

NEW FEATURES in 1.13:

- allow to switch the **REVERB** output to **QEX** outputs **3 + 4**: see **1.10 easter egg features** below
- support **WAV** files with embedded **CUE** points in **single file mode** (see **1.11** features). If cues are present in the file, the **MOD** pot will select the **CUE** point from which the sample is started.
- show **SD CARD ERRORS**: if there are **errors** when reading from the **SD card**, there is a **blinking RED** dot shown next to that voice's activity meter (toggle switch in **MUTE** position)
- allow to **re-read SD card** without power cycle: with the **SD card** inserted while the module is **powered on**, toggle the switch to **MUTE**, **MIX** or **CV**, then press and hold the **encoder button** for **5 seconds** (after **2 seconds** the LED circle starts to turn **green**). the SD will be **re-read** - beware that voice playback will be **stopped** during that time!

NEW FEATURES in 1.12:

LOADING / SAVING OF A SINGLE VOICE TO A PRESET:

With **QEX** installed, it is possible to **load** or **save** a single voice to or from a **preset** instead of loading/saving the complete set of all 4 voices.

- press **F-button** to access **presets**. (See below for standard preset operations)
- all four **QEX** LED buttons are lit, indicating that you are loading or saving presets with all 4 voices.
- **long press** a **QEX** LED button to select the **voice** that you want to load/save from/to. A single **QEX** LED button will light up indicating you are in **single voice loading / saving mode** for that particular voice.
- **rotate the encoder** to select a preset (blinking cursor) or use the QD LED buttons to change banks
- **long press** the encoder to **save** that **particular** voice to the selected preset
 - **NOTE**: single voices cannot be saved to **empty** preset!
- or **short press** the encoder to **load** that **particular** voice from the selected preset
- or **long press** an **unlit QEX LED** button to change the voice selection for loading/saving
- or **long press** the **lit QEX LED** button to return to standard preset mode (4-voice)

at any time press the **F-button** to exit preset mode

SINGLE VOICE LIMITATIONS:

Standard (**4-voice**) presets save **everything**: all four voices, 8 LFOs, 8 CVs, both EQ settings, and master volume. These settings greatly influence how each voice sounds.

Single voice preset operations are more limited. They only save/load:

- model or sample/wavetable selection
- pitch, decay, and mod settings
- mix settings (level, pan for channels 1/2, fade for channels 3/4)
- extra parameter

When loading a single voice, the current LFO, CV, and EQ settings remain **unchanged**. This means:

- The loaded voice might sound different than expected because it uses the current modulation settings and EQs instead of the original preset's settings
- Loading a single voice might miss crucial modulations that were part of the full preset
- Saving a single voice won't store any active modulations that shape the current sound

While this feature enables **new workflows**, use it carefully, especially with complex presets or expect very **happy accidents**.

SAVING / LOADING PRESETS TO / FROM THE MEMORY CARD: (see below in the presets section)

NEW FEATURES in 1.11:

- when QD scans the **memory card** for samples, it checks if the samples are **continuous** or **fragmented**. If a sample set has fragmented file(s), it will show a **WHITE LED** instead of the sample set colours. If the sample set has WAV files that are **not compatible** with QD, it will show a **RED LED**.
- **NOTE:** for **optimal performance**, none of the files should be **fragmented** on the card. To ensure **no fragmentation**, it is recommended to **erase all files** from the card, then copy **all files in a single copy operation** from the PC/Mac
- when a **sample set** has only **one** file, the **MOD** pot allows to change the **start point** for the sample playback. this will only work for files that are **not fragmented**, so make sure you copy these files cleanly, see the above notice. **NEW: if CUE points are present, the MOD pot will select one of them.** In this mode, the LOW PASS GATE **EXTRA** is not available, instead **press and hold** the mute LED button and use the **encoder to fine tune** the sample start point, this offset is **saved** with presets
- if a folder has **"FOREVER"** in it's name, the sample(s) will **autostart** and **loop** forever, the trigger signal will just **trigger** the envelope. the sample(s) will still change due to **MOD** pot and **CV/LFO** when there is a **trigger or they loop**
- in **MIX** mode, press the **bottom two** LED buttons together to access the **master volume**, it allow to change the total volume of all 4 voices between **25%** and **100%**, this is also saved with presets
- **CHOKE:** a trigger on voice **4** will stop (**choke**) voice **3**, with long press also voice **2** will choke voice **1** (**NOTE: before 1.11 the order was 2 choke 1, then 4 choke 3**)
- **QEX:** a new setting allows a trigger on **QEX CV2** to trigger **all 4 voices** at the same time (see QEX manual) - a **Gaz Williams** special request feature :)

NEW FEATURES in 1.10:

"EASTER EGG" FEATURES:

- **REVERB:** when in the **EQ/COMPRESSOR** screen, **long press** the encoder to access the **reverb** settings
 - reverb only works on QD main outputs **1** and **2** or on QEX outputs **3 + 4**, **see below**
 - use the bottom LED buttons to select **blue:** reverb mix, **red:** feedback, **yellow:** diffusion, **green:** reverb time
 - when the reverb **mix** is not 0, the reverb setting can be accessed with a normal press on the encoder: **MIX -> EQ/COMP -> REVERB -> MIX.**
 - reverb settings are **stored** with presets
 - **NEW in 1.13:** press the **two bottom most LED buttons together** to access the Reverb routing: **LEFT/CYAN:** reverb on outputs **L** and **R**, **RIGHT/ORANGE:** on outputs **3 + 4**
- **EXTRA:** with the toggle switch in the **MUTE** position, **press and hold** a mute LED button to access an **"extra"** parameter for sample/wavetables and **most** of the digital models, note that the extra value resets to 0 when you change the model, but will be kept if you are switching between samples or wavetables

LOW PASS GATES:

- samples and wavetables now also have an **EXTRA** namely **LOW PASS GATES**
- with **EXTRA** at zero, the standard **decay** envelope is used.
- with **EXTRA** not zero, the decay envelope is replaced with a **resonant low pass gate**.
- with increasing **EXTRA**, the **resonance** is increased, in the 2nd half of the circle the **cutoff frequency** is also reduced - try it out :)

NEW FEATURES:

- when editing the **CV attenuation level** a blinking **purple LED** shows the **current CV signal** of the selected CV input - this is useful to see the range of the incoming CV signal
- **new** model **#15 - BLENDED VCO:** the **EXTRA** feature allows to change the **PWM value** from **0.5** to **1.0**
- **new** digital model **#15 - SUPERSAW VCO:** MOD changes the detune amount, **EXTRA** morphs between super saw and **super triangle** (less harmonics)
- new **EXTRA** handling: **EXTRA** value is now stored per voice, not per model, when you change the model, the **EXTRA** value is reset to 0

QD FEATURES:

- **22hp** Eurorack module, 12V: 100mA, -12V: 10mA, 5V: 0mA
- **four** independent **digital drum voices**, each can be
 - a digitally **modelled** drum
 - or a **sample** from a **sample set**, loaded from a **memory card**
 - or a **wavetable VCO** from a **wavetable bank**, loaded from a **memory card**
- built-in **stereo panning mixer with 3-band EQ** and **Compressor**, every voice can be **mixed** and left/right **panned** into **two** output channels
- four **flexibly assignable CV inputs** and **LFOs**, each CV input or LFO can be assigned to any one of the twelve control potentiometers, volume and pan level
- save and recall **64 presets**

QD USER INTERFACE:

- the **four** drum voices are arranged in four corners of a **square**, counting from bottom left we have: voice 1 (**blue**), voice 2 (**red**), voice 3 (**yellow**) and voice 4 (**green**)
- the **trigger inputs** are on the left and right edge of the module, arranged in the same **square** as the drum voices
- each of the four drum voices has **three potentiometers**
 - for digital modelling: control **pitch, decay** and a drum **specific parameter**
 - for sample playback: control **pitch, decay** and **sample selection**
 - for wavetable VCO: control **pitch, decay** and **wavetable selection**
- there are four **bottom LED buttons** arranged in a somewhat **square** layout, these correspond to the four **drum voices** in the corners as well as to the four **CV inputs** right next to them
- four **CV inputs** are also arranged in a somewhat **square** layout, they are selected with the four **bottom LED buttons** just next to them
- there is a central **rotary encoder** with **push button** function and a **circle** of sixteen colour LEDs around it - **circles, yay!!!**
- a **three-way toggle switch** that switches the control between **MUTE/voice selection** (top), the **mixer/EQ** (middle) and **CV / LFO assignment** (bottom)
- the **top F-button** to access special functions, see below

MEMORY CARD OPERATION AND ORGANISATION:

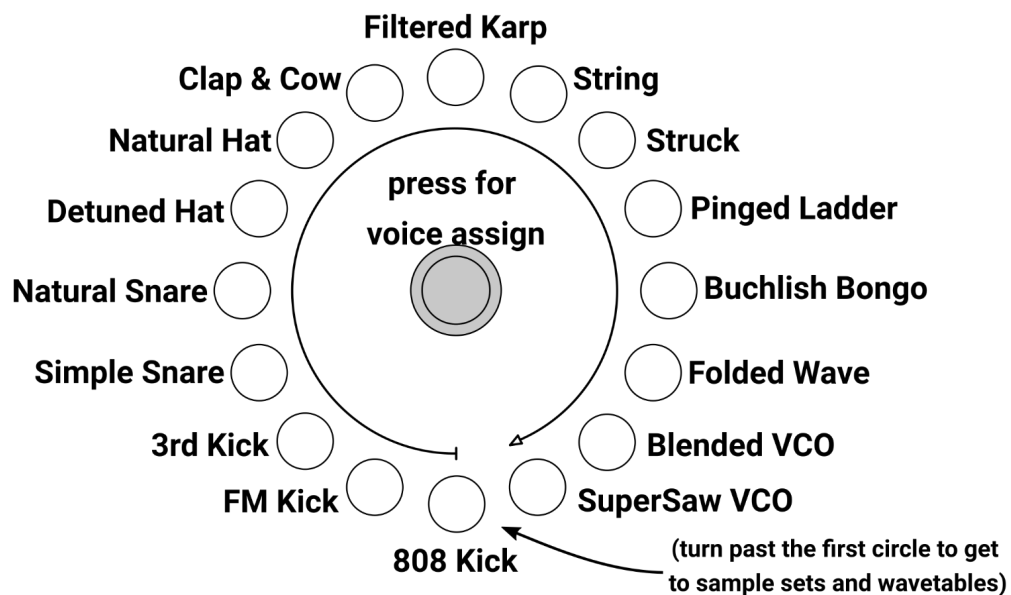
- during **startup** the module will **scan the memory card** for **sample sets** or **wavetable banks**, the LED circle will light up cyan/pink for every set found
- **removing** and **swapping** the card while powered up is **not (yet) supported**
- **NOTE: for optimal performance, none of the files should be fragmented on the card. To ensure no fragmentation, it is recommended to erase all files from the card, then copy all files in a single copy operation from the PC/Mac, see also the SPECIAL FEATURES section below**
- a **sample set** is a **folder** in the **root directory** of the card with up to **128 WAV** files samples inside, samples are **16-bit, MONO, 44.1kHz or 48kHz**
- **44.1kHz** samples are **pitched up** to match **48kHz**
- samples can be of **any length**, up to the size of the memory card.
- a **wavetable bank** is a **folder** in the **root directory** of the memory card with a **single WAV file** inside, **16-bit, MONO**
- the **name** of a **wavetable folder** must include the letters **"WT"** and a number that gives the **number of samples per wavetable**, e.g. **WT256_bank01** for a bank with **256 sample** wavetables.
- the maximum number of samples per wavetable bank is **16k (16384 samples)**, so there can be a maximum of e.g. **64** wavetables of length **256** in a bank
- a maximum of **48 sample sets or wavetable banks** are supported, all others are ignored.
- a **maximum** of **1536** samples or wavetables **in total** is supported
- all **sample sets and wavetable banks** are sorted **alphabetically** according to the folder name - the sorting only happens **after** the **first 48** folders have been found
- if a folder has **"RANDOM"** in its name, every trigger will pick a **random** sample from that folder, the **MOD** pot controls the amount **randomness**

MUTE/VOICE ASSIGNMENT :

- put the toggle switch in the **top** position (**MUTE**)
- the four LED buttons **mute/unmute** each of the four voices. the LED buttons also show trigger activity for that voice with short flashes
- to assign a voice, press the **encoder button**:
 - the four **bottom LED buttons** show the currently selected voice, press any of them to select each voice individually
 - the **LED circle** shows what model/sample set/wavetable bank is assigned to this voice (**blinking**) as well the assignment for the other voices (**steady colour**)
 - **rotate** the encoder to select another model, sample set or wavetable bank
 - to **manually trigger** a voice, press the same **LED button** again
 - press the **encoder button** or move the **toggle switch** to leave voice assignment

starting from the LED right above the **toggle switch**, the voice assignment is shown on the LED circle in a clockwise direction:

position 1-16 (WHITE): digital modelling drum voices:



Notes:

- **Clap & Cow:** PITCH: filter cutoff / DECAF: filter resonance
- **Filtered Karp:** MOD: lowpass/highpass blend
- **Pinged Ladder:** PITCH: filter cutoff / DECAF: filter resonance
- **SuperSaw:** 7 detuned saw wave oscillators, **MOD** controls detune

position 17-32 (CYAN): sample set/wavetable bank **1-16**

position 33-48 (VIOLET): sample set/wavetable bank **17-32**

position 33-48 (ORANGE): sample set/wavetable bank **33-48**

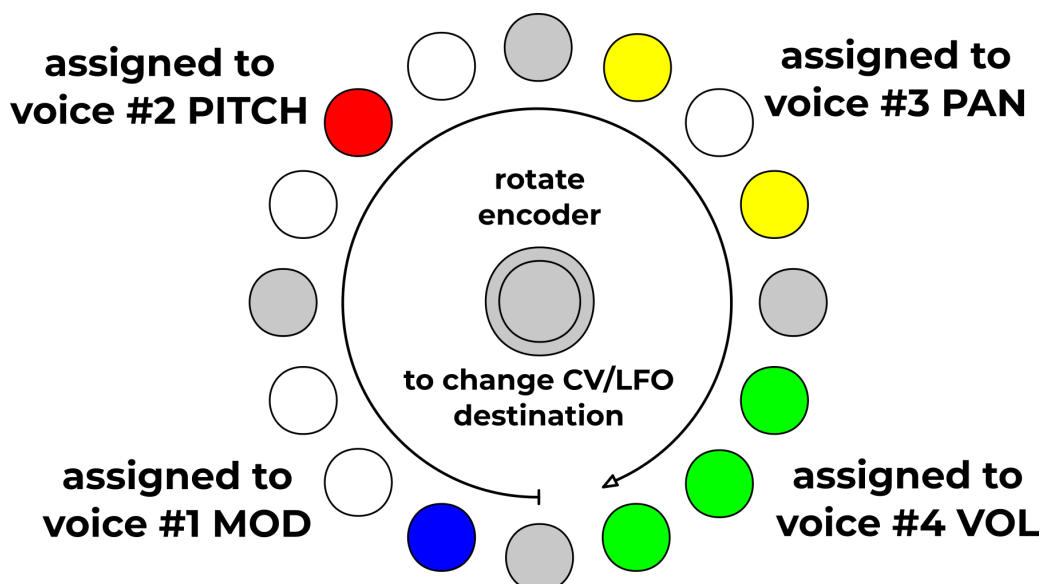
- **samples**, controls: **pitch +/-1 octave, decay, sample selection** (if there is more than one sample file in a set)
- **wavetables**, controls: **pitch +/-2 octaves, decay, wavetable selection** (if there is more than one wavetable in a bank)
- if the same sample is triggered **repeatedly**, it will be played with **minimal latency** (<1ms) since the start of the file is **cached** in internal memory, when changing the sample via **CV control** the latency will **increase** slightly (<2.5ms) since a new file has to be loaded from the **memory card**

MIXER, PAN, EQ, COMPRESSOR:

- put the **toggle switch** in the **middle** position (**MIX**)
- the four **LED buttons** show the currently **selected voice**, press any of them to select each voice individually
- the **LED circle** shows the current **VOLUME** level of the selected voice (in the colour of the voice), there are **32** steps between **muted** and **maximum** level
- **NEW in 1.11:** press the **bottom two** LED buttons together to access the **master volume**, it allow to change the total volume of all 4 voices between **25%** and **100%**, this is also saved with presets
- **press and hold** the **LED buttons** to access the **PAN level** control, **rotate** the encoder to move the panning **left/right**, then release the LED button again
- press the **encoder button** to access the **EQ/compressor** control, use the **LED buttons** to select the **EQ bands**: (blue: **low**, green: **mid**, yellow: **high**, red: **compressor level**), rotate the encoder to change the EQ band **gain** or the **compressor** level
- press the **encoder button** or move the **toggle switch** to leave **EQ/compressor** control

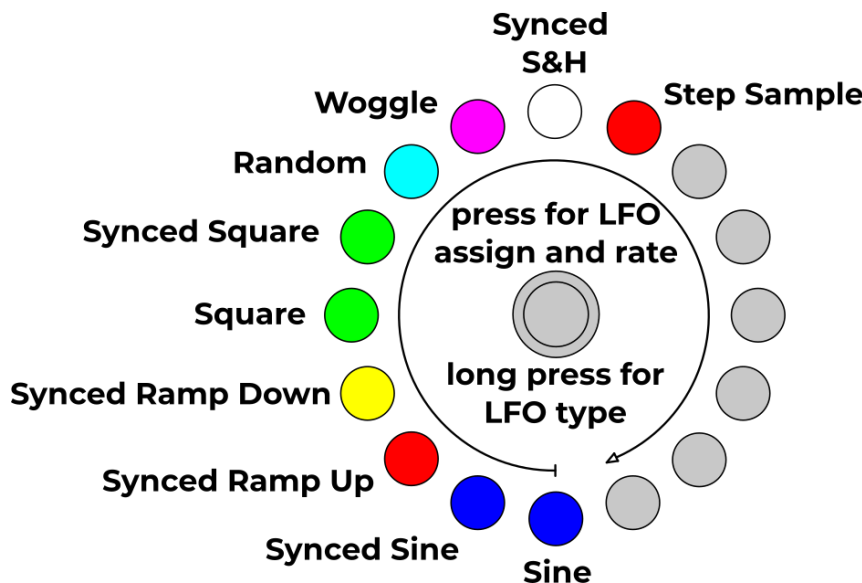
CV ASSIGNMENT AND CONTROL:

- put the **toggle switch** in the **bottom** position (**CV**)
- the **four LED buttons** show the currently **selected CV input**, press any of them to select each CV input individually (CV inputs are **-5V** to **5V**)
- the LED **circle** shows what potentiometer the **selected CV input** is **assigned** to (in the colour of the drum voice) as well as the current **CV attenuation level** (in **WHITE/GREY**)
- **rotate** the encoder to change the CV attenuation in **32 steps** from CV **fully attenuated** (disabled) to CV at **maximum** level (at maximum level the CV is scaled to **V/octave**)
- the attenuated CV signal is **added** to the assigned potentiometer value
- press the **encoder button** to change the CV assignment:
 - the LED circle will **blink** at the currently **assigned** potentiometer (in the colour of the drum voice)
 - **rotate** the encoder to change the assigned potentiometer
 - if you turn the encoder past the first circle you can also assign the CV to the voices **PAN** or **VOLUME** level
 - press the **encoder button** or move the **toggle switch** to leave CV assignment



LFO ASSIGNMENT AND CONTROL:

- put the **toggle switch** in the **bottom** position (**CV**)
- the **four LED buttons** show the currently **selected CV or LFO**, press **two adjacent buttons** at the same time to select an **LFO**, two LED buttons will light up
- the LED **circle** shows what potentiometer the **selected LFO** is **assigned** to (in the colour of the drum voice) as well as the current **LFO attenuation level (CYAN)**
- rotate the encoder to change the LFO attenuation in **32 steps** from LFO **fully attenuated** (disabled) to LFO at **maximum** level
- the attenuated LFO signal is **added** to the assigned potentiometer value
- press the **encoder button** to change the **LFO assignment**:
 - the LED circle will **blink** at the currently **assigned** potentiometer (in the colour of the drum voice)
 - **rotate** the encoder to change the assigned potentiometer
 - like for **CVs** you can also assign to the **PAN** or **VOL** level of a voice
 - press the **encoder button twice** or move the **toggle switch** to leave LFO assignment
- press the **encoder button** again to change the **LFO speed**:
 - the LED circle will show a shape (**VIOLET**) that moves slow or fast depending on the current **LFO speed** and **type**
 - **rotate** the encoder to change the **LFO speed** in **48 steps**
 - press the **encoder button** or move the **toggle switch** to leave LFO speed control
- **long press** the **encoder button** to change the **LFO type**:

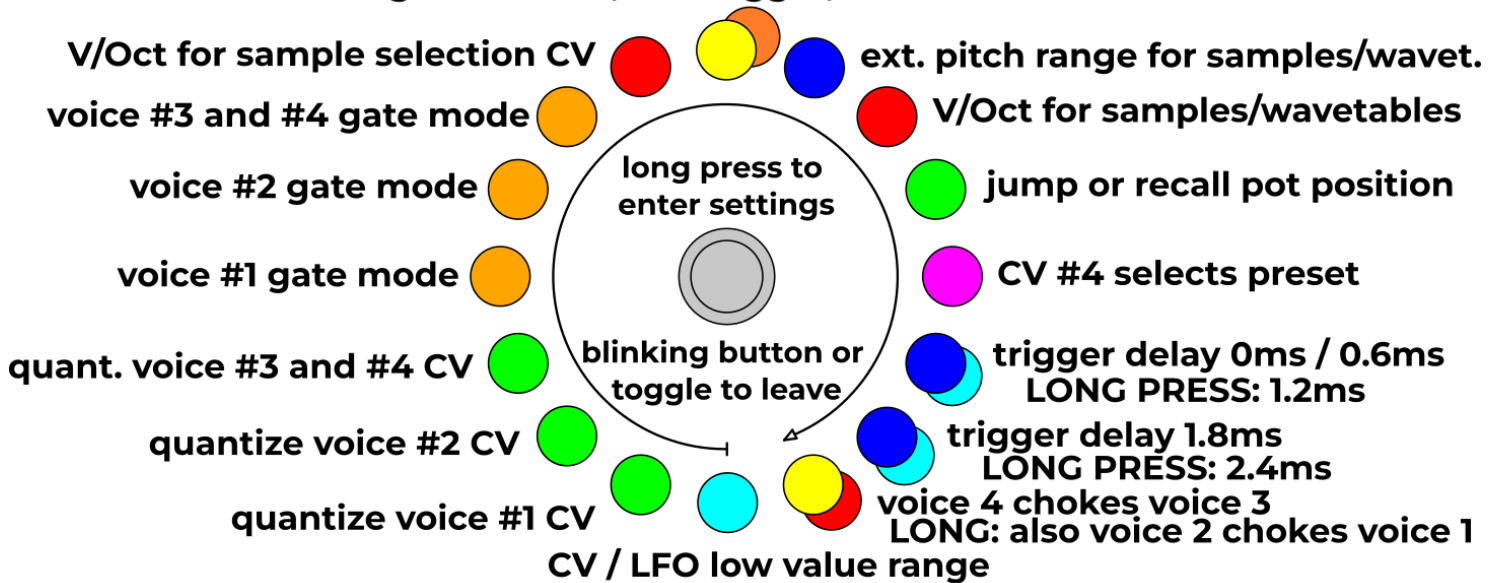


- press the **encoder button** or move the **toggle switch** to leave LFO type selection

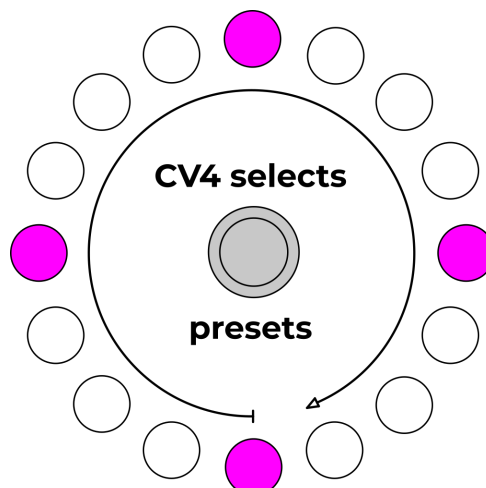
SETTINGS:

- **long press** the encoder button to access **settings** **toggle switch in MUTE or MIX**
- **rotate** encoder to select a **setting**, press **encoder button** to turn a setting **on or off**

muting OFF: audio, ON: trigger, LONG PRESS: both



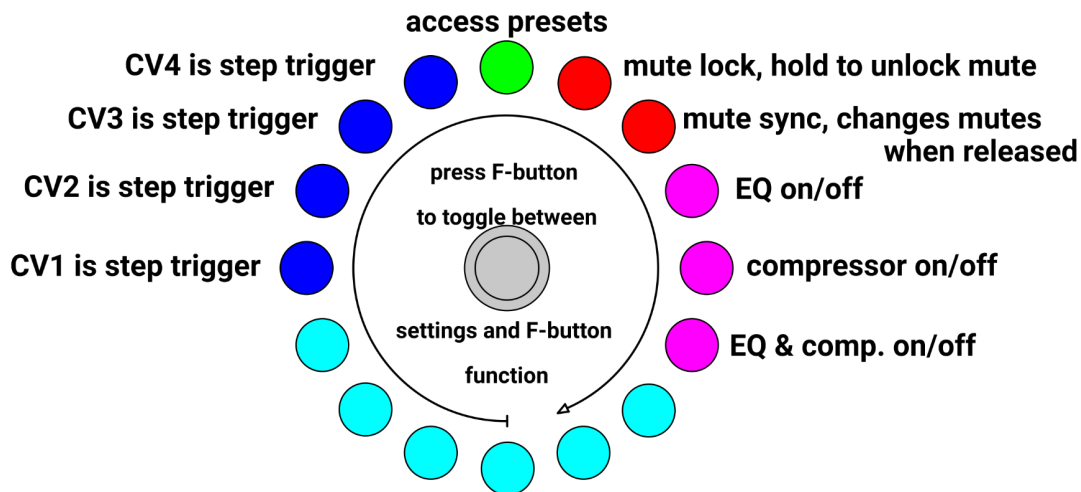
- if the setting has a **second** state/colour, **long press** the encoder to enable it
- **mute mode** merged into one setting, **short press** for mute trigger, **long press** for mute trigger and audio
- **trigger delay** merged into 2 settings, use short or long press
- **quantize voice:** settings for quantizing voice **3 and 4** have been combined into one
- **EXTENDED PITCH RANGE:** OFF: **2/4** octaves, ON: **4/6** octaves (for **samples/wavetables**)
- **CHANGED: CHOKE:** a trigger on voice **4** will stop (**choke**) voice **3**, with long press also voice **2** will choke voice **1** (**NOTE: before 1.11 the order was 2 choke 1, then 4 choke 3**)
- **CV / LFO low value range:** with this enabled, there are an additional 32 steps of very low **CV amount** or **LFO speed**. when reducing the CV amount there is another 32 steps between step 1 and 0 of the high range, the **LED circle** will **blink** to show its in **LOW range**
so: **0 - 31** steps of **LOW range**, then **1- 32** steps of **HIGH range** (as before)
- **GATE MODE:** in this mode samples, wavetables and some models will not start to decay until the trigger/gate is **released**, only then will the decay envelope **start**
- **V/Oct for sample selection:** with this enabled, CV will be **quantized to semitones** (1/12V) when selecting samples, this way you can use a sequencer to exactly determine what sample to play **regardless of the total number of samples** in the folder (needs to have the CV attenuator set to maximum)
- **CV #4 selects presets:** in this case the **CV assignment** LED display for **CV #4** will look like this:



- press blinking **LED button** or move the **toggle switch** to leave settings

F-BUTTON:

- the **F-button** allows you to map one “special” function to this button and then access it quickly.
- the currently available functions are (LEDs 1-12):



- press the **F-button** while in **Settings** to access **F-button functions**
- **rotate** encoder to a function, then press **encoder button** to **confirm** it
- press **LED buttons** or move the **toggle switch** to leave settings

EXTRA SETTINGS ON F-BUTTON PAGE:

- **CV STEP TRIGGERS:** the last 4 LEDs in the **F-BUTTON** settings enable **CV STEP TRIGGERS**, for each voice you can make the **CV** next to it act as a step trigger and advance to the next sample. this is similar to the **STEP LFO**, but you can control it externally via the **CV** inputs

PRESETS:

- press **F-button** to access **presets**
- **64** presets in 4 **banks** of 16
- **current** preset is selected, **saved** presets are shown in bank colour, **empty** slots are dark
- use bottom **LED buttons** change to another **bank** (1-4)
- **rotate** encoder to select another preset
- **long press** encoder button to **save**, **short press** to **load** a preset
- presets store **everything** including the pot positions, except for the mute state
- after a preset is loaded, the **pot behaviour** depends on setting **#4**: **“jump”** will change the value **immediately** to the new value if the pot is moved, **“recall”** will not change unless you move to the **previously saved** position
- with setting **#5** enabled, **CV #4** will control the current preset, **0V - 5V unipolar** is spread across all **saved** (non-empty) presets
- **COPY and DELETE presets:**
 - press and hold **LED bank button** to enable **copy/delete** mode, cursor turns **cyan**
 - in **copy/delete** mode, **long press** encoder to **delete** a preset, circle will flash **orange**
 - in **copy/delete** mode, **short press** encoder to **copy** a preset, cursor will turn **purple**
 - release **LED bank button**, cursor stays **purple**, then **long press** encoder to **paste** the copied preset into another slot.
- press **F-button** again to leave **presets**

SAVING / LOADING PRESETS TO / FROM THE MEMORY CARD: (NEW in 1.12.3)

- press **F-button** to access **presets**
- **press and hold** all 4 bottom **LED buttons**, the LED circle will turn **white**
- to **save** the presets, turn **encoder** to the right until half the LED circle is **green** and the bottom LED buttons **flash**, then **long press** the encoder button to **save** the presets from the memory card
- to **load** the presets, turn **encoder** to the left until half the LED circle is **red** and the bottom LED buttons **flash**, then **long press** the encoder button to **load** the presets from the memory card
- press **F-button** again to leave **presets**

QD FIRMWARE UPDATES:

- check **vpme.de/QD** for firmware updates, download and save the **.UPD** file to your PC
- the **current firmware** version **last digit** is shown as the **number of red dots** on the **blue** LED circle at startup, so e.g. for version **“1.11”** eleven **red dots** are shown
- Copy the **.UPD** file to the **root** folder of your **memory card**
- **safely** eject the card from your PC/Mac
- power off the module and insert the **memory card** into the slot
- Press and hold the **top LED button** and power on your system, the **top LED button** will blink..
- Press the **middle encoder button** to start the update process, the four bottom LED buttons will blink during the update process.

when the update was **successful**, press any of the four **bottom LED buttons** to **restart** the unit with the new firmware.

FULL DEVICE RESET:

- to perform a **full reset** to factory defaults:
 - **power off** QD
 - press and hold the lower four **LED buttons**
 - **power on** QD and wait a few seconds
 - device will reboot into factory defaults, **all settings and presets will be lost!**

CALIBRATION:

units will come **already calibrated**, to redo the calibration you need an exact **3V** CV source

- connect the unit to your rack and let it warm up for **15 minutes**
- power down, remove all cables and power up the unit holding the **two left LED buttons**
- the LED circle will show the **0V** offset for the selected **CV** input in **blue**, rotate the middle encoder to **center** the display on the top **12 o'clock** position
- use the **LED buttons** to select all 4 CV inputs and repeat the process
- plug an exact **3V** signal into one of the CV inputs, the LED circle will change to **red**, again use the encoder to **center** the readout at **12 o'clock**
- repeat the process for all 4 CV inputs
- to save the calibration, **press and hold** the middle encoder button, the unit will restart

ACKNOWLEDGEMENTS:

Samples on the memory card courtesy of and used with permission:

Tony Gieracki / Tony deKaro

www.facebook.com/tonydekaro

- deKaro Signature Drums & Glitches

Matthias Millhoff / INSTANT

instant.wtf

- INSTANT Kicks, Hats, Claps and Clacks

Marco Scherer

www.marcoscherer.de

- Marco Scherer Kicks, Snares, Hats, Toms, Claps & Percussion

Richard Devine

www.devinesound.net

- BENT TR-808 SAMPLES & BATTERY KIT
- CWEJMAN S1 SYNTHESIZER BATTERY KITS
- MODDED ARP 2600 SAMPLES & BATTERY KITS

WAVETABLES:

all wavetables courtesy of

waveeditonline.com

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- Cyril Colom makingsound.fr
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- Marco Petracca / HHNOI hhnoi.com

OPEN SOURCE and PUBLIC DOMAIN LICENCES:

Simple Compressor (source)

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EQ.C - Main Source file for 3 band EQ

(c) Neil C / Etanza Systems / 2K6

Shouts / Loves / Moans = etanza at lycos dot co dot uk

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Author: Emilie Gillet (emilie.o.gillet@gmail.com)

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