Midinous

Non-linear Sequencer

User Manual

Version 1.1.7.0

Written by: Jae “Nornec” Rin
Edited By: Leila Emery
With help from: Jordan Byron, Benn Jordan, Thomas Loupe

Table of Contents

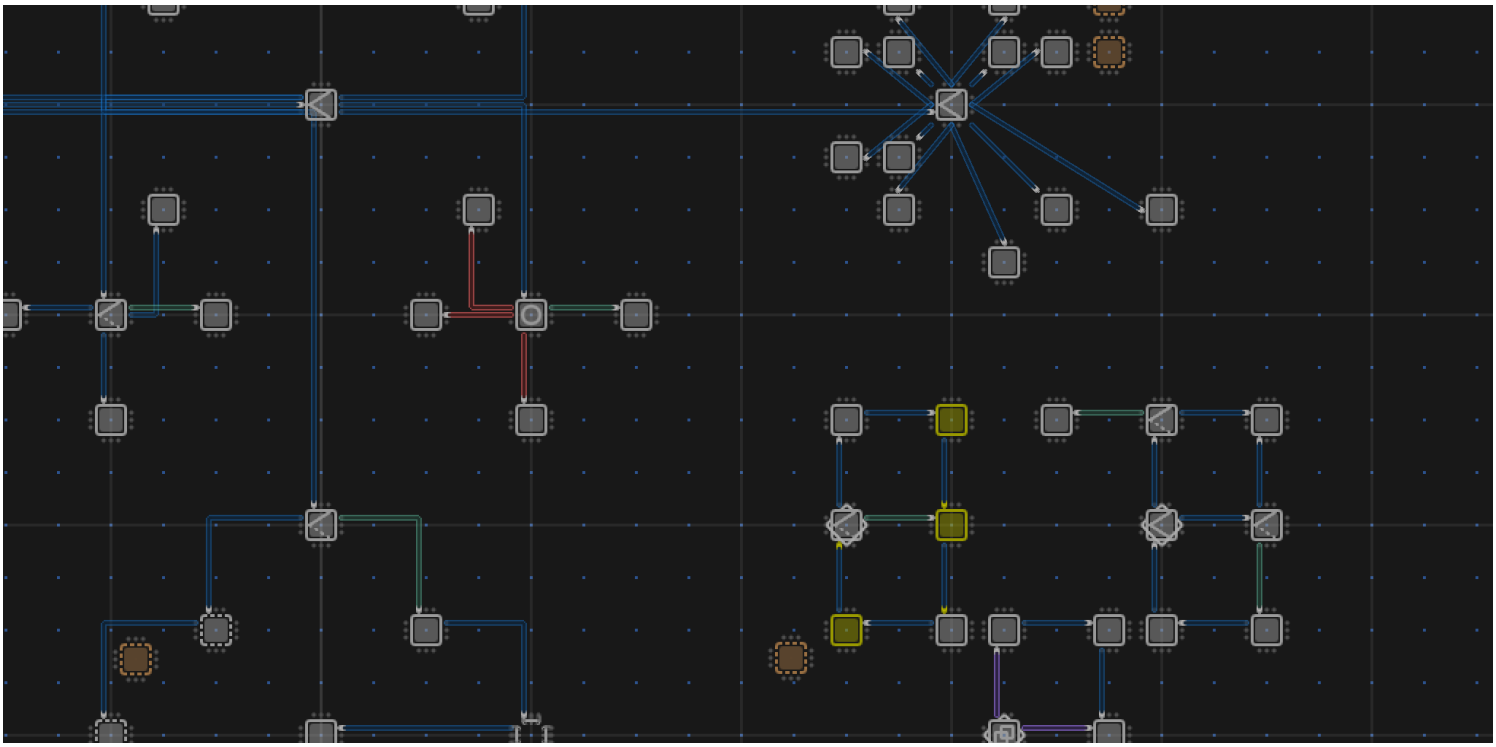
What is Midinous?

Midinous (-nous as in ‘Goose’) is a non-linear MIDI (Musical Instrument Digital Interface) sequencer allowing users to create expansive, looping, complex, sequences that don’t subscribe to a definite timeline. Rhythm is determined only by a user’s imagination. Midinous can, however, still send MIDI clock messages to sync up devices and software.

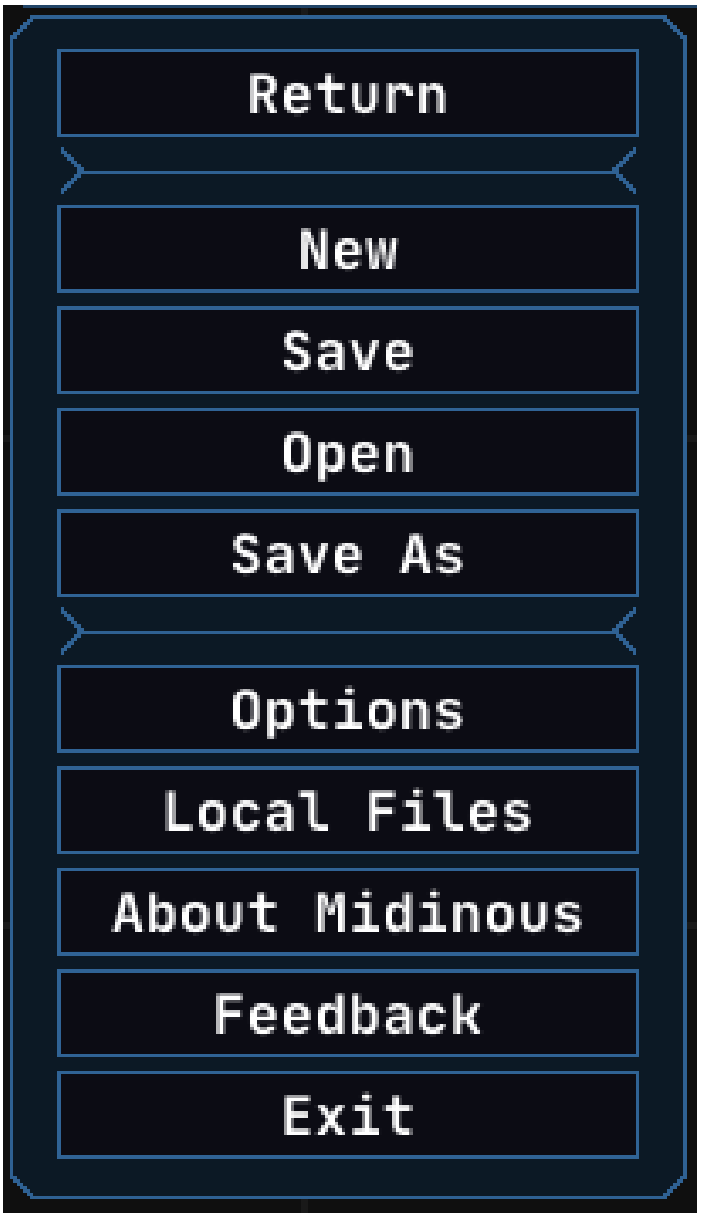
It's not a DAW, nor can it make more than simple sounds with its "Internal Synth" option, but it generates MIDI data meant to be sent to other applications.

Midinous emulates a hardware MIDI controller by creating its own MIDI Input/Output port on a computer, removing the need for 3rd-party software to channel MIDI data. Launch Midinous, and it can start sending MIDI data within seconds!

Midinous works on a grid system where the distance between each grid Point is a quarter note (by default). Arrange objects called ‘Points’ and connect them together with ‘Paths’ to quickly create complex looping or branching sequences of MIDI data. Branch to Points randomly or instantly, split signals, or have signals travel in order. Turn snapping mode off for complex rhythms and odd timing. Watch as objects called ‘Travelers’ traverse a branching sequence; visualize when the next MIDI will trigger in real time. When logic gates get involved, sequences are brought to the next level of control.



Exploring Menus



Pushing the Escape key, or clicking the **Main Menu** button in the top left, will open the main menu. There, you will see several menu items. **Return** closes the Main Menu.

New, **Save**, **Open**, and **Save As** are Document controls. New will start a new document. Save, Open, and Save As, will present different options for document control, as well as expose presets and autosaves.

Options will open a pane where you can configure general settings, such as audio device, key bindings, appearance settings, and startup settings.

Local Files opens the user folder containing your settings, logs, and saves.

About Midinous will take you to the Midinous website (https://midinous.com).

Feedback opens a dialog where you can submit your ideas, bugs, or send comments.

Exit closes the software. Midinous will prompt you to save any unsaved changes before closing.

Note: While the Main Menu is open, the canvas and controls are locked.

Open, Save, Save As

Clicking the **Open** button from the **Main Menu** will bring you to the file management pane, where you can open documents and save them. You can also delete documents by selecting one and choosing **Delete** from the bottom of the menu. Note: You cannot delete presets, and when using **Save As**, you must supply a name for your document.

A specific set of presets come with Midinous - you can access those by clicking the **Presets** button on the right side of the menu. If opening an existing document, and your current document has unsaved changes, the program will prompt you and ask if you are sure you want to continue. There is no way to undo a document load, so be careful with your saves!

For more information about accessing files, view the **Local Files** page.

Autosaves are accessible via the **Autosaves** button. A maximum of 12 autosaves will be accessible, constituting the last hour of work. Autosaves trigger every 5 minutes.

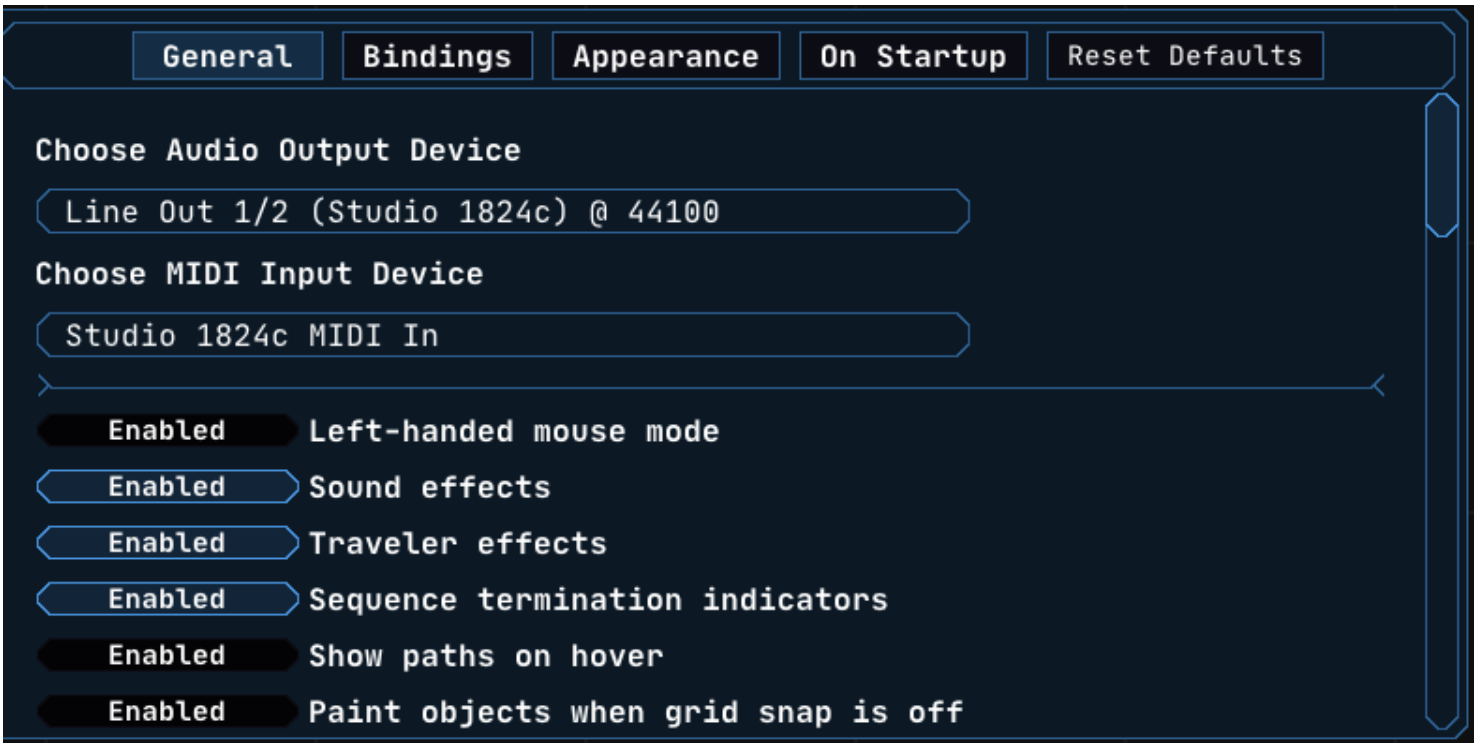
General Options Pane

After clicking the **Options** button, the options side pane will extend, which looks like the image below. The current category is highlighted at the top.

Shown here are **General** options. These include behavioral options which change the way Midinous functions. The first item you will see at the top is the Audio Output Device selection. Choosing a different device will automatically swap over to using it.

Similarly, the MIDI Input Device selection allows you to pick any connected MIDI device as an input. Keep in mind that when selecting a MIDI Input Device, you will receive an error message if it is already in use, such as when the device is being used by another program.

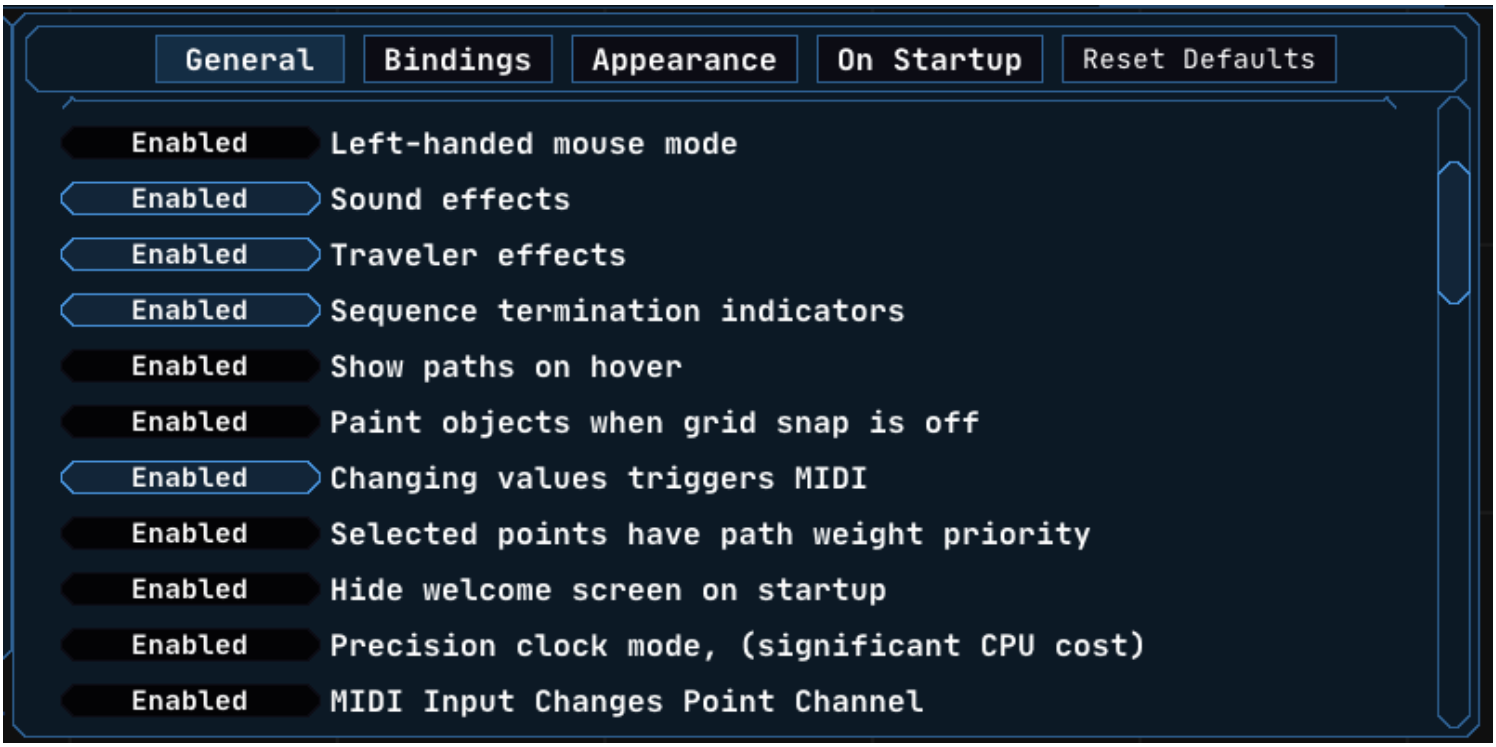
There may be instances where the audio device will conflict with an already-running program. It is best to choose an audio device that is not in use. Midinous needs an audio device to run its MIDI functions.



General Options

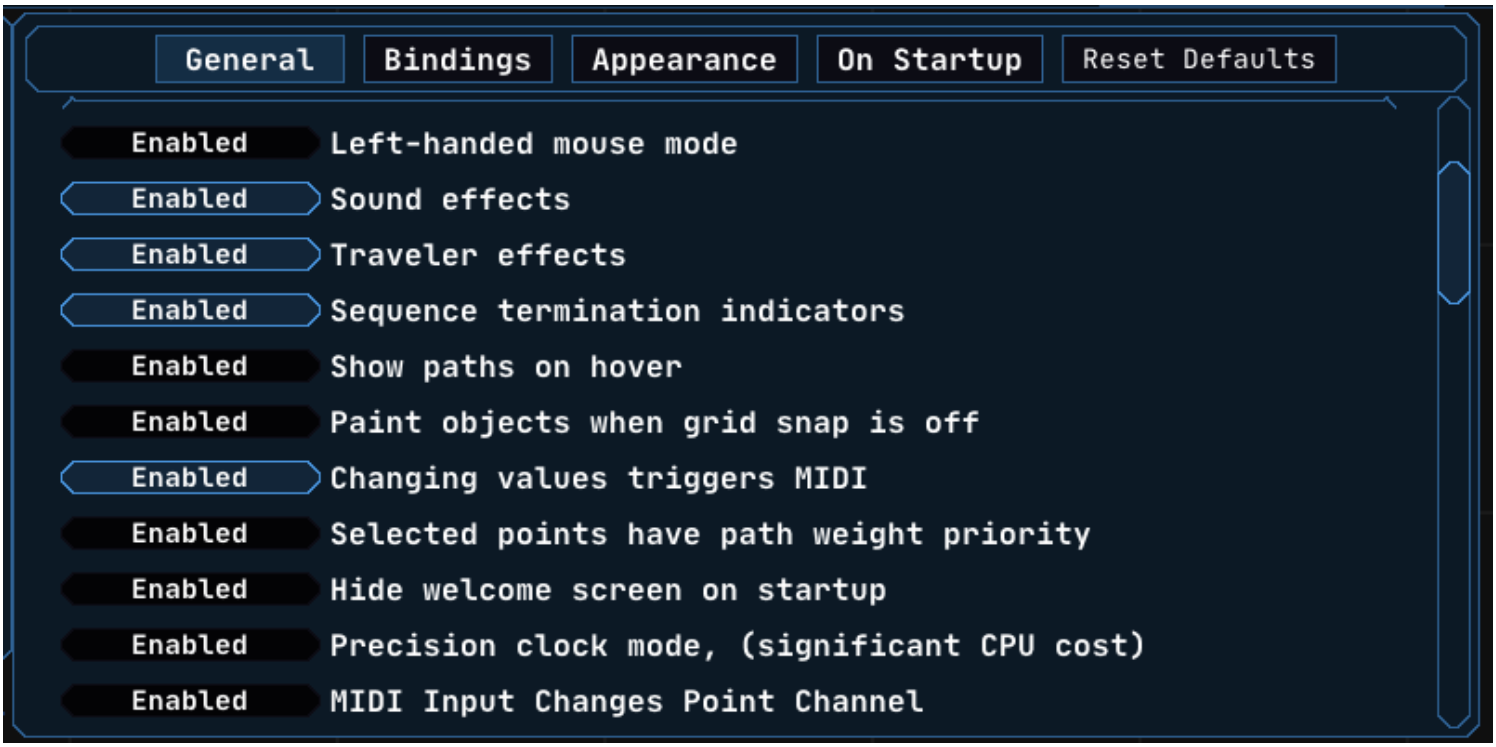
Toggle-able items are just below the audio device selections.

- **Left-handed mouse mode** - Reverses the behavior of mouse clicks, swapping right with left. This is not always needed on some setups, so experimenting with this option is recommended.
- **Sound effects** - Midinous comes with several sound effects for placing Points, moving Points, creating Paths, and more. If enabled, these effects will play.
- **Traveler effects** - Enables or disables Traveler trails on individual Travelers. This can have a hefty impact on performance - if you are running into issues, turn this off.
- **Sequence termination indicators** - Indicators will show Points where no Path leads out of them. These indicators flash when hovering over the **Start Button** and when pressing play.
- **Show Paths on hover** - Highlights Paths going to and from a Point when hovering over a Point. This offers a quick way to see Path connections.
- **Paint objects when grid snap is off** - Enables continuous placement of Points when snapping is turned off. If off, only one Point will be placed with each click.



More General Options

- **Changing values triggers MIDI** - Determines whether, when using quick actions to change Point values, MIDI will be sent.
- **Selected Points have Path weight priority** - When **Path Weight** is turned on in the **Toolbox**, only selected Points will have their Paths' weight shown. If this option is off, Path weights will always show, regardless of selection.
- **Hide welcome screen on startup** - If you haven't chosen to hide the Welcome Window, you can enable this option to do so. If you want it to re-appear on startup, toggle this option off.
- **Precision clock mode (significant CPU cost)** - Enables a very precise clock that can be used when recording MIDI or sending MIDI data to other programs. This, however, comes at increased CPU usage (usually about 20% more CPU).
- **MIDI Input Changes Point Channel** - When sending MIDI input to the program, channel data may come with it. Use this option to ensure channel data is applied to objects when sent to Midinous. The default is off.

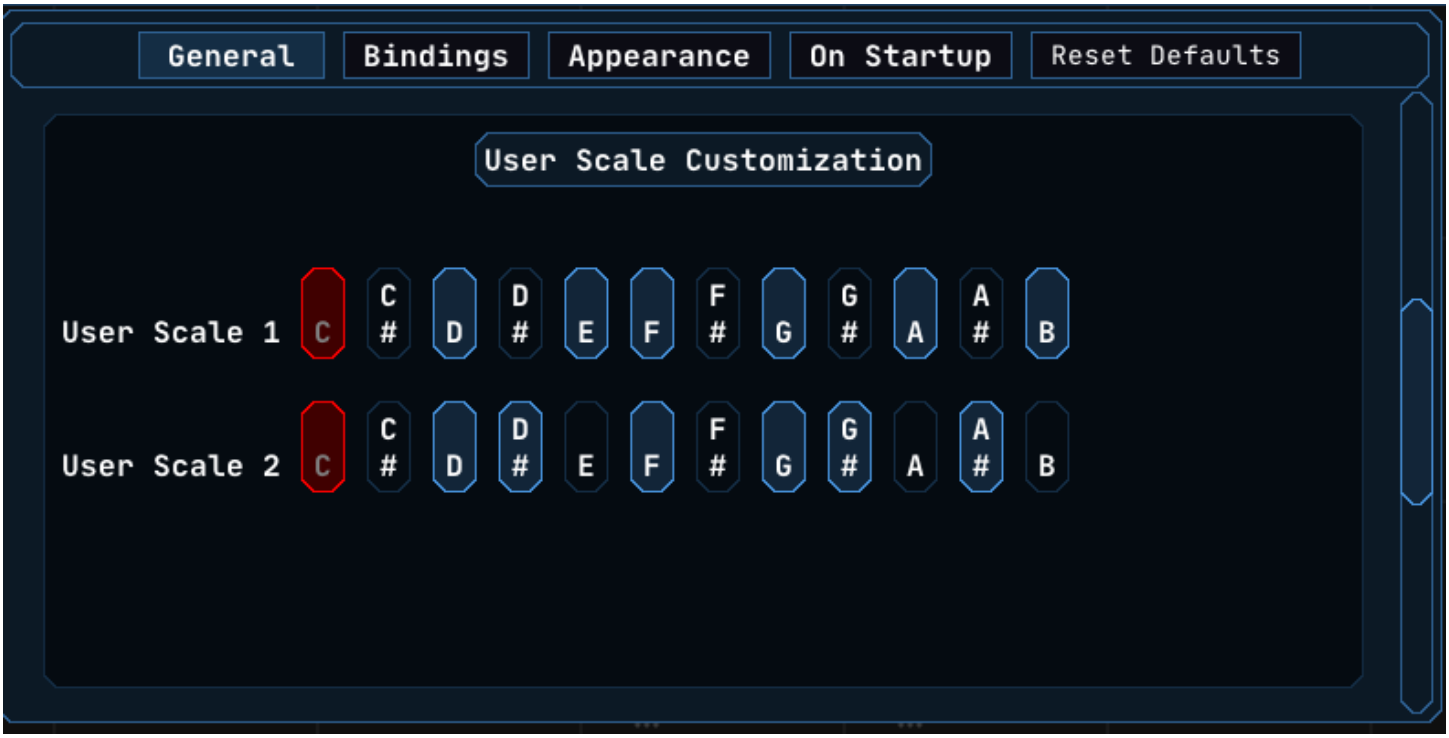


User-defined Scales

Below the general options, you will see an area where you can define custom scales to be used in the program. These will be listed with the rest of the scales in places where scales can be selected (**Performance Pane** and **Relative Changes**).

The root note of C is always selected - consider the scales to always be defined in terms of intervals, but starting at C. The document root (or relative changes root) will automatically translate these scales when needed.

To set a custom scale, simply enable or disable intervals at your leisure. Below is an example of two custom scales: one set to Ionian and the other Aeolian (User scale 1 and 2, respectively). Disabling all intervals will leave only octaves. Enabling all intervals will effectively recreate a chromatic scale.

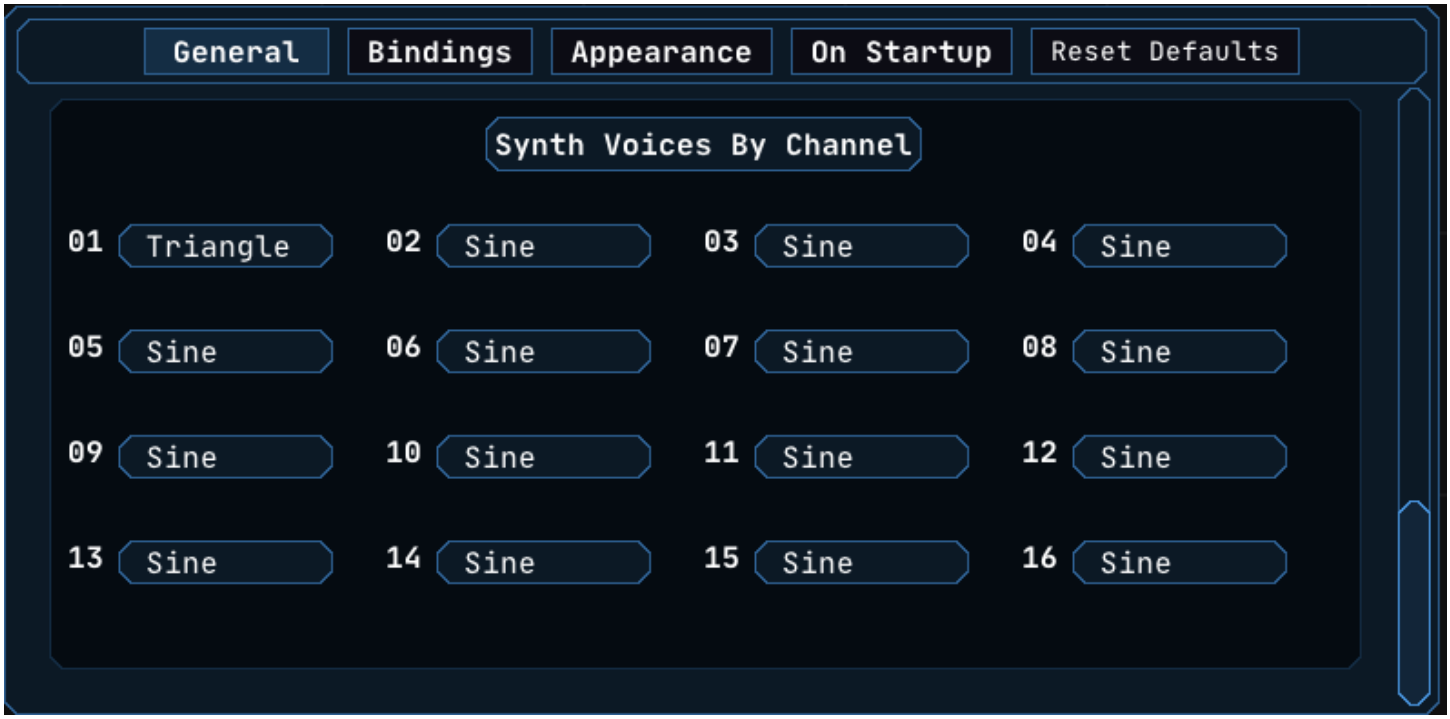


Waveforms Per Channel

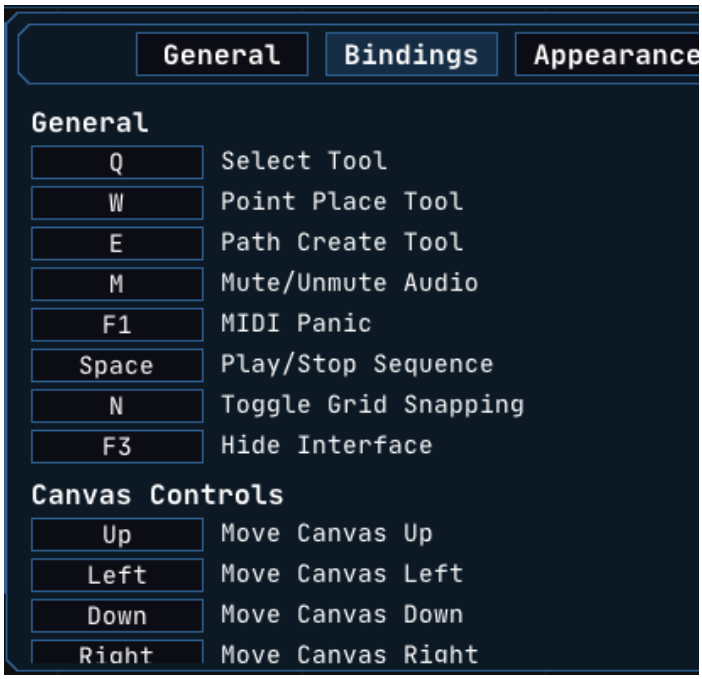
Each channel in Midinous can have its waveform defined independently. This affects only the **Internal Synth**. For each of the 16 available MIDI channels, choose which waveform will play based on the MIDI channel.

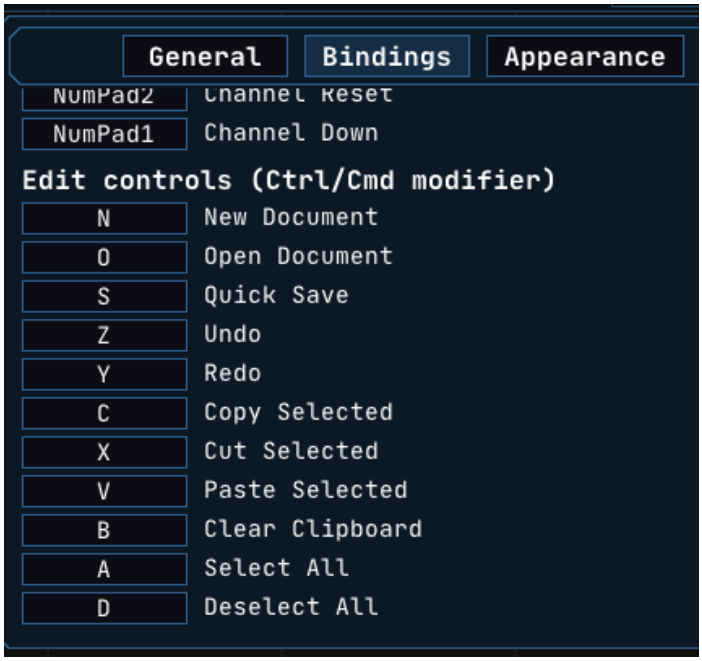
Midinous can utilize a 16-voice basic internal synth, with different voices per channel (channel is configured on **Points**).
Waveforms you can choose from:

- Sine
- Triangle
- Square
- Sawtooth
- Ramp (reverse Sawtooth)
- Noise
  - Noise isn't pure white noise. Think of it instead like a random waveform every time a Point needs to play a sound.



Key Bindings





After selecting **Bindings** from the Options navigation, all available bindings in the program will be listed.

To change a binding, click a box next to the control that you want to remap. A window will open prompting you to push a new key.

Hitting any key on a keyboard (other than Escape) will map that key to the control. Any control that was previously mapped to that key will be un-mapped and then listed as “None”.

A special kind of binding requires a Control/Command key modifier to function. Bindings changed in this section can be assigned the same key as others not in this section. For example, you can bind **Open Document** as “Q”, but “Q” will also (by default) change to the **Select Tool** when using the Canvas.

Appearance, Look, Feel

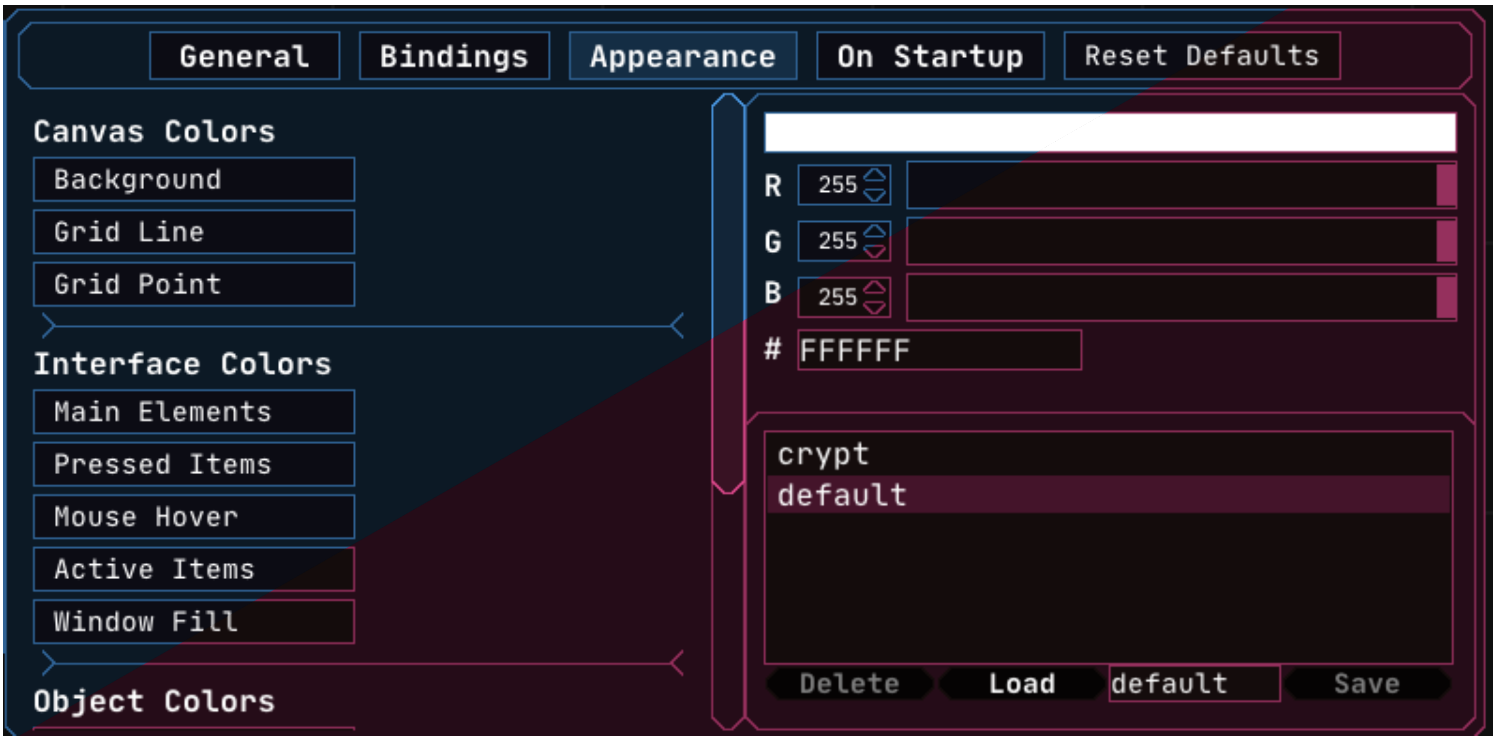
To change appearance settings, choose **Appearance** from the options at the top of the pane.

Choose a User Interface item on the left to activate the color picker on the right. The color picker will be set to the current color of the item that you choose on the left. Moving the sliders on the color picker (or typing a hex color value in the text box) will change the User Interface style in real time!

Sliders represent **Red**, **Blue**, and **Green** in different quantities (RGB). The text field denoted by "#" is for hex color codes.

Changing the color of certain elements will dynamically set the text color of the element from white to black (or vice versa).

Advanced: When using the hex color fields, only hex characters are allowed (0-9 and A-F). Unless all six characters of the hex color code are entered, the color will be black (a value of '000000').



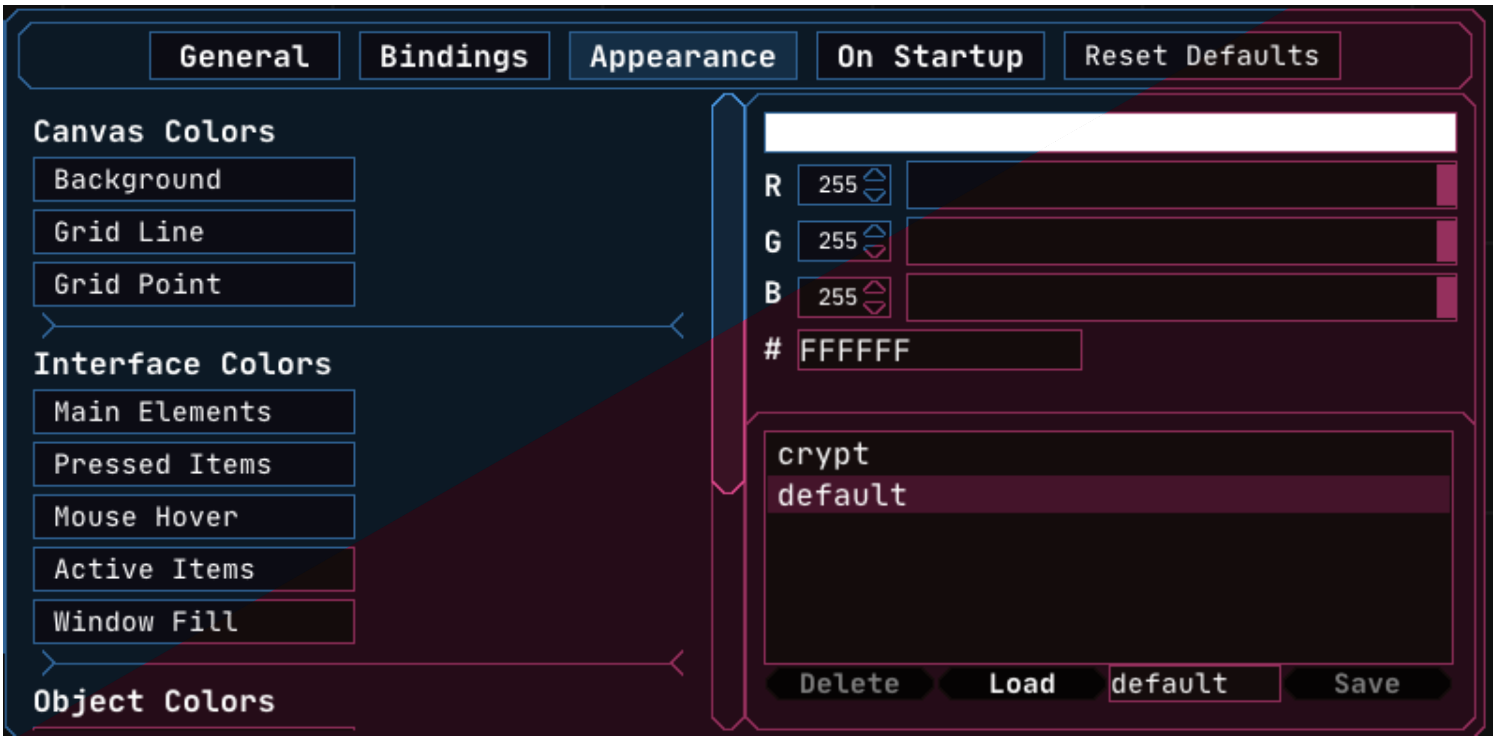
Theme Chooser

You can save the current theme by giving it a name (other than ‘default’) and clicking **Save** in the bottom right of the menu.

You can load any saved theme (and delete theme) via the same dialog.

The program comes with several installed themes, but you can install as many as you like from other users by placing theme in your user directory. More info on where themes are stored can be found in the **Local Files** section.

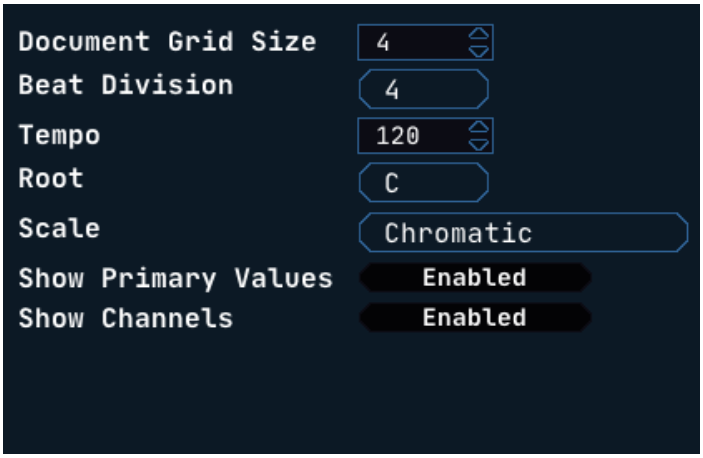
Loading a theme immediately changes the appearance of the program. If you don’t like the changes you’ve made, you can select the default theme from the list, or you can use the **Reset Defaults** button.



Startup and Reset

To change settings that will be applied with every program start, choose **On Startup** from the top of the Options pane.

Choose different startup options for new Documents. You can select from the size of the grid rule with **Document Grid Size**, the speed of Travelers via **Beat Division**, the **Tempo** in beats per minute, the global **Root** setting, and the global **Scale** setting. Additional options include showing **Primary Values** and/or **Channel** numbers by points.



To reset settings for any (or all) of the different options categories, choose **Reset Settings** from the top of the Options Pane. A dialog will pop up, asking you to confirm which options you would like to reset. Choose at least one of the categories, and hit **Accept** to reset those settings.

Performance Controls

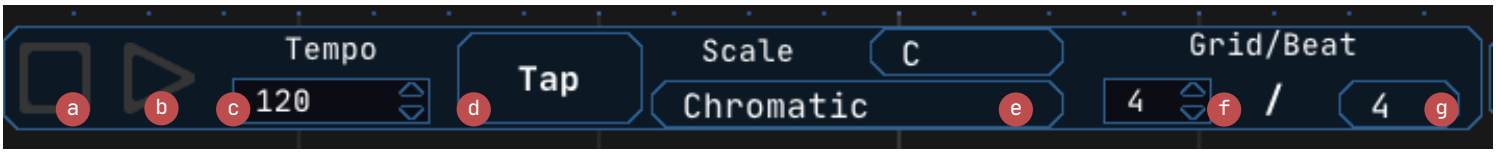
While not viewing the Main Menu, the Performance controls pane can be seen at the top of the program's window. The Scale and Root selectors allow you to set a musical mode within the sequence that will apply to any Point objects that either have "Force Scale" applied or have Relative Values specified.

Choose from a wide variety of scales, from Two-semitone Tritone, to Persian. The default mode is in the root of C and uses a Chromatic scale. The default for new projects can be configured using Startup settings.

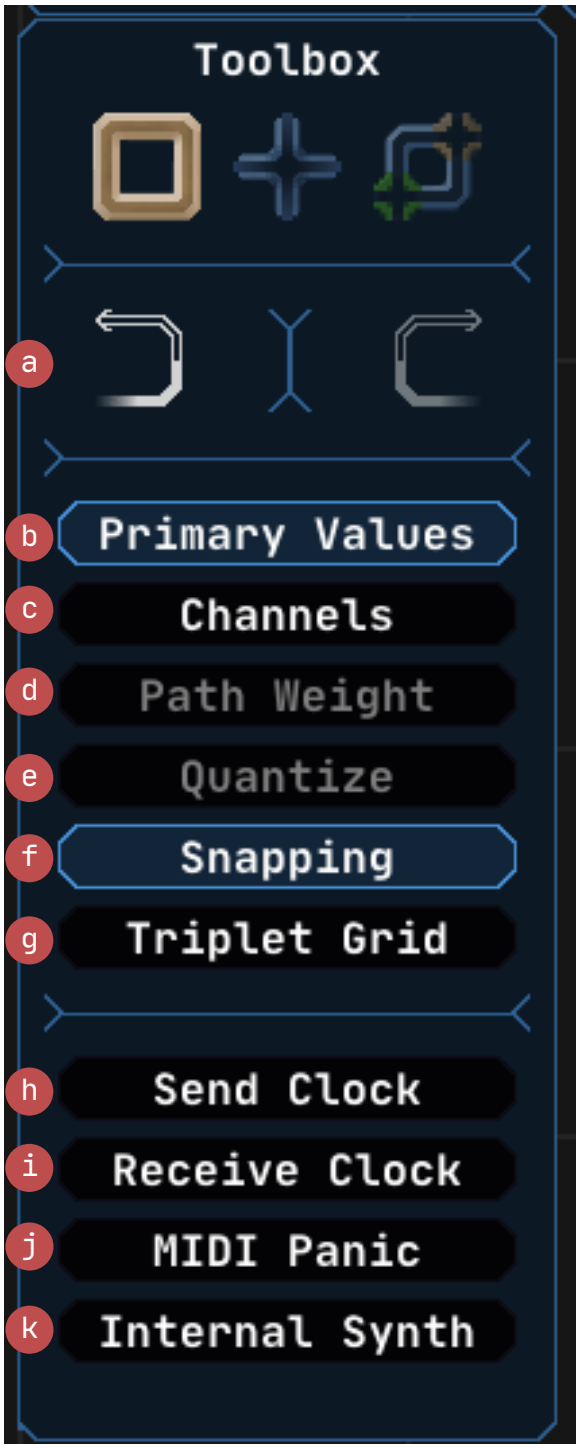
Note that the scale and root selectors will **not** have an effect unless you have Point objects set accordingly as described above. These controls have a large effect on the overall behavior of the sequence as it propagates. Changing the grid rule [f] is a visual aid only, but changing the beat division [g] will speed up or slow down the sequence in powers of two. Below are the controls:

a) Stop the sequence
b) Start the sequence
c) Control the tempo in beats per minute
d) Tap multiple times to calculate tempo
e) Set a document-wide scale or root
f) Change grid rule size
g) Change beat division (can also be considered Traveler speed multiplier)

At the bottom of the main view, the Status Pane will show the current X,Y coordinate of the mouse cursor, tips when hovering over objects, and the current sequence time and song position.



The Toolbox



The **Toolbox** contains mouse controls for most of the actions you can take on the main canvas. Undo, redo, snap Points to the grid, enable MIDI clock, and even create Control Groups. Choose the Select Tool, Place Tool, or Path tool (left to right) by clicking the corresponding tool.

a) Undo and Redo

b) Displays a note name overlay for Points if not using Relative Values

c) Replace Point Labels with MIDI Channel data

d) Show Paths' weight property

e) Snaps all selected Points to the nearest grid Points (if applicable)

f) Enable/disable snapping to the grid for the Place Tool

g) Temporarily replaces the default grid with a triplet grid, allowing the placement of triplet-spaced Points instead of quarter notes

h) Send Clock (24ppqn) out to **Midinous Clock Port**, the MIDI port created when Midinous opens

i) Receive MIDI start and stop messages (no clock) to lightly sync Midinous to external gear. Midinous receives MIDI on **Midinous Clock Port**

j) Send a MIDI Note Off message on every channel and every note to **Midinous Port**

k) Turn on the Internal Synth to play simple sounds when the sequence plays. Configure these sounds in the **General Options Pane**

Control Groups

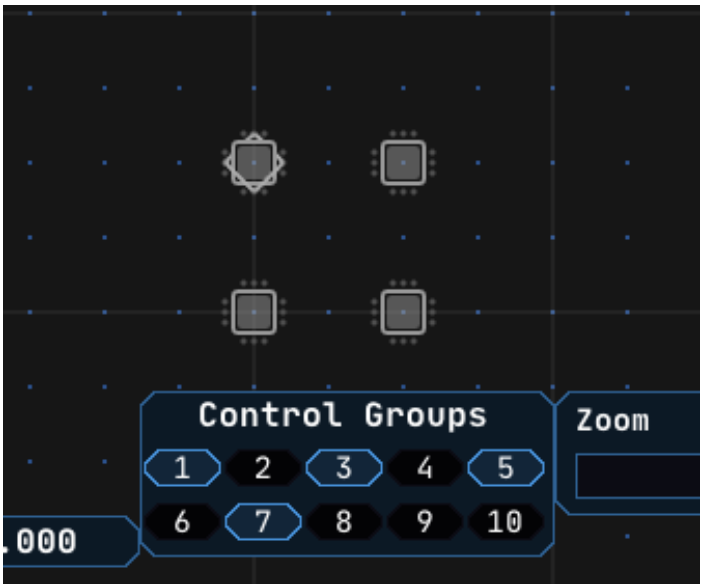
Much like some Real-time Strategy (RTS) games allow you to control multiple groups of pawns, Midinous allows you to group Points together into Control Groups.

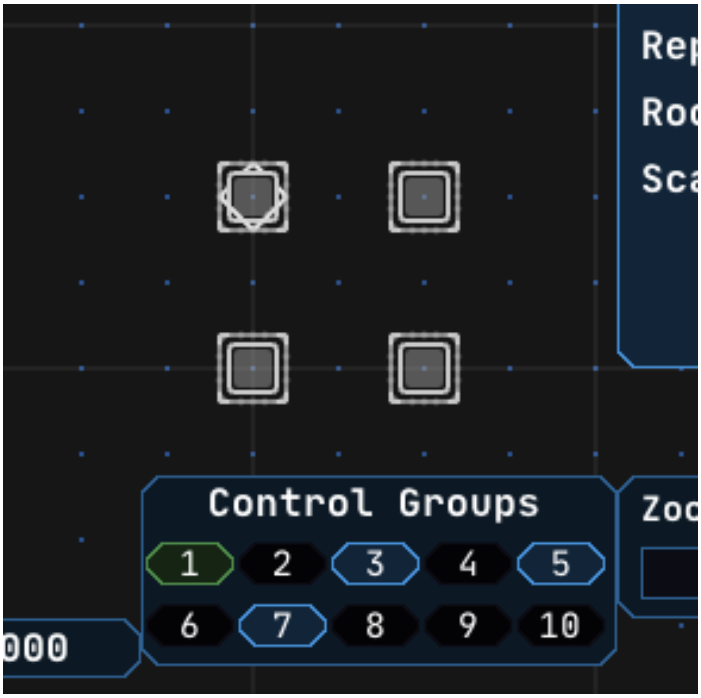
The Control Group display, located in the bottom right of the screen near the Zoom controls, shows all currently active Control Groups. Active Control Groups (groups with at least one point in them) will be highlighted. Points can be in multiple groups!

Long-press with the mouse or keyboard command (Control/ Command + 1-0) to set a Control Group. Press a number (by default) to recall a Control Group. At least one Point needs to be selected to set a control group. All Points in the new group will flash when the control group is set.

Once Control Groups are set, recalling one will select all Points in the group. Tapping a control group twice, with the mouse or the keyboard, will pan to the centroid (or center point) of grouped Points.

Control groups make it useful to break large sequences into chunks to make them easier to manage and modify. This is especially useful if you intend to perform live.





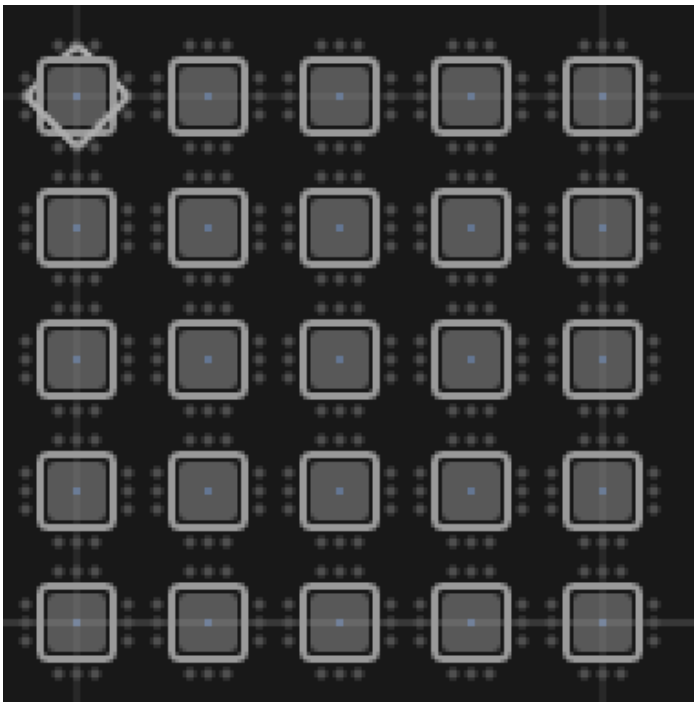
The Place Tool

The first tool you will be introduced to uses the little ‘plus’ cursor. This is the **Place Tool**, and it allows you to place what are called **Points** onto the grid in Midinous.

To place Points, simply hold down the primary mouse button and release, or hold the mouse button and continually draw Points onto the canvas.

The location of the Point to be placed is denoted by a green reticle floating under the placement tool. If snapping is on, each Point will be snapped to the nearest grid point. If snapping is off, drawing will look more akin to a paintbrush.

Note: Each Point has a unique coordinate. Two Points cannot occupy the same space. Attempting to place a Point where one already exists will not create a new Point. This even applies when snapping is off. The coordinate system allows for Points to be placed very close to one another, but not on top. If no Point is yet placed, the first Point placed will always be a Starting Point.



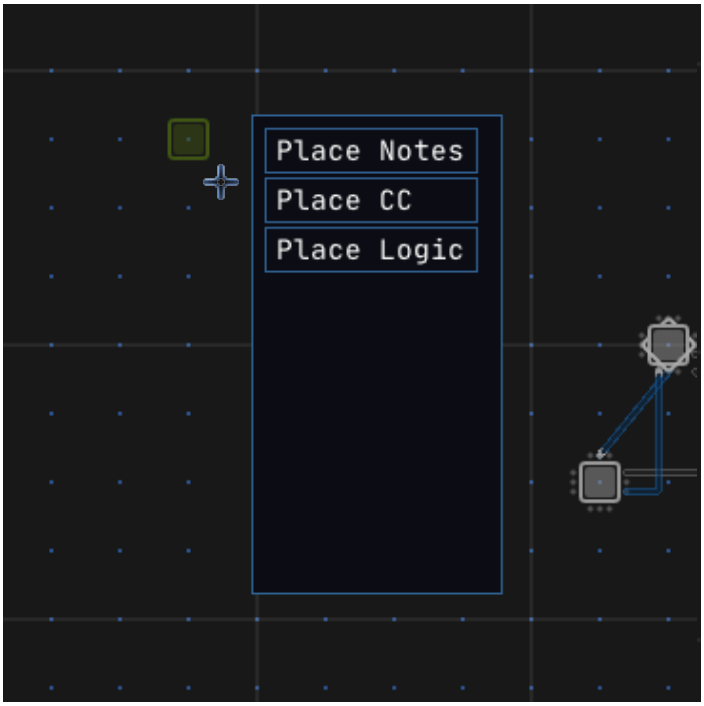
Placing Other Types

There are several types of Points that can be placed, each with their own set of properties and behaviors. Only the placing of these objects is covered here, but these different Points are covered later on in the document.

To place different objects, either choose a different type from the sub menu to the right of the toolbox, or right click while using the place tool to open a context menu with the different available selections.

You have the option to place Note objects (square), CC objects (circle), or Logic objects (denoted by an XOR gate).

The green placement reticle will change depending on which Point type you've chosen to place. The actual placing of the Points is otherwise the same.



Basic Selection

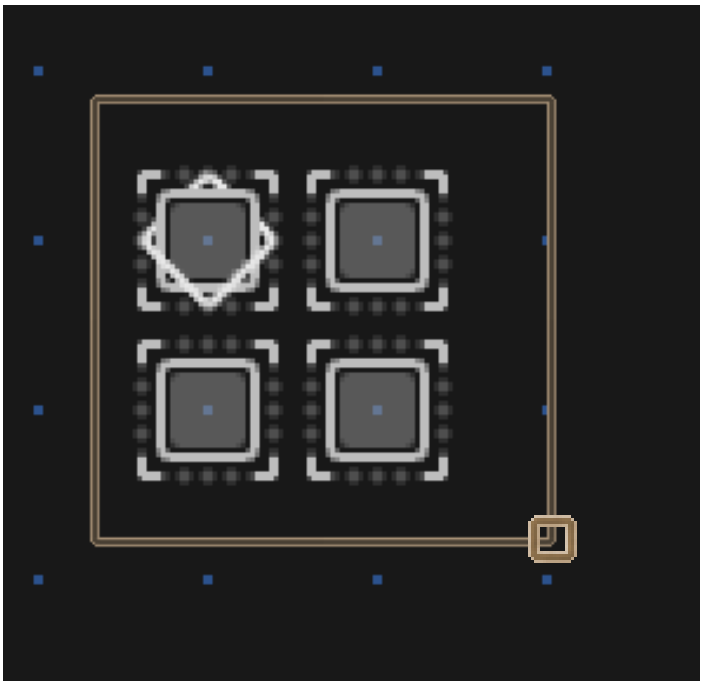
Using the **Select Tool**, you can select and manipulate Points on the canvas. To select a Point, simply click one. Once selected, a Point will be surrounded with a stylized outline. This outline changes dynamically based on the background color for maximum visibility.

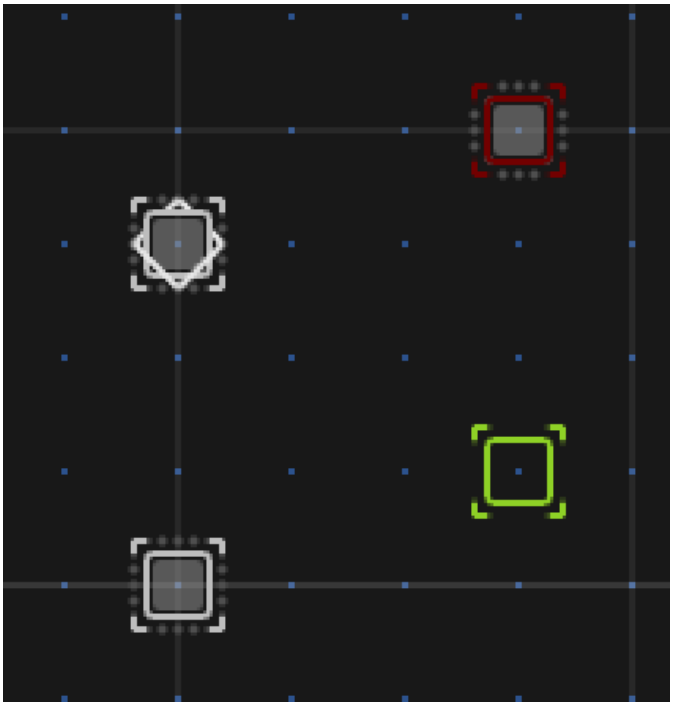
To select multiple Points, you can draw a selection box by clicking and dragging around any Points on the grid. Any new selection will deselect all Points and select new ones. Hold shift to select additively.

If no Points are selected, you can click and hold one Point to move it immediately. A ghost will appear denoting the target location of every selected Point.

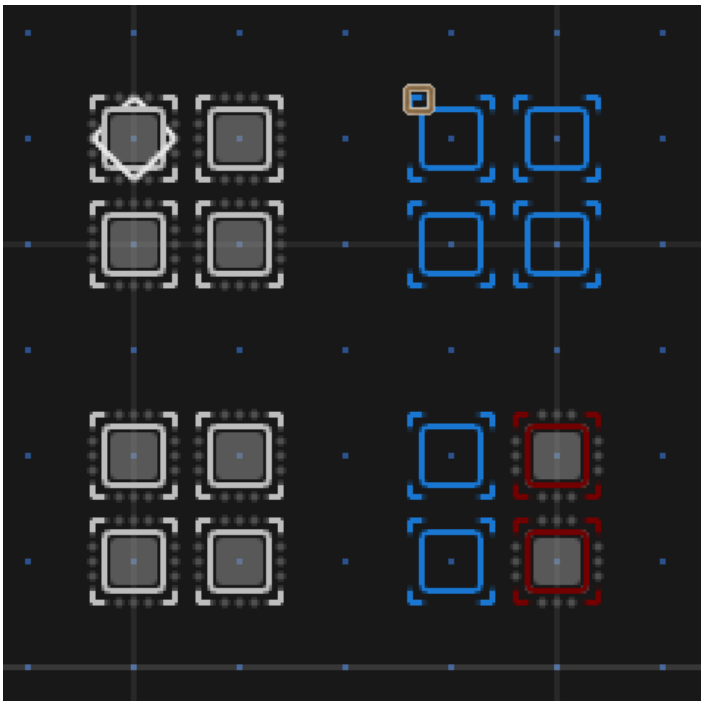
If a location for a moving Point is not valid, a red box will appear denoting that the target location already contains a Point. Moving Points works the same regardless of whether Snapping is enabled. Holding Control/Command while moving will instead duplicate the selected Points and their properties/Path connections. Path connections only copy if all Points selected have relationships to each other via Paths.

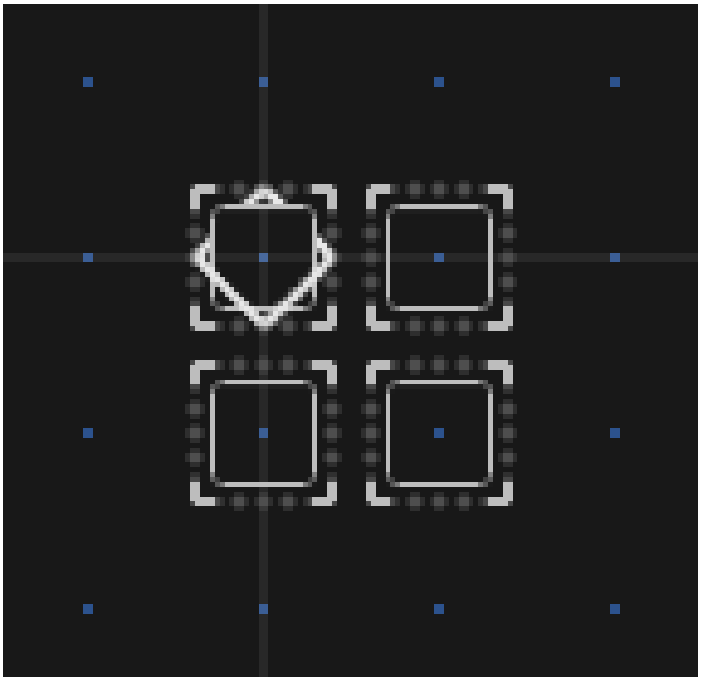
The same rules apply to movement as they do to duplication.





The Clipboard





Like a traditional text editor, you can copy, cut, and paste any number of Points using the internal clipboard. Select Points first, then use Control/Command + C to copy Points. Then, when holding Control/Command again, you will see an outline that denotes the target locations of the Points if you were to paste.

If at least one of the target locations is occupied by another Point, a red outline will appear. This is the same warning behavior as with moving Points.

To clear the buffer of currently copied Points, use Control/Command + B. Changing tools away from the Select Tool will achieve the same result.

Cutting works just like copying, except the cut Points take on a hollowed appearance. To cut Points, use Control/Command + X. The first Paste maneuver will remove the Points from their current location and place them at the desired location. Any additional paste actions will behave just like a copy/paste action. Copying or cutting additional Points while the clipboard has data will clear the buffer and replace it with the currently selected Points. If any clipboard action is taken on the canvas while nothing is selected, the current clipboard will be deleted. As long as Points have been copied or cut, you will see a ghost for each copied or cut Point.

Hitting Control/Command + V will paste the Points in the buffer to the target locations, assuming that the target locations are all valid.

Context Menu

To bring up the context menu, alternate click on the canvas while using the Select Tool. Depending on what's selected and whether there are elements in the clipboard, your context menu may look different than the picture to the right.

From the menu, using Select All or Deselect will not close the menu, allowing quick operations without an additional click. All of the commands in the context menu have keyboard analogs, which can be remapped. It is suggested to check keybindings for these actions and modify as needed.

a) Cut selected Points

b) Copy selected Points

c) Paste selected Points at the location of the ghosts of Points in the clipboard

d) Delete selected Points

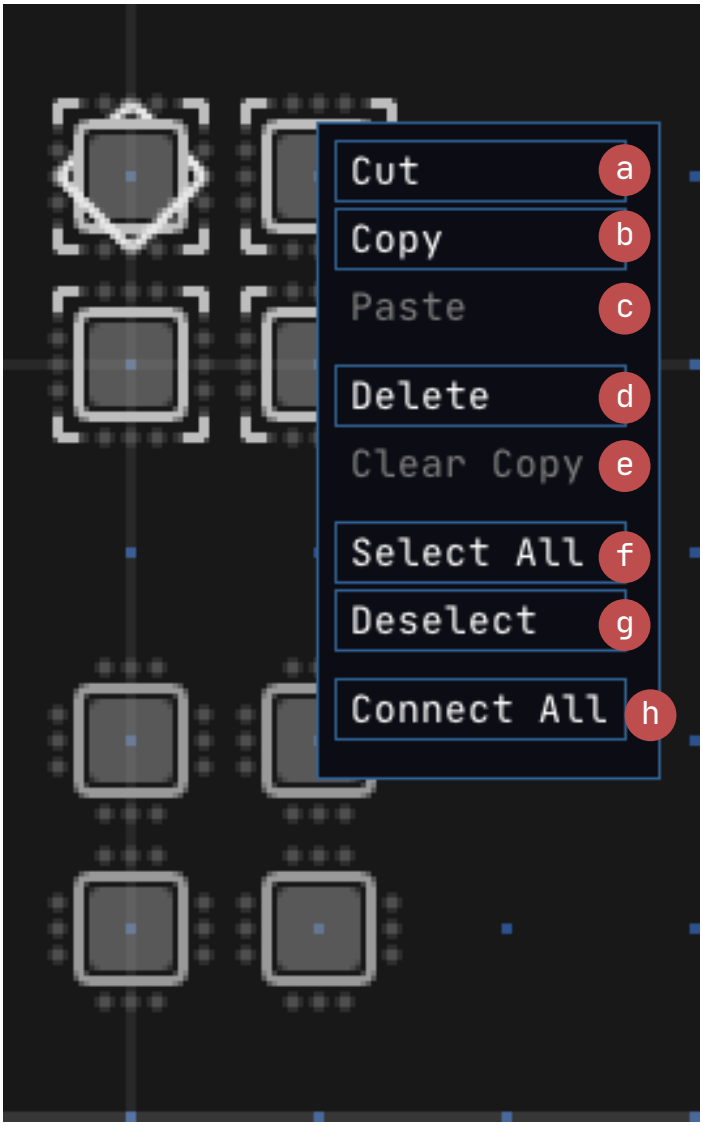
e) Clear the copy/cut clipboard

f) Select all Points on the canvas

g) Deselect all selected Points on the canvas

h) Connect all selected Points to one another with Paths. Be careful with this exponential option! Two Points connecting to one another makes two Paths. Three Points create six Paths. Ten Points create ninety Paths. If you try to connect a large number of Points, a dialog will warn you. Interconnecting Points uses the following formula:

#Points(#Points-1) = #Paths*

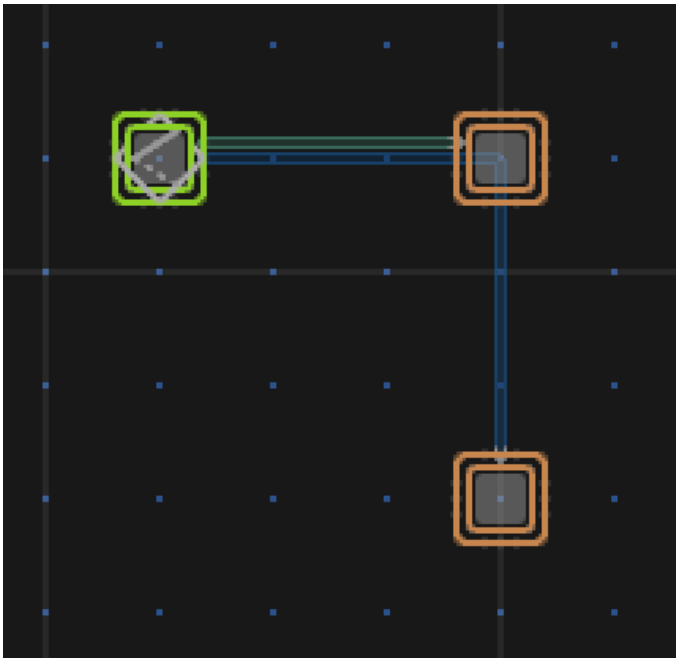


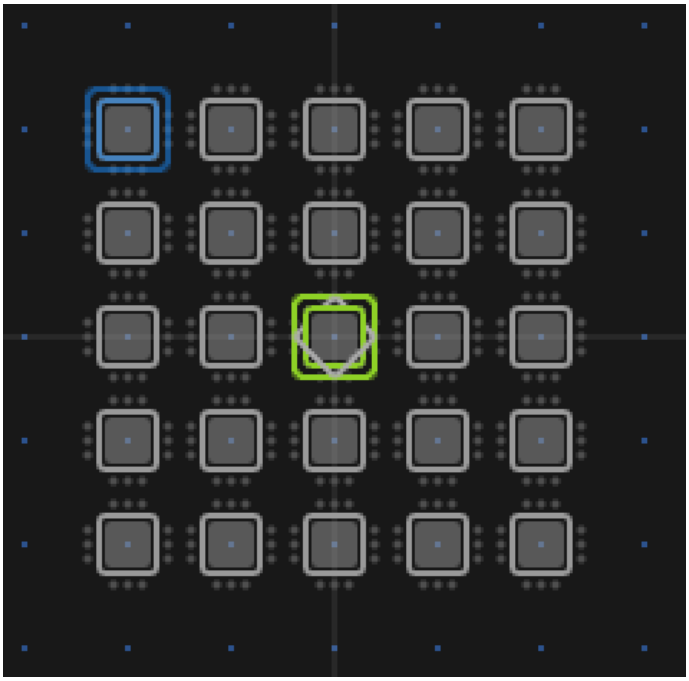
The Path Tool

Linking Points together is at the core of Midinous' magic. Points that are linked together will pass what are called **Travelers** between them. The Path Tool is what allows you to link two or more Points together.

There are several ways to do this. The quickest way is to hover over a Point and click with your primary mouse button. The source Point for the Path will be shown with an outline. While holding down the primary mouse button, drag to one or more additional Points and release. A Path will now be visible linking the Points together. You may still pan the camera with the secondary mouse button.

Another way to create Paths, particularly creating multiple Paths, is to hold Shift as a modifier key. The steps to create a normal Path are similar, but holding Shift instead allows you to release the mouse to continue creating Paths wherever you click. The camera remains movable while in this mode. This is useful if you want to link a Point that is surrounded by others to a Point that is outside of the group.





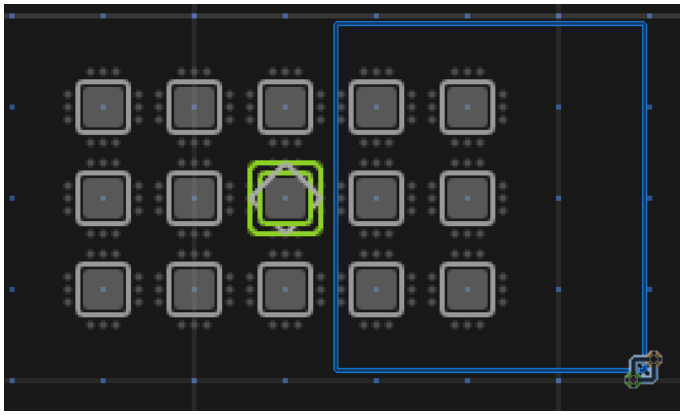
More Paths

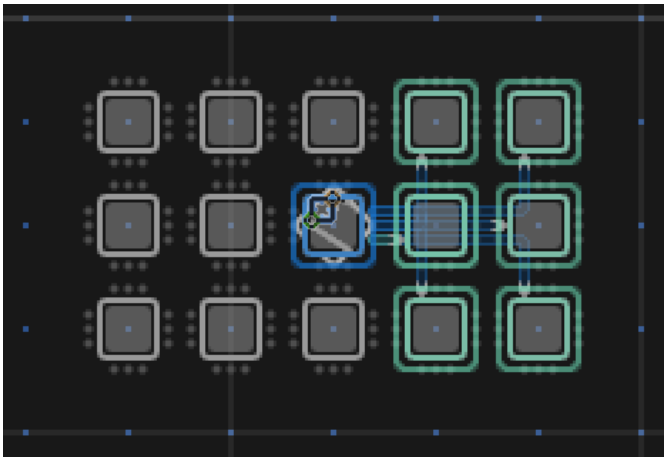
While holding Shift and creating links, you are able to draw a box (much like the Select Tool) to select multiple Points as targets at a time. In summary, hold Shift and either click target Points or draw a box around target Points to link them to the chosen source Point. Link as many Points as you want before releasing Shift.

While using the Path Tool, when hovering over any Point, a candidate source Point will flash, and any existing targets will show an outline flashing with a different color. If holding Shift or pressing down to create Paths, existing targets and new targets will show an outline.

Finally, to connect all selected Points to one another, use the Select Tool and press F2. Use caution! Two Points connecting to each other makes two Paths. Three Points create six Paths. Ten Points create ninety Paths. If you try to create a large number of Paths at once, a dialog will warn you. Interconnecting Points uses the following formula:

#Points(#Points-1) = #Paths*





Travelers & Signal Flow

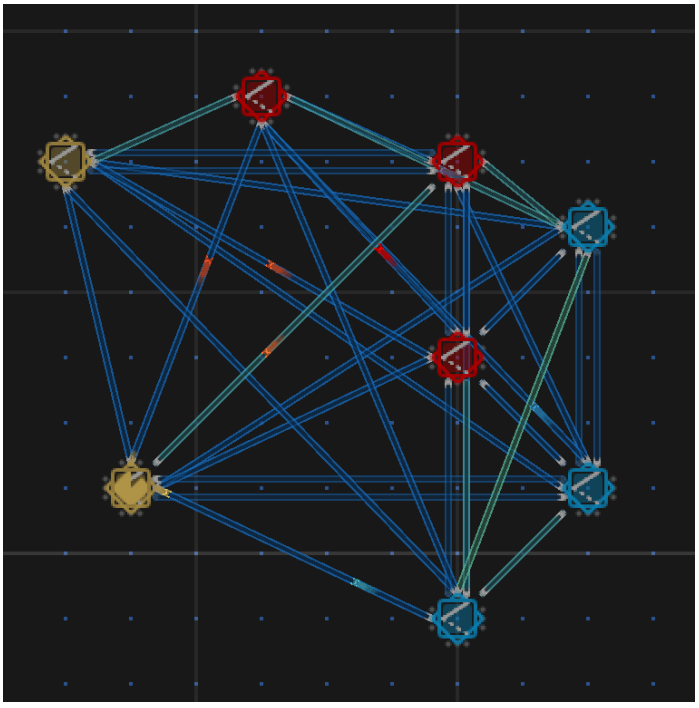
In Midinous, signals are created from Points and sent via Paths from one Point to another (or many). Signal chains can be configured in loops, meaning a sequence has the possibility of being endless. Because of this, there is no concept of static events in Midinous, which distinguishes Midinous from a linear timeline sequencer in a standard DAW.

All events are determined dynamically at run-time. As a visual representation of signals, little sprites called **Travelers** are created and sent on **Paths** when it is time for an event to trigger. Travelers simply notify the user how much time will elapse until the next event.

The time it takes the Traveler to get from one Point to another is determined by the distance in grid points. By default, each grid point is a quarter note from its adjacent Point. It is important to note that Travelers are only a visual aid, and the actual calculations for the time until the next event compute happen as the program runs. Moving a point while a traveler is in motion will update its end time dynamically.

Travelers borrow the color of the source Point. Direction of signals is indicated by a small marker at the end of the Path going into the target Point. This marker also borrows the color of the source Point.

Because Midinous has no event structure, the next event is determined as the sequence plays. Were this not the case, a simple circuit would cause an endless feedback loop as the program tries to determine every event. Therefore, Midinous does not know about indefinite sequences, but it will play indefinitely.



Points

Points are the backbone of Midinous. They contain data that will help to generate a MIDI message to be sent to the output MIDI port, which Midinous creates when the program opens. Points will come in a variety of styles, but the style will denote the Point's behavior. It is important to keep in mind that a Point can be muted, set as a pass-through, and set to start at the same time; styles will vary accordingly.

a) Sequential: Signals will be sent to connected Paths in a round-robin order. The next Path to be taken is identified by a different color.

b) Divide: A signal will be created on every output Path. There is no concept of 'next' using Divide. Therefore, all Paths exiting the Point share the same color.

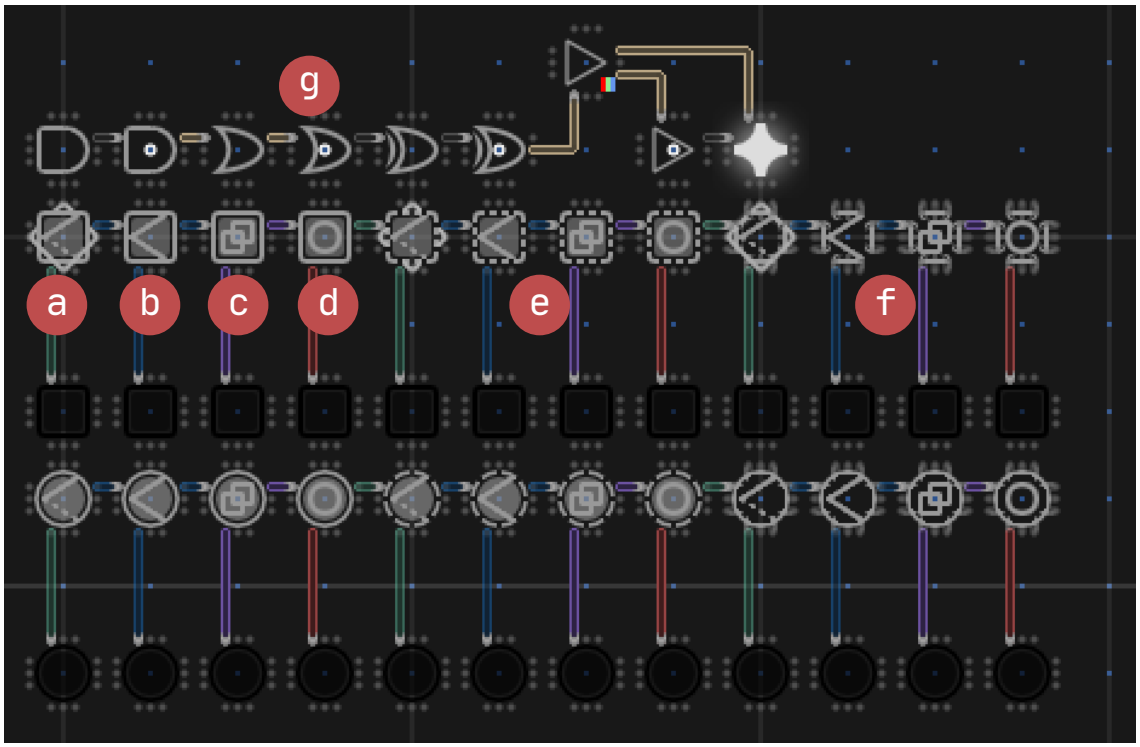
c) Random: A signal will be created on a random output Path.

d) Portal: A signal will instantly jump the connected Path and trigger the next Point. The default behavior borrows from Sequential.

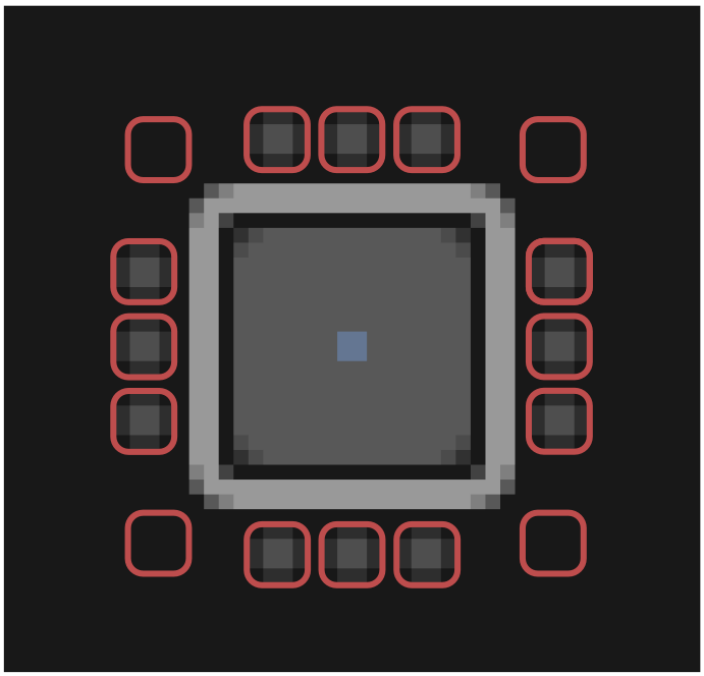
e) Muted: A MIDI event will not be sent for this Point. However, note and data calculations will still occur as normal for signals that continue.

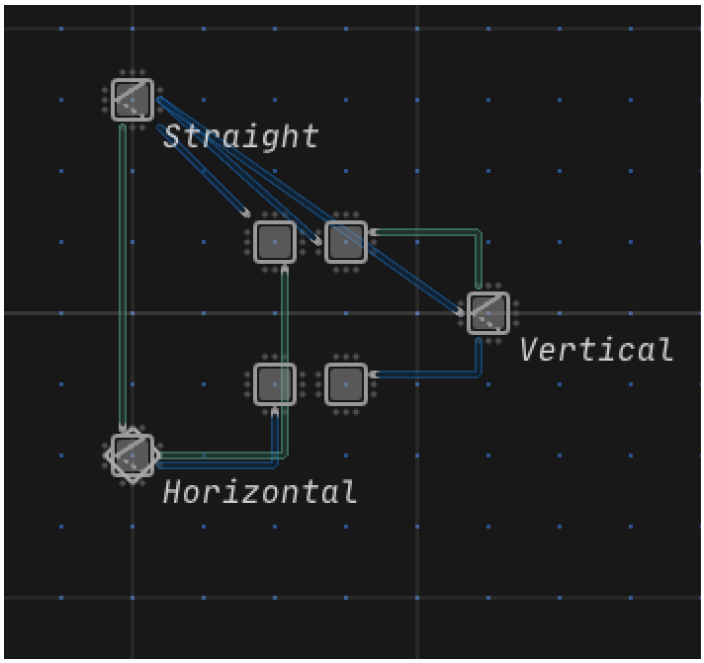
f) Pass: MIDI event data will borrow from the last triggered event (usually a previous Point's data). This overrides relative settings.

g) Logic Points, denoting different logic gates and their "NOT" counterparts.



Intro To Paths





Paths are the visual links between Points and suggest information to the user about signal direction, length of time between events, and from what type of Point the Path originates.

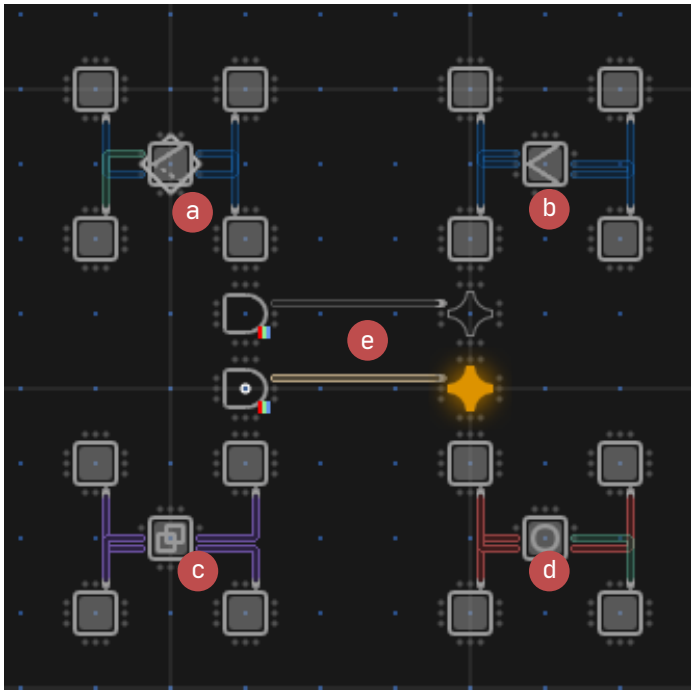
Based on the source Point of the Path, the Path may look different as it draws to the target Point. **Path Mode** determines how the Path looks (and behaves) exiting a Point. **Horizontal** and **Vertical** Path modes follow the grid timing unless snapping is off. **Straight** Path mode may give irrational timing if the source Point is not aligned perfectly horizontally or vertically to a connected Point.

Path mode is set in the Point Properties dialog. It is important to note that when using Horizontal or Vertical Path modes, the sequence will sound identical. It is merely a stylistic preference, and the two modes can be used interchangeably to aid in visualizing a sequence.

Path Style & Selecting

Depending on the source Point's mode, the Path may appear different. For example, when a source Point is set to Random, all Paths exiting the source Point will be colored similarly and be opaque.

The most notable example of Path color style switching is when a Path is next in the signal flow. The Path will be colored dynamically, letting you know that a certain Path is next to send a signal. Much like Points, you can select a single Path while using the Select Tool. Once selected, the Path will flash with an indicator color. The source Point will be selected and the Path viewer pane will open. You will then be able to configure **Weight**. There is more than one way to reach this menu. For example, you can reach the Path viewer by first selecting a Point and clicking 'Paths' in the **Point Properties Pane**.



a) Sequential: Paths appear as normal, but the next Path in the travel order will be colored with the 'Next Path' color.

b) Divide: All Paths exiting the Point share the same color.

c) Random: All Paths exiting the Point share the same color and are opaque.

d) Portal: All Paths exiting the Point except for the next Path in the travel order (colored like in (a)) share the same color and are opaque.

e) Logic: When a signal is 'high', the Path is lit. When a signal is low, the Path is dark.

Path Weight

Paths contain a property called **Weight**, which affects the behavior of signals. Weight is configured in the **Point Properties Pane** while a Point is selected. The default Weight of a Path is 1. If using a Weight of 1, the behavior of the signal through the source Point will be unchanged. Weight ranges from -1 to 100.

If using the **Path Weight** option in the toolbox, a number denoting the weight will appear on the midpoint of the Path. Logic Points have no Path weight properties.

The table below explains Path weight behavior given different Point types.

Point Type (↓) and Weight (→)

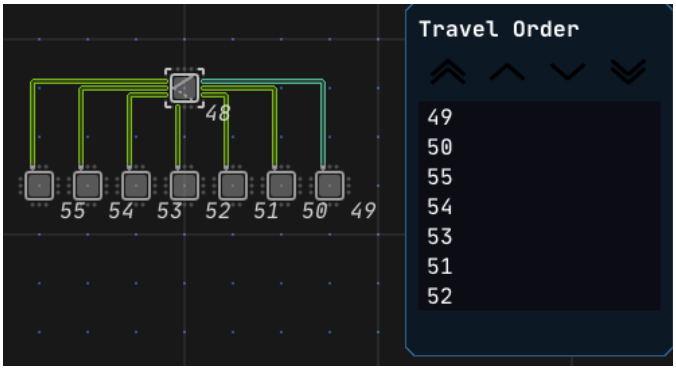
	-1	0	1	n
Sequential	Once reached in Travel order, Path is always chosen	Path is not chosen	Path will be chosen exactly 1 time before moving to the next Path in the Travel order	Path will be chosen exactly n times before moving to the next Path in the Travel order
Divide	One Traveler is created on this Path	Path is not chosen	One Traveler is created on this Path	n Travelers are created on this Path
Random	Path is not chosen	Path is not chosen	Probability of this Path being chosen is weighted at 1	Probability of this Path being chosen is weighted at n
Portal	Once reached in Travel order, Path is always chosen	Path is not chosen	Path will be chosen exactly 1 time before moving to the next Path in the Travel order	Path will be chosen exactly n times before moving to the next Path in the Travel order

Path Viewer and Order

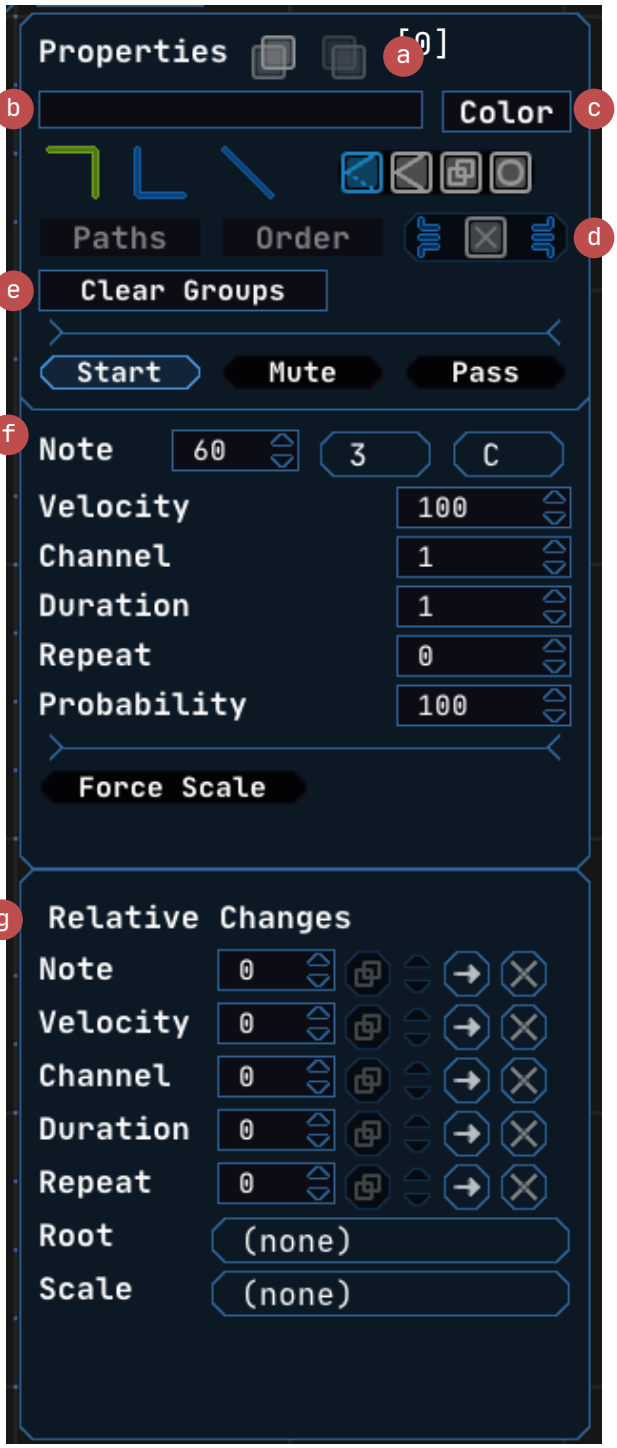
When a Path is selected for viewing, or the Paths button is selected in the **Point Properties Pane** for a Note or CC Point (**MIDI Point**), the **Path Viewer** will appear. This shows how many Paths are exiting specific areas of the Point. In complex sequences, it is much easier to view Paths piecewise instead of all at once.

To view a set of Paths leaving a specific section of the Point, click the corresponding button. This button will display the number of Paths leaving that specific spot on the Point. A list of target Points that Path is going to will appear. You can select individual Paths from this list and configure the **Weight** of each one. Select multiple Path exit spots to see more Paths in the list.

Path order can also be reconfigured using the **Order** button in the **Point Properties Pane**. This will display all Paths' targets with the selected Point as the source. The travel order menu does not display Paths entering the Point. Select a Path from this list to change its order. Move up one, up to the first, down one, or down to the last. You can see the target Points' IDs to better understand where the Path is headed.



Point Properties



When at least one Point is selected, the Point Properties pane will open on the right portion of the window, allowing the modification of what kind of MIDI data will be sent when the Point is triggered. There are also options for things like relative changes in MIDI data, Point type, Path type, and more. Text labels will appear at the bottom right of a Point. There are properties that all different Point types (Note, CC, Logic) share, but a basic Note properties pane is shown to the left. Basic controls common to all Points include:

a) Copy properties from this Point to be pasted to another Point. Copy with the left button, and paste with the right button. Properties can only be pasted to Points of the same type.

b) Set a label to appear on the bottom right of the Point.

c) Set the color of the Point - you can specify RGB values or a valid six-byte hex code to set color. Additional preset colors are available. The bottom row of preset colors are based on the current theme.

d) This section contains controls to delete Paths from or to the selected Point(s), or (middle button) remove all Path references from the Point.

e) If the selected Points are part of a group, they will be removed from those groups.

f) Basic properties pane

g) Relative properties pane

Note Properties

If a **Note Point** is selected, a set of properties specific to note Points will appear in the center of the Point Properties Pane. These properties will control how MIDI data is sent for note messages.

a) Start toggle: This control determines whether a **Traveler** is created on this Point when the sequence begins.

b) Mute: This control determines whether a Point's MIDI data will be sent when the Point triggers.

c) Pass: This control will hold the MIDI functions from the previously triggered Point to be used later in a sequence. Think of this like an extended **Repeat** functionality.

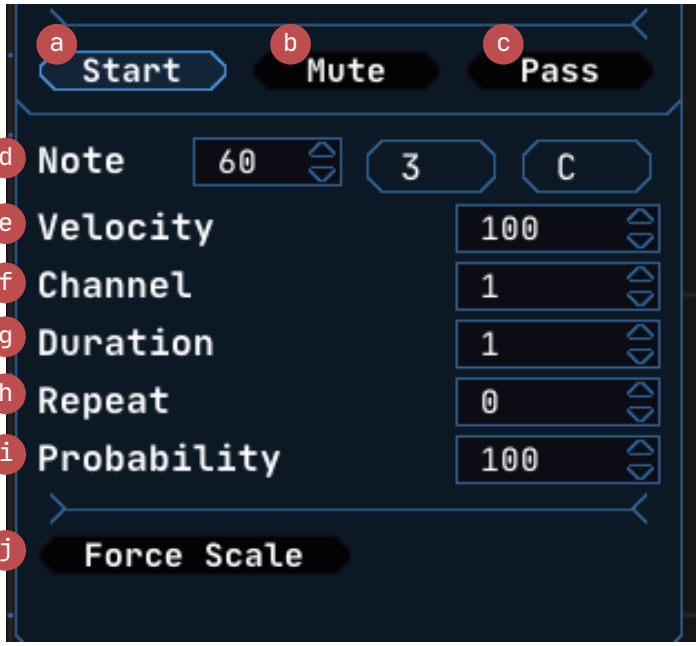
d) Note: Configures the MIDI note value to be sent when the Point triggers. The raw value goes from 0-127.

e) Velocity: Configures the MIDI note velocity value to be sent when the Point triggers. The raw value goes from 0-127.

f) Channel: Determines which MIDI channel the MIDI data will be sent on when the Point triggers.

g) Duration: Determines the length of the note message in quarter notes/grid squares. Duration ranges from 0.001 to 1000.

h) Repeat: Sets the Point to trigger its MIDI event a specific number of times. If Repeat is set to 1, the event will repeat once. Therefore, if you want the Point's event to play 4 times, you would set Repeat to 3.



i) Probability: The percent chance that the Point will send its event. 0 is never, 100 is always. The default value is 100.

j) Force Scale: Forces the scale of the Point's note value to play in mode with the Document settings regardless of the Point's note value. For example, if the note value is not on an interval of the document scale, Force Scale will ensure it plays in scale even if the note value would not normally be on the scale.

CC Properties

If a **CC Point** is selected, a set of properties specific to CC Points will appear in the center of the Point Properties Pane. These properties will control how MIDI data is sent for CC (Change Control) messages. CC parameters generally have to be mapped to specific controls in your host DAW or hardware. They may not do anything on their own. Some properties are shared with **Note Points**, so these controls are not covered in this section.

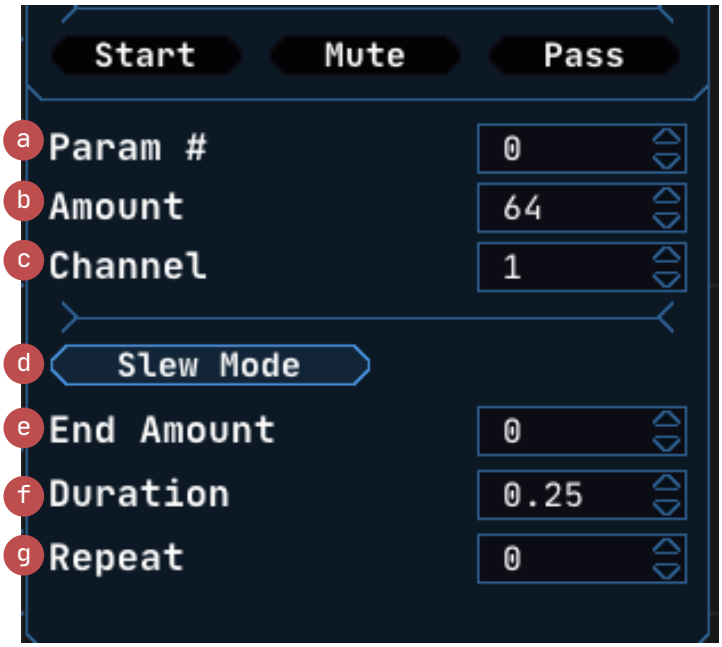
a) Param Number: Determines the CC parameter number to be sent in the CC message

b) Amount: Determines the parameter value(amount) to be sent with the CC message

c) Channel: Determines the output MIDI channel the CC parameter change will be sent on

d) Slew Mode: This control activates a menu for triggering a change over time for a CC parameter. Normally, the CC Points send an instantaneous message with **Param Number**, but with slew mode, you can provide change over time by using the **End Amount**.

e) End Amount: Determines the final value of the slew operation. When the Point is triggered, the slew will start with Param Number and end at this value.



f) Duration: Determines the duration of the slew operation in quarter notes/grid squares. The values range from 0.001 to 1000.

g) Repeat: Determines how many times a slew operation will repeat. If you want the slew operation to play 4 times, the Repeat value would be set to 3.

MIDI Output

Midinous creates several MIDI ports when the program starts. These are **Midinous Port** and **Midinous Clock Port**. Midinous Port is the virtual hardware device that sends the data Midinous generates. You have access to 16 MIDI channels on this port. Channels are configured on individual Points. Midinous Clock Port is the virtual hardware device that sends clock data and basic transport messages (start/stop). When Internal Clock is chosen from the Toolbox, data will be sent. No other data is sent on this port, but it should be the one that you use to sync software and gear to Midinous. Midinous Clock Port is both an input and an output port. Clock data is sent by it, but clock data can also be received through it. More detail on this behavior can be found on the next page.

To see how to find and configure a MIDI device (virtual or otherwise) in different DAWs, please follow the link associated with your DAW below.

Reason

Ableton Live

Logic Pro

Studio One

Bitwig

Pro Tools

Cubase

FL Studio

Reaper

Because these ports are virtual hardware devices, you do not need to use any routing software to see them in your DAW, but you may need routing software to send MIDI data out to hardware.

Finally, if using MIDI Input to change Point properties, associated MIDI data will be sent out from Midinous Port as if you used the Quick Play key bind.

MIDI Input

Note & CC Point data can be modified by input from a MIDI device. After selecting a MIDI device from the General Options Pane, any input from the device will affect selected points. For Note Points, note value, velocity, and channel (if configured in the General Options Pane) is received. For CC Points, parameter number, parameter value, and channel are received.

For example, if your MIDI keyboard is configured for use with Midinous through the General Options Pane, a key press will send note information and modify any selected Points with that data. But Midinous can also be modified by continuous data as well. One or more selected Points could be continually modified by incoming MIDI data from an external source, leading to a shifting Midinous sequence! All MIDI input data will be mirrored onto the 'Midinous Thru Port', including Note, CC, and Transport data. If you are using a device with Midinous, use the Midinous Thru Port to access the device in other programs such as DAWs.

When External Clock is selected from the Toolbox, Midinous will receive data on Midinous Clock Port. The data received in this way will be used to start and stop the sequence. Once External Clock is picked, the Tempo Tap button is disabled, but tempo can still be modified. This is because Midinous in its current state does not process clock messages, only start/stop messages. If you try to start the sequence from Midinous while External Clock is enabled, you will receive an error. You can disable External Clock at any time.

Logic Properties

If a **Logic Point** is selected, a set of properties specific to Logic Points will appear in the center of the Point Properties Pane. Logic Points do not send MIDI messages and cannot be directly activated by Travelers, so they do not have properties that other Points have. Instead, they send high or low signals depending on how they are evaluated and are available in a variety of gate types, including one for visual feedback (LED).

a) Gate Type: Select from several gate types, each with their own evaluation behavior

- AND - If all incoming signals are high, outputs a high signal
- OR - If at least one incoming signal is high, outputs a high signal
- XOR - Only if exactly one incoming signal is high, outputs a high signal
- BUF - Passes whatever signal comes to it, acts like an OR; more useful when used with the **NOT** control
- LED - Provides visual feedback if a preceding logic Point passes color information to it, otherwise remains inert

b) **NOT:** Negates whatever evaluation the logic Point contains. Normally, if the logic Point would output a high signal, this would change it to a low signal.

c) **Send Color:** Sends color data to the next LED Point. Send Color does not affect any other logic Point type or normal Point type. The color of the point (configured with the **Color** option button will be sent. The path leaving a Logic Point with **Send Color** enabled will be the same color as its configured color and source point.

Logic gate Point behavior is explained in more detail on the next page.

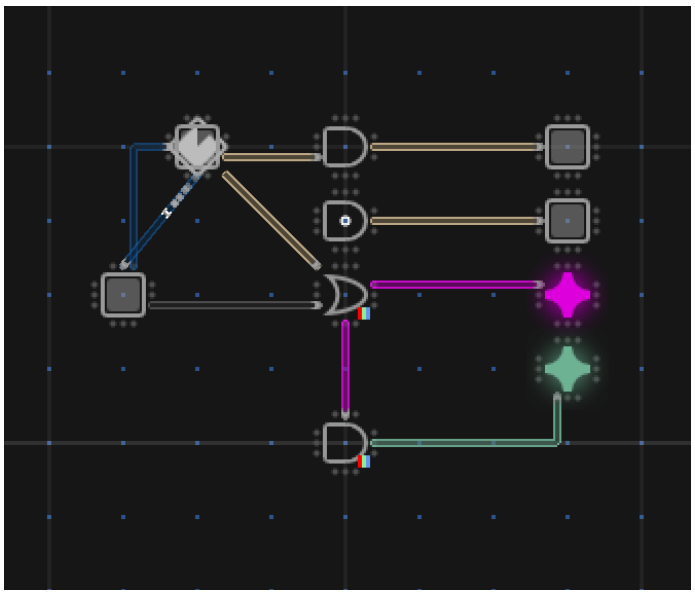
Logic Point Behavior

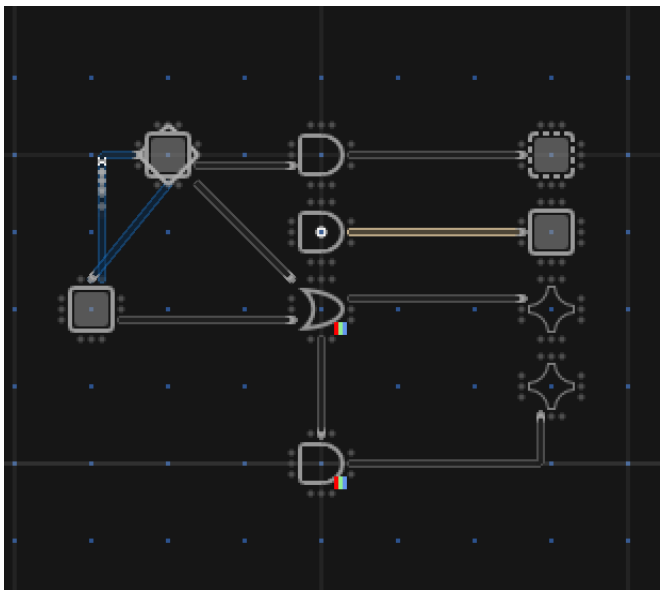
Logic Points differ significantly from the normal flow of Travelers in the program. Instead, they function solely on a high/low, or boolean, evaluation. Logic Points activate when something nearby provides a signal. This can come from another logic Point or it can come from a currently active and playing Note or CC Point.

Logic is continually evaluated in Midinous and does not have a start, like a normal sequence when **Play** is pushed. This means you can draw and configure logic gates and see their behavior before a sequence even begins.

The purpose of logic gates is to provide visual feedback in the form of LEDs and to mute Note and CC Points. MIDI Points will be muted if they are connected to a logic network if the logic signal entering them is low. They will be reactivated when their signal is high. Similarly, when MIDI Points are active, they can provide a high signal to a logic network to be used elsewhere. Examples of this behavior are below.

Logic is a powerful tool and can become very complex. It is recommended you research truth tables for certain logic gates and experiment using them in sequences.





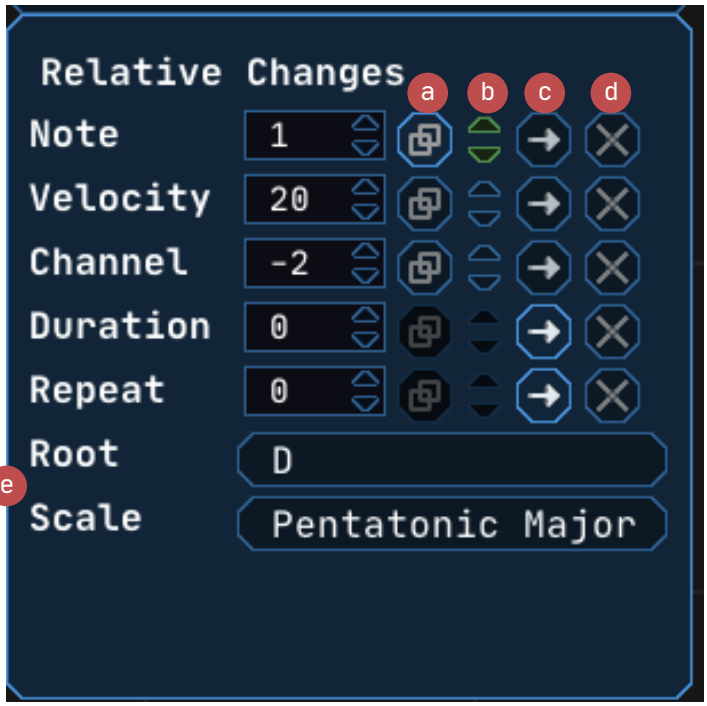
Relative Values

The next section of the properties pane is the **Relative Changes** section. This section only affects **MIDI Points**, or in other words, Note and CC Points. Relative changes work by using one of two sources, described below. By default, the value in the box will use a previous Point's data. Relative changes to the note value, for example, will use the **Document Scale** and **Document Root** to function, automatically snapping the new value (in this case, 1 interval) to whatever scale/root is chosen. A relative value can be either positive or negative.

a) Random Value Mode: Unlike the default functionality, when enabled, this mode will take the current Point's data as relative rather than a previous Point in the signal chain. Regardless of whether the value is + or -, this mode will work the same in both directions.

b) Random Ranges: Using these buttons, you can determine whether Random Value Mode will use positive values, negative values, or both, based on the value.

c) Relative Pass-through: Using this button, a relative value that comes into this Point will bypass the relative changes specified for that category and continue on the signal chain. This means if Points 1, 2, and 3 are connected, and 2 has this option enabled, 2 will pass 1's value on to 3 to allow for relative changing of 1's value instead of 2's.



d) Use this button to clear out relative values for the row's category.

e) If modifying a note Point's relative values, these options will override the document's root, scale, or both, when relative changes are enabled.

Note: Relative changes on CC Points are effectively the same, except that the relative parameters on CC Points are limited to:

- Parameter Number
- Parameter Amount
- Channel

Local Files

Midinous stores information in various locations on your system. Depending on your operating system, these locations will differ slightly. While the program is running, go to the Main Menu and hit **Local Files** (LF) to take you to the following locations:
Windows:
  <DriveLetter>:\<username>\AppData\Local\Midinous
MacOS:
  ~/<Username>/.Local/Share/Midinous
Linux:
  ~/<Username>/.local/share/Midinous

We will refer to these directories/folders as **LF** in the next sections as a shorthand.

While Midinous is running, it records events and information to its log files. There is one log file for general info, another for errors, and a combined log. They are found in the following locations:
Windows, MacOS, and Linux:
  LF/log

Saves can be found in the following locations:
Windows, MacOS, and Linux:
  LF/user/save
  LF/user/save_MIDI
  LF/user/backup

Settings:
  LF/user

Themes:
  LF/user/themes

Autosaves & Presets

Documents are continually backed up and saved every 5 minutes with Midinous' autosave feature. Any opened document will be saved with the format:
autosave_DocumentName_YYYY-MM-DD-HH.MM.SS.json

Autosaves are found in the same directory as your regular save files, but will only appear in the **Open** dialog when using the **Autosaves** button. Midinous will keep the last hour (12) autosaves for you. This spans across projects. If you are working on one document and switch to another, the next autosave will take the current document's name.

You can load autosaves like normal saves, but when you load an autosave, the document's name will revert to its original name. If you attempt to save again, it may overwrite the most current version of that project. Just be aware!

Presets are located in the Midinous install directory. If you are using MacOS, these files will be protected behind the .app package for Midinous and may not be accessible. If you are having trouble accessing the files, check your system permissions.

Presets can be opened but cannot be saved to the presets folder. Any changes made to presets and then saved as new documents will be saved in the Local Files area. Presets are provided from a wide variety of creators, from Benn Jordan to the developer of Midinous, Nornec!

Presets Directory:
<MidinousInstall>/user/save

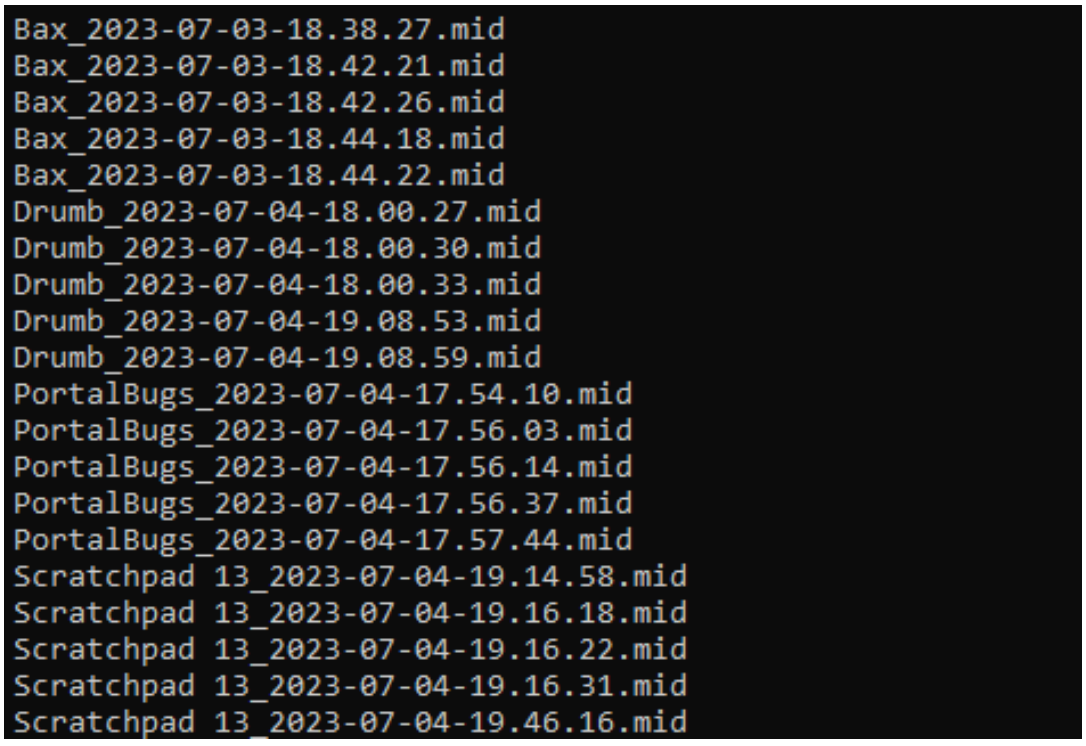
MIDI File Generation

When Play is pressed and a sequence begins, a MIDI file is automatically generated for you. The MIDI file is created in real-time and is saved when the sequence stops. Midinous keeps the last 5 “generations”, or “plays” of the sequence as MIDI data. This data can be found in the Local Files area. Local File locations are described earlier in the documentation.

MIDI files generated with Midinous will take the document’s tempo and time signature information and save it with the generated MIDI file. Each channel of data is saved separately, so if you have multiple instruments set up, each channel’s data will be recorded.

The generated MIDI files have the format:
DocumentName_YYYY-MM-DD-HH.MM.SS.mid

Each channel’s data uses instrument 001 of the MIDI spec, which is generally a grand piano. MIDI header information includes the following:
Channel data generated from Midinous version <current version>



Keyboard Commands

The following key bindings are the defaults.

Q - Enable the **Select Tool**

W - Enable the **Place Tool**

E - Enable the **Path Tool**

M - Mute / Unmute Internal Synth

F1 - MIDI Panic, sending note off MIDI messages to all values on all channels

Space - Start/stop the sequence

N - Toggle grid snapping

F3 - Hide interface (the main menu will still function as normal)

C - Copy selected Point properties

V - Paste copied properties

Arrow Keys - Move canvas about

D - Zoom canvas in

A - Zoom canvas out

S - Reset canvas zoom level

] - Increase grid rule size

[- Decrease grid rule size

H - Show primary value names

G - Show channel near Point (where label usually is)

L - Show Path weights

Left Alt - Quantize Points, snapping them to the nearest grid Points

F2 - Connect all selected Points with Paths

1-0 (Number Row) - Recall or create control groups. Hold Control/ Command and the desired number to set a group (also works with mouse)

1 (Place Tool) - Place Note Points

2 (Place Tool) - Place CC Points

3 (Place Tool) - Place Logic Points

, - Cycle Path mode for selected Points

. - Cycle between Point mode for selected Points

I - Toggle Start mode for selected Points

O - Toggle Mute for selected Points

P - Toggle Pass for selected Points

+ (Number Row) - Primary Value Up for selected Points

- (Number Row) - Primary Value Down for selected Points

~ - Quick Play selected Points

Relative Value Specific Commands:

1 (Num Pad) - Channel down

2 (Num Pad) - Channel reset

3 (Num Pad) - Channel up

4 (Num Pad) - Secondary value down

5 (Num Pad) - Secondary value reset

6 (Num Pad) - Secondary value up

7 (Num Pad) - Primary value down

8 (Num Pad) - Primary value reset

9 (Num Pad) - Primary value up

Special Commands

The following key bindings are modifiers on existing keybindings and their macro assignments cannot be changed, but the base binding can.

While Control/Command is held:

N - New Document

O - Open Document

S - Quicksave Document

Z - Undo

Y - Redo

C - Copy selected Points

X - Cut selected Points

V - Paste selected Points

B - Clear clipboard

A - Select all Points

D - Deselect all Points

While Shift is held:

+ (Number Row) - Shift primary value up 5

- (Number Row) - Shift primary value down 5

~ - Inject a Traveler on all selected Points and start sequence (if stopped)

While Control/Command and Shift are held:

+ (Number Row) - Shift primary value up 12

- (Number Row) - Shift primary value down 12