Liber ex Doctrina

Sanguine Modules

Liber version 2.3.1

Table of Contents

Some PDF viewers are quirky, to put it nicely, so, if this manual has text sections broken up; covered by images, or parts that are unreadable, please read it using your web browser or a different application.

Sanguine Modules Monsters

Thank you for acquiring the Monsters module collection! In the package… wait! What package? These are digital goods! Oh well, if you had a package you'd probably find some thumb screws (screwdrivers are so cumbersome!); several cables with red stripes; a few cards with stern warnings about not connecting the devices backwards (we could use diodes; but we're stingy); some stickers; another card with a link to this manual (that you have to *type*: QR codes are, honestly, unsafe) because we are all way too cheap to provide printed instructions nowadays, and a costumer service card because we care and we are old.

If you'd bought these as a kit you'd get everything listed above plus assembly instructions that can be crystal clear or opaque as mud, depending on the designer's whim that day, and a ton of mysterious, usually small, items that can turn your weekend into an exciting, fun adventure... or a nightmare of unspeakable horrors and burnt fingers.

We hope these modules inspire and propel all your musical endeavors!

If you are looking for the instructions for a specific module, use the handy provided table of contents (you can click it!). The modules are presented in alphabetical order.

Faceplate themes

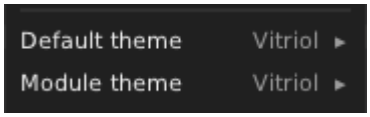
Sanguine Modules include two faceplate themes:

- **Vitriol**: colorful Sanguine Modules theme, this is the default.
- **Plumbago**: dark Sanguine Modules theme.

The image below shows an example using the “Werewolf” module; results for other modules are similar.

Sanguine Module themes: left: “Vitriol”, right: “Plumbago”.

Every module has the same context menu entries to change themes for the whole plugin and for every individual module instance.



- **Default theme**: sets the theme to be used for every newly created Sanguine module.

  When a new **Default theme** is selected, the selected module instance applies the theme immediately.

  Modules shown in Rack’s browser will also be displayed using the selected theme (when Rack is reloaded).

  The selected theme is stored in “SanguineModules.json” in the Rack user folder.

The selected theme applies to both Sanguine Monsters and Sanguine Mutants.

- **Module theme**: sets the theme for the selected module instance.

  Module themes can be selected individually for every instance of the same module in the same patch.

  Module themes for individual modules are stored in presets and patches.

The Modules

Alchemist

The Tale

“What’s your pleasure, sir?” said the mysterious, dirty man, finally.

He drained our coffers for quite a while, ordering glass after glass of *aqua vitae*: quite the expensive form of, supposedly, pure alcohol... Unlikely, as the ragged man now reeked of filth as well as booze; but was still standing.

He, at last, agreed to help us, after laughing and showing us his blackened trio of remaining teeth. “The *anima mundi* is within your grasp, seekers” he said, solemnly as he draw a collection of nonsensical lines on a napkin before, ultimately, passing out on the table.

We took the piece of paper and looked at each other, angry at the uselessness of our venture: a mess of incomprehensible lines and symbols. I slammed the drawing on the wet table, if we were tricked by the vagrant, at least he didn’t deserve his drunken sleep. Despite the loud noise, the fraudster didn’t move at all.

Frustrated, we prepared to leave. A waste of money and a waste of time. I stood and turned to the door. Someone grabbed my arm. It was our systems engineer. “What?” I said, angrily. “Wait” he said, pointing at the wet napkin. “Isn’t that…”

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He turned out to be right! Hidden beneath the ruins of a dungeon tower, we found what looked like a lab. Strange equipment lined the ancient tables; the crumbling walls, and almost every available space on the floor. At the center of the chamber lay a huge, broken alembic. “So, this is where the famed Count of Saint Germain practiced his craft…” said the genius who cracked the napkin puzzle. A glow caught the corner of our eyes. We shined our torches toward it and we couldn’t believe what we saw. A man, dressed in centuries old rags stood there, looking at us with burning red eyes. His crumbling skin stretched to the point of breaking over his ancient bones. The creature spoke, with a cavernous, raspy voice, in perfect english. “So. You have come to steal the secrets of the *Elixir Vitae*… the mysteries of the amalgam… your *prima materia* will certainly help me regain my former, glorious self...”

Alchemist is a polyphonic to post-mix polyphonic or polyphonic to mixed monophonic mixer.

- Gain controls for each one of the 16 possible polyphonic channels.

- Mute and solo individual channels.
- Mix audio or CV.
- Outputs saturate above 10V and below -10V.
- Polyphonic and monophonic outputs can be used simultaneously.
- An expander is available that provides individual post-mix channel outputs and CV gain control for each channel.

The Controls

Knobs, sliders and buttons

Channel gain sliders — Control gain for each of the 16 channels, the slider LED reflects the channel output in dB, with varying intensities and colors:

- Green from -38 to -3 dB.
- Yellow from -3dB to 1dB.
- Red: 0dB.

Mute button — Mutes output for a particular channel. The button lights up red when a channel is muted.

Solo button — Solo individual channels. The button lights up green when a channel is soloed.

Master channel knob — Attenuates the final mix of available channels. It affects both the monophonic and polyphonic outputs.

A handy VU meter is provided, with the same range as the ones for individual channels.

Inputs, outputs and indicator lights

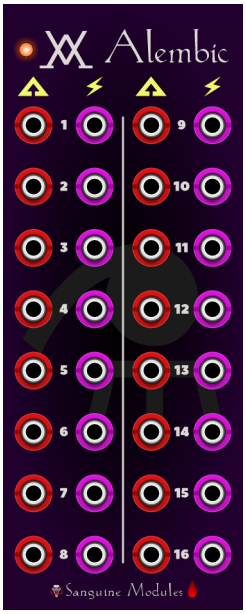
Input jack — The green polyphonic input receives a signal that will be distributed to one of the 16 mixer channels, in the order present in the polyphonic cable. It is indicated by a pointy, glowing blue arrow aiming downwards.

Polyphonic post-mix output — Your mix is available here. The output of this port is polyphonic; voltages are output in the same order as in the input cable.

Monophonic mix output — Your mix is available here. This port provides the voltage sum of the available channels as a monophonic output.

Expander connection light — The orange LED at the top right of Alchemist lights up when a successful connection has been established with an Alembic expander.

The Expander – Alembic



The Alembic expander provides post-mix output ports and CV gain control for each individual channel.

To connect the Alembic expander to an Alchemist module, the expander must be placed immediately to the right of an Alchemist module; the expander connection LEDs on both the main module and the expander light up when they are communicating properly.

Inputs, outputs and indicator lights

Channel post-mix outputs The attenuated (or amplified, see below) output for each individual channel is available in these ports as monophonic channels.

Channel gain CV Individual channel gains can be modulated when CV is applied to these ports. High voltages can turn Alchemist into an amplifier that can double channel input voltage.

Individual and mixed polyphonic and monophonic outputs saturate when voltage is > 10V or < 10V.

Expander connection light The orange LED at the top left of Alembic lights up when a successful connection has been established with an Alchemist module.

Aion

The Tale

Our vision was blurred when we opened our eyes. The cold, damp stone had been replaced by nothingness; yet, we felt everything. We were dizzy. Why are we here?

We discussed, trying to remember, what we were supposed to be doing and how we got to this hollow place.

The electrical engineer mentioned something about Count Saint Germain and we started piecing together, with difficulty, what had happened: a threat, a gunshot, a puff of smoke, then blackness.

So, that's how we got here; but… where is "here"? It was then that I noticed something odd: the head of R&D's beautiful black hair was now completely gray. I nervously pointed it out. She gasped and stared at me and, finally, said "you are now full of wrinkles". I touched my face and felt the dents of age that now crossed every centimeter of it.

"We have to get out of here, now! This is some sort of time warp!" were my valiant words; but… how does one escape time?

We started moving toward the brightest light in the place. As we closed in on it, its intensity was blinding yet our sight was better than ever. Something shifted in front of us, behind us, inside us; almost imperceptibly; and a single figure emerged, surrounding us from all sides.

"Virgo: incredible attention to detail, yet headstrong and insufferable" the figure said pointing at me from everywhere. "Gemini: flexible, yet duplicitous and with no attention span" the entity's voice boomed all around us while pointing at one of the programmers from every point in this void.

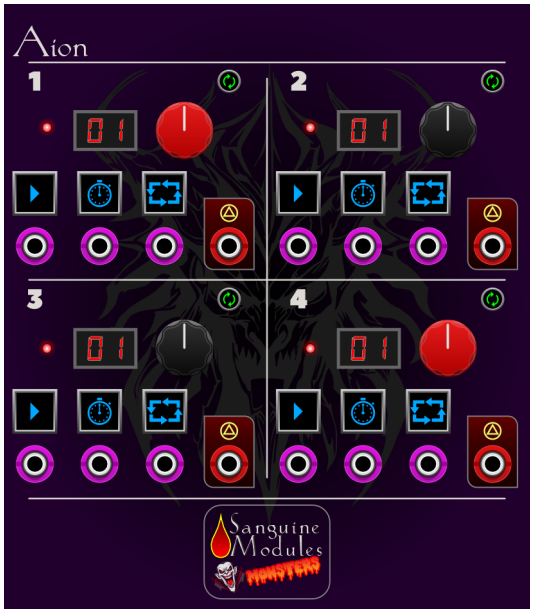
"Who are you?" I dared shout. "I was, am and will be Aion" the creature's voice surrounded us, "and this was, is and will be my domain: the sphere of the universe".

A sphere? Was this one of the *sephirah*? We had faced seemingly impossible challenges before; but never had to defeat time… or the universe, the all, before...

Aion is a collection of four countdown timers that can be driven by an internal seconds clock or external triggers.

- Timers can be one shot or restart themselves after the countdown has expired.
- Timer range is 1 to 99 seconds counted using an internal clock or with external triggers.

- Timers can be triggered; started; stopped, and reset using control voltage or the buttons on the face plate.
- Each timer section can be used as a versatile clock divider when driven by external triggers.



The Controls

Knobs and buttons

The module provides four equivalent sections, only knob colors change, so the instructions below apply to all of them.

Timer knob Twist this to knob to set the maximum timer value.

The current maximum value is displayed on the LED display and the knob's tooltip.

When the timer is running, the LED display shows the remaining time and decreases whenever the timer value does.

The current timer value can be changed while the timer is running, the countdown will account for this change and continue from the new set value. The new maximum value is shown in the LED display, until it decreases.

If the **Trigger timer** input is not connected, the timer counts down seconds using an internal clock, otherwise, the timer decreases

whenever a trigger is received in that port.

The red LED next to the display lights up whenever an event that decreases the timer is received, whether it's from the internal timer or external CV.

Start/stop timer button and port Pushing this button or sending a trigger to the port below it enables and disables the countdown.

If the value has reached 0 and **Auto restart** is not enabled, this button and trigger are ignored until a reset trigger is received or the corresponding button is pushed.

Advance timer button and port If the timer is running, pushing this button or sending a trigger to the port below it decreases the current timer value by one.

Reset timer button and port Pushing this button or sending a trigger to the port below it resets the timer to the initial value set by the **Timer knob**, and reenables the **Start/stop timer** button and trigger if they are disabled after the countdown has reached 0 and **Auto restart** is not enabled.

Auto restart toggle button When this mode is enabled the push button glows bright green and the timer will restart the countdown, from the initial value set by the **Timer knob**, when it reaches 0.

When this mode is disabled the timer will stop when it reaches 0 and wait for a **Reset** signal, via the button or CV port, before it can be started again by pushing the **Start/stop timer** button or sending a trigger to the corresponding port.

This mode is disabled by default.

Outputs

Timer end output A trigger is sent to this port whenever the countdown reaches 0.

Output is monophonic.

Monsters Blank

The Tale

The door creaked as it opened to reveal its zealously guarded secrets; the stench of moisture and staleness filled our nostrils. How long ago was this threshold crossed last? We lit our torches and dared, uninvited, to enter.

The door slammed shut behind us… surely it was the wind… it must have been.

The rocky floor and walls were damp, a massive table in the center of the room spurred a conversation about the time of knights and princes. How long ago was that?

The sound of footsteps coming from a dark room ahead startled us. We turned… and there it was… standing… its red eyes glowing as it approached us…

- Put the Monsters vampire and light up logo on your rack!
- The monsters blank has no active functions or controls: the module is a rebel; bypassing it turns its lights off.
- Helps your Rack look its prettiest and protects it from virtual dust.

Brainz

The Tale

Yegor burst into the lab excitedly, almost tripping over himself.

”Mashter! Mashter!” he called, enraptured, with his raspy, high voice.

”What is it, Yegor?” I asked, finally turning around.

”I found a brain! Look, look”. Look I did… and there it was, staring at me behind a wall of glass, floating in preserving fluid.

“Will this brain do?” I wondered out loud as I studied the contents of the jar Yegor presented to me. “It ish from a schientish” Yegor said, smiling with his rotten teeth.

“A scientist, you say. Where did you find it?”

-”It ish a schientish from the fruit company!”

-”The fruit company?”

-”Yesh! They make whypadsh and whyphonesh and thoshe vishor thingsh”

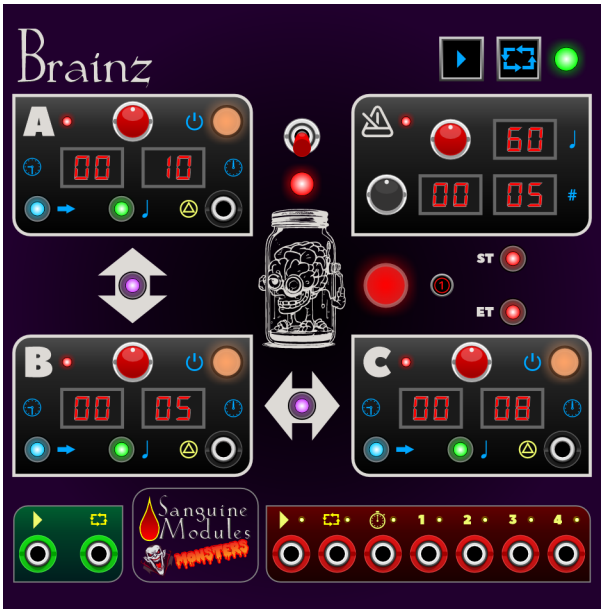
I shook my head and took a deep breath… I really couldn’t be angry at Yegor, he had, after all, done his best.

I looked at the “schientish” brain, still pretty much alive and even now not very bright. The only thing I could muster was a sigh: “Oh dear…”

Brainz is intended to ease control of independent recorders and synchronization of different output audio and video files. We are sure, though, users will find other creative applications for it.

- Up to four simultaneous triggers that can be sent at the beginning and end of the module’s cycle as well as at the end of every step.
- Three steps that send individual triggers after a set delay (or selected metronome beats).
- The best way to synchronize audio and video is using short, sharp audio bursts that can easily be lined up by hand or by using the plethora of tools now usually included in video editors. This module’s metronome output can provide such spikes.
- Module can run bidirectionally (for a full, 2 stage, cycle), forward or backward.

- Individual steps can run forward, backward, bidirectionally or disabled individually.
- The metronome can be set to take over any step or all of them.
- Metronome speed and step count can be set using the knobs.
- Step logic can be enabled and disabled for the module to function as a **Run** control for self-running patches when recording is not desired in that execution.



The Controls

This module has extensive tool tips to help you get the most out of it.

Knobs and buttons

General module controls	
Run/stop button	Depending on the module's cycle setting and whether **Module Logic** is enabled or disabled (see below) this input starts **Stage 1**, **Stage 2**, or sends a trigger to the **Run output jack**. If the module is in the middle of a stage, a trigger here will stop the module and set it to the **Ready** state.
Reset button	A trigger here sets the module back to the **Ready** state; gets out of **One shot mode's wait for reset** (if that mode is enabled and the module has finished its cycle); sets any output voltages to zero, and sends a trigger to the reset output.

Module status LED

The LED at the top right of the module (green in the illustration above) glows in different colors depending on what the current module status is:

- Green: **Ready**.
- Yellow: **Stage 1**.
- Blue: **Stage 2**.
- Red: **Wait for Reset**.
- Off: **Module logic disabled**.

Module logic enable/disable switch

This switch turns module step logic on and off:

- When module logic is enabled the red LED below this switch glows red. Triggering **Run** will start processing steps until the last enabled step is reached for the current stage. The **Run output jack** is disabled, and the **Metronome**, **1**, **2**, **3** and **4** outputs are enabled (the state of the output jacks is indicated by yellow lights beside their labels). This state is the default.
- When module logic is disabled the red LED below this switch is off; triggering **Run** just passes the trigger along to the **Run** output jack, which is enabled. The **Metronome**, **1**, **2**, **3** and **4** outputs are disabled and steps are ignored.

Module direction button

The big button to the right of the brain in the jar (red in the illustration above) sets the way the module handles cycles:

- **Bidirectional (two stages)**: the button glows purple.

  When the module is at the **Ready** state and a **Run** trigger is received the **Module Status LED** changes color to yellow; **Stage 1** begins, and the module goes through steps **A, B** and **C** (as long as they're enabled and their direction is **Bidirectional** or **Forward**, see below). When the final step is reached the module waits for a new **Run** trigger.

  When the module is waiting for a second **Run** trigger and one is received, the **Module status LED** glows blue; **Stage 2** begins, and the module goes through the steps backwards: **C**, **B** and finally **A** (as long as they're enabled and their direction is either **Bidirectional** or **Backward**).

At the end of the second stage the module goes back to the **Ready** state if **One shot** mode is disabled, waiting for another run trigger to start **Stage 1** (**A**-**B**-**C** again) or to the **Wait for reset** state if **One shot mode** is enabled (the **Module status LED** glows red). Any **Run** triggers are ignored in the **Wait for reset** state. This is the default direction.

- **Forward (one stage)**: the button glows red.

  When a **Run** trigger is received in this mode, the module goes through **Stage 1 (A-B-C)** only, per the rules above, and then stops as if the end of the second stage has been reached, as described in the **Bidirectional** section.

  If the module is in the **Ready** state, a new **Run** trigger will start the **A-B-C** cycle again.

- **Backward (one stage)**: the button glows blue.

  When a **Run** trigger is received in this mode, the module goes through **Stage 2 (C**-**B**-**A)** only, per the rules above, and then stops, like it is explained in the **Bidirectional** section.

  If the module is in the **Ready** state, a new **Run** trigger will start the **C-B-A** cycle again.

One shot toggle button Selects how the module behaves after it finishes its cycles, described above.

- **One shot mode (wait for reset)**: when this mode is enabled the button glows red and the module waits for a **Reset** trigger before accepting new **Run** triggers to start its cycle again.
- **Cycle mode**: the button is a dim red and the module goes back to the **Ready** state when its cycle is done. A **Run** trigger will start its cycle again. (This is the default).

ST (Start triggers) toggle button When this mode is enabled, the button glows red and triggers will be sent to the **1-4** output jacks at the beginning of a cycle. (Enabled by default).

ET (End triggers) toggle button When this mode is enabled, the button glows red and triggers will be sent to the **1-4** output jacks at the end of the cycle, when all stages are done (**Stages 1-2** if **Bidirectional** mode is set; **Stage 1** if **Forward** direction is set, or **Stage 2** if **Backward** direction is set).

(Enabled by default).

Step direction arrows

The buttons in the middle of the vertical two-way arrow below **Step A** and the horizontal one to the right of **Step B** control how steps behave in the different stages.

- **Vertical arrow:**
  - **Bidirectional** (button glows purple):
    - **Stage 1**: **Step B** will follow **Step A**.
    - **Stage 2**: **Step A** will follow **Step B.**
  - **Forward** (button glows red):
    - **Stage 1**: **Step B** will follow **Step A**.
    - **Stage 2**: **Step A** is skipped and the cycle ends at **Step B.**
  - **Backward** (button glows blue):
    - **Stage 1**: **Step B** is skipped and **Step C** will follow **Step A**.
    - **Stage 2**: **Step A** will follow **Step B**.
- **Horizontal arrow:**
  - **Bidirectional** (button glows purple):
    - **Stage 1**: **Step C** will follow **Step B**.
    - **Stage 2**: **Step B** will follow **Step C.**
  - **Forward** (button glows red):
    - **Stage 1**: **Step C** will follow **Step B**.
    - **Stage 2**: **Step B** is skipped and **Step A** will follow **Step C.**
  - **Backward** (button glows blue):
    - **Stage 1**: **Step C** is skipped: stage ends at **Step B**.
    - **Stage 2**: **Step B** will follow **Step C**.

The module consists of three identical step sections (**A**, **B** and **C**) with identical controls on each, the stages are marked by a letter in the top left corner of their controls cluster:

Step controls	
Enable/disable step button	The buttons at the top right corner of each step glow orange when the step is enabled and are off when the step is disabled. Disabled steps are skipped, regardless of the arrow direction settings. All steps are enabled by default.
Current step light	The active step is indicated by a little red LED next to the step's letter label.
Timer knob	The red knob sets how long to wait before sending a trigger and advancing to the next step. The selected time (in seconds) is shown in the right LED display. The minimum is 1 second and the maximum is 99 seconds. The default time is 1 second for every step.
Elapsed time LED display	This display shows the elapsed time, in seconds, for the active step.
Set time LED display	This display shows the time, in seconds, set by the **Timer knob**.
Global triggers toggle	When this option is enabled the button glows blue, and, in addition to the individual end of step trigger outputs for each step, triggers will also be sent to the **1-4** output jacks when the step's timer has expired. This option is off by default for every step.
Step is metronome toggle	When this option is enabled the button glows green and the step is treated as a metronome: its timer setting is ignored (indicated by a 0 in the **Set time LED display**) and will follow the metronome settings (explained below). This option is off by default for every step.
Step trigger output	A trigger is sent here when the timer or metronome (if the step is configured as such) for each step expire. Output is monophonic.

Any step can be turned into a little metronome that outputs a set number of triggers (that can be treated as audio bursts) at a selectable speed.

Metronome controls	
Metronome light	A small, red light next to the metronome icon indicates when the module is acting as a metronome.
BPM knob	The red knob lets you set the beats per minute the metronome runs at. The selected speed is shown in the display to the right of the knob. The minimum speed is 1; the maximum 99, and the default is 60 BPM.
Selected BPM display	Shows the current metronome speed.
Steps knob	The black knob sets how many triggers will be output before the metronome expires and the module goes to the next step. The count for beats already output is shown in the display next to the knob, while the selected amount is presented in the rightmost display. The minimum is 1; the maximum 99, and 10 beats is the default.
Steps displays	The leftmost display shows how many beats have already been output; the rightmost display reflects the total steps set by the black **Steps knob**.

Inputs and outputs

Metronome controls	
Run/stop input jack	A trigger here starts and stops module cycles as explained above in the **Run/stop button** section. Input is monophonic.
Reset input jack	A trigger here resets the module as explained above in the **Reset button** section. Input is monophonic
Run output jack	If module logic has been disabled, **Run** triggers are passed through

to this output.

If module logic is enabled, this output is disabled.

A small yellow light, when lit, indicates the output is enabled.

Output is monophonic.

Reset output jack

Reset triggers are always copied to this output.

Output is monophonic.

Metronome output jack

Beat pulses from the metronome are output here.

When connected to an audio output device or audio mixer they serve as metronome “clicks”; they can also be used as regular triggers if connected to something that expects them.

Great for synchronizing video and audio files from different sources.

When module logic is disabled, so is this output.

A small yellow light, when lit, indicates this output is enabled.

Output is monophonic.

1-4 trigger output jacks

Triggers are output here on cycle start (if **ST** is enabled); cycle end (if **ET** is enabled), and at the end of every step if the corresponding option is enabled (see above).

Great for starting and stopping different recorders at the same time.

This outputs are disabled when module logic is disabled.

Small, yellow lights indicate their availability.

Outputs are monophonic.

Bukavac

The Tale

The mad scientist's castle was so close we could smell it.

The village was a humble one; the most ostentatious thing we saw was a golden goblet sitting on the fountain in the square. Quite impressive no one stole it.

We finally arrived at the local pub; when we asked the locals about the cup they just laughed… when we mentioned our intention to find the castle they grew pale, some started blessing us, pleadingly, and pressed their crosses on our heads; others cast their worst curses on us while pointing at their own foreheads.

We are not crazy! We are curious; but… still… that was really odd and I felt a shiver run down my spine.

The bless-curse cycle was broken when a carriage finally showed up; the driver blankly staring at us. We couldn't help but fixate on the huge scar that decorated his head: a railroad that started on his forehead and ended above his left eye.

We loaded our luggage and instructed the strange man: drive for a few miles down the dirt road and stop at the tree shaped like a scorpion… that would be easy to find in the darkness of this moonless night.

***

Lo'! We actually found it! We gathered our belongings; paid the odd driver and ventured into the dense forest.

And so it was that we came upon a misty lake. An ominous misty lake. We didn't know what or why… but something felt really wrong about the place. We needed to go around it, quickly.

The banks were muddy and something caught our eye: claw prints, one after the other, were set deep in the mud.

What kind of creature could do this? The claws were big; but so close together it couldn't be a single four legged animal; yet so huge it couldn't be a group going single file.

We picked up the pace, we certainly didn't want to meet whatever left those prints.

As we hurried something splashed on the misty water; we turned and a caught a shadow of something that appeared to have enormous gnarled horns and… a multitude of limbs? Emerging from the depths… then it came: the most deafening sound we had ever heard…

Bukavac intends to serve all your noisy needs:

- A plethora of colors:
  - White.
  - Pink.
  - Red.
  - Violet.
  - Blue.
  - Gray.
  - Uniform random (that we call “Prism”).
- Perlin noise with control over its octaves and outputs for each one.

The Controls

Knobs

Perlin speed knob and CV input

Spin the big red knob around to control the “jumpiness” of the perlin noise (you can think of it as a kind of frequency).

Plug some voltage into the black jack and control the speed with CV!

The small red knob attenuates how much CV affects the speed.

Perlin amplifier Spin the black knob to control the amplitude of the output of the Perlin noise mix and its octaves.

Connect some voltage into the black port and control the amplitude with CV. The little black knob controls how much voltage affects the amplifier.

Perlin octave mix trimpots The trimpots below the **Perlin amplifier** control how much each Perlin octave affects the final perlin mix.

Each octave (***1, *2, *3, *4**) includes an output port so they can be used individually.

Inputs and outputs

Noise outputs Each noise channel has a dedicated output jack, its noise color indicated by a lit, colored ring around the port. The “Prism noise” port has a multicolored ring and the Perlin noise mix a shaded white to dark gray one.

Dolly-X

The Tale

In 1996 the scientific community rejoiced when they were able to clone a mammal from an adult somatic cell. At the same time, in an underground lab, mad scientists were hard at work trying to repeat the success of their noble peers for their own nefarious ends: create the ultimate sheep weapon (who said Worms never inspired anything?).

When their experiment broke the containment barrier, they didn't see her coming. They tried hiding, they tried running. None survived.

They expected her to be vicious: they made her like that; but they didn't count on her being really smart. Had they survived they would have been aghast when *she* started cloning *their corpses*.

In 2024, the tapes from the underground lab's security cameras were found…

Dolly-X is a dual monophonic to polyphonic channel cloner.

- Duplicate a single monophonic input to up to 16 channels.
- Channel count can be controlled by voltage.
- Dual module: the bottom half is a clone of the upper half.

The Controls

The controls are cloned for both halves of the module.

Knobs

The clone count section

Twist the red knob around to set the number of clones you want the module to produce from the monophonic input. The currently selected number for each of the two provided cloners is presented on the LED display.

The black CV input allows a positive voltage to set the number of clones as well.

Control voltage values for maximum clones.[1]	
Voltage (V)	**Clones**
0.0	1
0.750	2
1.5	3
2.5	4
3.0	5
3.5	6
4.0	7
5.0	8
5.5	9
6.0	10
7.0	11
7.5	12
8	13
9	14
9.5	15
10	16

Inputs and outputs

Input jack

The green monophonic input receives the signal that will be cloned up to 16 times to the respective polyphonic output. It is indicated by a pointy, glowing yellow arrow aiming downwards.

Step buttons and jacks output section

The cloned voltages from the **Input jacks** will be output in one of these polyphonic jacks. The outputs are indicated by a sharp, glowing blue arrow aiming upwards.

1 Negative voltages are ignored.

Dungeon

The Tale

Sometimes I wonder about the seeming absurdity of what we do. From surviving encounters with creatures considered a myth to following a “map” drawn by a vagrant on a napkin and interpreted only after the ink smeared because it got wet. I would seriously question our sanity if an ominous dark tower wasn’t standing right in front of us. A tower we found thanks to a wet napkin map.

The building was made of stone, now blackened, both by time and, clearly, more than one attempt to burn it down; yet, it stood in what can only be described as fairly good condition, considering it was probably many centuries old.

Approaching it, we found our first challenge: a metal gate with no visible handle or lock. We looked for loose bricks or anything out of place, yet we found nothing.

We stared at the huge moon that lit the tower, stumped. It’s funny how celestial bodies look clearer and bigger the closer one gets to the end of the world. I suddenly remembered something: the vagrant had said something about “moon music”, at the time we dismissed it as drunken ramblings; but maybe, just maybe, it was actually a clue. I produced my laptop from by backpack and fired up a synthesizer. Now we had sound; but what was the “music of the moon”? I played some random notes. That got us nowhere. I sighed and laughed, thinking about the mysteries occultists and hermetists encountered and tried to solve. Trithemius, Moore, Agrippa… Agrippa… didn’t he have a verse about moon music? “After the Hypodorian Clio sings”[2]… worth a try. A to A I played and something shifted. The ancient metal gate started moving, screeching as the ancient and mysterious mechanism came to life after centuries of slumber. Our way was no longer barred.

The tower’s interior was strangely warm and smelled of something we couldn’t quite place; there was no furniture or visible machinery, only a wooden door at the far end and a circle with alchemical symbols for the planets on the floor.

A youthful intern rushed to the door, her hand reaching for the handle. I shouted: “Wait, don’t…” but my warning came too late, as she wiggled the lever a metal spike shot out of a panel in the door and pierced her skull right between the eyes. The spike retracted and her lifeless body slumped down to the floor, to lie, after a while, on a pool of her own blood and brains.

Agrippa’s verse opened the first door; perhaps it would open this one as well.

2 If you want to read the whole verse, with the planets and celestial bodies not mentioned in this tale, and a brief explanation of it, you can find it here: https://objectiveart01.tripod.com/greek_modes.htm

“Silent Thalia we to the Earth compare,

For She by music never doth ensnare;” that’s silence… probably the middle or last.

“Calliope also doth chord second touch,

Using the Phrygian; Mercury as much” As I played the Phrygian scale… Mercury’s symbol started glowing, we were on the right track…

Dungeon is a versatile and attractive Sample & Hold module.

- Can sample external voltages or use its internal, normalled white noise source.
- The white noise source can also be used as an output by itself.
- Three modes of operation: Sample & Hold, Track & Hold and Hold & Track.
- Built in slew that can be modulated.
- Can be triggered by external voltages or by hand.

The Controls

Knobs, sliders and buttons

Whenever a trigger is mentioned in the explanations below, it refers to either a trigger sent to the **Clock input** or one generated by pressing the **Trigger** button.

Mode selection Spin the red knob to select the module’s operation mode.

knob

The currently selected mode is presented in the small LED display at the center of the module using two letter abbreviations, and also, in full, on the knob's tooltip.

A brief explanation of the different modes, along with their display abbreviation follows.

- **Sample & Hold (SH)**: the voltage present at the **Voltage input** is stored whenever a trigger is received.
- **Track & Hold (TH)**: the voltage present at the **Voltage input** is held when the **Clock input** is high and passed as is when it is low.
- **Hold & Track (HT)**: the voltage present at the **Voltage input** is passed as is when the **Clock input** is high and held when it is low.

Trigger button Produces a trigger whenever it's pushed.

The button lights up red when pressed or when the **Clock input** is high.

Slew slider and CV input Limits the change rate of signals according to the rate parameter set by the slider (in milliseconds per volt: ms/V).

The **Slew CV** input allows modulation of the slew value; it acts as an offset to the value set by the slider (and allows for longer slew rates than the slider by itself when the slider is set at the top and positive voltages are applied).

When the **Slew CV** input is not patched the LED in the slider glows red according to the set slew rate.

When the **Slew CV** input is patched, the LED reflects the voltage present at the input: green for positive voltages and red for negative ones.

Inputs and outputs

Clock input Rising edges (>= 2V) in this port change the held voltage in **Sample & Hold** mode. This input is monophonic.

Voltages >= 2V present at this input are considered “high” for the **Track & Hold** and **Hold & Track** modes.

Voltage input

The voltages present at this port will be sampled in the different modes.

This input is normalled to the internal white noise generator: the internal generator will be used when an output voltage is required and this port is not connected.

Noise output

An output port for the internal white noise generator. Always available when you need it.

Voltage output

The voltage held or tracked is present in this port.

The big moon light changes color and brightness according to the voltage at this port.

Context menu

The module adds one option to the standard Rack context menu: **Store held voltage in patch**.

When this option is enabled, the last voltage present in the **Voltage output** port will be saved along with your patch, otherwise the voltage in that port will always be 0 when the patch is loaded.

This option is enabled by default.

Gegenees

The Tale

It was pouring when we arrived at the island, its palm trees waving violently against the shore as the howling wind punished them over and over again.

We were venturing into the unknown, eager to explore; but that would have to wait ‘till morning: night was falling fast and we were soaked. The time to make camp was nigh. One of the sailors lit a fire; another pulled a mini-synthesizer from his backpack, guarding it from the rain, and the merriment began.

Songs about women, love, money and longing were sung. We were tired: the voyage was difficult and the sea is a harsh mistress. As sleep began overtaking us, the ground started to shake with massive, pounding thumps coming from everywhere at once.

We looked around, had the place suddenly grown darker?

Enormous, polymelic creatures began stepping forward, the ground trembling whenever their feet made contact with it. One of them hurled a colossal boulder at the first mate, crushing him instantly. We reached for our weapons: we knew what to do…

Gegenees is a versatile 1 to 8 digital switch/sequencer that takes an input voltage (or a polyphonic cable with a maximum of 16 channels) and puts whatever it absorbed into one of 8 selectable outputs.

- Can run forwards, backwards, at random or any combination of those that you choose.
- Outputs can be selected directly using the mouse.
- Can cycle or be “one-shot” until reset.
- Can reset to the first step or to a “wait for clock” state.
- Can avoid repeating the same random step consecutively.
- Triggers can come from the control voltage inputs or mouse clicks in the corresponding buttons; for brevity in these instructions, whenever a trigger is mentioned or called for, you can safely assume it’s either voltage or clicks!
- The lights and display turn off when bypassed.
- Tooltips on every input, output, button and knob so you can hit the ground running.

The Controls

Knobs and buttons

The steps section Spin the red knob around to set the maximum number of steps (1 to 8) the switch will go through before starting over the cycle or stopping (see below).

The black CV input allows a positive voltage to set the number of steps as well.

The glowing red LED display shows the number of set steps, whether using the knob or control voltage.

Control voltage values for maximum steps.[3]	
Voltage (V)	Steps
0	1
1.5	2
2.5	3
3.5	4
4.5	5
5.5	6
6.5	7
7.5	8

Reset type selector The benzene ouroboros in this button selects between the two module reset modes when clicked: **Reset to first step** (the button is

3 Voltages are clamped: you can safely input negative volts to get 1 step or 8+ to get 8.

lit white, this is the default mode when the module is loaded) or **Reset to zero** (the button is dimmed and gray).

What's the difference?

- **Reset to first step:** when resetting the module to "1" whatever voltage is present in the green voltage input will be present immediately in the "1" red output. This can lead, for example, to unexpected sounds or logic branches in automated patches... It can also provide the needed voltages right from the start. Your choice!
- **Reset to zero:** when resetting to "0" the module is "waiting" for a trigger to happen at the **Next step**, **Previous step** or **Random step** inputs before sending the voltage to a step output (the specific output can vary depending on what is triggered). In this "waiting" state all outputs produce 0 volts. This can lead to out of time actions… or precise synchronization. Your choice!

One shot toggle Click this button to select between two module operation modes: **one-shot** (the button is lit bright red) and **cycle** (the button is dim red, this is the default mode when the module is loaded).

What's the difference?

- **One-shot** mode takes as many steps as selected in the **Steps section** and stops until the module receives a **Reset** trigger. Take heed! The module counts steps taken, it doesn't care if they're forwards, backwards or random! If you set 5, 5 you will get before stopping. If, for example, we set "One-shot" mode; start at step "1"; set the module to a maximum of 3 steps, and trigger **Next step** three times, our last step will be "1" (since we started at the first step, no trigger was counted). To avoid this, we can set the **Reset type** to **Reset to zero**, trigger the **Reset** input and start clocking the module, that way steps 1-2-3 will play; the module will stop, and start waiting for a **Reset** trigger.
- **Cycle** mode just chugs along happily selecting a step whenever **Next step**, **Previous step** or **Random** are triggered. If only **Next step** is triggered ("forward mode") the module goes back to step 1 after receiving a trigger while it's on step 8; conversely, if **Previous step** ("backward mode") is triggered

when step 1 is selected the module Möbius strips to step 8 while smiling and continuing along.

No random consecutive repeats toggle

Click on Uranus to toggle between the random modes **Regular** (the button is dim purple, this is the default mode when the module is loaded) and **No consecutive repeats** (the button is lit bright purple).

What's the difference?

- **Regular random** mode is just what you expect: a step is selected by the digital brain pretending to be an *n*-sided die (*n* being the maximum number of steps selected in the **Steps section**). Repeats can and will occur… often: statistically sound random number algorithms strive for flat distribution curves (unlike the pretty bell curves you get when rolling, say, 6 sided dice in the company of other sentient creatures). Monsters uses a random number generation algorithm that's pretty, pretty good, hence, pretty, pretty flat.
- **No random consecutive repeats** mode is what you have sometimes wished for (or manufactured with a complicated collection of modules) [I know I did]: a random mode that avoids repeating the same step twice in a row. For example, we set a maximum count of 5 steps and we trigger **Random step** five times using **Regular random** mode, one possible set of results is "1,3,4,4,2"… we're happy; but we'd be gleeful if we had "1,3,4,5,2". We enable **No random consecutive repeats** and we're all set: no more occurrences of "4,4" until we disable it. Needless to say this makes the desired flat distribution curve bumpy. So… be aware, if you're keeping track and graphing.

Inputs and outputs

Trigger input jacks

Every trigger jack is indicated by a purple nut and a red arrow pointing to its corresponding button.

Next step jack and button

A trigger here advances the output step by one: from 1 to 2, to 3… When the steps reach the maximum allowed steps set in the **Steps section** they roll back to 1. Every trigger received counts as one step for **One-Shot** mode.

Previous step jack and button

A trigger here makes the output steps go backward: from 8 to 7, to 6… When the steps reach 1 they roll forward to the maximum allowed step as set in the **Steps section**. Every trigger received here counts as one step for **One-shot** mode.

Random step jack and button

A trigger here rolls a virtual die and selects a step based on the roll result. The behavior of this input is influenced by the "**No random consecutive repeats"** mode. Every trigger received here counts as one step for **One-shot** mode.

Reset jack and button

A trigger here:

- Sets the steps back to 1 or "waiting for clock", depending on the **Reset type** setting.
- Sets the step counter to 0 and enables **One-shot** mode to run again.

Input jack

The green polyphonic input receives the signal that will be distributed to one of the 8 polyphonic output steps. It is indicated by a pointy, glowing blue arrow aiming downwards.

Step buttons and jacks output section

The voltages from the **Input jack** will be output in one of these polyphonic jacks. The currently selected step is lit red; the other available steps are lit green. Disabled steps are gray. Every step is, also, a button: you can manually send the input voltage to whatever output you need, whenever you need. When you click a step button the lights will adjust to reflect your choice. The output section is indicated by a sharp, glowing blue arrow aiming upwards at the top of the cluster.

Hydra

The Tale

The battle against the giants was over and we were victorious. If the chronicles were right, Heracles had fought these creatures before. We were amazed at our discovery and, after some rest and taking some time to bury our dead, we ventured further into the island. Was it possible? Had we found traces of the mighty son of Zeus?

Our feet were sore after walking many, many miles, with nothing but trees and the distant sound of animals to keep us company.

Where did the giants come from? We had found no village or encampment fit for such creatures so far.

The jungle began to clear and there, in the distance, we saw a lake. Quite a welcome sight, for refreshment was sorely needed. We ran toward the water, teasing each other as to who would be last.

So distracted were we that the cook suddenly tripped on something and fell face first on a rock, chipping his only remaining good tooth. Cursing, he got up and kicked the cause of his misfortune: a skull!

The old bones looked like they came from a big, dangerous lizard. We decided to keep them, if nothing, they would make a nice paper weight and would give us a laugh whenever we saw the toothless cook grin.

Standing on the shore, the lake was gorgeous, glittering in the sun with calm, gentle waters. We drank our fill and began heading back to camp.

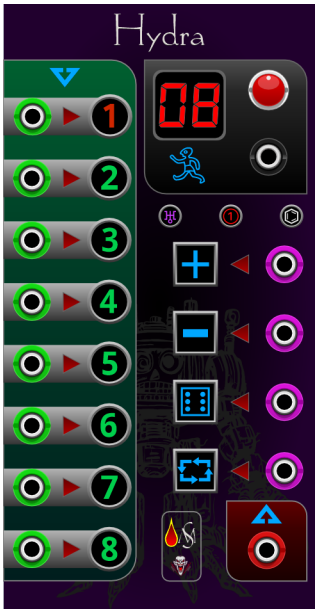
The screech of grinding metal made us stop right where we were. We turned around and saw, emerging from the water, a glistening, golden head, and another… then another… and one more, and one in the back, and another beside it…

We had already conquered monsters before in this adventure…

Hydra is an adaptable 8 to 1 digital switch/sequencer that takes 8 input voltages (or polyphonic cables with a maximum of 16 channels) and puts whatever one of them carries into one polyphonic output. It is the opposite of Gegenees.

- Can run forwards, backwards, at random or any combination of those that you choose.
- Inputs can be selected directly using the mouse.
- Can cycle or be “one-shot” until reset.

- Can reset to the first step or to a “wait for clock” state.
- Can avoid repeating the same random step consecutively.
- Triggers can come from the control voltage inputs or mouse clicks in the corresponding buttons, just as with Gegenees.
- The lights and display turn off when bypassed.
- Tool tips on every input, output, button and knob so you can avoid reading this manual and get to making some great music.



The Controls

Knobs and buttons

The knobs and buttons in Hydra mirror those of Gegenees in form and function, please refer to the appropriate section in the instructions for that module.

Inputs and outputs

Hydra offers 8 steps with their respective input jacks and buttons in a green cluster indicated by a keen, downwards pointing arrow and one red output jack marked by an acute, upwards pointing arrow. Both arrows glow blue. Trigger and step button behavior is the same as those for Gegenees (as explained in the appropriate section), the only difference is that, while

Gegenees deals with 1 input and a maximum of 8 possible outputs, Hydra offers up to 8 possible different inputs to choose from and send to a single output.

Kitsune

The Tale

It felt like our breath had stopped as the swirling lights faded out. We had escaped the time realm! A vast forest stood before our eyes; but… that was wrong. We were supposed to be in a stony lab, not in the middle of a leafy realm with no discernible pathways.

We checked our gear… nothing worked. No watches, cellphones, laptops or compasses. Did we really escape? Or was this just a trick? Black clouds gathered in the sky. Great! No stars to guide us either. We decided to make camp for the night when the first rain drops started falling. We were already tired and scared, no need to also be wet.

We built a small fire and pitched our tents around it; their interiors lit only by some ancient oil lamps we had, thankfully, brought along.

The orange lights started fading one by one as our friends started going to bed. I'm always grateful for their loyalty and their nerves of steel, for, as tired as I was, sleep refused to come: my nerves were a wreck: I almost poked a hole in the tent with my head when I heard some leaves rustling.

Is this how our ancestors felt? Alone? Scared in the dark, with no idea where to go next?

A branch snapped… I took a deep breath, reassuring myself that everything was all right.

Then the wailing started and the light of our hearth died.

I heard movement in the other tents. Surely this was not my imagination.

Slowly… I opened the tent's zipper and peeked…

I couldn't believe my eyes: a pack of foxes, sitting around our now extinguished fire waited…

A pack of foxes with multiple tails…

Kitsune is a quad utility module designed to manipulate voltages.

- Can be used for audio or CV.
- Attenuate, invert and offset input signals.
- The input for section 2 is normalled to the input for section 1.
- The input for section 4 is normalled to the input for section 3.

- Can be used as a dual 2 channel splitter. Split channels can be manipulated independently.
- Polyphonic (up to 16 channels) inputs and outputs.

The Controls

The module is comprised for four identical sections with three important differences:

- **Attenuverter** knob colors are different; but functionality is the same.
- The input for section 2 is normalled to the input for section 1: if nothing is connected to section 2 and there's a signal present in section 1, that same signal is available in section 2 and can be manipulated independently.
- The input for section 4 is normalled to the input for section 3, the same rules as those for the section 2's normalled input apply.

Knobs

Attenuverter knob

Controls the attenuation and inversion of the input signal.

Twist this knob to the right to multiply the input signal by 1.

Spin this knob to the left to multiply the input signal by -1 (thus inverting it).

Offset knob

Adds up to +/-10V to the input signal: positive offsets clockwise,

negative offsets counterclockwise.

If no input is connected or normalled to the module's section, this knob can be used to set a constant voltage source.

Inputs and outputs

Polyphonic input port

Connect your input signal (monophonic or polyphonic) here.

The input for section 2 is normalled to section 1.

The input for section 4 is normalled to section 4.

Polyphonic output port

Manipulated voltages for each module section are available here.

This output is polyphonic.

The LED below the offset knob indicates the polarity, amplitude and polyphony state for the module's section:

LED Colors		
Color	Channels	Polarity
Green	Monophonic	Positive
Red	Monophonic	Negative
Aqua	Polyphonic	Positive
Purple	Polyphonic	Negative

LED brightness reflects amplitude

Medusa

The Tale

The tunnel seemed to go on forever, no choice but to move forward; on the bright side, at least we were finally out of the horrible, forsaken place that lead us here.

As we made our way through the narrow corridor, the environment grew hotter with each step we took and something assaulted our nostrils: ash and rotten eggs; dizziness and addleness began to conquer our minds… despite our confusion something was clear: an active volcano was nearby. If we went back we would starve to death; but pushing forward could lead us to a fiery death. No time to ponder or agree… instinctively we rushed onward.

I stopped briefly when Frederick fainted: we had lost enough people already… as I crouched something sent a chill down my spine: the sound of a rattle rose above the hurried steps and confusion. As I helped him up, I dismissed the sound as a product of my imagination, and we renewed our race down the corridor. Our friends had already left us way behind.

I saw the light of their torches ahead and pleaded with him to pick up the pace: I was pretty sure I was on the verge of fainting myself: the rattle had returned, louder, more persistent… invasive; it had grown loud enough as to drown the noise of the group ahead of us.

My heart grew warm with hope when, in the distance, I saw what looked like a bigger room. With any luck it would have more air so we could stabilize our heads and keep moving: I was already hallucinating. As we closed in on the room it started to look more and more like a gallery full of sculptures... I was pretty sure no one could live down here.

Frederick stopped, pulling me with him. He looked up and with a weak voice muttered: “statues?” I looked at him, then at then back room. Sculptures of all shapes and sizes stood there. One of them even looked like Gina, a woman I really fancied. Were we the victims of a collective hallucination?

Something moved, gracefully, among the stone figures. I told Frederick to be quiet and approached the room slowly, staying as low as I could.

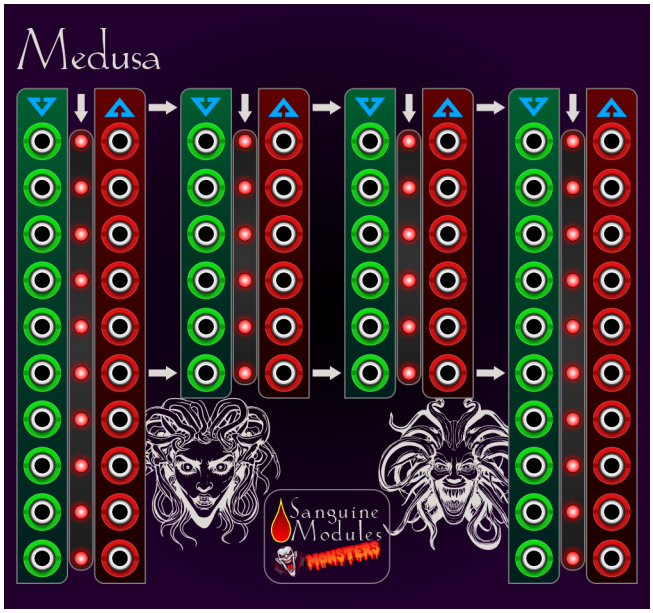
It was there, in the unbearable heat, while crawling like a snake, that I saw something not meant to be gazed upon by human eyes: a ragged, yet shapely, woman, walking, almost gliding in the strange gallery. Her hair was moving; not from the nonexistent breeze; but with a will of its own… as I looked more carefully I found, to my horror, that it was not hair at all: it was a tangled mess of serpents.

I held back a scream when I started recognizing who the statues depicted: Gina was, indeed, there; Kyle and Julie, inseparable as always; Michael… Lars… his face permanently surprised.

As the woman turned to face me, I averted my eyes and rack back down the corridor…

Medusa is a mega multiple.

- Multiply 1 input to n outputs (up to 32).
- I/O is smart and the signal from an input cable is normalled to every output port until a new input cable is encountered, then the process begins again.
- Inputs and outputs are polyphonic.
- LEDs light up in different colors to indicate where different inputs begin and end.
- Can multiply both audio and CV signals.
- Great module to organize big patches.



The Controls

Inputs and outputs

Polyphonic input ports Connect your input signals here.

Inputs control the number of output channels (per input cable) and

where a new signal is multiplied (Lit LED colors reflect where a particular signal starts and ends).

Example:

Signals are connected to inputs 1, 5, 9, 11, 15 and 23.

The signal from input 1 is copied to outputs 1, 2, 3 and 4. The LEDs next to those ports are lit red.

The signal from input 5 is copied to outputs 5, 6, 7 and 8 and the LEDs next to those ports are lit yellow.

The signal from input 9 is copied to outputs 9 and 10; the respective LEDs are lit blue.

The signal from input 11 is copied to outputs 11, 12, 13 and 14; LEDs are lit green.

The signal from input 15 is copied to outputs 15 to 22 and the LEDs next to those ports are lit white.

Finally, the signal from input 23 is copied to outputs 23 to 32 and the LEDs are lit red (the color cycle begins again, LED color order was chosen to contrast when LEDs are lit next to each other).

The setup in the above example can be altered at any time, for instance: a new input cable is connected to port 18. The signal from input 15 is now copied to ports 15, 16 and 17; the signal from input 18 is copied to outputs 18 to 22, and the signal in input 23 remains unaffected and still copied to outputs 23 to 32. LED colors are reordered to reflect the new sections and follow the sequence outlined above.

LED color order is invariant: it is a visual aid not related to signal amplitude, polarity or output.

Polyphonic output ports

Copied output signals are available here.

Oraculus

The Tale

The climb was arduous and long. This place does not appear on any regular map and, for some reason, GPS doesn't work here; however, against all odds, we were standing outside an old, unrecorded, temple.

The mysterious woman told us this is a place where the past, present and future converge; that here we would be able to gaze upon the strands of fate. Yet we saw nothing but old, broken down marble and stone.

Disappointment does not begin to describe our sentiment. Our bodies hurt, we were beaten, bruised and my hand was bleeding: I cut myself deeply on a sharp rock on the way up. The handkerchief I wrapped it in was soaked and I cursed as it started to drip.

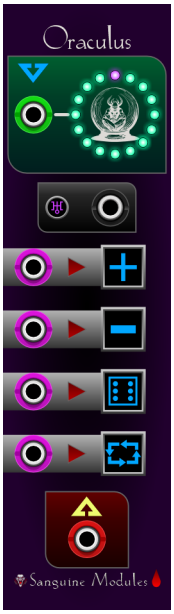
When the first drop of blood hit the ground something shook. When the second one wet the soil the earth quaked with a deafening sound. A dense, purple smoke clouded our breathing and vision and a deep, thunderous voice boomed from the center of the temple ruins beckoning us forward.

"An offering made, a mystery solved", the creature shrouded in fumes stated, its horned, horrible face distorting in and out of the billows.

What should we ask? We don't want to anger it…

Oraculus is a 16 to 1 polyphonic to monophonic switch.

- Select one from up to 16 possible channels in a polyphonic cable and send it to a single, monophonic output.
- Can run forwards, backwards, at random or any combination of your choosing.
- Can avoid repeating the same random step consecutively.
- CV can influence the selected channel.



The Controls

Buttons

No random consecutive repeats toggle

Toggles between **Regular** random mode (the button is dim purple, the default mode when the module is loaded) and **No consecutive repeats** (the button is lit bright purple).

For an explanation of these modes; check the appropriate Gegenees section.

Inputs and outputs

Selected channel voltage offset input

A positive or negative voltage here will influence the currently selected output channel forwards or backwards respectively.

Trigger input jacks

Every trigger jack is indicated by a purple nut and a red arrow pointing to its corresponding button.

Next step jack and button

A trigger here increases the selected channel to be sent to the output jack by one.

The module wraps around to first channel if a trigger is received here and the selected channel is the last one available.

Previous step

A trigger decreases the selected channel to be sent to the output jack

jack and button by one.

The module wraps around to the last channel if a trigger is received here and the module is at the first channel.

Random step jack and button A trigger here rolls a virtual die and selects a channel based on the roll result. The behavior of this input is influenced by the “**No random consecutive repeats”** mode.

Reset jack and button A trigger here resets the selected channel to 1.

Input jack The green input receives a polyphonic cable (1 to 16 channels) that the module uses to select single channels from.

The number of channels is set automatically by those available in the polyphonic cable.

It is indicated by a pointy, glowing blue arrow aiming downwards.

Monophonic output The selected channel will be output here.

The currently selected channel is indicated by a purple LED in the circle that surrounds the Oraculus creature (available; but unselected channels are shown using aqua lights, the LEDs for channels not present in the polyphonic cable are off).

Oubliette

The Tale

Walls! Walls all around, with no doors or windows as soon as I opened my eyes. Cold, damp stone and moonlight coming through the out of reach skylight.

I remember finally escaping the maze with my prize and the floor giving way, then darkness, pain and, finally, blissful release.

My wrist hurts, I hope it’s not broken. I’m probably bruised all over, and it hurts to breathe.

I don’t know where to begin to get myself out of here. The skeleton on the floor really dampens my expectations of escaping. It seems to have been here, its final resting place, for a long time.

Silence and solitude can be maddening… I see shadows on the walls, yet nothing, that I can see, is blocking the skylight… am I losing my mind?

Smell, they say, is the best way to trigger memories… and the stench here has stirred something inside me that I can’t place; yet fills me with dread. I’m shivering; but I’m not sure the cold night or something else is to blame.

Screams! Something is screaming, horribly. It’s coming from everywhere at once and getting closer and closer.

All I can do is push against the stone and try to make myself as small and invisible as possible...

Oubliette is a cable holder, signal sink and 0 volts source.

- Hold cables when reorganizing patches.
- Send signals to ground when another module needs an output connected to use certain features; but that particular signal is not needed.
- Up to sixteen 0 volts sources with low CPU consumption.

Inputs and outputs

Inputs and outputs are grouped together for quick identification.

Input jacks	The signal from cables connected to these inputs are sent to ground and not used.
Output jacks	These outputs are always set to 0 volts.

Raiju

The Tale

We managed to escape the vampire's castle with our lives; but a few blood pints shorter. We abandoned all our gear as well, as part of the bargain with the manor's master. We should have been relieved when we finally got back to the forest; but it was as if the elements themselves were bent on keeping us trapped in this forsaken land: the moon was completely covered by dark clouds and it was really difficult to see where we were going. I wondered if Dante could also work in reverse: "Abandon all hope ye who entered here".

We shivered when we heard a powerful, almost thunder like, howl. We were to be dinner for the wolves… that's why the blood sucker let us go.

It takes a particularly twisted mind to think of howls as sweet music.

The feral cries grew closer and closer, until we felt they came from a spot right next to where we stood.

Our fate decided, we resigned: our adventures were finally over.

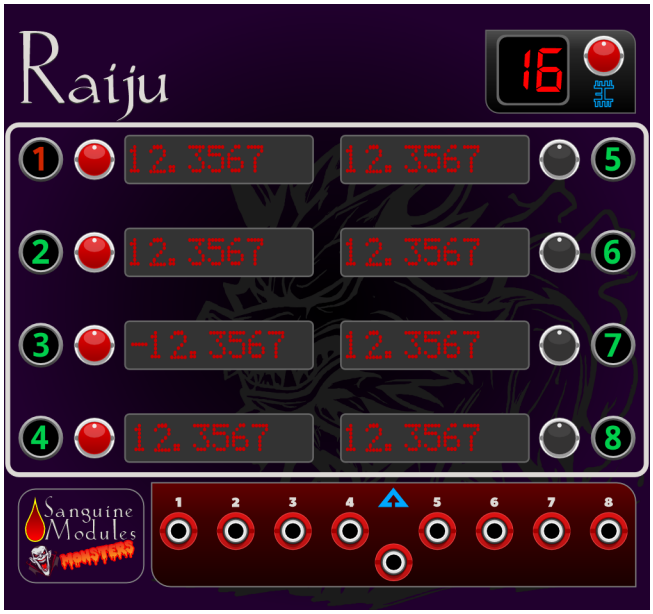
A blinding flash of blue light assaulted our eyes and we saw a creature.

A majestic wolf made of lightning staring at us, circling us, but not attacking…

We felt as if it wanted us to follow it…

Raiju is a fixed voltage source with eight different voltage channels available.

- Select different voltages for each of the eight channels.
- Channels can output up to 16 copies of themselves, with different channel counts for each voltage channel.
- A dedicated output, always polyphonic, with eight channels: one for each voltage set in the individual voltage channels.



The Controls

Knobs and buttons

Channel count knob

Twist the red knob around to set the number of duplicate channels (1-16) to output for the currently selected voltage channel (**1-8**).

The default is 1 for every channel (i.e. a monophonic output).

Voltage selector buttons

The numbered touch buttons select the voltage channel the **Channel count knob** affects.

The selected channel is lit red.

Voltage selection knobs

Spin the red and black knobs to set the voltages (-10V to 10V) for each of the eight voltage channels.

The knobs always work for their respective channels, regardless if they are selected or not.

The default voltage for every voltage channel is 0V.

Outputs

1-8 outputs

Voltages are output here for each of the corresponding **1-8** channels. If the **Channel count knob** is set to more than 1 for any channel, the

corresponding output is polyphonic, otherwise it is monophonic.

Polyphonic voltages output

This output is always polyphonic and provides eight channels, one for each of the set voltages, in channel order, from 1 to 8.

Sphinx

The Tale

We paid a handsome sum for the information. Verifying it was no easy task; but after some research everything pointed to it being true. A fabulous treasure awaited us if we could survive the treacherous desert journey.

The voyage, so far, had not been that difficult: we packed enough supplies, water and the right clothes for the extreme heat… and also for the extreme cold: desert nights are unforgiving.

Our objective was in sight: a great cave next to an oasis. Anticipation overtook us as we rushed to the cavern's mouth. We lit our torches and ventured into the darkness.

The cave was hot, oppressive and damp, our steps echoed on its walls as we looked for the purported treasure.

"One, one, two, three…" a deep voice boomed, flooding our senses. We froze and looked at each other… none of us spoke like that and we were being awfully quiet, methodical.

The voice roared again: "five, eight, thirteen…"

No one told use the treasure would be guarded.

No way to go but forward. A small crawlspace exited to a massive chamber, lit by floating globes of different colors.

A giant stack of discs decorated with different numbers rested in the middle of the alcove.

A majestic, enormous being sat on a bed of human bones. The creature looked at us and it was as if it pierced our souls. A guardian, we thought.

Clearly we were not the first to visit; but we wanted to be the first to ever leave.

Calmly, almost as if it were smiling, perhaps savoring its next meal, the creature invited us, with its huge paw, to solve the digital discs while it continued its numerical litany "twenty-one, thirty-four, fifty-five…"

Sphinx is a euclidean sequencer.

- 4 different sequencing modes.
- Can generate triggers, gates and CV.
- Can generate accents.

- The pattern can be altered by rotating and padding.
- Accents can be rotated independently.

The Controls

Knobs and buttons

This module can produce triggers, gates and CV in the **Gate output** jack depending on the **Gate mode** setting. Trigger is used as a generic term for voltage produced in that jack in the explanations below.

Pattern display screen

The OLED display shows a visual representation of the current pattern and its selected parameters.

Every step in the pattern is shown as a little circle on one of two rings.

Active and inactive steps are distributed around the inner ring.

Active steps are bright, inactive steps are dim.

Accents are always bright and get promoted to the outer ring.

The pattern animates when triggers are received in the **Clock** input.

The pattern and screen background change colors to reflect the currently selected mode.

The current step is shown as a little circle with a thicker outline if the

step is inactive or a filled circle if the current step is also active.

Mode selection button

Clicking this button cycles through the available sequencer modes.

A brief explanation for the different modes can be found in the **Sequence mode overview** section.

The button and the OLED display change color to reflect your selection:

- **Euclidean**: red button and screen. This is the default mode.
- **Random**: purple button and screen.
- **Fibonacci**: green button and screen.
- **Linear**: blue button and screen.

When a new mode is selected, the pattern is automatically updated to reflect your choice.

Every user adjustable knob includes a display that shows its current effective value; the figures presented on the displays also update when parameters are modulated with CV.

Length knob, CV input and display

The red knob sets the total steps for the current mode and pattern, from 1 to 32. 16 is the default.

Steps knob, CV input and display

The black knob sets the number of active steps.

An active step produces a trigger in the **Gate output** jack.

The minimum is 1 and the maximum depends on the selected **Length** value. The default is 4.

Rotation knob, CV input and display

The knob is labeled **“ROT”**.

The red knob rotates the current pattern to the right, in effect this shifts both triggers and accents one position at a time.

The minimum is 0 and the maximum depends on the current **Length** setting minus 1. The default is 0.

Pad knob, CV input and display

This black knob deforms the pattern and adds up to 31 inactive steps, depending on the **Length** setting, to skew the position of active steps and accents.

The minimum value is 0, the maximum is 32 minus the **Length** setting. The default is 0.

Accent knob, CV

The knob is labeled **“ACC”**.

input and display

This red knob selects how many of the active steps to turn into accents.

When an active step is marked as an accent (indicated by a circle in the outer ring of the display) a trigger is produced at the **Accent output** jack, along with the regular trigger present in the **Gate output**.

The minimum is 0 and the maximum is the number of active steps set via the **Steps knob**. The default is 0.

Accent rotation knob, CV input and display

This black knob rotates accents among the active steps.

The minimum is 0 and the maximum is the number of active steps minus 1. The default is 0.

Gate mode selection button

The module offers three different output modes, the current mode is indicated by a LED above the button:

- **Trigger**: (Blue LED) a 1 ms. Pulse is sent to the **Gate output** when the module hits an active step (and the **Accent output** as well if that step is set to be an accent). This is the default.
- **Gate**: (Green LED) a gate is opened and sent to the **Gate output** (and the **Accent output** if that step is set to behave like one) when the module hits an active step. The gate is held until the module hits an inactive step.
- **Turing**: (Red LED) translates the pattern into CV so the module can be used a bit like the Turing Machine.

Reverse mode button

The module can run its pattern in reverse (counter-clockwise), this is controlled by the **Reverse button** (marked **RV** on the face plate).

When this mode is enabled the button glows white, it is off otherwise.

This mode is disabled by default.

Inputs and outputs

End of cycle trigger output

A trigger is sent to this output whenever the module hits its first step after completing a cycle around the pattern.

The red LED beside the port lights up whenever the end of cycle is

reached.

The output is monophonic.

CV. Inputs

Every module parameter can be modulated via its respective purple CV input jack.

Voltages applied to the parameters act as offsets to the values set by the knobs. Negative voltages reduce the numbers set by the knobs and positive voltages increase them (up to the minimum and maximum values for the different parameters).

The current effective value is always shown in the appropriate display.

CV inputs are monophonic.

Clock input

Whenever a trigger is received in this monophonic input the module advances by one step.

Reset input

A trigger in this input sets the module back to its first step.

This input is monophonic.

Gate output

If the **Gate mode** is set to **Trigger mode** or **Gate mode** a 10V pulse is output here whenever the module hits an active step. The length of the pulse depends on the **Gate mode** setting.

If the **Gate mode** is set to **Turing mode** different voltage values are output here depending on where the module is in the pattern.

The common LED in the middle of the output section reflects the current voltage of both the **Gate output** and the **Accent output**.

Positive voltages in this output affect the green component of the LED.

Negative voltages in this output affect the red component of the LED.

This output is monophonic.

Accent output

A 10V trigger or gate (depending on the **Gate mode** setting) is sent here whenever the module hits an active step that is also an accent.

If the **Gate mode** is set to **Turing mode** a 1ms 10V pulse is sent here whenever the module hits an active step.

Voltages in this output affect the blue component of the common LED.

This output is monophonic.

Sequence mode overview

The different modes generate patterns using different mathematical methods, experiment with them to find the perfect pattern for your masterpiece:

- **Euclidean**: active steps are spaced as evenly as possible. An explanation on how this mode works (and maybe some inspiration for world rhythms) can be found here: http://cgm.cs.mcgill.ca/~godfried/publications/banff.pdf
- **Random**: active steps are placed randomly.
- **Fibonacci**: active steps follow the Fibonacci number sequence (1, 1, 2, 3, 5…).
- **Linear**: active steps are placed by dividing the selected length by the chosen active steps.

Werewolf

The Tale

Superstition! Vampires, mythological creatures, entities from beyond… The bosses are eager to find them; me? I just want my paycheck, and if that requires trekking through some ruins, forests and beaches… so be it, even if I'm sure we will find nothing. The only thing that really bothers me is that I've been assigned to babysit a priest… a slow walking, needlessly chatty priest.

I looked at the sky and smirked… it made me think if the great Roky Erickson:

"The moon may be full

the moon may be white

all I know is you'll feel his bite tonight…"

My priestly, jumpy, ward interrupted my thoughts when he gasped.

"What's wrong?" I asked, arching an eyebrow. "You heard that?" he asked, eyes as wide as the moon above. I sighed, slightly annoyed: "Nope, keep moving, we're already behind as it is". I turned away and rolled my eyes. Except for our steps and the branches and leaves we crush underfoot, this forest is quiet and safe as a grave.

***

Is there no end to this forest? I'm getting tired and, also, I'm human… my easily scared companion is beginning to rub off on me, now I'm the one hearing weird noises, and the chilly wind is making the hairs on my back stand. I can't see the rest of their group. We have been too slow… "We have to pick up the pace. Now!" I say as I turn around… to find my cassock wearing charge curled up in a ball on the floor and breathing heavily.

"Get up man! Get up!"… he wouldn't even look at me. Ah shit, we can't get farther behind, I'm gonna have to carry his holy ass. I reach him quickly and start getting down to pick him up; but I stop when he reaches his arm, or what's left of it to me. The bones have shattered and pierced the skin. How did that happen? Something is cracking. His back is… widening and his dress is shredding. He starts getting up and looks at me, with hate filled eyes as his jaw starts moving forward and breaking, again the bones piercing the skin… his eyes are now bloodshot. I turn around and start running, I can hear more bones breaking and ligaments snapping. I run faster. The cracking and snapping stops. I don't care, I keep running. A loud, terrifying howl pierces the now silent forest...

Werewolf a distortion module.

- Can process stereo signals.
- Werewolf is a polyphonic module.
- Square and wave fold audio signals with independent controls and CV.

The Controls

Knobs and buttons

Gain knob and CV Twist the red knob to control input signal amplitude. Values greater than 1 progressively make the signal more square (i.e. Distorted).

CV can be used to offset the **GAIN** value, positive voltages can drive **GAIN** beyond the knob's limit of 10. **GAIN** value is reflected on the **GAIN** LED.

Fold knob and CV Move this knob to control the amount of wave folding (post-**GAIN**) to apply to input signals: the further the knob is to the right, the greater the amount.

CV can be used to offset the **FOLD** value.

The positive parts of the resulting signal voltages, after **GAIN** and **FOLD** are applied, are shown in the eyes of the werewolf.

The eyes are independent: the left eye shows the left channel and the right eye shows the

right channel.

The eyes are red when signals are monophonic and blue when signals are polyphonic.

Inputs and outputs

CV. Inputs	CV inputs to modulate **GAIN** and **FOLD**.
Signal inputs	Separate stereo (L & R) inputs for the signal to be distorted/folded. Inputs are polyphonic.
Signal outputs	Separate stereo (L & R) outputs for the distorted/folded signal. Outputs are polyphonic.

Acknowledgments & thanks

VCV Rack, MindMeld, Venom and Sapphire modules and their authors whose sources inspired the solutions for some of the graphical effects present in the Sanguine Modules plugins.

Every author whose code I looked at if I got stumped (I really, really wish the API had better documentation).

Borland’s Turbo Vision for teaching me how to deal with similar APIs (in form, function and lax docs).

Everyone in the VCV Rack forum who got excited with my first “Funes” release.

Christy Marx for making me laugh, to this day, whenever I look at the Conquests of Camelot manual cover (and, in turn, inspiring the cover for this one).

You! For reading all the way down here!

Contact

Found a bug? Have a suggestion? A fix?

Please use the “Issues” section at

https://github.com/Bloodbat/SanguineMonsters

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If, for some reason, you still insist on trying to claim anything, please contact our central office at 5719 Via Styx, Malebolge.

Slight discrepancies between the images on the package, this manual and the final ~~product~~ plugin are possible and should not affect functionality in any way.

Notice of compliance

These modules does not comply or care to do so with any requirement from the FCC, the ABC, the GFD, the GDI (it prefers Nod) or the FUC-KS (none are given or taken), nor have they been known to have flags on the play for running interference. They do comply, however, with the GCC because otherwise they would not compile.

They comply, to best of their ability, with the VCV ethics guidelines.

They are not known to produce unwanted radio waves (yet) but, hopefully, they help produce some wonderful noise.

Keep on bringing those monster tunes!

This is the really fucking tiny print that gets every one on every damn contract every bloody time.

Matgd rhn yhk nlbgz fr fhwnexl!

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