GEIGER COUNTER PRO

WAVESHAPING DISTORTION WORKSTATION

SAMPLES: This knob controls the sample rate of the GCP's processor. Higher sample rates yield crystal clear tones or subtle robotic harmonics, while lower settings produce pseudo ring modulation and pure digital noise. The FINE button limits the range of the SAMPLES control for easier fine-tuning.

BITS: The BITS control sets the bit depth of the processed signal, and also activates the GCP's noise gate modes. We have increased the bit depth of the Geiger processor from 8 to 12 bits, allowing for a higher fidelity output. Reducing BITS creates square wave distortion tones. Increasing BITS to GATE engages a digital noise gate mode with adjustable threshold. When in PRE WT mode, bit reduction and gating occurs before WAVETABLE processing. MASK mode is a logical AND function of raw numbers disabling voltage possibilities.

ACTIVATE: The GCP uses a quiet electronic bypass relay that completely circumvents the circuit to maintain the fidelity of your dry tone.

CV 1 AND 2: One of the most prominent features of the GCP is its dual CV/EXP (control voltage and expression) matrix. Here you can route the two CV/EXP jacks to control GAIN, TONE, SAMPLES, BITS, BANK, TABLE, MIX, or FILTER. Now you can animate your sonic universe with expression pedals or your modular synth setup!

WAVETABLE: This section controls the shaping function for each preset. BANK selects one of the 32 banks, while TABLE select one of the 16 wavetables in each bank. The first 256 wavetables are from the classic Geiger Counter, while the remaining 256 tables (signified by a dot on the screen) are newly designed for the GCP. MORPH activates 16 steps of blending between tables.

PRESETS: The Geiger Pro features 16 fully programmable presets, the ability to make RANDOM patches, and a MANUAL override function. Capturing your patch is as easy as pressing SAVE, using the footswitches to find the right preset, and pressing SAVE again. Every parameter on the GCP can be saved into memory, except MASTER volume. Dedicated preset footswitches make recalling tones easy.

GAIN: No knob on the Geiger Counter Pro is more magical than GAIN. Not only does it control the overall amount of distortion, it functions in tandem with the selected WAVETABLE to create a nearly infinite variety of timbres.

TONE: Here we have the same flexible tone control as the classic Geiger Counter, which allows you to shape the wet signal's equalization. The tone circuit can be bypassed with the ON button, so the decision to tame or release the GCP's wildness is yours.

MIX: The GCP features a newly designed MIX circuit that gives you the ability to blend your dry signal back in to the pedal's output. When DRY mode is on, MIX blends between wet and dry; when DRY is off, the knob mixes between the analog gain circuit and the digitally processed signal.

FILTER: We love distortion, but sometimes it can get too hairy, even for us. So we gave the GCP an anti-aliasing low-pass FILTER that rolls off high frequencies. The circuit has a subtle resonance that gives its sweep an extremely musical character. Better yet, sweeping the FILTER with one of the CV/EXP inputs creates otherworldly wah and synth tones.

LEVEL: Controls the volume of the current preset.

MASTER: Overall output volume, regardless of preset.

WMD

INTRODUCTION

The Geiger Counter Pro is the final evolution of my bit crusher concept. We added many features that were impossible before technology caught up. The Pro edition stays true to the original's brutality, but refines the user experience, and extends its capabilities.

The GCP took six years to develop. In 2011 I designed it to have menus and a bunch of features hidden within, but it was clunky and unpleasant to operate. So it was shelved for a while, and in 2014 I started again from scratch. This time I brought every feature to the surface.

Thank you for purchasing the Geiger Counter Pro. I hope that it inspires you to create music (and noise) that the world has never heard before.

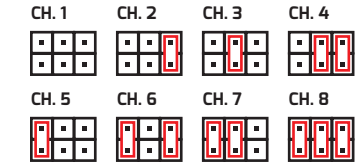
SPECS

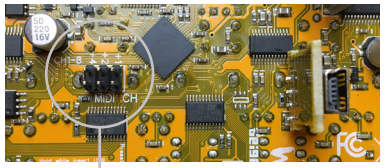
Power: 9VDC Center Negative (BOSS Standard), 150mA draw
Input Impedance: 380k
Output Impedance: 1k
MIDI standard input. Channel (1-8) internally selectable
CV Inputs: 0-5V. 50k Impedance. **TS connection**
Expression Inputs: 10k-100k linear. **TRS connection**
Upgradeable via USB
Relay True Bypass

Dimensions: 5.8" x 4.75" x 2.5"

MIDI IMPLEMENTATION

Every feature is accessible via MIDI. Knobs are on their own CC, and settings can be changed by sending a specific value on CC #28. MIDI channel is set using internal jumpers (see below).





MIDI PARAMETERS

The Geiger Counter Pro responds to Program Change 1-16

CC	Parameter
7	Level
20	Gain
21	Tone
22	Mix
23	Filter MSB
55	Filter LSB
24	Bit Depth MSB
56	Bit Depth LSB
25	Sample Rate MSB
57	Sample Rate LSB
26	Bank MSB
27	Table MSB
59	Table LSB
28	Settings
Settings Codes:	
01	Bypass Effect
02	Enable Effect
11	Tone Off
12	Tone On
17	Dry On
18	Dry Off
21	Sample Rate Normal
22	Sample Rate Fine
31	Bit Depth Post Table
32	Bit Depth Pre Table
33	Bit Depth Mode (Mask Disable)
34	Bit Mask Mode (Mask Enable)
35	Full Bit Depth (12 bit w/ no Gate)
41	Morph Off
42	Morph On
50	Randomize
60	Save to Active Preset
70	CV1 Route to Nothing
71	CV1 Route to Gain
72	CV1 Route to Tone
73	CV1 Route to Samples
74	CV1 Route to Bits
75	CV1 Route to Bank
76	CV1 Route to Table
77	CV1 Route to Blend
78	CV1 Route to Filter
80	CV2 Route to Nothing
81	CV2 Route to Gain
82	CV2 Route to Tone
83	CV2 Route to Samples
84	CV2 Route to Bits
85	CV2 Route to Bank
86	CV2 Route to Table
87	CV2 Route to Blend
88	CV2 Route to Filter

CV/EXP TAKE-UP

When CV or an expression pedal is routed to a parameter, the incoming control signal must pass the parameter's saved position before becoming active. For instance, if the **FILTER** was set to 100% on the current preset, an expression pedal would have no effect until it reached its maximum position, and then it would take full control over the parameter.

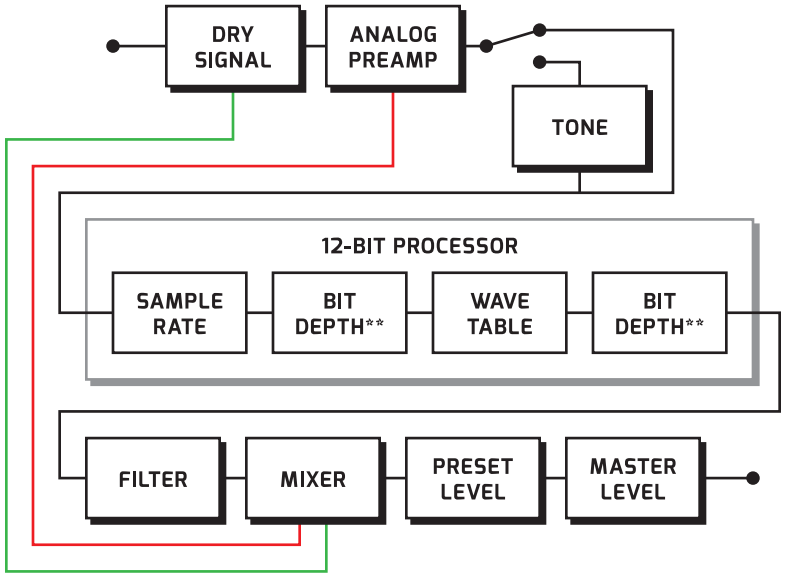
LOW POWER MODE

If the Geiger Counter Pro does not receive adequate power, the display will read **LP** until power meets the units' requirements.

FACTORY RESET

Restoring the Geiger Pro to its factory settings is easy! To restore the Geiger Counter Pro's original settings and presets, simply hold down the **TONE ON** button and the **MIX DRY** button while powering the unit. If the original presets have successfully been restored, the **WAVETABLE** display will read **Fr**.

SIGNAL PATH



*BIT DEPTH can be placed before or after WAVETABLE processing

GEIGER COUNTER PRO VST

WHAT IS IT?
In addition to the Geiger Counter Pro's CV, expression, and MIDI implementation, we have developed a VST plugin for DAW integration and preset management. The GCPVST gives you access to all of the parameters on the GCP, except for MASTER volume control, PRESET selection, and the MANUAL toggle switch. To install the GCPVST, simply visit WMDEVICES.COM and download the VST file. Next, place the VST file into your computer's VST plugin folder. Open your favorite DAW, select Geiger Counter Pro from its VST menu, and enjoy!

SYNCHRONIZING THE GEIGER
The GCPVST sends MIDI data to the GCP, but cannot receive MIDI back. So when you alter a parameter on the GCP unit, you will not see visual feedback on the VST. Clicking **SYNC** on the GCPVST will transmit all the values displayed on the VST to the GCP unit. Checking the box within the **SYNC** button allows the GCPVST to update the Geiger Pro's settings automatically when any parameter is changed on the VST. Leaving the **SYNC** box checked is more convenient, but does take up more MIDI bandwidth. The **CH** menu allows you to select the MIDI channel on which to send data to the Geiger Pro. The Geiger Pro receives MIDI information on channel 1 by default, but this can be changed (see MIDI IMPLEMENTATION).

SAVING
The **SAVE** button on the VST saves the parameters on the plugin to a preset on the GCP. To save, simply click the **SAVE** button; next, select the program that you would like to write to from the dialogue box. Finally, click **SAVE** to send the data to the Geiger Pro, or **CANCEL** to exit.

FACTORY PRESETS 0-7

PRESET 0

PRESET 4

PRESET 1

PRESET 5

PRESET 2

PRESET 6

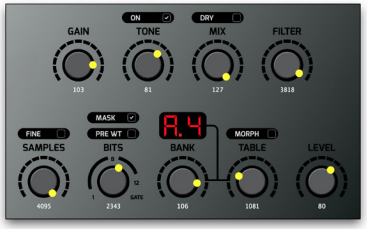
PRESET 3

PRESET 7

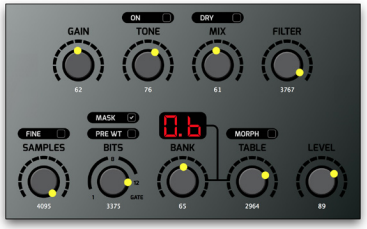
FACTORY PRESETS 8-F

PRESET 8

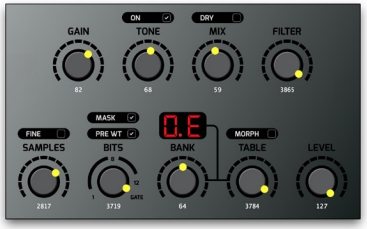
PRESET 9



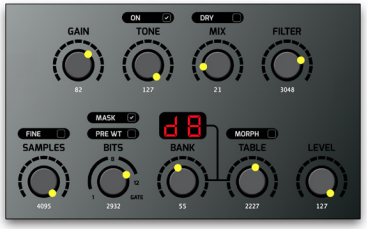
PRESET A



PRESET B



PRESET C



PRESET D

PRESET E

PRESET F

WAVETABLE BANKS