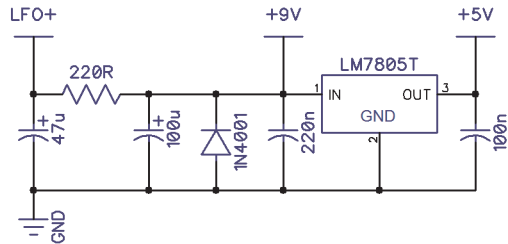
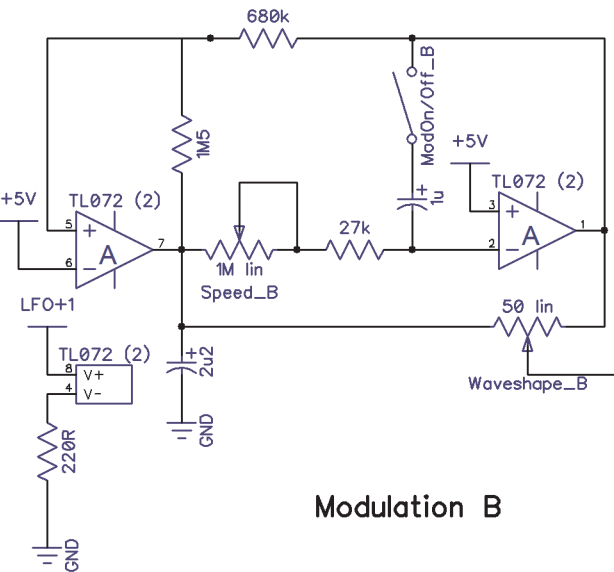


Modulation A

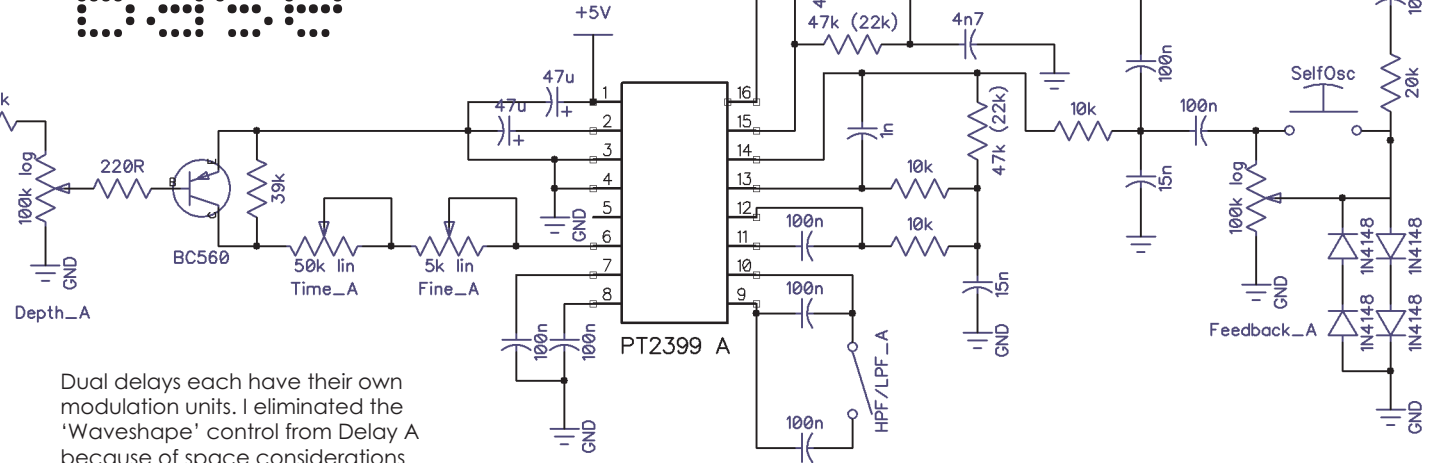


Modulation B



Echo  
Base

Delay A



Dual delays each have their own modulation units. I eliminated the 'Waveshape' control from Delay A because of space considerations in the enclosure.

Delays can be either in series (as in CPM's ping-pong delay), or parallel.

Based on information from Ian M., I have doubled the limiting diodes to increase headroom in the delays, and have included alternate resistor values (in brackets) near pins 14 and 15 of the Pt2399.

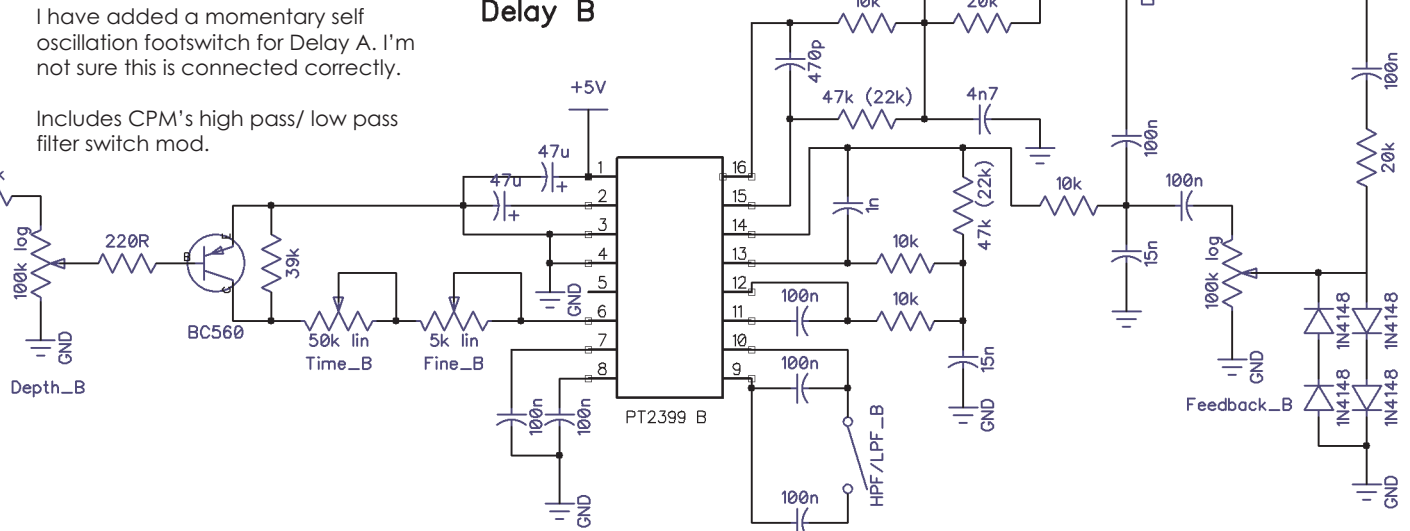
I have added a momentary self oscillation footswitch for Delay A. I'm not sure this is connected correctly.

Includes CPM's high pass/ low pass filter switch mod.

Stereo dual delay

Drawing by Christopher Sewell from a project created by Ian M. (Slacker) and from modifications by CPM.

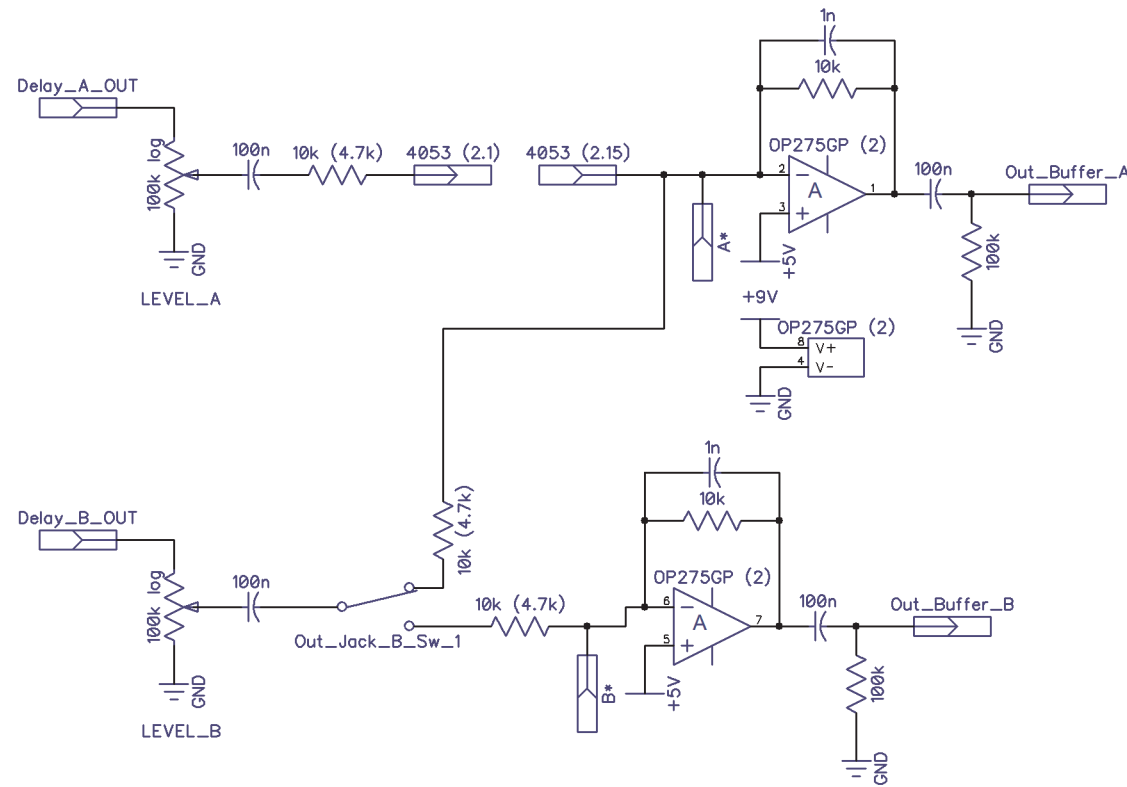
Delay B



I have dual output buffers for use in stereo mode. Using a DPDT switched jack for Output B, Delay B can be routed to Output Buffer B, or mixed to Output Buffer A. Output Jack B is also switched in or out.

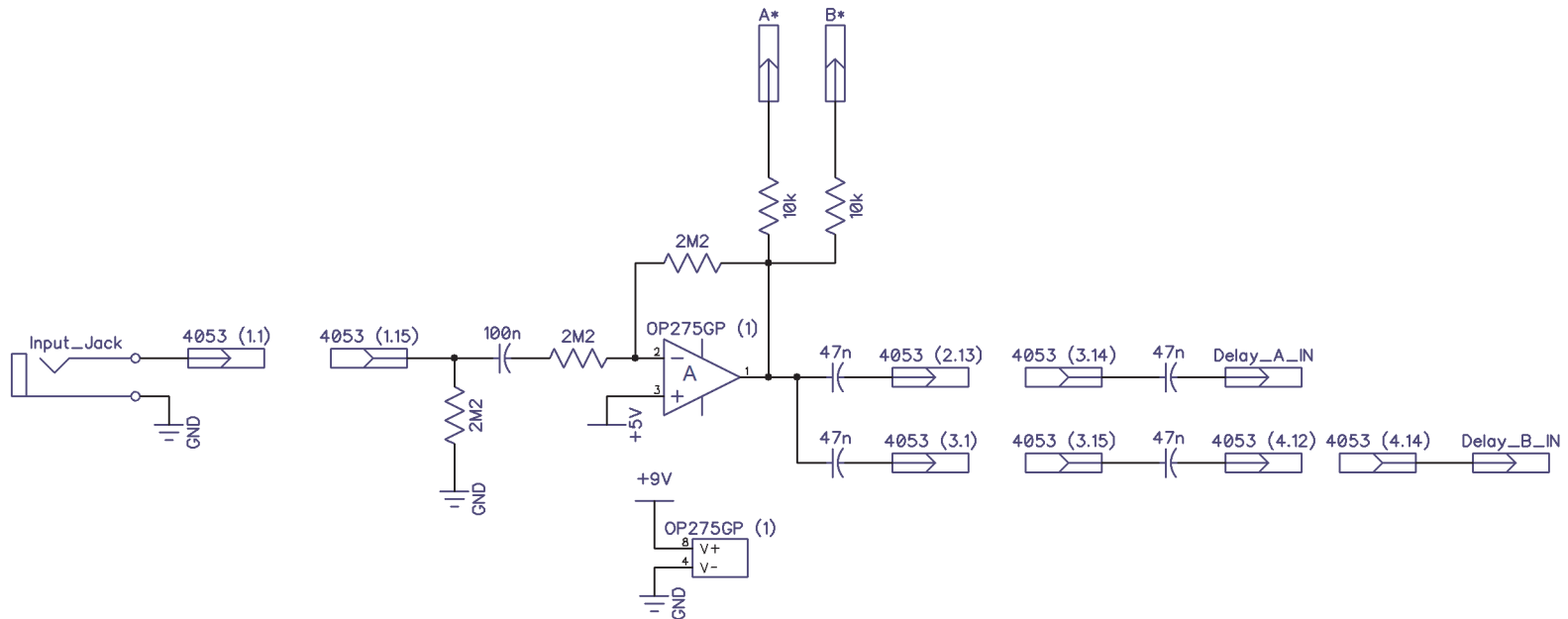
Some connection symbols show "4053 (2.13)", for example. This means a connection to 4053 chip 2, pin 13. See the switching schematic for details.

Some of the 10k resistors show alternate values in brackets. These should be used to increase the level of delays in the alternate resistor values shown on the previous schematic are used.

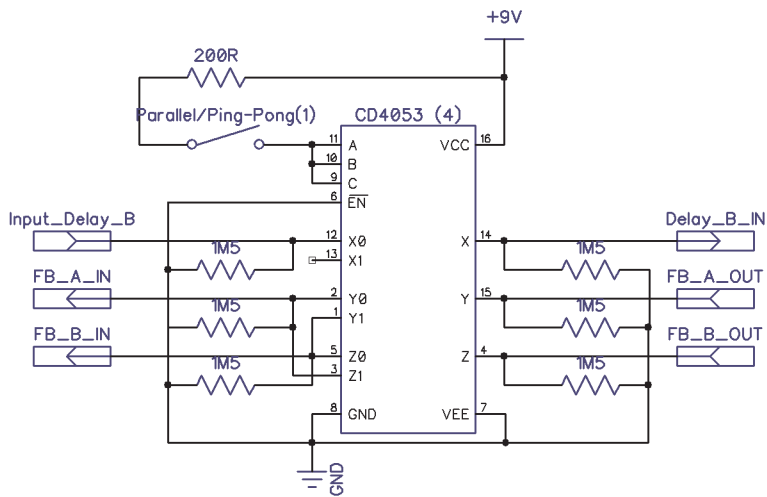


Output Buffer A

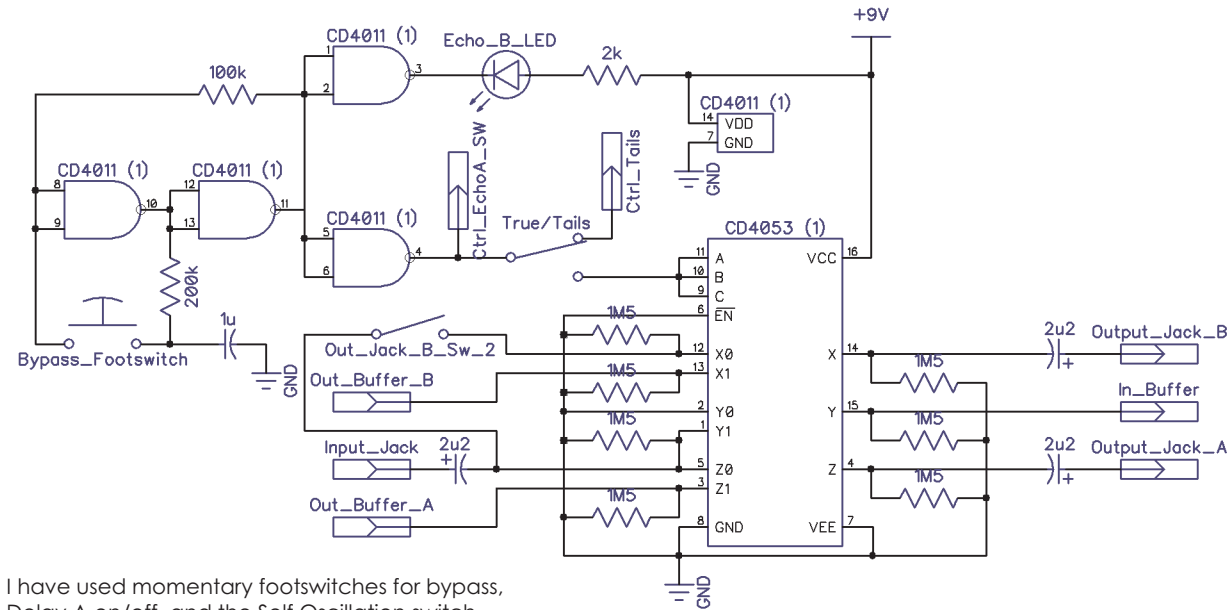
Output Buffer B



Input Buffer



Parallel (sw closed)/ Ping-Pong (sw open)

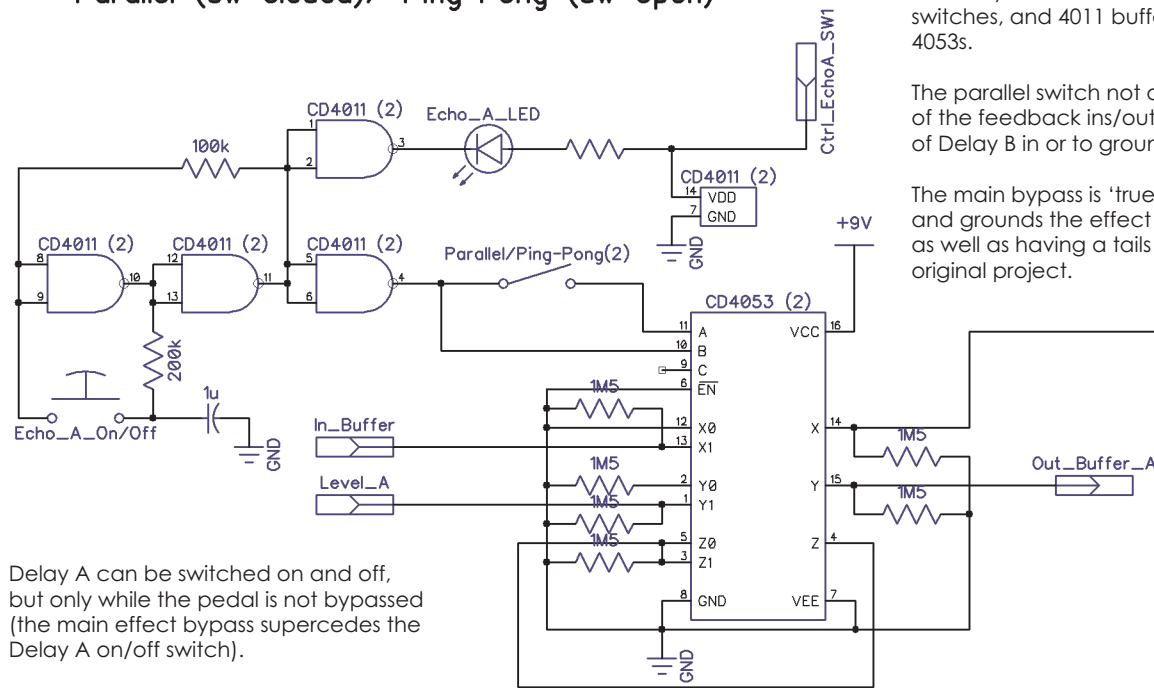


Main Bypass

I have used momentary footswitches for bypass, Delay A on/off, and the Self Oscillation switch for Delay A. I use 4053 multi-/demultiplexors as switches, and 4011 buffers as controllers for the 4053s.

The parallel switch not only switches the routing of the feedback ins/outs, but switches the input of Delay B in or to ground.

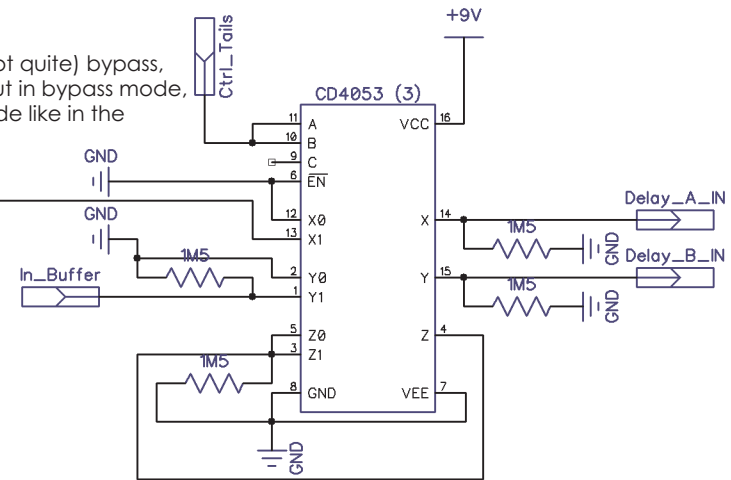
The main bypass is 'true' (not quite) bypass, and grounds the effect input in bypass mode, as well as having a tails mode like in the original project.



Echo A on/off

Delay A can be switched on and off, but only while the pedal is not bypassed (the main effect bypass supercedes the Delay A on/off switch).

The Parallel/ Ping-Pong switch is a physical DPDT switch.



Tails bypass