

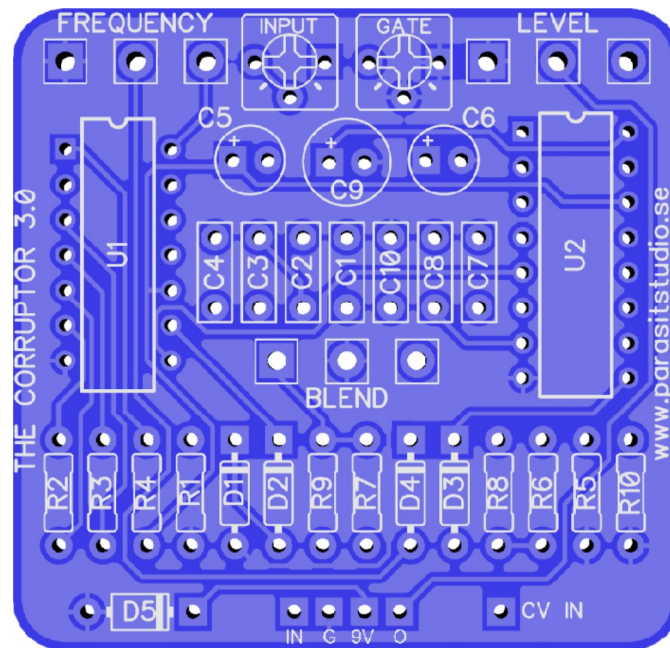
THE CORRUPTOR

Build Document last updated april 2018

for PCB version 3.0

The Corruptor is a brutal sounding and glitchy CMOS-based fuzz and ring modulator. It turns your guitar signal into a square wave and modulates it against an internal oscillator. The blend pot goes from pure fuzz to pure ringmod-sounds or a mix of both.

This circuit works best with high output pickups. It's a gated circuit by nature of the CMOS logic. If you are using single coils and need more sustain, try a boost or compressor in front. Happy playing!



The Corruptor 3.0 PCB

Changelog version 3.0

- Circuit redesigned from scratch (uses different chips ect.) and fewer parts.
- The Octave Up portion of the 2.0 version has been removed (it wasn't that useful IMO) so it's now closer to the 1.0 version again, with focus on the ringmod part, but some changes has remained such as improved sustain and the fuzz blend feature.
- CV input has been added! Now you can modulate the carrier frequency with an external Control Voltage device (such as the Parasit Studio CV Generator or a synthesizer with a CV output).

General builds tips

- Solder the low profile components first, from short to tall. Recommended order: resistors, diodes, IC socket, film-caps, electrolytics, pots.
- CMOS chips are very sensitive to static charges and can be easily damaged. It's a good idea to wear a anti-static wristband or at least avoid wearing a wool jumper and petting your cat/dog while building...
- Always use sockets for IC chips and transistors to avoid heating them directly. It also makes it much easier to swap them out if needed.
- Pay special attention to the orientation of the diodes and electrolytics.
- This PCB is designed for board mounted angeled pots, but if you want to use regular solderlug-pots, the square holes represents pin 1 of the pot.
- Cover the backside of the pots with pot covers or tape, so it doesn't conduct and short out the PCB.

The Corruptor Bill of Materials (BOM)

Capacitors		Resistors		IC's	
C1	100nF	R1	1M	U1	CD4069UBE
C2	100nF	R2	1M	U2	CD4046BE
C3	2.2nF	R3	1M	Potentiometers FREQUENCY B25K VOLUME B100K BLEND B50K INPUT (trimmer) 200K GATE (trimmer) 100K	
C4	4.7nF	R4	1M		
C5	2.2uF	R5	10K		
C6	1uF	R6	100K		
C7	220nF	R7	100K		
C8	220nF	R8	47K		
C9	100uF	R9	47K		
C10	1nF	R10	220K		
Diodes		CLR*			
D1	1N4148				
D2	1N4148				
D3	1N4148				
D4	1N4148				
D5	1N4001				
1x on/off LED					

- The INPUT trimmer sets the input sensitivity, from very noisy when just touching the strings to more gated and controlled. Adjust to taste and to suit your guitar output.
- The GATE trimmer sets the relesetime for the oscillator gate.
- * = Current Limiting Resistor for the bypass LED. It has to be wired offboard (or with the optional 3PDT board) together with your LED. Use the appropriate value for your LED type. I recommend using a 4.7K resistor for a diffused LED or a 15K resistor for a clear superbright LED.
- **Not included in the BOM but good to have: enclosure, input and output jacks, DC jack, LED bezel, 3PDT switch, knobs.**

Wiring

For more info on how to wire up the stompswitch, jacks ect, please visit the Parasit Studio website and download the PDF called "offboard wiring". You can find it here:

<http://www.parasitstudio.se/build-docs.html>

CV input (optional)

The CV input lets you hook up an external Low Frequency Square Wave Oscillator (LFO) that will modulate the carrier frequency.

So try connecting the LFO output from a synthesizer, modular system or the Parasit Studio New Wave CV Generator.

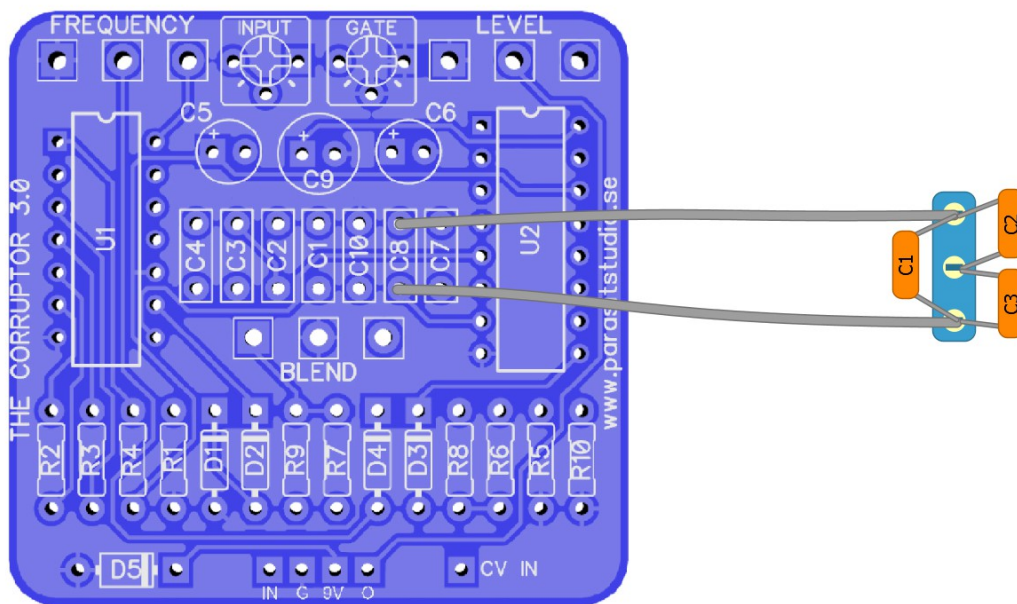
CV jack Wiring

To hook up the CV (control voltage) input jack, connect the CV pad on the PCB to the tip of a 3.5mm jack (or jack of your choice). Make sure that the sleeve of your jack is connected to ground (it usually is connected to ground via the enclosure unless you have an isolated jack type). If you use a stereo/balanced jack, just leave the ring lug unconnected.

Possible mod – range switch

C8 (220nF) sets the oscillator range. The stock value of 220nF will be fine for most uses, but when using the CV input it can be nice to be able to switch the oscillator range for different CV responses.

You can change it to a lower value for higher frequencies and a higher value for lower frequencies, or why not use a switch to toggle between 3 different settings? :)



- Populate the board normally except C8. Leave it out.
- Run two wires from the C8 pads to a SPDT on/off/on switch lugs 1 and 3
- Solder the 3 capacitors as shown

Good starting values would be:

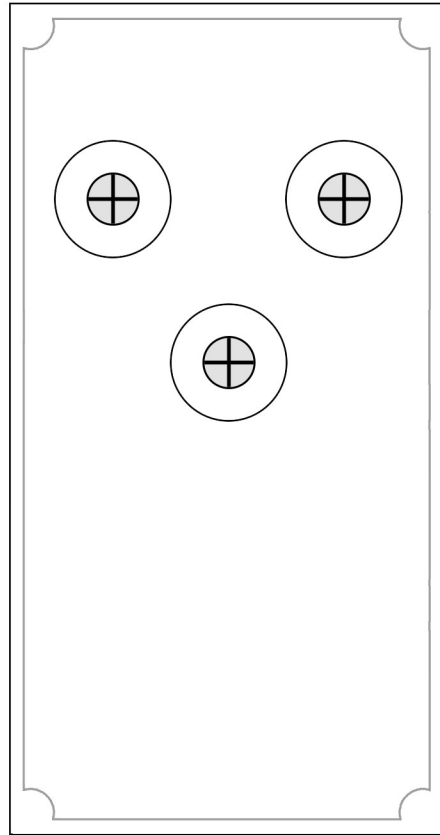
C1 = 47nF

C2 = 100nF

C3 = 220nF

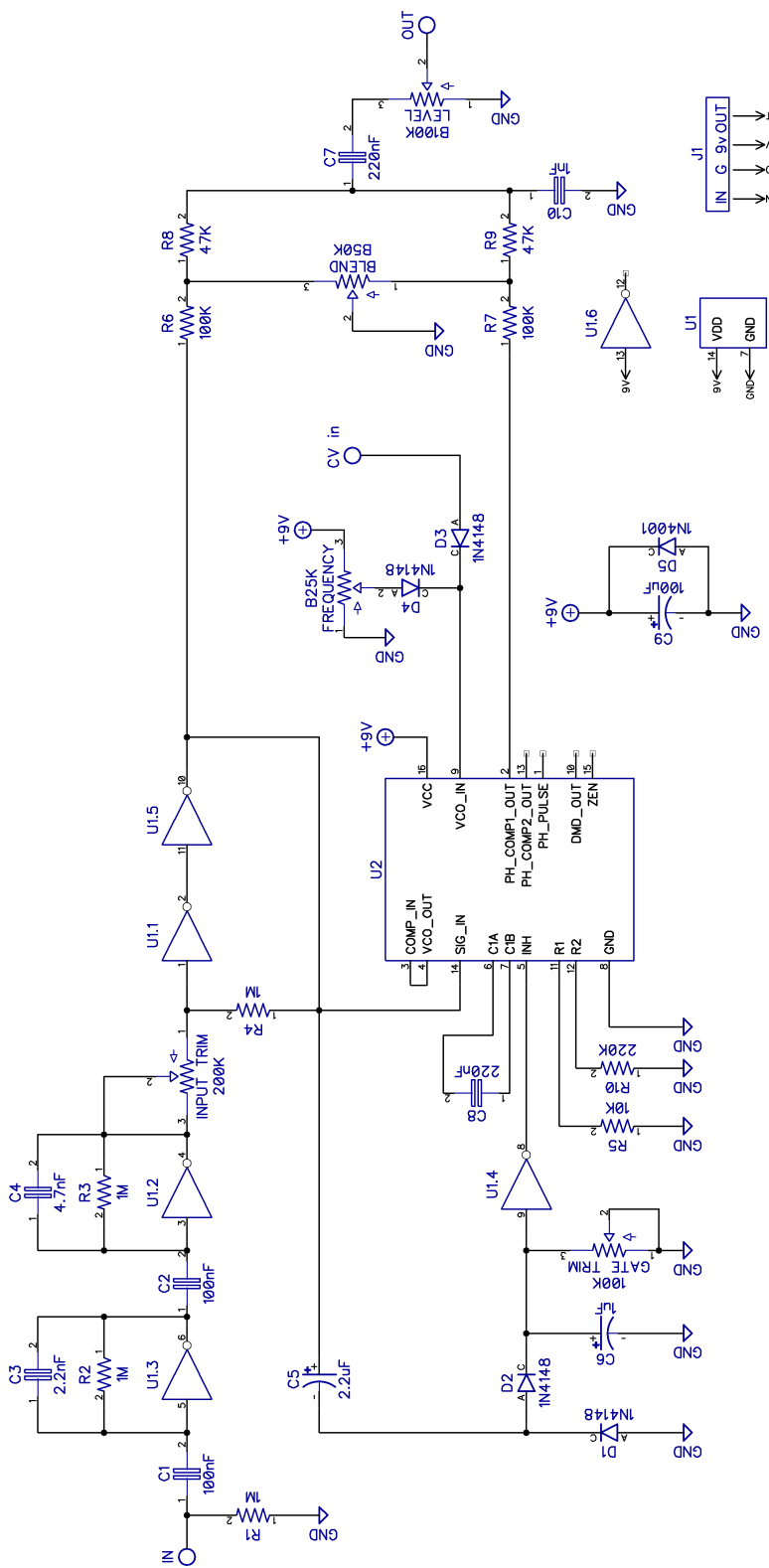
But feel free to experiment with these values. Keep in mind that C1 will always be in the circuit and C2 or C3 will be in parallel with C1. Also note that the frequency pot is always in the circuit, so it will effect the frequency modulation aswell.

Drilling Template (1590B)



- Use at your own risk! This template is approximate.
- Make sure your printer isn't doing any scaling / is set to 100% print size.
- Drill footswitch, DC jack and input/output jacks to your own preference.
- **Measure and confirm before drilling!**

Schematic



Troubleshooting

There's always a chance of running into trouble. To minimize error, follow the BOM and general building tips carefully. Take your time and don't rush. Take a break now and then. Use good solder, and it helps to have a decent soldering station instead of a cheap iron.

If you are still having trouble, please visit the madbean forum Parasit Studio subforum section and ask for help there.

<http://www.madbeanpedals.com/forum/index.php?board=84.0>

If you have bought the Musikding kit and have received a faulty or missing component, please contact musikding directly.

<https://www.musikding.de/kontakt.php?lang=eng>

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