Diode Bridge -- Full Wave Rectifier

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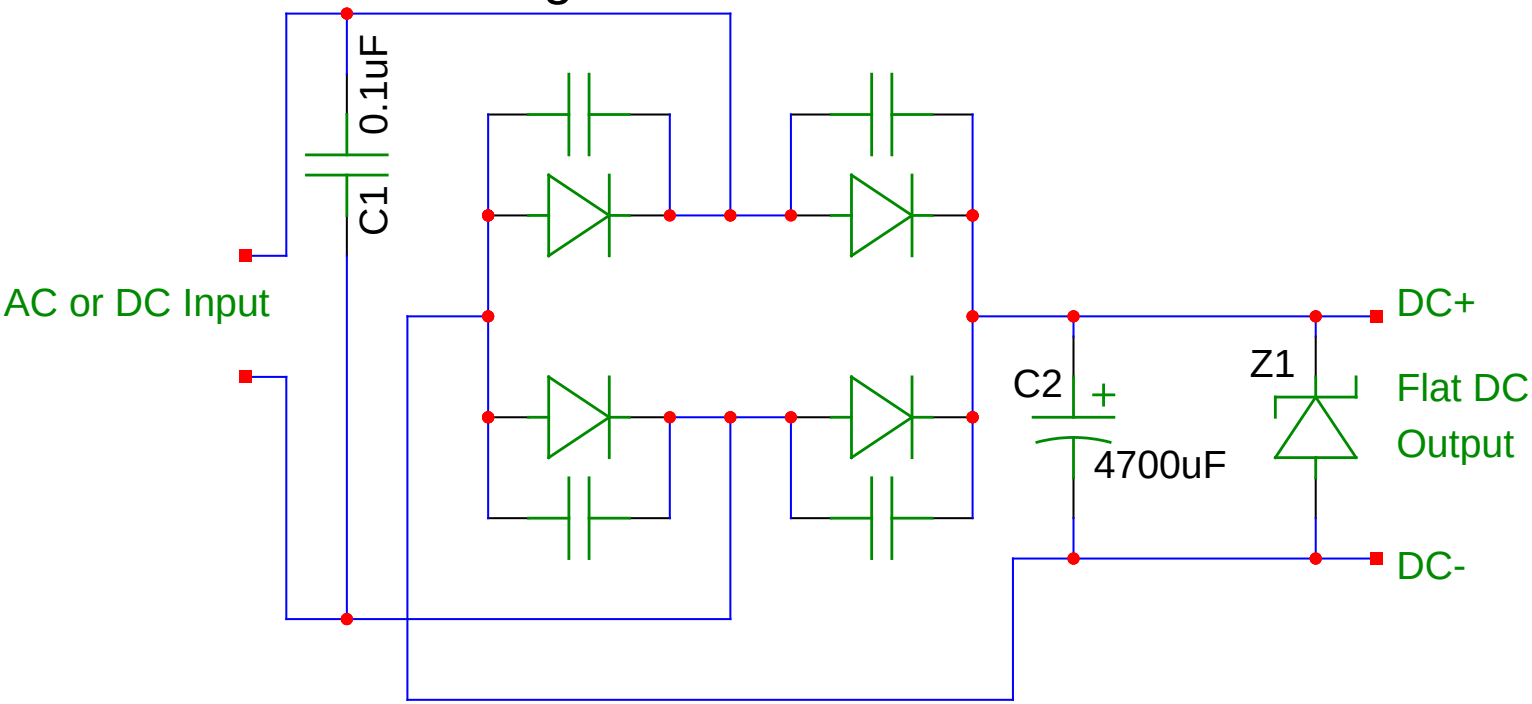

Choose appropriate diodes for the application (current, reverse voltage, voltage drop, speed).
Higher current diodes should be used with large filter capacitors since their recharging produces very heavy current pulses. Ripple currents will be produced with full wave rectification.
Capacitors across diodes are ceramic 0.01-0.1uF (any bigger does not help).
Diode capacitors help "smooth out" the dips in rectified AC reducing the power supply noise slightly.
This helps filter out noisy HF harmonics from diode switching and is good for audio amplifiers.
Rectified AC will be slightly higher in DC with no load.
This circuit also works with DC allowing any polarity input safely.
To smooth out rectified AC, add an electrolytic capacitor (C2) across DC out in the 1000-10000uF range.
Optional zener diode Z1 is a safety catch for large spikes (minimum rated DC out + 10%).
Z1 could be used to regulate the voltage, but will need a current limiting resistor before it to avoid damage.
Optional C1 is used to help block HF trash noise on the AC side.