Delta

MIDI Computer

Select a node to edit parameters

User Manual

STATIC CLING

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1 - Introduction & Acknowledgments

Welcome to the Delta User Manual!

Delta MIDI Computer was designed to be the ultimate Player device in terms of flexibility and control. With a high priority on usability, Delta can perform an encompassing range of MIDI modification, generation, and filtering tasks. Delta covers the basics, such as quantization or tranposition, but is also capable of extremely specialized operations, and everything in between. This power is wielded by the user through an intuitive visual programming model known as a Flow Graph.

Flow Graphs are made up of Nodes, individual building blocks that can perform an array of essential and unique MIDI operations. Already powerful on their own, different Nodes can be combined and connected in an essentially infinite number of ways, to give you absolute control over your MIDI.

I truly hope you enjoying using Delta, if you have any questions, feature requests, or bugs please feel free to reach out to: **info@StaticCling.io**

Read on to learn more and be sure to check out the video tutorials on the Propellerhead Shop Page, or directly from my YouTube Channel

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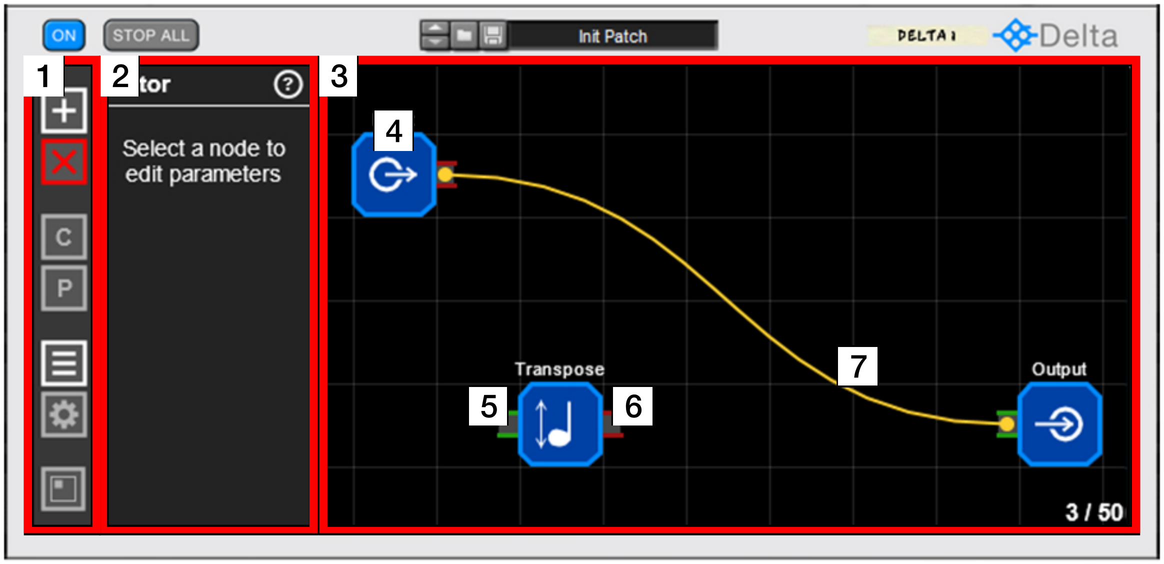
Special thanks to my ever supportive and patient wife!

2 - Delta Overview



1 - Toolbar

The Toolbar gives you constant access to all critical Delta functionality, the specifics of which are covered on the next page.

2 - Node Editor

The Node Editor is where you tweak the various parameters of a selected Node. You can also access the built in Help System from here, and change Settings. Note: The visibility of the Node Editor is toggleable! A detailed overview of the Node Editor begins on pg. 7.

3 - Flow Graph Editor

The workspace in which Delta's functionality is manipulated through the creation of Flow Graphs, a series of Nodes connected in a specific order. Note: that this work area is much larger than Delta's screen, and can be panned. A detailed overview begins on pg. 4.

4 - Node

The building block of a Flow Graph, typically performing some sort of modification or generation dependent on incoming MIDI Events. Up to 50 can be placed in a single Flow Graph. See the Node Reference for specific information. Glows when MIDI Events are received.

5 - Input

Every Node (except for the "Input Node" itself) has one Input through which it can receive MIDI Events and perform its operations. Glows when MIDI Events are received.

6 - Output

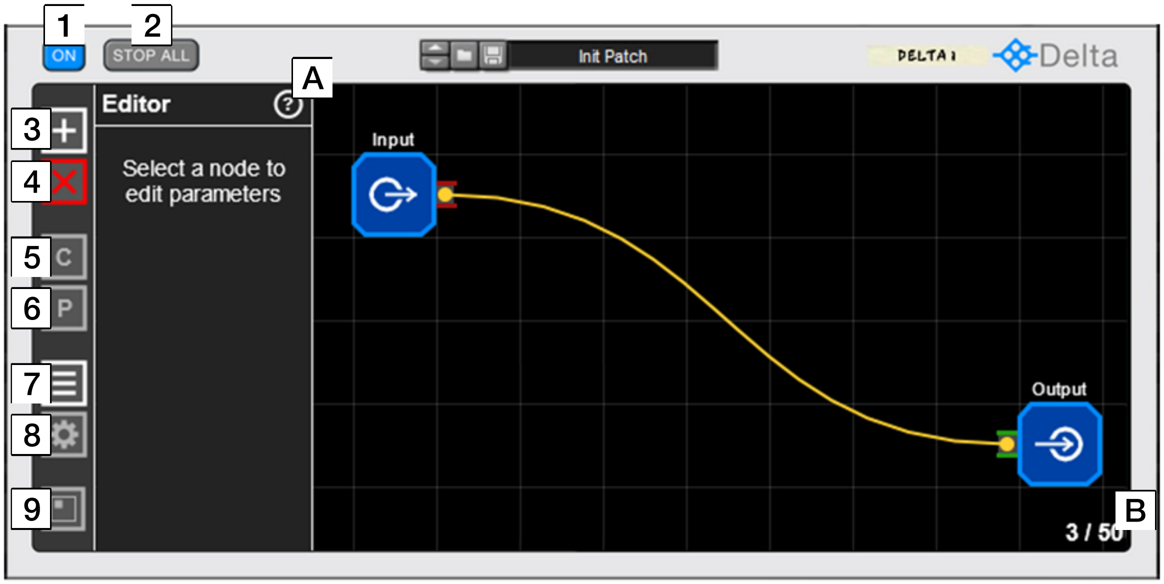
Every Node (except for the "Output Node" and "Set Seed Node") has one or more Outputs through which processed MIDI Events are broadcast. In Nodes with multiple Outputs the selected Output through which an event will be broadcast varies with the functionality of the Node. Glows when MIDI Events are broadcast.

Input and Output may be collectively referred to as I/O

7 - Connection

A Connection allows MIDI events to travel from one Node's Output to another's Input. An Output can support up to 16 Connections, while Inputs have no limit on incoming Connections. Glows when MIDI Events are traveling through.

3 - UI Overview



1 - On/Off

When toggled off, Delta will pass through all incoming events without performing any processing. Remotable and Automatable.

2 - Stop All

When pressed all currently playing MIDI Events will be stopped, any running Delays will be stopped and cleared, and Sequential Switches will be reset to their first step. Particularly useful when playing with patches that run indefinitely. Remotable and Automatable.

3 - Add Node

Creates new Nodes, see Adding Nodes, pg. 4.

4 - Delete Node

Deletes currently selected Nodes, see Deleting Nodes, pg. 4.

5 - Copy

Copies currently selected Nodes to the clipboard, see Copying & Pasting Nodes, pg. 6.

6 - Paste

Pastes contents of the clipboard, see Copying & Pasting Nodes, pg. 6.

7 - Node Editor Toggle

Shows/Hides the Node Editor, see Showing/Hiding the Node Editor, pg. 8.

8 - Settings Toggle

Shows/Hides Delta's device wide Settings in the Node Editor, see Settings, pg. 8.

9 - Mini Map Toggle

Shows/Hides the Mini Map, see Using the Mini Map, pg. 6.

A - Help Toggle

Shows/Hides the built in help system, see Using the Help System, pg. 8.

B - Node Counter

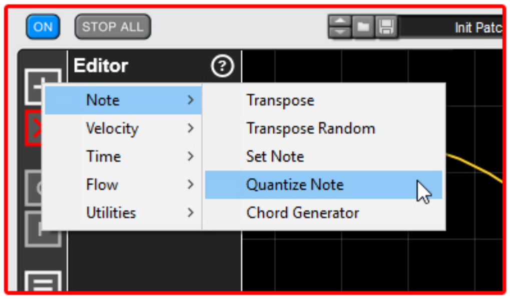
This represents the current number of Nodes out of the max (50) Nodes that a Flow Graph can currently support.

4 - Functionality

The Flow Graph Editor

Adding Nodes

-The Add Node button opens a dropdown that will create a new Node of the selected type.

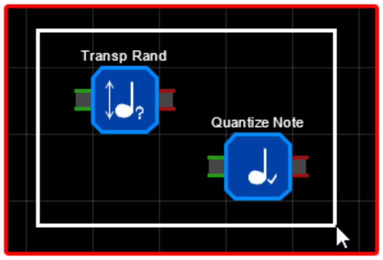


-It will always be placed in the top left of the currently visible Flow Graph Editor view, with no Connections.
-A single instance of Delta can support up to 50 Nodes of any type.

Hotkey: Ctrl/Cmd + Clicking on a Node will duplicate the clicked

Selecting Nodes

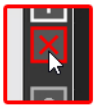
-Nodes can be selected by Clicking anywhere on a Node.
-Box selection is also available by Clicking + Dragging in open space, selecting all Nodes with at least on corner inside the box.



Hotkey: Shift + Clicking a Node will toggle its selection while maintaining the rest of the selection!

Deleting Nodes

-Pressing the Delete Node button will cause all currently selected Nodes to be deleted.



-Input and Output Nodes are immune to deletion since they are required.

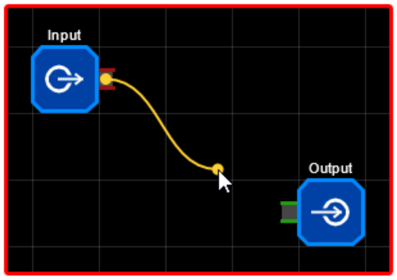
Hotkey: Alt + Clicking on a Node will delete the clicked Node!

Moving Nodes

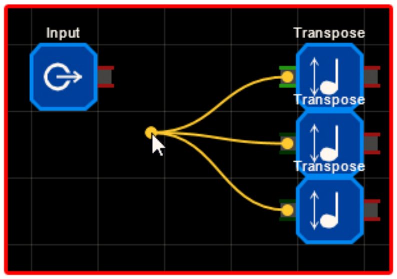
-Clicking + Dragging with one or more Nodes selected will allow you to move them around the Flow Graph Editor.
-If multiple Nodes are selected their relative positions will be maintained when dragging.
-Dragging Nodes outside the Flow Graph Editor view will cause the camera to pan
-By default Nodes are snapped to a grid, but the size of the grid and snapping behavior can be changed in Settings

Connecting Nodes

-Clicking + Dragging an Input or Output WITHOUT Connections will attempt to create a new Connection from that I/O. Subsequently releasing over an I/O of the opposite type (i.e. Output -> Input or Input -> Output) will confirm the new Connection. The proper destination I/O will be highlighted while dragging.



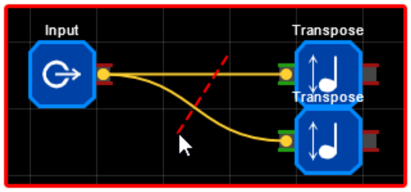
-Clicking + Dragging an Input or Output WITH Connections will "grab" the existing Connections and give you the ability to connect them to another compatible I/O.



Hotkey: Ctrl/Cmd + Clicking + Dragging will force a new Connection, even if Connections already exist at that I/O!

-To break a Connection, grab one end and release over open space

Hotkey: Alt + Clicking + Dragging in open space will activate the Cut Tool, which will break any Connections its line intersects. Great for rapid and precise disconnecting!

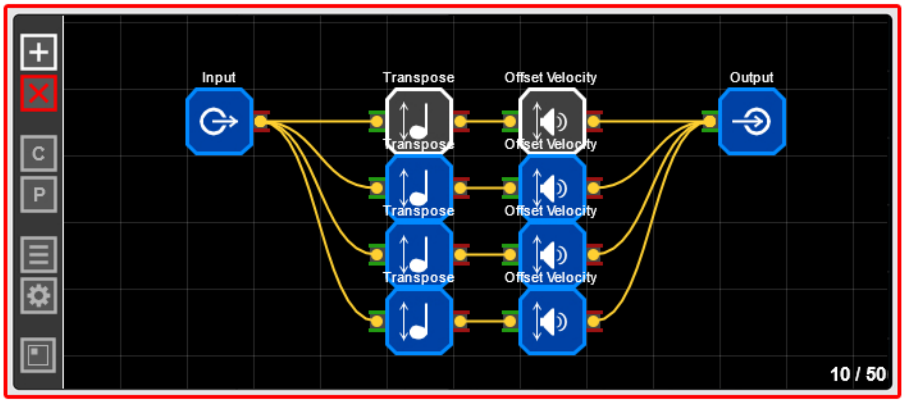


Panning the Flow Graph Editor

-Holding Shift while Clicking + Dragging pans the camera around the Flow Graph Editor. This is useful when working on larger and more complex Flow Graphs.
-If you get lost or need to rapidly navigate a large Flow Graph, try the Mini Map

Copying & Pasting Nodes

-Copying and Pasting Nodes is done by selecting one or more Nodes and first hitting the Copy button to store that selection to the clipboard. You can then press the Paste button to reproduce the contents of the clipboard at or adjacent to the original copy location.
-Copying and Pasting multiple Nodes in a single operation will attempt to intelligently maintain Connections between the contents of the clipboard and the Nodes outside of it, which can be handy for quickly creating certain complex Flow Graphs.



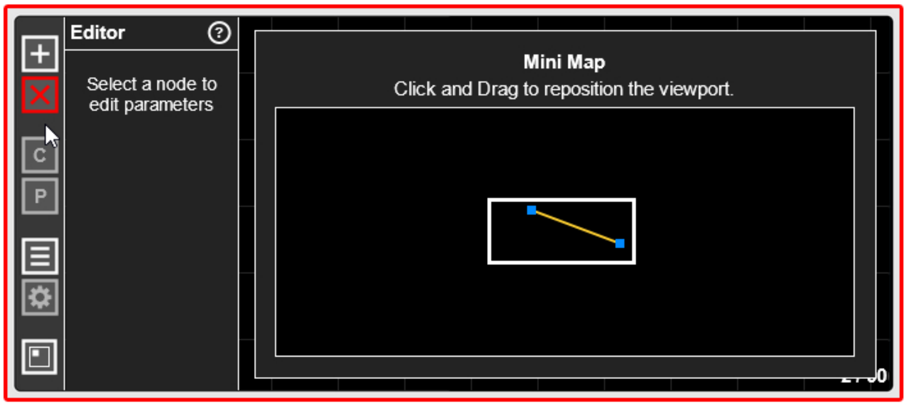
Copy Button ->

Paste Button ->

The white selected nodes were Copied & Pasted 3 times. Note how relative relationships are maintained for nodes in and out of the clipboard contents

Using the Mini Map

-The Mini Map is toggled on and off using the Mini Map Toggle. It is available for quick navigation of large Flow Graphs or to help you find your way back to your Flow Graph if it accidentally pans out of view. Opening the Mini Map will present a scaled down view of the full Flow Graph editing workspace. A white box represents the current viewport, which can be dragged to control the Flow Graph Editors current viewport.



Select a node to edit parameters

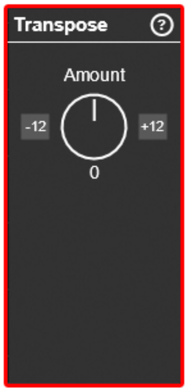
Mini Map

Click and Drag to reposition the viewport.

Mini Map Toggle ->

The Node Editor

-The Node Editor gives you control over the specific functionality of individual nodes. When a **single** node is selected, its various parameters are shown in the Node Editor, and can be tweaked to achieve a range of operation.

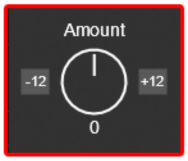


Amount 0

-There is a large number of unique parameters across the different Nodes, which are covered in detail in the Node Reference, but comparatively few kinds of controls

Knob

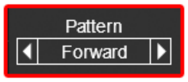
The Knob is the most common control type, allowing you to tweak a numerically ranged parameter by clicking in its circle and dragging up or down. Holding Shift while doing this will increase precision. Holding Ctrl/Cmd and clicking a Knob will reset it to its default. Some Knobs have -12/+12 buttons on either side, to easily increase or decrease a knobs value by an octave.



Amount 0

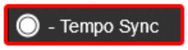
Carousel

The Carousel control allows you to select from a fixed set of specific options for a given parameter by clicking on the left and right arrows. Carousels will loop back to their first option when trying to move past the last option. Holding Ctrl/Cmd and clicking a Carousel will reset it to its default.


Pattern Forward

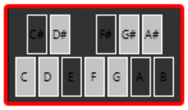
Toggle

The Toggle allows you to enable or disable certain parameters.


○ - Tempo Sync

Keyboard

The Keyboard is a specialized control that is found on the Quantize Note Node, it allows the users to select which notes are included in their custom scale by clicking each to toggle them on or off.



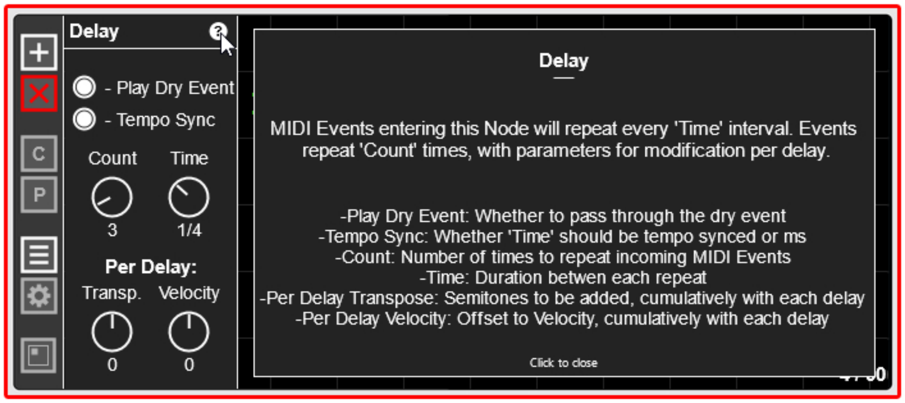
Showing/Hiding the Node Editor

-The Node Editor can be hidden to allow for a large work space when constructing Flow Graphs. Clicking the Node Editor Toggle button will switching between a shown and hidden state.

-Double clicking a Node will show the Node Editor if it is hidden, and conversely double clicking in open space in the Flow Graph Editor will cause the Node Editor to hide.

Using the Help System

-An internal help system is available with the intent of being a quick reference to quickly learn a Node's functionality and parameters. This can be accessed by selecting a single node and hitting the Help button.



Delay

MIDI Events entering this Node will repeat every 'Time' interval. Events repeat 'Count' times, with parameters for modification per delay.

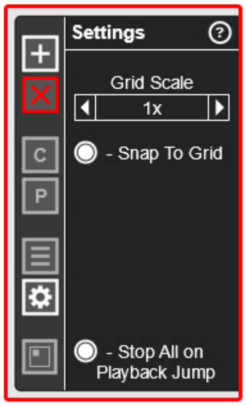
-Play Dry Event: Whether to pass through the dry event
-Tempo Sync: Whether 'Time' should be tempo synced or ms
-Count: Number of times to repeat incoming MIDI Events
-Time: Duration betwen each repeat
-Per Delay Transpose: Semitones to be added, cumulatively with each delay
-Per Delay Velocity: Offset to Velocity, cumulatively with each delay

Click to close

Settings

-The Settings affect the overall operation of Delta. They can be accessed by pressing the Settings toggle, and will show in the Node Editor. To return the Node Editor to normal functionality, press the Node Editor Toggle or double click a Node.

Settings Toggle ->



-Grid Scale: The size of the grid shown in the Flow Graph Editor
-Snap To Grid: Enable or disable the snapping of Node position when dragging Nodes
-Stop All On Playback Jump: When enabled, if the Playback marker moves forward or backward for non playback reasons, a Stop All is applied. This is typically desired as it restarts delays and sequences when looping, moving the playback header manually, etc, and is enabled by default.

5 - Node Reference

Input, Output - pg. 9
Transpose, Transpose Random, Set Note - pg. 10
Quantize Note, Chord Generator - pg. 11
Offset Velocity, Offset Velocity Random, Set Velocity - pg. 12
Velocity Curve, Multiply Velocity, Offset by MIDI # - pg. 13
Delay, Clock Divider - pg. 14
Chance Switch, Sequential Switch, If - pg 15
Merger/Splitter, CV Output, Set Seed - pg 16

Input

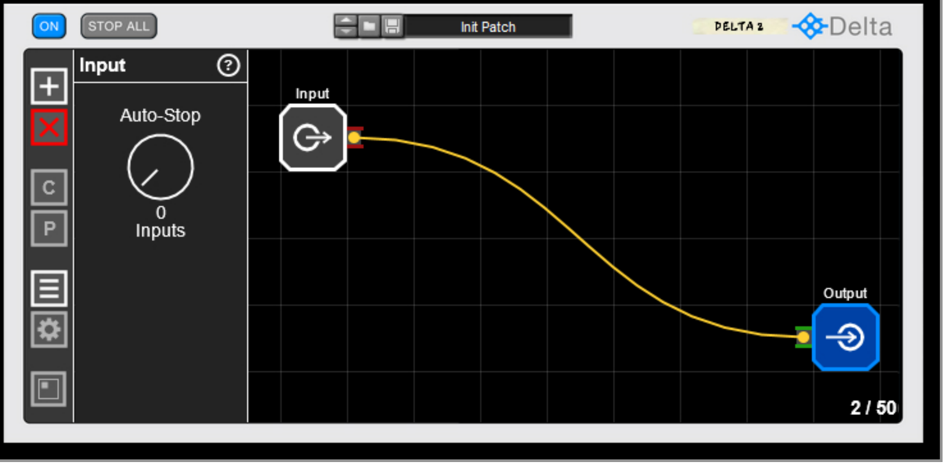
Category: N/A

The **Input Node** is included in all patches by default and is a required Node. It can not be deleted or duplicated. It is the starting point of all Flow Graphs, any MIDI Events that Delta receives, whether that be from the sequencer, a MIDI device, or another Player, will travel out of this Node to be processed by subsequent Delta Nodes.

Auto-Stop: When this parameter is set to 1 or higher, Delta will automatically apply a Stop All after that many events have been received. This is useful for patches where you want to limit the overlap of notes. Default 0 (disabled), Min.: 0, Max.: 64

Patch Explanation:
Init Patch

In this patch any and all MIDI Events that are processed by Delta will come from the Input Node. Given that this is the Init Patch for Delta, no processing is actually applied, and Events reach the Output Node (explained next) with no changes.



Input

Auto-Stop

0
Inputs

Output

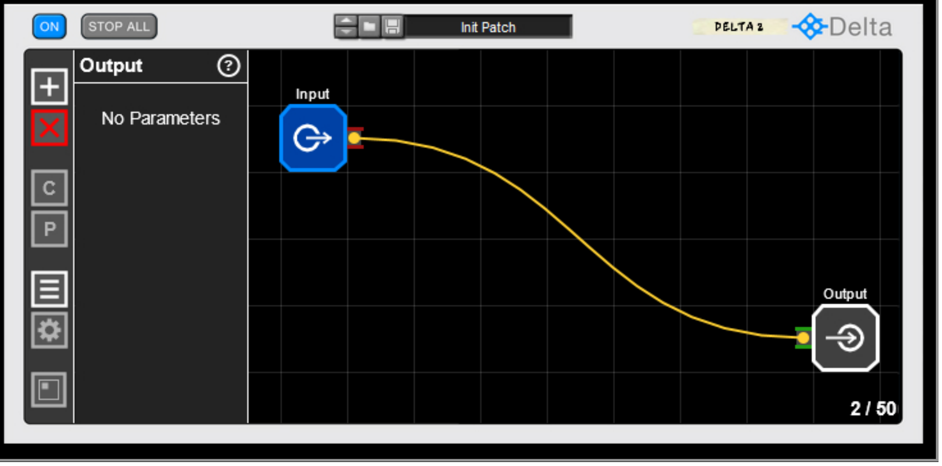
Category: N/A

The **Output Node** is included in all patches by default and is a required Node. It can not be deleted or duplicated. MIDI Events that reach this Node will be output to the next Player Device or Instrument in the rack. There is also a separate CV Output Node, under the Utilities Category.

This Node has no parameters

Patch Explanation:
Init Patch

In this patch all MIDI Events are coming straight from the Input Node without any processing applied. All MIDI Events will reach the Output Node unchanged, and be output to the next device in the rack.



Output

No Parameters

Transpose

Transpose

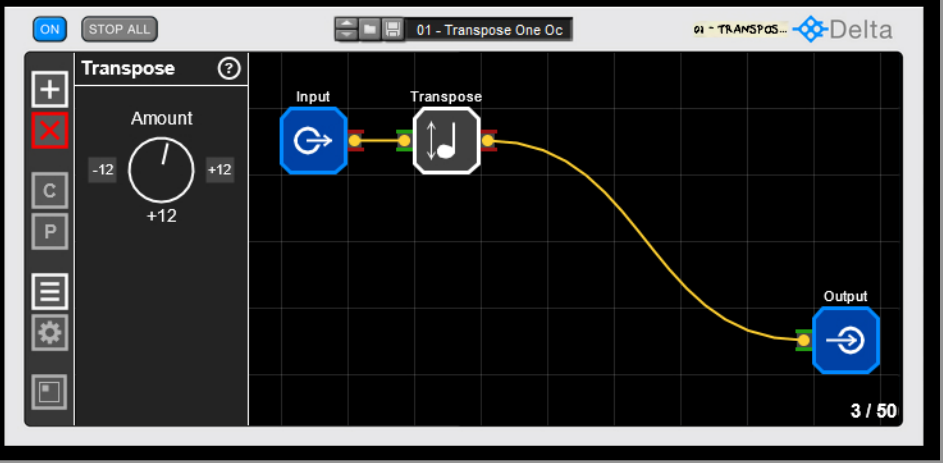
Category: Note

MIDI Events that travel through a **Transpose Node** will have their Note Number transposed by the 'Amount' Parameter. If the result of this operation would cause a Note Number to be out of the valid MIDI range, it will be clamped [0-127].

Amount: How much to transpose the Note Number by, defined in semitones.
Default: 0, Min.: -127, Max.: 127

Patch Explanation: Basics - 01

In this patch, the 'Amount' Parameter is set to +12, or up one octave. Therefore if a C3 was played, it would be transposed to C4. a D3 would become a D4, etc.



Amount +12

Transpose Random

Transp Rand

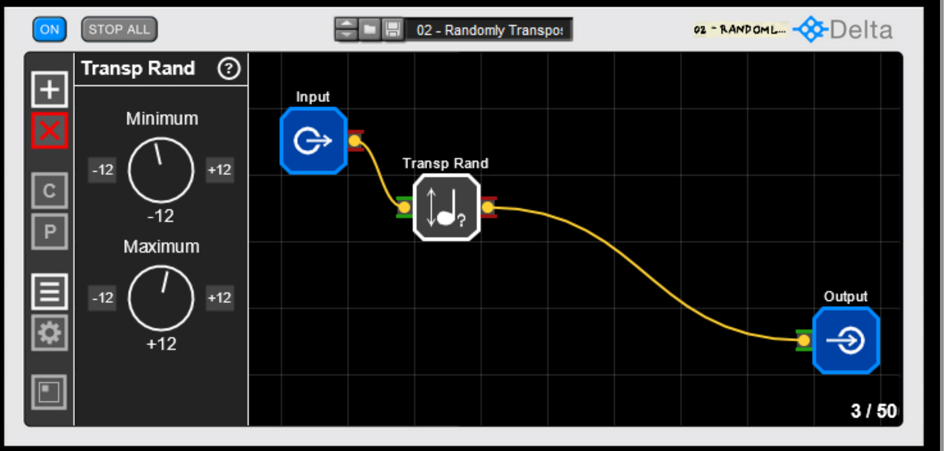
Category: Note

MIDI Events that travel through a **Transpose Random Node** will have their Note Number transposed by a random number of semitones between the 'Minimum' and 'Maximum' Parameters. If the result of this operation would cause a Note Number to be out of the valid MIDI range, it will be clamped [0-127].

Minimum: Lower bound in semitones for the amount of random transposition.
Default: -12, Min.: -127, Max.: 127
Maximum: Upper bound in semitones for the amount of random transposition.
Default: 12, Min.: -127, Max.: 127

Patch Explanation: Basics - 02

In this patch the 'Minimum' Parameter is set to -12, and the Maximum is +12. Therefore each time a C3 is played, it could end up as anything between a C2 and a C4.



Minimum -12
Maximum +12

Tip: Random transposition too chaotic? Try placing a Quantize Note Node right after a Transpose Random Node to get randomness that stays in your selected key!

Set Note

Set Note

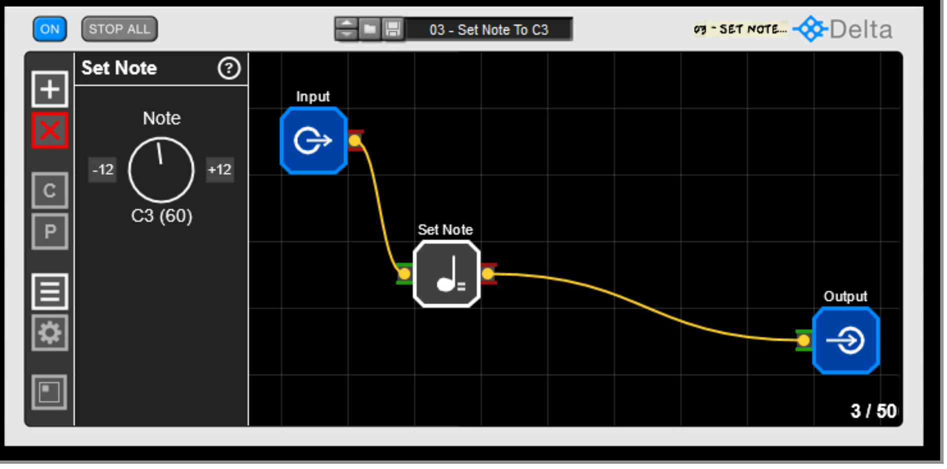
Category: Note

MIDI Events that travel through a **Set Note Node** will have their Note Number set to a specific Note Number as defined by the 'Note' Parameter.

Note: The Note Number that the Event will bet set to
Default: C3 (60), Min.: C-2 (0), Max.: G8 (127)

Patch Explanation: Basics - 03

In this patch, the 'Note' Parameter is set to C3 (60). Therefore no matter what Note Number an Event has prior to hitting this Node, it will be output with a Note Number of C3.



Note C3 (60)

Quantize Note

Quantize Note

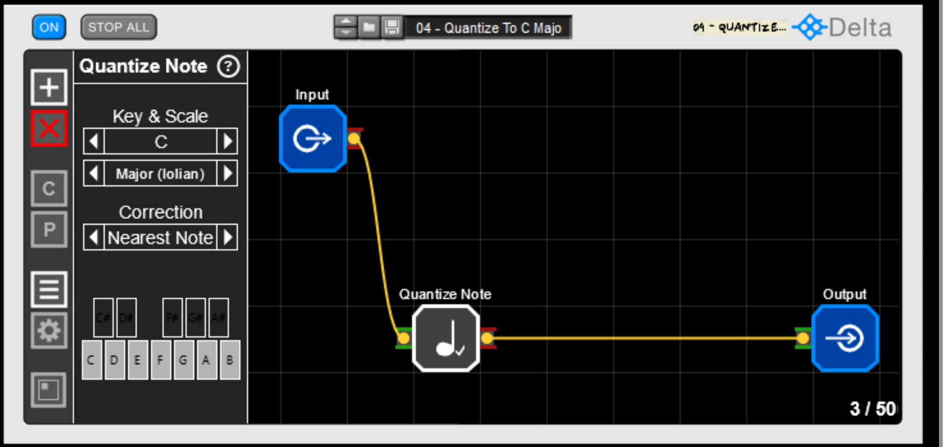
Category: Note

MIDI Events that travel through a **Quantize Note Node** will have their note checked against a scale. If the 'Correction' Parameter is set to Nearest Note any notes out of scale will be changed to the closest note in the scale. If its set to Mute, the out of scale events will not be output at all. Scales can be set to a preset from the 'Key & Scale' Parameters or user defined by manually toggling specific notes on the keyboard control.

Key & Scale: Use these two carousels to select on of the preset scales, default: C Major.
Correction: How to handle notes that are out of scale
Keyboard Control: Use this to visualize the selected preset or create a custom scale

Patch Explanation: Basics - 04

In this patch the 'Key & Scale' are set to C Major and the 'Correction' is Nearest Note. Therefore, any notes played in scale (C,D,E,F,G,A) will pass through unchanged, and any out of scale notes will be changed to the closest one in scale.



Key & Scale
C
Major (Iolian)

Correction
Nearest Note

Tip: Quantize Note Nodes are useful for ensuring generated MIDI stays in a musical key, try it after Transpose Random Nodes, Delays with Transpose, and Chord Generators!

Chord Generator

Chord Gen

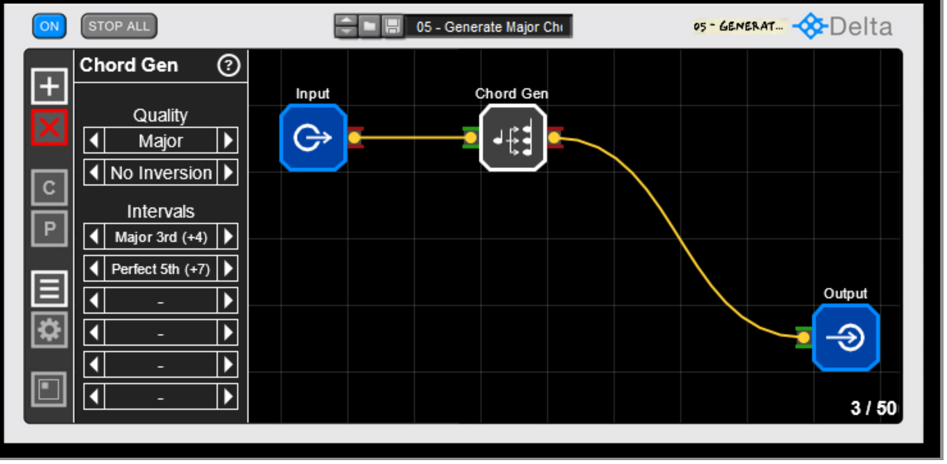
Category: Note

MIDI Events that travel through a **Chord Generator Node** will create additional MIDI Events with Note Numbers set relative to the original Event, in order to generate chords. A large selection of preset chords are selectable and the specific intervals themselves can be seen and set to custom values.

Quality + Inversion: Select a preset chord to generate, and an optional inversion.
Intervals: The specific intervals to be played, relative to the incoming MIDI Event's Note Number. Can be preset or customized.

Patch Explanation: Basics - 05

In this patch, the Chord Generator is set to produce Major chords. If a C3 was played it would simultaneously generate an E3 and a G3 Event, producing a C Major chord. Since intervals are relative to the played note, a C# would produce a C# Major chord, etc.



Quality
Major
No Inversion

Intervals
Major 3rd (+4)
Perfect 5th (+7)
-
-
-
-

Offset Velocity

Offset Velocity

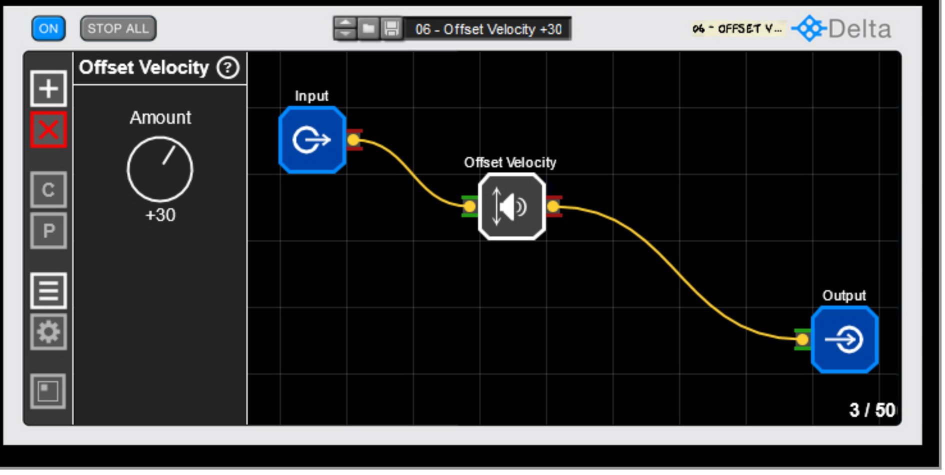
Category: Velocity

MIDI Events that travel through a **Offset Velocity Node** will have their Velocity increased or decreased by the ‘Amount’ Parameter. If the result of this operation would cause the Velocity to be out of the valid MIDI range, it will be clamped [0-127].

Amount: How much to increase or decrease an Event’s velocity by.
Default: 0, Min.: -127, Max.: 127

Patch Explanation: Basics - 06

In this patch, the ‘Amount’ Parameter is set to +30. Therefore if an Event arrived at the Node with 20 Velocity, it would leave the Node with a Velocity of 50. If one arrived with 80, it’d leave with 110.



Offset Vel. Random

Offset Vel Rand

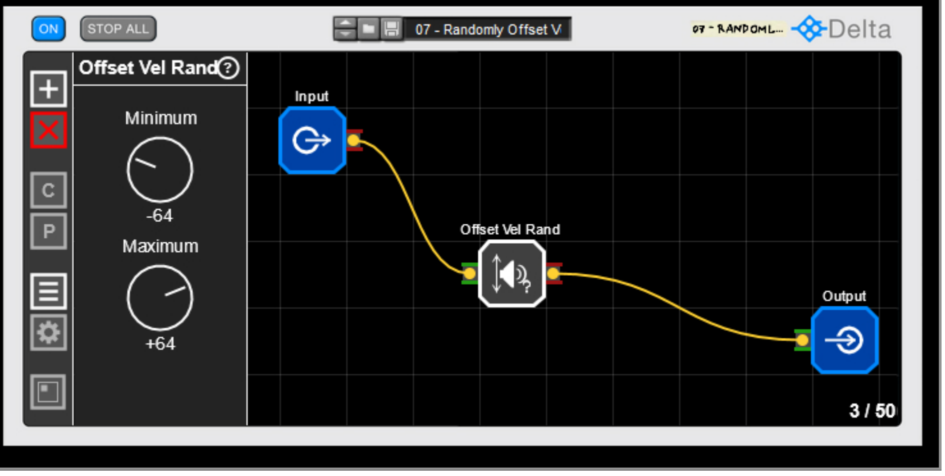
Category: Velocity

MIDI Events that travel through a **Offset Velocity Random Node** will have their Velocity increased or decreased by a random amount between the ‘Minimum’ and ‘Maximum’ Parameters. If the result of this operation would cause the Velocity to be out of the valid MIDI range, it will be clamped [0-127].

Minimum: Lower bound for amount of randomized velocity change
Default: -12, Min.: -127, Max.: 127
Maximum: Upper bound for amount of randomized velocity change
Default: 12, Min.: -127, Max.: 127

Patch Explanation: Basics - 07

In this patch the ‘Minimum’ Parameter is set to -64, and the Maximum is +64. If an Event with a Velocity of 64 entered this Node it could be output at any Velocity between 0 and 127 due to this wide range for randomization.



Set Velocity

Set Velocity

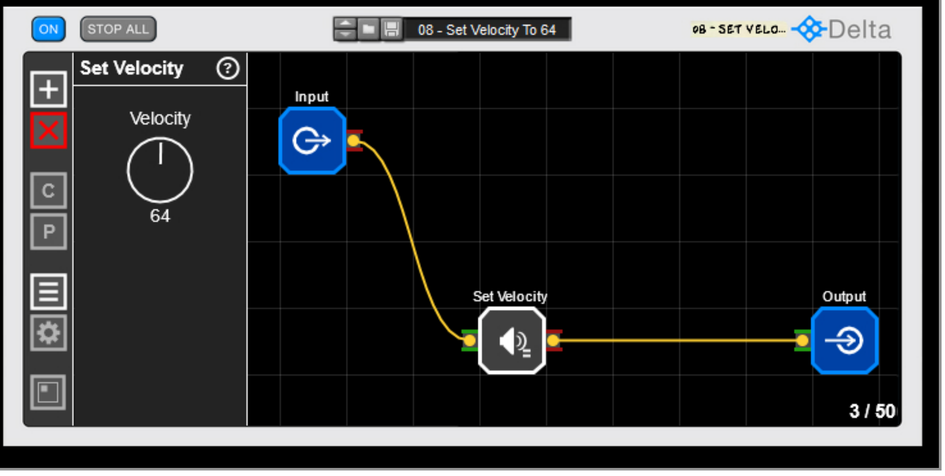
Category: Velocity

MIDI Events that travel through a **Set Velocity Node** will have their Velocity set to a specific Velocity as defined by the ‘Velocity’ Parameter.

Velocity: The Velocity that the Event will be set to
Default: 64, Min.: 0, Max.: 127

Patch Explanation: Basics - 08

In this patch the ‘Velocity’ Parameter is set to 64. Therefore no matter what Velocity an Event has prior to hitting this Node, it will be output with a Velocity of 64.



Velocity Curve+: Velocity Curve

Vel Curve +

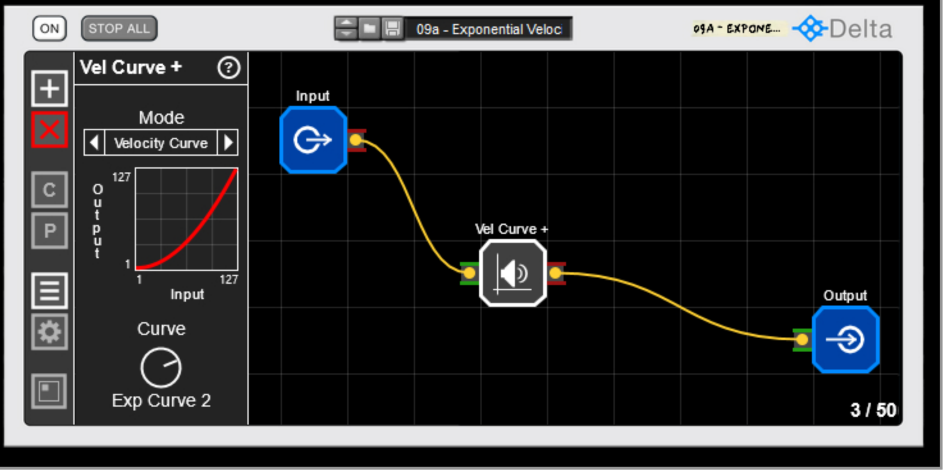
Category: Velocity

MIDI Events that travel through a **Velocity Curve+ Node** in **Velocity Curve Mode** will have their Velocity rescaled by a mathematic curve that is selected with the 'Curve' parameter. The curve selection covers a range from logarithmic to exponential functions. The graph shows the output velocity (y-axis) for each given input velocity (x-axis).

Curve: The shape of the velocity curve, from logarithmic to exponential

Patch Explanation: Basics - 09a

In this patch, the selected exponential 'Curve' will result in an extended response in the lower velocity range and a shortened one in the higher range.
An input velocity of:
1 would output 1.
32 would output 9.
64 would output 35.
96 would output 75.



Mode: Velocity Curve

Curve: Exp Curve 2

Velocity Curve+: Multiply Velocity

Vel Curve +

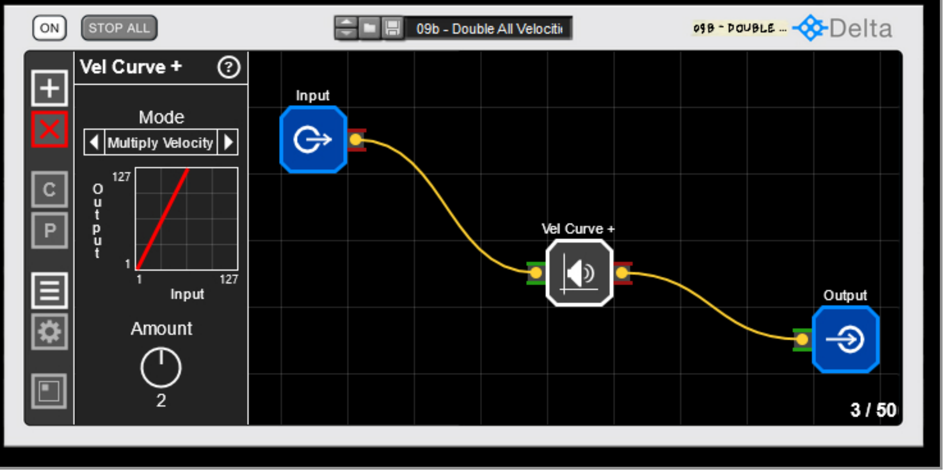
Category: Velocity

MIDI Events that travel through a **Velocity Curve+ Node** in **Multiply Velocity Mode** will have their Velocity multiplied by a constant 'Amount'. If the result of this operation would cause the Velocity to be out of the valid MIDI range, it will be clamped [0-127].

Amount: How much to multiply the Event's velocity by

Patch Explanation: Basics - 09b

In this patch the 'Amount' Parameter is set to 2, which will cause all Events to output at double their incoming velocity.
An Input Velocity of:
1 would output 2.
16 would output 32.
32 would output 64.
64 would output 127.
96 would output 127.



Mode: Multiply Velocity

Amount: 2

Velocity Curve+: Offset By MIDI #

Vel Curve +

Category: Velocity

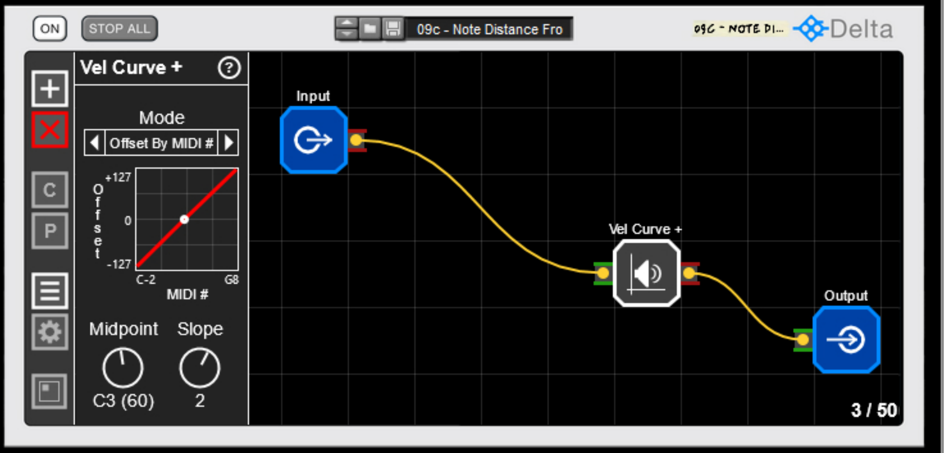
MIDI Events that travel through a **Velocity Curve+ Node** in **Offset By MIDI # Mode** will have their Velocity offset according to the following: (Note Number - 'Midpoint') * 'Slope' This means that the further the Event's Note Number is from the 'Midpoint', the greater the offset will be, at a rate determined by 'Slope'. If the result of this operation would cause the Velocity to be out of the valid MIDI range, it will be clamped [0-127].

Midpoint: The basis for determining Note Number distance
Slope: The rate at which the velocity offset is applied over Note Number distance

Patch Explanation: Basics - 09c

In this patch the 'Midpoint' is set to C3 (60) with a 'Slope' of 2. This means that for each Note Number distance from C3 (60) the incoming Event is it will be offset by an additional +/- 2.
An Input Note # of:
C#3 (61) is offset by +2
(61 - 60) * 2 = 2

C4 (72) is offset by +24
C2 (48) is offset by -24



Mode: Offset By MIDI #

Midpoint: C3 (60)

Slope: 2

Delay

Delay

Category: Time

MIDI Events that travel through a **Delay Node** will trigger a delay/repeating MIDI effect that can be controlled through a number of parameters. When the ‘Count’ Parameter is maxed it will repeat infinitely which can be useful for running patches. Delays can be stopped early at any time with the Stop All button or by pressing Stop in the transport. The ‘Per Delay’ Parameters allow you to change the Note Number or Velocity cumulatively with each delay.

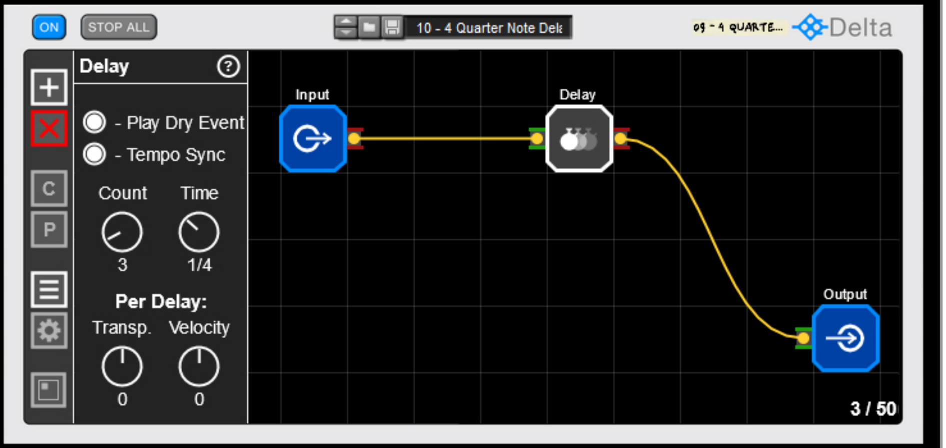
Play Dry Event: Toggle to control whether the “dry” source MIDI Event is output or not.
Tempo Sync: Toggles the ‘Time’ Parameter between tempo synced time divisions and milliseconds.

Count: Number of times the source MIDI event will be repeated. At the maximum value it will run indefinitely and will need to be manually stopped.
Time: Duration of each delay, measured in Time Divisions or milliseconds depending on the ‘Tempo Sync’ Parameter.

Per Delay: Parameters below are applied cumulatively to each delay. If ‘Play Dry Event’ is On the Dry Event will be unmodified.
Transposition: How much to transpose each repeat, cumulative.
Velocity: How much to change velocity by each repeat, cumulative.

Patch Explanation: Basics - 10

In this patch every played MIDI Event will be repeated 3 additional times, separated by 1/4 Time Divisions (quarter notes). Since ‘Play Dry Event’ is On the original MIDI Event will be output, resulting in 4 repeated notes each time an Event is played. The ‘Per Delay’ Parameters do nothing in this patch.



Delay
○ - Play Dry Event
○ - Tempo Sync
Count 3
Time 1/4
Per Delay:
Transp. 0
Velocity 0

Clock Divider

Clock Divider

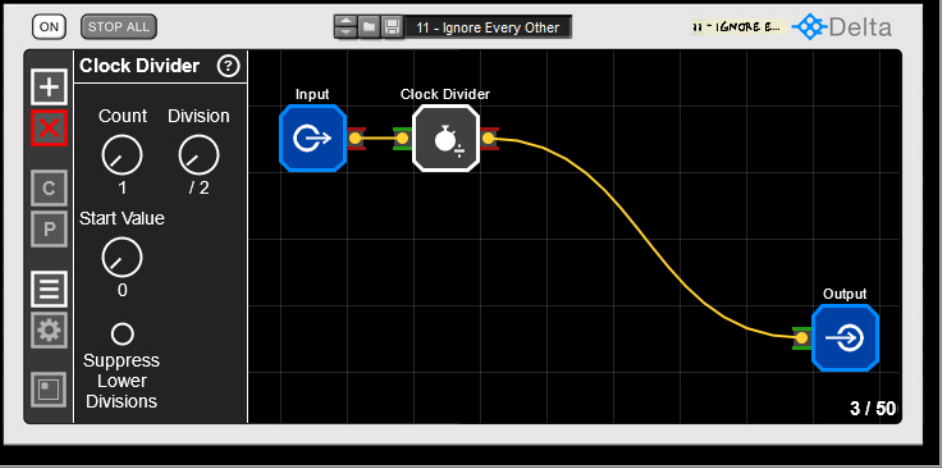
Category: Time

MIDI Events that travel through a **Clock Divider Node** will be blocked until ‘Division’ number of events have entered, at which point the counting will start over. Each Output has its own ‘Division’ parameter. Useful for rhythmic pattern generation when paired with a consistently timed source of MIDI Events, such as a Delay Node. Stop All resets counts.

Count: The number of Outputs this Node has. Default: 2, Min.: 1, Max.: 4
Start Value: Initial offset that is applied to all divisions, only applies after a Stop All/Reset
Division: Number of MIDI Events it takes for one to be output, per Output
Suppress Divs: If >1 Output is triggered, only output on the highest **Division** Output(s)

Patch Explanation: Basics - 11

In this patch the Clock Divider has a single Output with a ‘Division’ of 2 and a ‘Start Value’ of 0. This will cause the first MIDI Event to be blocked, then the 2nd to be output, 3rd blocked, 4th output, etc.



Clock Divider
Count 1
Division / 2
Start Value 0
○ Suppress Lower Divisions

Chance Switch

Chance Switch

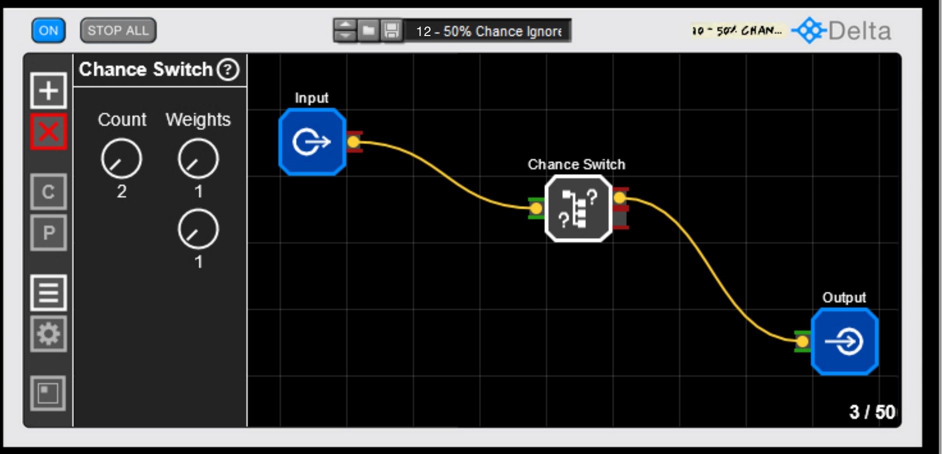
Category: Flow

MIDI Events that travel through a **Chance Switch Node** will be output from a randomly selected Node Output, allowing for randomized routing of Events to subsequent Nodes. The number of Outputs on this node is adjustable using the 'Count' Parameter. The random selection of Outputs can be weighted by using the 'Weights' Parameter.

Count: The number of Outputs this Node has. Default: 2, Min.: 2, Max.: 4
Weights: Allows for biasing the randomized Output selection, a higher weight will increase likelihood of selection. Weights are cumulative, equal weights means equal chances.
[1, 1] = 50%, 50% [2, 1] = 66%, 33% [4, 1, 1, 1] = 57%, 14%, 14%, 14%

Patch Explanation: Basics - 12

In this patch we have a Chance Switch with 2 Outputs. Each Output has a Weight of 1, which means an equal chance of being selected. Therefore each time an Event is played, there's a 50% it will go through Output 1 and continue on to the final Output Node, and a 50% chance it will go through Output 2 and never be output at all.



Tip: If you need more than 4 randomized Outputs you can always chain multiple Chance Switch Nodes together!

Sequential Switch

Seq Switch

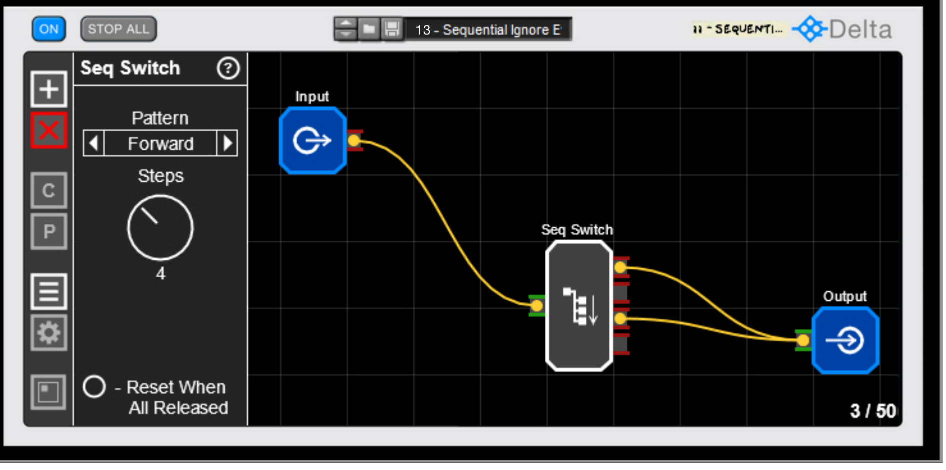
Category: Flow

MIDI Events that travel through a **Sequential Switch Node** will be output from a sequentially selected Node Output, allowing for sequenced routing of Events to subsequent Nodes. Each time a MIDI Event is received the next Output in the sequence is used. The order and starting point of this sequence is determined by the 'Pattern' Parameter. Sequential Switches reset when a Stop All is applied.

Pattern: The method of determining Output selection. Forward, Reverse, Pendulum I & II
Steps: The number of Outputs this Node has, effectively the length of the sequence.

Patch Explanation: Basics - 13

In this patch the Sequential Switch has 4 steps and a 'Pattern' of Forward, moving down through the Outputs on each Event received and jumping to the top at the end. Due to the alternating routing in this patch every other note will not be output at all.



If

If

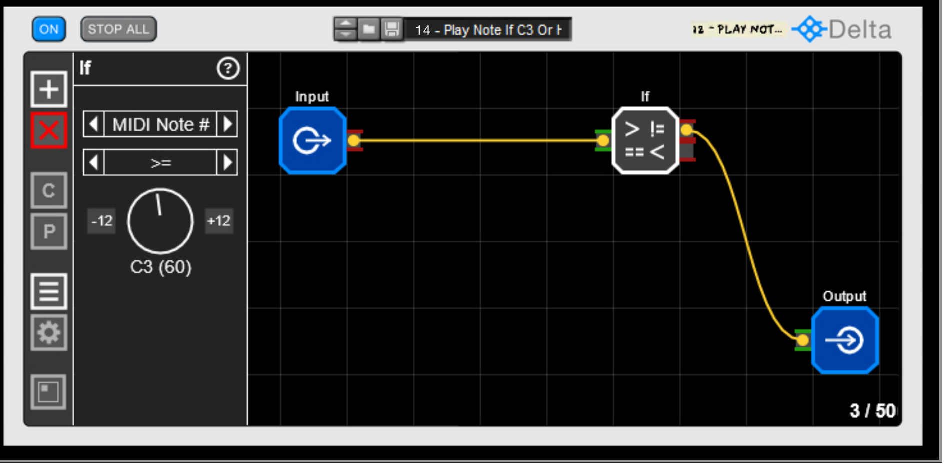
Category: Flow

MIDI Events that travel through an **If Node** will have one of three components (Note Number, Velocity, or Note Name) tested logically. If the outcome of this test is true the event will be output through Output 1, if the test fails it will be output through Output 2. This allows for some extremely flexible and unique routing options, as well as basic filtering. The MIDI Event's value is always on the left side of the test operation.

Type: What component of the Event to test; Note Number, Velocity, or Note Name (ignores octave).
Test Operation: > Greater Than; >= Greater Than or Equal; < Less Than; <= Less Than or Equal; == Is Equal; != Is NOT Equal
Value: The value on the right side of the test operation

Patch Explanation: Basics - 14

In this patch the If Node is checking if an Event's Note Number is Greater Than or Equal to C3 (60). Therefore if the Event is C3 or higher, it will go through Output 1 and reach the next node. If the Event is lower than C3 it will go through Output 2 and be muted.



Trigger Switch

Trigger Switch

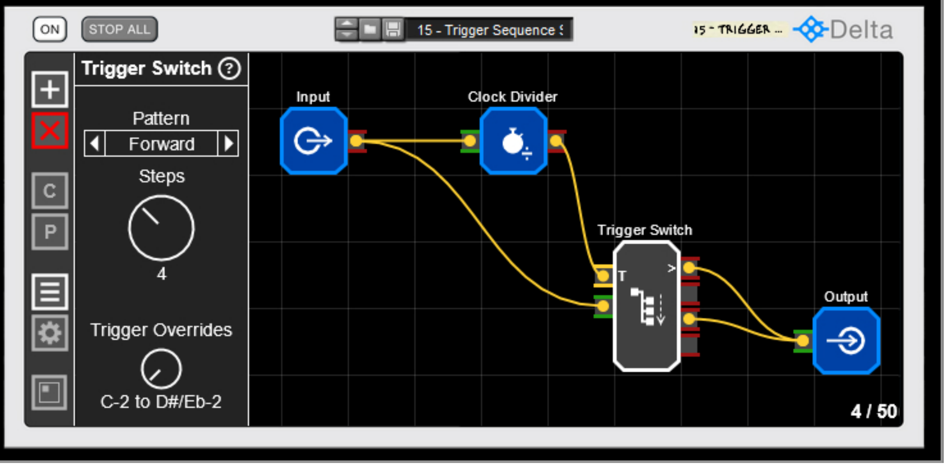
Category: Flow

MIDI Events that travel through a **Trigger Switch Node** will be output from the Node Output marked with a **>**. This Node has a second yellow Input marked with a **T**. Each time this yellow **T**rigger Input receives an Event the **>** will move according to 'Pattern', changing which Output is selected. Events that enter the standard green Input have no effect on the **>**, and conversely Events that enter the Yellow Input are not output at all.

Pattern & Steps: See Sequential Switch, which works the same
Trigger Overrides: If the specified range of notes enters the Yellow Trigger Input it will move the > to a specific Output, instead of following the next step of the chosen Pattern. By default, C-2 jumps to Output 1, C#/Db-2 to 2, D-2 to 3, and D#/Eb jumps to Output 4.

Patch Explanation: Basics - 15

In this patch all MIDI Events are sent to the Trigger Input AFTER a clock division of 4, and are also sent to the standard input without change. This means every 4 notes the > will move, and with current alternating of outputs, you will get 4 on, then 4 off, 4 on, etc.



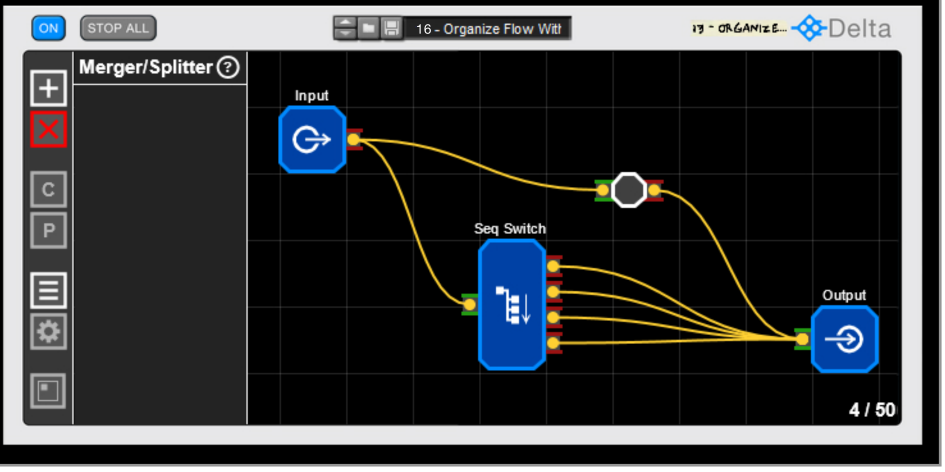
Merger/ Splitter

Category: Utilities

MIDI Events that travel through a **Merger/Splitter Node** will be output without any modifications. The intent of this Node is entirely for organization and routing purposes.

Patch Explanation: Basics - 16

In this patch we use a Merger/Splitter to route cables around a second example Node. Note that this particular patch doesn't do anything particularly useful, and is purely to demonstration of the Merger/Splitter.



CV Output

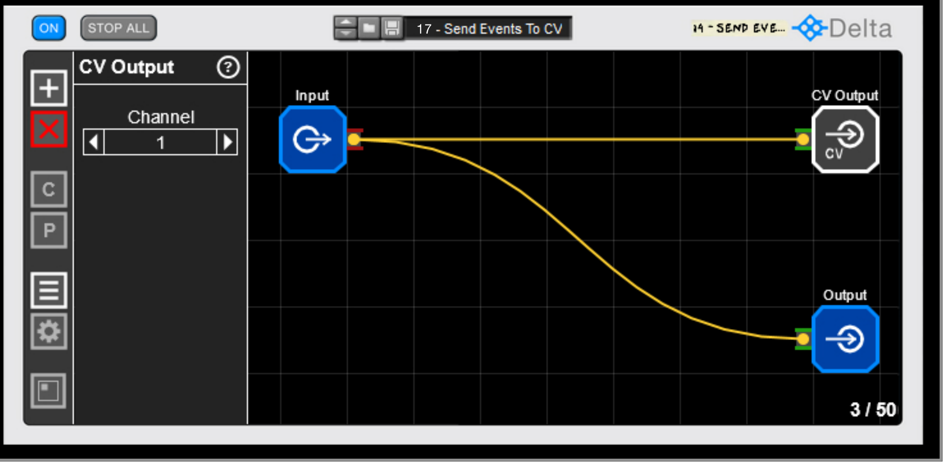
Category: Utilities

MIDI Events that travel through a **CV Output Node** will be routed out of the Delta Player to one of the 8 selectable CV Gate + Note Pairs on the back. This can be used to send some or all events Delta produces to other Player stacks and rack devices. Like like many devices in Reason, the CV Gate + Note jacks support pseudo-polyphony, i.e. most instruments will trigger polyphonic On Events, but a single Off Events will kill all running notes regardless of the Note value.

Channel: Lets you select from one of the 8 CV Output Channels

Patch Explanation: Basics - 17

In this patch we send all incoming MIDI Events straight to both a standard Output and a CV Output set to Channel 1. This means that every MIDI Event will output through the first CV Output pair, as well as on to the next device in the Player stack.



Channel
1

Set Seed

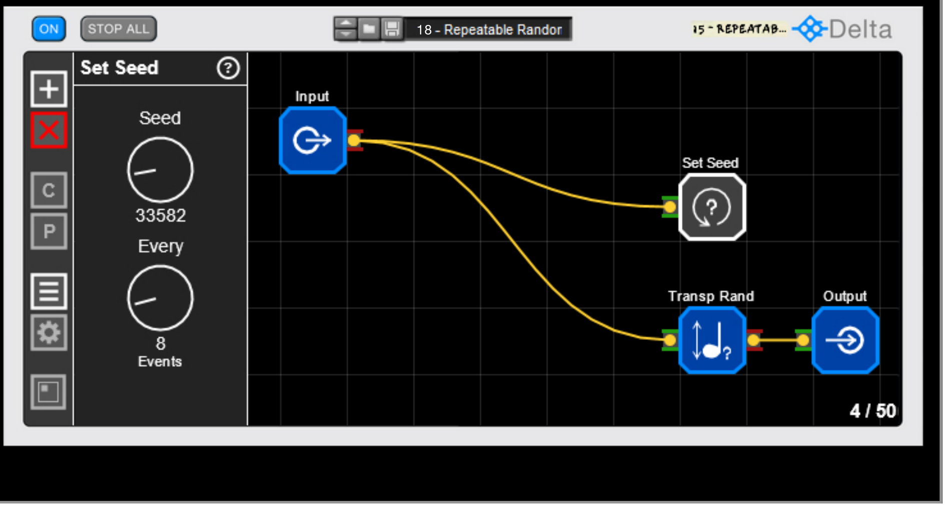
Category: Utilities

MIDI Events that travel through a **Set Seed Node** have the ability to set the seed that controls all the randomization in the entire device (Transpose Random, Offset Velocity Random, Change Switch). A "seed" specifies the start point when a computer generates randomized values. With this you can achieve consistently repeatable, but randomized, results. This can be useful in some very specialized applications for generative music or otherwise. The value of the seed itself is not particularly meaningful, the number primarily serves as a way to identify a specific randomized "pattern".

Seed: Which repeatable starting point of randomization you want to set Delta to.
Every X Events: The number of incoming events it takes to trigger a seed setting/resetting. You can think of this as a length for your repeatable random sequence.

Patch Explanation: Basics - 18

In this patch we randomly transpose incoming MIDI. We also send every incoming MIDI to the Set Seed Node. In this example, the Set Seed node is set to Every 8 Events, which means that every 8 events the Device's seed will be reset back to the start of 33582, resulting in a repeating 8 note sequence. Changing this seed will result in different randomized sequences.



Seed
33582
Every
8
Events