

Isomer Manual

Introduction

Hello and welcome to the Isomer Guide, and thank you for downloading this software! This guide will take you through all the features and elements of the software, and give some ideas of where to start. Tutorial videos can be found on the Isomer website here: [Tutorials](#). This introduction takes the style of answering common questions about how Isomer operates. If you'd like to start in a more technical manner, please go to [Map Window](#).

What is Isomer?

Isomer is a tool for creating, editing and playing MIDI sequences. It connects to your DAW or other MIDI compatible devices to play software instruments.

How is Isomer different to most sequencers?

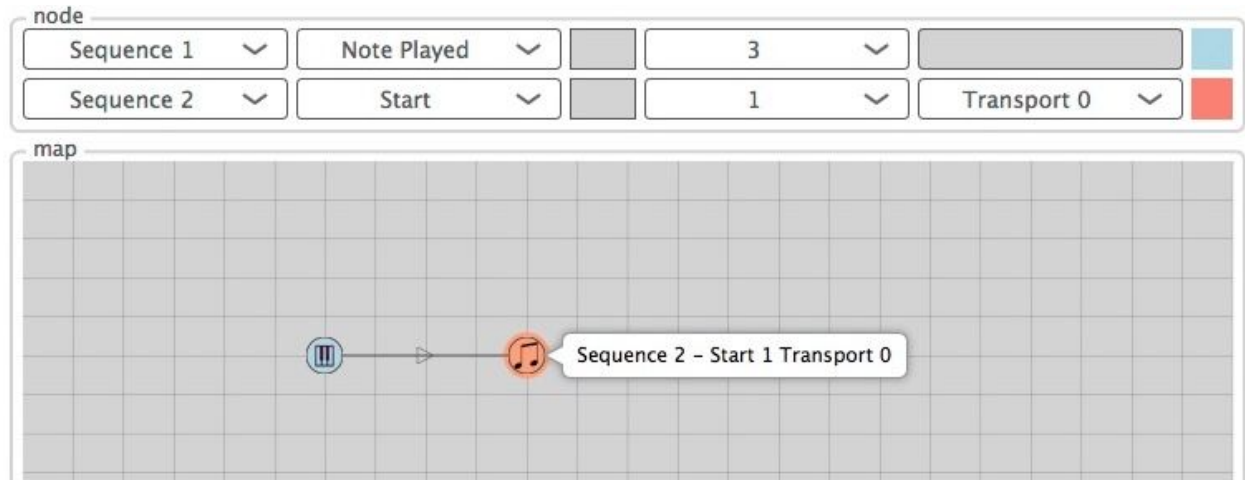
The majority of other software tools rely on the classic linear timeline. You place MIDI notes on a timeline, and the playhead scrolls over these events to play them. To write the notes, you either record them from a MIDI input device, or you use the mouse to place and edit them. Isomer works by connecting musical events together on a grid so that one event triggers another. The circular marks that represent a musical event are called Nodes, which for us means 'event that triggers another event'.

Why make software that works like this?

Because it's different, and we at Isomer believe new and different ways of doing things is fantastic, especially when it comes to making art and expressing yourself. Looking at music from a different angle gives us new and wonderful ways to create music.

What does it look like?

Here's a very simple example:



It shows that when 'Note 3' of 'Sequence 1' plays, it starts 'Sequence 2' playing. This is different because it means that musical events are triggered by other ones, rather than only by time events. This means that the music writing process can interconnect on many new levels. Doing this on a normal DAW can be tricky, and sometimes impossible.

So there's no timeline?

Not in the visual way you might be used to; there's no scrolling bar and no timeline background on which to place midi or audio. However, timelines are still there; one master, and eight linked timelines called Transports. You can still have events trigger at timepoints though.

Why nine timelines?

Each Transport runs at a percentage of the speed of the master. So if the master tempo of Isomer is 120 bpm and you have Transport 1 at 80%, it would run at 96 bpm. This makes it very easy to do things like play a Sequence at one speed and then at another straight after, or even to chop and change between speeds to easily create variations of a single phrase of music.

OK that's cool, what else can I do?

Many interesting things, one of the best being that you can apply shapes to musical sequences. What that means is that you can draw a line going up and down, drag it to a Sequence, and the notes will mirror that pattern. You can do the same with note velocity (how hard the key is hit), note length, and even to create new rhythms. I understand that the idea of creating new rhythms with a shape is a strange idea, but you will see soon how it can be done.

How do I control it?

You can use MIDI controllers to start the Transports, or to initiate any of the events already mentioned. You can also use the computer keyboard and mouse. Interestingly, you don't necessarily need to control it any more than pressing go. It's quite possible to create a track with a few interconnecting Nodes that will produce ever changing and evolving music all on it's own, sometimes with chaotic and unpredictable results.

I want to know more...

Awesome! However I think we've got to a good point with the introduction, and should move onto showing how the different parts of Isomer work together.

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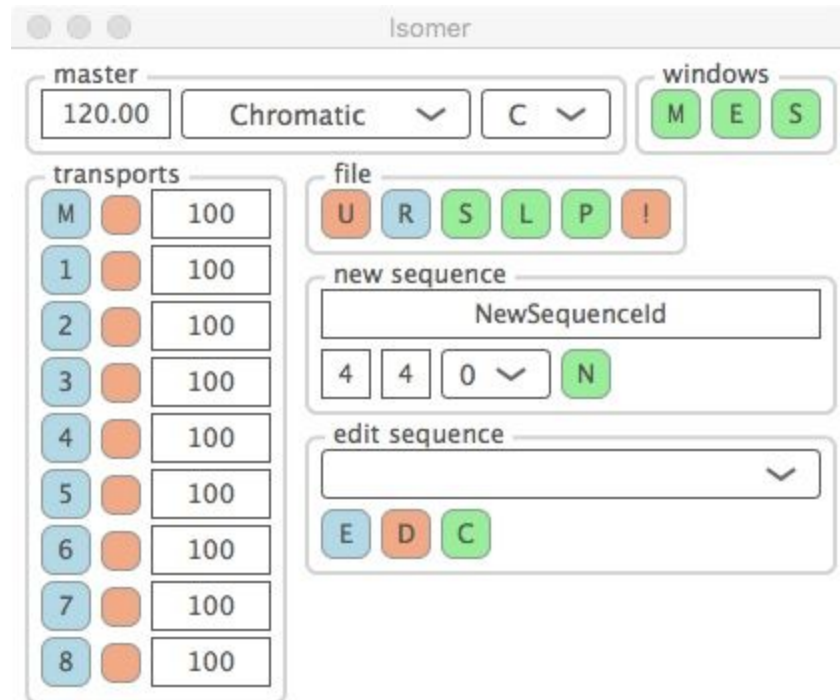
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Main Window



This is the main Isomer window. It has six main elements.

Global Settings



There are three global settings you can change, Global BPM, Global Scale and Global Key.

Global BPM

This is the master tempo of the program, and all other Transports run at a percentage of this speed. Changing the master tempo instantly changes the speed of all Transports.

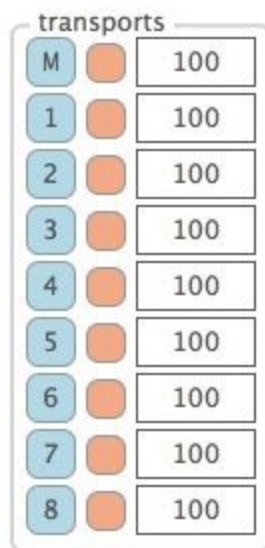
Global Scale

This is the master scale that all Sequences play to. You can lock Sequences individually so that they don't change when the master is changed. See [Sequence Settings](#) for more information.

Global Key

This is the master key that all Sequences play to. You can lock Sequences individually so that they don't change when the master is changed. See [Sequence Settings](#) for more information.

Transports



This section represents the nine transports available. The master is shown with the letter 'M'. Each Transport runs at a percentage of the speed of the master. Example: if the master tempo of Isomer is 120 bpm and you have Transport 1 at 50%, it would run at 60 bpm. You can actually have the master bpm run at a percentage of the bpm that Isomer is set to. Each transport has a blue start button, a red stop button and a number box where you can enter the relative bpm. You can stop and start all Transports in this way.

Windows



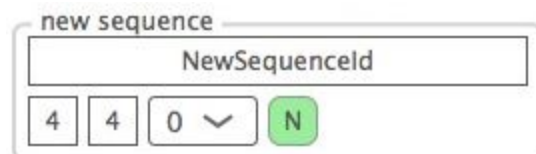
These three buttons open the different windows for using Isomer. The button marked 'M' opens the [Map Window](#), 'E' the [Envelope Window](#), and 'S' for the [Settings Window](#).

File



The file section holds buttons for basic utility functions. 'U' is for Undo, 'R' for redo, 'S' for save, 'L' for load, 'P' for presets, '!' for panic, which causes all currently playing MIDI notes to be ended. Undo and redo are quite self explanatory, they undo and redo actions taken, such as editing a Sequence or moving an envelope point.

New Sequence



The New Sequence section is for creating new midi note sequences. The top row is the Title Box where you enter a name for your new Sequence. If you don't enter a unique name, a random one will be created for you. Moving on to the row below, the lefthand number box is how many notes you want in the Sequence. Following is how many beats in length you want the Sequence to be. Next is how many divisions extra to the length you want. Each beat can be split into 16, so if you wanted your Sequence 4 and a half beats long, you'd enter 4 into the beat number box, and 8 into the divisions drop-down box. When you've entered the values as you'd like, press the 'N' button to create it.

Just to let you know, this is by no means the only or most interesting way to create a Sequence, it's just a quick way to get one up and running, and can be edited in multiple ways later.

Edit Sequence

The image shows a user interface for editing a sequence. It features a rectangular box with a light gray border. At the top left of the box, the text "edit sequence" is displayed in a small, gray font. Below this text is a white rectangular area that functions as a drop-down menu, currently showing a downward-pointing chevron icon on its right side. Directly beneath the drop-down menu are three small, square buttons arranged horizontally. The first button is light blue and contains the letter "E". The second button is light orange and contains the letter "D". The third button is light green and contains the letter "C".

This section is where you can bring up the [Sequence Edit Window](#) for more detailed editing. Just click the drop-down box and select the Sequence title you want to edit, and click the 'E' button. To delete, click the 'D' button. To copy the sequence with the new title, click 'C'. A warning, there's no delete confirmation box, once you click, it's gone!

Saving, Loading and Presets

Isomer projects can be saved anywhere on your computer and reloaded quickly via the save and load buttons, or relevant shortcuts. As mentioned in the 'Settings Window' section, once a destination has been set, Isomer will remember this and offer it as a first choice for all future saving and loading.

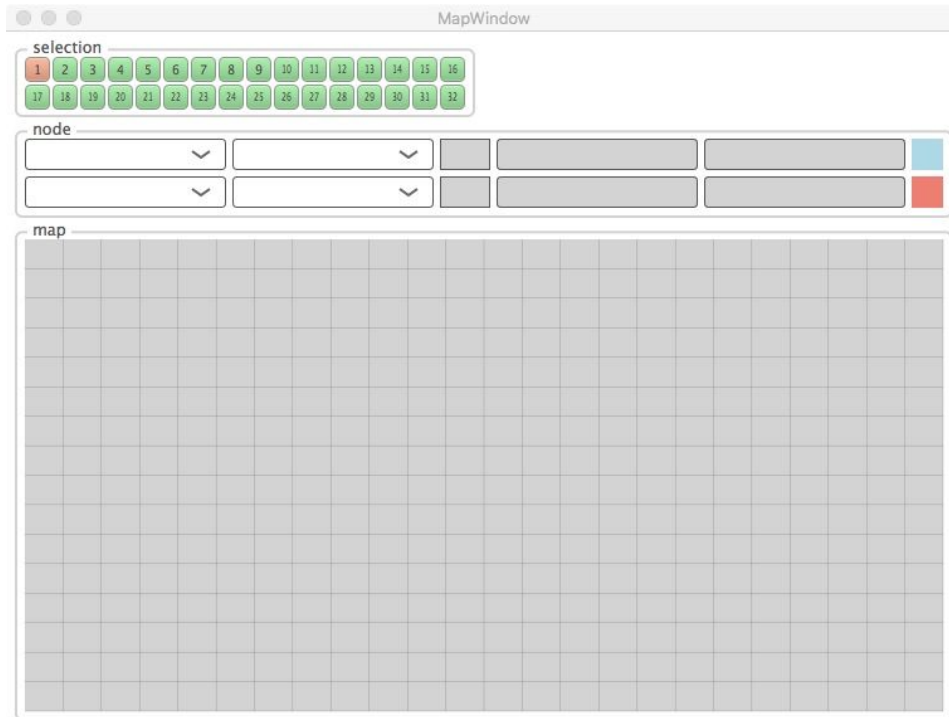
Isomer comes with various presets for all kinds of interesting compositional elements. These are stored separately to the normal saves in the Application Settings locations on your computer.

Connection to DAW

Isomer is designed to connect to any of the major DAW's, as well as standalone synthesisers. There are two ways to allow Isomer to interface, either to select the destination software in Isomer, or to select Isomer as a MIDI source in the destination software.

Both of these methods require using the [Midi](#) section of the [Settings Window](#) to select which outputs you wish to activate and send notes. Simply refresh the MidiOut devices using the refresh button when both pieces of software are open, and check the tickbox next to the required destinations. To allow the destination software to pick up on Isomer's default MidiOut Device, make sure the 'Isomer Midi Out' device is checked in the MIDI settings, and select it as a source in the destination software.

Map Window

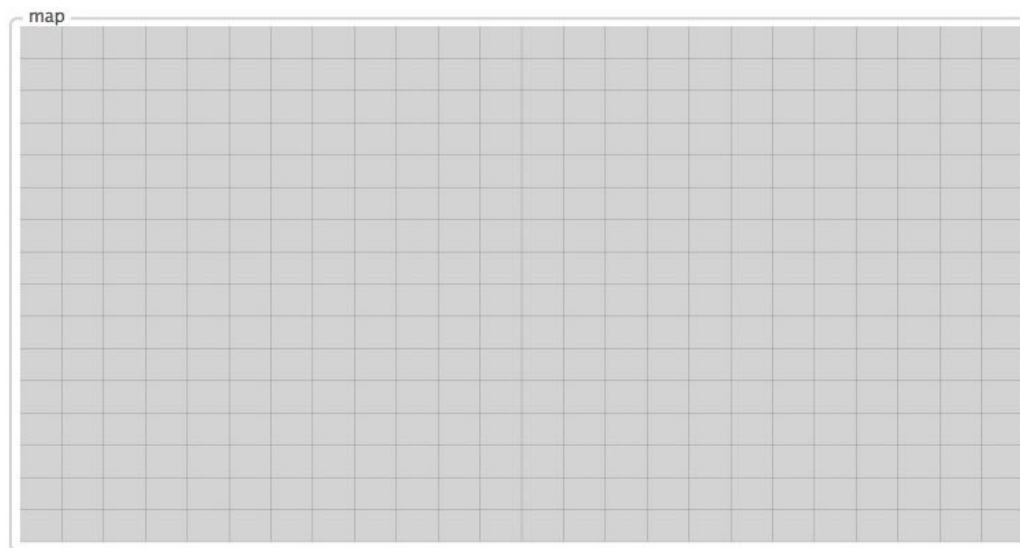


The Map Window is where the magic happens in Isomer, and is the fundamental concept to how Isomer works.

Once on-screen, you can move a Node by clicking and holding down the left mouse button on a Node, and drag it about. You delete a Node by clicking on it so that the red halo shows behind the Node, and press backspace.

Connections are indicated by arrows, and are created by dropping one Node onto another. If the connection can only go one way, the arrow will be automatically adjusted for you. Some Nodes are incompatible, such as connecting two Node Out's, so no connection will be made. Connections are deleted by clicking on the corresponding arrow to select in, and pressing backspace.

Node Map



This is the Node Map, and is where we place our Nodes. Just to remind you, a Node is simply a musical event, and by connecting them together we're saying: when this happens, do this. There are some variations to this as you'll see later, but for now, just imagine a Node as something that says 'do it'.

Node Selection

The Node Selection interface consists of two rows of controls. The top row is for 'Node Out' type nodes and the bottom row is for 'Node In' type nodes. Each row has five main components: a drop-down menu for selecting the object, a drop-down menu for selecting the type, two boxes for selecting properties, and a final colored box for dragging the selected node onto the Node Map. The top row's final box is light blue and contains the number 4. The bottom row's final box is red and contains the number 8.

node				
1	2	3	3	4
5	6	7	7	8



The Node Selection section is where you select the Transport or Sequence that the Node represents. The top row relates to 'Node Out' type Nodes, which means that they give out a signal, rather than receive them. The bottom row is 'Node In' type Nodes, which receive signals.

- 1 - This drop-down box selects the 'Node Out' object.
- 2 - This drop-down box selects the Node Out' type.
- 3 - These boxes select the 'Node Out' properties.
- 4 - This panel is for dragging the selected "Node Out' onto the Node Map.
- 5 - This drop-down box selects the 'Node In' object.

- 6 - This drop-down box selects the 'Node In' type.
- 7 - These boxes select the 'Node In' properties.
- 8 - This panel is for dragging the selected 'Node In' onto the Node Map.

The objects are either Transports or Sequences. The types are the different actions and reactions that the objects make. The properties make the Node specific. Depending on what type is selected depends on which properties boxes become available to change. Be aware that only one Node of the exact same properties is allowed on the screen at one time, but you can have replicated ones on each [Node Screen Selection](#). You make a Node by selecting from the dropdown boxes and dragging from the coloured boxes at the end of the node selection row.

As a quick start example, change the drop-down boxes so they look like this:

node					
Transport 0 ▾	Pulse ▾		Pulse 1/4 ▾		
▾	▾				

Then, drag the blue box at the end of the row to any location on the Node Map. A little blue circle should appear with a pulse symbol in the middle. This simply means that this Node gives out 'do it' signals at regular intervals. In this case, every $\frac{1}{4}$ bar, or every beat. This is a 'Node Out', because it sends a signal rather than receiving it.

Right (or control) click or a different part of the Node Map. This brings up the menu for a special type of Node called [Function Nodes](#). For now, select 'Flash Node'. This will bring up a white Node with a light bulb icon. Drag the Pulse Node onto the Flash Node, and an arrow will connect them together.



In the Main Window, press the start button for the Main Transport (top blue button in the Transports Section, with 'M' in the middle). This will make the Flash Node flash at regular intervals. You can try this with different Pulse speeds.

Each Node has a title that is based on what it does. For instance, the initial ID of the Transport Pulse Node outlined above would be "Transport 0 - Pulse 1/4". This ID is shown in the bubble when you roll the mouse pointer over the Node. You can change this ID in the Node Settings Window (see later). Function Nodes are given a random ID which can also be changed in the same way.

Now we've seen the basics of how Nodes are made and how they connect, let's go on to a more detailed look at the different types of Nodes.

Node Types

Node Outs:



Transport - Pulse - Pulse Type

As we saw in the example above, this Node sends a signal at regular intervals at the tempo of the selected Transport. You can have a variety of timings from 'Pulse 4' (every four beats), to 'Pulse 1/64' (every 64th of a bar, or 16th of a beat).



Transport - Time - Beats - Beat Divisions

Sends out a signal when the selected transport reaches a certain timepoint. Select this point in beats and beat divisions (16ths of a beat).



Sequence - Note Played - Note Number

Sends a signal when the selected note of a Sequence plays. Select the note in the properties.

Node Ins:



Transport - Start - Beats - Beats Divisions

Starts the selected Transport at a certain point. Set this point in beats and beat divisions (16ths of a beat).



Transport - Stop

Causes the immediate stop of a transport.



Sequence - Start - Start Note - Transport Follow

Starts a Sequence at a selected start time. Transport Follow decides which transport tempo at which the Sequence will run. Be aware that this Transport has to be running for the Sequence to play. Usually, it's the same Transport as the one that starts it from a Node Out. It's possible for these to be different, but can result in some strange timings if not careful.



Sequence - Stop

Causes the immediate stop of a Sequence.



Sequence - Next Note - Note to skip to

Causes the Sequence to change the next note to be played. You change the note to skip to in the properties. The sequence will continue playing after the skip.



Sequence - Play Note - Note to Play - Transport

Plays the selected note, without playing the whole Sequence. This plays independently of the Sequence, so it's quite possible for the Sequence to be playing, and play single notes from it at the same time. The Transport is necessary because the tempo of the transport also controls the length of the notes.

Function Nodes:

Function Nodes are special types of Node that perform useful tasks. Some are Node In, some Node Out, some neither, and some are both. You create a function node by right (or control) clicking the Node Map, and selected the one you want.



Function Node - Counter Node (In and Out)

Counts the number of signals received, and sends one when it's received a set amount. The default is a 2-count, so the Node will send out a signal when it receives its second. It then goes back to zero to start the count again. You set the count number in the Node Settings Window which is covered in the next section.



Function Node - Flash Node (In)

The Flash Node is simply a visual feedback Node which flashes a set colour when a signal is received. You can set the colour in the Node Settings Window.



Function Node - Key Node (Out)

The Key Node responds to key presses on your computer (qwerty) keyboard. Set the key in the Node Settings Window, and the Node will send a signal every time that key is pressed. You can change the key to respond to in the Node Settings Window.



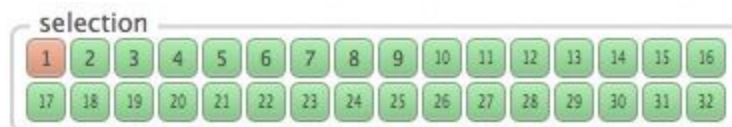
Function Node - MidilnNote Node (Out)

The MidilnNote Node responds to MIDI note signals from a controller or from another program. In the Node Settings Window you can change the MIDI device, key, and whether the Node accepts note on signals, note off signals or both. Also see [Midi](#).

Function Node - Comment Node (Neither)

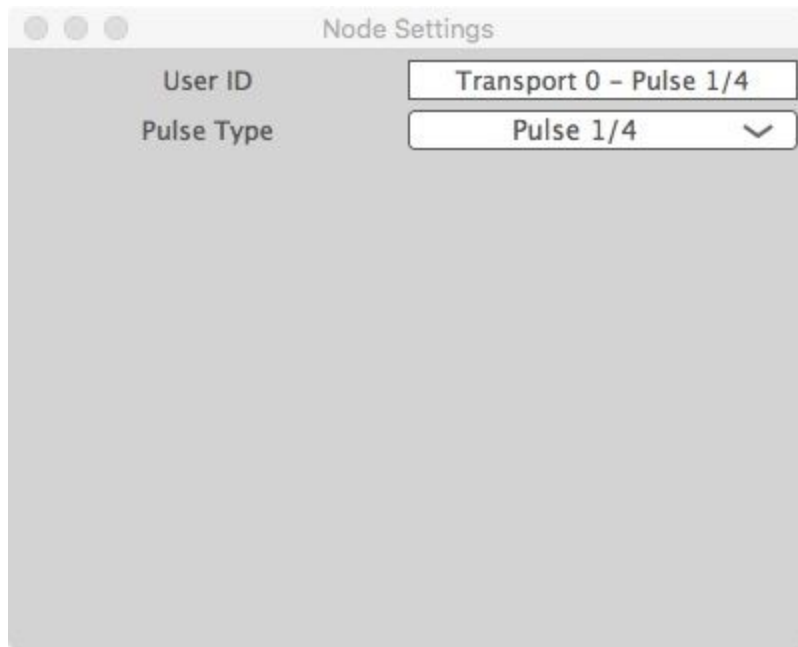
The Comment node is for adding short comments to the Node Map. This will connect to other nodes, but won't do anything. It's best to keep these short as it's single line only, and too long comments will simply shorten the node to keep it on-screen.

Node Screen Selection



If you run out of room on the Node Map, or simply wish to separate a collection of interconnected Nodes, you have 32 screen selections to add Nodes and connections. Simply click one of the boxes to move from screen to screen. The one in red indicates which screen you're currently editing.

Node Settings Window



The Node Settings Window is where you can change the properties of each individual Node. You open it by double clicking a Node. All Nodes can have their ID's changed. A few, such as the Transport Stop Node only have that option, most have more.

Sequence Edit Window

The screenshot shows a window titled "Note Sequence Edit". It contains several settings on the left and a table of sequence data on the right.

Settings:

- ID: New Sequence
- Key: C
- Octave: 4
- Key Lock: ☐
- Scale: Chromatic
- Scale Lock: ☐
- Sequence Length: 4
- Loop: ☐
- Drop Zones: M (blue), V (orange), R (green), L (yellow)

Sequence Table:

#	Midi	Vel	Start	Length	Chan
1	C4	100	0	16th	1
2	C4	100	1	16th	1
3	C4	100	2	16th	1
4	C4	100	3	16th	1

At the bottom of the table is a "+" button.

This window is where you edit the properties of a Sequence. You open this window from the main page in the Edit Sequence section, by selected the Sequence from the drop-down box, and pressing the 'E' button.

Sequence Settings

ID

The ID of the Node, this appears in the popup bubble when you roll the mouse pointer over the Node in the Node Map.

Key

This is the key of the sequence. When you set the pitches of the sequence from the [Envelope Window](#) or change the master Key in the [Main Window](#), the notes will adhere to this key.

Octave

This is the octave of the sequence. When you set the pitches of the sequence from the [Envelope Window](#), the pitches will alter around the key at this octave.

Key Lock

When you change the master key from the [Main Window](#), it automatically changes the key of all sequences. Check this box if you do not want the key of this Sequence to change when the master is changed.

Scale

This is the scale of the sequence. When you set the pitches of the sequence from the [Envelope Window](#), or change the master scale in the [Main Window](#), the notes will adhere to this scale.

Scale Lock

When you change the master scale from the [Main Window](#), it automatically changes the scale of all sequences. Check this box if you do not want the scale of this Sequence to change when the master is changed.

Sequence Length

This is the length of the Sequence. Set the length in beats in the first box, and the additional length in beat divisions (16th's of a beat), in the drop-down box. Making the length shorter will shorten the Sequence, and the notes past that point will be lost. Making it longer will add blank space to the end of the Sequence.

Loop

Checking this box makes the Sequence go back to the beginning and continue playing when the Sequence plays its final note.

Drop Zones

These coloured boxes are drop areas for dragging Envelopes from the [Envelope Window](#). The blue box marked 'M' is for MIDI notes, so the pitches of the notes will be changed. The red box marked 'V' is velocity. The green box marked 'R' is for rhythm, and this relates to placement of notes in the Sequence. The yellow box marked 'L' is note length, and sets the length of the notes.

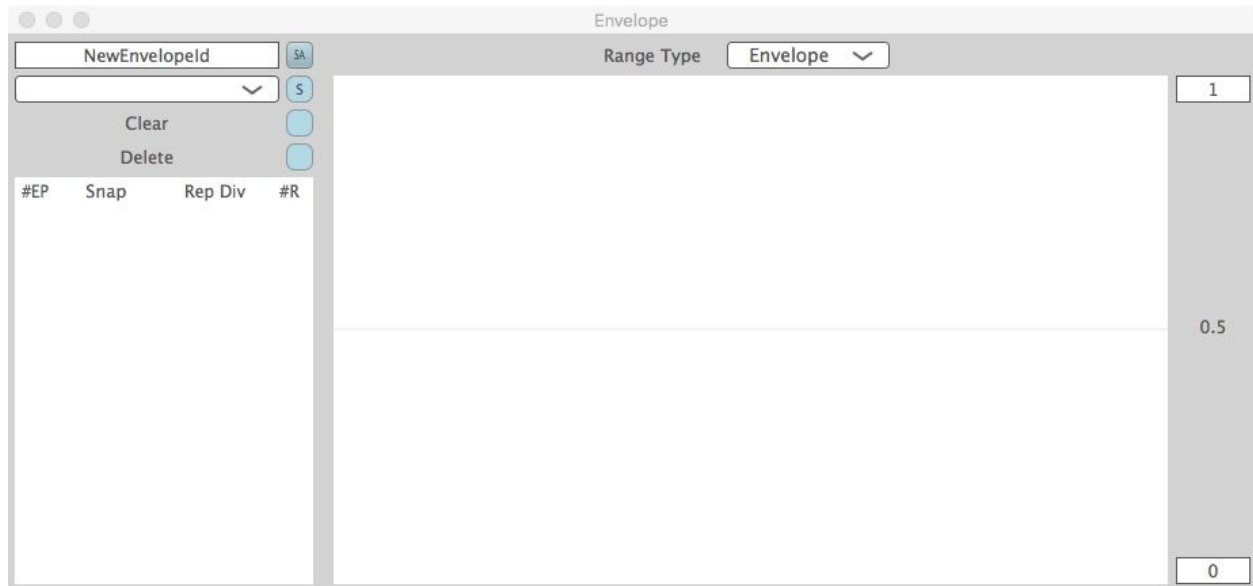
Individual Note Editing

If you want to closely edit the notes in the Sequence, or fine tune after using Envelopes, this is where you can tweak them all. The first column title # relates to the number of the note. Midi is the pitch of the note. Start is the start point of the note, in beats and beat divisions. Length is the length of the note in [Bar Divisions](#). Chan is the MIDI channel on which to play this note. At the top of each column is a blank number box or drop-down box. Use these to select the same value for all notes. If there are more notes than fit in this section, a vertical scroll bar will appear so you can move to see them.

Add New Notes

At the very bottom of the window is a full-width button with the '+' symbol. Click this to add more notes. Each note is added onto the end of the Sequence, and is a copy of the one before it.

Envelope Window



The Envelope Window is the second place where the magic happens in Isomer. You create a shape with a line, and apply it to the notes in a Sequence. As with the Map Window, we'll show how it's done with a simple quickstart example.

To add points to your envelope, double click on the Envelope Area. The first double click will create two points, one at the beginning and one at the end. The subsequent double clicks will create single points. To move a point, simply click, hold and drag. Notice that each point may not move farther than the point to the left or right. To delete a point, click so that it changes to a solid colour, then press backspace.



The top two elements in this section are for saving new Envelopes. Enter a new name in the panel, and click the button labelled 'SA'. Below this is a dropdown menu for selecting saved Envelopes. Overwrite the selected Envelope by pressing the button labelled 'S'. Below that is the clear button to reset the Envelope. Last is the delete

button which deletes the currently selected Envelope. Similarly to deleting sequences, there is no warning of deletion.

As a demonstration of how to use the Envelope, add and move points on the Envelope Area so that the result looks something like this:



To prepare for our Envelope demonstration, go to the Main Window and create a Sequence that's 4 beats long and has 8 notes. Open the Sequence Edit Window for this Sequence so that both it and the Envelope Window are on-screen. Click and hold on any of the empty space in the Envelope Area, and drag the icon that appears to the blue drop-zone marked 'M' on the open Edit Sequence Window. You will see that the MIDI notes in the individual note edit section will change. Note one will be low, and each note after will be higher in pitch, mirroring the Envelope line. If you play the Sequence, you will hear the upwards movement of notes.

Envelope Ranges

The drop-down box above the Envelope Area allows you to change the range boxes on the righthand side. It has four types of range: Envelope, MidiNote, Velocity and NoteLength. Bear in mind that whichever range is selected has no effect on which element of the note will be affected, this is decided only on which drop zone in the Sequence Edit Window you drop the envelope.

Envelope

This is a very basic range from 0 - 1. At the moment it's simply a starting view and a placeholder for future features.

MidiNote

MidiNote range represents how far above and below the root note of your Sequence the Envelope will change the pitch of the notes. The root is the combination of the key and the octave to make a single note that the Sequence centres upon. As an example, 24 in the top range box, and 6 in the lower one means that the part of the Envelope above the centre line will move notes up to two octave above the root. Below the centre line, it will move notes down up to half an octave below the root.

Velocity

Velocity range represents the entire velocity range from 0 - 127. Simply change one of the boxes to limit the range of the envelope.

NoteLength

NoteLength range is how long you want the notes. Instead of boxes to change numbers, this option shows dropdown boxes to select the higher and lower range of note lengths. See [Bar Divisions](#).

Rhythm Box

#EP	Snap	Rep Div	#R
1	4th ▾	16th ▾	0
2	8th ▾	16th. ▾	2
3	8th ▾	8thT ▾	3

The rhythm box is the last type of envelope, and works very differently from the previous ranges. Firstly, the vertical placement of the Envelope Point has no effect. So whether they're at the top or bottom, it won't make any difference. Secondly, the Rhythm Point Box pictured above comes into play.

Each Envelope Point has a dedicated line in the Rhythm Point Box. Each of them represents a single note in the Sequence which will snap to the nearest set division. Each note can have up to 99 repetitions that play straight after.

#EP

#EP is the Envelope Point number.

Snap

Snap is the bar division that each note will move to. Bear in mind that notes will always snap backwards to the previous division, rather than to the closest one. This is to prevent notes snapping to the end of the Sequence.

Rep Div

Rep Div is the bar division of the repetitions that come after the initial note. This is different from the Snap division because you may wish to have the initial note snap to the nearest previous 4th of a bar, but the repetitions to be 16th's, for example.

#R

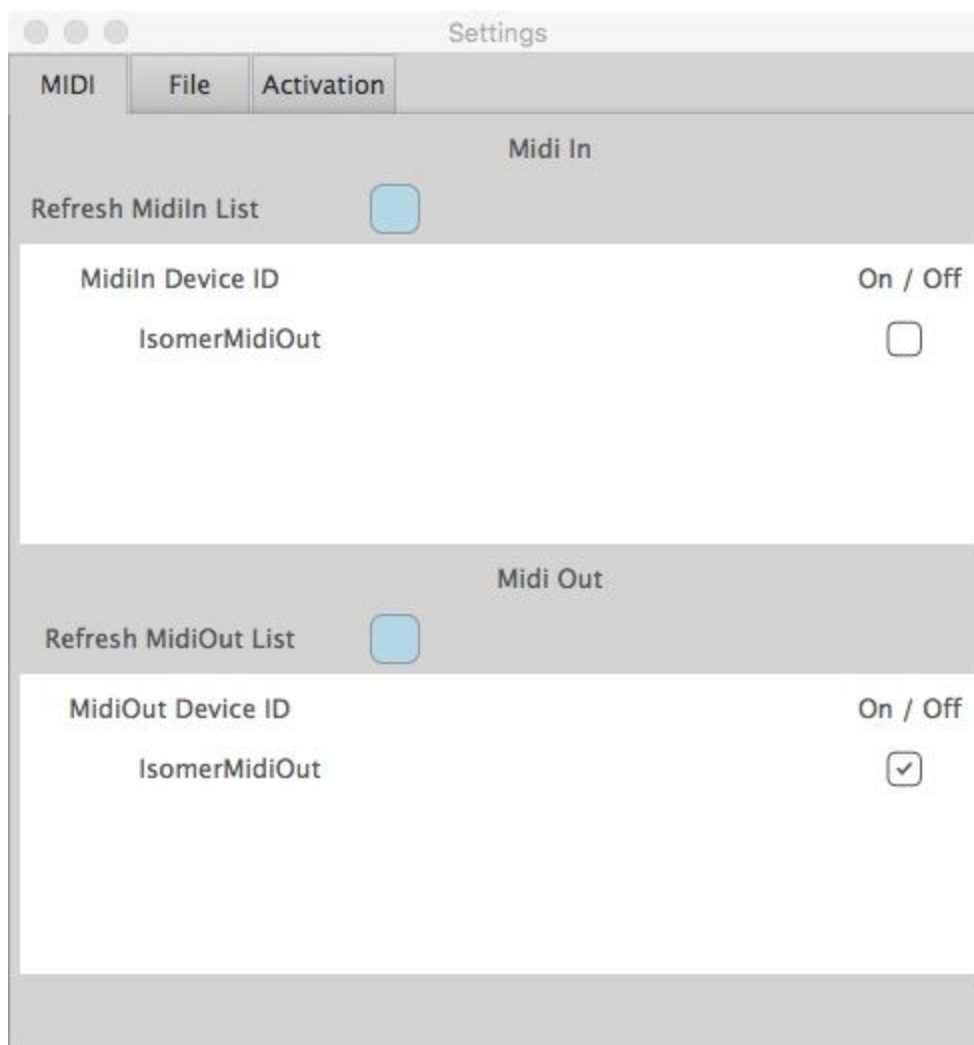
#R is the number of repetitions to be placed after the initial note.

The results of the rhythm envelope can be very interesting and sometimes unpredictable, especially if the repetitions of one note start to overlap with the next initial note.

Settings Window

The Settings Window is where all the global settings for Isomer can be found. There are currently three tabs across the top for different areas.

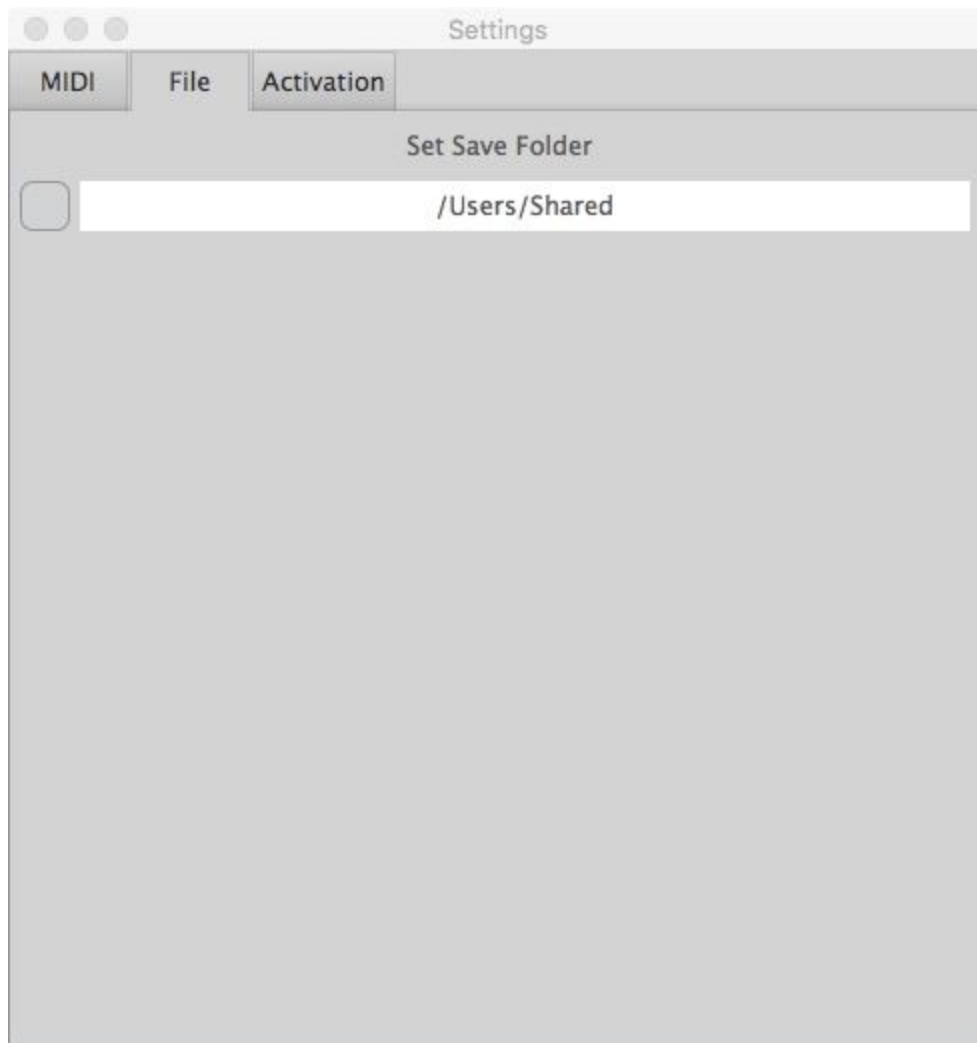
Midi



There's two sections on the Midi page, MidiIn and MidiOut. MidiIn deals with the notes coming into Isomer that can be routed using the MidiInNote Node detailed earlier in the guide. MidiOut deals with the destination of the notes that Isomer plays.

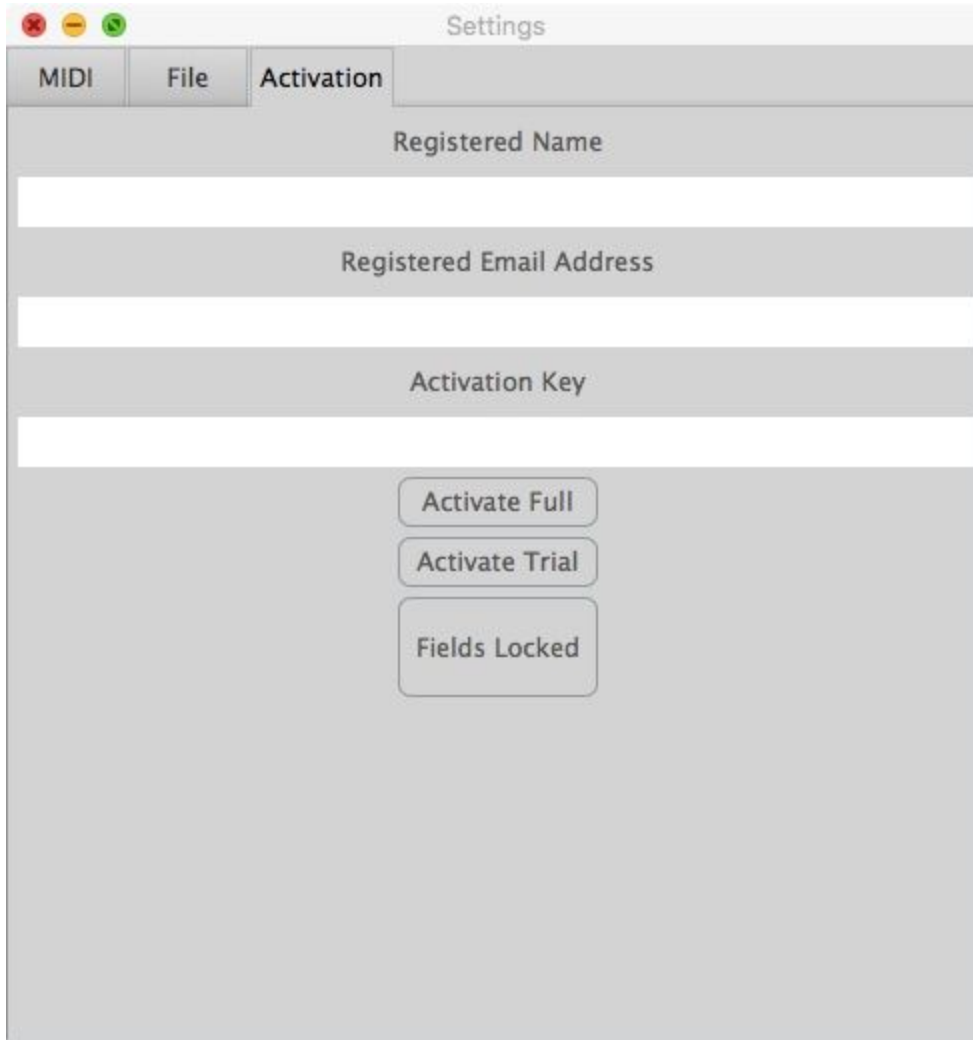
For both sections, there's a Refresh Device button, a section underneath that lists the available MIDI devices, and a toggle that turns each device on or off. Isomer remembers your preferences so that if a MIDI device that was previously engaged is available upon startup, Isomer automatically starts it for you. Bear in mind that if you connect a device when Isomer is already on, you will have to go back into Settings to start.

File



In the file section is where you can choose the directory that comes up automatically when you attempt to save or load a file. Simply press the button on the left of the of the directory box, and select where you want your default save directory.

Activation



The screenshot shows a macOS-style window titled "Settings". It has three tabs: "MIDI", "File", and "Activation". The "Activation" tab is selected. The window contains three text input fields with labels above them: "Registered Name", "Registered Email Address", and "Activation Key". Below these fields are three buttons: "Activate Full", "Activate Trial", and "Fields Locked".

This tab is where you activate Isomer with a trial or full license. A trial license lasts 28 days and is free upon registration. A full license unlocks the software permanently. Both licenses require you to register, and to request the Activation Keys on the product download page.

To start, click the 'Fields Locked' button to allow you to enter details into the fields above. The register name and registered email fields are for the name and email that you registered with on the website. These must match the ones used for registration

EXACTLY, including capitalisation and spacing. The Activation Key is available on your account page on the website, or in the email sent to you when requested. Once all these fields are inputted correctly, click the 'Activate Trial', or 'Activate Full' button to allow the software to work correctly.

Appendix

Bar Divisions

Bar divisions are a measure of time relative to the tempo. This means that the actual length of the division will change depending on the BPM of the project.

The symbol part of the division is a fraction of the bar length. 16th is 1/16 of the bar length, whilst 2 means 2 bars long. The letter after it is extra information about the length.

. is 150% of the note length, or an extra half length

T is Triplet, a third of the note length

Q is Quadruplet, a fifth of the note length

S is Septuplet, a seventh of the note length

There are many ways to divide notes. The divisions currently available allow for the most usual plus a few more, but hopefully not enough to make it overcomplicated. New divisions may be included in future updates if user feedback indicates it would be useful.

Keyboard Shortcuts

All keyboard shortcuts here are for both Mac and Windows. For Windows, simply replace cmd with control.

- cmd + z = undo
- cmd + y = redo
- cmd + w = close currently selected window
- cmd + s = save
- cmd + l = load