

CRUMAR[®]

Bassman



USER MANUAL

Introduction

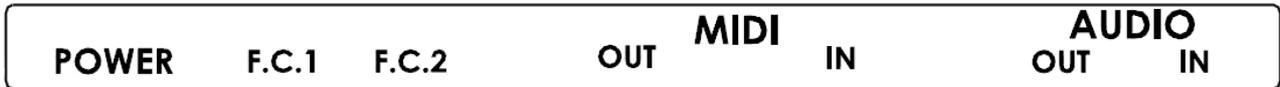
Crumar Bassman is a 13 notes C-C pedalboard with integrated sound engine based on a monophonic synthesizer with 3 oscillators and analog filters. Basic working is using the default presets or the custom presets selectable with footswitches PRESET UP & DOWN for increment or decrement of them.

Crumar Bassman has 83 memory locations and a programmable sequencer.

Additional functions or programmable parameters can be recalled using the interface on the right of the instruments: you can edit them in programming state.

Two expression pedals can be connected using F.C.1 & F.C.2 for control sound parameters or various settings depending on firmware.

Setup



First of all, connect the power supply (12v) in the “POWER” connector in the back of the instrument, then connect a mono jack in the “AUDIO OUT” connector and thru a mixing console or directly to a sound system’s amplifier. In case that you would like to use Bassman like a midi sound engine, and drive it with a midi keyboard (for example), connect it with the “MIDI IN” “AUDIO IN” connector allows you to connect and drive a line signal and pass it to the Bassman VCF e VCA.

The instrument has “MIDI OUT” connector too that allows you to use the midi controller of Bassman for drive other midi instruments.

F.C.1 & F.C.2 are used for connecting two controls pedals (optional) for modify parameters in real time such as Filter Cutoff or Emphasis.

Now you can turn on the instrument pressing the “ON” button on front panel.

**WARNING: USE ONLY CRUMAR COMPATIBLE PEDALS!
IF YOU’RE NOT SURE, PLEASE CONTACT YOUR DEALER OR MANUFACTURER.**

WARNING: Avoid to let power supply connected to main AC if the instrument is not in use, this will increase life of power supply and power consumption.

WARNING: do not connect F.C. 1 e F.C.2 when instrument is in use.

Working table

CRUMAR BASSMAN system can easily be splitted into two sections: **MIDI CONTROLLER section** and **SYNTH section**. The MIDI CONTROLLER section involves the generation of midi standard messages with the pedalboard notes, the footswitches PRESET UP & DOWN, the 2 optional footswitches F.C.1 & F.C.2 and eventually signals produced by the pression or the rotation of switches and pots of the right panel. The synth section work for generation of sounds.

MIDI CONTROLLER SECTION

First of all, maybe will be useful to configure MIDI parameters based on your configurations. With the MIDI ROUTING configuration utility is it possible to assign and specify how MIDI of BASSAM must work.

To access MIDI ROUTING CONFIGURATION UTILITY press and hold "RECORD" and then press "GLIDE" in the "MODULATOR" section: 4 options available:

0 = Midi thru. From the MIDI OUT connector will come out messages of note ON and OFF, Program change messages generated by footswitches PRESET UP & DOWN and messages generated by F.C.1 & F.C.2 but not panel potentiometers "snapshots".

Internal sound generation will respond only to note ON & OFF messages, is not possible to variate presets with PRESET UP & DOWN footswitches and is not possible to use F.C.1 & F.C.2.

Will be possible to change presets and change sound parameters only with right panel but relative Program Change & control change messages won't go out from MIDI OUT.

1 = Program Change. From the MIDI OUT connector will come out messages of note ON and OFF, Program change messages generated by footswitches PRESET UP & DOWN and messages generated by F.C.1 & F.C.2 but not panel potentiometers "snapshots".

Internal sound generation will respond to note ON & OFF messages and to PRESET UP & DOWN footswitches but is not possible to use F.C.1 & F.C.2.

Will be possible to change presets and change sound parameters with right panel, Program Change messages will come out from MIDI OUT but relative control change messages won't go out from MIDI OUT.

2 = Control Change. . From the MIDI OUT connector will come out messages of note ON and OFF, Program change messages generated by footswitches PRESET UP & DOWN, messages generated by F.C.1 & F.C.2 and panel potentiometers "snapshots".

Internal sound generation will respond to note ON & OFF messages and to F.C.1 & F.C.2 but is not possible to use PRESET UP & DOWN footswitches.

Will be possible to change presets and change sound parameters with right panel, control change messages will come out from MIDI OUT but program change messages won't go out from MIDI OUT.

3 = Program Change e Control Change. (DEFAULT) From the MIDI OUT connector will come out messages of note ON and OFF, Program change messages generated by footswitches PRESET UP & DOWN, messages generated by F.C.1 & F.C.2 and panel potentiometers “snapshots”.

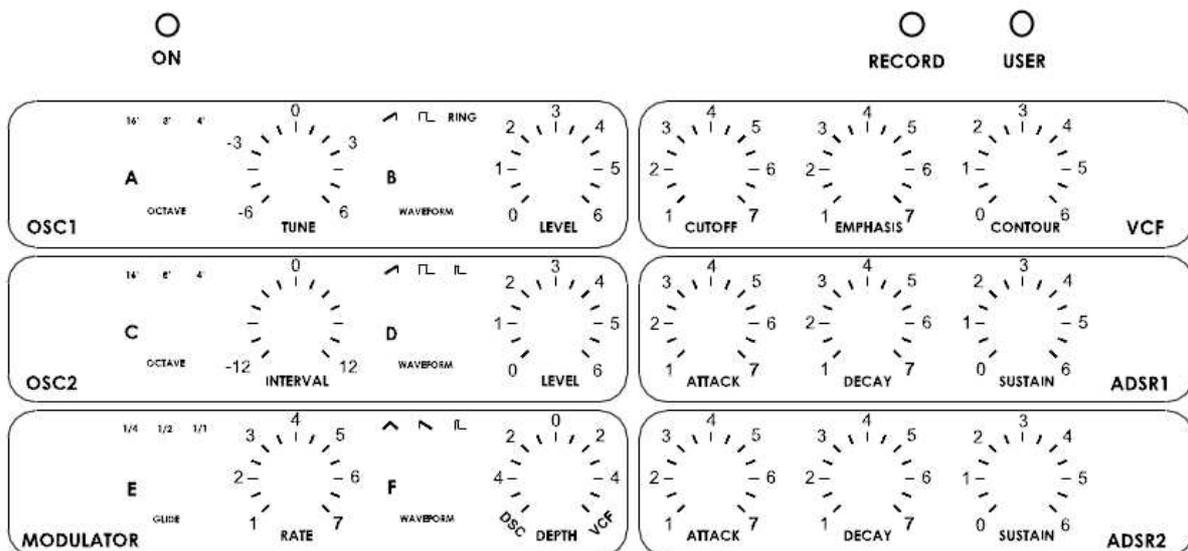
Internal sound generation will respond to note ON & OFF messages, to F.C.1 & F.C.2 and to PRESET UP & DOWN footswitches.

Will be possible to change presets and change sound parameters with right panel, control change messages and program change messages will come out from MIDI OUT.

IMPORTANT: In the case that you want to connect Bassman to an external midi keyboard and you want to use Bassman as generic midi pedalboard using the sounds of the keyboard, is important to check the **MIDI ROUTING CONFIGURATION!** “Snapshot” are such a “photo” of panel pots value that will be sent when you pass from a preset to another.

For example, if midi routine is configured to 2 or 3, passing from one preset to another, with the sending of “snapshot”, values associated with control changes may suffer unexpecting changes and influence the sound generated by the keyboard or expander connected to Crumar bassman MIDI OUT: in this case we suggest to use case 0 or 1.

SYNTH SECTION



Bassman
Pedalboard Synth

Oscillators

Crumar Bassman sound generation is based on two main oscillators **OSC1** & **OSC2** and a sub-oscillator **OSC3**.

OSC1 offers 2 waveforms : Sawtooth and Square plus Ring Modulator 1 option and Ring Modulator 2 option , selectable with “WAVEFORM” in the “OSC1” section ; Control leds will light with every press of button.

- a) Sawtooth – led 1
- b) Square – led 2
- c) Ring Modulator OSC1 & OSC2 – led 3
- d) Ring Modulator OSC1, OSC2 & suboscillator OSC3 (all 3 leds light)

With “OCTAVE” button in the “OSC1” section you can change the reference octave of sound: available options 16', 8', 4' ; Control leds will light with every press of button.

With “TUNE” control you can tune **all instrument (master tuning)** with a +/- 6 semitones interval.

With “LEVEL” control you can select the out level of “OSC1”.

OSC2 offers 3 waveforms: Sawtooth, Square and Impulse, plus “Oscillator Sync” option , selectable with “WAVEFORM” button in the “OSC2” section. Control led will light with every press of button.

- a) Sawtooth – led 1
- b) Square – led 2
- c) Impulse – PWM – For activate “pulse width” modulation you have to set waveform of OSC2 to “impulse”. A modulation will no longer target this oscillator's pitch but its symmetry for timbral changes.
- d) Oscillator Sync – Every new wave cycle of OSC1 forces OSC2 to restart its cycle too. OSC2 is therefore controlled or synchronized to OSC1 frequency. With “Sync” function activated modulation will only target OSC2, resulting in intense timbres instead of pitch modulations. (all 3 leds light)

With “OCTAVE” button in the “OSC2” section you can change the reference octave of sound: available options 16', 8', 4' ; Control leds will light with every press of button.

With “INTERVAL” control you can control the tuning of OSC2 with +/- 12 semitones but always dependent from “TUNE OSC1”.

With “LEVEL” control you can select the out level of “OSC2”.

Sub-oscillator OSC3 The only available waveform for this oscillator is the square one, and the only available reference octave is 32". Even if OSC3 is defined a sub-oscillator, it is very important for creating deep and warm sounds. Controls of OSC3 are level and tuning: for modify these parameters , operate in this way:

- 1) Level : press and release "RECORD" button , press "OCTAVE OSC1" for decrease output level (until 0) or "WAVEFORM OSC1" for increase output level (until 63).
- 2) Detuning : press and release "RECORD" button, press "OCTAVE OSC2" for decrease tuning (until 0) or "WAVEFORM OSC2" for increase tuning (until 63). Interval is +/- 1 semitone, central position is value 36 (C1). Also this control, such as "INTERVAL OSC2" is always dependent from "TUNE OSC1". Please keep in mind to re-press "RECORD" after modifications of level and tuning for avoiding the writing of USER memories or sequences.

THE FILTER - VCF

After mixing signals with controls "LEVEL OSC1, OSC2 e OSC3" (and signals from "AUDIO IN") all is routed to the low-pass filter VCF with 24dB/octave action.

VCF filter has got 3 controls: "CUTOFF", "EMPHASIS" & "CONTOUR".

- a) "CUTOFF" sets the filter working point..
- b) "EMPHASIS" or resonance increases the amplitude of frequencies near the cutoff and boosts them. This control allows the self-oscillation too: turn the control on the right, the filter starts to self-oscillate with a sinoid wave. If you want to couple cutoff frequency with "Bassman" notes, you have to set the "keyboard Follow" to ON (see system settings).
- c) "CONTOUR" adjusts the cutoff modulation by envelope "**ADSR1**".

AMPLIFIER - VCA

The last chain of the signal is the Voltage controlled Amplifier: its shape is defined by **ADSR2**.

ADSR

Crumar Bassman has 2 envelope generators: **ADSR1** for **VCF** e **ADSR2** for **VCA**, they offer 4 parameters:

“ATTACK” , “DECAY” , “SUSTAIN” , “RELEASE” : release doesn't have an independent control, it is fixed or it follows “DECAY”: For change the behaviour operate in this way:

Press and hold “RECORD”, then press “WAVEFORM” in **OSC2** section; you have 4 options:

0 = fixed release

1 = release = decay for ADSR1

2 = release = decay for ADSR2

3 = release = decay for ADSR1 & ADSR2

MODULATION – LFO

“MODULATOR” section or LFO (Low Frequency Oscillator) of Bassman allows modulation of sound with waveform of sawtooth, triangular or square.

4 associated controls: “GLIDE”, “RATE”, “WAVEFORM” e “DEPTH”.

“GLIDE” activates the Portamento function, a light “transportation” from one note to another; the button regulates time of transportation with 4 defined periods. Control leds will light with every press of button.

- a) no portamento – no led light
- b) ¼ - first led
- c) ½ - second led
- d) 1/1 – third led

“RATE” sets the oscillation speed between 10 sec & 100Hz.

“WAVEFORM” button in “MODULATOR” section acts for select the waveform type for the modulation: 4 selections controlled by the control leds.

- e) Triangular – led 1
- f) sawtooth – led 2
- g) Square – led 3
- h) Sawtooth - One Shot Mode (the three leds will light) – in this case the modulation is not cyclic but it passes thru the waveform only one time.

“DEPTH” sets the modulation target and intensity. Turn from center to left you can modulate the oscillator by pitch (or pulse width) with increasing intensity, turn from center to right, you can modulate the cutoff filter.

In center position the modulation is OFF.

USER MEMORY & PRESETS

Crumar Bassman has 83 + 83 User sound memory locations, arranged in 2 sections each of 42. To recall the memories press and hold USER followed by a combination of the six buttons in the panel from A to F (like 1 to 6).

Example 1 : Memory location 2, press B (2)

Example 2 : Memory location 21, press B & A (2 e 1)

Example 3 : Memory location 56, press E & F (5 e 6)

For recall the other 42 memory locations, press "GLIDE" before do the operations described above.

For change preset while playing, there are two switches that can be pressed with foot: footswitches PRESET UP e DOWN that increment or decrement programs with steps of 1.

In addition there's also an additional bank with 83 (42+42) memory locations: for access it, you have to turn bassman ON while pressing "WAVEFORM" button in **MODULATOR** section. Display will show this additional bank with a dot.

For return to default bank, turn bassman OFF and then ON again pressing pressing "WAVEFORM" button in **MODULATOR** section another time (no more "dot" on display).

Important: Location 01 is not a memory location, it recall the sound like you see in the panel (manual mode).

For store a sound in a memory location, press "RECORD" then press and hold "USER" and choose a memory ,location with the panel. If the memory location to store is in the second section, before select it with "USER" button, it is necessary to press and hold "GLIDE" in the same way you do for select the preset.

PRESETS TABLE

Classic	12 ResoRing	Lead/Seq –	
Synthsounds	13 Mezzotone	Normal	
01 PWM	14 Noislide	31 Coastslider	Bass – Reso
(reserve	15 Sharp	32 Soft detune	51 Silver
memory)	16 Sharper	33 Thrilling	52 San ReMo
02 Improved		34 Standard	53 Rawring
Saw	Lead/Seq –	Lux	54 Rezzo
03	Sync	35 Cheapy	55 LFO-Liner
FullPulseRing	21 Slow	36 Dustslider	56 Dancer
04 Detuned	Stepper		
05 Dualik	22 Pulsing	Bass – Bigger	Percussion
06 Fat Saw	23 Medium	41 Loher	61 Little Drum
	24 Softy	42 Bride	62 Digishot
Lead/Seq –	25 Saturation	43 Skware	63 Resect 1
Noisy &	26 Crunk (>C4)	44 Grummling	64 Resect 2
Ringling		45 Grolling	65 Co-Bell C4
11 Gribblin		46 Softeq	66

SEQUENCER

Crumar Bassman has an internal sequencer, you can access it by press and hold “GLIDE” and selecting one sequence with A, B, C, D. buttons. Additional sequences can be recalled pressing 2 buttons instead of one for a total of 20 sequences. (1...4, 11...14, ... 41...44). Time can be controlled by press and hold “GLIDE” and moving “RATE” on the left or on the right.

Sequences can be increased or decreased by pitch pressing Bassman notes or by an external midi signal. For stop a sequence press “GLIDE”.

Sustain Function:

Pressing and holding GLIDE” and then “WAVEFORM” a note will be played and held, pressing other notes, they will be played and held until pressed “GLIDE”.

To record a sequence, press “RECORD”. Then select a sequence by pressing and holding “GLIDE” with the number of desired sequence: now start your sequence, note duration is ignored and automatically set to sixteenth. You can enter up to 32 notes. Simply press “RECORD” after the last note (no matter if you entered less than 32) to define the end of sequence. The sequence is looped continuously in playback mode.

A pause can be set at any position by pressing “USER” once. 1/8 notes are programmed by holding the note until the counter increases to next step (approx 1 sec). By holding the key even longer even quarter and longer notes can be defined.

GENERAL SETTINGS

Velocity on-off option

Bassman Rev.2 (with the two black dots on front panel) has got an option for enable velocity response (touch response) on the 13 pedals. By default velocity is OFF and even if you touch the pedalboard with different pressures note on messages always have value of 127.

For activate velocity, while holding the first C on the left for 5 seconds, insert the power supply to the main AC or the power plug in the instrument. In this way, when you turn on Bassman with the "ON" button, velocity is on.

You can assign velocity to different controls of the instruments like VCF or VCA: for details please check "SYSTEM SETTINGS" section.

MIDI channel settings

Press and release "RECORD"; press "WAVEFORM" in **modulator** section for increase channel number up to 16 and then restart from 1. confirm the selection with "RECORD"; default channel is 3.

Pitch Wheel

External messages of pitch wheel coming from "MIDI IN" increase or decrease tuning of 2 semitones.

Modulation Wheel

External messages of Modulation wheel coming from "MIDI IN" can control VCF (cutoff) or VCO (pitch) (see system settings)

SYSTEM SETTINGS

Press and hold "RECORD" in combination of these buttons for change:

Velocity

OCTAVE (OSC1) - 0 = Off
1 = VCF control
2 = VCA control
3 = VCF/VCA control

MIDI Clock

WAVEFORM (OSC1) - 0 = internal
1 = external

Keyboard Follow

OCTAVE (OSC2) - 0 = Off
1 = $\frac{1}{4}$
2 = $\frac{1}{2}$
3 = ON

Mod. Wheel

WAVEFORM (MODULATOR) - 0 = Off
1 = VCO control
2 = VCF control
3 = VCO/VCF control

CRUMAR BASSMAN MIDI IMPLEMENTATION CHART

FUNCTION	TRASMITTED	RECOGNIZED	REMARKS
Basic channel Default Changed	3 1-16	1-16 1-16	
Mode Messages Default Altered	X	X	
Note Number True Voice	10 _____	OX	
Velocity Note ON Note OFF	X	OX	
Aftertouch Keys Channel	X	X X	
Pitch Bend	X	OX	
Control Change	OX	OX	
Program Change	OX	OX	
System Exclusive	X	O, firmware upgrade	
Song Position	X	X	
System : Clock Exclusive : Command	X X	OX OX	
Aux : Local ON/OFF Messages: All Notes OFF :Active Sense :Reset	X X X X	O O O O	

CRUMAR BASSMAN CC MAP

CONTROL	CC NUMBER	AUTOMATION	RESOLUTION	NOTES	REMARKS
MODULATION WHEEL	1		7 BIT	REC. ONLY	
Interval 1	8 & 40		14 bit		
Interval 2	9 & 41		10 bit		
Rate	10 & 42		10 bit		
Level VCO 1	11		7 Bit		
Level VCO 2	12		7 Bit		
Level VCO 3	13		7 Bit		
Depth	14 & 46		12 Bit		
CutOff	15 & 47		12 Bit		
Emphasis	16		7 Bit		
Contour	17 & 49		12 Bit		
Attack 1	18 & 50		10 Bit		
Decay 1	19 & 51		10 Bit		
Sustain 1	20 & 52		10 Bit		
Attack 2	21 & 53		10 Bit		
Decay 2	22 & 54		10 Bit		
Sustain 2	23 & 55		10 Bit		
Tune	24				
Octave 1	80		2 Bit		
Waveform 1	81		2 Bit		
Octave 2	82		2 Bit		
Waveform 2	83		2 Bit		
Glide	84		2 Bit		
Waveform 3	85		2 Bit		

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V.M. CONNECTION

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