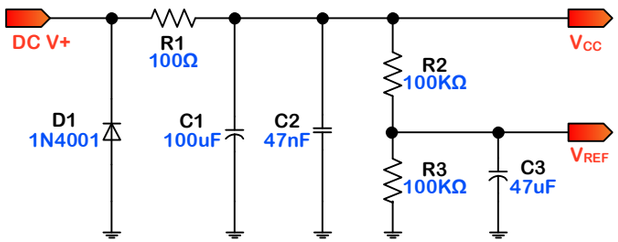
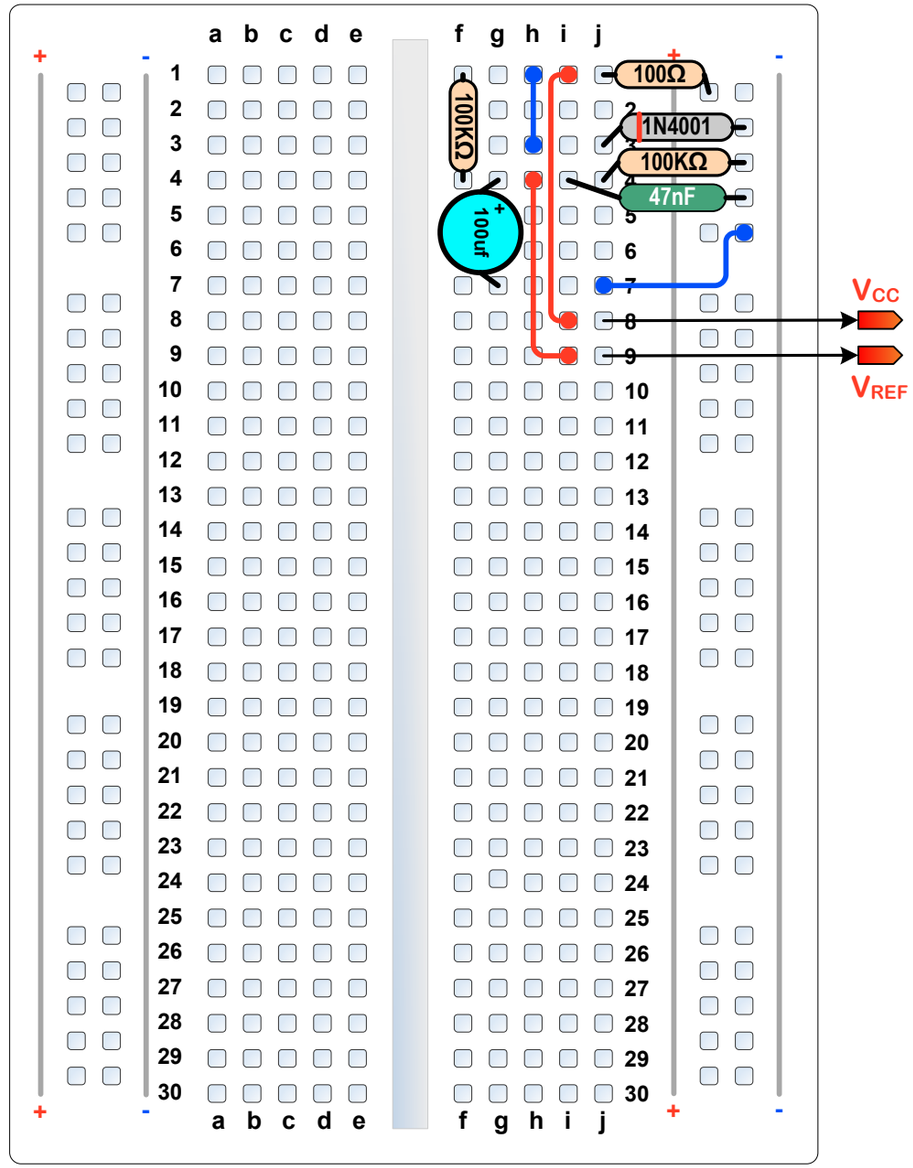
Filtered Power Supply



This is not so much a project as a project fragment that you can use in any audio circuit that uses an external power supply. Most wall-wart type AC->DC converters are not filtered. This means that any noise, fluctuation, or ripple from the power supply will end up in your circuit as noise. These issues don't occur with a 9v battery, so for most things you are going to power "battery-only", you don't need to worry about it. But if you are going to use an AC adaptor, you can easily clean up the power source and have reverse-polarity protection to boot. This circuit also creates a voltage divider to supply Vref (half of the supply voltage) to circuits that need it. If you are using an AC adaptor power supply with your beavis board and encounter noise, try this circuit snippet.





How it Works

D1 is a reverse-polarity protection diode. Its purpose is to protect your circuit in case of plugging in an AC adaptor with the wrong polarity. R1 and C2 form a filter, that removes higher frequency noise from the line. C1 helps reduce ripple (fluctuations in the voltage/current from the adaptor). R2 and R3 form a voltage divider which provides half of the supply voltage (also known as V_{REF}) at the point where the two resistors connect. Finally, C3 provides additional filtering on the V_{REF} supply.