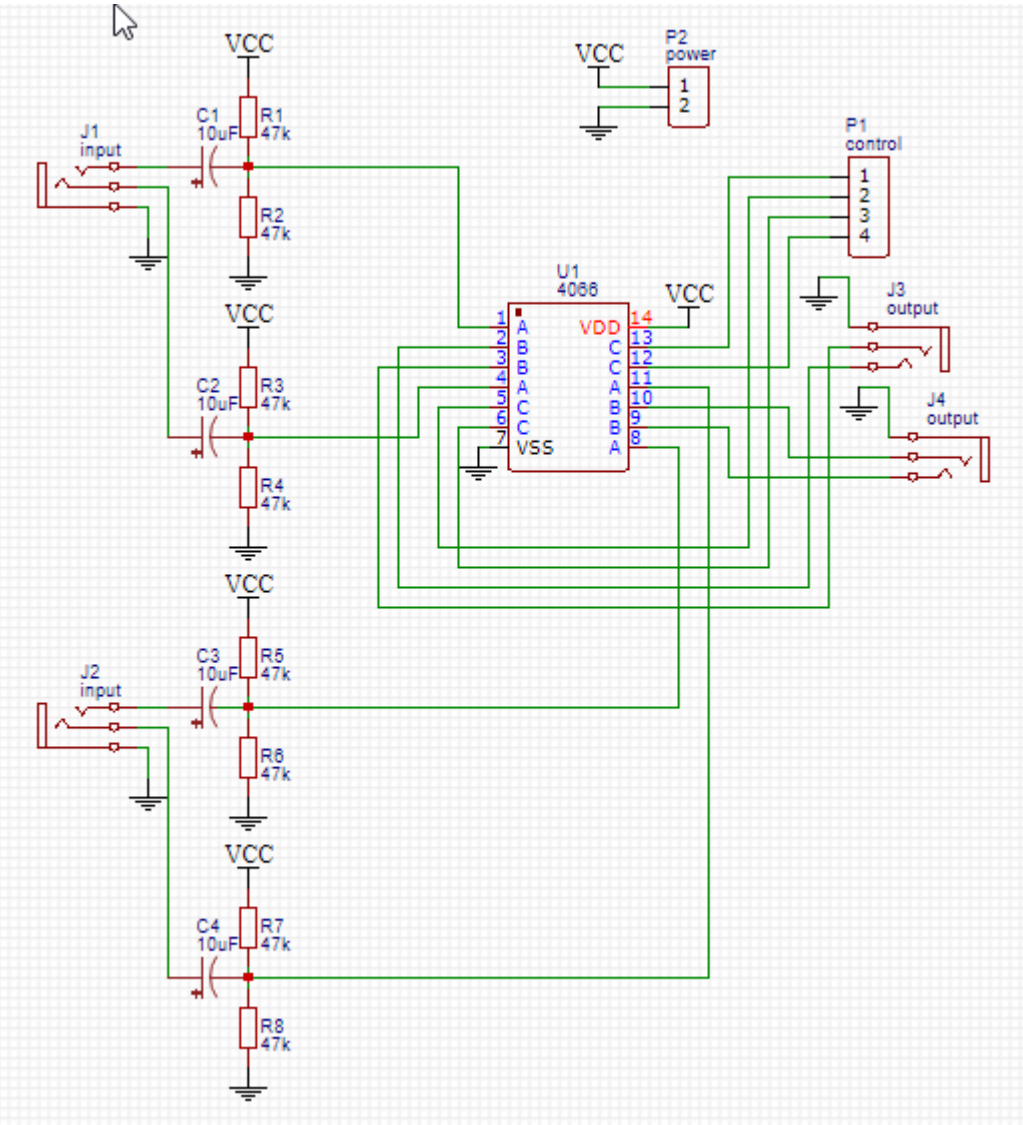
Reduce clicks when switching over cd4066

Asked 7 years, 11 months ago Modified 7 years, 11 months ago Viewed 3k times

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I make an audio switch on the chip cd4066 (I control using arduino), please tell me how to make a smoother switch without sharp clicks, I need the sound to appear with a small attack and just fade out, it should be minimal but help get rid of clicks , ideally it would be great if the duration of attack and damping could be adjusted. How to implement this schematically? I will be happy with any help.



audio switching

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asked Sep 10, 2018 at 2:40



Maxim Kulikov

5 ● 1 ● 4

Welcome to EE.SE! Can you show an oscillogram or simulation of the problem you are experiencing? – winny Sep 10, 2018 at 6:59

Many thanks! I'm still just starting to learn Easy Eda so I have not figured out how to make a good simulation so I tried to draw my problem. I want to do something similar to m.youtube.com/watch?v=8Szp98Ullf8 but do all the logic on arduino. Therefore, I had a standard problem when there is a cutout not at 0 dB there are clicks, as I realized in professional versions it was solved by introducing a smooth attack and sound attenuation when cutting with a crossfader, but I do not know how to implement it schematically.
dropbox.com/s/190ruzgg3gh4hmg/crossgraph01.png?dl=0 – Maxim Kulikov Sep 10, 2018 at 10:56

The CD4066 switches are either on or off. There is no possibility of fading in and out with them. – Transistor Sep 10, 2018 at 17:23

I understand this, but is it possible to do this by adding new elements to the scheme? – Maxim Kulikov Sep 11, 2018 at 13:26

On this page neatcircuits.com/audiosw/index.html there is a scheme of smooth attenuation of audio, but I do not know how to remake it to fit my needs. Probably need to reduce the capacity between 1 and sw? – Maxim Kulikov Sep 11, 2018 at 13:51

1 Answer

Sorted by: Highest score (default)

2

The problem is that when you switch on channels, you are sending DC current through the switch to your outputs. The bias voltage is not needed if you use a bipolar supply of +/- 7.5 volts (maximum). Then you can remove R1, R3, R5 and R7. The ground pin of the CD4066 (Vss) will now have -7 volt. R2, R4, R6, R8 become your ground reference for the signal.

The CD4066 will work with +/- 5 volts but the allowed signal intensity will be reduced.

Since it no longer has any DC voltage on the signal lines, there should be no clicking noise when changing inputs.

To get +/- 7.5 volts use LM7808(+8 volts) and LM7908(-8 volts) voltage regulators with a 1N4007 diode on the output to drop the voltage to a safe +/- 7.35 volts. Don't forget to add bypass capacitors on the Vcc and Vss pins to ground.

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edited Sep 10, 2018 at 5:14

answered Sep 10, 2018 at 5:09
user105652

Thank you, I am feeding power from arduino it is unipolar and I made a voltage divider like this youtu.be/-5JOKztteVU?t=4m4s at the input otherwise the signal at disconnection was not disappearing but was heard quieter in a distorted version, now everything works but I want to smooth them, I described the problem in more detail in the previous comment. – Maxim Kulikov Sep 10, 2018 at 11:07

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