Polyend Preset

Preset
Version: 1.07

Eurorack Preset Recaller and Sequencer

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Introduction

https://www.youtube.com/embed/zcX87aWARjw?feature=oembed

At Polyend, we dig the Eurorack for its endless versatility. Sometimes though, we feel that there?s something missing. Then we start thinking about how to improve it. Probably everyone who?s using the modular systems once faced a dilemma of not being able to store sets of multiple modules values at the same time. In other words, they were unable to save and recall their presets in a fast and convenient way. The pros of being able to do so both in a studio and live situations are obvious.

The 22 HP interface is simple, clean and streamlined. At first glance, Polyend Preset module might look like a simple digital preset manager for Eurorack systems but it?s much more than this. Its vast implications make it a very smart companion for your modular system. But let?s start from the basics. With the use of 9 LED coloured clickable encoders Preset allows you to store up to 9 different CVoutput values in 32 banks of 32 presets (1024 in total!).

These are:

- Notes (1V/Oct),
- Gates,
- Constant Values,
- Recorded CV automation (up to 30 seconds each).

Then, of course, it’s possible to immediately recall these presets by manually triggering them via the built-in pads. But there?s also the ability to trigger and sequence the presets with incoming CV. Patches can become more lively and can be changed quickly in seconds. Feed the Preset with a clock source or LFO, and it turns into a sequencer. The sequencer of presets.

The Preset adds an entirely new layer of replicability in your modular system, which is especially useful for live musicians. Program the notes sequences using one of the 32 build-in musical scales. Record the automation using the encoders. Or maybe copy an existing LFO or envelope from another module using the CV input. These all can be later recalled out of one of the 9 Preset CV outputs. You could build an entire performance with the use of the Preset module. Each recording of voltage can be up to 30 seconds in length. Worth mentioning is what's done with the Preset is being autosaved. That?s already a lot of functionality, right? But it's just the beginning.

User menu parameters

The Polyend Preset module has one user menu available, which consists of 9 items. To enter the menu, hold all three buttons. To change items value turn one of 9 encoders while holding the three buttons.

The menu parameters:

- CV in (R/CV/GT):
    - R – record an external value (0-10V),
    - CV – toggle preset pad with voltage (where 0V is the first preset and 10V is the last one),
    - GT – switches to the next pad whenever CVinput receives a min. 2,5V. While playing a sequence in the GT mode – pressing the pad will retrigger the sequence initial position.
    - Sync Automation, where received gate signal reset/retrigger all the recorded automation.

After playing the last preset the system jumps to the first one. This is the best way to use the Polyend Preset as a sequencer. If the Presets's CV in is set to CV or GT. Sequence length allows to narrow down the number of steps in a sequence.

- Smoothing (ON/OFF) – when toggled on, will smooth out recorded automation.
- Sync (ON/OFF) – when on, will start playing the automation from its beginning whenever the preset pad is triggered. Otherwise, the automation phase is independent.
- Scale (1-32) – use the encoder to choose the desired scale — the list of scales in the appendix.
- Slew (0-5 seconds) – allows morphing each of the nine available values from one preset to another in a chosen amount of time.
- Seq length (1-32) – sets the number of steps in the sequence.
- Note display (ON/OFF) – allows toggling on or off the visible note display on the grid while choosing the notes. If Note display is turned on, the micro-scale will be indicated by the last two columns on the grid.
- Map Display (ON/OFF) – when toggled on, the occupied presets or banks will be constantly displayed on the grid with 30% of backlit.
- Note voltage (VO/HV) – sets the note output mode to V/oct or Hz/V.



Basic Preset operations

Preset has 32 banks of 32 presets. There are two different ways of entering notes and values. The first is by turning the encoder. You will see the values displayed on the grid pads and on the encoder itself (the brighter the encoder, the higher the value). The second option is to click and hold the encoder and pick the desired value from the grid pads.

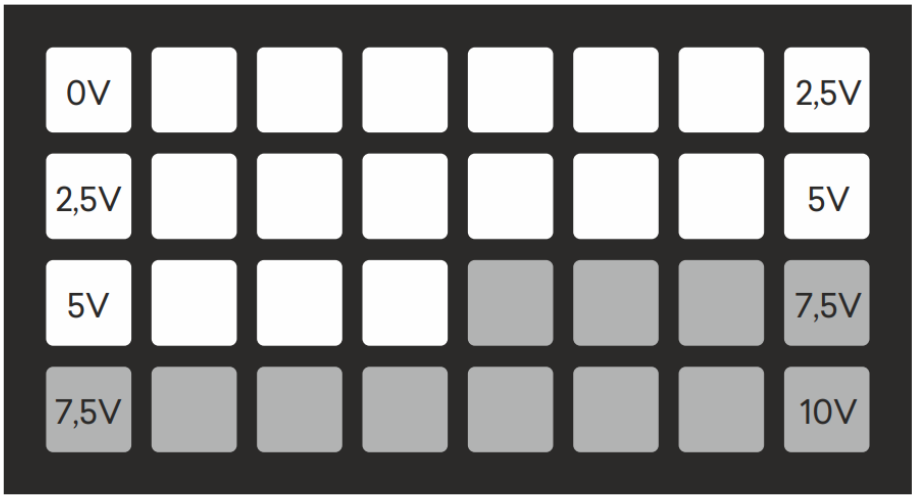
It?s also possible to enter micro-tuning/micro-values. Achieve this by turning a clicked encoder.

To set the chosen mode of each output, choose a preset by pressing the pad and click the encoder corresponding to the desired output.

The three available colours of encoders are indicating three different modes:

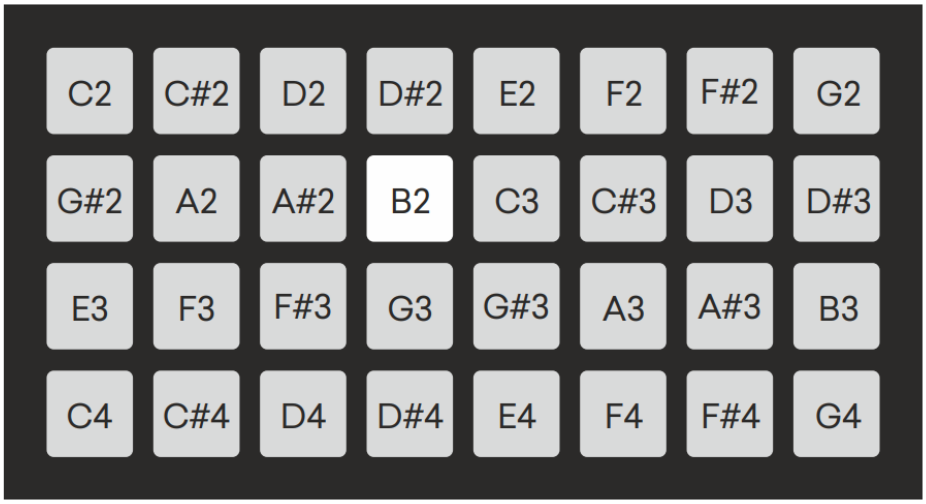
- Green/Gate mode – sends values from 0V to 10V only when the pad is pressed. Once released, the Gate outputs 0V.
- Blue/Constant Value mode – sends values from 0V to 10V constantly.
- Cyan/Notes mode – sends quantised constant values that correspond to the notes in a chosen musical scale. Everything can be sent out in two different conventions V/Oct or Hz/V.

In the Gate and Constant Value modes, the values will be displayed on the grid pad.

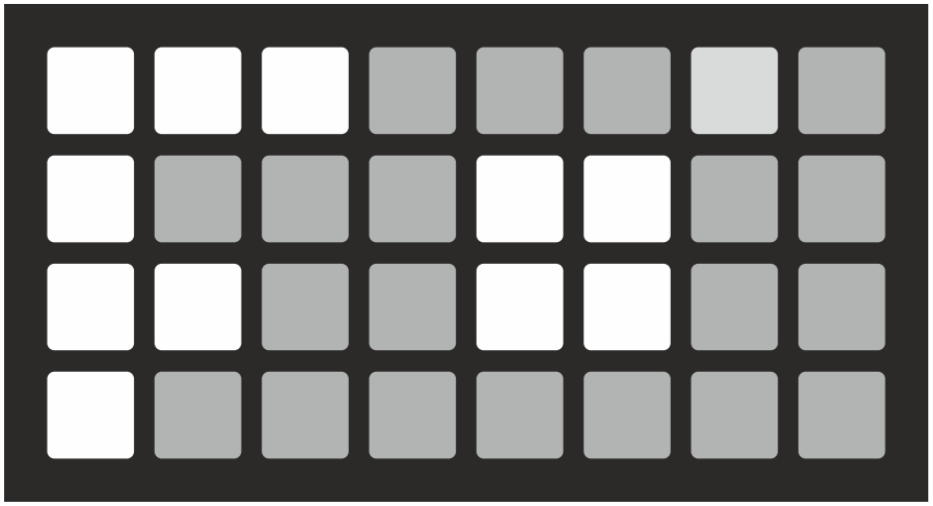


Picture 1: Value ~6.1V displayed on the grid.

In the Note mode, the value of note will be displayed on the grid as a symbol or each pad will indicate different note. To switch between the notes display modes hold all three function buttons and turn the encoder number 7 (Notes display). Turning the encoder in the Cyan/Notes mode will automatically play the selected note.



Picture 2: Note B displayed on the pad (in Chromatic scale).



Picture 3: Note F# displayed as a symbol (no micro-tuning).

To choose a bank, hold a Bank button and pick one of the 32 pads.

To recall a preset, press the desired pad, it?s that simple. The presets are being autosaved every 30 seconds or immediately when toggling between the pads/presets.

To clear the bank, press and hold the Clear and Bank buttons and indicate the desired pad corresponding to a bank (occupied banks will be displayed as lit pads). Clearing a bank takes approx. 2 sec, notice it’s fading.

To clear a preset, press and hold the Clear button and indicate the desired pad/preset.

To duplicate the current bank, press and hold the Rec and Bank buttons, and indicate the destination pad.

To duplicate the current preset, press and hold the Rec button and indicate the destination pad.

To randomise the current preset values, press and hold the Bank button and click any of the encoders. Then the values and modes of each encoder/output will get randomised.

To initialise the encoder/output, click and hold the Clear button and click the desired encoder. The initial value of an encoder/output is 0V in the mode of constant values.

To record automation, click and hold Rec button, click the encoder selected for automation and start changing its values. The values will start to record once the first encoder movement is detected. The automation recording stops as soon as the Rec function button is released. The recorded automation is visible on the encoder LED.

Recorded automation is looped. Speed it up or slow it down. To achieve this turn the encoder with existing automation to the right – to speed it up, or to the left – to slow it down (this is indicated on the grid pads). Recall the original automation speed, just set it to the initial position (no pads lit on the grid).

In every mode, both notes and automation can also be recorded from the grid pads. To do that, hold the Rec button, engage the desired encoder/output by clicking it, and pick the values from the grid pads.

To clear the automation press and hold the Clear button and click the encoder of which automation should be removed.

Record the automation from the external sources. To do that set the CV input to R, press and hold the Rec button and click the desired encoder. In this mode, speed up/slow down function. This way it’s possible to copy any existing LFO or Envelope from any external source.

https://www.youtube.com/embed/v3dA3DLI8uo?start=340&feature=oembed

Warranty & Firmware

https://www.youtube.com/embed/NxLL2zGbpD0?feature=oembed

Polyend warrants this product, to the original owner, to be free of defects in materials or construction for one year from the date of purchase. Proof of purchase is necessary when a warranty claim is processed. Malfunctions resulting from improper power supply voltages, abuse of the product or any other causes determined by Polyend to be the fault of the user won’t get covered by this warranty (standard services rates will be applied). All defective products will be replaced or repaired at the discretion of Polyend. Products must be returned directly to Polyend with the customer paying the shipping cost. Polyend implies and accepts no responsibility for harm to a person or apparatus through the operation of this product.

Please go to polyend.com/help in order to start a return to manufacturer authorization, or for any other related inquiries.

Important Safety and Maintenance instructions:

- Avoid exposing the unit to water, rain, moisture. Avoid placing it in direct sunlight or high-temperature sources for a long time.
- Get rid of dust, dirt and fingerprints using a soft, dry cloth. Disconnect all cables while cleaning. Only reconnect them when the product is totally dry.
- Unplug your instrument from the power sources during lightning storms or when it is not used for long periods of time.
- Preset module is not user repairable. Leave all servicing to qualified service technicians. Servicing may be required when the unit has been damaged in any way.

Firmware updates

Firmware updates can be found in the Support/Downloads section. To flash the module a Polyend Tool app and appropriate firmware hex file are required.

As the Preset module doesn’t have a display, it’s impossible to check what firmware version it is running on. If you’re missing any functions from the changelog or your module behaves funky just please flash it with the newest available firmware.

Appendix

Power consumption

Polyend Preset’s power consumption (when all the step and encoder LEDs are lit at the same time) is – 170mAat +12VDC, – 11mAat -12VDC, – 0mAat +5V.

Musical scales

1. Chromatic	12. Harmonic Minor	23. Todi
2. Minor	13. BeBop Major	24. Whole Tone
3. Major	14. BeBop Dorian	25. Diminished
4. Dorian	15. BeBop Mixlydian	26. Super Locrian
5. Lydian	16. Blues Minor	27. Hirajoshi
6. Lydian Minor	17. Blues Major	28. In Sen
7. Locrian	18. Pentationic Minor	29. Yo
8. Phrygian	19. Pentatonic Major	30. Iwato
9. Phrygian Dominant	20. Hungarian Minor	31. Whole Half
10. Mixlydian	21. Ukrainian	32. Kumoi
11. Melodic Minor	22. Marva	

Licenses

Polyend Preset’s Software licenses