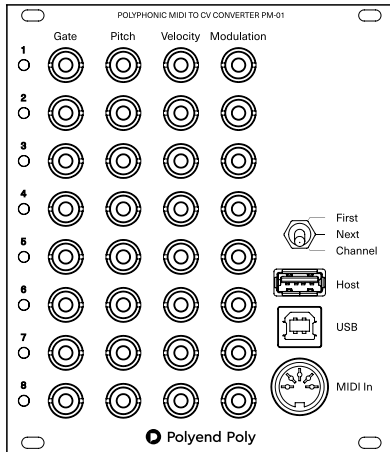




Polyend Poly Polyphonic MIDI to CV Converter User Manual

Polyend Poly Polyphonic MIDI to CV Converter in the Eurorack format



Thank you for purchasing one of our Polyend instruments. The Poly module is a Universal Polyphonic MIDI to CV Converter with MPE (Multidimensional Polyphonic Expression) support.

It's intended to be as simple to use as possible. There are no menus to get lost into and the user interface is very straightforward. With its MIDI Din, USB and USB Host capabilities, this module is both a great entry level device for users who are just beginning their adventure with Eurorack systems, but also for experienced users looking to reconfigure the way they are using their modular setups. In other words, Poly module has the potential to refresh the way you look at classic music tools, various MIDI devices, or applications. It's literally breathing new life into modular synth environments.

Poly is probably the easiest entry point for exploring the MPE possibilities and can be an ideal bridge between your modular system and your DAW of choice. You can, for instance, send modulation and automation messages to various modules.

The Poly module provides an arsenal of CV analogue options, including eight rows of Gate, Pitch, Velocity and Modulation patch points for complete control of Eurorack synthesisers and drum machines. The Poly's flexibility, with its vast array of multiple inputs and outputs, provides the user with the freedom to connect all sorts of sequencers, digital audio workstations (DAWs), keyboards, controllers, apps, and more... the only limit here is your imagination.

The module requires 22 HP (25mm deep) of space in a Eurorack case. Its detailed power consumption for Poly module is max 100mA on 5V, max 50mA for +12V, 0mA for -12V. The provided power ribbon cable must be plugged to the power supply with attention paid to the polarity orientation. The red stripe (marked on the ribbon) indicate the negative 12V rail, and is supposed to point in the same direction on the bus-board as it does on the unit. The module is not secured against reversed power connection, so it is very important to pay attention to this detail. Set the jumper switches on the back panel to the desired values (explained below), install the module in the rack using the provided screws and power up your system.

Poly module inputs and outputs

All three inputs of the Poly module can be used simultaneously at the same time. In the case three identical MIDI messages are sent from three independent sources, the first one to reach the Poly will have priority. The MIDI octave numbering convention used in Poly module is MIDI note 60 equals C4. Please notice that Poly module Gate outputs are 0-12V (the Eurorack norm is 0-5V). Poly module is not generating or sending out a clock signal, but you can sacrifice one of its Gate outputs to convert any rhythmic repetitive MIDI signal from one of your sequencers to generate a clock tempo output for your modular systems.

Inputs:

- MIDI DIN
- USB A Host (5V)
- USB B

Outputs:

- 8 Gate Outputs (0-12V)
- 8 Pitch Outputs (0-12V, V/oct.)
- 8 Velocity Outputs (0-12V)
- 8 Modulation Outputs (0-12V, selectable CC message 0-127 using DIP switch on the back panel) PolyModule play modes.

Poly can work in three different play modes explained below: First, Next and Channel (which you can configure with a jumper switch located on the back panel).

All three modes are designed for playing Eurorack setups with external controllers, and we made this work with automatic gate recognition, a sophisticated technology that understands what is connected to the Poly without the need for manual buttons or switches.

First mode

In First mode you can send MIDI note to one or more of your modules/synths. Let's use keyboard controller as an example. First key used will occupy gate one. While the first key remains held, the second one pressed will activate the first available gate, and then the third, etcetera for each following key and gate.

Next mode

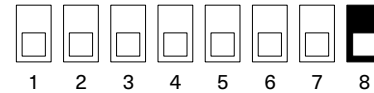
Next mode works like voices do in most polyphonic synthesizers. When you send MIDI note, it will look for next non-occupied inserted gate and trigger it.

Note: In First or Next mode if you want to play a chord using single MIDI channel, remember to insert cables to gate inputs.

Channel mode

This particular play mode is offering two different types of use. Users can choose between them using the jumper switch located on the back panel of Poly module.

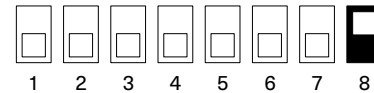
MIDI channel



Channel mode translates data received from MIDI channels 1-8 and directs them into the corresponding CV voices. This mode is what the majority of users will employ to connect DAWs or external sequencers. Poly operates on MIDI channels 1-8 and users can't manually change channels to 9-16.

Voice 1 - MIDI channel 1
Voice 2 - MIDI channel 2
Voice 3 - MIDI channel 3
Voice 4 - MIDI channel 4
Voice 5 - MIDI channel 5
Voice 6 - MIDI channel 6
Voice 7 - MIDI channel 7
Voice 8 - MIDI channel 8

MIDI notes



This option translates data received from MIDI notes C through G and directs them into the corresponding CV voices (no matter the octave). This scenario works great for triggering drums from drum pads or drum triggers.

Voice 1 - MIDI note C
Voice 2 - MIDI note C#
Voice 3 - MIDI note D
Voice 4 - MIDI note D#
Voice 5 - MIDI note E
Voice 6 - MIDI note F
Voice 7 - MIDI note F#
Voice 8 - MIDI note G

MIDI CC messages settings: by using the jumper switch on Poly's back panel you can choose one global CC parameter for all modulation outputs. The first number in column below corresponds to a CC message number and the row of 7 digits corresponds to the jumper switch settings. Remember to set the switches the way you want before putting in the case.



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 operation of this product. Please contact hello@polyend.com for return to manufacturer authorization, or any other technical questions/concerns. Thank you, all best!

0	0000000	22	0110100	44	0011010	66	0100001	88	0001101	110	0111011
1	1000000	23	1110100	45	1011010	67	1100001	89	1001101	111	1111011
2	0100000	24	0001100	46	0111010	68	0010001	90	0101101	112	0000111
3	1100000	25	1001100	47	1111010	69	1010001	91	1101101	113	1000111
4	0010000	26	0101100	48	0000110	70	0110001	92	0011101	114	0100111
5	1010000	27	1101100	49	1000110	71	1110001	93	1011101	115	1100111
6	0110000	28	0011100	50	0100110	72	0001001	94	0111101	116	0010111
7	1110000	29	1011100	51	1100110	73	1001001	95	1111101	117	1010111
8	0001000	30	0111100	52	0010110	74	0101001	96	0000011	118	0110111
9	1001000	31	1111100	53	1010110	75	1101001	97	1000011	119	1110111
10	0101000	32	0000010	54	0110110	76	0011001	98	0100011	120	0001111
11	1101000	33	1000010	55	1110110	77	1011001	99	1100011	121	1001111
12	0011000	34	0100010	56	0001110	78	0111001	100	0010011	122	0101111
13	1011000	35	1100010	57	1001110	79	1111001	101	1010011	123	1101111
14	0111000	36	0010010	58	0101110	80	0000101	102	0110011	124	0011111
15	1111000	37	1010010	59	1101110	81	1000101	103	1110011	125	1011111
16	0000100	38	0110010	60	0011110	82	0100101	104	0001011	126	0111111
17	1000100	39	1110010	61	1011110	83	1100101	105	1001011	127	1111111
18	0100100	40	0001010	62	0111110	84	0010101	106	0101011		
19	1100100	41	1001010	63	1111110	85	1010101	107	1101011		
20	0010100	42	0101010	64	0000001	86	0110101	108	0011011		
21	1010100	43	1101010	65	1000001	87	1110101	109	1011011		