Noiser

Noise generator project, used as pcb making and soldering exercise.

4093 quad nand gate + 555 timer.

A 4093 has 4 nand gates, each of which can be used as an oscillator.

Assume nand gates are named A, B, C, D. The idea is to connect the oscillators so that A modulates B, C modulates D, and B and D outputs are mixed together to modulate the 555 timer.

A potentiometer controls the frequency of each nand oscillator, and one potentiometer is used to voltage starve the chips (= between power source and chips - this causes them to fail in funny sounding ways out when the power is lowered too much - only include this if the effect is noticeable with the used chips)

One potentiometer is also used for volume (we don't want a roomfull of these at full volume - they are _loud_ at 9V).

It might be interesting to control the volume envelope too..

References:
Using 555 to drive speaker http://www.circuitdb.com/circuits/id/129
Two 555:s http://www.aronnelson.com/gallery/main.php/v/seljer/album114/apclayout_copy.gif.html
555 circuits http://techmag2003.tripod.com/555circuits.htm
4093 oscillators http://fredrikolofsson.com/f0blog/?q=node/162
4093: http://www.mechatronicart.ch/diymakeaway/micro-noise
4093 proj manual
http://www.mechatronicart.ch/images/diymakeaway/2008/micro_noise_top_handout_english_web.jpg

and/or gate: http://hyperphysics.phy-astr.gsu.edu/hbase/electronic/diodgate.html