

MLRV DOCUMENTATION

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based on MLR by brian crabtree
with assistance from %

>>>

this software is open-source to encourage ongoing improvements and collaborations of all kinds (as this project itself is). please help improve this program by posting bugs to the monome forum in the mlrV topic, or to galapagoose@gmail.com. if you want this software to continue to improve, please join the programming team or send your thoughts and ideas through, no matter how vague or unrealistic.

donations are welcome but not necessary

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www.monome.org

QUICKSTART

1. open monomeserial (or similar router)
2. open mlrV
3. *Windows only: select your monome with the monome-chooser in the far bottom right - it should turn orange*
4. select your soundcard in the lower right options box
5. hit 'dac' - it will turn green and the CPU meter to the right should start moving
6. drop samples into the upper right box labeled 'drop'
7. select samples by clicking the 'input_x' dropdown menus
8. press the corresponding row (plus 1) on the monome
9. the top row is a control row

OPTIONS

located in the lower right of the interface

there are 4 tabs named *mlr*, *midi/osc*, *tilt* and *fx*

mlr

dsp: controls MaxMSP's internal dsp settings

- select your soundcard with the dropdown menu in the top left
- *overdrive* should be turned on to avoid dropped presses
- *interrupt* should be turned on to allow pattern recorders to function correctly
- audio vector sizes can be chosen to taste
 - larger sizes mean higher latency
 - smaller sizes mean higher CPU
- *CPU* meter shows the utilisation of your computers

audio recorder: *will stream the output of 'master' to your HD as an .aiff or .wav file (OS dependent)*

- click **save** and choose the desired location
- click **start** and begin your performance
- when finished press **stop** to finish writing audio

gui: *controls visual interface (and some performance controls)*

- **show wave grid** turns the loop point control on and off and hides the step dividers
- **mouse mode** controls the response of drawing with the mouse on the waveform (see ROW)
 - sel: click and drag the desired section. hold shift to adjust nearest point
 - loop: change length by dragging up/down, change position by dragging left/right
- **no. of groups** adds 2 additional group busses (incomplete)

pattern recorders: *allows looping of button presses*

- number represents how many beats in the loop
- **record group stops** allows group kills to be recorded (especially useful for 'slice mode')

information: *allows looping of button presses*

- click **/mlr** to set the prefix in monomeserial
- **license** displays licensing information
- click **fullscreen** to enter fullscreen mode
 - currently only displays at 1024x768 but will display in screen stretch mode shortly
 - can also enter by pressing F11

monome_size: *adapts interface to your connected monome*

- If you have monomeserial open when you load mlr-V it will update automatically
- otherwise you can press the monome you have connected
- NB: on windows auto-selection will not occur - just click the correct box for your system
- **IMPORTANT: this is required before presets will function properly**
- If you press the 256 or vertical128 '+8rows' will display
 - press this button to pop out an additional 8 rows

midi/osc

- **clocksource** chooses between internal and rewire timing engine
- **send midi sync** will enable another program to slave to mlr-V
 - choose your midiout channel and turn on

tilt

1. select your model (either 40h w/ added accel. or 64)
2. turn calibrate on and rotate your monome to all angles
3. place on a flat surface and press centre
 - Options are available to change response

fx *allows expansion of standard mlr-V functionality*

- select your insert from the dropdown
- toggle bypass to turn on your insert
- click **1** or **2** to switch between two different inserts
- included in the base package is a framework which demonstrates the available hooks
- also included is a simple example filter with resonance

- *please read the `_framework.maxpat` in `/inserts` for more information*

MONOME CONTROLS

8wide: *for 40h, 64 and vertical128*

- **0-3:** group stops: press to stop the associated group's sample
- **4,5:** pattern recorders
 - press once to arm recorder
 - recording begins on first button press for the length selected
 - once recording has finished tap button again to stop
 - to overdub hold the recorder button down whilst playing new notes for the sequence
 - after overdubbing is complete release the button and it returns to normal function
- **6:** presets
 - hold button **6** and tap **5** (back) or **7** (forward) to step through presets
- **7:** delay send
 - tap button **7** to turn on the delay sends
 - tap again to turn off
 - alternatively, you can hold button **7** down for momentary delay send
- **tilt:** whilst holding button **7** (delay):
 - x-axis rotation controls the delay filter frequency
 - y-axis rotation controls the delay feedback value
- **tilt:** whilst holding button **6** (preset):
 - x-axis rotation shifts tempo up and down in small increments
 - y-axis rotation controls group volumes
 - hold button **6** then hold the group stop you wish to change the volume of
 - tilt forward to increase volume, or backwards to decrease
 - the further you tilt, the faster the volume will change
 - release buttons to return to normal functionality

16wide: *for horizontal128 and 256*

- **0-5:** as above
- **6:** delay send
 - tap button **6** to turn on the delay sends
 - tap again to turn off
 - alternatively, you can hold button **6** down for momentary delay send
- **7:** delay feedback
 - press and hold button to increase to maximum feedback setting
 - release button to fall back to preset level
- **8-13:** audio recorder (or use in inserts)
 - tap button to record into the relevant input
 - button **8** = input_1, button **9** = input_2 etc.
 - these buttons are accessible in the inserts framework and as such may be repurposed
- **14:** presets and volume down
 - hold button **14** and tap **13** (back) or **15** (forward) to step through presets
 - hold button **14** and tap a group stop button to decrease that groups volume
- **15:** volume up

- hold button **15** and tap a group stop button to increase that groups volume

CHANNELS

functions

1. **rec**: press this button to record into the relevant buffer
 - the first 6 channels record into input buffers
 - the last 2 record into a resampler to mix down the currently playing audio into a loop
2. **select all**: click this button to select the whole sample in the waveform loop selector
3. **file**: click the file name to enter the dropdown menu that shows all samples that have been loaded
 - simple click the name of the sample you wish to use on the row
4. **steps**: controls how many slices in the sample
 - change this control when using samples in alternative time signatures
5. **octave**: shifts the speed and pitch up or down by a factor of 2
6. **reverse**: play the sample backwards
7. **speed**: shows current play speed where 1 is original speed
 - click and drag to unlock sample from tempo and force loop to play at a particular speed
8. **unlock**: uses granular slice sampling to allow pitch to be adjusted individually from time
 - currently non-functional, though a release is planned in the near future
9. **transpose**: the sample can be pitch adjusted by a semitone amount. 0 is no shift.
10. **play mode**: 3 play modes are available for samples:
 - **loop**: traditional mlr style looping playback. the sample will repeat when it reaches the end
 - **shot**: the sample will play from the chosen slice to the end of the sample and then stop
 - **slice**: the slice will play when held and continue through the loop until released
 - NB: this is equivalent to button-release pressing the group-stop button
11. **group**: select which group (1-4) the audio should be sent to
 - only one sample from any group can play at once
 - samples can therefore cancel each other when set to the same group

waveform - realtime sample slicer

- the waveform behind each channel displays the currently loaded sample
- the white / light grey grid is used to show the slice points of the loop (divided by number of slices)
- a red play marker will display the currently playing slice
- click and drag on the waveform to set new loop points for the sample
 - use shift click to adjust the nearest loop point
- alternatively **loop mode** can be used by selecting it in the 'mlr' tab of the options section
 - in loop mode dragging vertically will adjust the total length of the loop
 - dragging horizontally will move the loop selection left or right.
 - this mode is particularly suited for live manipulation
 - slice mode is intended more for preparation and production uses

GROUPS

faders

- each group control consists of 2 volume faders:
 - one fader (green) adjusts normal volume with the dB level shown below the group number
 - the second fader (blue) adjusts the delay send volume and functions after the volume fader
 - in this manner delay can be added only to the parts one desires
- the mute button at the bottom of each group control can be toggled on and off to stop all sound
- if your monome has tilt functionality you can hold the **6** (preset button), press the group and tilt forward or backward to change volume

audio routing

- all audio channels have control over their routing destination
- click **master** to open a dropdown menu of all available routing destinations
 - these destinations are master plus any stereo pair output of your selected soundcard
 - your soundcard will be queried and auto-fill the available options
- all groups default to **master** sending their audio via the master fader and inserts
- these options allow individual channels to be output on individual hardware outputs
- alternatively, it allows individual channels to be output via soundflower or rewire

INPUT RECORDER

general

- the volume fader functions as per group faders
- **thru** can be switched in to play the audio from the soundcard / microphone to the selected output
- the top left number displays the audio loop length in beats
- **loop** turns on continuous loop recording
 - this is useful if you record a button press pattern and then record continuous audio into the buffer
- **overdub** adds the currently inputting audio to the current resample track
- input source is a drop down to select your input (eg. microphone / input jack)
- **channel number** allows selection of the input channel that you desire

DELAY

general

- the delay fader operates as per the group the faders
- **delay** below the fader indicates whether the delay sends are turned on and sending audio
- delay destination can be routed as any other channel by setting the dropdown menu in the volume slider
- the delay send button on the monome can be latching or momentary (see monome functions)

in the delay box

top section: low-pass filter

- each feedback repeat passes through this filter, removing more treble on each pass

- the filter slope can be controlled by clicking on the dark middle section and dragging left / right
- to add resonance to the filter, click the edge of the dark section and drag towards the centre
- NOTE: be careful with resonance as it can result in very loud feedback and distortion

middle section: 3 sliders controlling the response on the monome

- the **left vertical slider** controls the speed at which feedback increases as you hold the feedback button
- the **middle horizontal slider** controls the range of feedback available (from 0 - 100%)
 - control this by clicking and dragging across the range you wish to use
 - the dark green line shows you what the current feedback level is
- the **right vertical slider** controls the speed at which feedback decreases as you release the button
- **tilt mode:** y-axis rotation moves from:
 - 0% feedback when backward (-1); to,
 - % set by left bracket of middle slider when flat (0); to,
 - % set by right bracket of middle slider when forward (1).

bottom section: delay length with 2 styles

- **sync**
 - click the number of semiquavers (16th notes) desired for delay time
 - can drag the % setting up or down by up to 33.3%
- **time**
 - click 'sync' and it will display 'time'
 - drag the number of milliseconds to the delay from 1ms to 800ms

TIME

tempo

- the large number sets the current tempo
- tap the **number boxes** above to adjust the tempo by preset amounts
- if your monome has tilt functionality hold **6** (preset button) and tilt side to side to change tempo

quantize

- button presses can be locked to the beat to allow tightly locked loops
- quantize requires that a button is pressed slightly before it is intended to be triggered
- if you prefer to play with rubato or swing it is recommended that you set this setting to 'none'

microfade

- when audio is resliced by mlr it can create clicks caused by not having slices on zero-crossings
- these clicks can be quite musical though in some circumstances are more of an annoyance
- this setting crossfades between samples whenever a new button press is received
 - settings of between 1 and 2 are typically enough to remove most clicks
 - higher settings can be used for sounds with lots of bass energy
 - these higher settings should be avoided if not required though as the impact of sounds can be lost
- the setting is in milliseconds

PRESETS

general

- NB: old mlr2 presets will not work in mlrV
 - a patch to convert old files will be provided shortly
- located above the tempo section
- **preset number** shows which preset is currently selected
- **arrows** allow navigation forward and backward through saved presets
- **preset name** shows the name of the currently selected preset

saving presets

- once you have your preset correctly set on the channels you should store a 'next tempo'
- click the **number box** and type the tempo for the current preset
- press **store** to write the preset to the buffer
- you will be prompted to name your preset
 - when you load your presets you can click **set** to move to the presets predefined tempo

saving

presets:

- set up all the channels you desire and click **store**
- you will be prompted to name your preset
- press enter to store into the buffer

next tempo: a predefined tempo can be set for any preset

- click the number box titled **next tempo** and type the tempo of current preset
- you will need to press store again to save this number
- pressing **set** will change mlrV's tempo to the next tempo instantly
- alternatively you can control next tempo on the monome itself
 - double click the second to last button (preset button) in your monome's control row
 - the light should turn on
 - mlrV will now update to your next tempo on the first button press
 - if you have armed the next tempo and then want to disarm, simply tap it again

save your set:

- in order to save your set for the next time you open mlrV you need to write your presets to a file
- after your presets have been stored, you should push **save**
- you will be asked to designate where to save your set and give it a filename
- after doing so 2 files will be created:
 - one will be the file you created
 - the second will be the file you created with a '_flist' suffix
- when you wish to reload your set press **load**
 - then select the file you saved (not the file with '_flist' on the end)
- if you have modified your set you may wish to overwrite your old set with the new one
- press **resave** and the old file will be overwritten with your updated set

FILE HANDLER

drop

- in order to load samples into mlrV drop them into the top-right box labeled *drop*
- files will then be available in the drop down menu as well displayed in the file menu
- the file menu shows all files that are currently loaded into RAM
- *loaded* displays how many files there are in total
- *up* and *down* allow you to scroll through the loaded files to see what you have and haven't loaded

CREDITS

mlr was originally written by Brian Crabtree

mlrV was fundamentally based on mlr2 and it is not a complete rewrite

substantial amounts of code were borrowed from Brian's work, as well as large amounts of inspiration.

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mlrV has been REFACTORED by Trent Gill over the course of 2008 after desiring a more detailed visual display to accommodate easier live performance. mlrV was exclusively written in MaxMSP 5 to take full advantage of the improvements to timing and graphical user interface.

mlrV is still a work in progress and there is some very specific functionality that is still missing or incorrectly functioning. These issues should be ironed out over a short period of time though this is dependent upon external workloads.

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throughout the process discourse and consultation has flowed across the interwebs with particular artistic guidance and help flowing from %. inspiration for such an intuitive delay interface would not have been possible without these contributions.

>>>see: <http://rhombus.mytrellis.com/>

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