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PRODUCT GRAPHICS:
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AUDIO DEMOS AND TUTORIAL VIDEOS:
Ivo Ivanov : WEBSITE

SPECIAL THANKS:
Intellijel // Danjel Van Tijn : WEBSITE
Make Noise // Anthony Rolando & Kelly Kelbel : WEBSITE
Steady State Fate // Andrew Morelli : WEBSITE
Malekko // Joshua Holley : WEBSITE
Tiptop Audio // Gur Milstein : WEBSITE
The Harvestman // Scott Jaeger : WEBSITE
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SETUP:

1. Unpack the QUADRANT.zip file

2. Via the QUADRANT_INSTALLERS folder, run the installer for your system.

   a) Windows Users: please take care to ensure that you’ve chosen the proper options during the installation dialog, where you’ll be prompted to choose the destination folders for the 32bit and 64bit versions of the plugin. In the event that the plugin does not appear in your DAW, it’s highly likely that you put both versions in the same folder in which case one of the files will overwrite the other. To correct this, run the installer again and carefully select the appropriate folders for each architecture.

   b) Mac Users: Note that there is a separate installer for the factory presets, which you should run if you wish to install the presets on your system. A system restart may be necessary before the plugin appears in your D.A.W.

3. Launch your VST or AU D.A.W. and load QUADRANT on an Audio Track.

4. Load an audio file onto the selected track and navigate through some of the factory presets in order to confirm you’re hearing audio.

The included samples are bundled with this product as a special bonus. They do not link directly with the plugin itself, therefore no additional setup is necessary. You may simply place these files wherever you store your samples and use them just like any of your other audio files.

If you require tech support, you may reach us at: support@glitchmachines.com
QUADRANT DESCRIPTION:

Quadrant is a modular sound generator and effects processing plugin geared toward experimental sound design and electronic music production. Quadrant’s open-ended graphical patching system and diverse set of modules give you access to a highly customizable processing environment capable of a broad range of effects.

Quadrant’s tactile workflow and vast sonic potential will inspire you to push the envelope, while its flexible architecture invites you to try imaginative new routing scenarios to explore endless possibilities. Use it to generate vivid electronic tones and textures or to process your drum loops, soft synths, sound effects and external hardware.

At the heart of Quadrant, you will find a selection of modules you can freely configure by populating up to 8 slots. Once populated with a module, a slot will give you access to up to 4 input and output nodes, which you can freely connect via Quadrant’s virtual patch cables. Inputs and Outputs are configured to have the ability to send and receive multiple signals at once, making very complex modulation scenarios possible.

Quadrant ships with 36 modules ranging from tone oscillators to effects to utility, with additional modules planned for future updates. Quadrant’s unique workflow and interface will change the way you think about modulation and signal processing. The plugin makes it possible to set up completely self generating patches, making it equally capable as a sound generator and effects processor.

Our designers have included a variety of external and internally generated effects patches to show what the plugin is capable of. To get you started, we’ve included 160 patches by Subjex, Balkansky, Thomas Hennebert, Apparition, Daed, John Black, Shiro Fujioka and Blush Response.
SAMPLE CONTENT OVERVIEW:

As a special bonus, Quadrant includes a Eurorack modular synthesizer sample library with of over 1500 samples. We worked with 6 of our favorite module manufacturers to put together the Eurorack system used to generate all the content in this collection.

Our goal was to create a functional counterpart to Quadrant; something you can’t easily achieve with a computer that interacts well with the plugin and gives you a new palette of sounds to work with right out of the box. Focused on the darker side of modular synthesis, sound designer Ivo Ivanov created a collection of compelling effects that are equally distinctive and indicative of the depth of Eurorack’s prodigious sonic landscape.

Crafted with a combination of analog and digital modules, this library is packed with gritty and intricate synthesizer sounds in the form of hits, stabs, glitches, one shots and asymmetrical passages you can use to create your own rhythms, basslines, percussive elements and much more. To give you a true sense of the modular sound, the library features raw samples with no further processing.

Import the sound effects into your favorite DAW or sampler and process, stretch, bend and twist them into something truly unique. To show you how the samples can be integrated into your projects, we’ve also included a collection of loops by sound designers Ivo Ivanov, Thomas Hennebert, Apparition and Daed.

The library consists of 25 sub-folders inside an “ARTIFACTS” folder. Each subfolder was given a Patch Name consistent with the patch that all the enclosed samples were harvested from. The contents of each folder represent the best moments in what often wound up being recording sessions spanning over 30 minutes per patch.

We generally choose not to put our final samples through a mastering process, leaving their dynamic range intact. This effectively makes them vastly more pliable and adaptable to your productions. If you own one of our sampler plugins, try loading these samples to layer and bend them into completely new material.

We would like to express our gratitude to the 6 modular companies that worked with us to contribute modules for the system we used to create all this sample content!

⚠️ The included samples are bundled with this product as a special bonus. They do not link directly with the plugin itself, therefore no additional setup is necessary. You may simply place these files wherever you store your samples and use them just like any of your other audio files.
With Quadrant, we set out to create a software sound generator and signal processor with a intuitive yet very deep modular workflow. From the beginning of the development cycle, we ignored trends to pursue our own vision of how the plugin should look, sound and work. The result is a plugin that brings the fun factor of patching hardware modules into the software domain, while giving you several advantages such as the ability to run multiple instances of the plugin and the addition of a patch recall system.

Quadrant uses abbreviated naming conventions throughout its interface. To fully understand Quadrant’s structure and the functionality of each of its modules and parameters, we highly recommend that you read through the entirety of this User Guide.

Hover your mouse over any module’s Input or Output node to reveal a floating tool tip displaying that node’s function:
Throughout Quadrant's interface, you will find several other ‘?’ icons. Click on these icons to reveal helpful text overlays that explain various global and module functions.

*Clicking the ‘?’ icon in the footer section (bottom-right, near the Glitchmachines icon) will reveal an overlay with descriptions of various important areas and functions of the plugin:*

Located at the bottom-right of the plugin interface you will find an “!” icon: clicking on this “panic button” will clear all internal buffers of the plugin (modules inputs and outputs, delay lines, feedback paths). This can be useful if the signal gets out of control.

Quadrant features animated visualizers to give you visual feedback of some of its modules as well as a main oscilloscope display, giving you a real-time visual analysis of the main output of the plugin. You can simplify the interface via the patching menu:

*Right-click in the patching area to activate a menu and choose the option to suspend all animations:*
By default, quadrant will launch with an “Init” patch loaded, which passes the input of the plugin directly through the output. In this state, the plugin’s 8 slots (quadrants) will be empty:

Right-click on the header of any slot to activate the module menu, from which you can select the desired module to load into the corresponding slot:

Once a selection is made, you will be presented with the module’s interface inside the slot, and its available patch points will be activated at its Input and Output nodes.
PATCHING INTERFACE:

Click + drag any Output node to any Input node to make a connection. Repeat this process to break the respective connection.

Right-click(Win) or control-click(Mac) on a node to disconnect all the patch cables that are connected to it.

Input nodes are light & appear on the left, Output nodes are dark & appear on the right.

Standard Mode:

Connection Highlight Mode:

In Standard Mode, the patch cables will all be highlighted, while in Connection Highlight Mode, only the patch cables connected to the selected node will be highlighted. This makes it easy to analyze how things are connected - especially in very dense patches.

While in Highlight Mode, you may click on the background of patch interface to effectively de-select a node: this will once again highlight all the patch cables until you select another node.

Option (Alt) + Click on any node to reveal a depth knob. This allows you to set the level/depth of the signal passing through any node. This feature is particularly useful and powerful, as it allows you to fine-tune your patches by giving you the ability to scale each parameter without the use of additional modules.
REVIEW AND ADDITIONAL DETAILS:

• The Quadrant plugin allows you to create up to 1024 connections per patch and is only available as a Stereo effect.

• Quadrant patch area consists of 8 freely assignable slots and 2 special modules representing the plugin inputs and outputs.

• Each module has a set of up to 4 inputs and 4 outputs. Each output can be routed to any input and inputs accept multiple connections.

• Module inputs are represented by light gray nodes in the patch area while module outputs are represented by dark gray nodes.

• Option+Click on any node (except for dedicated Global Input and Output modules) to reveal a knob that allows you to scale the node’s signal. Once you have moved the knob, the node will revert to its regular appearance so that you can keep making/breaking connections. This is a simple linear scaling but should help reduce the need for the quad scaler modules, leaving more slots free for other type of modules. That being said, the quad scaler module is still useful, especially if you need to offset a signal in addition to scaling it (for modulations especially).

• To create a connection, you need to click on an output node and click+drag the node to an input node. If the connection was successfully created, a curved line will appear between the two nodes.

• To delete an existing connection, simply repeat the same process : if the connection exists it will be deleted. You can also delete all connections bound to a node by right-clicking that node.

• Every node shows an abbreviated version of its name, and you can hover your mouse over it to reveal a popup with its full name.

• As a general rule, inputs used for modulation purposes are prefixed by a “#” (for example “#C” for “Cutoff Modulation Input”).

• To make it easier to see which connections are bound to a specific node you can enable the "connection highlight mode". To do so, right-click in the middle of the patch area and select the "connection highlight mode" option from the pop-up menu. When this mode is enabled, clicking on a node will highlight the connections corresponding with the currently selected node.

• In the same patch menu, you will find two more options : "clear all connections" and "clear patch". Selecting “clear all connections” will delete all connections while leaving the modules and their parameters unchanged. Selecting “clear patch” will delete all connections and also clear all modules and zero out all parameters.

• The “Animations” option in the patch menu lets you toggle the visualizations on or off : turning them off will deactivate the bottom oscilloscope as well as the animations found in some modules (these modules don’t have parameters).

• The “Connection Highlight Mode” and “Animations” options are saved to a preferences file once the plugin is closed to be persistent between sessions.
- For a quick reminder of some of these basic patch operations you can click on the question mark at the bottom-right of the interface. This will reveal a helpful overlay with notes about the interface and general functions of the plugin.

- Each module also has its individual quick help overlay giving you a basic overview of its functions.

- Presets routed to process incoming audio area labeled with the prefix “FX”, while self generating patched (i.e. no need for external input) are labeled with the prefix “GEN”.

- The CLIP button in the Output module turns on/off hard clipping for the plugin output. If the output signal is higher than unity gain (0 dB), it will be clipped to 0 dB which will result in distortion (which can be used on purpose) instead of outputting high level signals. This has the same effect as the Hard Clipper effect found in the « Clipper » module.

**UNDERSTANDING THE SIGNALS IN QUADRANT:**

Inside the plugin, all modules inputs and outputs are calculated at audio rate which means there is no distinction between audio and modulation signals.

When the signals pass from a module to another they are all represented as regular audio signals, as an either positive or negative value. For example, the signals output by the LFO modules are in the range -1 to +1, and a module receiving a signal to be used as a modulation will rescale (and if needed clip) it internally to map it to the desired range. This means you can freely pass any type of signal to any input.

⚠️ **While this offers a lot of freedom when patching but you have to be careful as you can make some weird and possibly very harsh sounding connections!** Generally speaking, it is good practice to put a limiter behind Quadrant while patching to prevent unexpected results. Simply put: protect your ears and speakers!

⚠️ It may be useful to keep in mind that the modules are processed in the order they are represented on the screen (from top to bottom and left to right). This implies that some routings can generate a one-sample delay (using the previous output of the module if it has not been processed yet). This should not be audible in most cases.

⚠️ When routing a signal to a modulation input, the modulation will act on the range between the target parameter’s current value and its maximum possible value. In other words, the current parameter value acts as the modulation floor. In most cases you will want to first process the modulation signal using a quad scaler module that will act as a kind of modulation depth control to achieve the desired modulation range.
The Footer section gives you access to the MIDI Learn functions, the oscilloscope display and the Patch Recall System.

**PATCH RECALL SYSTEM (PRESETS):**
You can navigate through the patches either by accessing the drop-down menu, or by using the navigational arrows to increment/decrement though the list.

Clicking on the Save (S) button will open a dialog box that will let you save the current preset to the designated area on your hard drive using the extension “.scp”.

You can load a preset stored somewhere else by clicking on the Load (L) button.

- If you need to quickly access the presets folder, right-click on the patching area where you will find the “Show Presets Folder” option.

- Only the presets saved in the default preset folder (where the dialog box opens by default) will appear in the menu.

**MIDI LEARN:** to assign a knob to a MIDI controller, click on «Learn». Then once learn mode is active (while the button is on), move the control you wish to assign on the plugin interface, then move a control on your MIDI controller and the parameter will be bound to that control.

**MIDI UNLEARN:** to unlearn a parameter, toggle the «Unlearn» switch on, move the parameter you wish to disconnect on the plugin and it will no longer respond to MIDI CCs.

**MIDI CLEAR:** you can unlearn all parameters at once using the «Clear» button.

- You need to properly configure MIDI in your DAW to be routed to the Quadrant plugin. Please refer to your DAW documentation for information on this subject.

- MIDI mappings are saved in a preferences file when the plugin is closed, so they will still be present when relaunching it, but they can be overridden if you open a project in your host with different mappings as they are also saved in the project state.
Please note that Quadrant is a stereo only effect, it cannot be loaded on a mono track.

On the left side of the plugin you will find 2 special modules that cannot be changed: they represent the plugin INPUTS and OUTPUTS.

Each of these special modules provides a gain control (for pre and post processing stages). The “Output” module also provides a DC blocker option (you can turn this on if your patch introduces DC offset) and a CLIP option (explained in review section above).

The “Input” module has only 2 outputs and no inputs: they are represented by the 2 bigger dark nodes “L” and “R”.

The “Output” module has only 2 inputs and no outputs: they are represented by the 2 bigger light nodes “L” and “R”.

When you launch the plugin, the plugin inputs are directly routed to its outputs to provide the equivalent of a BYPASS mode.

While Quadrant is an audio effect plugin and not an instrument plugin, you don’t need to route the plugin inputs anywhere and can use Quadrant itself to generate sounds, as illustrated by the vast amount of generative factory patches (prefix GEN).

Keep in mind that the plugin needs to be loaded in an effect slot, and may need to be fed some audio to operate properly as some hosts will disable processing of the effect if there is no sound going into it. Depending on your DAW you may need to start the transport for everything to work as expected (LFO sync for example).

To load a module in any of the 8 available slots, right-click on the module header (the gray bar at the top) to access a module selection menu. The first choice, labelled “--” is an empty module (default). All the outputs of the empty module only send a zero signal.

Modules are separated in 3 main categories in the menu: the first one corresponds to the audio processing modules (BLUE) (effects like delays and generators like the FM oscillator), the second one corresponds to the amplitude control modules (GREEN) (gainers and mixers), and the third one corresponds to the modules related to modulations and signal routing (YELLOW).

You can copy/paste modules between slots via the last two options in the dropdown module menu.
MONO DELAY:

A delay line that operates on a single channel.

You can create a feedback loop by connecting the output of the delay to the feedback input (2nd input). This allows you to process the feedback path using other modules (for example a filter).

You can adjust the feedback level via the “Feed” parameter, and it can also be modulated by patching a signal to the module 4th input.

The time can be set via the “Time” parameter either in milliseconds or in divisions relative to the host tempo if the sync (“S”) toggle is engaged. The time can be modulated by patching a signal to the module 3rd input.

The smooth parameter sets the time it takes for the delay time to reach its new value when changed. You should turn it up a little if you want to avoid clicks when moving the “Time” parameter.

It is also useful to generate pitch and flanging effects in combination with modulations. If you want to make more “raw” changes (for example for “glitch” style random delay times) you should turn it down to 0 milliseconds.
STEREO DELAY:

This module is mostly the same as the mono delay except that the feedback path is fixed internally and that it accepts stereo inputs and outputs a stereo signal.

FILTER:

This module provides a standard multimode filter that operates on stereo channels. Cutoff frequency and resonance can be set using the “Cut” and “Res” parameters and can be modulated by routing signals to inputs 3 and 4 of the modules respectively.

The filter outputs 2 independent stereo pairs: you can set separate modes for outputs 1 and 2 and outputs 3 and 4 by choosing between lowpass (LPF), high pass (HPF), bandpass (BPF) and notch (NCH) using the dedicated menus.
PITCHER:

This module is a stereo pitch shifter: it allows you to tune the incoming audio in the range of -24 to +24 semitones using the “Pitch” parameter. The output can be fed back to the input using the “Feed” control to generate more complex sounds. You can adjust the internal buffer size of the pitch shifter for different sonic flavors using the “Size” parameter. The pitch and feed parameters can be modulated using the 3rd and 4th inputs of the module respectively.

⚠️ The pitcher module’s SIZE parameter is prone to unwanted artifacts. As a result, it does not have a modulation Input node.

GRAIN DELAY:
This module buffers its input like a regular delay line would do, but instead of playing it back as it was recorded it loops several random chunks of the delay buffer at the same time.

The number of grains (the chunks of the buffer that are looped) is set using the dropdown menu at the bottom right of the module (there are two menus, here we are referencing the upper one). This menu lets you select between 4 values: 8, 16, 32 or 64 grains. Keep in mind that more grains means more CPU usage (be careful when using several instances of this module at once). Also each value actually corresponds to its double as the number of grains is for one channel and the module processes stereo channels.

The other menu below lets you set an optional window type (amplitude envelope) for the grains, to smooth the transitions between the end and the start of the loop. When NONE is selected, no windowing will be applied. When TRI is selected, a triangular window will be applied effectively causing a fade-out/fade-in at the edges of the loop. When Hann is selected, a Hanning window is applied to the grain which has the same effect as the triangular window but with softer transitions.

The « F » switch on the right side of the module’s interface toggles the freeze function. When it is engaged, the module will stop buffering its input and the contents of the delay buffer will be frozen. When it is off, the delay buffer will be overwritten once it has reached its full capacity.

There are 3 parameters that can are set using knobs and each of these parameters has an attached « rnd » parameter that can be adjusted using the smaller knob on the right side of its parent knob. For each of these parameters, the « Rnd » control determines the amount by which values can diverge from the parent one for each grain.

These 3 « parent » parameters adjust the main characteristics of a grain.

SIZE: allows you to adjust the grain duration in milliseconds (from 20 to 500 Ms).

SPEED: determines the playback speed ratio of a grain which effectively alters its perceived pitch. A value of 1 corresponds to the same frequency as the original sound. Values below 1 will lower the frequency (and so result in lower pitches) while value above 1 will increase it (higher pitch).

GAIN: sets the amplitude of a grain in decibels.
REDUCER:

Two mono sample rate reduction units: each has its reduction amount parameter and accepts modulation signals to control this parameter (using input 2 for the first unit, and input 4 for the second unit).

CLIPPER:

Inputs 1 and 2 are hard clipped and routed to outputs 1 and 2. Inputs 3 and 4 are soft clipped and routed to outputs 3 and 4.
DISTORTION:

This module provides a combination of the Fold and Waveshaper modules but without modulation inputs.

The waveshaper accepts a stereo signal (inputs 1 and 2) and the drive amount and output gain can be adjusted using the “Shp Drive” and “Shp Out” parameters. The resulting signal is routed to outputs 1 and 2. The fold distortion processor accepts a stereo signal (inputs 3 and 4) and the drive amount and output gain can be adjusted using the “Fld Drive” and “Fld Out” parameters.

The resulting signal is routed to outputs 3 and 4.

FOLD & WAVESHAPER:
These modules are separated out versions of the Distortion module. The parameters are the same but they accept “Drive” modulation inputs at the 3rd input of the module.

The best way to understand the difference between these modules is to listen to their output. The Waveshaper can result in a more traditional overdrive effect while the Fold can result in more complex tones and has a more “digital” timbre.

**NOISE:**

A pink and white noise generator with optional sample and hold control. Output 1 is the white noise signal and Output 2 the pink noise signal.

You can route a signal to input 1 to act as a sample and hold control: the noise is sampled every time the input signal sign flips. The resulting signal is passed to output 3 for white noise and 4 for pink noise.

*The Noise module is a good example of a module with an internal visualizer and no parameters.*

*Tip:* use a square wave LFO as sample and hold control signal.
FM OSCILLATOR:

Two sinusoidal oscillators operating at audio range with Frequency Modulation inputs.

Each oscillator has a parameter labelled “Freq” to control its carrier frequency (with modulation inputs at module inputs 1 and 3), and an input (module inputs 3 and 4) for a modulator signal whose level can be adjusted using the corresponding “FM” control.

MONO GAINER:

4 mono gain controls (input 1 goes to output 1 through gain 1, etc…)
STEREO GAINER:

2 stereo gainers : each gain control acts on a stereo pair (in 1-2 and 3-4).

MONO MIXER:

A mono signals mixer with mix control modulation input. When the “Mix” control is at 0%, the output 1 will be the input 1 at full level, and when set to 100%, the output 1 will be the input 2 at full level.

Output 2 will mirror output 1 with invert values : it acts as if inputs 1 and 2 were swapped. You can modulate the “Mix” parameter by routing a signal to input 3 of the module.
DUAL MONO MIXER:

Acts the same as the Mono Mixer module but with 2 of them inside and no mix modulation input.

STEREO MIXER:

Works the same way as the mono mixer modules but it operates on 2 stereo pairs as inputs and outputs a stereo pair of signal (as well as a mirrored version, in the same way the mono version works). There is no mix modulation input.
VCA:

This module scales the amplitude of two input signals. It does the same thing as the Stereo Gainer module but only for two channels. In addition, it provides a modulation input.

**MID SIDE:**

This module encodes a stereo input (in 1/2) to mid and side signals (out 1/2) and decodes a mid side signal pair (in 3/4) to a stereo pair (our 3/4).

*Using the same module for both operations will induce a 1 sample delay. For sample accurate processing, use another instance of this module as the decoder at the end of your chain.*
ENVELOPE FOLLOWER:

This module consists in 2 signal followers: each one has sensitivity, attack and release controls. The first signal follower operates on a stereo pair consisting of module inputs 1 and 2 and outputs a separate envelope per channel to outputs 1 and 2.

The second signal follower operates on the stereo sum of inputs 3 and 4 and outputs a mono envelope to output 3 and a an inverted version of this envelope to output 4.

LFO:

2 Low Frequency oscillators with optional tempo sync. Each LFO features sine, triangle, saw up, saw down, square or sample and hold waveforms and adjustable rate either in Hertz or divisions if the sync (“S”) toggle is engaged.

Each LFO has modulation inputs for the rate and the waveform parameters and outputs both its regular signal and an inverted version of it.
SLOW LFO:

Two LFOs that are properly scaled for use as a modulation source. Each LFO outputs a regular and inverted signal and the Rate and Wave parameters can be modulated.

Unlike the standard LFO, this module does not include a Sync parameter.

MIDI:

This module will only work if you have properly configured MIDI in your DAW to be routed to the Quadrant plugin (please refer to your DAW documentation for additional information on this subject). The MIDI module converts MIDI data it receives to signals suitable to use inside the patch area. Output 1 sends the MIDI note value, output 2 the velocity, output 3 the channel pressure and output 4 the pitch wheel value.
META CONTROL:

A meta control knob that can send a control signal to the 4 outputs with different scaling for each output. The main parameter can be modulated by routing a signal to input 1.

QUAD SCALER:

This module is intended to be used with modulation signals as it will not be very useful on audio signals (but that's up to you).

The main use for this module is to adjust the depth of modulation signals like the one generated by the LFO module before passing them to a modulation input.

For each of the 4 signals you can adjust its amplitude using the “Scale” parameter and the modulation floor value using the “Offset” parameter.
ADD/SUB:

This module provides the following basic mathematical operations on signals:

- Out 1 = (In 1 + In 2) / 2
- Out 2 = In 1 - In 2
- Out 3 = (In 3 + In 4) / 2
- Out 4 = In 3 - In 4

MULT/DIV:

This module provides the following basic mathematical operations on signals:

- Out 1 = In 1 * In 2
- Out 2 = In 1 / In 2
- Out 3 = In 3 * In 4
- Out 4 = In 3 / In 4
LOGIC:

This module compares pairs of signals. It can process two pairs of inputs simultaneously (1/2, 3/4). For each pair, one output will return the maximum of the two signals, while the other will return the minimum of the two signals.

CLOCKED RANDOM IN:

This module randomly outputs one of its 3 first inputs to output 1. Every time it receives a clock trigger at input 4, an input is randomly chosen.

TIP: use a square wave LFO as control signal.
CLOCKED RANDOM OUT:

This module randomly sends its first input to one of its outputs. Every time it receives a clock trigger at input 4, an output is randomly chosen.

*TIP: use a square wave LFO as control signal.*

LAG:

This module consists of four “lag” generators: each one outputs a smoothed version of its input according to the corresponding lag coefficient.

*This module is particularly useful on modulation signals.*
CLOCK GENERATOR:

Starting with version 1.1 a new clock system was introduced.

Some modules can receive special signals consisting of very short impulses and use these to trigger actions/processing.

The clock module generates the appropriate signals to facilitate this.

The clock rate can be set either in Milliseconds, or in Time divisions related to the host tempo by toggling the Sync button (« S »).

This module has a rate modulation input at its first input node.

It also outputs 4 versions of the clock signal: the first output passes the clock at normal rate, the second output passes it twice slower, the third output 3 times slower, and the fourth output 4 times slower.

As with all the signals in Quadrant, the clock signals are generated at audio rate and can be passed to any node/module even if they won't result in any audible sound.

In case your patch doesn't sound as expected, make sure you are not passing this type of signal where you would expect a proper audio signal.
CLOCK RANDOMIZER:

This module takes two clock inputs (inputs 1 & 3) and passes the triggers according to two probability settings that can be modulated.

Outputs 2 & 4 behave on the same principals as Outputs 1& 2, but their settings are inverted.

QUAD SAMPLE & HOLD:

This module samples the signals it receives at inputs 1 and 2 when it receives a clock message at inputs 3 and/or 4 and it keeps outputting the sampled value until it receives a new clock impulse. It outputs 4 combinations of signal and control inputs.

For example, if you route some white noise to the input 1, and a clock signal to the input 3, the value of input 1 on each clock trigger at input 3 will be output continuously until a new clock trigger is received at input 3.
SEQUENTIAL SWITCH:

This module alternates between inputs 1, 2 and 3 when it receives a positive impulse (clock) at input 4.

The normal output at Output 1 corresponds to the currently selected input in sequential order. The inverse output mirrors this order.

SEQUENCER:

This module outputs a value corresponding to its current position in a 16 steps sequence.

There are 4 modes, each one uses 1 input and 1 output (mirrored, eg. input 1 corresponds to output 1).
You can randomize the sequence using the RND button.

Forward mode (in1/out1) : each clock trigger at the input makes the sequence jump to the next step in regular order (left to right).

Backward mode (in2/out2) : each clock trigger at the input makes the sequence jump to the next step in inverse order (right to left).

Ping-Pong mode (in3/out3) : each clock trigger at the input makes the sequence jump to the next step in regular order. Then when it reaches the last step, it will start going through the steps backwards until it reaches the first step (it will start in regular order again etc…)

Random Mode (in4/out4) : each clock trigger at the input makes the sequence jump to a step at a random position.

Thanks for purchasing QUADRANT!

Please check out the rest of our products at our website: https://glitchmachines.com