Manuals+ — User Manuals Simplified.

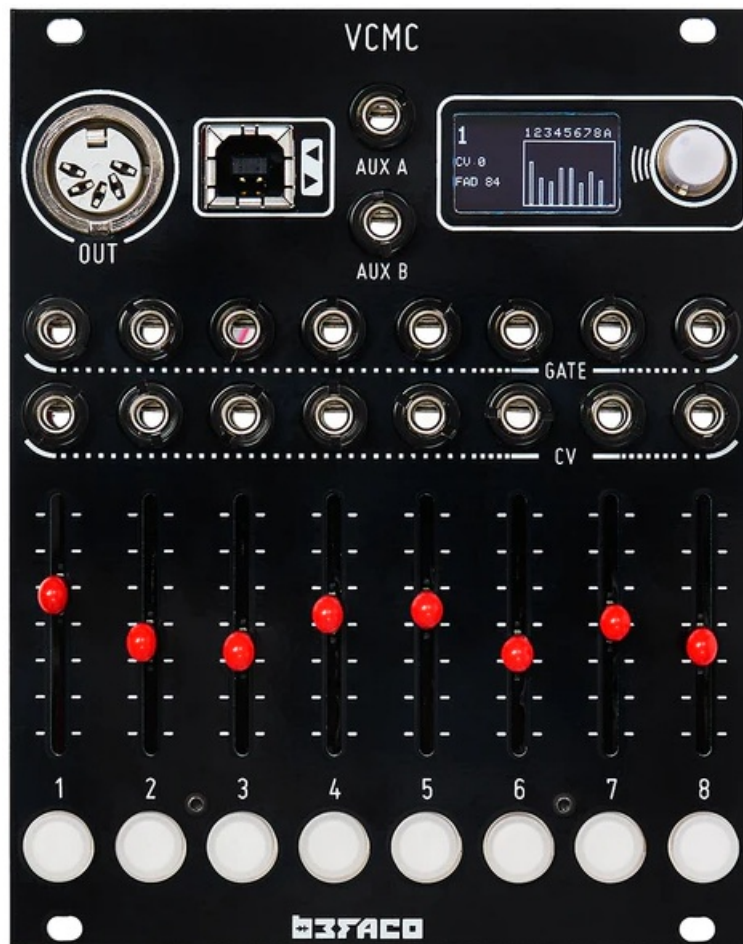

befaco VCMC Assembled Module User Manual

Contents

befaco VCMC Assembled Module

VCMC User Manual

The VCMC module is a MIDI controller that allows you to manipulate and control external gear. The device supports various modes such as Strum, Channel Pressure, Chord, Polyphonic, and Notes. With the firmware version 1.4, the Strum mode has been added, and the Velocity bug has been fixed. The device also supports 14-bit CC and has four save spaces available. The module can be configured via the Configuration Screen, where each block can be configured by clicking on the encoder. The device has CV Inputs, and each control has its own configuration menu, which can be accessed by selecting a block and pressing the encoder.

Power & Introduction
Before powering the VCMC module, make sure to disconnect your cabinet from the mains. Triple check the power cord polarity, and ensure that the coloured line on the cable (pin number one) is the -12V rail. If you plug the module backwards or in EXP connector, it might burn out, which is not covered by the warranty.

First Steps
To connect the VCMC module to external gear, there are two main MIDI connections available. The blocks can be configured via the Configuration Screen by clicking on the encoder of a selected block. Each control has its own configuration menu, which can be accessed by selecting a block and pressing the encoder.

CV Edit
The CV Inputs can be configured by selecting a block and entering the main Configuration Screen. From there, go to CV and press the encoder again to enter into the CV Edit Menu. The device supports various note modes such as V/Oct Mono, V/Oct Poly, Notes, and Chord. When a note mode is selected, new scale and chord options become available. In V/Oct Poly mode, several notes can be sent with one gate. When Notes mode is selected, the module generates MIDI notes at the selected MIDI channel following the V/Oct ratio regardless of the presence of a Gate. The Note duration can be set after selecting the mode.

Usage Instructions

1. Disconnect your cabinet from the mains before powering the VCMC module.
2. Triple check the power cord polarity before plugging it in.
3. Connect the VCMC module to external gear via the two main MIDI connections.
4. To configure the blocks, go to the Configuration Screen and click on the encoder of a selected block.
5. Each control has its own configuration menu, which can be accessed by selecting a block and pressing the encoder.
6. To configure the CV Inputs, select a block and enter the main Configuration Screen. From there, go to CV and press the encoder again to enter into the CV Edit Menu.
7. Select a note mode such as V/Oct Mono, V/Oct Poly, Notes, or Chord.
8. In V/Oct Poly mode, several notes can be sent with one gate. In Notes mode, the module generates MIDI notes at the selected MIDI channel following the V/Oct ratio regardless of the presence of a Gate. The Note duration can be set after selecting the mode.

POWERING THE MODULE

THANKS FOR PURCHASING A MODULE FROM BEFACO !BEFORE YOU PLUG THIS MODULE IN . . .

1. Disconnect your cabinet from the mains.
2. Triple check the power cord polarity. The coloured line on the cable (pin number one) is the -12V rail.
3. If you plug the module backwards or in EXP connector you might burn it out and unfortunately this is not covered by the warranty.
4. If you have any questions about this product please send them to: **support@befaco.org**
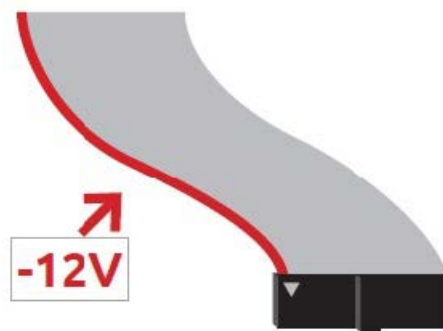
INTRODUCTION

VCMC
VCMC is a Voltage Controlled MIDI Controller, a fully mapable MIDI device with eight Faders and Buttons. Each of those controls has a CV and a Gate Input associated either to automate their functioning or to be configured independently for further control. Every setting on VCMC can be edited through its OLED screen and will be output either via DIN5 or USB as Class Compilant MIDI Device.

MODULE REFERENCE

PANEL OVERVIEW
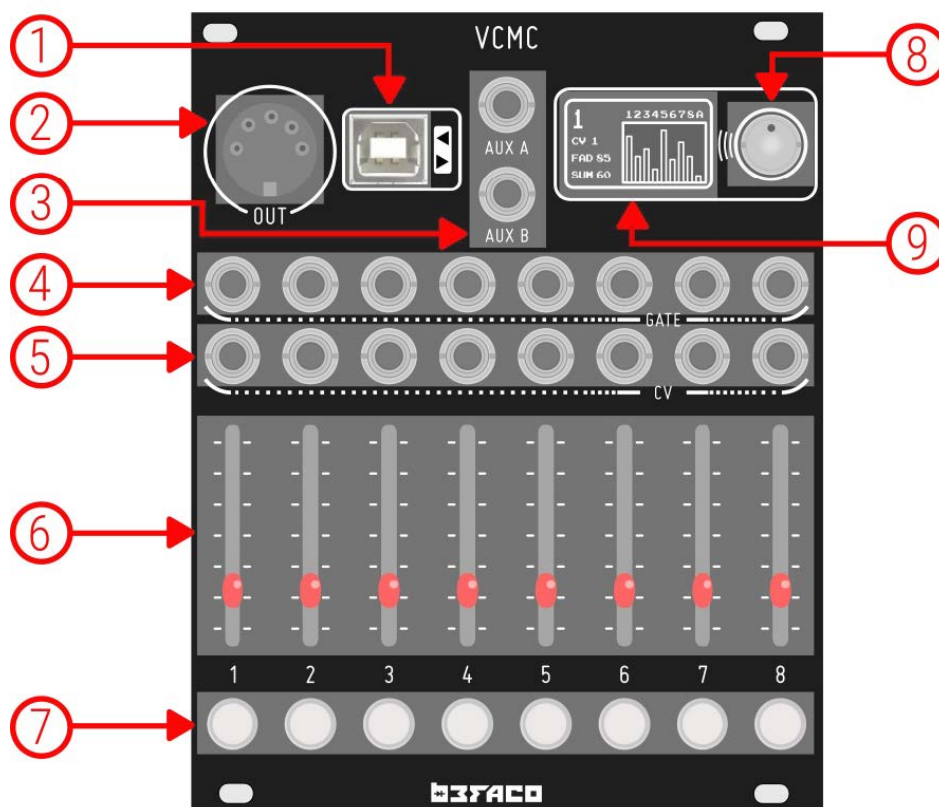
1. USB Output

   USB Type B Midi output connector.

2. MIDI DIN Output

   DIN5 Midi output connector.

3. Aux A/B

   CV auxiliar inputs.

4. Gate

   Gate Inputs.

5. CV

   CV inputs.

6. Faders

   Manual sliding controls.

7. Push Button

   Manual push control associated to each Gate Input.

8. Encoder

   Rotary encoder control.

9. OLED Screen

   OLED Screen for visualization and editing all functions.

**STARTING WITH VCMC**
CONNECTING THE UNIT TO EXTERNAL GEAR

There are two main MIDI connections in VCMC: USB and DIN5. Both connections send every MIDI message

generated by the module, choosing each one depending on the device you will be controlling. Let's take a deeper look:

- USB

  The USB port is the most convenient way to connect VCMC to a computer. Just plug a USB Type B cable from VCMC to a free USB port of your computer and the module should be automatically recognized as a MIDI Device. You will be able to select it on the MIDI connections of your DAW or any other software that supports MIDI.

  If you have USB Host devices, you can use this port with it in the same way we did with the computer.
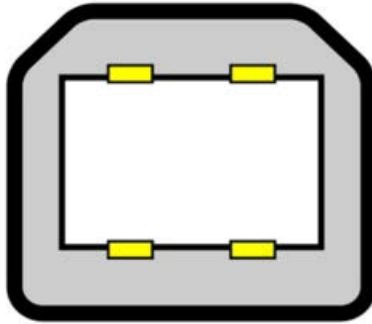
- DIN5

  Most of the external gear out there uses DIN5 connections for MIDI control. If you want to control your external gear with VCMC, just plug a standard MIDI DIN cable from VCMC´s DIN5 Out port to your device´s MIDI Input.

BASIC STRUCTURE
BLOCKS & PERFORMANCE SCREEN

In VCMC, you have a variety of different controls and connections capable of sending MIDI to your external gear.
To make it as clear and friendly as possible, the module is divided in eight functional blocks.
A block is conformed by a set of controls that can be configured to send different MIDI messages. Basically, each block contains a CV Input, a Fader and a Gate Input with a linked Push Button.
The activity of each block is displayed on the Performance Screen.
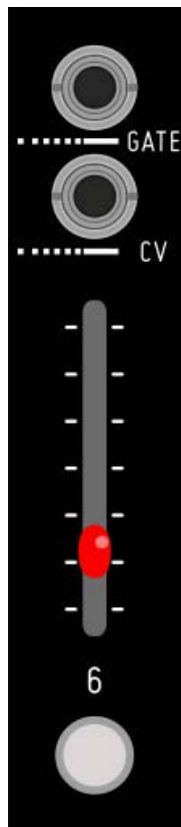
The Performance Screen is the main level of the VCMC menu structure. Here you can navigate trough the different blocks, rotating the encoder, to check their activity.
On the left of the screen, you will see the values sent by the CV Input and Fader of the current block and, if both are linked, the value of the link. On the right part, you have overall real time information about the values sent by every VCMC block.

Besides its eight functional blocks, VCMC includes two Auxiliar Inputs. The behaviour of those inputs is exactly the same as the block CV inputs and their activity is displayed on the Performance Screen as well.

SETTING THE BLOCKS

CONFIGURATION SCREEN

Click the encoder on a selected block to configure it.
In this menu you can navigate through the different controls of the selected block. Access them by clicking the encoder button. For each control you will be able to map MIDI Messages, MIDI Channel and input and output ranges.

As pictured, the available controls to configure are as follow:

On the left column of the Configuration Screen you have the information section. It displays the MIDI Messages assigned to each control.
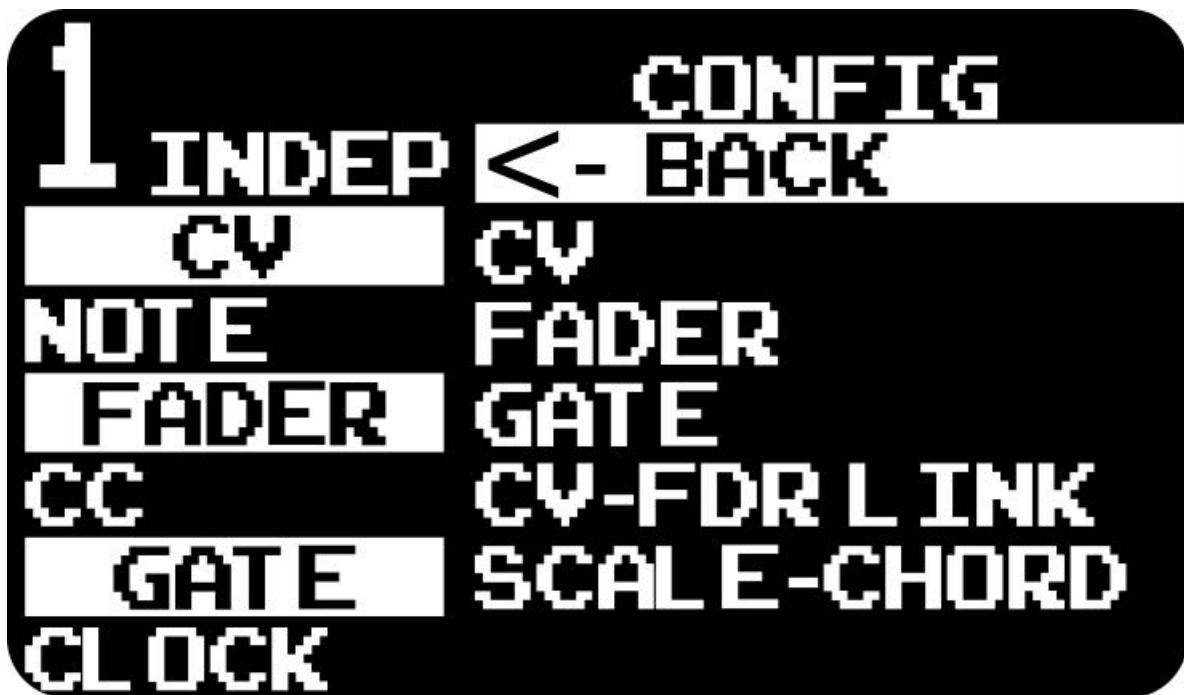
1. CV

   Configure CV Input

2. Fader Configure Fader

3. Gate

   Configure Gate Input

4. CV-FDR-Link

   Select CV-Fader Link mode: Sum or Attenuation.

5. Chord Mode Configure Chord options

Keep in mind that some of these options will disapear, depending on the choosen mode. We will cover this further ahead in the manual.

Scale and chord options will be visible only when a note mode is configured in the block (either CV, Fader or Gate). Keep in mind these scale and chord options will affect ANY note mode configured. Plese refer to Chord Mode section for further details.

CONTROLS OVERVIEW
BUTTONS/GATES
Buttons can be mapped to send a MIDI message when pressed. This message can be either a Note or a value of certain CC. They can be configured as Gate, where value will be present while pressed, or latch where the value will remain on when pressed and turn off when pressed again. Other messages that can be mapped are clock, ST/SP or Panic.

Gates are associated to Buttons by hardware, so a gate present here will be added to the value of the button and viceversa. The LED will show any activity.

FADERS
Faders will be sending a MIDI message with value proportional to the fader position.
It can be set up as an independent control, or associated to the CV input, either to be added, or as an attenuator.
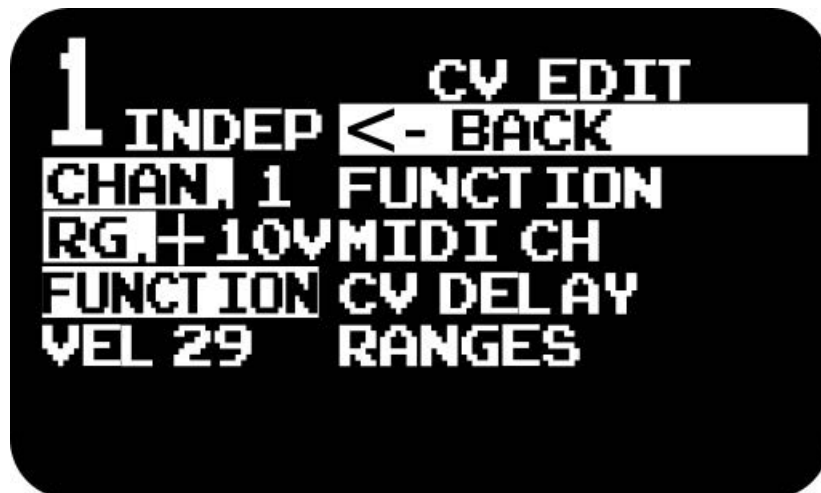
CV
Each CV input will be sending a MIDI message with value proportional to the voltage received.
It can be set up as independent or associated to the fader to be added or attenuated, as well as to the Gate for the V/Oct to MIDI note mode.

AUX
These are two auxiliar inputs. They can be mapped to MIDI messages, similar to inputs, but they do
not accept negative voltages.

CV EDIT

Each VCMC control has its own configuration menu where you can configure its behaviour. Let's start with the CV
Inputs.
From the Performance Screen, select a block and press the encoder to enter into the main Configuration Screen.
Go to CV and press the encoder again to enter into the CV Edit Menu.

FUNCTION
Selects the MIDI message that will be mapped to this input. By pressing on it you will have access to the MIDI
Mapping screen.

1. CC

   This will send CC messages. When selected you will be prompted to choose which CC number will be sent.

2. V/Oct to Note

   In this mode Gate and CV will be linked so we can convert CV + Gate messages to MIDI notes. When Gate

   goes high, a NOTE ON message will be sent with value proportional to the CV input. When Gate goes down a

   Note OFF message will be sent. Keep that in mind, in order to keep V/Oct range, only 120 MIDI notes will be

   sent for the whole range. 1 Octave=12 semitones, so 10 Octaves, 120 notes.

   FOR EVERY NOTE REPRESENTATION IN VCMC WE ARE ASSUMING THAT MIDI NOTE 0 IS C-2

   When a note mode is selected new scale and chord options are available. Please refer to page 11 for further

   information about this mode.

3. V/Oct Poly

   With this mode you can send several notes with one gate. On selection, Gate 8 will be automatically set as the

   gate to send a note per channel configured like this. No need to manually configure this gate. If you send

   several CVs as V/Oc Poly, gate 8 will send a midi note per CV configured.

   When a note mode is selected new scale and chord options are available. Please refer to page 11 for further

   information about this mode.

4. Notes

   On this mode the module will generate MIDI notes at the selected MIDI Channel following the V/Oct ratio

   regardless of the presence of a Gate. The Note duration is set right after selecting the mode, so you can set a

   few fixed durations, edit yours or select that the Note off is sent just before sending a new note:

No auto OFF, 500ms, 1000ms, 1500ms, 3000ms, Edit AutoOff

5. Velocity

   CV will be mapped to velocity message representing the notes selected in the MIDI channel.

6. Pitch Bend

   CV will be mapped to pitch bend message.

7. Program Change

   A program change message will be sent proportional to CV value.

8. Channel Pressure

   With this option CV /Fader will be converted to Channel Pressure message, also known as channel aftertouch. This message will affect to all notes that are received in that MIDI channel. Upon receiving Channel Pressure, it's up to the device how it will respond to this message (VCA, VCF cutoff or even LFO rate for vibratos)

9. Digital Functions

   You can select Digital Functions, same as Gate Inputs (Check Page 8)

10. Chord Functions

    In this sub-menu you will find options to control chord parameters. When you select one of the options, you will be prompted to select a bank. If you selected a Note mode in that bank, the CV will affect to any chord generated in that bank.

    1. Scale Mode
    2. Scale Root
    3. Chord type
    4. Chord Voicing
    5. Chord Presset
    6. Strum

7. Humanize

For further information on Chord Mode go to page 11

11. High Resolution MIDI

CC 14 Bits

With this mode VCMC will send a 14 bit CC message. This message will be sent as two CC mesages. Higher 7 bits will be sent on selected CC and lower 7 bits will be 32 values higher. Ex. If you select 14 bit CC#2, Higher bits will be sent first on CC#2 then Lower bits on CC#34.

NRPN

In this mode the CV will be converted to NRPN messages. Upon selection of this mode you will be prompted to select a NRPN number. Keep in mind there are two NRPN modes available: 7 bit and 14 bit.

MIDI CHANNEL
Selects MIDI Channel for this CV Input.

CV DELAY
Set a delay on the CV reading. Specially useful on V/Oct mode. As some sequencers have some delay between setting the gate high and sending the CV, with this feature you will avoid sending old messages, that gives the wrong impression of out of tune notes being sent.
Default CV Delay is 3ms.

RANGES
On this screen we will be able to set the functional ranges of the CV Input and the MIDI Output. Here you will be able to calibrate the CV Input as well. Let's take a look:

1. In Range
    1. + 10: The CV Input will expect a voltage range of 0-10V, translating each voltage in concrete MIDI value. A voltage of 10V will be translated as the maximum MIDI message value (see OUT Range below)
    2. + 5: The CV Input will expect a voltage range of 0-5V, translating each voltage in concrete MIDI value. A voltage of 5V will be translated as the maximum MIDI message value (see OUT Range below)
    3. -5/+5: The CV Input will process negative voltages as well. In this mode a voltage of 5V will be translated as a MIDI value of 64 and -5V to -64, Negative values will be clipped to 0, so linking the fader as SUM (see CV/FDR Link) is adviced for effectivity.

```
CH:1 CV  CANCEL END

        RANGE  TRIM
MIN     000    000
MAX     127    127
```
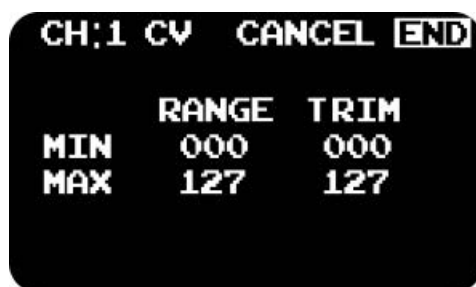
2. Out Range
    1. MIDI RANGE: Select from what value your CV will be scaled. This feature will select the minimum and maximum values and will scale the input to that range.
    Value range might change depending on the funtion selected.
    2. MIDI TRIM: With these you can set MIDI limits, so no messages will be sent beyond the minimum and maximum set here. This feature clips the range, not scales it.
    Set the values of each range by turning and pressing the encoder. If you don't want to keep the changes and go back to the previous screen, press Cancel, otherwise press End.

3. Calibration

This will perform a two points callibration. You will be prompted to send 2v and 8v, stating to which MIDI Note they relate to. A voltmeter is shown to monitor incoming voltage. If you have selected 5v input range, voltages will be 1v and 4 v. This calibration is useful when your CV source has some offset, so you can avoid note shifting on conversion. Also, if source CV does not have perfect V/Oct linearity, this will correct the scaling.

```
CH:1 CV   CANCEL END

POINT   MIDI   NOTE
  2V      24     C0
  8V      96     C6

IN: MIDI NOTE / VOLTS
```
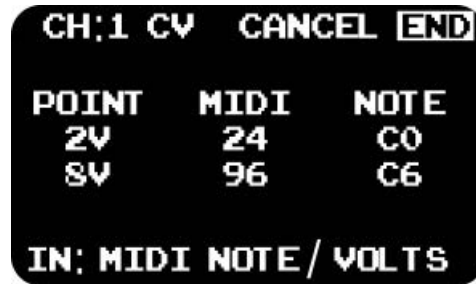
Before selecting calibration, be sure you have V/Oct to Note mode selected on the CV Input you want to calibrate, otherwise you will get an error message prompting to activate it.
Once done, plug the CV signal from your sequencer or CV source, set it to send 1V (go to the manual of your CV source if you don't know the equivalent Note/Volts) and check the voltmeter at the bottom of the screen. If all is well it should show you C0/1V, then turn the encoder till you have the first line (1V 24 C0) selected and press the encoder. Repeat the process for 4V and press End to finish the calibration. If you don't want to keep the changes, press Cancel.

PORT NAME
You can label every port to help identify the mappings you have made. The label choosen will be shown in performance screen, close to the MIDI value it is sending. In this menu you can choose between a list of common labels and edit a set of user defined labels. Then a sufix can be added to identify a parameter used multiple times (PAN1, PAN2, etc...)

1. Select Name

Select name for the port between the list of predefined labels and User defined labels.

2. Sufix

Set a sufix for the port.

3. Edit User Defined

There are 15 available slots for user defined labels. Scroll down to select a slot and click encoder to edit that label. Scroll through the characters with the encoder and selects it by clicking it. To end editing just finish inserting characters in the line.

FADER EDIT

From Performance Screen, select a block and press the encoder to enter in the main Configuration Screen. Go to Fader and press the encoder again to enter into the Fader Edit Menu.
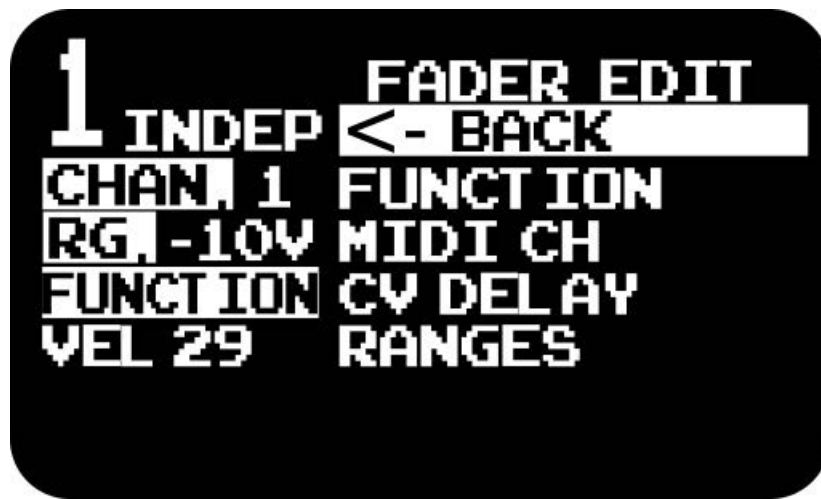
FUNCTION

Selects the MIDI message that will be mapped to this Fader. By pressing on it you will access the MIDI Mapping screen.

1. CC

   This will send CC messages. When selected you will be prompted to choose which CC number will be sent.

2. V/Oct to Note

   In this mode Gate and CV will be linked so we can convert CV + Gate messages to MIDI notes. When Gate goes high, a NOTE ON message will be sent with value proportional to the CV input. When Gate goes down a Note OFF message will be sent. Keep that in mind, in order to keep V/Oct range, only 120 MIDI notes will be sent for the whole range. 1 Octave=12 semitones, so 10 Octaves, 120 notes.

   FOR EVERY NOTE REPRESENTATION IN VCMC WE ARE ASSUMING THAT MIDI NOTE 0 IS C-2

   When a note mode is selected new scale and chord options are available. Please refer to page 11 for further info.

3. Notes

   On this mode the module will generate MIDI notes at the selected MIDI Channel following the V/Oct ratio regardless of the presence of a Gate. The Note duration is set right after selecting the mode, so you can set a few fixed durations, edit yours or select that the Note off is sent just before sending a new note:

   No auto OFF, 500ms, 1000ms, 1500ms, 3000ms, Edit AutoOff

4. V/Oct Poly

   With this mode you can send several notes with one gate. On selection, Gate 8 will be automatically set as the gate to send a note per channel configured like this. No need to manually configure this gate. If you send several CVs as V/Oc Poly, gate 8 will send a midi note per CV configured.

   When a note mode is selected new scale and chord options are available. Please refer to page 11 for further info.

5. Velocity

   CV will be mapped to velocity message representing the notes selected in the MIDI channel.

6. Pitch Bend

   CV will be mapped to pitch bend message.

7. Program Change

   A program change message will be sent proportional to CV value.

8. Channel Pressure

   With this option CV /Fader will be converted to Channel pressure message, also known as channel aftertouch.

This message will affect to all notes that are received in that MIDI channel. Upon receiving Channel Pressure, it's up to the device how it will respond to this message (VCA, VCF cutoff or even LFO rate for vibratos)

9. Chord Functions

In this sub-menu you will find options to control chord parameters. When you select one of the options, you will be prompted to select a bank. If you selected a Note mode in that bank, the CV will affect to any chord generated in that bank.

   1. Chord type
   2. Scale Mode
   3. Scale Root
   4. Inv/Drop (Refers to Chord Voicing).
   5. Strum
   6. Humanize

   For further info on Chord Mode go to page 11

10. High Resolution MIDI

CC 14 Bits

With this mode VCMC will send a 14 bit CC message. This message will be sent as two CC mesages. Higher 7 bits will be sent on selected CC and lower 7 bits will be 32 values higher. Ex. If you select 14 bit CC#2, Higher bits will be sent first on CC#2 then Lower bits on CC#34.

   1. NRPN

   In this mode the CV will be converted to NRPN messages. Upon selection of this mode you will be prompted to select a NRPN number. Keep in mind there are two NRPN modes available: 7 bit and 14 bit.

MIDI CHANNEL
Selects MIDI Channel for this Fader.

OUT RANGES

- **MIDI RANGE:** Select from what value your CV will be scaled. This f e a ture will select the minimum and maximum values and will scale the input to that range.
  Value range might change depending on the funtion selected.

- **MIDI TRIM:** With these you can set MIDI limits, so no messages will be sent beyond the minimum and maximum set here. This feature clips the range, do not scale.
  Set the values of each range by turning and pressing the encoder. Change the Block Function will reset this parameters so we recommend to set it after.

PORT NAME
Same function as in CV Edit mode. Check page 7 for further information.

GATE EDIT

From Performance Screen, select a block and press the encoder to enter into the main Configuration Screen. Go to Gate and press the encoder again to enter into the Gate Edit Menu.
On the left of the screen you will have information about the selected MIDI channel and the current Function of the Gate.

FUNCTION
Selects the MIDI message that will be mapped to this input. By pressing on it you will access the MIDI Mapping screen.

1. Note Gate

    A Note will be fired each time a Gate signal is received at Gate Input. Press the encoder to select the Note number and press again to confirm the operation. Note ON message will be sent when the Gate goes up and Note OFF when Gate goes down.

    When a note mode is selected new scale and chord options are available. Please refer to page 11 for further info.

2. Note Latch

    This mode is essentially the same as Note Gate but Note OFF message is not sent till Gate signal goes up again.

    When a note mode is selected new scale and chord options are available. Please refer to page 11 for further info.

3. CC Gate A CC message will be sent each time a Gate signal is receive at Gate Input. Press the encoder to

select the CC Number, press again to select the CC value, and one last time to confirm the operation. A CC message with the selected value will be sent when a Gate goes up and a second message with a CC value of 0 when a Gate goes down.

4. CC Latch

Similar functionality as CC Gate but the CC value 0 won't be sent till a second Gate goes up.

5. Clock

Clock messages will be sent. Keep in mind it will consider a Clock IN when the gate level is high. By pressing the encoder you will access the Clock Set

Screen. There you will be able to Divide and Multiply the incoming clock signal as well as check the BPM.

```
CH:1 FAD  CANCEL END

DIV/MULT      MIDI BPM
  X4            086
FINE          INPUT/MIN
  1.000           INF
```
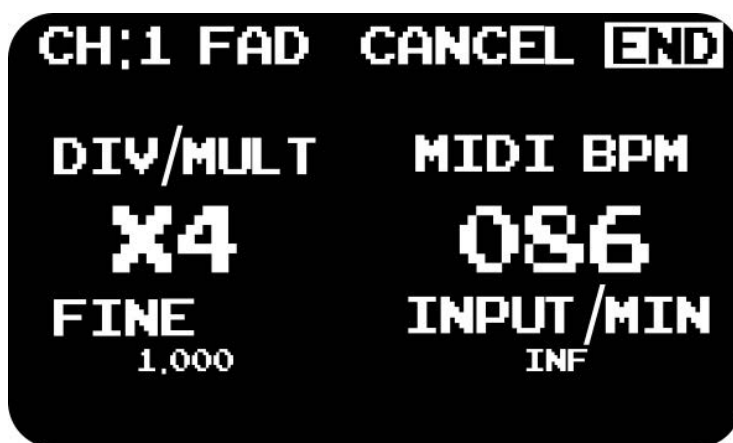
MIDI CHANNEL
Selects MIDI Channel for this Gate.

PORT NAME
Same function as in CV Edit mode. Check page 7 for further information.

CHORD MODE
When you select a mode that involve sending MIDI notes using a Gate, you will get new options in the first level of bank config Menu. These will allow you to send chords instead of single notes.
With this new Chord mode you can select the scale you will use, the ROOT note of this scale and the type of chord you want to send. Keep in mind that modes NOTES and Digital functions in CVs will not be affected by Chords options.

SCALE MODE
With this option you can select the scale you want your CV to be quantized to. If the CV does not match a note from selected scale it will send the previous lowest note that is present in that scale.
Available scales are:
Lydian, Major/Ionian, Mixolydian, Dorian, Minor and Phrygian.
When selecting the scale you will be automatically promted to select the tonality of the scale. You can select Full scale, that will send all notes, meaning there is no quantization.

ROOT SCALE
Select the tonality of the scale.

CHORD TYPE
This will select the kind of chords you will be sending. Keep in mind that if you selected a scale, then the type of Chords are pre-configured as per each scale.
When a scale is selected you can choose:

- No Chord: Send one note
- Diatonic Triad: Three notes Chord
- Diatonic Triad +7th: Four Notes chord with 7th

When no scale is selected (Full scale) This mode will allow you to select from a big list of chords. Feel free to explore!

CHORD VOICING
With this option you can select Inversions, open chords and Drop voicings. These will move certain notes within the chord, providing some extra flexibility.
A drop voicing is created by dropping one of the notes down an octave. If the second note from the top is dropped, the voicing is called a drop 2 voicing; if the third note from the top is dropped, the voicing is called a drop 3 voicing. Open chords are made like drops but moving the notes up one octave instead of down.
Chord Inversions are chords that don't have their root note as the lowest note. So each inversion is made bringing the notes down one octave and keeping the root.
So you have for four notes chords, Drop3, Drop2, Inversions, Open2 and Open3. Each with the root chord and the three inversions. Having the closed chord in the center and opening the notes in both directions.

STRUM
Set the time it takes to the chords notes to be played. Starting from the lowest frequency note first and then the rest, allowing this delay between them Maximum time between notes is 1 second.

HUMANIZE
Set a random time for each chord's notes to be played. This setting will set the maximum deviation time, so each note will have a randomized delay within that range.
Like this we can humanize chords on low settings and get super randomized notes generation in higher settings.

CHO RD VO ICING CHART

- Drop3 root 1st Inv
- Drop3 1Inversion 2nd Inv
- Drop3 2Inversion 3rd Inv
- Drop3 3Inversion Open3 root
- Drop2 root Open3 1Inversion
- Drop2 1Inversion Open3 2Inversion
- Drop2 2Inversion Open3 3Inversion
- Drop2 3Inversion Open2 root
- Root Open2 1Inversion

    Open2 2Inversion

    Open2 3Inversion

CV / FADERLINK

In VCMC, the Faders can take multiple functions. One of the most interesting of these, is to link them with the block CV Input. With it, you can use the Fader as, for example, an attenuator of the signal present at the CV Input. Let's take a look.
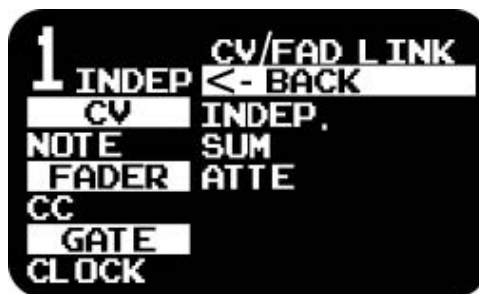
- INDEP: The Fader has its own function and is not linked to the CV Input (Default behaviour)
- SUM: The value of the Fader is summed with the value of the CV Input. On this mode the Fader works as an offset control for the incoming signal.
- ATTE: The Fader acts as attenuator of the incoming signal at the CV Input.

GLOBAL SETTINGS

In Performance Screen, hold the encoder for 5 seconds to access the Global Settings. On this screen you will be able to save and load presets between other things. Let's take a look.

PANIC
Sends a Note OFF message in all the channels. Press it if you experience that some messages gets stuck or held.

FACTORY RESET
Restarts the module to initial factory settings (see Out of the Box Configuration).

SAVE CONFIGURATION
Saves the current configuration of the module in one of the four banks available. At the same time the module saves the setting on its internal memory, a SYSEX message is sent via MIDI Outputs (see SYSEX paragraph below).

LOAD CONFIGURATION
You can choose either one of the settings saved on the two user banks or a factory preset (Go to Apendix 1 for further details).

GLOBAL CV CAL
Calibrates all CV Inputs at the same time. Quite useful when you have a multichannel CV Source (like a sequencer).

OUT OF THE BOX CONFIGURATION

By default, VCMC comes with an initial setting that allows you to quickly test some of the features of the module. In this configuration, push buttons have assigned C Major scale notes, starting with C3 (Note 60) in Block 1 button and finishing with C4 (Note 72) in Block 8. CV Inputs and Faders are assigned to CC's. Faders are CC numbers from 23 to 30 and CV Inputs CC numbers from 14 to 21. AuxA is assigned to CC 32 and AuxB to CC33.

MANAGING PRESETS

COMPUTER CONNECTIVITY
in VCMC, you can save and load configuration presets externally via SYSEX (System Exclusive Messages). This process can be done with a lot of applications (like DAWs or specific MIDI apps) and if you have vintage digital gear for sure those terms won't be new for you. If this is not the case, don't worry, we're gonna explain a very easy and fast way using MIDI OX, or our web editor.

SAVING PRESETS
MIDI OX is a free program for Windows (and Linux through Wine-HQ) that is able to play *mid/*syx files and upload them into VCMC. First connect your VCMC to your PC via USB connector (USB B to USB A cable). Launch MIDI OX and in the top bar press "Options >> MIDI Devices…" Select VCMC on MIDI Inputs and press OK.
Now go to "View >> SysEx…" On the new window (SysEx View & Scratchpad) press "SysEx >> Receive Manual Dump…" The program will wait for SysEx messages. Once done, go to the Global Settings Screen on your VCMC (hold the encoder for 2 seconds on Performance Screen) and select Save Conf. Select the bank and now check MIDI OX again. If all is fine you will have a message on MIDI OX with the size of the file received, press Done.
Now go to "Display Window >> Save As…" Name your file, save it in your preferred folder, and that's all.

LOADING PRESETS
Launch MIDI OX and in the top bar press "Options >> MIDI Devices…" Select VCMC on MIDI Outputs and press OK.
Now go to "View >> SysEx…" On tihe new window (SysEx View & Scratchpad) press "File >> Send SysEx File…" Select your SysEx file and press Open. As soon as the status bar finishes, you will have a prompted screen on your VCMC. Press Load SysEx, select the bank, press Discard and you are done.

WEB EDITOR
Check our web editor for an easy configuration. The site can generate a setup and send it toVCMC/CV Thing, or you will be available to save or load your settings on your computer.
It also has a live function, where you can see the changes you make on the website in real-time. This site only works on Web MIDI-enabled browsers and Firmware 1.4.1 or higher.
See "Appendix II" for more information. **https://www.befaco.org/VCMCconfig**

FIRMWARE UPDATE PROCEDURE

1. Get latest firmware file from Hex folder in our github. Make sure you clone the repository, as downloading just the file won't work.

   https://github.com/Befaco/VCMC

2. Install Teensy uploader app found here

   https://www.pjrc.com/teensy/loader.html

3. Connect VCMC to your computer using a USB cable.

4. Run Teensy uploader and load hex file. If prompted by the app, press teensy button to begin transfer…
   Make sure module is plugged in.

MISCELLANEA

SPECS & CREDITS

- Size: 20HP
- Depth: 30mm
- +12v: 65mA
- -12v: 8mA

This module is the result of loads of hours of work, love and care. It would have been imposible to finish without the help of beta testers, loving friends, people from Hangar's open thursdays providing very strong opinions and the whole Befaco team kicking asses as usual.
Hardware design, testing, documentation, graphic user interface and many funky extra features: Befaco team.
Caring, relentless, tireless beta testers: Miguel Cruz, Jose A. Cabrera, Miguel Eedl, Luis Bot, Ben Wilson aka Divkid and Ziv Eliraz aka Loopop and Quincas Moreira aka Synth DIY guy.
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Firmware coding, common sense and über-cold beers:
Sergio Retamero (**sergio.retamero@gmail.com**)

HIERARCHY SCHEMATIC

VCMC MENU HIERARCHY SCHEMATIC

Performance Screen
CV/Fader Level
MIDI Message Feedback

`1  12345678A`
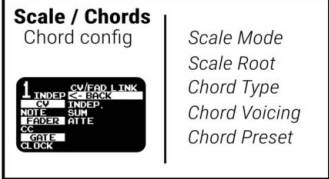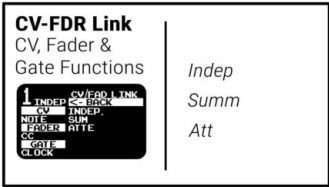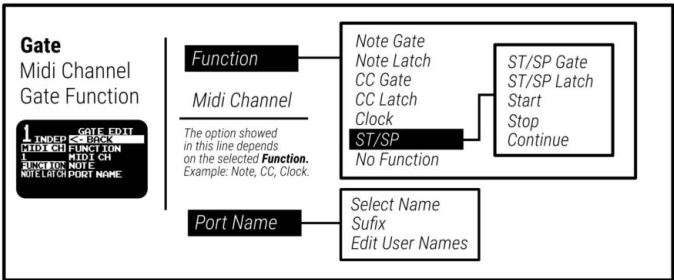`CC#14`
`CC#23`
`NOTE60`

Long Press →

Global Config Screen

`GLOBAL CFG`
`<- BACK`
`PANIC`
`FACTORY RST`
`DIM SCREEN`
`SAVE CONF`
`LOAD CONF`
`CREDITS`

Block Settings
CV, Fader & Gate Functions

`1        CONFIG`
`INDEP <- BACK`
`CV      CV`
`NOTE    FADER`
`FADER   GATE`
`CC      CV-FDR LINK`
`GATE    SCALE-CHORD`
`CLOCK`

*The options showed
in this menu depends
on the selected **Function.**
Example: Scale, Chord Type.*

CV
Midi Channel
CV Function

`1    CV EDIT`
`INDEP <- BACK`
`CHAN 1 FUNCTION`
`RG +10V MIDI CH`
`FUNCTION CV DELAY`
`VEL 29  RANGES`
`        PORT NAME`

- *Function*
- *Midi Channel*
- *CV Delay*
- *Ranges*
- *Port Name*

CC
V/Oct to Note
V/Oct Poly
NOTES
Velocity
Pitch Bend
Prg Change
Ch. Pressure
Chord funtions
Dig. Functions
Hi Res MIDI
No function

Scale
Scale Root
Chord Type
Inv / Drop

Note Gate
Note Latch
CC Gate
CC Latch
Clock
ST/SP
No Function

ST/SP Gate
ST/SP Latch
Start
Stop
Continue

NRPN
NRPN 7 BIT
CC 14 BIT

In Range
Out Range
Calibration

+10V
+5V
-5/+5V

Select Name
Sufix
Edit User Names

Fader
Midi Channel
Fader Function

`1    FADER EDIT`
`INDEP <- BACK`
`CHAN 1 FUNCTION`
`RG -10V MIDI CH`
`FUNCTION CV DELAY`
`VEL 29  OUT RANGE`
`        PORT NAME`

- *Function*
- *Midi Channel*
- *Out Range*
- *Port Name*

CC
V/Oct to Note
NOTES
V/Oct Poly
Velocity
Pitch Bend
Prg Change
Ch.Pressure
Chord Funtions
Hi Res MIDI
No Function

Scale
Scale Root
Chord Type
Inv / Drop

NRPN
NRPN 7 BIT
CC 14 BIT

Select Name
Sufix
Edit User Names

Additional Screens

Out Range

`CH:1 FAD  CANCEL END`
`      RANGE  TRIM`
`MIN   000   000`
`MAX   127   127`

Clock Set

`CH:1 FAD  CANCEL END`
`DIV/MULT   MIDI BPM`
`X4         086`

Calibration

`CH:1 FAD  CANCEL END`
`POINT   MIDI   NOTE`
`2V      24     C0`
`8V      96     C6`
`IN: MIDI NOTE/ VOLTS`

Gate
Midi Channel
Gate Function

`1    GATE EDIT`
`INDEP <- BACK`
`MIDI CH FUNCTION`
`1       MIDI CH`
`FUNCTION NOTE`
`NOTELATCH PORT NAME`

- *Function*
- *Midi Channel*
- *Port Name*

Note Gate
Note Latch
CC Gate
CC Latch
Clock
ST/SP
No Function

*The option showed
in this line depends
on the selected **Function.**
Example: Note, CC, Clock.*

ST/SP Gate
ST/SP Latch
Start
Stop
Continue

Select Name
Sufix
Edit User Names

CV-FDR Link
CV, Fader &
Gate Functions

`1    CV/FAD LINK`
`INDEP <- BACK`
`CV    INDEP.`
`NOTE  SUM`
`FADER ATTE`
`CC`
`GATE`
`CLOCK`

- *Indep*
- *Summ*
- *Att*

Scale / Chords
Chord config

`1    CV/FAD LINK`
`INDEP <- BACK`
`CV    INDEP.`
`NOTE  SUM`
`FADER ATTE`
`CC`
`GATE`
`CLOCK`

- *Scale Mode*
- *Scale Root*
- *Chord Type*
- *Chord Voicing*
- *Chord Preset*

*This submenu will only
appear when a Pitch related
Function is selected.*

WEB EDITOR

Make sure you are using Web-MIDI browsers. The editor is resposive and works on desktop and mobile devices.

Connect via USB cable the VCMC/CVThing to your device.
If the MIDI icon and module name are not green, refresh the browser, and make sure that VCMC/CVThing is selected in the "Devices" drop-down menu.

First stop "Global Menu" where you can setup your module and also save or load setups from your PC.
All the settings in this editor are the graphical representation of the module's parameters. If you have any doubts, please consult the manual.

Documents / Resources

befaco	**befaco VCMC Assembled Module** [pdf] User Manual VCMC Assembled Module, VCMC, Assembled Module, Module

References

- **GitHub - Befaco/VCMC**
- **Teensy Loader Application - available for Windows, Linux and Macintosh systems**