

Minor changes to Charles Platt's "Really, Really Random Number Generator"

Six 555 timers (three 556s) in monostable aka "one shot" configuration. Use these to turn other circuits on/off. Modify RC on DIS and THR to set time of pulse out

Use 3.3K if logic ICs aren't shifting well (=amp noise more)

2N3904 w/no connect on collector is noise source
 Not all 2N3904s are equally noisy! Breadboard first

Noise into Schmitt inverter feeds serial A, B of shift register with random signal

Zener diode gets rid of voltage spikes

Inverted outputs 3Y, 4Y, 5Y

-- Inverter IC

Smaller C == faster clock

Schmitt oscillator clocks shift reg

ALL HEADERS ARE TO PLUG/RE-PLUG WIRES TO GET DESIRED RANDOM EFFECT

8 bit serial in, parallel out shift register-->

Convert 12V to 5V for logic ICs

Outputs of shift register are active hi (most common state is low, especially when the clock is slow)

Use outputs of shift reg. as monostable trigger (or input to logic gates)
 Don't drive things directly if their input impedance is high

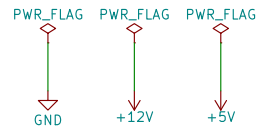
Use outputs of logic gates as triggers in to the 555 one shots. Careful about impedances when wiring things together

555 monostable(s) are triggered by LOW pulse.

XOR for frequent trigger

NAND for less frequent trigger

LEDs and Rs on Logic ICs look crazy b/c ran out of space. Just LED+R to GND



Careful about current sink and/or input impedance of what you are driving.

Timer(s) out to switch other circuits

Monostable (1-6) out

"Natural" timing controller for animal circuits
 Includes minor adaption of random number gen. by Charles Platt
 --Sensitive--Must use the right 2N3904 for noise gen.

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