



SimpleSeq+

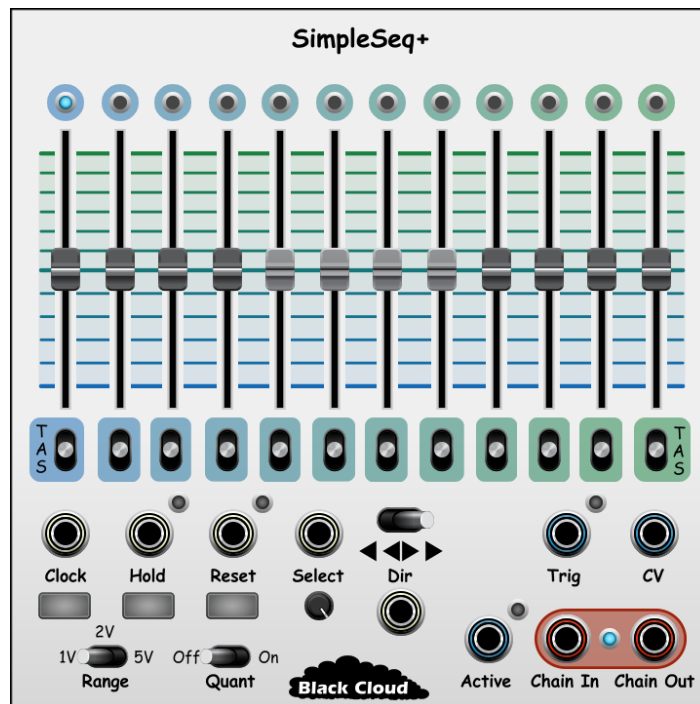
12 Step Sequencer Core

Introduction

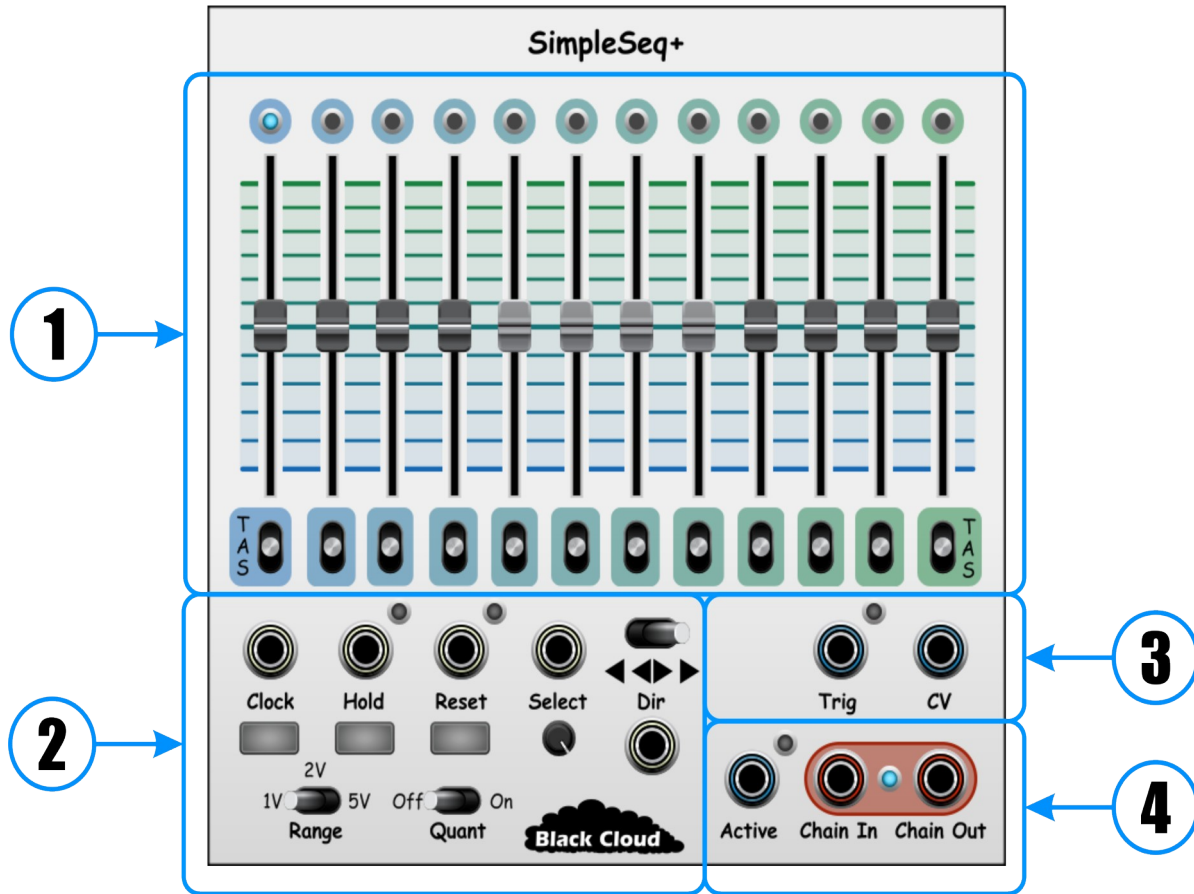
SimpleSeq+ is a 12 step Sequencer Core that you can integrate with other modules as needed to suit your specific sequencing requirements.

Since it's just a core, **SimpleSeq+** has a fairly basic feature set:

- Three output ranges: 1V, 2V, and 5V.
- Two output modes: Linear or Quantized (Chromatic).
- Three sequence motion modes: Forwards, Reverse and Pendulum, with CV control.
- Three step states: Active, Tie, and Skip.
- Direct selection of any non-Skipped step using CV via the *Select* input.
- Three control inputs: *Clock*, *Hold* and *Reset* all with both manual controls and CV inputs.
- A menu configurable PPQN clock.

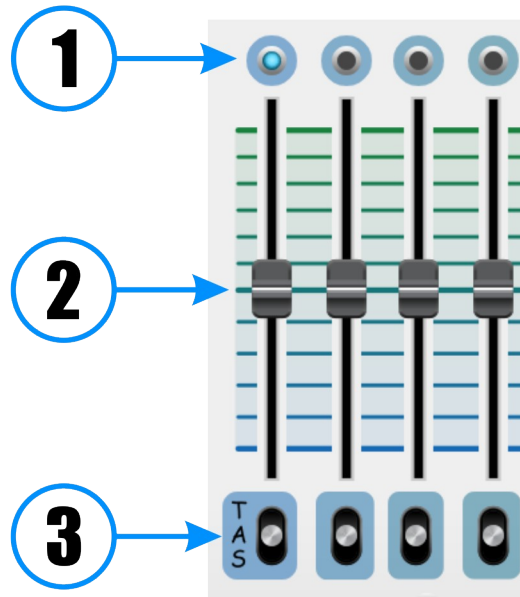


Knobs, Buttons and Sliders



<p>1</p>	<p>Step Controls Step status LEDs, value sliders and step state switches for each of the 12 steps.</p>	<p>2</p>	<p>Sequencer Controls Clock, Hold, Reset, Select and Direction controls (manual and CV) along with Output Range and Quantization switches.</p>
<p>3</p>	<p>Sequencer Outputs Step Change Trigger and Step Value Output jacks.</p>	<p>4</p>	<p>Chain Input/Output Module Active gate output, Chain Input and Output jacks.</p>

Step Controls

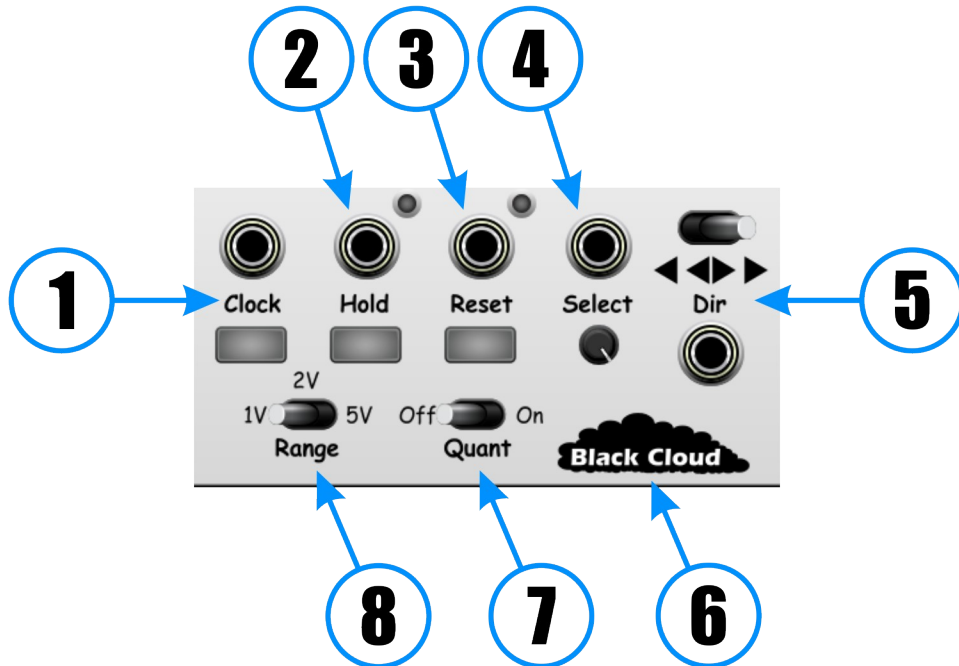


<p>1 Step Status LEDs The LED for the currently selected step will be Blue for Active steps, and Green for Tied steps. The LED for Skipped steps will not be illuminated.</p>	<p>2 Step Value Sliders Sets the value for each step based on the settings of the Range and Quantization switches.</p>
<p>3 Step State Switches Sets the state for each step to one of either Tied (T), Active (A) or Skip (S).</p>	

The three step states have the following effects:

- Active: The step is included in the sequence, using the value specified by its slider.
- Tied: The step is included in the sequence, but no trigger is generated when the step is selected.
- Skip: The step is completely ignored.

Sequencer Controls



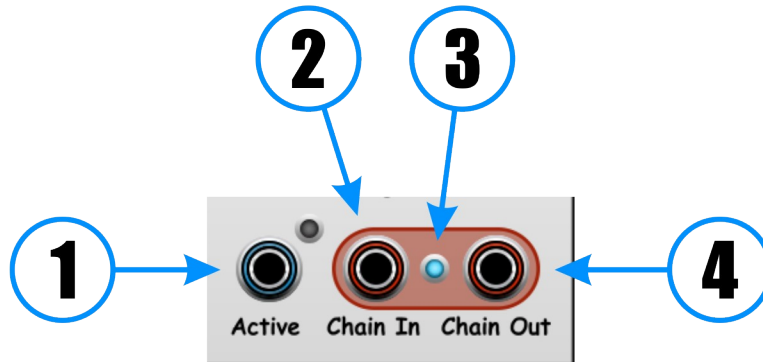
<p>1 Clock Input Connect an external clock via the Clock input or step the sequencer manually with the button.</p>	<p>2 Hold Controls and Status LED The sequencer will freeze the current current output value for the duration of a positive gate signal applied to the <i>Hold</i> input. Input clock pulses are ignored and any changes made to module settings will not be reflected in the output until the <i>Hold</i> condition ends.</p>
<p>3 Reset Controls and Status LED The sequencer responds to positive gates applied to the <i>Reset</i> input in a similar fashion to <i>Hold</i> signals, except the sequence will be reset to either step 1 or the step selected via the <i>Select</i> input.</p>	<p>4 Step Select Input and Attenuverter A positive voltage can be used to control both the current step and/or the “Reset to” step. Use the attenuverter to tailor the selection signal as needed.</p>
<p>5 Direction Controls Set the motion direction (Forward, Backward, or Pendulum) using CV control or manually with the switch.</p>	<p>6 BCI Logo Menu Right-click the BCI logo to display the Module Options Menu and configure the PPQN clock settings or verify the current chain status.</p>
<p>7 Quantize On/Off Select if step values should be quantized (to the Chromatic scale), or Linear.</p>	<p>8 Output Range Select the total range for all steps, either (0V) to 1V, 2V or 5V.</p>

Sequencer Outputs



<p>1 Step Change Trigger Output Each time the sequencer is advanced to an Active step, or an Active step is selected, a Step Change Trigger will be generated. Triggers are not generated for Tied steps.</p>	<p>2 Step Output The output value of the current step, as specified by step slider for the current step, global Range selection and Quantization mode.</p>
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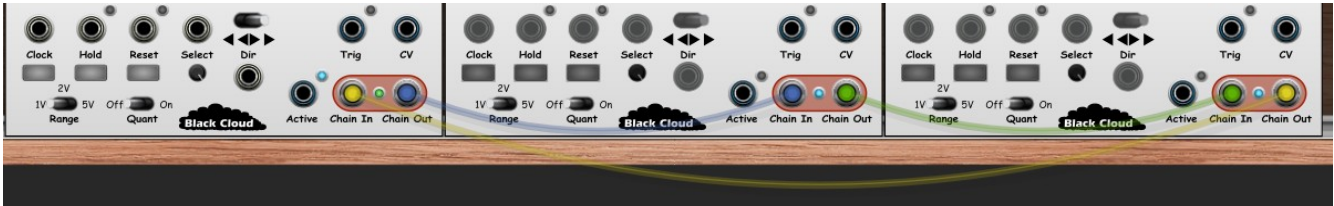
Chain Input/Output



<p>1 Module Active Output If part of a chain, a positive gate will be generated whenever/while a step in the module is the current step.</p>	<p>2 Chain Input Connect (only) to the <i>Chain Out</i> of another SimpleSeq+ module when forming a chain.</p>
<p>3 Chain Status LED Indicates the chain status of the module: Flashing Blue: Unchained Solid Green: Master Module Solid Blue: Chained Module</p>	<p>4 Chain Output Connect (only) to the <i>Chain In</i> of another SimpleSeq+ module when forming a chain.</p>

Creating SimpleSeq+ Chains

You can expand the number of steps available to **SimpleSeq+** by creating chains of modules using the *Chain In* and *Chain Out* jacks on each module. Link the *Chain In* on one module to the *Chain Out* on another, repeating as needed, then connect the *Chain Out* on the final module to the *Chain In* on the first, creating a loop:



When a chain has been completed, the chain status LEDs for the modules will stop blinking, and either change color to Green (identifying the Master module) or stay Blue (for Chained modules). The control inputs on chained modules will also become disabled, other than the Range and Quantization settings (which are still set per module).

The Master module will be the first **SimpleSeq+** you placed, relative to the other **SimpleSeq+** modules you're chaining it to. The physical order of the modules in the chain isn't a factor in determining which one will be the Master, but the chain is represented internally in a "left to right" fashion, so laying out the modules that way will keep things as visually simple as possible (but you're not obligated to do so!).

While chained, all step outputs and step change triggers are available at the Master module's CV and Trig outputs, but each module will also activate its local CV, Trig, and Active outputs whenever one of its steps is made the current step (either via sequence motion or step selection). Use of these per-module outputs is totally optional.

Caution: Chain In and Out

The *Chain In* and *Chain Out* jacks should only be connected to **SimpleSeq+** *Chain In* and *Chain Out* jacks to construct a chain. No externally useful information is transmitted via these jacks (it's actually a DC signal), and attempts to modify, manipulate, monitor or otherwise interfere with these signals are unsupported and can cause unwanted (in every sense of the word) behavior.

Also, the Chain construction/destruction process is non-trivial, especially for larger chains. As a result, best practice is to fully construct the chain before driving the *Clock* or *Select* inputs. You can reconfigure chains on the fly, but it's not recommended.

Happy Sequencing!