ALYSEUM - Q-VCA II - User manual 3.1

1 Introduction

The Q-VCA II module is a versatile, dynamic and high quality quad VCA.

After 6 years, feedback from Q-VCA users has led to an improved MK II version.

<u>The classic features are:</u>

- 100% Analog path.
- Toggle switch to select exponentially or linearly curve control.
- All inputs, control & outputs are DC-coupled and beyond audio.
- Inputs cascading to multiple VCA .
- Toggle switch to select gain 0,5X or 1X of the MIX Out.

<u>In addition to VCA control by CV, 4 unique modes are available:</u>

1. Manually via the potentiometer.
2. By a programmable MIDI controller (CC).
3. Associated with MATRIX II - Requires crossover between VCA and potentiometer values to avoid level jumps.
4. Associated with MATRIX II - Turn the potentiometer and the VCA is instantly updated.

<u>The use of the Q-VCA II as an extension to the MATRIX II allows the latter to :</u>

- Freely add 4 mixable sources to each of its 15 inputs.
- Freely add 4 mixable destinations to each of its 16 outputs.
- And for each MATRIX II memory to store the VCA levels.

2 Hardware

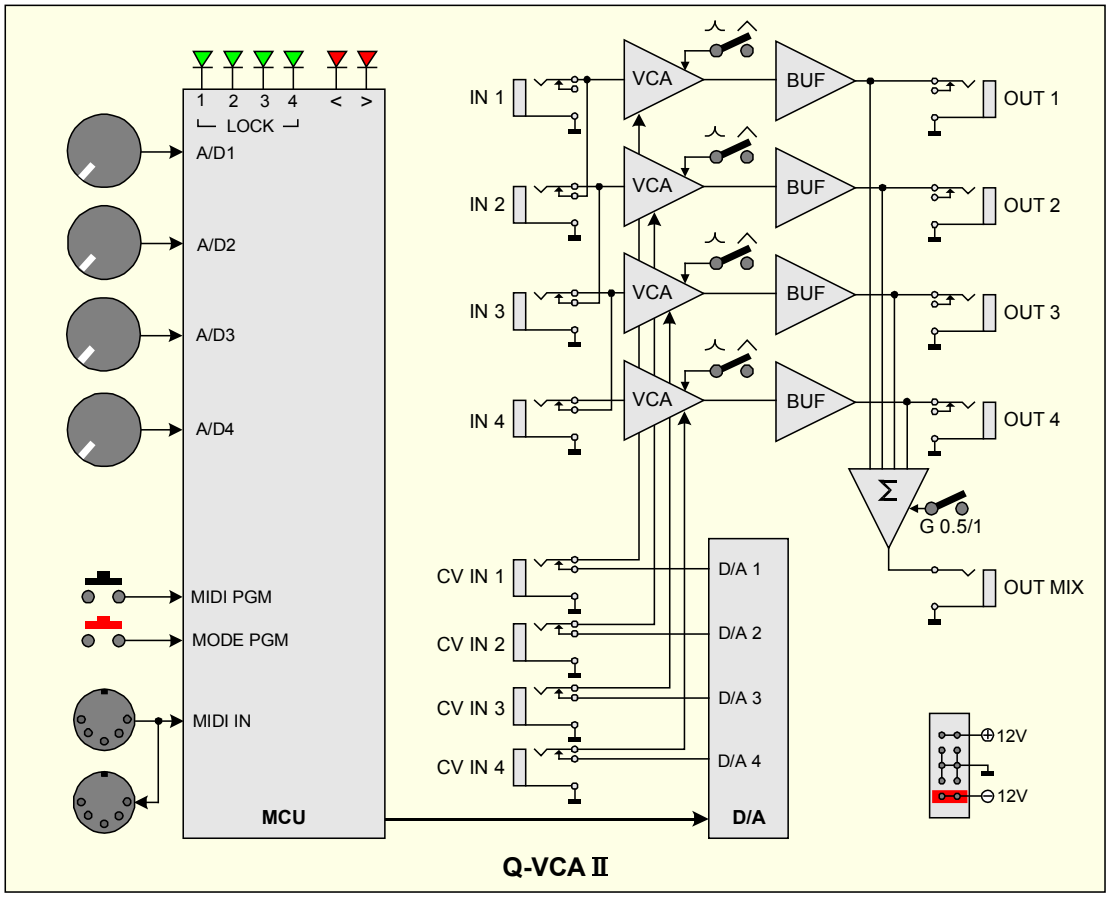
2.1 Package Content

- One Q-VCA II module with Eurorack compliant front panel.
- One plastic bag containing four M3 screws + four nylon washers + one 10/16 pins power ribbon cable + one short DIN/jack MIDI cable and one short jack/jack MIDI cable
- Warranty & user manual access card.

2.2 Specifications

- Front panel width of 50 mm (10HP) and a maximum depth of 26 mm
- 100% analog path
- High quality VCA type **AS3360.**
- Gain scale: +5V CV translates to a gain of 1 and 0V CV translate to a gain of 0.
- Settings restored after power cycle.
- Power requirements (full LED On): +12V= 60mA / -12V= 20mA.
- Polarized power header and protection against reverse polarity.

2.3 Bloc diagram.



2.4 Installation

Carefully choose a stable location for your Eurorack, avoiding vibration, dust, heat sources, humidity or rain.

Q-VCA II can only be used in a Eurorack synthesizer with an A-100 power supply.

During the entire installation procedure, always switch off your Eurorack.

Make sure that the red band on the flat power cable is correctly positioned at -12 Volts.

Using with the MATRIX II:

- Q-VCA II modules must be powered by the same power supply, or generally powered ON/OFF simultaneously with the MATRIX II.
- The MATRIX II MIDI Out must be connected to the MIDI Input of the Q-VCA II module. You can easily chain several modules, please connect the MIDI THRU to the MIDI IN of the next module, and more as necessary.

NB: We use a very high speed optocoupler with less 120nS delay (TLP2348). The goal is to be able to cascade a large number of modules without adding a delay on the MIDI. the use of a THRU BOX to avoid a delay is totally useless.

3 How to use

3.1 Initialization Sequence

1. Turn your Eurorack case power ON.
2. All LEDs Turn ON one by one.
3. Last Mode saved in the EEPROM is loaded.

Q-VCA II is ready!

3.2 Exponential or Linear VCA control

Use the corresponding toggle switch to select on the left, an Exponential curve and on the right, a Linear curve.

3.3 Mode Selection

1. Press the red push button MODE more as 1 second, the red LED < blink.
2. Press several times red push button MODE to obtain wished mode, the Mode selected turn ON the corresponding green LED LOCK.

MODE #	Configuration	Green LED
--	Insert a Jack plug to CV IN and you control by CV the corresponding VCA. Of course you Bypass the 4 modes below.	No matter
❶	Standalone (default)	1
❷	External MIDI device	2
❸	Crossing Use with the MATRIX II	3
❹	Instantaneous use with the MATRIX II	4

3. Afterwards keep press more as 2 seconds the red push button MODE to confirm your choice, the selected green LED flash 2 times to confirm the mode is programmed - OR - If you will cancel this operation, briefly press the MODE button or allow 15 seconds (timeout) to elapse.
4. Red LED < turn OFF.
5. The selected green LEDs flash 3 times to confirm the mode is programmed.

3.4 Mode ❶ - Use in standalone

Just turn a potentiometer and the corresponding VCA are updated.

At each time you turn the potentiometer, the corresponding green LED LOCK blink one time.

3.5 Mode ❷ - Controlled by an external MIDI devices

Use MIDI command

Similar as the Mode 1, but here, the control is operate by any external MIDI device with CC.

At each time a VCA receive a valid MIDI CH+CC, blink twice time the corresponding LOCK LED.

NB : The 4 potentiometers are not operant in this mode.

Programming MIDI command

Only programmable if the Q-VCA II module is configured in mode 2.

- Connect an external MIDI controller device on the MIDI input.
- Press the button MIDI more as 1 second, the 2 red LEDs < > blink.
- When the first valid MIDI command is received, VCA 1 is programmed (MIDI CH + CC) and the 2 red LEDs < > flash 3 times to confirm - OR - If you will cancel this operation, briefly press the RESET button or allow 15 seconds (timeout) to elapse.
- The 2 red LEDs turn off.

NB : VCAs 2, 3 and 4 are automatically programmed to the successive MIDI CC of VCA 1.

3.6 Mode ❸ - Crossing use with MATRIX II

For mode 3 & 4, SAVE/LOAD operations of the 4 VCAs are performed exclusively via the MATRIX II the 4 green LEDs blink one time.

To avoid any sudden transition between a new memory value and a potentiometer change, the potentiometer must be set to the memory value before the VCA can be changed.

Two cases:

1) You are lucky, the green LED LOCK of the potentiometer that controls the VCA you want to change is ON, just rotate the potentiometer to set the new value of the VCA.

2) More generally, the green LED LOCK of the potentiometer that controls the VCA you want to change is OFF, slightly rotate the potentiometer towards any direction until the **<** or **>** red LED is turned ON.

- If the **>** red LED is ON, rotate the potentiometer clockwise until the LOCK LED is turned ON.
- If the **<** red LED is ON, rotate the potentiometer counter-clockwise until the LOCK LED is turned ON.
- Once the green LED LOCK is On, the VCA is under the control of the potentiometer.

3.7 Mode ❹ - Instantaneous use with MATRIX II

Just turn a potentiometer and the corresponding VCA are updated.

At each time you turn the potentiometer, the corresponding green LED LOCK blink one time.

3.8 MIDI SYS-EX (❸ ❹)

These commands are generated by the MATRIX II, of course, if you will control the Q-VCA II by any software, welcome.

Please note that no support or assistance will be provided!

Commands SYS EX	**Header + ID Device + Command # + Data + End**
Load a Bank & Preset	F0 00 20 09 00 1F 00 XX YY F7 (XX=00 until 06 - YY= 00 until 1F)
Save a Bank & Preset	F0 00 20 09 00 1F 01 XX YY F7 (XX=00 until 06 - YY= 00 until 1F)

4 Miscellaneous

4.1 Disclaimer

The contents of this manual are subject to change without notice.

Brand names may be used and we hereby declare that we are using the name for the benefit of the brand owner, without any intention of infringement.

4.2 Warranty and repair

ALYSEUM warrants to the original purchaser that each of these products is free from defects in materials and workmanship for a period of two years from the date of purchase.

This warranty does not apply to products which have been repaired or modified by anyone other than ***ALYSEUM***, or which have been subjected to electrostatic discharge, moisture, improper installation or use.

ALYSEUM assumes no responsibility for such occurrences under the terms of this warranty.

Before taking any action, please consult your dealer for further details or visit our support page at http://www.alyseum.com/support .