If you're ever confused by anything or need help please contact me. This manual is a compliment to the videos.

The videos by Tri Pedal Review are really the best place to start.

After those please watch the videos at https://www.youtube.com/channel/UCwQ9E6imYd0qFPMEuEZjcdw

The video from Andre LaFosse is the best way to learn about the loopler module.

Manual is always being improved, please contact me with any suggestions.

CONTENTS

Part I.
Gettings started

1. START HERE

1.1. POWER

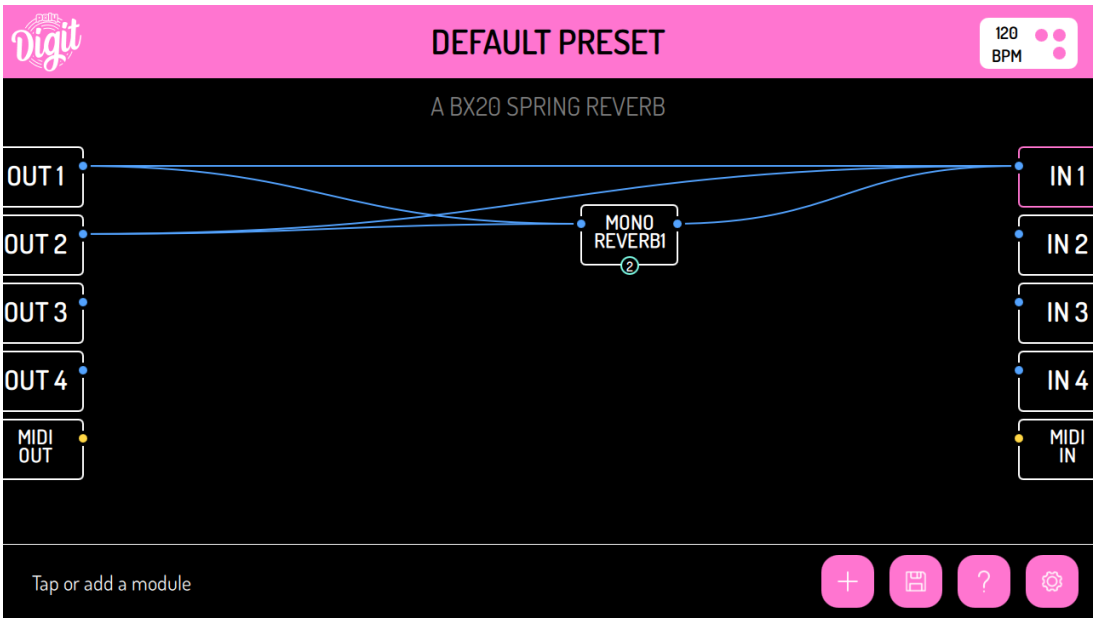
Beebo

The first thing to do is power the pedal. It's 9V center negative and requires at least 500mA. After that it'll start up. Start up time is currently a bit long, so don't panic if nothing is happening for a few seconds.

Hector

Hector needs to be connected with -12 v going to the marked -12 v orientation. The connectors are keyed but check if -12 on your supply is going to -12 on the module. It needs 340mA from +12, not much from -12 and 0 from 5v.

Once Hector / Beebo has started up we're at the main screen, with the default preset (the first one in your set list) loaded. From here we can add modules, change the settings of existing modules, connect modules or load a preset. This leads to the question, what is a module?

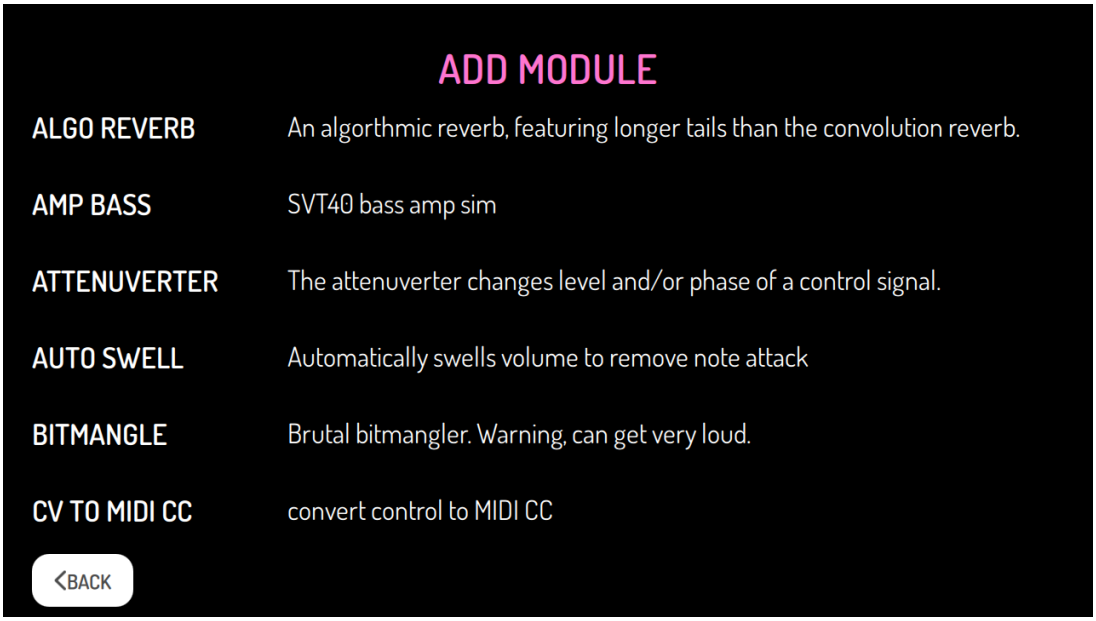


1.2. MODULES

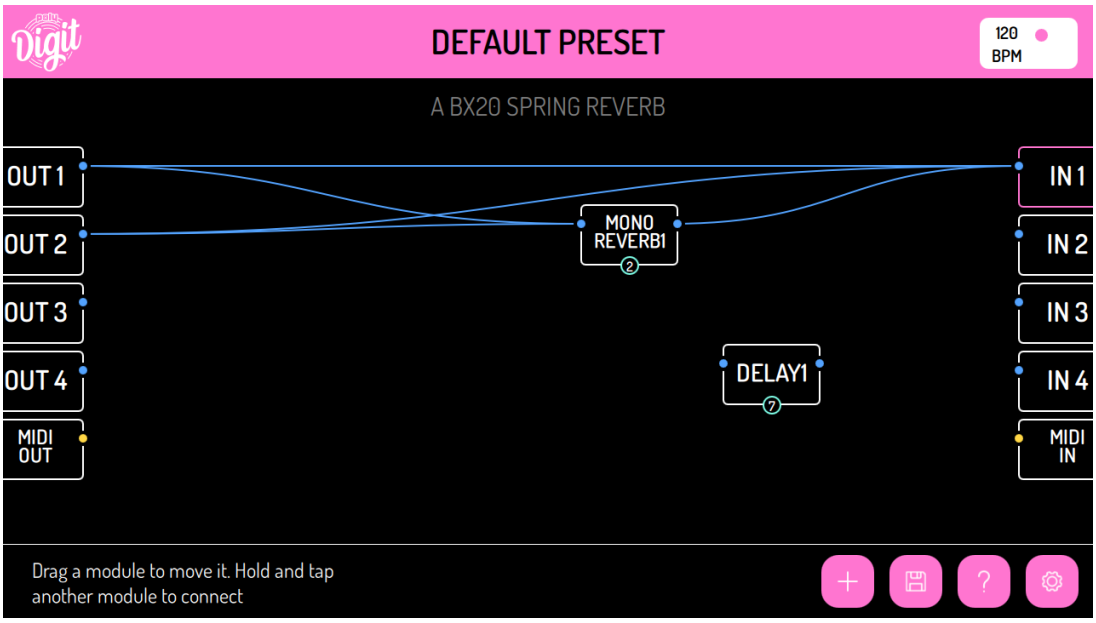
Modules are the basic blocks you connect. Think of them as individual effect pedals on a pedal board that you place and connect. There are some modules that process audio, and some modules that you can use to control other modules. The ability to control modules is the powerful modular / eurorack style workflow that differentiates Hector / Beebo from many other systems.

1.3. ADD A MODULE

To start, we'll add a delay to the default preset. To do this, tap plus and choose delay.



The new delay will appear on the screen and you can now drag it to a comfortable spot. You can drag any module at any time to move it.

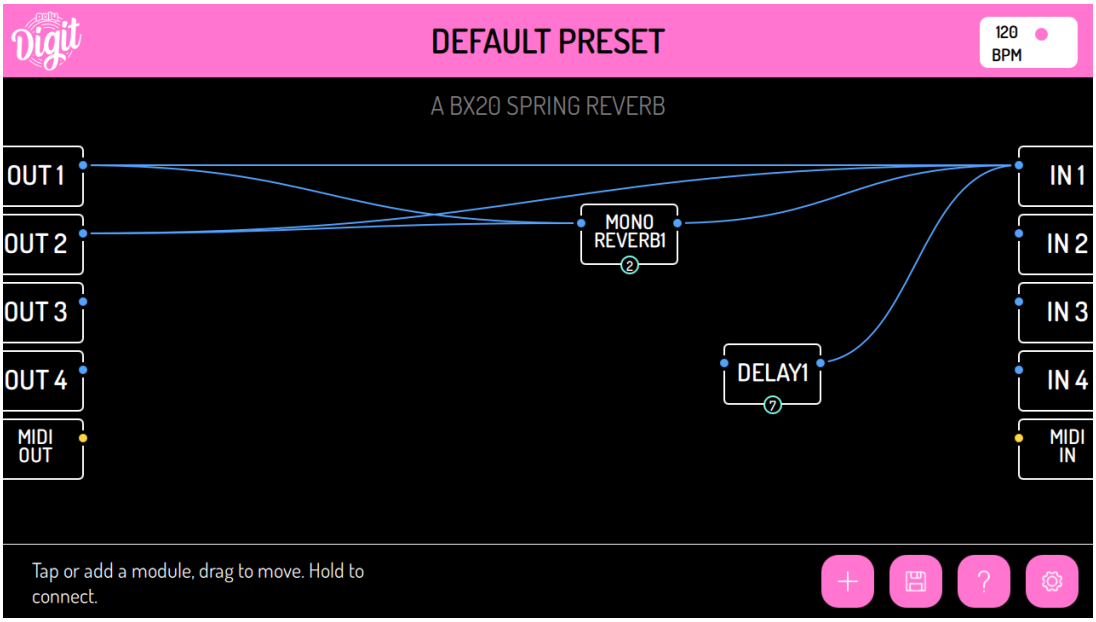


Remember that single modules can be very powerful, so start with a small number of them and understand them before adding more. It'll be much easier to work out what is going on. The standard delay module has many features compared to standalone delay pedals!

1.4. CONNECT A MODULE

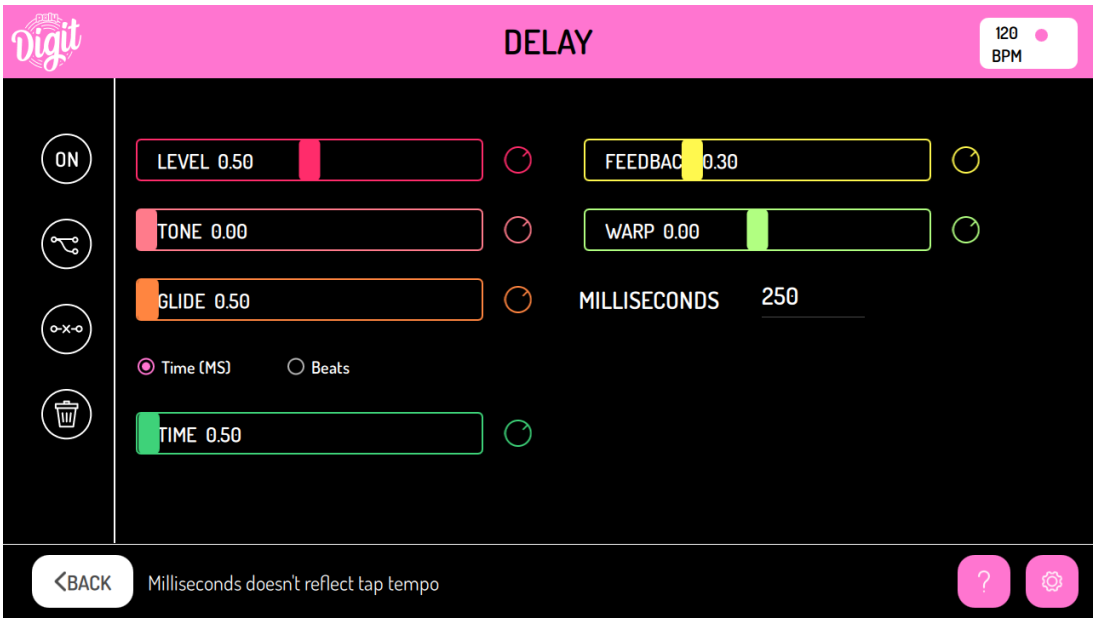
You'll now want to connect up the delay. Hold input 1, then with another finger tap the delay you've added. This multi touch stuff is really much easier to see on a video. Any recent video should show this connection style.

This is just the same as connecting up pedals on a pedal board, but you can split and merge signals easily. You choose a source and then a module to connect to. So now hold delay 1 and then tap output 1 to connect them. If you're connecting things with multiple inputs or outputs a screen will appear where you can select which to use.



1.5. CHANGE SETTINGS

We can now change the settings of the delay. Tap on it to get up the controls. Many modules have extra controls in the side menus.



1.6. KNOBS

Once you touch any slider to change it, it automatically maps to the knobs on Beebo. The right knob changes the value a lot (coarse) and the left by a little (fine).

1.7. PRESETS

To save or load a preset tap the patch icon. You'll also see a set list option. This is what order you move through the presets in your set list when pressing both center and right or center and left foot switches together on Beebo or sending MIDI program change messages on Hector or Beebo.

1.8. TOGGLE EFFECTS WITH FOOT SWITCHES

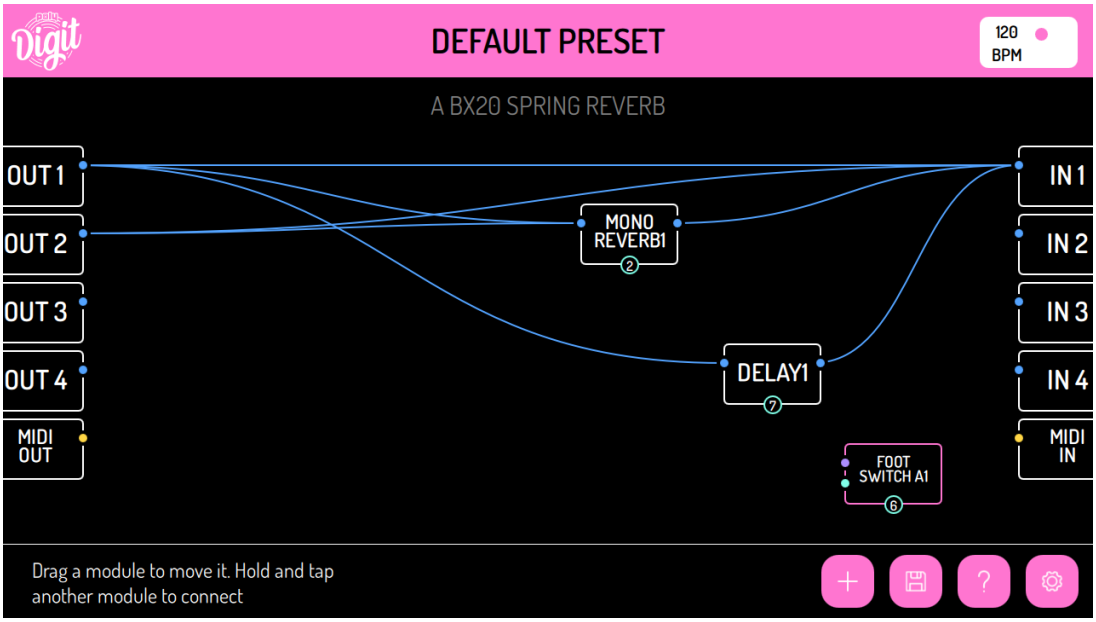
By default, the right most foot switch is bypass and the two others don't do anything. Foot switches can act as tempo sources or as control sources.

If you just want to enable or disable something with a foot switch, hold the module you want to control and the press the physical foot switch you want to use. A small letter in a circle will appear showing the foot switch you choose to use. You can remap all 3 foot switches like this. You can also assign a single foot switch to multiple modules.

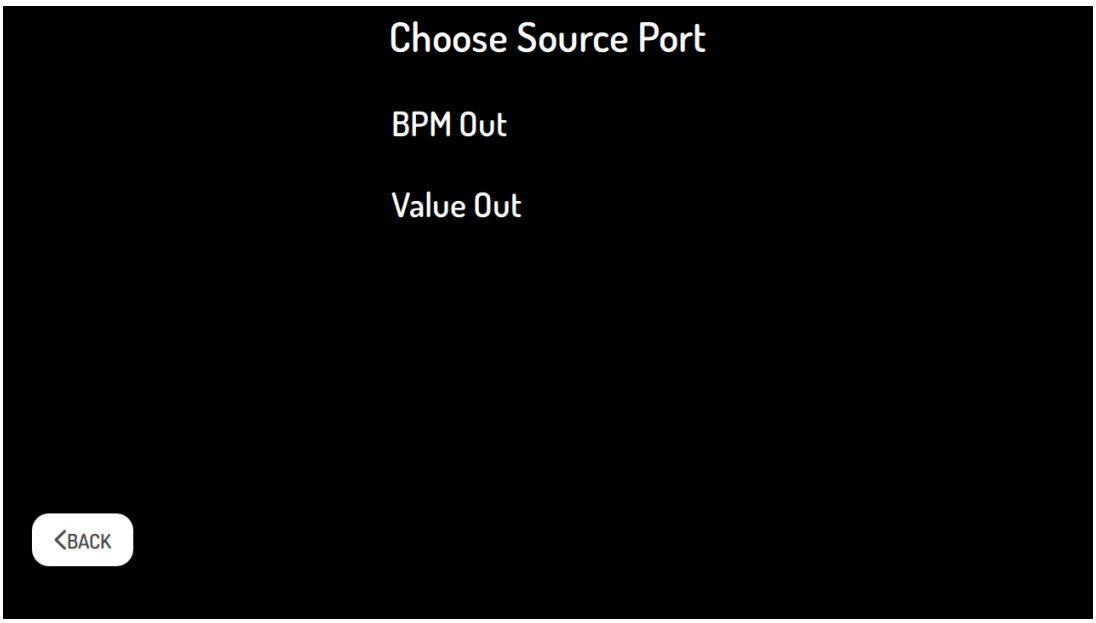
If you want to toggle between to delays for example, set one to disabled then assign both to the same foot switch, they will now toggle which is active.

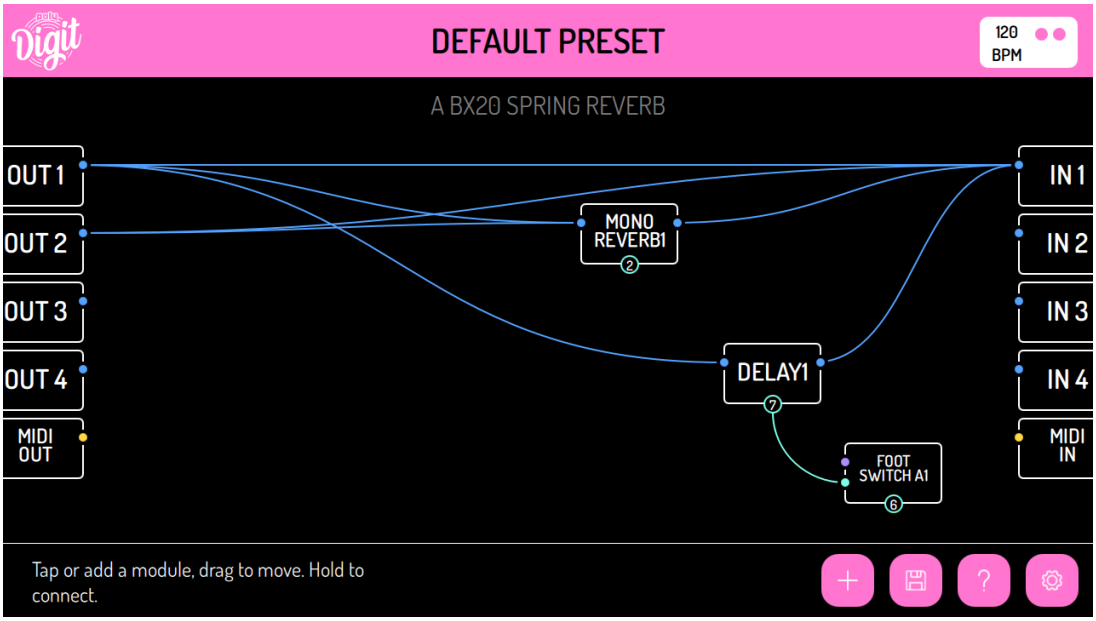
1.9. FOOT SWITCHES AS CV OR TEMPO SOURCES

If you want to control a specific parameter with a foot switch, tap add (+) and then select foot switch A or B. A is the left one, B is the center, C is the right.



Now tap the foot switch module you've added and then tap connect. You can now connect it to things you want to control. There are two outputs, the tap tempo and its value. Value is if it's up or pressed down. To connect tap tempo from the foot switch, hold the foot swtich and tap the delay. Then choose the BPM out.

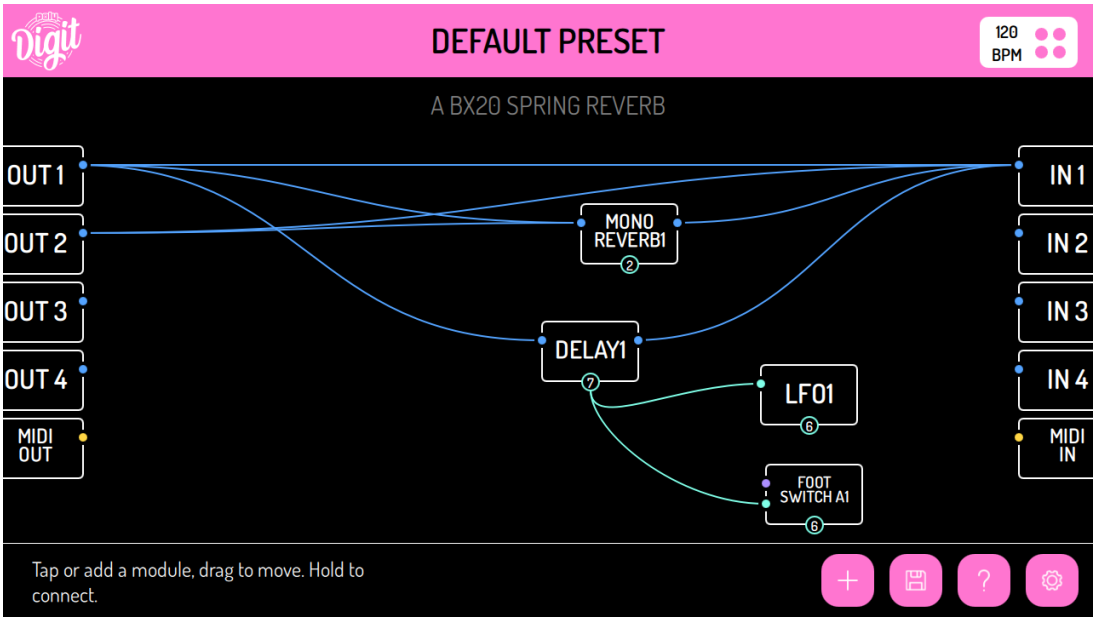




1.10. LFO / CONTROL SIGNALS

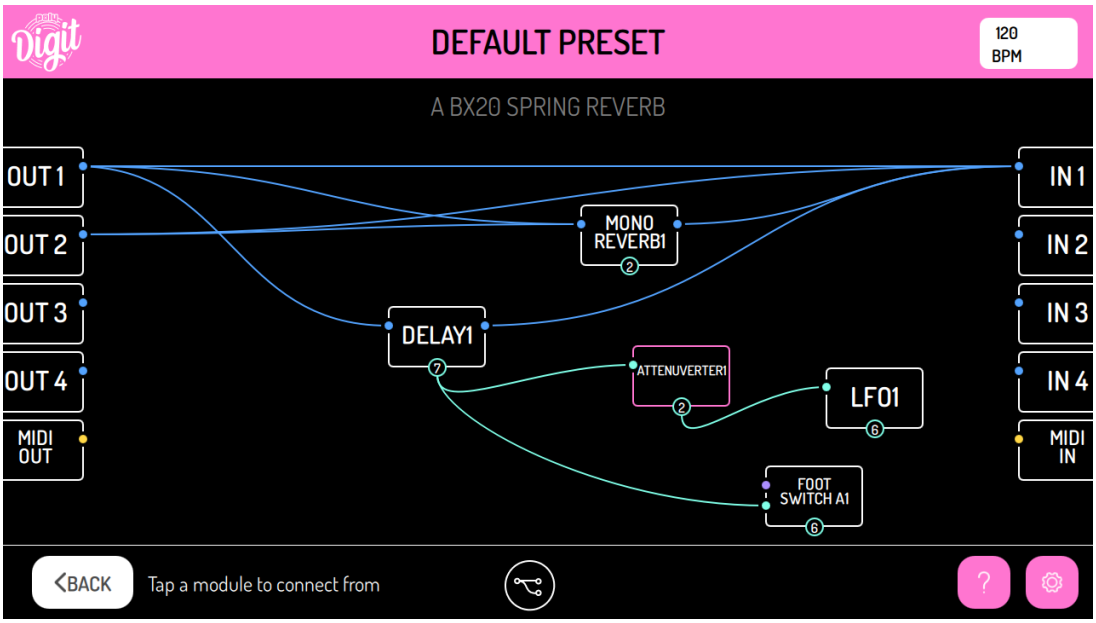
As you saw with foot switches, one module can control another. If we now add a low frequency oscillator (LFO) we can use that to control other settings on the delay. Add the LFO then hold it and tap the delay. Then choose warp in the screen that appears.

Control signals are coloured green.



The effect will be quite strong, so if we want to reduce we can tap on the LFO and reduce the level. A uni polar LFO will only got from 0-1 (positive) but if you set that to zero it'll go negative and positive.

We can also add other modules in between such as the attenuverter that act on the control signals. We can invert the phase or reduce the level with this as well, in case we want the same LFO to control two different things at different amounts or phase.



The attenuverter attenuates and/or inverts a signal. It has two inputs which can be either be controlled by the sliders or by a control input. You can attenuate / invert one control signal with another allowing you ring mod / AM style control possibilities.

1.11. FIRMWARE UPDATE

If you have a very early light pink Digit and currently have version 1.something (eg 1.7) firmware installed (check in the setting menu) please contact me before updating.

For Hector or Beebo please grab the files from the site, unzip them and the copy them to a usb flash drive and click upgrade. It should be quite quick. It'll restart itself. The packages need to all be on the

USB drive and not in a zip. The current packages are frontend, modules, ingen and extra-content. If you've updated recently and know that one file hasn't changed then you don't need to include it on the USB flash drive next update and it'll update a little faster. It's safer to just update everything though.

The USB flash drive must be formatted FAT32 and have one partition on it. If the update fails, please try pressing export presets in the settings screen. If that also fails then the USB flash drive is unreadable, either due to having no partitions (partitonless drive) or being the wrong format. Please contact me for help. Please use a normal USB flash drive and not an external hard drive. The cheap NXT ones from Staples work well. All Sandisk ones tested also worked well. Verbatim ones tested have failed.

1.12. CPU USAGE METER

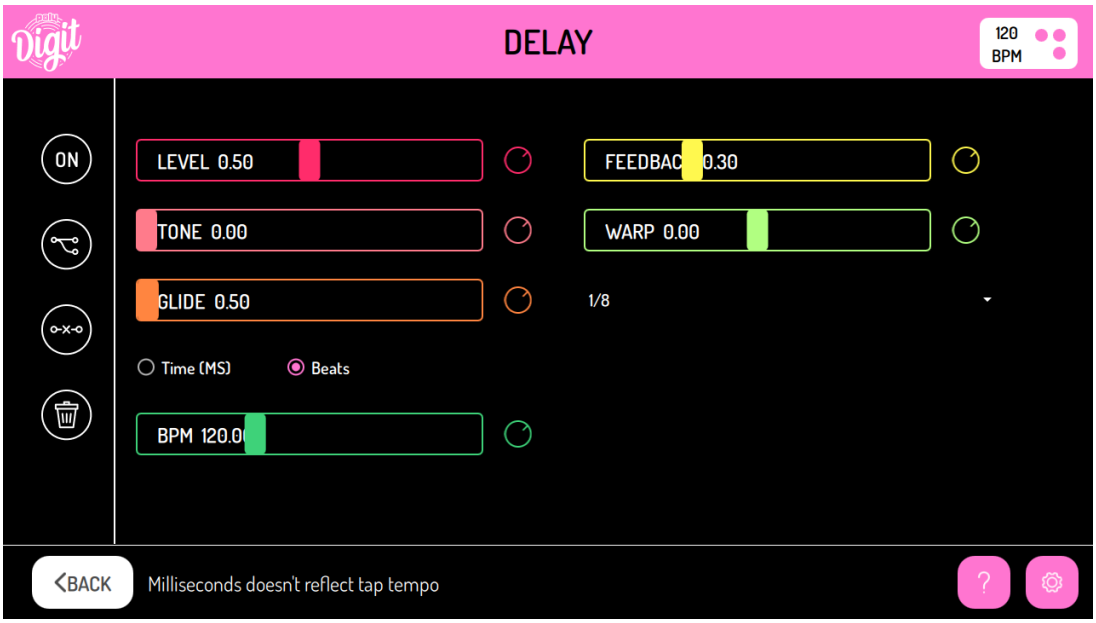
The CPU usage meter appears when you are using over 60% of the CPU. Beebo and Hector have the same CPU. It's a 64 bit quad core CPU. Some modules use more CPU than others. You'll often notice that adding a module doesn't use any more CPU. This is because if the audio path is parallel the new module often just uses a core that isn't being used. The best way to maximise the available CPU in a patch is to avoid serial paths, that is when one module leads directly into another. Instead route the modules in parallel. 4 modules in parallel will often use the same amount of CPU as a single module, and 1/4 as much CPU as 4 in serial.

1.13. INPUTS AS EFFECTS LOOPS

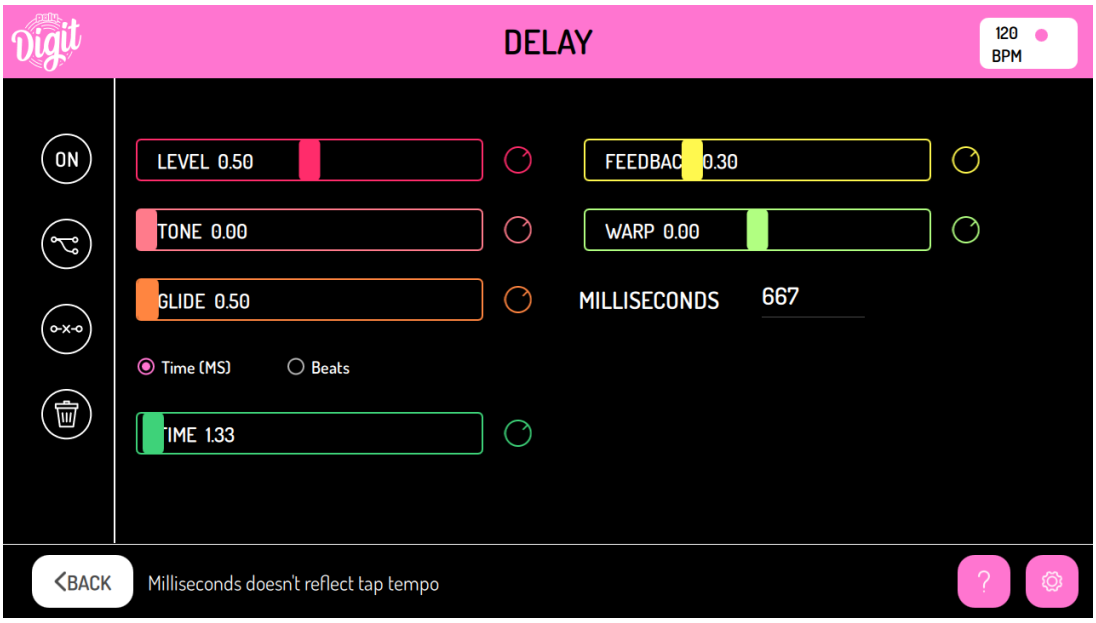
You can use the input / outputs of Hector or Beebo as effect loops. For example, physically connect output 3 to an external phaser pedal, then connect the output of the phaser to input 3. Then on Beebo / Hector, connect a delay to output 3, and then connect input 3 directly to output 1. The repeats of that delay will now be running through the phaser. Be careful not to create feedback paths, or route dry in parallel where some signal goes through external pedals. The extra latency / phase difference between the direct and effected signals can cause weird effects. So it's always safer just to effect things like delays / reverb tails.

1.14. RHYTHMIC DELAYS

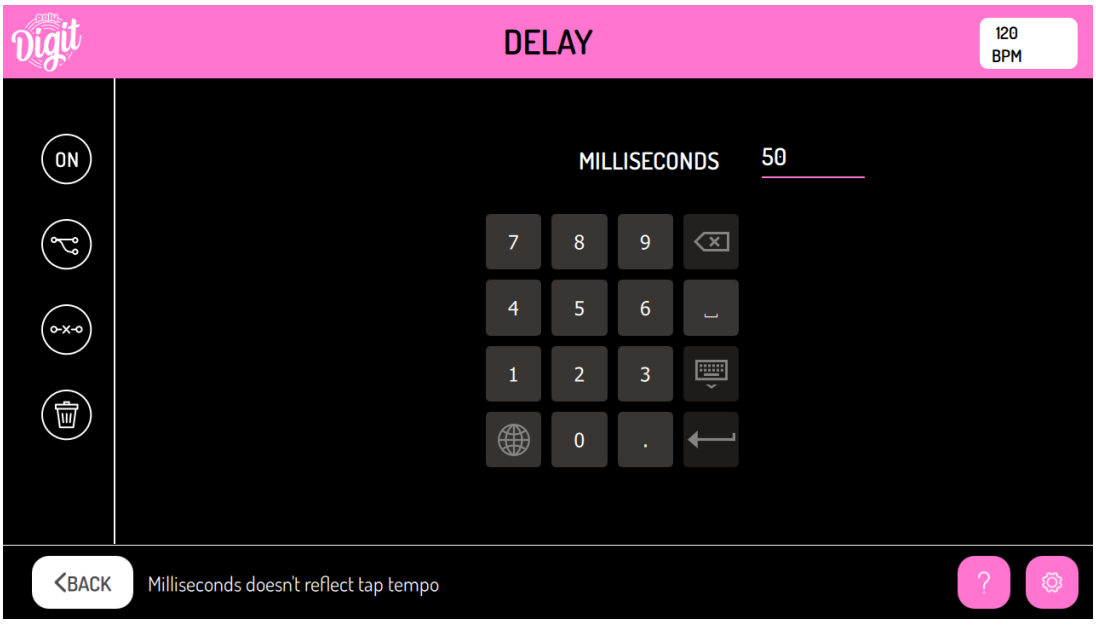
Tap a delay to see the details.



There are two modes. If you choose beats you can set a BPM and then choose a subdivision in the right drop down menu.



You can also set time in milliseconds, tap the time button and then you can type in a number if you press the milliseconds field, or just slide the slider to an approximate position.



The amount of milliseconds won't follow your tap tempo, so if you have a tempo input plugged in the times here won't be relevant and you should use the beat setting.

1.15. IMPORT REVERBS / CABS

To import new cab or reverb IRs onto Beebo / Hector, copy them onto a USB flash drive in folders called reverbs and cabs for each. Then go to settings and tap Copy IRs. The files must be 48 kHz wavs.

1.16. IMPORT / EXPORT PRESETS

Press the patch icon to get to the preset screen. Then press export preset where it'll ask you if you want to export the current preset or all presets.

Part II.
Loopler

The Loopler is based on Sooperlooper, which in turn is based roughly on the EDP (LoopIII / LoopIV) so reading the EDP Manuals can be useful. Andre LaFosse has great videos about the EDP style workflow that should mostly apply to the Loopler module. The EDP style looping is quite different to some loopers you might have used in the past so it's handy to understand the basic concepts.

To get started with loopler, add a loop common in and a loop common out, and connect them how you'd like the audio to be routed. You can easily have effects that are only on your dry or only on the loop output, or effects that are on the loop send with this approach. Add two loop common ins and outs to get stereo looping. I am planning to add individual loop in and outs in a future firmware update if people are interested in that feature.

Once you've added the loopler modules, press the module and you'll get the main loopler screen. Here you'll see a number of commands.

MIDI binding and footswitch (for Beebo) binding work differently than other modules, due to the need to bind many commands. Commands can be applied to multiple loops, the selected loop or a specific loop. For example you could bind a MIDI CC to start record on loop 2, even if loop 1 is the current selected loop. In global settings there is a prev loop and next loop button, which can be used to bind these commands to MIDI.

To bind a command, press the MIDI icon. You'll then need to select if the command should act on the selected loop, all loops or a specific loop (the number is the loop you have currently selected.) Now press the command you want and the MIDI icon will flash, waiting for you to send a MIDI command. You can bind to CCs and notes.

No routing from the MIDI input in the patch view is needed for basic MIDI actions, or to sync to MIDI clock. If you want to control Loopler from an internal MIDI CC generator, for example a CV to MIDI CC connected up to an external CV source or an internal module like the chaos controller you need to add the loop extra midi module.

To bind a foot switch to a command, hold down the foot switch then press the command.

2. COMMAND REFERENCE

You can learn more about to use the commands musically from the SooperLooper and EDP manuals.

2.1. RECORD

This is the inital command. If you set the record threshold to minimum, pressing it once will start recording and pressing again will end the recording.

If you set the threshold higher recording doesn't start until the input level is louder than the threshold. When stoping recording, the threshold is ignored. The EDP manual has tips and states, it works best if you stop and start recording the moment you hit a downbeat, not before.

Special Endings

- If you end a RECORD with another command (OVERDUB, MULTIPLY, REPLACE, SUBSTITUTE, INSERT, ONCE) it will stop recording the loop immediately (threshold ignored) and start the new command.
- Ending with REVERSE stops recording and plays the loop backwards once then goes into MUTE mode.

2.2. OVERDUB

This keeps playing the loop and adds whatever you play on top until you stop overdubbing. This is the main command you will use. Feedback, in the level / sync section, controls the amount of the original loop that is used every cycle.

2.3. MULTIPLY

This is similar to overdub, except the original loop is repeated, "multiplying" the loop length until you stop it. It can turn a 1 cycle loop into a 2,3, etc cycle loop. The quantise option you've selected in the global settings section affects how the overdubbing starts.

Keep in mind that the original loop length is a "cycle" and the loop length will be a multiple of that. You can actually make an already multiplied loop have fewer cycles when using Multiply on loops that have already been multiplied.

Special Endings

- If you end a MULTIPLY with a RECORD command it ends the loop immediately and resets the cycle length to the whole loop.
- MultiIncrease allows you to increment the cycle count ahead of time, without needing to wait until the exact time to finish the multiply. Press Multiply as if you were finishing it, then before the current cycle finishes, press Multiply again repeatedly to add cycles. The multiply will automatically go into playback after the specified number of cycles.

2.4. INSERT

It inserts new input in place, but always one "cycle" length... QuantizeMode effects the same way as Multiply.

Special Endings

Ending with a RECORD command ends the operation immediately and resets the cycle length to the whole loop.

2.5. REPLACE

Replaces the audio in the loop for the duration of the command. The existing loop audio is not heard during the operation.

When Quantize is on, this command will be quantized on start and finish with the current sync and quantize parameters.

2.6. SUBSTITUTE

Is like Replace except you still hear the current underlying loop audio as it records new audio into the loop. When the loop is played again, only the newly recorded audio will be heard. This helps when recording a replacement section, because you can play with what was there.

When Quantize is on, this command will be quantized on start and finish.

2.7. REVERSE

Reverses playback direction. Can be used in play mode, and even during OVERDUB. Can also be used in DELAY mode. If Quantize is on, the reversal doesn't happen until the next sync boundary, keeping the loop in time.

2.8. UNDO

Restores the playing loop to the state before the last operation. It maintains the current time position if the current loop was based on the previous loop (eg, not newly recorded). You can go all the way back to the first one still intact within the loop memory. As more operations are done, more of the available loop memory is used, and it will eventually start reclaiming the oldest versions.

Pressing Undo when an operation is waiting for sync or quantization will cancel the pending operation.

2.9. REDO

Redoes the loop if it can (if you haven't done a new operation since your last undo). Together UNDO and REDO allow you to do some creative things.

2.10. MUTE

Press to mute loop output. To continue playing the loop in time press MUTE again. To continue playing the loop from the top press TRIGGER. To play back the loop once and return to mute, press ONESHOT.

2.11. TRIGGER

this immediately restarts the loop playing back from the beginning.

2.12. ONESHOT

this immediately restarts the loop playing back from the beginning, and goes into MUTE mode at the end of the loop.

2.13. PAUSE

Press to pause loop playback. To continue playing the loop from the paused time press PAUSE again. To play the loop from the start press TRIGGER. To play back the loop once and return to mute, press ONESHOT.

2.14. SOLO

Pressing SOLO will mute all other loops. Pressing it again will revert to the previous state before solo was pressed (eg, loops that were muted before the first press will stay muted). Pressing solo for a different loop will cause that loop to be the new soloed loop. You can't solo multiple loops.

2.15. DELAY MODE

Pressing the Delay command triggers Delay Mode. The time between the most recent two presses is the new delay time. While in DELAY mode, you can toggle Hold Mode (by pressing Replace), or Reverse at any time. To get out of delay mode press any other function or UNDO. Please adjust Feedback down from 1 before you enter delay mode or the feedback will build up quickly.

Part III.
More Features

3. SPECIFICATIONS

Both Hector and Beebo share the same CPU, and new Beebos share the same screen. Both are running at 32 bit float internally, 24 bit conversion and 48kHz sampling.

3.1. HECTOR

All IO is ±5V. Pitch is ±5V, if other modules you're using expect 0-10V you'll need to use a shifter, like the Pico MScale from Erica Synths.

4. MIDI

Before Digit serial 475, Beebo serial 338: Type B, 3.5 MM TRS. This is the same ring active pin out as Chase Bliss.

Digit serial 475, Beebo serial 338 or later: Type A input, 3.5 MM TRS. This is the MIDI standard pin out. Type B output. It's stupid.

Hector is Type A in and out, standard 3.5 MM TRS.

No MIDI box / etc is needed as the pedal / module has opto isolation on board and midi thru.

4.1. CHANGING PRESETS

To change a preset with a program message, press the patch icon to get to the preset screen. Tap set list and add preset here. The number next to them is what program change message you should send to change to that preset. This is also the order the foot switch pairs with D and E will step through them on Beebo.

4.2. CC CONTROLS

To learn a control, hold the more button (the triple dots) then press a slider. A MIDI icon will then appear. Press it. It will then pulse until it detects a CC.

5. REGULATORY / LICENCING

This device complies with Part 15 of FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation

Hector / Beebo includes code and art (such as fonts) under a variety of licenses including GPL / LGPL / MIT / BSD / OFL. More details of this are available here: https://github.com/polyeffects/

Mutable Instruments modules names are used with permission from Mutable Instruments. They are wonderful.

6. THANKS

A giant collection of people have helped Poly Effects and Beebo & Hector specifically. These include Helen Davison (my mum), Claire Jeddou, Celeste Reno, Jo Gardiner, David Robillard, Michelle Lam, Bernie Tschirren, Lisa Bryant, Ed Pettersen, Josh Smith, Jordan Rudess, Leon Todd, Filipe Coelho and Robin Gareus.

Part IV.
Modules

6.1. AD ENV LEVEL

An attack decay envelope generator with start and end levels. Works with a trigger.

Envelopes take in a trigger and produce a CV that changes over time. This version has just 2 stages, attack and decay. Connect triggers to the envelope and then connect the envelope output to the parameter you want to change over time. This version adds a level to attack to and then decay to compared to the standard version.

Inputs

CV Gate, Reset Level, Trigger

Outputs

CV Envelope Out

Controls

- Attack Time
- Attack To Level
- Decay Time
- Decay To Level
- Initial Level

6.2. AD ENVELOPE

A attack decay envelope generator. Works with a trigger.

Envelopes take in a trigger and produce a CV that changes over time. This version has just 2 stages, attack and decay. Connect triggers to the envelope and then connect the envelope output to the parameter you want to change over time. This version attacks to 1 from 0.

Inputs

CV Gate, Trigger

Outputs

CV Envelope Out

Controls

- Attack Time
- Decay Time

6.3. ADSR

Basic ADSR envelope generator. Takes in a gate.

Envelopes take in a gate and produce a CV that changes over time. This version has 4 stages, attack, decay, sustain and release. Connect gates to the envelope and then connect the envelope output to the parameter you want to change over time. This is an important part of a synthesiser but can also be used to create things like autoswells. Useful when connected to a VCA.

Inputs

CV Gate

Outputs

CV Envelope Out

Controls

- Attack Time
- Decay Time
- Release Time
- Sustain Level
- Trigger Threshold

6.4. AMP BASS

SVT40 bass amp sim

A bass amp emulation. The tone stack has sections that can be tuned. Run a cab after this.

Inputs

Audio In

Outputs

Audio Out

Controls

- Bass
- Cabswitch
- Highswitch
- Lowswitch
- Middle
- Midswitch
- Treble
- Volume

6.5. ATTENUVERTER

The attenuverter changes level and/or phase of a control signal. A x B

An attenuverter attenuates and inverts signals. You can combine signals using it, for example to ring modulate two LFOs together, or just reduce the level of a CV

Inputs

CV A, B

Outputs

CV Product

Controls

- A
- B

6.6. AUTO SWELL

Automatically swells volume to remove note attack

Auto swell is a similar effect to using your volume knob but instead it automatically detects when to swell.If you are looking for something more complex, you can combine an envelope follower and VCA to create your own

Inputs

CV Threshold

Audio In

Outputs

Audio Out

Controls

- Downtime
- Threshold
- Uptime

6.7. BASIC REVERB

A basic true stereo algorthmic reverb.

Inputs

Audio L Input, R Input

Outputs

Audio L Output, R Output

Controls

- Bandwidth
- Damping
- Decay
- Density
- Early Vs Late
- Gain
- Mix
- Predelay
- Size

6.8. BITCRUSHED DELAY

Flexible delay module with bitcrushed repeats. Add modules on the repeats for variations.

Inputs

CV Feedback, Glide, Level, Time, Tone, Warp
Audio In
Tempo Bpm

Outputs

Audio Out

Controls

- Bits
- Bpm
- Enabled
- Feedback
- Glide
- Is Using Tempo
- Level
- Time
- Tone
- Warp

6.9. BITCRUSHER

basic bit reduction bit crusher, CV control of bits.

Inputs

CV Bits Cv

Audio In

Outputs

Audio Out

Controls

- Bits

6.10. BITMANGLE

Brutal bitmangler. Warning, can get very loud. Based on Mutable Instuments Warps Parasite.

The bit mangler isn't a normal bit crusher, instead it degredation and cross modulationthe bitwise AND is much louder than the bitwise XOR end, so I recommend a compressor or something aftwards to control levels.

Please see the original module manual for more details.

This video is helpful: .

Inputs

CV Bit Cv, Input Amp 2 Cv, Input Amp Cv, Xor Vs And Cv

Audio Carrier, Modulator

Outputs

Audio Aux, Out

Controls

- Amp Or Freq
- Bits
- Input Amplitude 2
- Int Osc
- Xor Vs And

6.11. CHAOS CONTROLLER

Powerful repeatable randomness source. Based on Mutable Instruments Marbles module.

A source of random gates and voltages, which offers an extensive amount of (voltage) control on all the different flavors of randomness it produces. The module gives the musician many different ways of imposing structure on the random events generated by the module: synchronization to external clocks, control of the repetition or novelty of the generated material, quantization of the voltages, or randomization of gates or voltages generated by traditional sequencers.

Please see the original module manual for more details.

This video is helpful: https://youtu.be/NkGkHuS69a0.

Inputs

CV Deja Vu Input, T Bias Input, T Clock Trigger Input, T Jitter Input, T Rate Input, X Bias Input, X Clock Input, X Spread Input, X Steps Input

Tempo Bpm T Clock

Outputs

CV T1 Output, T2 Output, T3 Output, X1 Output, X2 Output, X3 Output, Y Output

Controls

- Deja Vu Length
- Deja Vu Probablity
- External Control
- T Clock Bpm
- T Deja Vu
- T Gate Bias
- T Jitter
- T Mode
- T Range
- X Clock Source Internal
- X Deja Vu
- X Distribution Bias
- X Mode
- X Range
- X Scale
- X Smoothness Steps
- X Spread

- Y Distribution Bias
- Y Divider
- Y Smoothness
- Y Spread

6.12. CHORUS D

8 voice multi dimensional chorus

Inputs

Audio In
Tempo Bpm

Outputs

Audio Out L, Out R

Controls

- Bpm
- Delay
- Depth
- Deviation

6.13. CHORUS D EXT

8 voice multi dimensional chorus CV LFO

Inputs

CV Lfo Cv
Audio In

Outputs

Audio Out L, Out R

Controls

- Delay
- Depth
- Deviation

6.14. CHORUS J

chorus based on vintage Japanese synth chorus

Inputs

CV 1 Enable, 2 Enable
Audio Audio Input 1, Audio Input 2

Outputs

Audio Audio Output 1, Audio Output 2

Controls

- Chorus 1 Lfo Rate
- Chorus 1 On/Off
- Chorus 2 Lfo Rate
- Chorus 2 On/Off

6.15. CLOCK DIVIDER

outputs a trigger every n triggers
useful for dividing down a eurorack style clock.

Inputs

CV Trigger Input

Outputs

CV Trigger Out

Controls

- Divider

6.16. CV METER

Simple CV meter that shows instant values with no smoothing

Inputs

CV Cv Input

Outputs

CV Cv Output

Controls

- Enabled
- Reset

6.17. CV TO MIDI CC

convert control to MIDI CC

Inputs

CV Cv In

Outputs

MIDI Midi Out

Controls

- Cc Number
- Channel
- Resolution

6.18. CV TO NOTE

converted v/oct pitch to MIDI notes. Velocity is optional.
If velocity is not connected, 64 is sent for velocity. Note offset is +- from note 60

Inputs

CV Gate, Pitch, Velocity

Outputs

MIDI Midi Note Out

Controls

- Channel
- Note Offset

6.19. CV TO TRIGGER

A Schmitt trigger that converts external analog CV to digital on / off trigger

Inputs

CV Trigger

Outputs

CV Out Trigger

6.20. DAHDSR

A delay attack hold decay sustain release envelope generator

Inputs

CV Attack Time, Decay Time, Delay Time, Gate, Hold Time, Release Time, Sustain Level, Trigger

Outputs

CV Envelope Out

Controls

- Attack Time
- Decay Time
- Delay Time
- Hold Time
- Release Time
- Sustain Level

6.21. DELAY

Flexible delay module. Add modules on the repeats for variations.

Inputs

CV Feedback, Glide, Level, Time, Tone, Warp

Audio In

Tempo Bpm

Outputs

Audio Out

Controls

- Bpm
- Enabled
- Feedback
- Glide
- Is Using Tempo
- Level
- Time
- Tone
- Warp

6.22. DIFFERENCE

a - b for control signals

Inputs

CV A Cv, B Cv

Outputs

CV Output

Controls

- A
- B

6.23. DIODE LADDER LPF

A diode ladder low pass filter similar to the vintage Japanese designs

Inputs

CV Cutoff Cv, Q Cv

Audio In

Outputs

Audio Out

Controls

- Cutoff
- Q

6.24. DOPPLER PANNER

binaural panner, allows positioning in 3D. Based on Parasite firware of Warps by Mutable Instruments.

Please see the original module manual for more details.

This video is helpful: https://youtu.be/baHiSGgszQ4.

Inputs

CV Lfo Frequency Cv, Lfo Amplitude Cv, X Coordinate Cv, Y Coordinate Cv

Audio Left In, Right In

Outputs

Audio Left Out, Right Out

Controls

- Lfo Amplitude
- Lfo Frequency
- Space Size
- X Coordinate
- Y Coordinate

6.25. DRUM PATTERNS

Drum trigger explorer. Based on Grids by Mutable Instruments. Expects a 4 ppq clock if using external clock

Please see the original module manual for more details.

This video is helpful: https://youtu.be/l5yN0N6aTws.

Inputs

CV Bd Fill Cv, Chaos Cv, Clock, Hh Fill Cv, Map X Cv, Map Y Cv, Reset, Run, Sn Fill Cv, Swing Cv

Tempo Bpm

Outputs

CV Bass Drum Accent, Bass Drum Trigger, Hihat Accent, Hihat Trigger, Snare Accent, Snare Trigger

Controls

- Bass Drum Density
- Chaos
- Hihat Density
- Map X
- Map Y
- Reset Button
- Run Button
- Snare Density
- Swing
- Tempo

6.26. ENV FOLLOWER

Track an input signal and convert it into a control signal

Inputs

Audio Audio In

Outputs

CV Cv Out

Controls

- Attack Time
- Decay Time
- Invert
- Maximum Value
- Minimum Value
- Peak/Rms
- Saturation
- Threshold

6.27. EUCLIDEAN

A euclidean sequencer with 4 tracks. Connect a trigger to go to the next step

The is the one outputs are triggered on the first beat and can be used to chain sequencers.

Inputs

CV Back Trigger, Reset Trigger, Step Trigger

Outputs

CV Is The One 1, Is The One 2, Is The One 3, Is The One 4, Trigger Out1, Trigger Out2, Trigger Out3, Trigger Out4

Controls

- Loop 1 Beats
- Loop 1 Is Enabled
- Loop 1 Shift
- Loop 1 Steps
- Loop 2 Beats
- Loop 2 Is Enabled
- Loop 2 Shift
- Loop 2 Steps
- Loop 3 Beats
- Loop 3 Is Enabled
- Loop 3 Shift
- Loop 3 Steps
- Loop 4 Beats
- Loop 4 Is Enabled
- Loop 4 Shift
- Loop 4 Steps

6.28. FILTER

Virtual analog resonant low pass filter

Inputs

CV Exp Fm, Fm, Resonance Mod

Audio Input

Outputs

Audio Output

Controls

- Exp. Fm Gain
- Frequency
- Input Gain
- Output Gain
- Resonance
- Resonance Gain

6.29. FILTER UBERHEIM

A multi out filter inspired by vintage American designs

Inputs

CV Cutoff Cv, Q Cv
Audio In

Outputs

Audio Band Pass, Band Stop, High Pass, Low Pass

Controls

- Cutoff
- Q

6.30. FLANGER

flanger with internal LFO

Inputs

Audio In
Tempo Bpm

Outputs

Audio Out0

Controls

- Bpm
- Delay
- Depth
- Feedback
- Invert
- Waveshape

6.31. FLANGER EXT

flanger with CV for LFO

Inputs

CV Lfo Cv

Audio In

Outputs

Audio Out0

Controls

- Delay
- Depth
- Feedback
- Invert

6.32. FOOT SWITCH A

The left footswitch. Also available in Hector to allow patch compatability.

Outputs

CV Value Out

Tempo Bpm Out

Controls

- Bpm
- Is Latching
- Off Value
- On Value
- Value
- Value

6.33. FOOT SWITCH B

The center footswitch. Also available in Hector to allow patch compatability.

Outputs

CV Value Out
Tempo Bpm Out

Controls

- Bpm
- Is Latching
- Off Value
- On Value
- Value
- Value

6.34. FOOT SWITCH C

The right footswitch. Also available in Hector to allow patch compatability.

Outputs

CV Value Out
Tempo Bpm Out

Controls

- Bpm
- Is Latching
- Off Value
- On Value
- Value
- Value

6.35. FOOT SWITCH D

The left and centre right footswitch. Also available in Hector to allow patch compatability.

Outputs

CV Value Out

Tempo Bpm Out

Controls

- Bpm
- Is Latching
- Off Value
- On Value
- Value
- Value

6.36. FOOT SWITCH E

The right and centre footswitch. Also available in Hector to allow patch compatability.

Outputs

CV Value Out

Tempo Bpm Out

Controls

- Bpm
- Is Latching
- Off Value
- On Value
- Value
- Value

6.37. FREEZE

Holds what you are playing when the control level is active, creating a drone.

Inputs

CV Freeze

Audio Audio In

Outputs

Audio Audio Out

Controls

- Drone Gain
- Freeze
- Release

6.38. GRANULAR

Granular texture generator, can work as a weird delay or reverb. Based on Parasite firmware of Mutable Instruments Clouds.

Please see the original module manual for more details.

This video is helpful: https://youtu.be/g_Gue_MZ-Dk.

Inputs

CV Blend, Density, Freeze, Pitch, Position, Reverb, Reverse, Size, Spread, Texture, Trigger, Feedback

Audio L In, R In

Outputs

Audio L Out, R Out

Controls

- Blend
- Density
- Feedback
- Freeze
- Pitch
- Position
- Reverb
- Reverse
- Size
- Spread
- Texture

6.39. GRANULAR LOOPING

Granular pitch shifting, micro looping delay. CPU Hungry. Based on Parasite firmware of Clouds by Mutable Instruments.

Please see the original module manual for more details.

This video is helpful: https://youtu.be/6ltvGv43J3A.

Inputs

CV Blend, Diffusion, Filter, Loop, Pitch, Reverb, Reverse, Spread, Trigger, Feedback, Pitch Window, Tape Length

Audio L In, R In

Outputs

Audio L Out, R Out

Controls

- Blend
- Diffusion
- Feedback
- Filter
- Freeze
- Pitch
- Pitch Windows
- Reverb
- Reverse
- Spread
- Tape Length

6.40. HARMONIC TREM EXT

harmonic tremolo CV LFO input

Inputs

CV Lfo Cv

Audio In

Outputs

Audio Out

Controls

- Crossoverfreq
- Depth

6.41. HARMONIC TREMOLO

harmonic tremolo with internal LFO

Inputs

Audio In
Tempo Bpm

Outputs

Audio Out

Controls

- Bpm
- Crossover Freq
- Depth

6.42. K ORG HPF

A high pass filter similar to the vintage Japanese designs

Inputs

CV Cutoff Cv, Q Cv
Audio In

Outputs

Audio Out

Controls

- Cutoff
- Q

6.43. K ORG LPF

A low pass filter similar to the vintage Japanese designs

Inputs

CV Cutoff Cv, Q Cv
Audio In

Outputs

Audio Out

Controls

- Cutoff
- Q

6.44. LFO

Low frequency oscillator, send a control signal.

Inputs

CV Reset
Tempo Bpm

Outputs

CV Output

Controls

- Level
- Tempo
- Tempo Multiplier
- Unipolar
- Wave Form

6.45. LOOP COMMON IN

Common input to the loopler

Inputs

Audio Out

6.46. LOOP COMMON OUT

Common output from the loopler

Outputs

Audio In

6.47. LOOP EXTRA MIDI

Connect internal MIDI generators to the Looper, do not connect external MIDI here, will duplicate.

For example trigger loops with a chaos controller module connected to a CV to CC then to this.

Inputs

MIDI Out

6.48. LOOP MIDI OUT

Ouput MIDI Clock from looper.

You can connect this to external gear to sync to a loop or drive internal or CV gear by connecting to the MIDI clock input module.

Outputs

MIDI In

6.49. LOOPING ENVELOPE

A powerful envelope and LFO generator. Based on Tides by Mutable Instruments.

Based on Tides by Mutable Instruments.

Please see the original module manual for more details.

This video is helpful: https://www.youtube.com/watch?v=SVfmMq_Vcul.

Inputs

CV Clock, Frequency, Shape, Shift, Slope, Smoothness, Trigger, V Per Oct

Outputs

CV Out1, Out2, Out3, Out4

Tempo Tempo

Controls

- Frequency
- Frequency
- Mode
- Ramp
- Range
- Shape
- Shape
- Shift
- Shift
- Slope
- Slope
- Smoothness
- Smoothness

6.50. MACRO OSC

A powerful multi model oscillator voice. Based on Mutable Instruments Plaits module.

Please see the original module manual for more details.

This video is helpful: https://youtu.be/_zYwdcYECdg.

Inputs

CV V Per Oct Cv, Engine Cv, Frequency Cv, Harmonics Cv, Level Cv, Morph Cv, Timbre Cv, Trigger Cv

Outputs

Audio Aux, Out

Controls

- Frequency
- Frequency Mod
- Harmonics
- Lpg Color
- Lpg Decay
- Model
- Morph
- Morph Mod
- Timbre
- Timbre Mod

6.51. MATRIX MIXER

4 in 3 out matrix mixer

4 in 3 out matrix mixer

Inputs

Audio Input 1, Input 2, Input 3, Input 4

Outputs

Audio Output 1, Output 2, Output 3

Controls

- Input 1
- Input 1
- Input 1
- Input 2
- Input 2
- Input 2
- Input 3
- Input 3
- Input 3
- Input 4
- Input 4
- Input 4

6.52. MAX

max of a, b also logical or

Inputs

CV A Cv, B Cv

Outputs

CV Output

Controls

- A
- B

6.53. META MODULATION

A powerful cross modulation module which applies an algorithm to the two inputs. Based on Warps by Mutable Instruments.

Please see the original module manual for more details.

This video is helpful: https://youtu.be/iRLU5B4V-Jw.

Inputs

CV Algorthm Cv, Level 1 Freq Cv, Level 2 Cv, Timbre Cv

Audio Carrier, Modulator

Outputs

Audio Aux, Out

Controls

- Algorithm
- Level 1 Or Freq
- Level 2
- Shape
- Timbre

6.54. MIDI CC

MIDI CC to control value

Inputs

MIDI Midi Input

Outputs

CV Output

Controls

- Cc Number
- Logarithmic
- Maximum
- Minimum

6.55. MIDI CC TO NOTE

translate control-commands to note-on/off messages

Filter ChannelMIDI Channel (1..16) on which the filter is active.Data on other channels is passed though unmodified.Operation Mode:Value 0 = Fixed key, velocity = CC-valueValue 1 = key = CC-value, fixed velocity (64)Value 2 = All keys, key = parameter, velocity = CC-valueCC Parameter to Intercept:unused in "all keys" mode.Key (midi-note):only used in "velocity = value" mode.Convert MIDI control change messages to note-on/off messages.Note off is queued 10msec later.

Inputs

MIDI Midi In

Outputs

MIDI Midi Out

Controls

- Cc Parameter To Intercept
- Filter Channel
- Key (Midi-Note)
- Operation Mode

6.56. MIDI CHANNEL FILTER

discard messages per channel

Simple MIDI channel filter. Only data for selected channels may pass.This filter only affects midi-data which is channel relevant (ie note-on/off, control and program changes, key and channel pressure and pitchbend).MIDI-SYSEX and Realtime message are always passed on. See also "MIDI Channel Map" filter.

Inputs

MIDI Midi In

Outputs

MIDI Midi Out

Controls

- Channel 1
- Channel 2
- Channel 3
- Channel 4
- Channel 5
- Channel 6
- Channel 7
- Channel 8
- Channel 9
- Channel 10
- Channel 11
- Channel 12

6.57. MIDI CHANNEL MAP

map any MIDI-channel to another MIDI-channel

Inputs

MIDI Midi In

Outputs

MIDI Midi Out

Controls

- Channel 1 To
- Channel 2 To
- Channel 3 To
- Channel 4 To
- Channel 5 To
- Channel 6 To
- Channel 7 To
- Channel 8 To
- Channel 9 To
- Channel 10 To
- Channel 11 To
- Channel 12 To

6.58. MIDI CHOKE FILTER

trigger note-off events, create exclusive note-groups

MIDI Choke filter. Send note-off message for choke note (if it is on), when any note within the trigger note range is received.Low Trigger Note: Lowest note of the note range, which triggers the choke.High Trigger Note: Highest note of the note range, which triggers the choke.Choke Note: Note, which is choked when a trigger note is received.Release Velocity: What to set the release velocity of the choke note-off to.

Inputs

MIDI Midi In

Outputs

MIDI Midi Out

Controls

- Choke Note
- Filter Channel
- High Trigger Note
- Low Trigger Note
- Release Velocity

6.59. MIDI CHORD

create MIDI chords from a single note in a given musical scale

Harmonizer - make chords from single (fundamental) note in a given musical scale. The scale as well as intervals can be automated freely (currently held chords will change). Note-ons are latched, for multiple/combined chords only single note-on/off will be triggered for the duration of the combined chords. If a off-scale note is given, it will be passed through - no chord is allocated. Note: Combine this effect with the "MIDI Enforce Scale" filter to weed them out.Hold a note until the next note arrives. – Play the same note again to switch it off.

Inputs

MIDI Midi In

Outputs

MIDI Midi Out

Controls

- 2Nd
- 3Rd
- 4Th
- 5Th
- 7Th
- 9Th
- Bass
- Filter Channel
- Hold Chord
- Octave
- Prime
- Scale

6.60. MIDI CLOCK IN

MIDI Clock to BPM

Inputs

MIDI Midi Input

Outputs

CV Clock Pulse, Is Running, Start Trigger

Tempo Bpm

Controls

- Bandwidth Smoothing
- Pulse Divider

6.61. MIDI CLOCK OUT

BPM to MIDI Clock

Inputs

Tempo Bpm

Outputs

MIDI Midi Out

Controls

- Bpm

6.62. MIDI DELAY

delay MIDI events with optional randomization

MIDI delay line. Delay all MIDI events by a given time which is given as BPM and beats. If the delay includes a random factor, this effect takes care of always keeping note on/off events sequential regardless of the randomization.

Inputs

MIDI Midi In

Tempo Bpm

Outputs

MIDI Midi Out

Controls

- Bpm
- Delay Beats 4/4
- Randomize [Beats]

6.63. MIDI DUP

duplicate MIDI events from one channel to another

MIDI Duplicate Blocker. Filter out overlapping note on/off and duplicate messages.

Inputs

MIDI Midi In

Outputs

MIDI Midi Out

Controls

- Duplicate To Channel
- Source Channel

6.64. MIDI ENFORCE SCALE

force midi notes on given musical scale

Filter note-on/off events depending on musical scale. If the scale is changed, note-off events are sent for all active out-of-key notes.

Inputs

MIDI Midi In

Outputs

MIDI Midi Out

Controls

- Filter Channel
- Mode
- Scale

6.65. MIDI EVENT BLOCKER

notch style MIDI message filter. Suppress specific messages

For flexible note-on/off range see also "keyrange" and "velocityrange"

Inputs

MIDI Midi In

Outputs

MIDI Midi Out

Controls

- Block Channel-Pressure
- Block Control Changes
- Block Custom Message
- Block Notes
- Block Pitch Bend
- Block Polykey-Pressure
- Block Program Changes
- Block System Messages
- Custom Message Channel
- Custom Message Data1
- Custom Message Data2
- Custom Message Type

6.66. MIDI KEYRANGE

discard notes-on/off events outside a given range

This filter allows to define a range of allowed midi notes. Notes-on/off events outside the allowed range are discarded. If the range changes, note-off events are sent to currently active notes that end up outside the valid range.

Inputs

MIDI Midi In

Outputs

MIDI Midi Out

Controls

- Filter Channel
- Highest Note
- Lowest Note
- Operation Mode

6.67. MIDI KEYSPLIT

change midi-channel number depending on note (and optionally transpose)

Change midi-channel number depending on note. The module keeps track of transposed midi-notes in case and sends note-off events accordingly if the range is changed even if a note is active. However the split-point and channel-assignments for each manual should only be changed when no notes are currently played.

Inputs

MIDI Midi In

Outputs

MIDI Midi Out

Controls

- Channel Lower
- Channel Upper
- Filter Channel
- Splitpoint
- Transpose Lower
- Transpose Upper

6.68. MIDI MAP KEY CHANNEL

12-tone channel map

12-tone channel map. Allow to change midi-channel per note. (Events other than note-on/off will be passed through as-is;currently there is no channel panic forwarding, nor note-off events when changing the channel-assignments dynamically)

Inputs

MIDI Midi In

Outputs

MIDI Midi Out

Controls

- A
- A♯
- B
- C
- C♯
- D
- D♯
- E
- F
- F♯
- G
- G♯

6.69. MIDI MAP KEY SCALE

flexible 12-tone note map

Flexible 12-tone map. Allow to map a note within an octave to another note in the same octave-range +- 12 semitones. Alternatively notes can also be masked (disabled). If two keys are mapped to the same note, the corresponding note on/events are latched: only the first note on and last note off will be sent. The settings can be changed dynamically: Note-on/off events will be sent accordingly.

Inputs

MIDI Midi In

Outputs

MIDI Midi Out

Controls

- A
- A♯
- B
- C

- C♯
- D
- D♯
- E
- F
- F♯
- Filter Channel
- G
- G♯

6.70. MIDI MAPCC

change one control message into another
Combine with scalecc to modify/scale the actual value.

Inputs

MIDI Midi In

Outputs

MIDI Midi Out

Controls

- Cc Input
- Cc Output
- Filter Channel

6.71. MIDI MONO LEGATO

hold a note until the next note arrives
Play the same note again to switch it off.

Inputs

MIDI Midi In

Outputs

MIDI Midi Out

Controls

- Filter Channel

6.72. MIDI NO ACTIVE SENSING

strip MIDI Active-Sensing events

Filter to block all active sensing events. Active sensing messages are optional MIDI messages and intended to be sent repeatedly to tell a receiver that a connection is alive, however they can clutter up the MIDI channel or be inadvertently recorded when dumping raw MIDI data to disk.

Inputs

MIDI Midi In

Outputs

MIDI Midi Out

6.73. MIDI NODUP

MIDI duplicate blocker.

Filter out overlapping note on/off and duplicate messages.

Inputs

MIDI Midi In

Outputs

MIDI Midi Out

Controls

- Filter Channel

6.74. MIDI NOTE TO CC

convert MIDI note-on messages to control change messages

Convert only MIDI note-on messages to control change messages (ignored in toggle mode).

Inputs

MIDI Midi In

Outputs

MIDI Midi Out

Controls

- Active Key (Midi-Note)
- Cc Parameter
- Filter Channel
- Ignore Note Off
- Operation Mode

6.75. MIDI NOTE TO CV

convert MIDI notes to v per octave pitch CVs

Inputs

MIDI Midi Input

Outputs

CV Gate, Pitch, Velocity

Controls

- Cent
- Channel
- Octave
- Panic
- Retrigger
- Semitone

6.76. MIDI NOTE TO PGM

convert MIDI note messages to patch/program change messages

Mode: Mapping from note to patch-change. This is either chromatic mapping start at the lowest note (C-1), or white-keys (C-major scale) starting at a given C.

Inputs

MIDI Midi In

Outputs

MIDI Midi Out

Controls

- Filter Channel
- Min Velocity
- Mode
- Offset

6.77. MIDI NOTE TOGGLE

toggle notes: play a note to turn it on, play it again to turn it off

Inputs

MIDI Midi In

Outputs

MIDI Midi Out

Controls

- Filter Channel

6.78. MIDI NTAP DELAY

repeat MIDI notes N times (incl tempo-ramps)

Inputs

MIDI Midi In

Tempo Bpm

Outputs

MIDI Midi Out

Controls

- Bpm
- Filter Channel
- Repeat-Time In Beats
- Repeats
- Velocity Ramp

6.79. MIDI ONE CHANNEL FILTER

basic MIDI channel filter

This effect repeats notes N times. Where N is either a fixed number or unlimited as long as a given key is pressed. BPM and delay-time variable allows tempo-ramps. On every repeat the given velocity-adjustment is added or subtracted, the result is clamped between 1 and 127.

Inputs

MIDI Midi In

Outputs

MIDI Midi Out

Controls

- Channel

6.80. MIDI QUANTIZE

live midi event quantization

Live event quantization. This filter aligns incoming MIDI events to a fixed time-grid. Since the effect operates on a live-stream it will introduce latency: Events will be delayed until the next "tick". If you provide tempo, the events are aligned to the clock otherwise the effect runs on its own time.

Inputs

MIDI Midi In

Tempo Bpm

Outputs

MIDI Midi Out

Controls

- Bpm
- Note-Off Behaviour
- Quantization Grid

6.81. MIDI RAND VELOCITY

randomly change velocity of note-on events

Randomize Velocity of MIDI notes (both note on and note off).

Inputs

MIDI Midi In

Outputs

MIDI Midi Out

Controls

- Filter Channel
- Random Mode
- Velocity Randomization

6.82. MIDI SCALE CC

modify the value (data-byte) of a MIDI control change message

Parameter (Min): lower end of parameter-range (inclusive)Parameter (Max): upper end of parameter-range (inclusive)Parameter Mode: 0 = Bypass, 1 = Include Range, 2 = Exclude RangeValue Mode: 0 = Clamp to 0..127, 1 = Reflect Overflow (-1 to 1, 128 to 127), 2 = Truncate Overflow (-1 to 127, 128 to 0)

Inputs

MIDI Midi In

Outputs

MIDI Midi Out

Controls

- Filter Channel
- Parameter (Max)
- Parameter (Min)
- Parameter Mode
- Value Mode
- Value Offset
- Value Scale

6.83. MIDI SOSTENUTO

delay note-off messages, emulate a piano sostenuto pedal

This filter delays note-off messages by a given time, emulating a piano sostenuto pedal. When the pedal is released, note-off messages that are queued will be sent immediately. The delay-time can be changed dynamically, changes do affects note-off messages that are still queued.Sostenuto [sec]: Time to delay the note-off signal.Pedal Mode: Mode of the sustain pedal. Fixed on (pedal pressed) or off (pedal released) for notes of all MIDI channels. The on/off state can alternatively be set by CC, in which case it is per MIDI-channel.

Inputs

MIDI Midi In

Outputs

MIDI Midi Out

Controls

- Filter Channel
- Pedal Mode
- Sostenuto [Sec]

6.84. MIDI STRUM

arpeggio effect intended to simulate strumming a stringed instrument (e.g. guitar)

A chord is "collected" and the single notes of the chord are played back spread out over time. The "Note Collect Timeout" allows for the effect to be played live with midi-keyboard, it compensates for a human not pressing keys at the same point in time. If the effect is used with a sequencer that can send chords with all note-on at the exactly time, it should be set to zero.BPM: base unit for the timeStrum Direction: 0 = Always Down (low notes first), 1 = Always Up (high notes first), 2 = Alternate, 3 = Up/Down Beat, 4 = Up/Down 8thNote Collect Timeout [ms]: Time to wait for chord to be "complete". Keys pressed

withing given timeframe will be combined into one chord.Strum Duration in Beats: 0 = Immediate, 0.125 = 32nd, 0.25 = 16th, 0.5 = Eighth, 1 = Quarter, 2 = Half Note, 4 = Whole NoteStrum Acceleration: Accellerate/Decelerate over the time of the strum. The total duration remains unchanged. If the value is greater than zero, early notes are further apart and later notes will be closer together.Velocity Change: Modify velocity over stroke time. If the value is greater than zero, later notes will played louder.Randomize Acceleration: Amount of randomization to apply to the accel/decel setting. A Value of 1.0 means to add a random-number of the full-range (-1..1) to the given value.Randomize Velocity: Amount of randomization to apply to the acceleation value. A value of 1.0 means to add a random-number of the full-range (-112..112) to the given value.

Inputs

MIDI Midi In

Tempo Bpm

Outputs

MIDI Midi Out

Controls

- Bpm
- Note Collect Timeout [Ms]
- Randomize Acceleration
- Randomize Velocity
- Strum Acceleration
- Strum Direction
- Strum Duration In Beats
- Velocity Change

6.85. MIDI TONAL PEDAL

Holds any notes that are currently played when the sustain pedal is pressed for as long as the pedal remains pressed.

Releasing the pedal sends Note-Off events. New notes played after presseing the pedal are not affected.

Inputs

MIDI Midi In

Outputs

MIDI Midi Out

Controls

- Forward Cc
- Pedal Cc

6.86. MIDI TRANSPOSE

chromatic transpose MIDI notes

Chromatic transpose of midi notes and key-pressure. If an inversion point is set, the scale is mirrored around this point before transposing. Notes that end up outside the valid range 0..127 are discarded.

Inputs

MIDI Midi In

Outputs

MIDI Midi Out

Controls

- Filter Channel
- Inversion Point
- Transpose

6.87. MIDI VELOCITY GAMMA

modify note velocity curve by a gamma exponent

Change the velocity of note events with separate controls for Note-on and Note-off. Velocities are first normalized to the range 0..1, then the gamma is applied as an exponent, and then the result is scaled back onto the 0..127 range. Higher gamma values produce a "softer" velocity curve, lower gamma values make the low end harder. Gamma = 0 effectively produces a constant velocity.

Inputs

MIDI Midi In

Outputs

MIDI Midi Out

Controls

- Channel
- Note-Off Gamma
- Note-On Gamma

6.88. MIDI VELOCITY RANGE

filter MIDI note events according to velocity

Note-on events outside the allowed range are discarded. If a Note-off is received for a note that was previously filtered, it is also not passed though. If the allowed range changes, note-off events are sent to currently active notes that end up outside the valid range.

Inputs

MIDI Midi In

Outputs

MIDI Midi Out

Controls

- Filter Channel
- Max Volume
- Min Volume
- Operation Mode

6.89. MIDI VELOCITY SCALE

modify note velocity by constant factor and offset

Change the velocity of note events with separate controls for Note-on and Note-off. The input range 1 - 127 is mapped to the range between Min and Max. If Min is greater than Max, the range is reversed. The offsets value is added to the velocity event after mapping the Min/Max range.

Inputs

MIDI Midi In

Outputs

MIDI Midi Out

Controls

- Channel
- Note-Off Max
- Note-Off Min
- Note-Off Offset
- Note-On Max
- Note-On Min
- Note-On Offset

6.90. MIN

min of a, b also logical and

Inputs

CV A Cv, B Cv

Outputs

CV Output

Controls

- A
- B

6.91. MONO EQ

Mono multiband parametric EQ

Inputs

Audio In

Outputs

Audio Out

Controls

- Bandwidth 1
- Bandwidth 2
- Bandwidth 3
- Bandwidth 4
- Enable
- Frequency 1
- Frequency 2
- Frequency 3
- Frequency 4
- Gain
- Gain 1
- Gain 2
- Gain 3
- Gain 4
- Highpass
- Highpass Frequency
- Highpass Resonance
- Highshelf
- Highshelf Bandwidth
- Highshelf Frequency
- Highshelf Gain
- Lowpass
- Lowpass Frequency
- Lowpass Resonance
- Lowshelf
- Lowshelf Bandwidth
- Lowshelf Frequency
- Lowshelf Gain
- Reset Peak Hold
- Section 1
- Section 2
- Section 3
- Section 4

6.92. MONO CAB

Mono cab sim

Inputs

CV Output Gain

Audio In

Outputs

Audio Out

Controls

- /Audio/Cabs/1X12Cab.Wav
- Output Gain

6.93. MONO COMPRESSOR

RMS downward compressor with auto markup

Inputs

Audio In

Outputs

Audio Out

Controls

- Attack Time
- Enable
- Hold
- Input Gain
- Ratio
- Release Time
- Threshold

6.94. MONO REVERB

Mono convolution based reverb.

Inputs

CV Output Gain

Audio In

Outputs

Audio Out

Controls

- /Audio/Reverbs/Emt 140 Dark 1.Wav
- Enabled
- Output Gain

6.95. MULTI RESONATOR

Resonator building block simulating multiple vibrating structures. Based on Rings by Mutable Instruments.

Please see the original module manual for more details.

This video is helpful: https://youtu.be/00lHt1JiRvk.

Inputs

CV Brightness Mod, Damping Mod, Frequency Mod, Pitch, Position Mod, Structure Mod, Strum

Audio In

Outputs

Audio Even, Odd

Controls

- Brightness
- Brightness Mod
- Damping
- Damping Mod
- Frequency
- Frequency Mod
- Internal Exicter
- Polyphony

- Position
- Position Mod
- Resonator
- Structure
- Structure Mod

6.96. NOTE SEQUENCER

16 Step note sequencer with internal clock

Inputs

CV Back Gate, Play, Reset Trigger

Tempo Bpm

Outputs

CV Value Out

Controls

- Back
- Bpm
- Loop Steps
- Note Length
- Octave
- Play
- Value 0
- Value 1
- Value 10
- Value 11
- Value 12
- Value 13
- Value 14
- Value 15
- Value 2
- Value 3
- Value 4
- Value 5

- Value 6
- Value 7
- Value 8
- Value 9

6.97. NOTE SEQUENCER EXT

16 Step note sequencer that takes in a trigger for next or previous

Inputs

CV Back Trigger, Reset Trigger, Step Trigger

Outputs

CV Value Out

Controls

- Loop Steps
- Octave
- Value 0
- Value 1
- Value 10
- Value 11
- Value 12
- Value 13
- Value 14
- Value 15
- Value 2
- Value 3
- Value 4
- Value 5
- Value 6
- Value 7
- Value 8
- Value 9

6.98. ONSET DETECT

detects when a note starts and sends a trigger

Inputs

Audio In

Outputs

CV Gate

Controls

- Onset Threshold
- Silence Threshold

6.99. OOG HALF LPF

A low pass filter inspired by vintage American designs

Inputs

CV Cutoff Cv, Q Cv
Audio In

Outputs

Audio Out

Controls

- Cutoff
- Q

6.100. PAN

Control signal controlled panner

Inputs

CV Pan Cv
Audio In

Outputs

Audio Out L, Out R

Controls

- Pan Offset

6.101. PHASER

Basic phaser

Inputs

Audio Audio Input 1

Outputs

Audio Audio Output 1

Controls

- Color
- Dry/Wet Mix
- Feedback Bass Cut
- Feedback Depth
- Lfo Frequency

6.102. PHASER EXT

Mono phaser controlled by CV input

Inputs

CV Lfo Cv
Audio Audio Input 1

Outputs

Audio Audio Output 1

Controls

- Color
- Dry/Wet Mix
- Feedback Bass Cut
- Feedback Depth

6.103. PHASER STEREO EXT

Stereo phaser controlled by CV input

Inputs

CV Lfo Cv

Audio Audio Input 1, Audio Input 2

Outputs

Audio Audio Output 1, Audio Output 2

Controls

- Color
- Dry/Wet Mix
- Feedback Bass Cut
- Feedback Depth
- Stereo Phase

6.104. PITCH CAL IN

Pitch Calibration for a v per oct input

Inputs

CV Input

Outputs

CV Output

Controls

- Measure
- Offset
- Scale

6.105. PITCH CAL OUT

Pitch Calibration for a v per oct output

Inputs

CV Input

Outputs

CV Output

Controls

- Offset
- Scale

6.106. PITCH DETECT

BETA detects played notes and converts it volt per octave and MIDI

Inputs

Audio In

Outputs

CV Gate, V/Oct Pitch
MIDI Midi Out

Controls

- Onset Threshold
- Pitch Detection Tolerance
- Silence Threshold

6.107. PITCH SHIFT

a basic pitch shifter. It delays the input signal

Inputs

CV V/Oct Pitch
Audio Input

Outputs

Audio Output

Controls

- Dry Level
- Semitone Shift
- Wet Level

6.108. PITCH VERB

A special effects algorthmic reverb, featuring longer tails than the convolution reverb. Based Parasites Oliverb firmware of Mutable Intruments Clouds module.

This eurorack based algorithmic reverb is designed to be modulated by control values. It's great for special effects, and general weirdness. It isn't well suited to realistic sounds. It's capable of pitch shifting and self oscilliation.

Please see the original module manual for more details.

This video is helpful: https://youtu.be/apgmvYbG_zQ.

Inputs

CV Blend, Damp, Decay, Diffusion, Hold, Modulation Amount, Modulation Speed, Pitch, Reverse, Size, Trigger, Pre-Delay

Audio L In, R In

Outputs

Audio L Out, R Out

Controls

- Blend
- Damp
- Decay
- Diffusion
- Hold
- Modulation Amount
- Modulation Speed
- Pitch
- Pre-Delay
- Reverse
- Size

6.109. POLY NOTE TO CV

convert poly MIDI notes to v per octave pitch CVs

Inputs

MIDI Midi Input

Outputs

CV Gate 1, Gate 2, Gate 3, Gate 4, Pitch 1, Pitch 2, Pitch 3, Pitch 4, Velocity

Controls

- Cent
- Channel
- Octave
- Panic
- Semitone

6.110. POWER AMP CREAM

An attempt at a cream coloured power amp emulation.

Inputs

Audio In

Outputs

Audio Out

Controls

- Bass
- Level
- Treble
- Volume

6.111. POWER AMP SUPER

An attempt at a power amp emulation

Inputs

Audio In

Outputs

Audio Out

Controls

- Bass
- Gain
- Treble
- Volume

6.112. PRODUCT

a times b for control signals

Inputs

CV A Cv, B Cv

Outputs

CV Output

Controls

- A
- B

6.113. QUAD IR CAB

Requires quad channel IR. You do not want this unless you have special IRs

Inputs

CV Gain
Audio Inl, Inr

Outputs

Audio Outl, Outr

Controls

- /Audio/Cabs/1X12Cab.Wav
- Gain

6.114. QUAD IR REVERB

Convolution reverb. Quad channel IRs required.

Inputs

CV Output Gain

Audio Inl, Inr

Outputs

Audio Outl, Outr

Controls

- /Audio/Reverbs/Emt 140 Dark 1.Wav
- Enabled
- Output Gain

6.115. QUANTIZER

quantize a v/oct signal to a musical scale.

Feed in an LFO to make it play specific notes instead of smoothly changing between pitches

Inputs

CV Input

Outputs

CV Changed, Output

Controls

- A
- A♯
- B
- C
- C♯
- D
- D♯
- E
- F
- F♯
- G
- G♯

6.116. RATIO

a divided by b for control signals

Inputs

CV A Cv, B Cv

Outputs

CV Output

Controls

- A
- B

6.117. RECTIFY VALUE

rectify or get the absolute value of the input.

Inputs

CV A Cv

Outputs

CV Output

6.118. RESONESTOR

dual voice four part resonator. Based on Parasite firmware of Clouds by Mutable Intstruments.

Please see the original module manual for more details.

This video is helpful: https://youtu.be/VOd5zx_WDyA.

Inputs

CV Chord, Decay, Filter, Harmonics, Pitch, Random Mod, Reverse, Scatter, Spread, Switch Voice, Timbre, Trigger

Audio L In, R In

Outputs

Audio L Out, R Out

Controls

- Chord
- Decay
- Filter
- Harmonics
- Pitch
- Random Mod
- Reverse
- Scatter
- Spread
- Switch Voice
- Timbre

6.119. REVERSE

Reverse effect. Try short fragment length for weird tremolo

Inputs

CV Dry Level, Wet Level

Audio Input

Outputs

Audio Output

Controls

- Dry Level
- Fragment Length
- Wet Level

6.120. ROTARY

A rotating loudspeaker using physical modelling. Same sound as advanced.

Inputs

CV Drum Brake, Drum Speed, Horn Brake, Horn Speed
Audio Input

Outputs

Audio Left Output, Right Output

Controls

- Drum Level
- Drum Stereo Width
- Enable
- Horn Level
- Motors Ac/Dc

6.121. ROTARY ADVANCED

A rotating loudspeaker using physical modelling. Same sound, more controls.

Inputs

CV Drum Brake, Drum Speed, Horn Brake, Horn Speed
Audio Input

Outputs

Audio Left Output, Right Output

Controls

- Drum Acceleration
- Drum Brake Position
- Drum Deceleration
- Drum Filter Type
- Drum Level
- Drum Radius
- Drum Speed Fast
- Drum Speed Slow
- Drum Stereo Width
- Enable
- Frequency
- Frequency
- Frequency
- Gain
- Gain
- Gain
- Horn Acceleration
- Horn Brake Position
- Horn Deceleration
- Horn Filter-1 Type
- Horn Filter-2 Type
- Horn Level
- Horn Radius
- Horn Signal Leakage
- Horn Speed Fast
- Horn Speed Slow
- Horn Stereo Width
- Horn X-Axis Offset
- Horn Z-Axis Offset
- Link Speed Control
- Microphone Angle
- Microphone Distance
- Motors Ac/Dc
- Q
- Q
- Q

6.122. SAMPLE HOLD

sample and hold a CV value when a gate goes high

Inputs

CV Gate, Input

Outputs

CV Gate, Output

Controls

- Trigger Level

6.123. SATURATOR

Nonlinear saturation and soft limiting.

Inputs

CV Postgain, Pregain

Audio Input

Outputs

Audio Output

Controls

- Postgain
- Pregain

6.124. SLEW LIMITER

Slows how fast a control signal changes. Useful with foot switches.

Inputs

CV In

Outputs

CV Out

Controls

- Time Down
- Time Up

6.125. STEP SEQUENCER

16 Step sequencer with internal clock

Inputs

CV Back Gate, Play, Reset Trigger

Tempo Bpm

Outputs

CV Value Out

Controls

- Back
- Bpm
- Glide
- Loop Steps
- Note Length
- Play
- Value 0
- Value 1
- Value 10
- Value 11
- Value 12
- Value 13
- Value 14
- Value 15
- Value 2
- Value 3

- Value 4
- Value 5
- Value 6
- Value 7
- Value 8
- Value 9

6.126. STEP SEQUENCER EXT

16 Step sequencer that takes in a trigger for next or previous

Inputs

CV Back Trigger, Reset Trigger, Step Trigger

Outputs

CV Value Out

Controls

- Glide
- Loop Steps
- Value 0
- Value 1
- Value 10
- Value 11
- Value 12
- Value 13
- Value 14
- Value 15
- Value 2
- Value 3
- Value 4
- Value 5
- Value 6
- Value 7
- Value 8
- Value 9

6.127. STEREO EQ

Stereo multiband parametric EQ.

Inputs

Audio In Left, In Right

Outputs

Audio Out Left, Out Right

Controls

- Bandwidth 1
- Bandwidth 2
- Bandwidth 3
- Bandwidth 4
- Enable
- Frequency 1
- Frequency 2
- Frequency 3
- Frequency 4
- Gain
- Gain 1
- Gain 2
- Gain 3
- Gain 4
- Highpass
- Highpass Frequency
- Highpass Resonance
- Highshelf
- Highshelf Bandwidth
- Highshelf Frequency
- Highshelf Gain
- Lowpass
- Lowpass Frequency
- Lowpass Resonance
- Lowshelf

- Lowshelf Bandwidth
- Lowshelf Frequency
- Lowshelf Gain
- Section 1
- Section 2
- Section 3
- Section 4

6.128. STEREO CAB

Stereo cab sim. You normally do not want this. Requires stereo IRs.

Inputs

CV Output Gain

Audio In

Outputs

Audio Outl, Outr

Controls

- /Audio/Cabs/1X12Cab.Wav
- Output Gain

6.129. STEREO COMPRESS

RMS downward compressor with auto markup

Inputs

Audio In Left, In Right

Outputs

Audio Out Left, Out Right

Controls

- Attack Time
- Enable
- Hold
- Input Gain
- Ratio
- Release Time
- Threshold

6.130. STEREO PHASER

Basic stereo phaser

Inputs

Audio Audio Input 1, Audio Input 2

Outputs

Audio Audio Output 1, Audio Output 2

Controls

- Color
- Dry/Wet Mix
- Feedback Bass Cut
- Feedback Depth
- Lfo Frequency
- Stereo Phase

6.131. STEREO REVERB

Stereo convolution reverb

Inputs

CV Output Gain

Audio In

Outputs

Audio Outl, Outr

Controls

- /Audio/Reverbs/Emt 140 Dark 1.Wav
- Enabled
- Output Gain

6.132. SUM

a + b for control signals

Inputs

CV A Cv, B Cv

Outputs

CV Output

Controls

- A
- B

6.133. TEMPO RATIO

ratio between a tempo, like 3/4 to input tempo

Inputs

Tempo Input Tempo

Outputs

Tempo Output Tempo

Controls

- A
- B

6.134. THRUZERO FLANGE

Through Zero Flanger.

Inputs

CV Depth, Depth Mod, Feedback, Mix, Rate

Audio Left In, Right In

Outputs

Audio Left Out, Right Out

Controls

- Depth
- Depth Mod
- Feedback
- Mix
- Rate

6.135. TIME STRETCH

A granular time stretching and pitch shifting module. Based on Parasite firmware of Clouds by Mutable Instruments.

Please see the original module manual for more details.

This video is helpful: https://youtu.be/6ltvGv43J3A.

Inputs

CV Blend, Diffusion, Filter, Freeze, Pitch, Position, Reverb, Reverse, Size, Spread, Trigger, Feedback

Audio L In, R In

Outputs

Audio L Out, R Out

Controls

- Blend
- Diffusion
- Feedback
- Filter
- Freeze
- Pitch
- Position
- Reverb
- Reverse
- Size
- Spread

6.136. TOGGLE

toggles the output value on every trigger

Inputs

CV Trigger

Outputs

CV Out Gate

6.137. TRIGGER TO GATE

Takes in a trigger and outputs a gate with a length related to the tempo
The gate length is how much of a bar is taken up assuming tempo is quarter notes

Inputs

CV Gate Length Cv, Trigger
Tempo Tempo

Outputs

CV Gate Out

Controls

- Gate Length
- Tempo

6.138. TUNER

A tuner suitable for tuning guitar or other instruments

Inputs

Audio Audio Input

Outputs

MIDI Midi Mts Sysex

Controls

- Enabled
- Mode
- Thresholdfft
- Thresholdfundamental
- Thresholdoctave
- Thresholdoverride
- Thresholdpostfilter
- Thresholdrms
- Thresholdvertones
- Tuning A440

6.139. TURNTABLE STOP

Simulates turning off a turntable. Connect a control to pull the plug.

Inputs

CV Decay Time, Pull The Plug

Audio Audio In

Outputs

Audio Audio Out

Controls

- Decay Curve
- Decay Time
- Pull The Plug

6.140. TWIST DELAY

A delay where speed and length interact with quality. Based on Parasite firmware of Warps by Mutable Instruments.

Please see the original module manual for more details.

This video is helpful: https://youtu.be/baHiSGgszQ4.

Inputs

CV Dry Wet Cv, Feedback Cv, Length Cv, Speed Direction Cv

Audio In 1, In 2

Outputs

Audio Out 1, Out 2

Controls

- Dry Wet
- Feedback
- Length
- Mode
- Speed Direction

6.141. VCA

simple voltage controlled amplifier

Inputs

CV Gain

Audio Input

Outputs

Audio Output

Controls

- Gain

6.142. VIBRATO

vibrato with internal LFO

Inputs

Audio In

Tempo Bpm

Outputs

Audio Out

Controls

- Bpm
- Feedback Gain
- Invert
- Max Notch1 Freq
- Min Notch1 Freq
- Notch Depth
- Notch Freq Ratio
- Notch Width
- Phase
- Vibrato Mode

6.143. VIBRATO EXT

vibrato with CV LFO

Inputs

CV Lfo Cv

Audio In

Outputs

Audio Out

Controls

- Feedback Gain
- Invert
- Max Notch1 Freq
- Min Notch1 Freq
- Notch Depth
- Notch Freq Ratio
- Notch Width
- Vibrato Mode

6.144. VINYL

Emulate dirty old lo-fi vinyl records. Bit CPU hungry but fun

This is not good for nice clean stuff...

Inputs

CV Vol Crinkle, Vol Motor, Vol Noise, Vol Rumble, Vol Static, Vol Crackle

Audio In L, In R

Outputs

Audio Out L, Out R

Controls

- Aging
- Aging Frequency
- Crackle
- Crinkle
- Motor
- Noise
- Pitch Crackle
- Pitch Crinkle
- Pitch Noise
- Pitch Rumble
- Rumble
- Static

6.145. WARMTH

Tube triode emulation

Inputs

CV Drive, Tape–Tube Blend

Audio Input

Outputs

Audio Output

Controls

- Drive
- Tape–Tube Blend

6.146. WAVEFOLDER

Chebyshev wave folder. Based on Parasite firmware of Warps by Mutable Instruments.

Please see the original module manual for more details.

This video is helpful: https://youtu.be/baHiSGgszQ4.

Inputs

CV Input Amp 2 Cv, Input Amp Cv, Input Bias Cv, Num Fold Cv

Audio Carrier, Modulator

Outputs

Audio Aux, Out

Controls

- Amp Or Freq
- Input Amplitude 2
- Input Bias
- Int Osc
- Number Of Folds

6.147. WET DRY

blend between two inputs

Inputs

CV Level, Wet Dry Blend

Audio Dry, Wet

Outputs

Audio Out

Controls

- Level
- Shape
- Wet Dry

6.148. WET DRY STEREO

blend stereo inputs to stereo out

Inputs

CV Level, Wet Dry Blend

Audio Dry L, Dry R, Wet L, Wet R

Outputs

Audio Out L, Out R

Controls

- Level
- Shape
- Signal A/B