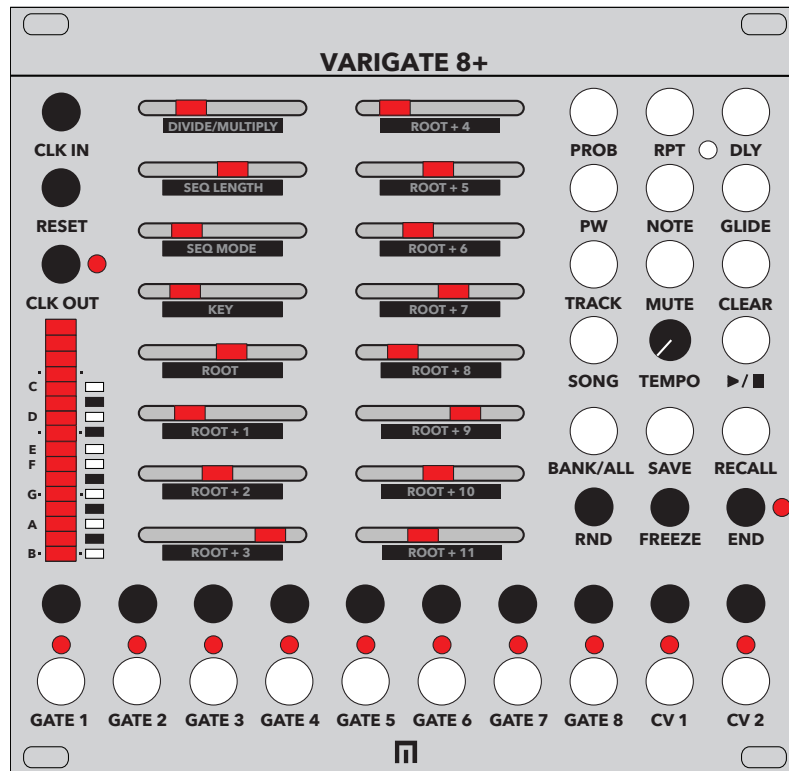


VARIGATE 8+ MANUAL V.2



MALEKKO

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SPECIFICATIONS

FORMAT:
EURORACK

DIMENSIONS:
26HP, 26mm deep

INTERNAL AND EXTERNAL SIGNALS (3.5mm jacks):
0-5V Logic I/O

MAX CURRENT:
+12V: 180mA
-12V: 39mA



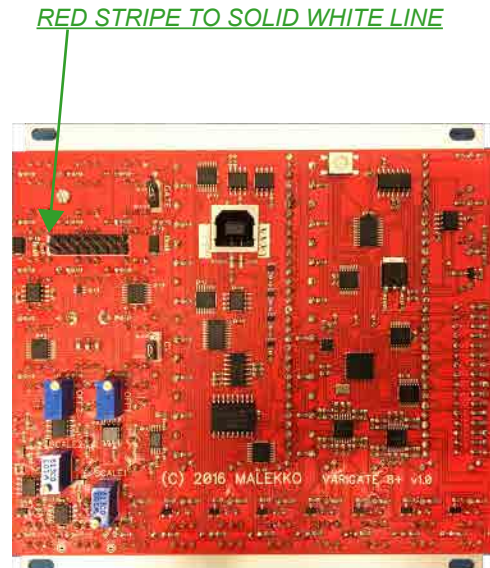
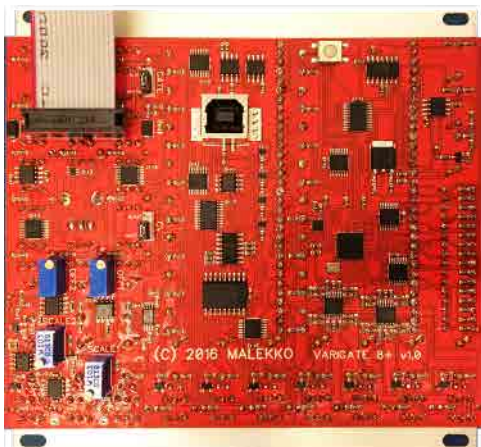
INSTALLATION

Remove module from packaging.

Power down your modular synthesizer and disconnect the power cable from the wall outlet.

Attach the included power cable to the module's power connector and connect the other end to the power distribution bus in your EuroRack synthesizer case. Match the red stripe of the cable to the solid white line on your Varigate 8+.

Position the module on the mounting rails in your EuroRack case and screw down mounting screws. Power up! If your case does not turn on properly then you have installed the module incorrectly. Simply power down and make sure to follow the diagram when reconnecting the module.





DESCRIPTION

VARIGATE 8+ is designed to be the ultimate compact sequencer and control station over an entire Eurorack modular system. Create songs and live performance material with 8 channels of gate outputs with up to 16 steps per channel, 2 independent CV outputs for custom scale quantization, easy recall of 10 storage banks and 100 channel presets, random functions, mute functions and more.

FEATURES INCLUDE:

- 8 channels of gates, each with up to 16-steps
- 2 quantized 1v/oct CV channels
- CV channels can be independent or linked to any gate channel
- Save up to 100 presets
- 10 different song banks programmable by choosing any sequence of presets
- Programmable scale per bank
- Note and Glide per step
- Forward, Reverse, Pendulum and Random directions per channel
- Probability, Repeat, Delay and Pulsewidth control per channel
- Individual clock multiplier, divider and sequence length per channel
- Random gate input for applying variation to a pattern
- All per step parameters can be randomized within a given range
- Program gate channels with both sliders and buttons
- Mute function (mute a channel or pattern)
- Freeze gate input turns random sequences into static sequences while active
- Reset input
- Clear function for clearing channels and parameters
- Tempo control knob
- Clock in and Out
- Keyboard Mode
- Bouncing Ball Repeats



OVERVIEW

CLOCK IN: External CLOCK INPUT.

RESET: Gate input for resetting to step 1.

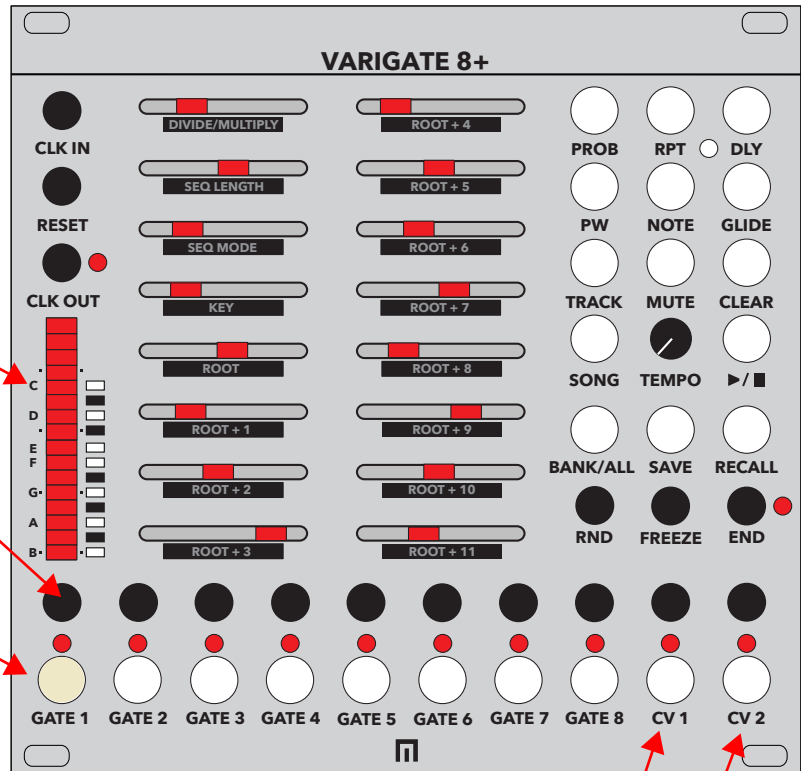
CLOCK OUT: CLOCK OUTPUT with LED indicator.

LED BAR GRAPH: Displays various mode settings.

STEP SLIDERS: Move to adjust various slider features.

GATE OUTPUTS with LED indicators: Connect your patch cables from these outputs to other module gate or trigger inputs.

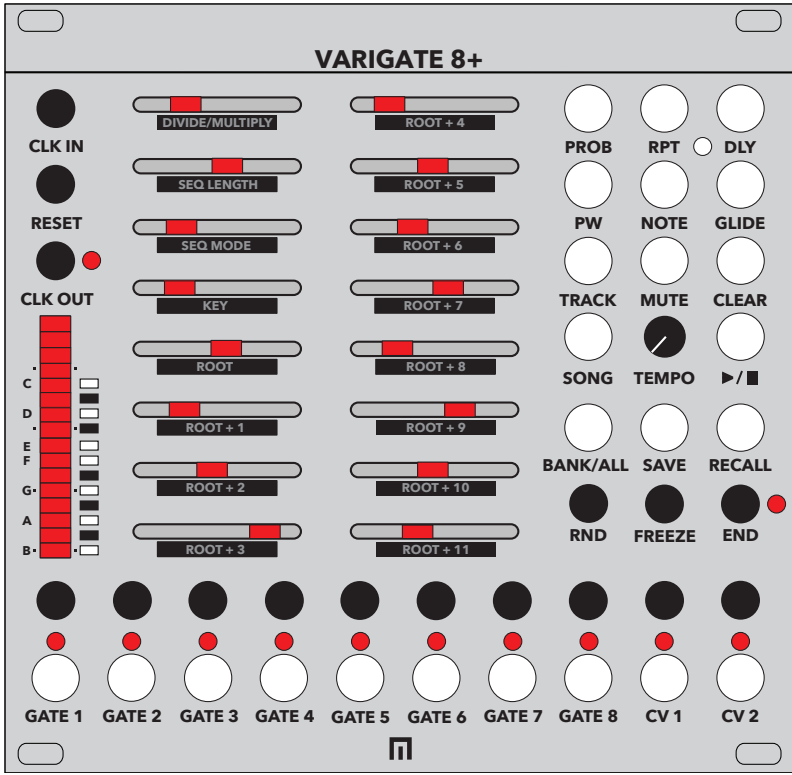
NOTE: GATE buttons also act as PRESET and BANK BUTTONS.



CV 1 and CV 2 are quantized (or unquantized) CV outputs and also act as available PRESETS as well as available BANKS.



OVERVIEW



PROB/PROBABILITY: Select and then adjust a step slider to activate a gate per step.

RPT/REPEAT: Select and then adjust a step slider to control the amount a step repeats.

DLY/DELAY: Select and then adjust a step slider to control the amount of delay per step. NOTE: Increasing delay on a step proportionally shortens its pulsewidth. You can increase the pulsewidth for that step after adjusting the delay but it quickly reaches the end of the pulse and will be sustained over into the next clock pulse.

PW/PULSEWIDTH: Select and then adjust a step slider to change the pulsewidth of a step.

GLIDE: Select a CV channel, then press GLIDE to add glide per step.

TRACK: Select to enter TRACK MODE for adjusting all of the features listed in black under the sliders (DIVIDE/MULT, SEQUENCE LENGTH, SEQUENCE MODE, KEY etc.).

MUTE: Select to enter MUTE MODE and MUTE PAGES.

CLEAR: Hold and press a GATE button to clear that corresponding output/channel

SONG: Activates SONG MODE.

TEMPO: Adjust to desired tempo.

PLAY/STOP: Start playback or stop.

RECALL: Hold while selecting a saved preset to RECALL it.

RND/RANDOM: Insert gate signal to randomize patterns.

FREEZE: Insert gate signal to freeze randomization of all parameters.

END with LED indicator: Sends sequence END gate out.



CREATING YOUR FIRST PATTERNS/SEQUENCES

The Variagate 8+ defaults to GATE 1. A GATE button also acts as the active PRESET and will flash quickly indicating that it is active.

PRESS THE PLAY BUTTON so that you can hear what you are about to create.

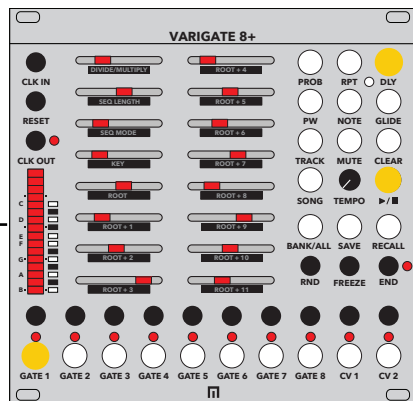
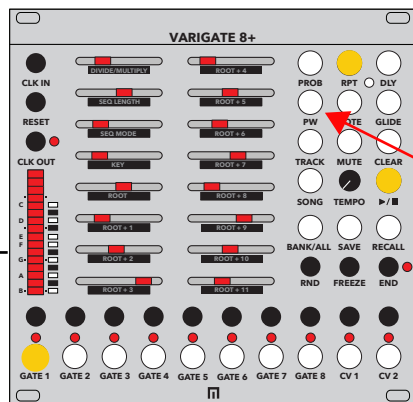
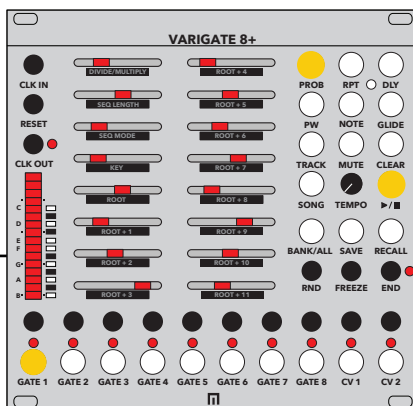
Select one of the GATE channels so that button is lit.

Next, press the PROBABILITY button once and then adjust a step slider. If you move a step slider all the way to the right, the chance that that gate will occur is 100%. Setting the slider to the center and the gate will occur 50% of the time and so forth.

NOTE: By default, there are 16 steps per each GATE pattern/sequence.

To add REPEATS per step, such as hi-hat rolls: Select a GATE channel, now press the REPEAT button once and adjust the slider/step you wish to add REPEATS to. You should now hear rolling repeats everytime that step plays.

Now add DELAY per step: follow the same steps above but select the DELAY button and adjust the step slider you wish to add gate delay to. Notice that each time that step plays it is now slightly delayed or shuffled.



You can change the PULSEWIDTH of a gate per step by selecting the PW button and adjusting a slider for a gate you wish to change. Depending on the module receiving the gate, you'll hear this step is audibly longer (because the width of the gate is longer).

To clear an existing pattern, simply hold the CLEAR button while selecting one of the GATE buttons to clear that pattern/sequence entirely.

Follow these instructions for GATE channels 2-8.

HINT: You can create a quick pattern/sequence on the fly by inserting a gate signal into the RND/RANDOM input.

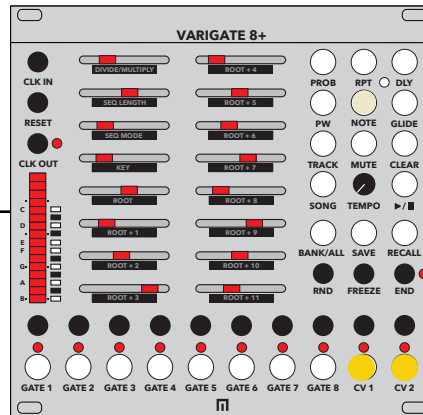


QUANTIZED CV OUTPUTS, THE NOTE FUNCTION AND GLIDE

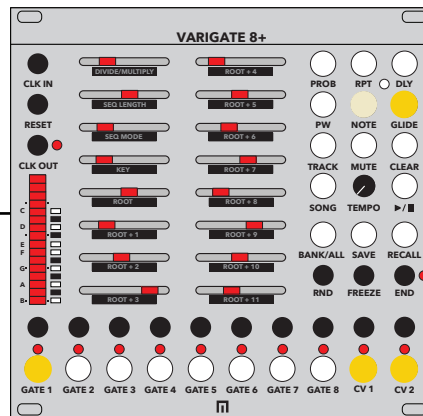
Both CV 1 and CV 2 are quantized or unquantized outputs, depending on whether or not you set Key and Root intervals or not. For more info go to pg.11. Connect these output to modules with 1v/oct inputs for pitch changes.

You can now change the NOTE of each step by pressing either CV 1 or CV 2 and then adjust each slider for every step for different notes/voltages. (The NOTE button will light up automatically letting you know you are in NOTE EDIT mode).

To add GLIDE to a step, select the gate you want to adjust, one of the CV buttons and then the GLIDE button. Now adjust one of the step sliders.



To clear the notes in that sequence, simply *hold* the CLEAR button while pushing the CV channel/button you want to clear.



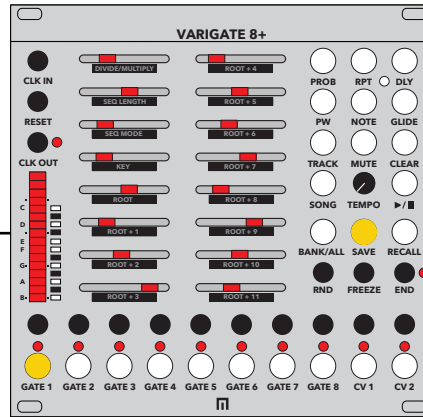


SAVING AND RECALLING PRESETS AND HOW TO USE BANKS

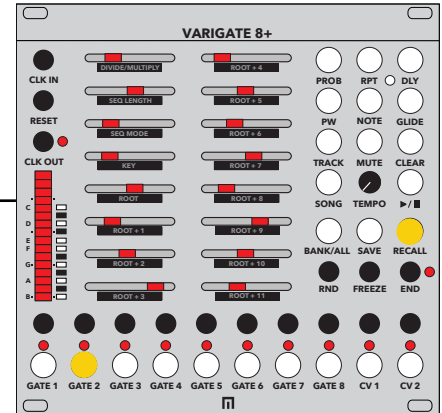
The GATE buttons also act as **PRESET** slots.

Press and *hold* the **SAVE** button while you select one of the GATE or CV buttons to save the different patterns/sequences you have created to a preset. All of the gate buttons will light up to indicate you have saved properly.

NOTE: The buttons labeled CV 1 and CV 2 can also be used to save presets.



RECALL your saved PRESET: Once you've saved a few different presets, you can now recall them by holding the **RECALL** button while selecting the saved PRESET. The active preset will flash quickly.

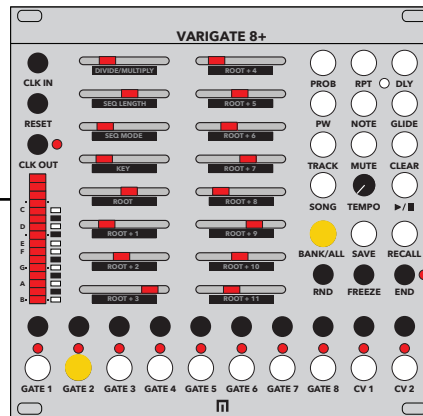


The GATE buttons also act as **BANK** slots.

Each BANK holds up to 10 presets. By default, BANK 1 is active. Different banks can hold different tempo information as well.

NOTE: MAKE SURE THAT YOU SAVE ANY EXISTING PRESETS BEFORE SWITCHING TO A NEW BANK OR YOUR CHANGES WILL BE LOST.

To enter a new **BANK**, press and *hold* the **BANK** button and then press the GATE 2 button. Now you're in BANK 2. You can now start creating a whole new set of presets in BANK 2.

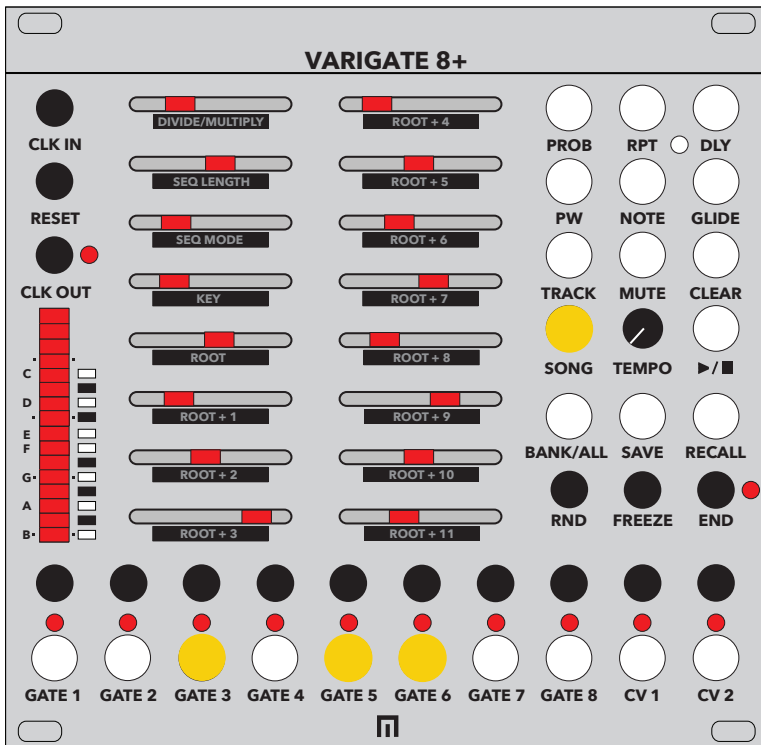


NOTE: If you want to copy a preset, simply *hold* **SAVE** and choose the preset button you want to copy to.

If you want to clear an entire preset, *hold* **CLEAR** + **BANK/ALL** and then select the preset you want cleared. You then need to **SAVE** that blank preset.



SONG MODE



SONG MODE allows you to program presets to play automatically, per a bank of presets.

Hold the SONG button while you select various GATE/PRESET buttons, depending on the order you wish them to play. If you want one preset to play twice, three times in a row etc. simply push that button more than once. You can also set a song to play in a particular direction by holding the SONG button while moving the SEQ MODE slider (forward, reverse, pendulum, random).

NOTE: The SONG button does NOT have to be lit in order to program the presets and you can program presets/songs on the fly while the Varigate is already playing.

Now that you've programmed some presets to play automatically, press the SONG button again so that it is lit.

To exit SONG MODE, simply press the SONG button again so that it is no longer lit.

To overwrite an existing SONG simply follow the steps above with new preset selections.

COPY SONG MODE SETTINGS TO ANOTHER BANK: While song mode is active, choose another bank of presets. Now the song including the settings within that song will apply to the newly selected bank.



TRACK MODE

While in **TRACK MODE** you can access the extra slider features labeled black for a particular channel (gates and cv channels).

DIVIDE/MULTIPLY: To **DIVIDE** an entire sequence, make sure the GATE output you want to divide is lit. Now select the TRACK button and move the DIVIDE/MULTIPLY slider to the right. The position of the slider affects the amount of division down to 1/16.

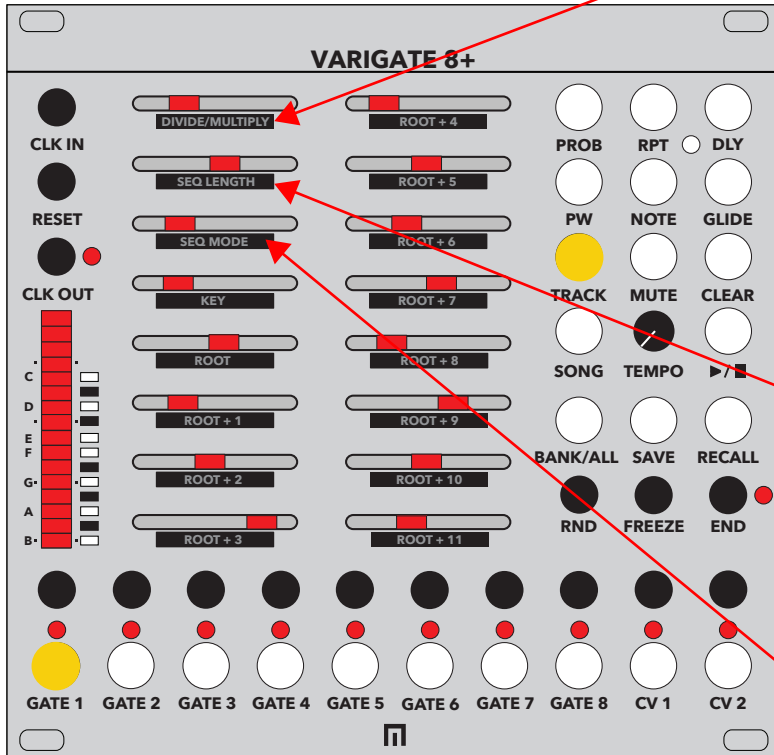
To **MULTIPLY** an entire sequence, make sure the GATE output you want to divide is lit. Now **hold** the TRACK button down while you move the slider to the right. You can multiply up to 16.

The LED indicator will let you know how many times you've divided or multiplied.

SEQUENCE LENGTH: To change the length of a sequence, make sure the GATE output you want to divide is lit. Now select the TRACK button and then move this slider slowly to the right. The LED indicator will let you know how many gates will play in pattern/sequence. Sequence length goes up to 16 steps per sequence.

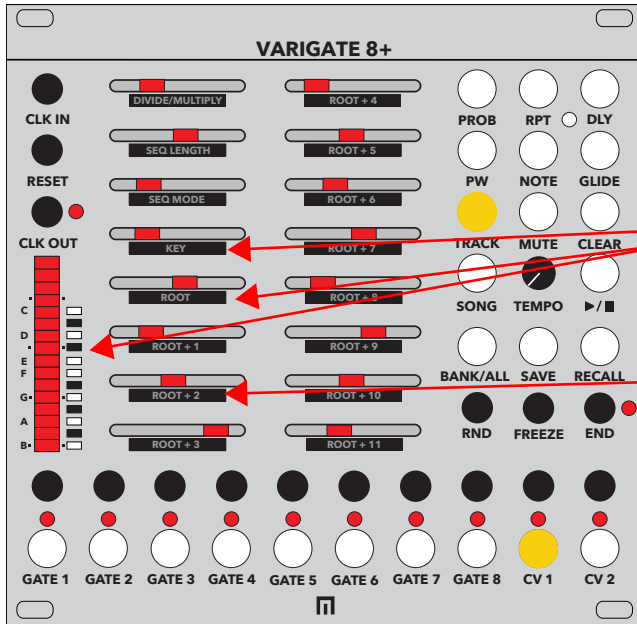
NOTE: The gate sequence set to the longest length will dictate the total length of that entire preset.

SEQUENCE MODE: To change the direction of a sequence, make sure the GATE output you want to divide is lit. Now select the TRACK button and then move this slider to the right. The LED indicator will let you know which direction the sequence will play: **FORWARD, REVERSE, PENDULUM OR RANDOM** in this order. The position of the slider affects which direction the sequence will play; far right being RANDOM.





QUANTIZED CV OUTPUTS, KEY AND SCALE

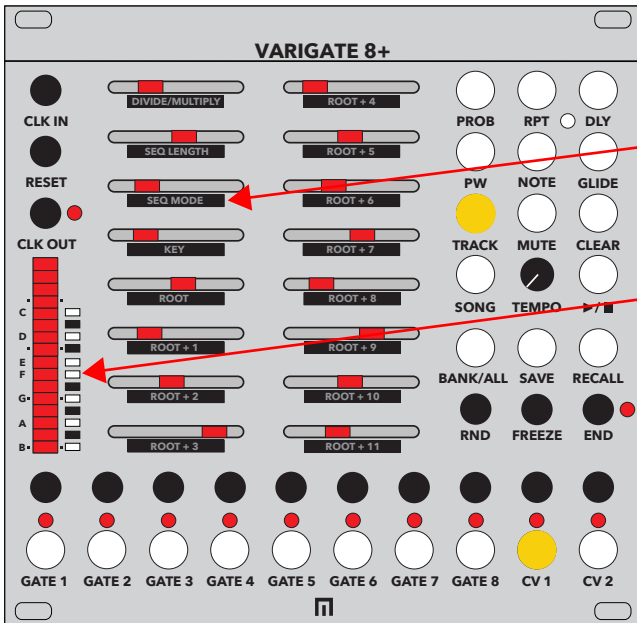


While in TRACK MODE you can access the KEY and dial in other notes

NOTE: THE CV KEY, ROOT AND INTERVAL SETTINGS CAN BE SAVED PER A BANK OF PRESETS.

KEY: To change the KEY that your bank is in, select the TRACK button + one of the CV buttons and then move the KEY slider to the right. The LED will indicate which key you are now in (C-B on the LED bar graph).

Now you can also add the ROOT+ additional notes by moving the sliders to the right (thus creating scales).



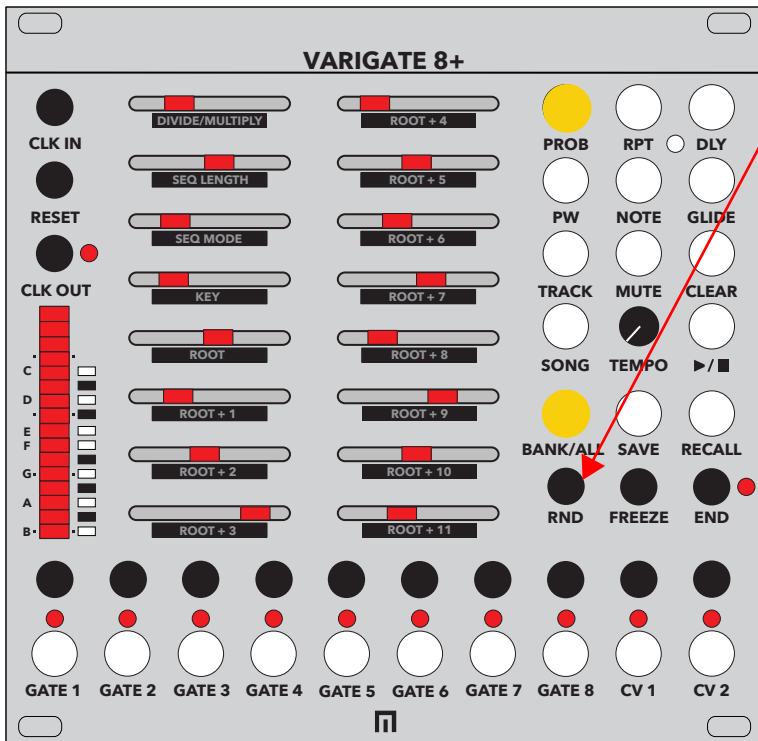
While in TRACK MODE you can also change the **CV CHANNEL PLAYBACK DIRECTION**: FORWARD, REVERSE, PENDULUM AND RANDOM. Each of these modes is displayed on the LED bar graph; 2 bars representing the different modes.

CV LINK MODE: You can tie a CV channel to a corresponding gate channel. To enter this mode: Select TRACK, a CV channel button and then move the SEQUENCE MODE slider to the right until you reach the last 8 LED'S in the bar graph. In this mode the CV channel is only progressed when a gate on the linked channel is active.

NOTE: In CV LINK MODE, DIVIDE/MULTIPLY is disabled (SEQUENCE LENGTH can still be changed).



RANDOMIZING



RANDOM: Inserting an external gate input will start seeding random gates and CV per an entire preset of gate sequences as well as an entire bank.

To adjust the amount of randomization of gates within an entire preset, insert a gate signal into the RND jack, *hold* the BANK button and select the PROBABILITY button. You should see both buttons flashing. Now you can select the the amount of random probability by pressing GATE buttons 1 thru 10 (10 being the greatest amount of probability). You should see all of the gate channel LEDs light up with random gates if you've selected 10. You can leave your external gate input and move on to another preset, therefore **randomizing your entire BANK** of presets if you wish. Or you can remove the external gate source to stop randomization. If you want to leave your external gate connected but FREEZE randomization (turn it on or off essentially), you will need to connect an external gate source. More info about FREEZE on PG. 13.

HINT: To quickly take advantage of some "under the hood" logic we've already built into this feature, connect GATE 1 to a kick, GATE 2 to a snare and GATE 3 to hi-hats.

To disable randomization on a given channel, please see pg.14, **MUTE PAGES.**



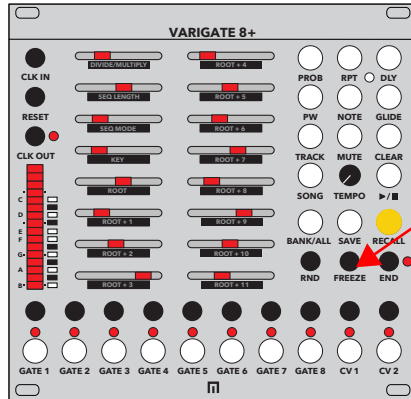
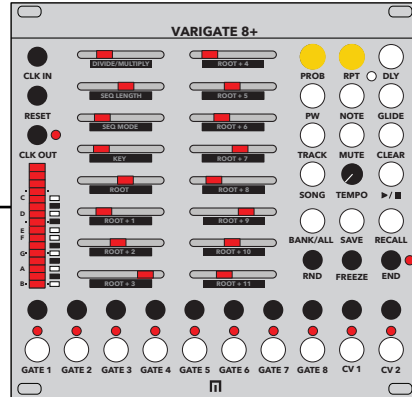
ADVANCED FEATURES 1

RANDOMIZE GATE REPEATS PER STEP:

By holding down the PROB BUTTON and then the RPT BUTTON until the REPEAT button is flashing, the sliders on that channel will randomize repeats with the slider value setting the maximum number of possible repeat gates per step.

RANDOMIZE GATE DELAY PER STEP:

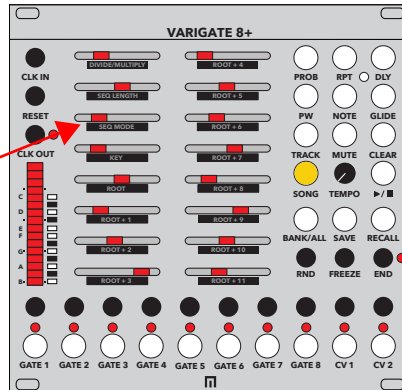
By holding down the PROB BUTTON and then the DLY BUTTON until the DELAY button is flashing, with the slider value setting the maximum delay per step.



FREEZE: This gate input is active high. Inserting an external gate will freeze randomization. You can also FREEZE by holding down the RECALL button for 2 seconds and it will flash and stay held until you press it again for 2 seconds.

NOTE: If a preset is active and you engage FREEZE, it will lock in all the parameters for that preset. So every step that gets triggered will always trigger while freeze is on (and low probability steps that do not trigger will always NOT trigger). If you then save while freeze is engaged and then recall that preset, it will always play through the same way as saved (without the freeze/Recall PB flashing) unless sliders on individual steps/parameters are re-adjusted. So freeze is effectively saved without being indicated that it is.

SONG SEQUENCE DIRECTION: to adjust the song direction, hold the SONG button while adjusting the "SEQUENCE MODE" slider. FORWARD, REVERSE, PENDULUM AND RANDOM directions are available.

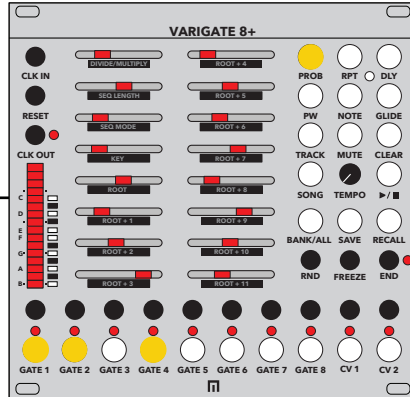




ADVANCED FEATURES 2

LIVE GATE RECORD:

Hold RECALL+PROBABILITY to enter this mode. Now you can tap the GATE buttons rather than using the sliders. To exit, hold RECALL+PROB..

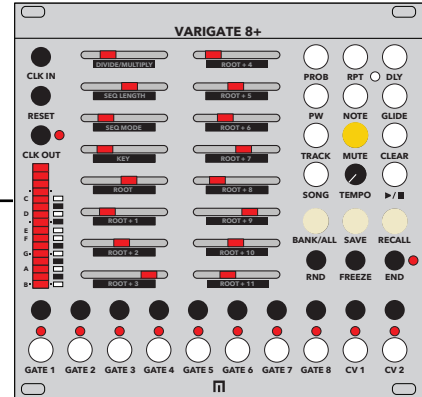


MUTE PAGES: When you press the MUTE button it will flash along with one of the 3 LEDs above Bank, Save and Recall. These show 3 pages with different functions.

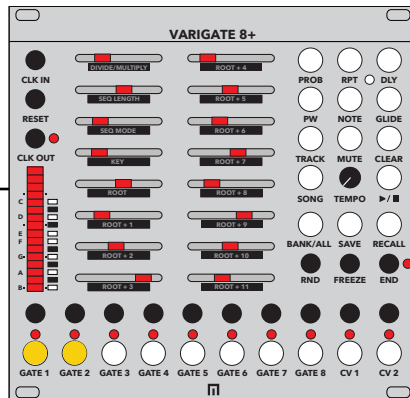
PAGE 1 (bank/all) mutes the outputs of each channel.

PAGE 2 (save) disables randomization on the given channel. If LED is off the channel isn't randomized.

PAGE 3 (recall) is a rotate pattern mode which shifts gate outputs to the right and wraps around. You will need to select the pattern button you want to start rotating once you've entered this mode.



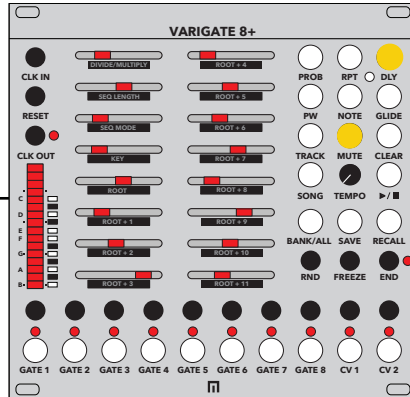
COPY SEQUENCE: To copy a sequence from one channel to another, hold the source channel and press the destination channel.



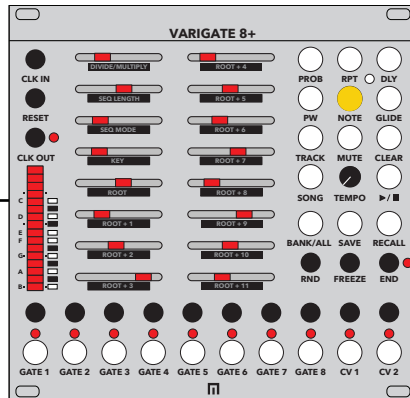


ADVANCED FEATURES 3

GATE+DELAY: Hold MUTE + DLY buttons to enter this mode. Gate + Delay mode outputs a short pulse on the beat where a step should land PLUS a delayed gate (at normal PW setting). If RPTs are engaged, the short pulse will be on beat with where repeats would normally fire and the delayed gates will fire where the delayed repeats would land (delayed by x amount). In this scenario you will see/hear four gates output for two repeats (2 on beat, 2 delayed).



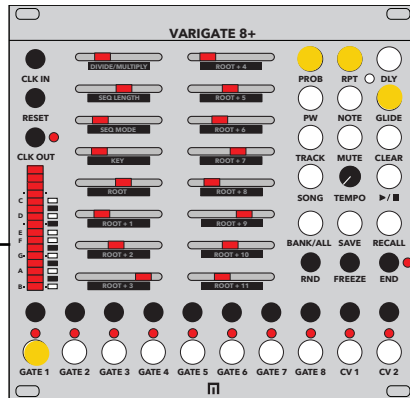
OCTAVE RESTRICT: To restrict dialing notes in to just the current octave, hold the NOTE button while adjusting a slider.



BOUNCING BALL: Gates will repeat with an elastic feel.

To enter this mode:

Set some repeats on a gate channel, steps 6, 7 and 8 for instance, and then press the GLIDE button. Now while the GLIDE button is lit, move those same sliders to the right (0-100%). Repeats will now ramp up or down based on the number of repeats programmed on the following step. 0% is instant and 100% takes the entire step to get to the new value. Experiment with this one!





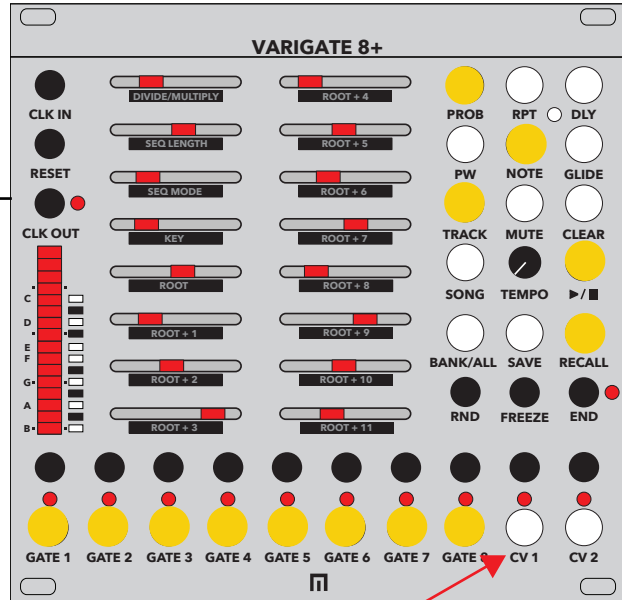
ADVANCED FEATURES 4

LIVE CV RECORD:

This feature turns channel buttons 1-8 into a keyboard.

To enter this mode:

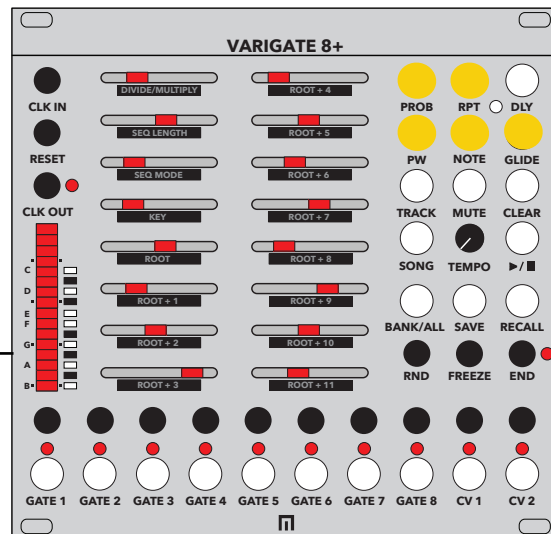
1. Press PLAY so the sequencer is running.
 2. Select the CV channel you wish to activate the keyboard for. The NOTE button should now be lit, as per usual.
 3. Press TRACK and then set the KEY, ROOT and SCALE intervals you want. NOTE: You must set more than one scale intervals/root sliders on (try turning them all on at first for instance and this will give you a better understanding of how this mode functions).
 4. Now hold RECALL while pressing PROB (PROB button will blink to indicate you are now in this mode). You should now see all of the gate channel buttons are lit. If you don't, press CV 1 down or up so that you now see that the channel buttons are lit). You can now play these buttons like keys and these notes will be recorded per step.
 5. To change the keyboard range, press the CV channel buttons (CV button 1 down, CV button 2 up)
- To exit this mode, press RECALL and PROB again.



SYNC/RESET MODES:

You can change SYNC/RESET MODES for various Eurorack clocking devices with reset. The mode you will likely use the most can be accessed by holding PW, NOTE and GLIDE at the same time and then the RPT button. If the sequencer is running, you'll see the RPT button flashing, indicating this mode is active.

For use with the Malekko SYNC module, hold PW, NOTE, GLIDE and then the PROB button.



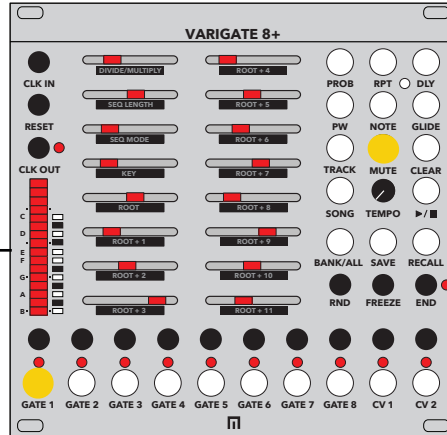


ADVANCED FEATURES 5

SOLO CHANNEL MODE:

If you want to SOLO a gate channel, hold MUTE and then press a channel button. Now this channel will be solo'd and all other channels muted.

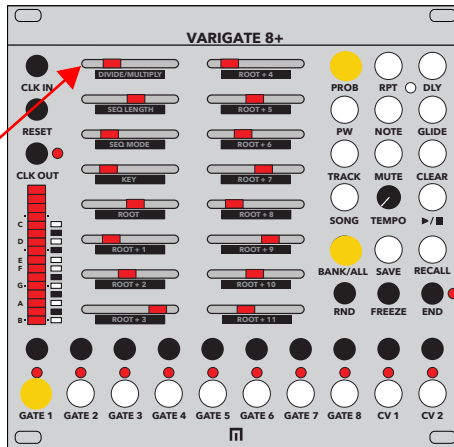
To exit this mode, hold MUTE again and then the solo'd button. Now all channels will play again.



ALL STEPS ON:

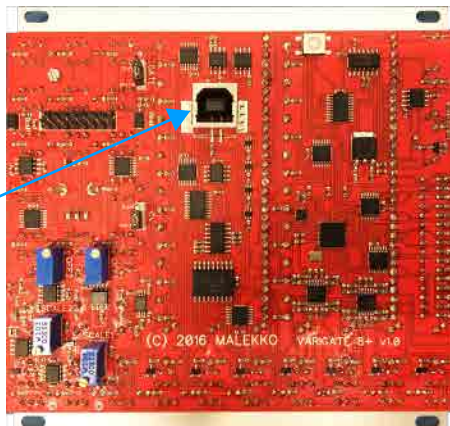
If you want to turn on gates for all steps for a channel (all gates on), press PROB button, then hold BANK/ALL button and then move any slider of the sequencer all the way to the right.

This feature also applies to PW, RPT etc. Just select PW, then hold BANK/ALL button and then move the first slider and so forth.



USB PORT

There is a USB port located on the back of your Varigate 8+ for the purpose of future firmware updates (which will be located on the product page).





USING VARIGATE 8+ WITH VOLTAGE BLOCK, VARIGATE 4+, QUAD GATE DELAY, QUAD LFO AND ANOTHER VARIGATE 8+

You can slave the following devices to the Varigate 8+: Voltage Block, Varigate 4+, Quad LFO and Quad Envelope to create an expanded control system. The Varigate 4+ jumper can be moved to the slave position (see the Varigate 4+ manual).

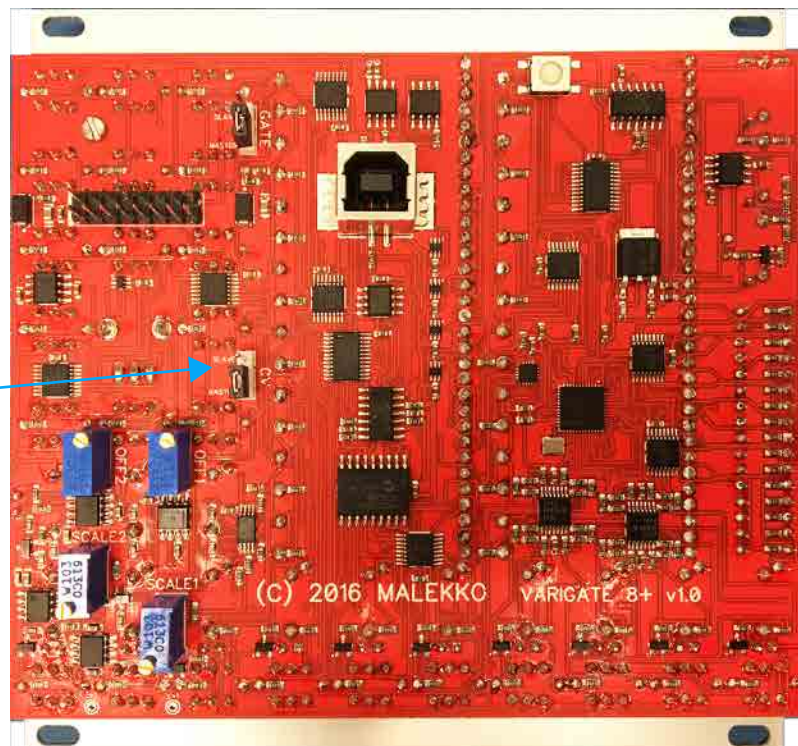
Malekko Voltage Block: All 8 channels of the Voltage Block and their settings can be saved to up to 100 presets when on the same power bus as the Varigate 8+.

Malekko Varigate 4+: Expands the available gate channels and all of the settings of the Varigate 4+ can be saved up to 100 presets.

Malekko Quad LFO: All 4 channels of the Quad LFO and their settings can be saved to up to 100 presets when on the same power bus as the Varigate 8+.

Malekko Quad Envelope: All 4 channels of the Quad Envelope and their settings can be saved to up to 100 presets when on the same power bus as the Varigate 8+.

You can also slave one Varigate 8+ to another Varigate 8+. To do this, you'll need to set the jumper for the slaving Varigate to "slave" rather than "master" here (in this photo, the jumper is set to master - so move this):





WARRANTY

This product is covered by the Malekko Heavy Industry warranty, for one year following the date of purchase. This warranty covers any defect in the manufacturing of this product. This warranty does not cover any damage or malfunction caused by incorrect use – such as, but not limited to, power cables connected backwards, excessive voltage levels, or exposure to extreme temperature or moisture levels. The warranty covers replacement or repair, as decided by Malekko Heavy Industry. Please visit our website malekkoheavyindustry.com to obtain full warranty information and to register your product for coverage.