

## ***Synth Controller manual addendum for edition 'Bit'***

Many thanks to Stephan Kümpel for his help developing this edition.

### *Technical requirements*

This edition is designed to work with the Crumars Bit One, Bit 01 and Bit 99.

**For the synth to react to the parameter changes sent by the Controller it must be equipped with two firmware update EPROMS from tauntek.com.** The original Crumars do not understand single parameter change commands. You can purchase the firmware update directly from tauntek.com / USA or from undergeek.de in europe:

<https://www.undergeek.de/crumar-bit01-bit99-firmware>

### *Description*

The edition is identical for all 3 Crumar models.

Layer 1: modulation target switches and parameters for LFO1 and DCO1

Layer 2: corresponding for LFO2 and DCO2

Layer 3: VCF and VCA parameters and envelopes

Some parameters are printed in a rectangle with a solid triangle. These are parameters emphasized by velocity – similar to the printon of the Crumar itself.

Most parameter changes will not be noticable unless the next key is pressed.

Exceptions: DCO 1 Waveform, DCO2 Waveform, Noise, Detune, Wheel Amt, alle LFO Destination Switches, VCF Reso, VCF Env Invert.

### *Shift Parameter*

In Layer 3 there are two SHIFT parameter - dynamic attack for both envelopes individually. Normally these knobs change the Attack rate. As long as you keep button 3 pressed („shift“) these knobs change the „Dynamic Attack Rate“.

### *LFO modulation target switches and LFO Waveform OFF*

Some specialty abou the LFO routings in the first knob row of layer 1 and 2: switching the LFO waveform to OFF also seths the LFO targets to OFF. After selecting one of the LFO waveform, you need to activate the desired routings again.

## *Differences Bit 01/99 and Bit ONE*

The knob in the lower right corner alters different parameters on the Bit 01/99 and the ONE as these synths differ slightly in their architecture:

Bit 01/99: in Layer 1 you change NOISE LEVEL, in Layer 2 it's DETUNE of DCO2

Bit ONE: the knob sets the DCO frequency modulation through the ADSR envelope. In Layer 1 you set the amount for DCO1, in Layer 2 for DCO2.

The parameters PRG VOL as well as WHEEL AMT work for the Bit 01/99 only. On the Bit ONE these knobs do not have any impact.