

Troubleshooting Chipper Check Power Supplies

The Chipper Check power supply consists of two separate supplies. The Input Side Supply provides approximately 5 volts to the circuitry on the computer or input side of the Chipper Check. The Output Side Switching Supply provides approximately 5 volts to the circuitry on the output connector side of the Chipper Check. See figure 1. All voltage measurements on the Input Side Supply are referenced to S1 ground while voltages on the Output Side Supply are referenced to S ground.

5.1 V zener to produce the 5V output. The voltage is filtered by C28908. A voltage measurement of approximately 5 V across C28908 indicates a good supply.

A more complex switching power supply produces the isolated Output Side Switching Supply 5 volts. IC U28904 forms a drive oscillator producing drive which is amplified to the base of Q28902. Switching action produces current alternating in the transformer. Voltage induced in the secondary is rectified, filtered and applied to the resistor zener diode network to produce approximately 4.8 volts output.

The Power Adapter provides approximately 12 VDC to the Chipper Check interface box. The best indicator of a working power adapter is an illuminated LED. The Input Side supply consists of two parallel 150 ohm resistors in series with a

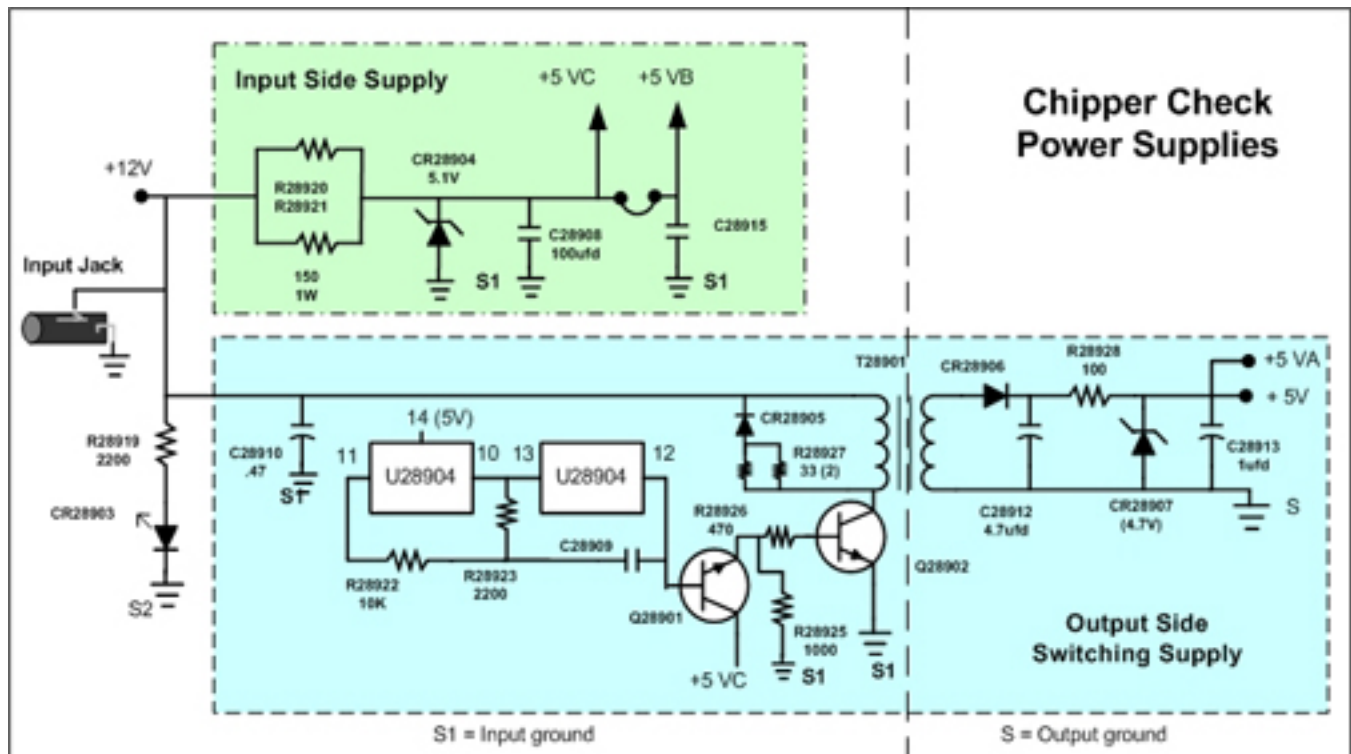


Figure 1. Power supplies troubleshooting references within the Chipper Check Interface box.

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Troubleshooting the Output Side Switching Power Supply

Problems can be isolated in the Chipper Check Output Switching Supply using conventional voltage and waveform measurements. Figure 2 provides reference voltages and waveforms when troubleshooting.

Remember to use S1 ground when metering voltages and waveforms on the input (left) side of the transformer and S ground when on the output (right) side of the transformer. Use the anode of CR28904 or neg. terminal of C28908 for S1 ground. Use the anode of CR20907 or neg. terminal of C28913 for S ground.

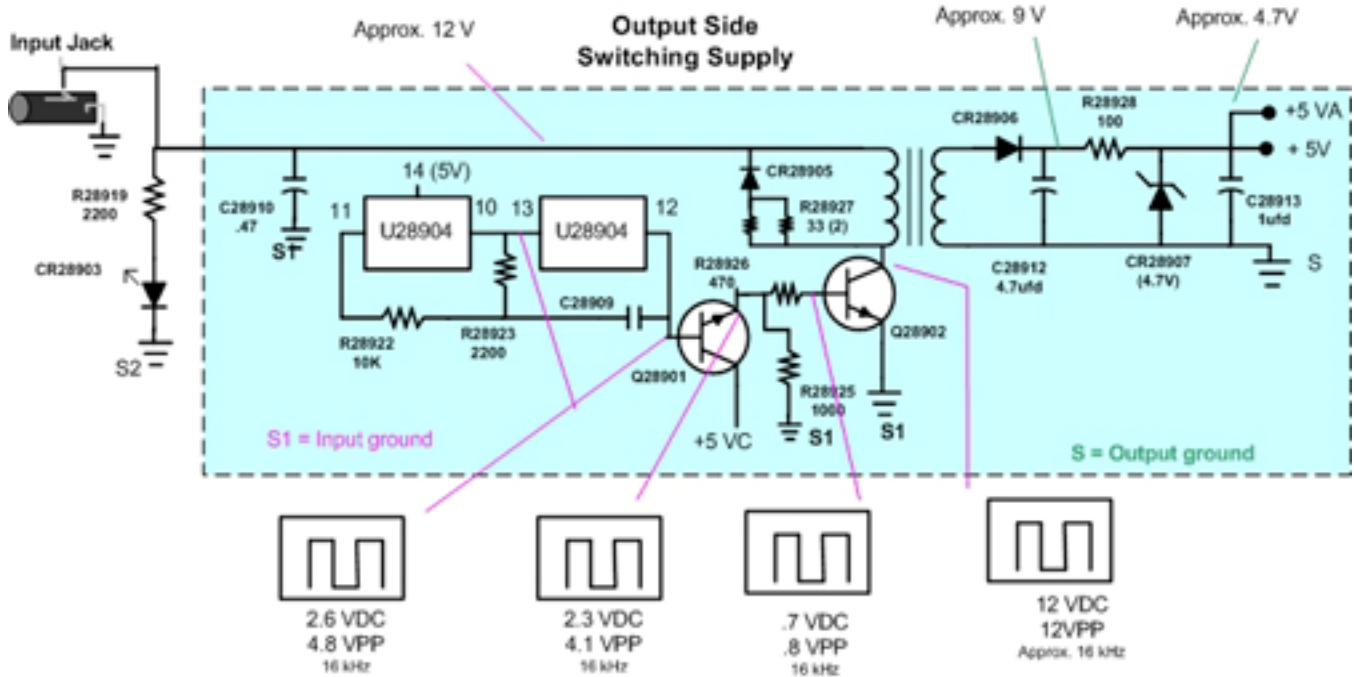


Figure 2. Voltage and waveform reference in Chipper Check power supply.

Power Supply Component Location

The power supply circuitry is located near the transformer on the Chipper Check circuit board. Figure 3 shows the location of the power supply components on the old CCF-002 Chipper Check circuit board.

Figure 4 shows the location of the power supply components on the new version circuit boards. Input ground (S1) and output ground (S) locations are identified.

Chipper Check Power Supply (Old Board)

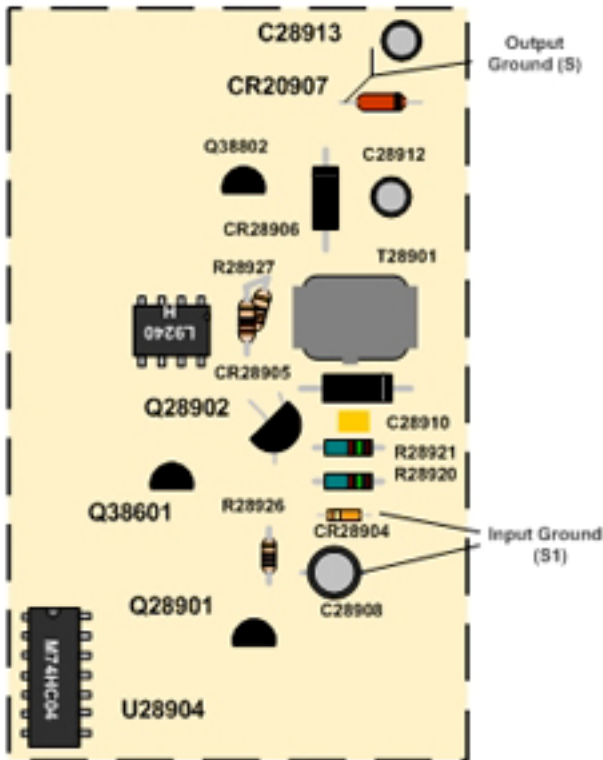


Figure 3. Older CCF-002 Chipper Check circuit board showing power supply component location.

Chipper Check Power Supply (New Board)

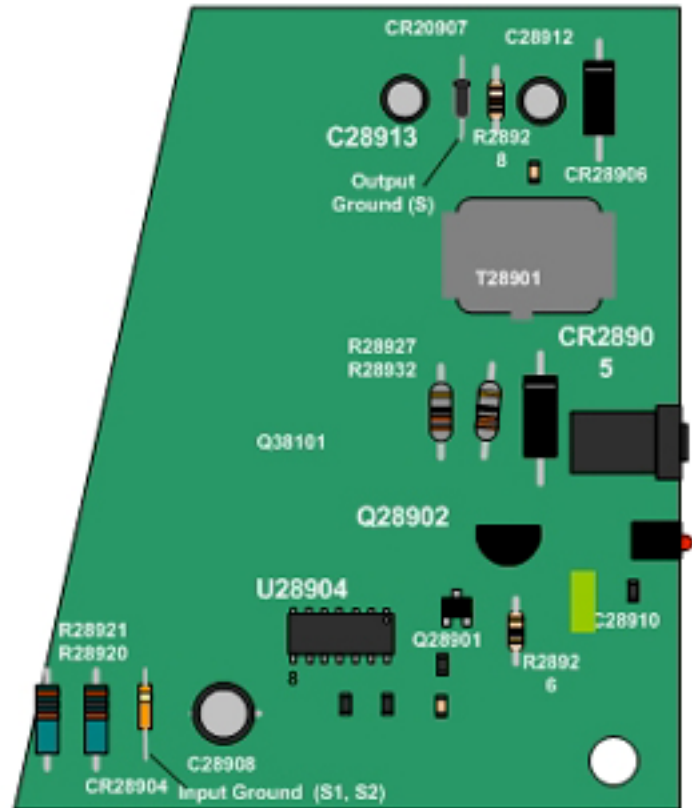


Figure 4. New version Chipper Check circuit board showing power supply component location.

For More Information
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