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Polyend Preset

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# Preset Recaller and Sequencer

Made in Poland

Polyend

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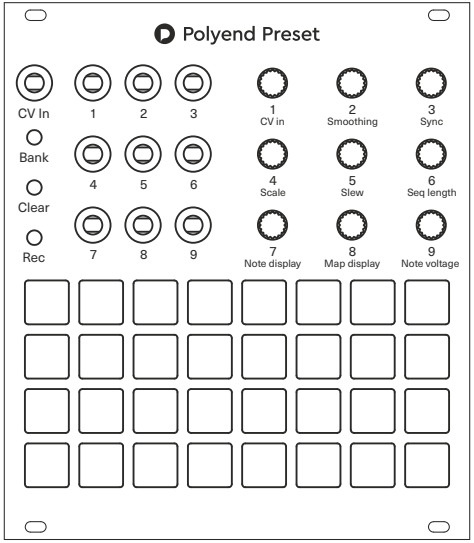



## Introduction

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 CV output 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, you can 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 that everything you do in the Preset is being autosaved. That's already a lot of functionality, right? But it's just the beginning.

**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'll 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.

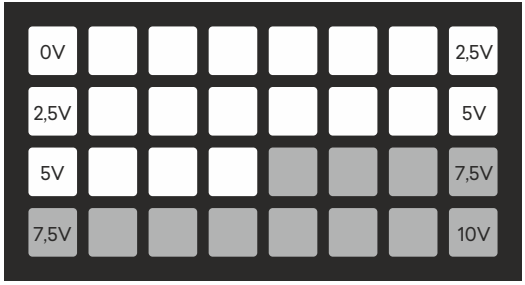
It's also possible to **enter micro-tuning/micro-values**. Achieve this by turning a clicked encoder.

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:

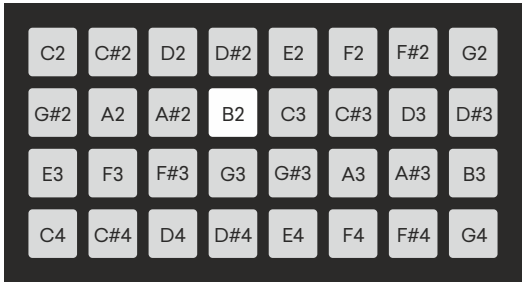
- **Green/Gate mode** – sends values from 0V to 10V only when the pad is pressed. Once released, the Gate outputs 0V.
- **Blue/Constant Value mode** – sends values from 0V to 10V constantly.
- **Cyan/Notes mode** – sends quantised constant values that correspond to the notes in a chosen musical scale. 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.

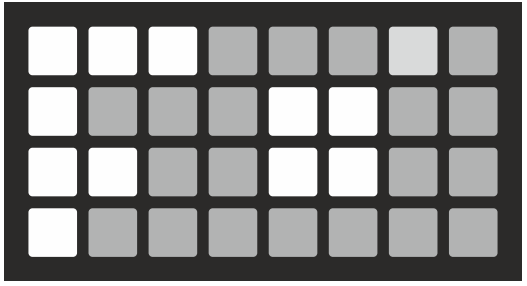



Picture 1: Value ~6.1V displayed on the grid

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).




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



Picture 3: Note F# displayed as 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 you're 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. 2sec, you'll see it 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 which you'd like to automate 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 you'll release the Rec function button. The recorded automation is visible on the encoder LED.

Your **recorded automation** is looped. You can 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). If you'd like to 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 you'd like to get rid.

You can also **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, you can also use the speed up/slow down function. This way you can copy any existing LFO or Envelope from any external source.

### 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:

1. **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 CV input receives min. 2,5V. While playing your sequence in the GT mode, pressing the pad will retrigger the sequence initial position.

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 you to narrow down the number of steps in a sequence.

**2. Smoothing (ON/OFF)**. When toggled on, will smooth out your recorded automation.

**3. 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.

**4. Scale (1-32).** Use the encoder to choose the desired scale — the list of scales in the appendix.

**5. Slew (0-5 seconds).** Allows you to morph each of the nine available values from one preset to another in a chosen amount of time.

**6. Seq length (1-32).** Sets the number of steps in the sequence.

**7. Note display (ON/OFF).** Allows you to toggle 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.

**8. Map Display (ON/OFF).** When toggled on, the occupied presets or banks will be constantly displayed on the grid with 30% of backlit.

**9. Note voltage (VO/HV).** Sets the note output mode to V/Oct or Hz/V.

### Firmware update procedure

There might be a firmware update in the future. Please check our website (http://polyend.com/downloads) for more information. The update procedure will be described within the upgrade program.

### Limited warranty

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 made. Malfunctions resulting from improper power supply voltages, backwards or faulty cable connection, abuse of the product or any other causes determined by Polyend to be the fault of the user are not covered by this warranty (normal 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 person or apparatus through the operation of this product. Please contact hello@polyend.com for return to manufacturer authorisation, or any other technical questions/concerns.

### FAQ

**Why my sequence is stuck on the first pad?**
Check if the Seq length parameter is set to one step.

**Can I change a parameter while the sequence is running?**
Yes, you can. But it might cause some glitches to the sequence. Once you'll stop entering values, the sequence will get back to normal.

**Why can't I change the encoder mode?**
There's probably recorded automation for this encoder which is locking the ability to change the mode. Clear the automation and you're all set.

**What is the order of the values send out from the Preset's 9 outputs?**
The order goes from output 1 to output 9.

### Power consumption

(when all the step and encoder LEDs are lit at the same time)

- 170mA at +12VDC,
- 11mA at -12VDC,
- 0mA at +5V.

**Appendix** 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 | |