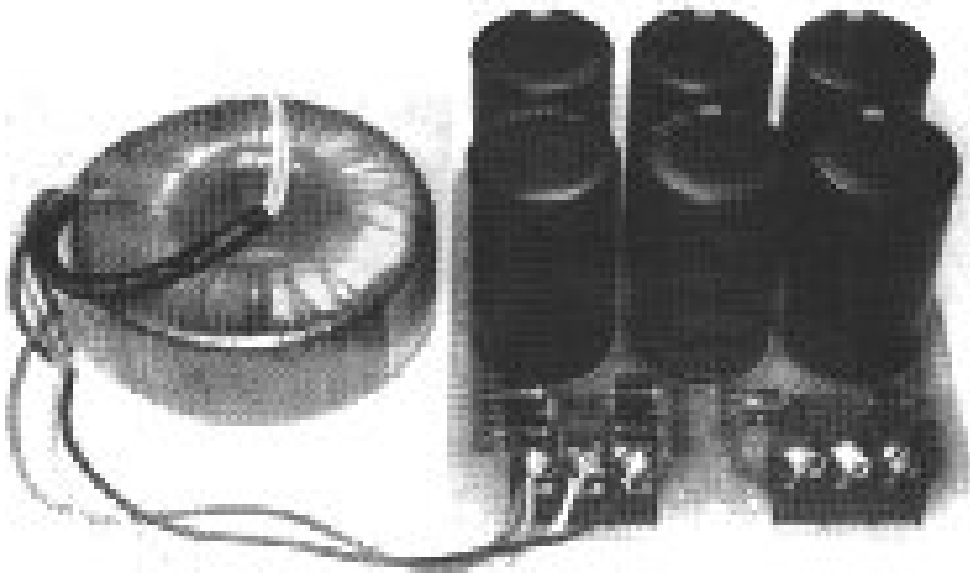


Marchand Electronics Inc.

PO Box 18099, Rochester, NY 14618
Tel:(585) 423 0462 Fax:(585) 423 9375
info@marchandelec.com www.marchandelec.com
(c)2003 Marchand Electronics Inc.

PS11 Dual 40 Volt Power supply



The PS11 power supply provides +40 Volt and -40 Volt DC power at up to 2A (continuous average) of current per output. The two outputs have a common ground connection.

A heavy duty toroidal power transformer has low hum and weight and is small in size. The transformer is rated at 160 VA, continuous. A large filter capacitance of 20,000 microfarad per side reduces the ripple voltage to less than 0.5 volt peak to peak.

A Light Emitting Diode at each output indicates proper output voltage.

The PS11 is available as kit or fully assembled, and with or without the power transformer. The circuit board and assembly manual only are also available separately.

SPECIFICATIONS

Output voltage:	+/- 50 Volt no load
	+/- 40 Volt 2A load, each output
Nominal input voltage:	117VAC, +/- 10%, 60 Hz
Output voltage ripple:	less than 0.5VPP @ 120Hz, 2A load
Dimensions (L X W X H):	4.3" X 4.2" X 2.1"

DESCRIPTION

The circuit diagram of the power supply is shown in figure 2. The output of transformer T1 is converted from AC to DC with diodes D1,2,3,4 and filter capacitors C1,C2,C3,C4,C5 and C6. Diodes D5 and D6 protect against reverse voltage on the outputs that could be caused by some loads during turn-on transients. Two LED indicators are used to show voltage on the output terminals. LED D7 is connected to the positive output through resistor R1 and LED R8 is connected to the negative output through resistor R2. Resistors R1 and R2 also serve as bleed resistors for the large filter capacitors. After the power is removed from the input the resistors R1 and R2 will discharge the filter capacitors in about 3 minutes.

PARTS LIST

The PS11 power supply kit includes the parts listed below. Please check the contents of your kit to make sure no parts are missing. All parts are available separately ; please consult factory.

Parts List		
PS11 power supply		
part	ea	Description
R1,R2	2	10K, 5%, 1 Watt resistor
C1..C6	6	6800uF, 80 WVDC, Alum.Electrolytic*
D1..D4	4	HER604 , 6Amp ,600V diode **
D5,D6	2	1N4937, 1Amp diode
D7,D8	2	Red LED
T1	1	Toroidal transformer 30+30V ,160VA
M1,M2	2	Terminal block, 3 way
M4	1	Circuit board, 4.3" X 4.2"

* These electrolytic capacitors may be substituted with devices of higher working voltage or larger capacitance.

** Or equivalent.

ASSEMBLY INSTRUCTIONS.

The assembly of the power supply is made very easy by the silk screen guide on the circuit board. The schematic diagram of the amplifier is shown in figure-2. Figure-1 shows the silkscreen side of the circuit board. All components should be installed on the side of the board that has the silk screen; this side is called the component side. The parts are then soldered in place on the foil side of the board.

Step 1 ___ Install resistor R1. Use a 10K, 1Watt resistor. The resistor is marked with a color code to indicate the value. The code is Red - Yellow - Red -- Gold. The orientation of the resistor is not important. Solder and trim leads.

Step 2 ___ Install R2, 10K resistor. Proceed as with R1.

Step 3 ___ D1, HER604, 6 Amp diode. This is one of the 4 big black axial diodes with a white band at one side. The white band at one end of the body of the diode indicates the cathode. Make sure this band is oriented as indicated on the silk screen.

Step 4 ___ D2, HER604, 6 Amp. diode. As step 3. Watch the band!

Step 5 ___ D3, HER604, 6 Amp. diode. As step 3. Watch the band!

Step 6 ___ D4, HER604, 6 Amp. diode. As step 3. Watch the band!

Step 7 ___ D5, 1N4937, 1 Amp. diode. As step 3. Watch the band!

Step 8 ___ D6, 1N4937, 1 Amp. diode. As step 3. Watch the band!

Step 9 ___ M1, 3 Way terminal block.

Step 10 ___ M2, 3 Way terminal block.

Step 11 ___ D5, Red Light Emitting Diode. The flat side of the red body should be oriented as indicated on the silk screen.

Step 12 ___ D6, Red LED. As in step 11.

Step 13 ___ C1, 6800 uF, 50V Aluminum Electrolytic capacitor. Be careful to install with the proper polarity. The white band with the minus sign indicates the neative terminal. This terminal should be connected to the pad so marked on the board. Note that the negative side will be at the side far from the LED's (see also picture on cover page).

Step 14 ___ C2, 6800 uF, 50V Aluminum Electrolytic capacitor. As in step 13. Be careful to install with the proper polarity.

Step 15 ___ C3, 6800 uF, 50V Aluminum Electrolytic capacitor. As in step 13. Be careful to install with the proper polarity.

Step 16 ___ C4, 6800 uF, 50V Aluminum Electrolytic capacitor. As in step 13. Be careful to install with the proper polarity.

Step 17 ___ C5, 6800 uF, 50V Aluminum Electrolytic capacitor. As in step 13. Be careful to install with the proper polarity.

Step 18 ___ C6, 6800 uF, 50V Aluminum Electrolytic capacitor. As in step 13. Be careful to install with the proper polarity.

Step 19 ___ The assembly of the PC board is now complete. Double check the placement of all parts. Make sure all electrolytic capacitors and diodes are installed with the proper polarity.

INSTALLATION AND USE.

Figure-1 shows the input and output connections for the power supply. The two 30 Volt outputs windings of the transformer are connected in series and to the 3 way terminal block marked CT, AC and AC. The two 120 Volt primary windings of the transformer are connected in paralell and to the line power. See figure 1 for the color coding of the leads of the transformer. The plus and minus 40 volt DC power voltages are available at the 3 way terminal block marked V+, GND and V-, as indicated on the circuit board. The ground is connected to the center connection. With power connected the Light Emitting Diodes will turn on when voltage is present on the output terminals. D8, located next to the positive output, indicates the positive voltage. D7, located next to the negative output, indicates the negative voltage.

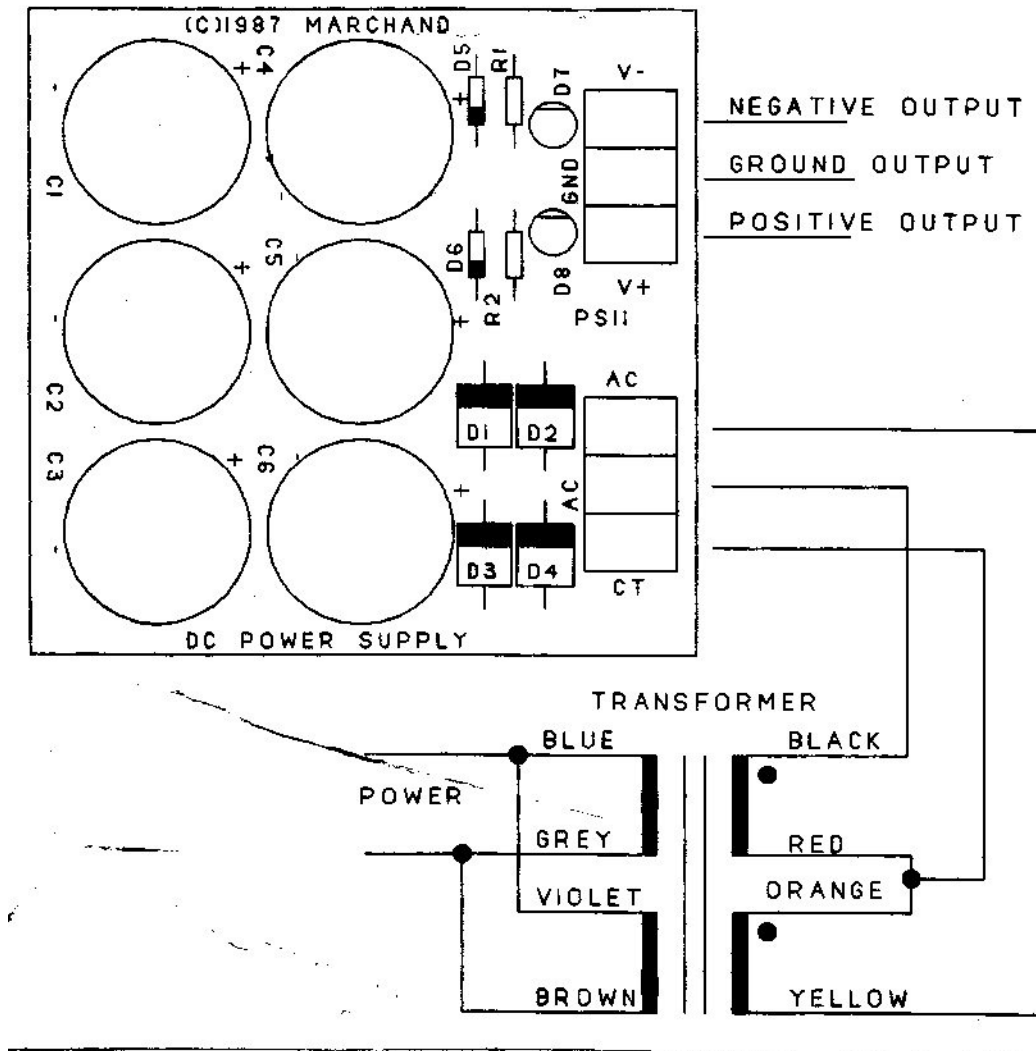


Figure 1. PS11 Silk screen and external connections.

The wire colors shown for the transformer leads in figure 1 are for transformers made by Avel. For other brands of transformers see the table below:

		Avel	Plitron
Primary	AC	Blue + Violet	Black
	AC	Gray + Brown	Black
Secondary	AC	Black	Red
	CT	Red	Yellow
	CT	Orange	Blue
	AC	Yellow	Gray

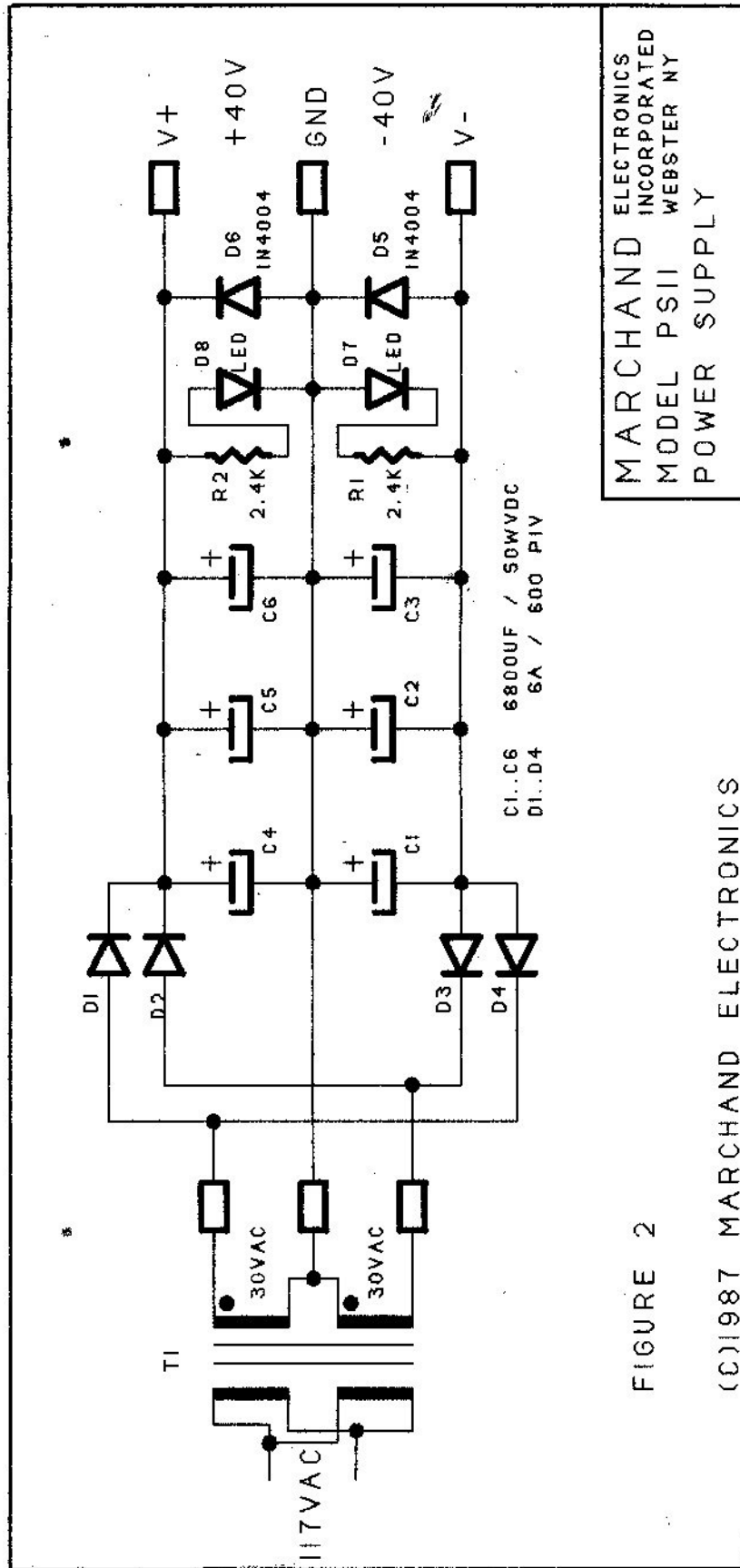


FIGURE 2

(C)1987 MARCHAND ELECTRONICS