

A Negative Power Supply Using the 15 volt LM7915 Negative Voltage Regulator

Looking at the LM7915 from the front (the back is the metal plate that bolts to a heat sink), the pins are from left to right, ground, input, and output.

So the middle pin is the input pin. The voltages at the input and the output will be negative with respect to ground. The power supply consists of a transformer supplying on the order of 25 to 35 AC volts. The AC voltage is connected to a bridge rectifier. The plus DC output of the bridge rectifier becomes our ground connected to the ground pin of the LM7915, and the negative DC output of the rectifier is the input to the LM7915 ground pin.

A 1000 μ farad, 50 volt electrolytic capacitor C_1 is connected across the output of the bridge rectifier. A 1.0 μ farad 35 volt tantalum capacitor C_2 is connected from the LM7915 output pin to ground (both C_1 and C_2 are electrolytic capacitors, C_2 has metal plates made of tantalum). So the plus side of the capacitor C_2 is connected to the plus side of the bridge rectifier, and to the plus side of the capacitor C_1 . The output voltage of the LM7915 will be -15 volts with respect to ground, that is to the plus side of the bridge rectifier.

