



DIVISIMATE 2

User Manual 2.0

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INTRODUCTION

The idea of Divisimate started with two composers simply needing a solution for a common problem. Some of the most expressive and playable virtual instruments out there are monophonic – meaning they regularly can only play one note at a time.

But we wanted to be able to play and record a well voiced woodwind choir, a full brass section or essentially any orchestration. Immediately, without additional steps, in real time.

This could be achieved by splitting a chord into its individual voices and assigning each voice to an instrument. So the highest note could be sent to the first trumpet, the second highest to the second trumpet, and so on. Doing that by addressing each instrument individually through a dedicated MIDI port was the core idea. We approached Ben to see if he wanted to build it, maybe as a private tool.

When we started development in 2018 we quickly realized that this idea had more potential. And that's how we ended up releasing Divisimate in late 2019. After the initial release we kept building on the concept, adding features and exploring possibilities in free updates. The team grew, and so did the userbase. But eventually we realized that to make the things work that we had in mind, we needed to go back to the very foundations of the app and rebuild it from the ground up. And we did.

Now we are introducing Divisimate 2 to the world. It finally has the features that we have been dreaming of for years. Features that have been impossible to just build on top of Divisimate 1. And we have the technical foundation to keep building on it.

It has been an incredible adventure for us to create this tool that musicians around the world use regularly and to get to know so many wonderful and inspiring people in the process. We hope you enjoy working with Divisimate 2. We know we do.

All the best,

The Nextmidi Team



Steffen



Peter



Benedikt



David

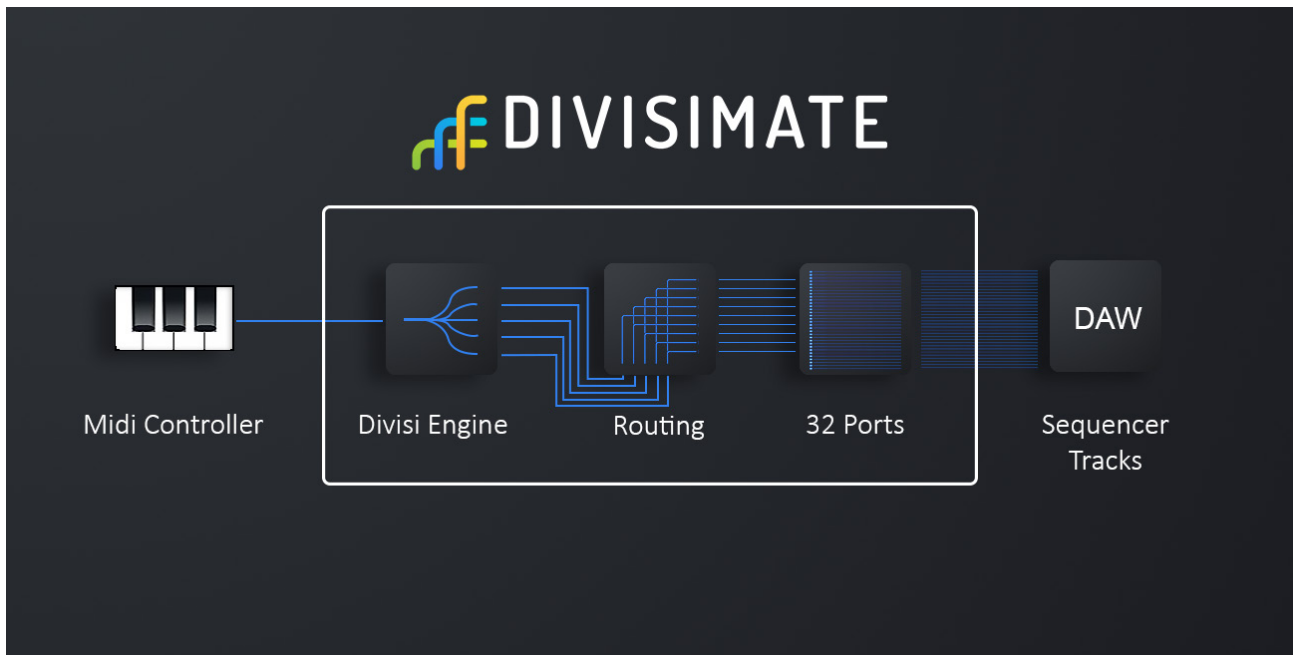


Jonas

1. HOW IT WORKS

Divisimate has two core modes of operation. It can run as a standalone software that runs independently from your DAW or as a VST/AU/AAX plugin in your DAW. In both cases Divisimate connects to 32 virtual MIDI ports which will appear in your sequencer as separate midi devices.

Within Divisimate, live input is split up into individual voices which you can modify and route to any of the output ports. For the standalone the live input comes directly from the midi controller, with the plugin it could also be prerecorded MIDI that is played back on the instrument track.



In most DAWs* you can select a distinct midi device for every single track, so it is possible to have every Divisimate output port assigned to a different instrument. Every combination of routings in Divisimate will now correspond to a specific instrumentation and voicing in your template.

Now you can edit and build presets to fit your personal template and workflow. Do you need Divisimate only for the brass, and prefer to program the rest normally? Do you want to perform the full orchestra? Or a big band? Or even experimental synth sounds? In the studio? On stage? It's up to you.

We built Divisimate, so you can build your own personal workflow!

**The setup is very different between the DAWs. We advise to check out our [quickstart documents](#).*

2. INSTALLATION

When you have downloaded the install package, unpack it first to a folder of your choice. If needed, use an archive software like 7-Zip or WinRAR.

There are distinct installers for Mac and PC – select the installer fitting your operating system and open it. The install wizard will now guide you through the installation.

The installation will install Divisimate as a Standalone software, the selected plugin versions and the Nextmidi Hub application.

3. NEXTMIDI HUB

The virtual MIDI ports that Divisimate uses are created and managed by the Nextmidi Hub, which is a helper application that runs in the background in your system tray. If the Nextmidi Hub is not already running, it will be automatically started when Divisimate is opened or an instance of the plugin is created.

By clicking on the Nextmidi Icon in your system tray you can open a menu that allows you to choose the port configuration or close the hub – note that the latter will remove the Divisimate Ports, so we don't recommend closing the Nextmidi Hub when you have an open DAW project that has existing routings.

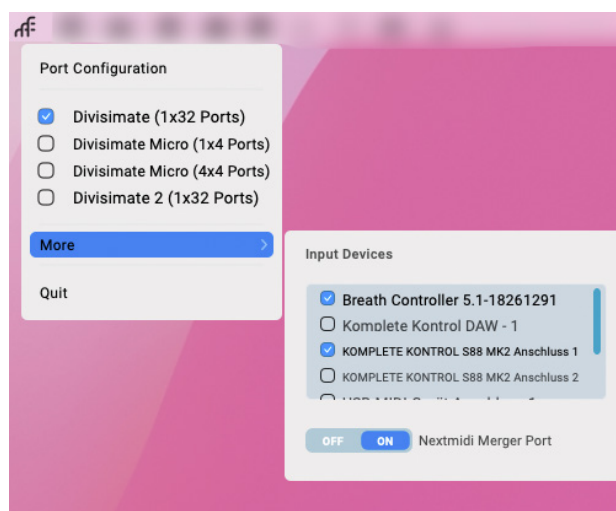
Depending on the Nextmidi products you own, the hub will display different configurations for you to choose from. [SB1]

3.1 NEXTMIDI MERGER PORT

Below the port configurations you can open another window under the “more” option. This opens up an input section and a button to activate the Nextmidi Merger Port.

When the Nextmidi Merger Port is activated, the Nextmidi Hub will create another virtual MIDI port. All inputs selected in the Nextmidi Hub will be mirrored and merged onto the **Nextmidi Merger Port**.

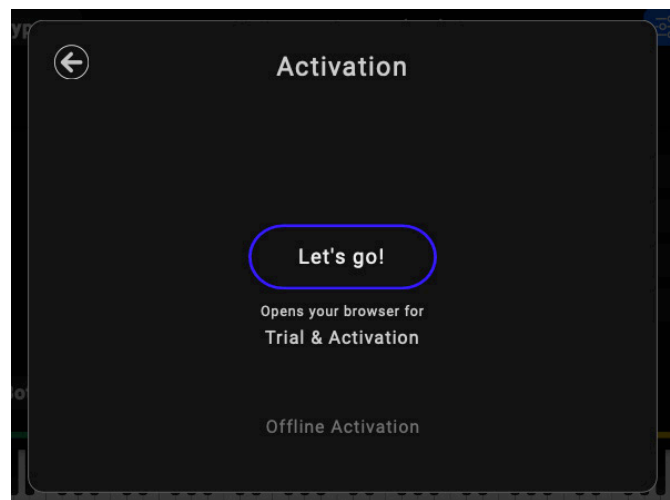
This allows you to combine multiple MIDI controllers into a single input device to select as input on a track in your DAW. This way you can use multiple controllers on the Divisimate 2 plugin version without building a feedback loop with the Divisimate Ports.



4. ACTIVATION

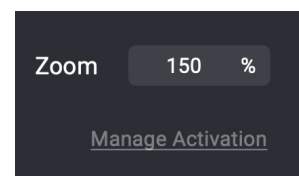
Your license is managed in your account through our licensing platform moonbase. As you purchase Divisimate on our website, an account will be created for you and a license deposited in that account. You will receive an e-mail prompting you to choose a password, and then you will be able to log in. You can access and manage your license at any time in your [User Area](#) on our website. Should our website ever be unavailable, you can use the direct platform at nextmidi.moonbase.sh.

As you open up Divisimate for the first time, the software will prompt you to activate your copy. Clicking the “Activate Divisimate”-Button will lead you to a screen where you can choose to activate in your browser or perform an offline activation. Unless your system is permanently off the grid, we do recommend the browser activation. Just follow the instructions in the browser window to complete the activation process.



You can activate your Divisimate license on two machines at a time. In the moonbase portal you are able to remotely deactivate your copy to free up your activation, in case you no longer have access to the original machine. This is not possible for offline activations.

You can also manually deactivate the license from within Divisimate by heading to the Settings page and clicking on “Manage Activation” on the lower right side.



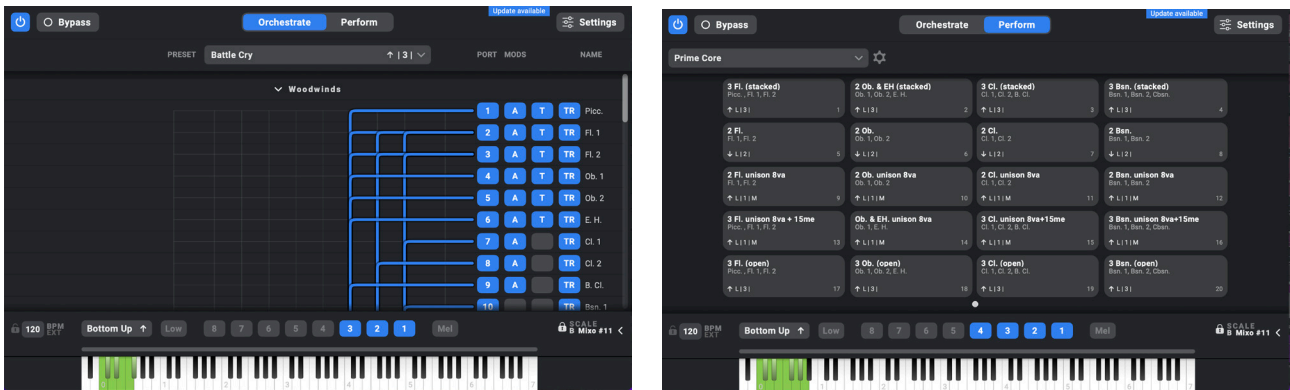
If you were using an older version of Divisimate on the same machine before, Divisimate will prompt you to migrate your license to the new system. This will not affect your ability to use older versions of the software on the same machine, but prompt you to create an account at moonbase and deposit your license in the account.

5. OVERVIEW

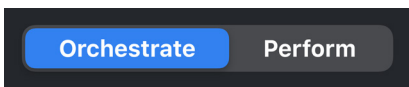
5.1 ORCHESTRATE/PERFORM

Now that your copy of Divisimate is activated, you can start using the software.

There are two main views – Orchestrate and Perform. The Orchestrate view serves to build an orchestration, distribute voices across parts and add plugins. The Perform page allows you to organize and recall your favorite orchestrations quickly.



You can switch between the two main views using the button centered at the top.



5.2 POWER AND BYPASS

On the upper left there are two buttons that will appear in both views.



Power On/Off: The power button can turn off all notes and controller data that would have been sent to the outputs. If this one is set to off all ports will be silent, all caches will be cleared and any active notes will be stopped. *It also works as a panic button, should you ever need it.*

Bypass: The Bypass Button will deactivate basically all functionality of Divisimate - Divisi Engine, Routing Matrix and Modifier Plugins - and simply pass through all incoming notes and controllers to each and every output port. *This allows you to return to a conventional working method for individual tracks without having to change the routing in the template.*

In the plugin the Bypass function is coupled with the DAW bypass of the plugin and can be triggered and automated through it interchangeably.

5.3 GLOBAL SCALE & TEMPO

Divisimate contains multiple plugins and settings that reference and respond musically to a global tempo and scale setting.

5.3.1 GLOBAL SCALE DISPLAY & LOCK

The global scale can be found on the lower right side of the window on both orchestrate and perform pages. It displays the currently active root note and scale on the surface of the user interface. Click on it to open the scale editor.

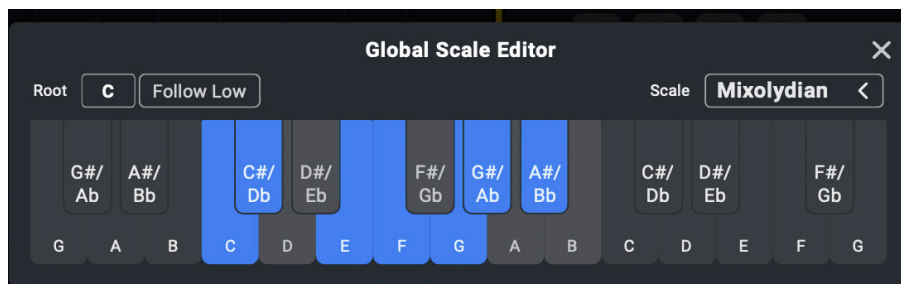


Next to the display there is a lock icon that activates the **Global Scale Lock**. Every preset is saved with a specific scale setting which is loaded with the preset. When the Global Scale Lock is activated, the scale will remain unaffected by preset changes and just retain the current setting throughout anything. This does not affect the possibility of scales being changed through automations, the “Follow Low” function or the remote app.

5.3.2 GLOBAL SCALE EDITOR

The scale editor is opened by clicking on the Global Scale Display.

Choose the root note of your scale on the left and a scale from the prepared list on the right. You can also manually activate and deactivate notes in the scale on the keyboard display below to create your own scales.



The **Follow Low** option is a powerful feature, which allows you to switch the root note of your scale on the fly. Any note played in an active Low Range will be used as the new root note.

Activating the Global Scale Lock changes the behavior of the transposition control. While it normally allows you to transpose several half-tone steps up or down, it now defines the number of scale-steps up or down by which the incoming note is transposed. So if the scale is C Ionian (Major) and the incoming note is a C, a +2 would transpose this C two scale degrees up to an E. The 8va and 8vb options will still transpose by one octave up or down.

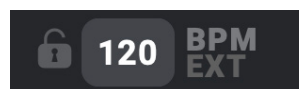
So with the scale lock activated a note from within the selected scale will always result in a different transposed note within that scale. Normally if the input note is not part of the selected scale, the scale

transposer will by default treat it as a chromatic approaching note. This means that the resulting note will be one half-step below of whatever would be the next higher transposed scale note.

If the Follow Low option is enabled, this behavior is slightly different and outside-scale notes will instead be directly moved the next higher scale degree. This leads to a more interesting color change as the root note of the scale is changed on the fly.

5.3.3 GLOBAL TEMPO

The global tempo control can be found on the lower left of the of the window on both orchestrate and perform page. It displays the currently active tempo (presented as beats per minute in quarter notes) that arpeggiator and repeater plugins will refer to.

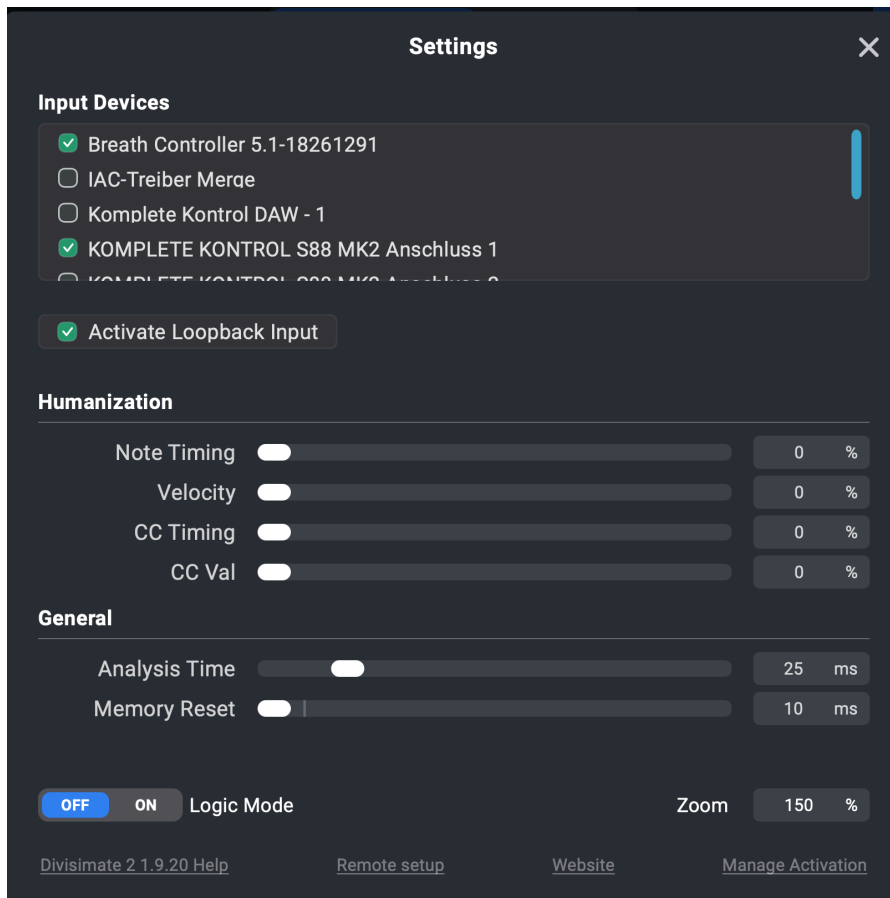


Left of the display there is a lock icon that activates the **Global Tempo Lock**. Every preset is saved with a specific tempo setting which is usually loaded with the preset. When the Global Tempo Lock is activated, the tempo will remain unaffected by preset changes and just retain the current setting throughout anything.

By clicking on the “EXT” on the right of the tempo value you can have the tempo follow an external source. If you are using the plugin version of Divisimate, it will open up with the tempo locked and set to follow the DAW tempo with this function by default. In the standalone the tempo can be controlled externally by sending MIDI Clock messages to the **Divisimate Loopback Port**.

6. SETTINGS

The Settings button at the top right will bring you to the settings menu, which presents you with a couple of options. Most of them will be explained in more detail later.



6.1 INPUT DEVICES

The first thing you should do is check the “Input Devices” window. Here you can select which MIDI Devices should serve as input for Divisimate.

On Windows some devices can only be used by one application at a time. To use these in Divisimate, they have to be deactivated in the DAW. That doesn't have to impact your original workflow at all, you can just use Divisimate as a kind of MIDI-merger and pass through the data unmodified using the bypass-button.

6.2 ZOOM

The user interface of Divisimate is fully scalable to accommodate everyone from visually impaired composers to people with very large monitors. The first time you open Divisimate the scaling will be automatically set depending on your monitor size. You can rescale the window freely without changing the proportions of the orchestrate page to display more ports.

On the settings page however there is a “Zoom” option. If you turn it up, everything on the Orchestrate-Page will get larger, while retaining the core ratios of the interface. Feel free to adjust this value to your liking. Your changes will be saved when you close Divisimate and open up again.

6.3 LOOPBACK INPUT

The Loopback Input appears as an individual MIDI Device with the name “Divisimate Loopback” in your system. This way it is possible to route MIDI from other software, for example a MIDI track with prerecorded MIDI data in your DAW, to Divisimate.

When using this feature be especially careful, that you have a good overview of the signal flow, as it is possible to build a feedback loop using this Input.

6.4 LOGIC MODE

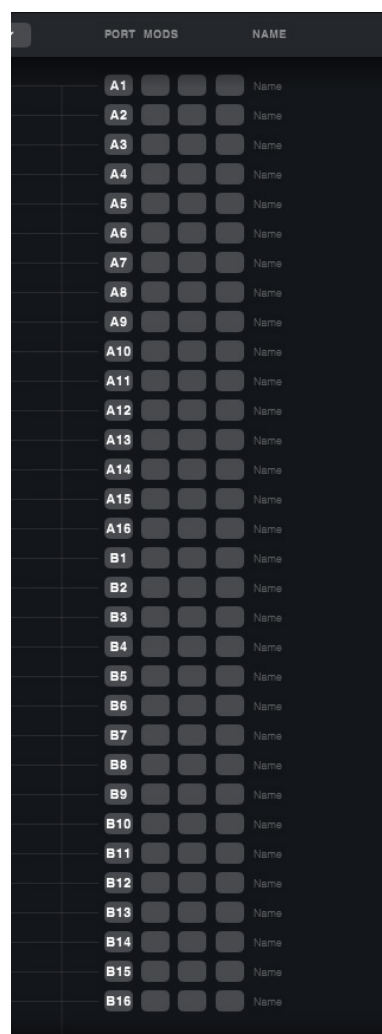
To accommodate the specific behaviour of older versions of Logic Pro (10.6 and earlier) there is a switch on the settings page to turn on the “Logic Mode”.

This changes the behavior and display of ports and channels. All routings and other settings on the orchestrate page stay the same, but Port 1-16 are displayed as A-1 to A-16, and Port 17-32 are displayed as B-1 to B-16.

A-1 to A-16 will be sent to Divisimate Port 01 across the MIDI Channels 1-16. B-1 to B-16 will be sent to Divisimate Port 02 across the MIDI Channels 1-16.

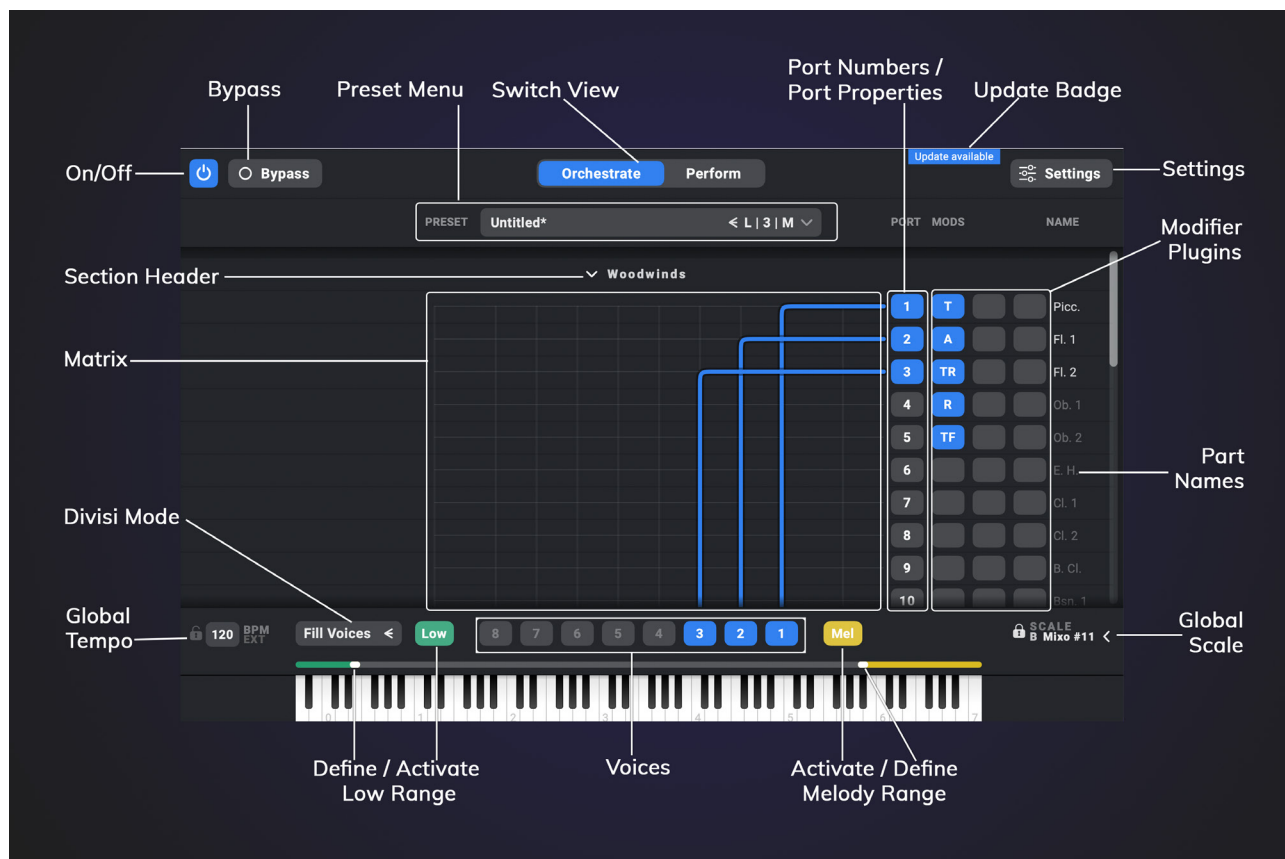
This allows you to just connect Divisimate Port 01 to your Sequencer Input in Logic and access the 16 Outputs in the channel selection of your instrument tracks. Unfortunately by the nature of this feature, Multitimbral Ports can not be used in Logic Mode and will all output on the same channel.

All other functionality of Divisimate remains untouched by the Logic Mode.



7. ORCHESTRATE VIEW

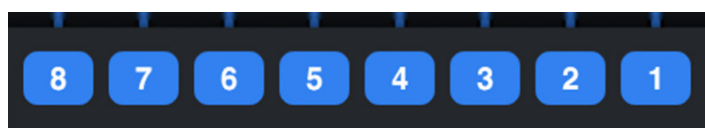
The Orchestrate View allows you to control all aspects of your orchestration – divisi voices and ranges, routing and modifier plugins. Here you can create and save orchestrations and adjust voicings, doublings and routings.



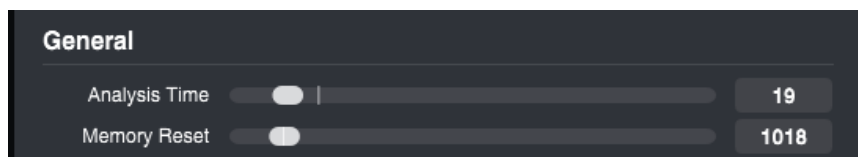
7.1 DIVISI ENGINE, VOICES AND RANGES

7.1.1 VOICES

The heart of Divisimate is the Divisi Engine. This is the algorithm which splits up your live input into separate voices. For the engine to work correctly, you need to select the number of voices you want to play. If you want to perform simple triads, you select 3, if you want to play 4 part voicings, you select 4, and so on. The engine can split up to 8 voices at a time.



7.1.2 ANALYSIS TIME

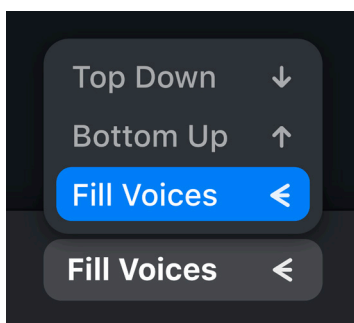


The engine reacts directly to your playing and can't look into the future. If you play nonsense, the engine will turn out nonsense. To compensate for small timing issues, the engine will wait a set amount of time before splitting up the chord and distributing the notes.

You can adjust that waiting time, essentially a latency for analysis, with the Analysis Time slider on the Settings Page.

Analysis Time and Memory Reset are global controls, meaning they will not change when you switch presets. They will be saved as your preference when you close Divisimate.

7.1.3 DIVISI MODES



The Divisi Mode determines the way the played notes are distributed across the voices. There are three Divisi Modes available:

Bottom Up: The played notes are assigned to the voices from bottom to top. If there are less notes than active voices played, the notes will be each assigned one voice and the remaining voices will stay silent. The engine will remember the last complete voicing for a certain amount of time. If you play less notes than selected, the engine will make a decision based on that, which voice will receive the notes and which

will remain silent. Again, it's about keeping the voice leading as intact as possible. You can set the time in ms the last full voicing is held in memory with the Memory Reset slider on the Settings Page.

Top Down: This mode is essentially the same as Bottom Up, only that notes are sorted from the top down. If there is no previous chord in memory, a single note will be assigned to the highest note. Any other number of notes will be assigned in a way that the lowest voice will be the last one to receive a note.

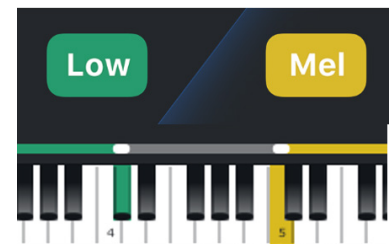
Fill Voices: The played notes are spread and duplicated across the voices in a way, that all voices are always assigned a note. If there is only one note pressed, all active voices will play that note in unison. If two or more notes are pressed, the notes will be duplicated across the active voices as evenly as possible. This mode is powerful for various situations, but introduces some artifacts and dropouts as a price for its flexibility.

The Memory Reset value for the Fill Voices mode defines the time window for the voicing to correct itself. With a low memory reset, short chords will have less artifacts on releases, while a high memory reset value will reduce voice dropouts in legato passages. A medium value should be sufficient for most situations.

7.1.4 LOW & MELODY RANGES

On the left and right side of the voice buttons you can activate the Low and Melody ranges by clicking on the respective buttons. When they are activated, colored sliders will appear above the keyboard. By dragging the slider you can set the boundaries of each range.

Everything happening outside of those ranges will be split up into the set number of voices. But all notes within the Melody and Low range will not be affected or analyzed by the Divisi Engine. They will simply be sent through to wherever they are routed. All modifier plugins and humanization will still apply.



This is useful for a number of uses, especially for chord + melody or bass + chord kind of arrangements. We also like to use the low range for keyswitches.

7.2 MATRIX

The routing matrix allows you to distribute the voices and ranges across the output ports and modify the notes and controllers that are coming through.

In the grid every vertical line corresponds to one of the voices and ranges, while every horizontal line points to an output port number. By clicking on an intersection you can set a connection and send all notes from that voice or range to the respective output port.

Every voice and range can be routed an unlimited number of times, and a single port can receive any number of routings. Basically every kind of routing is possible, giving you every freedom for creating your own orchestrations.

You can drag a selection with the mouse and multi-select multiple routings on the matrix and drag and drop them around or delete them at once.

On the right edge of the window next to the modifier plugins you have the option to write in a part name. This will not change the device name of the port (this will stay Divisimate Port XY), but helps you remember which track receives data from this port.

7.3 PRESETS

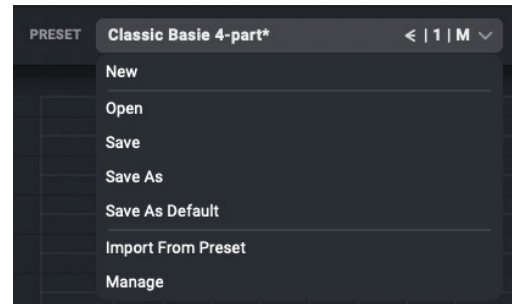
All orchestrations, everything that is going on in the Orchestrate View, can be saved into presets. This is pretty straight forward. Presets are saved as individual files with the extension *.dmpreset into your personal user folder under *User/Documents/Nextmidi/Divisimate 2*. This makes it super easy to organize your presets into sub-folders and easily share them between machines.

The options here are pretty straight forward.

Save will re-save the current preset, **Save As** will save the current orchestration as a new preset, and **Open** let's you select a preset to recall.

Manage opens the parent folder of your presets, so you can easily organize your presets in the explorer/finder.

Save as Default will re-save this preset and set it as the default preset for the current [Performance](#). Clicking **New** will create a completely empty orchestration, discard any changes you have made and reset to the default preset if you have set one.



7.3.1 PRESET IMPORT

The option **Import from Preset** warrants a sub-chapter. It allows you to import individual settings and information from an existing preset to either the current preset or all presets within a performance.

When the option is selected it will prompt you to select a preset to import settings from. Next you will be asked to select different properties to import from. The following options can be selected:

Routings: Exact configuration of routings on the matrix, as well as the number of active voices and the active ranges.

Port Properties: Port numbers, Channels and Multitimbral settings on each individual row

Plugins Slot 1: Inserted plugins (or lack thereof) including all settings on the first plugin slot

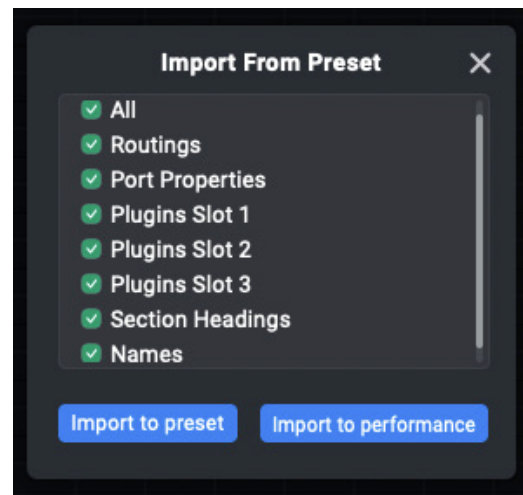
Plugins Slot 2-3: As above for the middle and right plugin slot

Section Headings: Name, position and state of any Section Headings

Names: All names assigned to ports or sub-channels of multitimbral ports

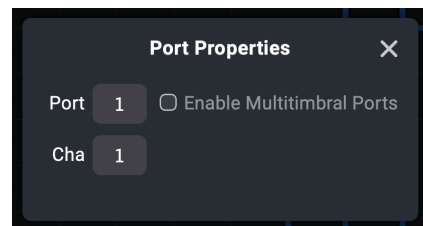
After making a selection the properties can be directly imported to the current preset by clicking on **Import to preset**. Or they can be batch-imported to all presets assigned in the current performance by clicking **Import to performance**.

All imports are destructive and will remove all information previously saved in the imported areas. Any pre-existing plugins, routings and names will be cleared.



7.4 PORT PROPERTIES

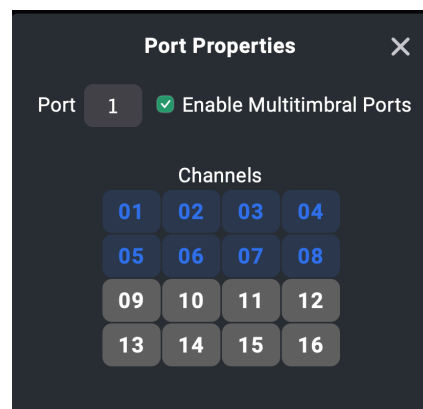
By clicking on a port number in a Matrix Row, you can access the port properties. Here you can adjust the output MIDI channel for notes and controllers on this row and even change the port number associated with that row. Instead of choosing a single MIDI channel enabling the Multitimbral Port functionality which allows you to use multiple channels on the same port side by side.



7.4.1 MULTITIMBRAL PORTS

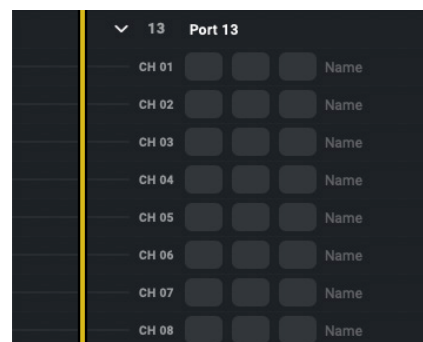
When the Multitimbral Port option is enabled, a set of buttons for all 16 MIDI channels is displayed to activate or deactivate them individually.

On the orchestrate page a multitimbral port is displayed as a collapsible group where each channel has its own row. Every channel of a multitimbral port can have its own unique routings, plugins and name. This allows Divisimate 2 to individually address and orchestrate 16 individual instruments for each port.



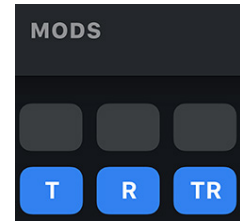
When multitimbral ports are configured in the orchestration, the **bypass function** will treat the sub-channels as individual ports and duplicate incoming MIDI across all the active channels, as well as all the regular ports.

Using Multitimbral Ports in different DAWs can have specific and varying workflows. Have a look at our guides on our [website](#).



8. MODIFIER PLUGINS

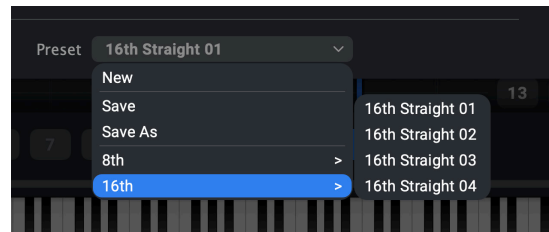
Next to the port number in the Orchestrate view there are three slots where modifier plugins can be inserted. All MIDI data routed to this port will be affected by these plugins depending on the kind of plugin. There is a total of five different plugins.



Plugins can be moved between slots by clicking and dragging them to another port. You can copy a plugin by holding the alt-key and dragging it to another slot. Dragging a plugin onto a slot which is already occupied by a plugin a dialogue will for confirmation to overwrite the existing plugin. You can suppress this dialogue by holding the shift key as you drag and drop the plugin.

Plugins can be bypassed to temporarily deactivate their effect. Click on a plugin slot holding Cmd(Mac) /Ctrl(Win) to quickly bypass and un-bypass it.

It is possible to save and load presets for all plugins (except the transposer, because the plugin is so simple). The preset system works essentially the same as the main orchestration presets. Only here the presets are shown within a dropdown menu, as opposed to a separate window.

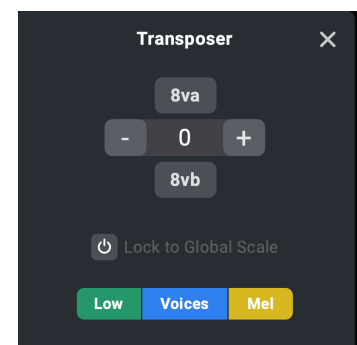


Preset files are stored as individual files under Divisimate/Plugins in the folder that you can access quickly by pressing Cmd+M (Mac) / Ctrl+M (Win). Subfolders within that directory will be displayed in the menu as well, so you can organize your presets in more detail.

8.1 TRANSPOSER

8.1.1 BASIC TRANSPOSITION

On first look the Transposer does exactly what you might expect. On the transposition control you can transpose all notes on this port a set number of steps up or down. Since the most common use of this plugin is to transpose in octaves, we included buttons for quick octave transposition.



8.1.2 GLOBAL SCALE LOCK

By default the transposer will transpose all incoming notes by the specified number of half tone steps on a chromatic scale up or down. But it is also possible to lock the transposer to the global scale. When this option is activated, the global scale editor will open in addition to the transposer window. Whereas the number of the transposer usually refers to half-tone steps, it now refers to *scale degrees*.

When a note natural to the global scale is played, it is transposed within the scale to the set higher or lower scale note.

If the incoming note does not belong to the global scale, the transposer will transpose by the distance of half-steps between the next higher scale note and the resulting transposed scale note from there.

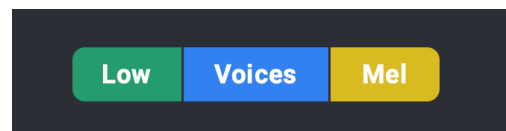
Activating the Global Scale Lock changes the behaviour of the transposition control. While it normally allows you to transpose several half-tone steps up or down, it now defines the number of scale-steps up or down by which the incoming note is transposed. So if the scale is C Ionian (Major) and the incoming note is a C, a +2 would transpose this C two scale degrees up to an E. The 8va and 8vb options will still transpose by one octave up or down.

So with the scale lock activated a note from within the selected scale will always result in a different transposed note within that scale. Normally if the input note is not part of the selected scale, the scale transposer will by default treat it as a chromatic approaching note. This means that the resulting note will be one half-step below of whatever would be the next higher transposed scale note.

If the Follow Low option is enabled, this behaviour is slightly different and outside-scale notes will instead be directly moved the next higher scale degree. This leads to a more interesting color change as the root note of the scale is changed on the fly.

8.1.3 RANGE SETTING

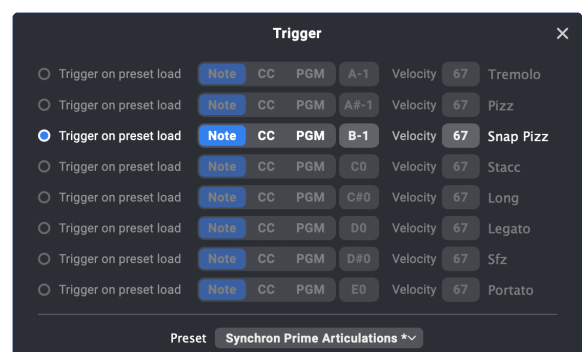
Below the transposition controls there are three buttons dedicated to the three keyboard ranges (Low, Voices, Mel). Using these you can control whether the notes of a particular range should be affected by the transposition. This way you can for example exclude the Low range from the transposition to use it to send through keyswitches unaltered. If the Follow Low option for the Global Scale is enabled, the Low Range will be deactivated automatically.



8.2 TRIGGER

Different than the transposer, this one does not modify any part of the input but adds on it. The Trigger generates new notes and controller values, whenever the plugin is initialized or “triggered”

Everytime a preset containing a Trigger plugin is loaded, the trigger will generate and send up to 8 different MIDI-messages to the respective port simultaneously. By activating and deactivating a row within the trigger, the respective values will also be sent.



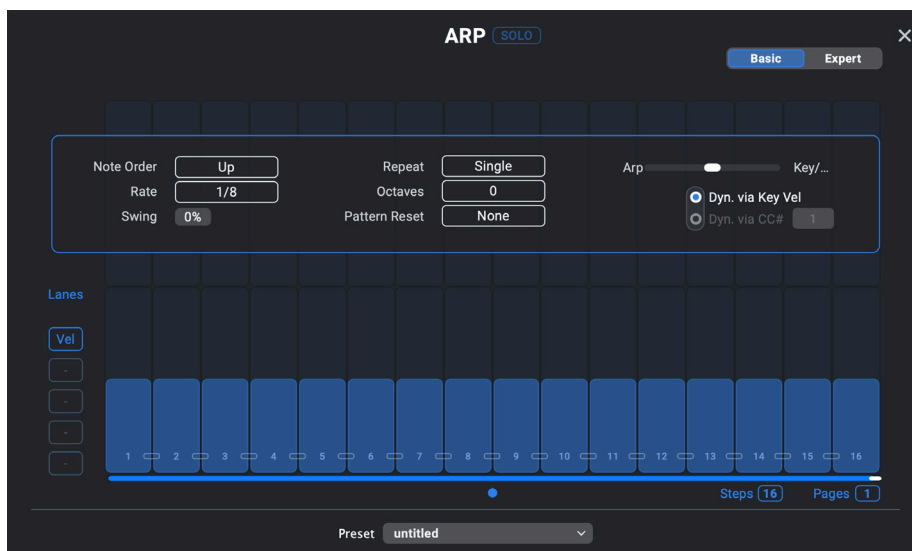
You can choose whether that message should be a note, a controller or a Program Change. Select the CC number or specific note, and also set a velocity or value.

This plugin is designed for quickly changing articulations, mutes, ensemble sizes or anything else within the assigned instrument. By firing keyswitches, program changes or controllers you can switch articulations at the same time you are switching the orchestration in Divisimate. This opens up countless new possibilities within your template!

By default there is always just one line of the trigger active, but you can multi-select by holding the Alt-key.

8.3 ARPEGGIATOR

The arpeggiator plugin is a powerful tool to create rhythmic patterns, textures or melodies from incoming notes. The arpeggiator will repeat and arrange the routed notes according to a set of rules.

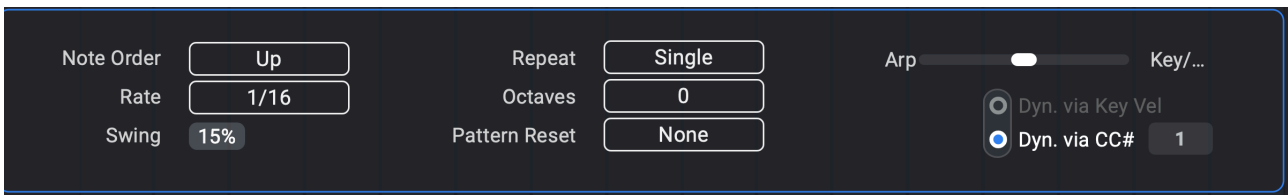


The arpeggiator plugin is structured in two parts. The upper half of the interface mainly offers controls to determine the playback order and modification of the received notes. There are two modes to this half, the **Basic Mode** and the **Expert Mode** which can be toggled at the top right.

The lower half offers control over the rhythm, velocity and expression of those notes with the velocity and controller lanes. The lanes can have up to three pages with up to 24 steps each, which can be set at the bottom right of the panel. If there are multiple pages they can be skipped through with arrows on the sides or through the page indicators at the bottom center of the panel.

A **Solo** (Shortcut [S]) button next to the plugin title at the top center of the window gives you the possibility to temporarily solo the port this plugin is inserted on. This setting will reset as you close the plugin window.

8.3.1 BASIC MODE



In basic mode the upper panel offers you a number of different settings.

Note Order: If multiple notes are received through the routed voices or ranges, the notes will be played one after the other in a specific order. Here you can select from a list of note orders that specify how the resulting pattern will arpeggiate through the chord. If you want to play all notes at once as chords choose **All**.

Rate: Select the rate at which the arpeggiator should trigger notes. A step on the velocity lane has the duration of the selected rate.

Swing: Introduce a swing percentage based on the selected rate.

Repeat: Determine how often a note should be repeated in the pattern before moving on to the next one. Single means that each note will be played only once, **Double** will play each note twice in a row.

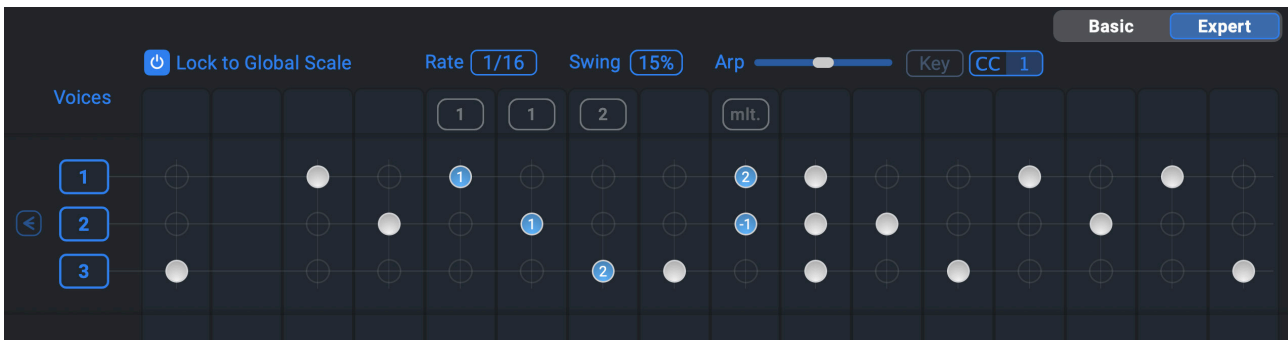
Octaves: Determine whether or not the resulting pattern should be repeated one or multiple octaves above or below before starting at the original pitch again. “1” will repeat the note pattern once an octave above. “-2” will repeat the note pattern once one octave below and another time two octaves below.

Pattern Reset: Determines whether there should be a “hard” reset done on the pattern every time the stepper runs through so the stepper starts with the same notes every time. At “none” the resulting note pattern will be spread across the steps without regard for the position within the stepper. At “Once” the note pattern will reset every time the stepper loops back to step 1. At “Twice” the pattern will reset every second time it loops back to step 1.

Arp - Key/CC Slider: Determines how strongly the contents of the Velocity lanes should be scaled by the dynamic scaling through Velocity or CC. All the way to the left it will play exactly the values as entered in the lanes. All the way to the right it will play the exact values from the selected scaling source. In the middle the content of the lanes will be scaled and influenced by the selected value.

Velocity/CC Scaling: Selects either Key Velocity or a specific CC number as the source for the dynamic scaling.

8.3.2 EXPERT MODE



The expert mode allows you to make more granular decisions over the exact note pattern. Instead of generating from a set of rules and iterating across all routed notes, here you can decide what exactly should be played at each step. At the top you see the **rate**, **swing** and **dynamic scaling** controls that function the same way as in **basic mode**. Below that you have the sequencer view.

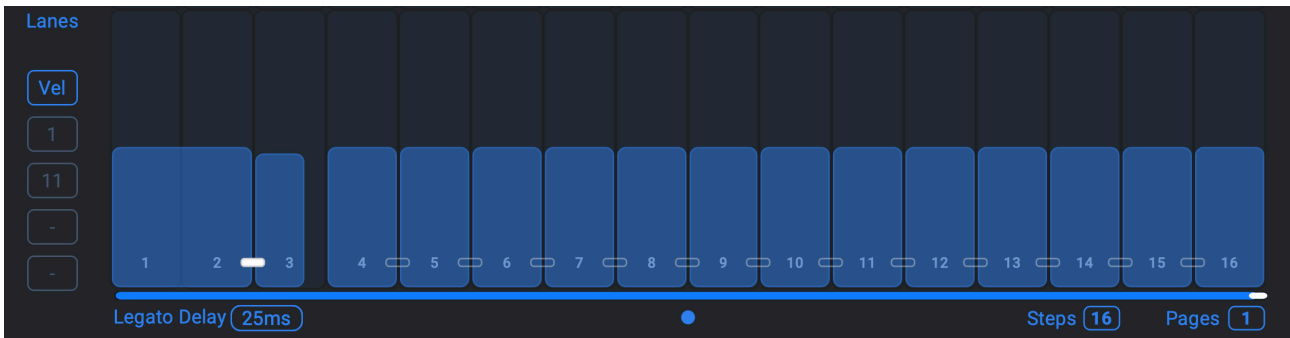
This view changes dynamically as you assign more or less voices on the routing matrix. On the left you see all the voices and ranges currently routed to this arpeggiator. Each of these has a node for every step of the arpeggiator that can be activated and deactivated. If the node is active on a step, the note of that voice will be played on that step..

Click and drag on a node up and down to **transpose** the note by a number of half-tone steps. It is possible to activate multiple voices per step to create custom chords and even to transpose those steps differently. The transposition stops at an octave up and down by default, but you can hold shift to transpose by up to two octaves.

The **Lock to Global Scale** option at the top left of the panel allows you to lock those transpositions to scale degrees instead of half-tone steps. The maximum range will remain around 2 octaves up and down while the principles of transposition are the same as in the [Transposer Plugin](#).

At the left side of the Voice indicators there is a **Fill Voices** button. When you are using the voices from the Divisi Engine to build your pattern, there may be situations where a certain voice is not playing (especially in **Bottom Up** or **Top Down** mode). In those situations you may want to keep the rhythmic integrity of your pattern intact instead of those voices falling silent. The **Fill Voices** option in expert modes fills silent voices with notes from playing voices to keep the pattern complete.

8.3.3 VELOCITY LANE



The velocity lane is where the rhythm and velocity pattern of the arpeggiator is controlled. Each step represents one note that will be played at the set velocity. Click and drag on the center of a step to set the velocity value. Click and drag on the right edge of each step to change the width of the step to make it shorter or even extend it across the next steps.

When two steps have no gap in between them, the stepper shows a little connector icon at the bottom of the two steps. When activated, these two steps will be played **legato**, meaning that the first note will be extended slightly to have the two notes overlap. If any two steps are set to legato, a **legato delay** control will be displayed at the lower left of the stepper. Here you can set a negative latency for legato notes so they get triggered a set number of milliseconds before the beat. This is to compensate for delays from virtual instruments that utilize recorded legato transitions. This way you can make sure that your pattern stays in time even though the legato transitions.

When the selected note pattern results in two identical notes having to be played legato, the legato connection will be temporarily suspended for those notes.

Shortcuts & Tips:

Drag and draw velocities continuously across multiple steps

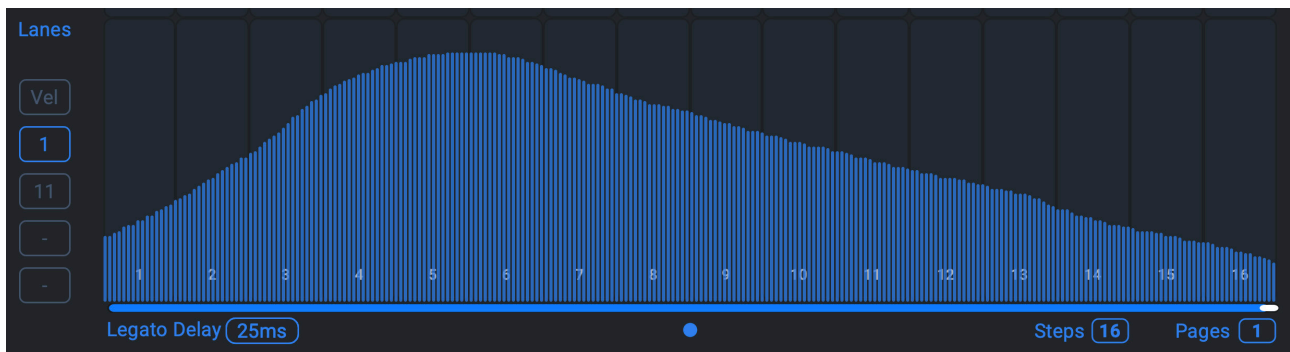
Hold cmd (Mac) ctrl (Win) to edit all steps at once. This applies to changing height and width and activating the legato connectors

Hold the alt key to reset steps to their default state. This applies to changing height and width of the steps.

Click and drag across multiple legato connectors to quickly toggle them on/off

Hold Shift while adjusting the width of a step to fine-adjust and disable the snap-to-grid function

8.3.4 CONTROLLER LANES



In addition to the velocity lane you can assign up to four different controllers (or pitch bend) to additional controller lanes. Click on the lane selector to assign a controller, which will activate the lane.

In a controller lane you can paint a curve for the selected controller to be played back in conjunction with the generated notes. This allows you to paint dynamic swells, vibrato details, pitch variations, flutter or whatever else your instruments are capable of. For orientation the grid of the velocity stepper is displayed in the background. If a controller lane is active, incoming data on that controller will no longer be passed through.

Shortcuts & Tips:

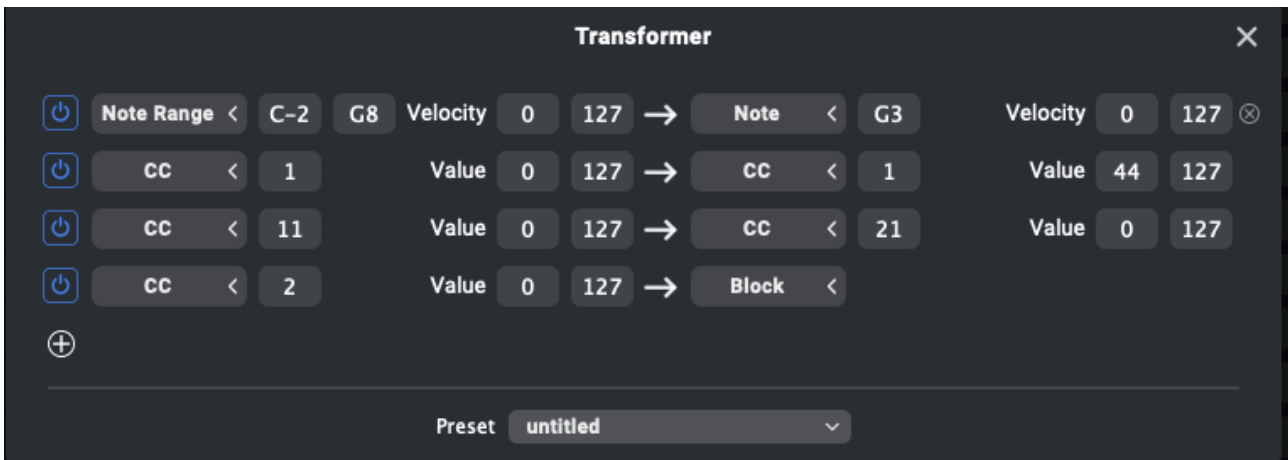
Right click+Drag to draw a straight line

Cmd+Scroll will scale the whole current curve up or down

Alt+drag to reset the envelope to default value (center position)

8.4 TRANSFORMER

The Transformer plugin was designed to provide a variety of possibilities of changing, transforming and remapping data in real time.



By default it opens up with four active lines, but lines can be added and removed to a total of 8 lines.

Each line represents an operation that will be performed upon incoming MIDI data. Each operation will be performed in parallel, referencing the original input on the plugin. The power button on the left of each line activates or deactivates the line. Inactive lines are without effect.

Within each operation there is an input side on the left, where you can specify the exact type and range of values that should be transformed. And on the right side there is the output, where you can specify the output values and ranges that the input side should be mapped to.

Any transformed values will not be passed through in their original form with the exception of notes that were transformed into something other than notes (like into CC or Program Changes).

The following kinds of data can be selected on the input side:

Note Range, Note, CC, Program Change, Channel Pressure, Pitch Bend

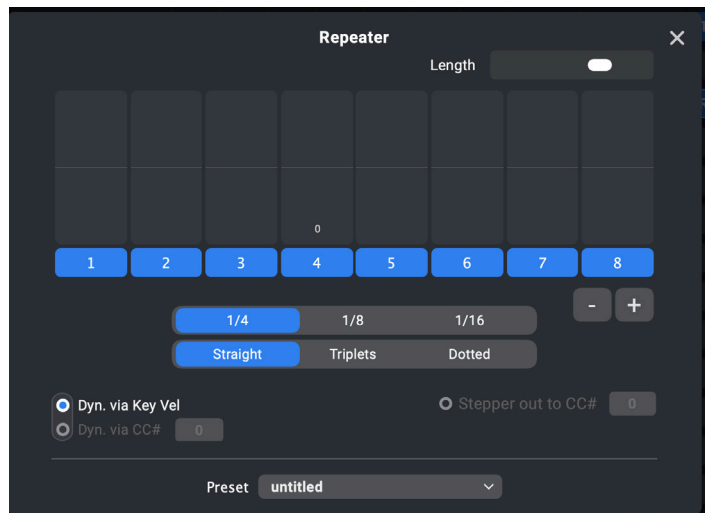
The available output options are widely the same though they depend slightly on the selection of input. There are two options that are unique to the output section:

The **Block** option simply blocks that kind of message of coming through without transforming it into anything.

Global Scale (Only available for **Note Range** input): Quantizes the incoming notes to the global scale, meaning out-of-scale notes will be transposed to the next closest scale note.

8.5 REPEATER

The Repeater was included in Divisimate 1.0 – it is included in the software to keep old presets compatible, but anything the Repeater does can be done with the Arpeggiator (and then some). So we consider it a “Legacy” plugin. The Repeater was built to add rhythm to static chords. Any notes routed to this port will be repeated in a set pattern and tempo which can be adjusted in a number of ways.



8.5.1 RHYTHM STEPPER

The most important part of the Repeater is the Rhythm Stepper. With the numbered buttons below you can activate or deactivate single steps by clicking on the buttons. The amount of steps and the note value of each step can be set below the stepper.

For every active step, the Repeater will play the incoming note once with a certain note velocity depending on the dynamic scaling source. The slider on the top right adjusts the length of the generated notes – set all the way to the right, the notes will sound over the full duration of the step, the further to the left, the shorter and more precise the notes get.

8.5.2 DYNAMIC SCALING AND STEPPER OUT

If the scaling source is set to Dyn. via Key Vel, the stepper will display values between -64 and 64, centered around 0. The value you set in the stepper will be added or subtracted from the originally performed note velocity of the note to calculate the final velocity of that step.

If you switch to Dyn. Via CC#, the stepper will change and now display values from 0 to 127. The original note velocity will now have no impact on the stepper dynamics. Instead you can set absolute values within the stepper, which will then be scaled by the MIDI controller of your choice. Depending on the state of your controller, the resulting velocity values will be between 0% and 127% of the stepper values.

Not every instrument reacts to key velocity though. To accommodate these instruments, we included the option to mirror the generated velocity values to a CC of your choice. For example if the dynamics of your instrument are controlled by Expression, you can activate the Stepper out to CC option and put in CC number 11.

9. HUMANIZATION

In an ensemble of multiple musicians, no one will play the same note at the exact same moment. Human inaccuracy is essential to creating a realistic and musical arrangement.

Divisimate contains a Humanization Engine which make sure that no two parts are exactly the same. On the Settings page you will find four sliders:



Note Timing: The Humanization Engine will randomly delay different notes on different ports. This slider controls the amount of that randomization in percent.

Velocity: Every note velocity is added or subtracted a random number. This slider controls the amount of that randomization in percent.

CC Timing: Every port receives a quasi-random static value by which all controller data on this port will be delayed. This slider scales these random values in percent. CC64 (Sustain Pedal) and UAC (CC32) are by default exempt from this randomization.

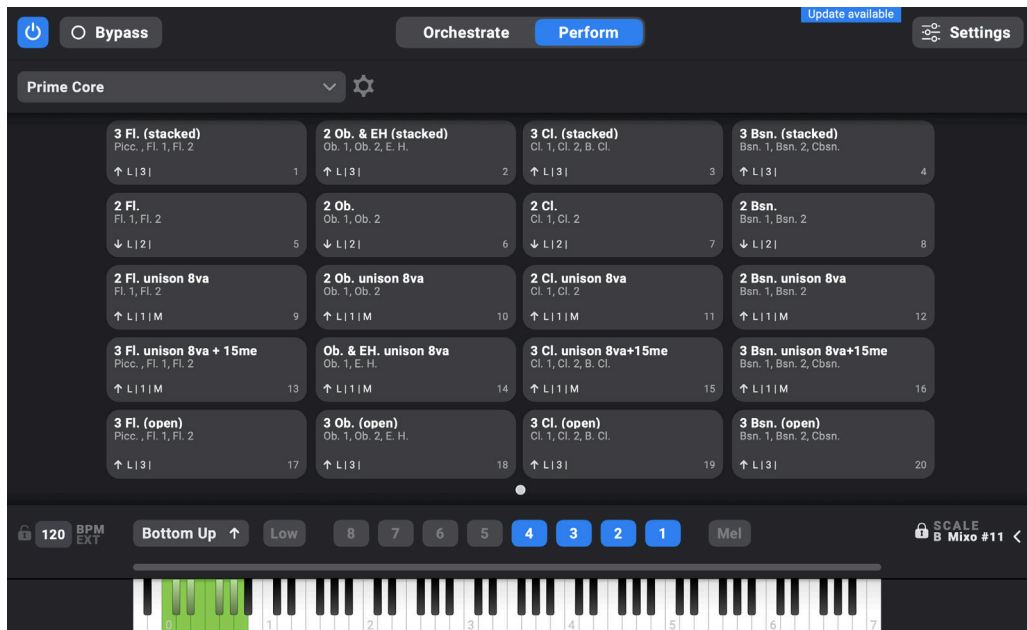
CC Val.: Every port receives a quasi-random static value which will subtracted or added to any controller data on sent to this port. This slider scales these values in percent. CC64 (Sustain Pedal) and UAC (CC32) are by default exempt from this randomization.

The Humanization values are global controls, meaning they will not change when you switch presets. They will be saved as your preference when you close Divisimate.

10. PERFORM PAGE

10.1 PERFORM VIEW

The Perform View is the place where you can organize your orchestration presets and quickly change between them. On each page it features 20 pads. By default there are five pages of pads you can fill with your favorite presets and flip through them by dragging the panels to the sides or clicking the points at the bottom of the page.



10.1.1 EDITING PERFORM PADS

Right click on a panel to edit its content. Here you can **Assign an existing Preset**, **Create a New Preset** to assign to this slot, or clear the contents of this particular slot with **Clear Slot**. The latter will not delete the preset, only remove it from this particular slot. If there is already a preset assigned, you will also be able to choose Set as default preset which will save this preset as the default preset for the current performance. More about this under -> Default Presets.

And finally you have the option to transform the current pad into a multipad with the **Create Multipad** option. More on Multipads later.

Once you have assigned your favorite presets, you can quickly switch between them by clicking on the slots and perform different orchestrations back-to-back.

If you try to switch presets while you are playing, Divisimate will switch presets based on the **Preset Change** preferences of the current **Performance** specified on the **Performance Settings**.

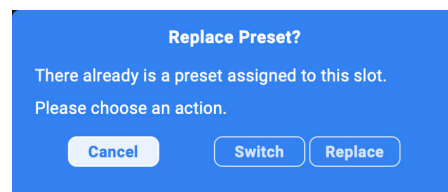
As a quicker way to fill up your perform page, you can drag and drop presets from your finder/ explorer to the pads on the perform page. Try it – it makes a big difference.

10.1.2 REORDERING PERFORM PADS

If you want to change the position of the presets on the perform pad you can click and drag each preset to a different slot. By default there is a short delay before a preset can be dragged (to distinguish between drag&drop and swiping operations). You can hold Cmd on Mac / Ctrl on Windows to drag and drop presets on the perform pages instantly without delay.

If you drag a preset to the right or left border of the window, you can also move presets between pages.

If you drop a preset onto a pad that already has a preset assigned, a dialogue will open to let you choose what operation should be performed. You can Cancel the operation if you dropped the preset by mistake.



The Switch option will place the dragged preset at this slot and the already assigned preset will take the original place of the former. So essentially the two presets will swap positions on the page.

And finally Replace will just replace the existing preset in this slot.

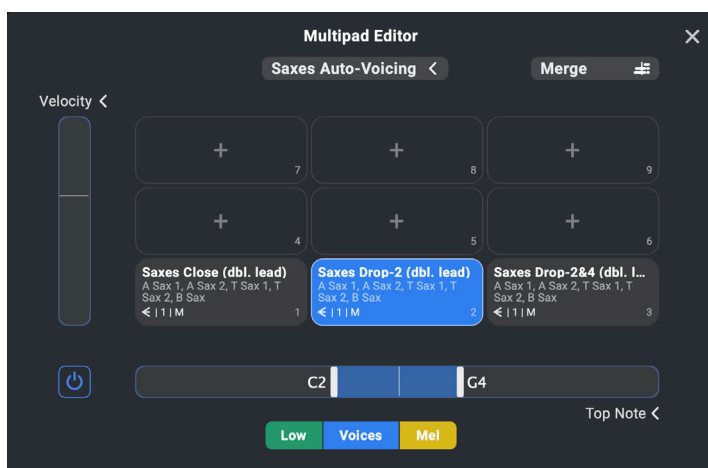
10.2 MULTIPADS

Multipads are a way to assign multiple presets to a single perform pad and switch between them based on dynamic parameters.

You can create a Multipad on an empty slot or transform a slot with an assigned preset into a Multipad. In the latter case the assigned preset will be directly moved into the multipad editor.

10.2.1 MULTIPAD EDITOR

The Multipad editor looks like a little perform page with just 9 pads. Presets can be assigned to and moved around the slots just like on the perform page. On the X and Y axis of the multipad there is a panel that is populated with different sliders depending on the number of preset on the slots. At the outer end of each panel you can specify the condition that should be used to switch between presets on the respective axis.



You can choose on each axis between **Velocity**, **Note**, **Top Note**, **Lowest Note**, **CC** and **Pitch Bend**.

When more than one preset is present in the Multipad Editor, sliders will appear on the x- and y-axis based on the number of rows or columns that are occupied by presets. The sliders can be moved freely across the value range to specify the exact threshold at which the preset should switch to the next. When a threshold is crossed, the Multipad will immediately switch to the designated slot.

On the top right you can select the **Preset Transition Mode**, choosing between **Merge**, **Overlap** and **Retrigger**. See the chapter on the **Performance Settings** where we go into detail how these work. This selection is exclusive to the Multipad

On the bottom of the Multipad Editor you can exclude the **Low** and **Melody Range** or the **Voices** from triggering conditions like **Velocity** or **Top Note**. So if e.g. you only want notes in the Low Range to switch the preset based on velocity, you can do so by deactivating the **Voices** and **Mel** button.

You can save presets for the multipad editor through the menu in the top center of the editor. This does **not** save the presets alongside the multipad, but merely the references to presets and their configuration in the Multipad. The same presets can be assigned to multiple Multipads or to a regular Perform Pad and a Multipad at the same time.

10.2.2 EDITING ORCHESTRATIONS IN A MULTIPAD

As this is a very essential part of the workflow for Multipads, there are a few special functions that we have built in combination with the Multipad Editor to make your life easier.

While the automatic switching is useful once it's set up, it also prevents you from auditioning and editing your orchestrations freely. With the power button on the bottom left of the Multipad Editor you can suspend the automatic switching and audition your presets as is. This way the slots in the editor are just a little Perform Page.

If you double click on a preset within a Multipad Editor, or hit the [Tab] key, Divisimate will jump to the orchestrate page and at the same time suspend the multipad for as long as you are on the orchestrate page. You can edit your preset and return to the perform page, where you will find the Multipad Editor still open and active again. If you make any changes to your orchestration without saving, the Multipad Editor will warn you before automatically loading another preset. Once all changes are either saved or discarded, everything is back on autopilot again.

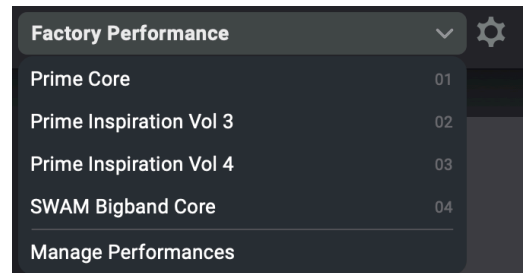
10.3 PERFORMANCES

The layout of presets assigned to the pads in the perform view are saved in Performances, which can be saved and recalled through the Performance Manager and the Performance Quickload.

This way you can have different selections and layouts of presets at your fingertips for different situations. For example you can set up Performances to use with specific templates or tailor the layout of presets to a single project.

10.3.1 PERFORMANCE QUICK LOAD

On the top left of the Perform View there is a dropdown menu that is the entry to managing your Performances. Here all performances assigned to the quickload slots can be loaded immediately with one click. Empty slots will be hidden, unless they are inbetween two slots that have a preset assigned. If there are no Performances attached to the quickload, this menu will only offer the option “Manage”, which will open the Performance Manager.



10.3.2 PERFORMANCE MANAGER

In the Performance Manager window you will find the Quickload Menu Slots at the left and a list of all saved Performances on the right. Drag and Drop a performance from the right column to the left to assign it to a specific quickload slot.

The currently loaded Performance will be printed bold, while the temporary selection is highlighted blue. Press the enter key or click Load to load the current selection.

Use the Create New button to create a new, empty performance to start with a completely blank perform page.



As you hover over a performance you will see a little X symbol on the right of the line. Clicking the X in the Quickload column will remove this performance from this quickload slot. Clicking the X in the All Saved Performances column will open a dialogue to permanently delete this performance from your machine.

Double-click on a performance's name to edit it.

10.3.3 DEFAULT PRESETS

Every performance can have a dedicated default preset. When Divisimate is opened, or a performance is newly loaded, it will automatically load the default preset associated with the Performance. Also the **New** option on the Orchestrate Page will automatically reset your orchestration back to your default preset. So it makes sense to define your default preset as you preferred starting point or a blank slate.

There are two places where you can set a default preset. On the Orchestrate Page you can save the current preset as the default preset by using the Save as Default... option. You can also define a default preset by right clicking on a preset on a Perform Pad and choose Set as default.

10.3.4 EXPORT/IMPORT PERFORMANCES

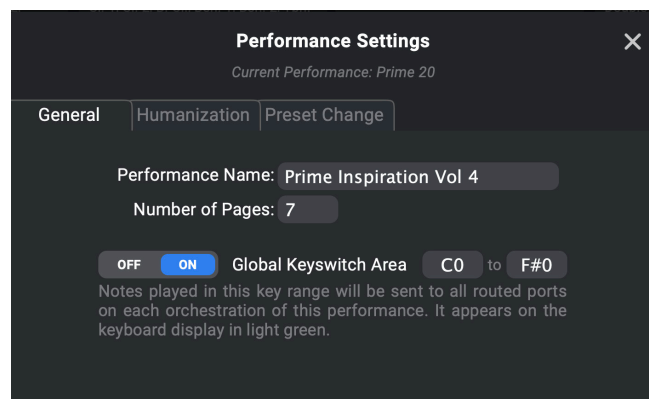
The Export/Import options are a convenient way to move the entirety of a Performance between two machines and share it with other musicians. When you export a Performance using this function, all presets mapped within the Performance will be included along with the layout, default preset and all other settings in one self-contained file with the extension *.dpfe.

If you import an exported performance into Divisimate, all included presets will be placed in a dedicated subfolder, and the performance becomes available in the Performance Manager.

10.4 PERFORMANCE SETTINGS

The Performance Settings window can be accessed by clicking the gear icon next to the Performance Quickload. It contains settings that are specific to the current performance and will apply to all orchestrations while that performance is loaded.

10.4.1 GENERAL

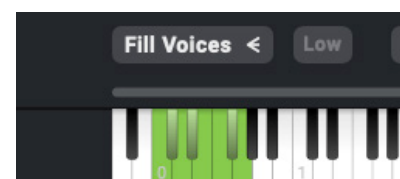


In the **General** tab there are three essential settings.

Performance Name allows you to rename the current performance quickly.

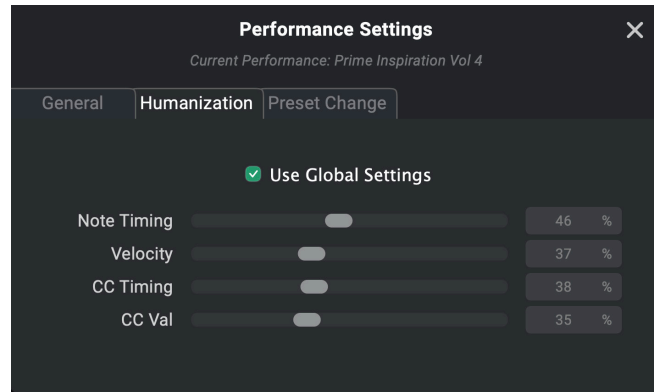
Number of Pages allows you to customize the number of pages on your perform page. The maximum of 20 pages gives you up to 400 perform pads to fill – or you can build a smaller performance without a bunch of empty pages at the end.

Global Keyswitch Area allows you to specify a note range on the keyboard that will be sent to all routed ports of any orchestration within the performance. These notes will be sent through unaltered by any plugins directly to the routed instruments to quickly and reliably switch articulations without cluttering up the Orchestrate Page or occupying the Low Range. On the keyboard the Keyswitch Area is displayed in light green color.



0.4.2 HUMANIZATION

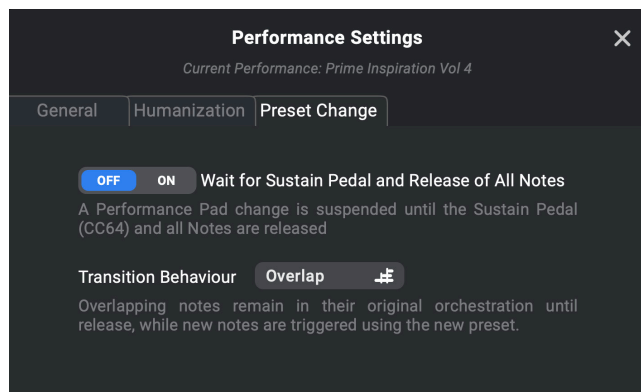
In the Humanization tab you have the option to override the global Humanization values specified in the Global Settings. If you have a template or performance that relies heavily on very specific humanization values, you can make sure those are recalled each time you load the performance.



10.4.3 PRESET CHANGE

The Preset Change tab lets you specify the behaviour of how presets should change when notes are still playing. In Divisimate 1.0 preset could only change when all notes and the sustain pedal was released, and would wait in a suspended state for that event.

You can activate this behaviour with the first switch on this tab. Since this was the default behaviour on Divisimate 1, all legacy performances will have this option activated for backwards compatibility.



If this switch is turned off however, presets will be changed immediately as they are selected on the perform page. The **Transition Behaviour** lets you choose between three different modes how currently playing notes should be treated in the event of a preset change.

Retrigger: All currently playing notes are stopped immediately in the old orchestration and retriggered entirely, including the last received CC values, within the new orchestration

Merge: The new orchestration is triggered immediately with all currently playing notes and last received CC values. Notes from the previous orchestrations are stopped if they are not present on

the same instruments in the new orchestration as well. So essentially: Common notes are continued, everything else is retriggered.

Overlap: Currently playing notes continue playing in the old orchestration. Any new notes played after the preset change will be performed by the new orchestration. This applies to arpeggiators as well, continuing the pattern of the old preset until the notes are released while you can already play the new orchestration on top.

11. APP

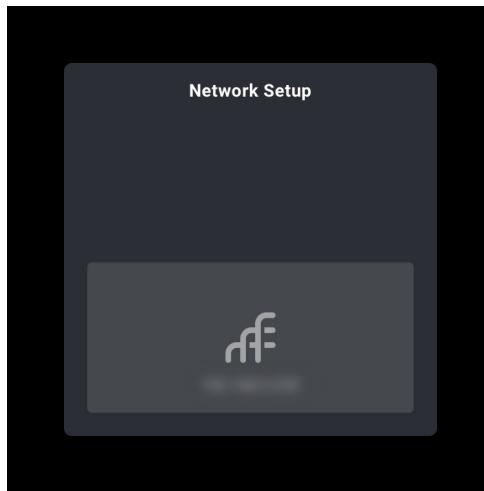
This Perform View is of course only useful if you have Divisimate in the foreground on your computer – and moving the mouse and clicking on a preset mid-performance is not very intuitive.

That's why we created a remote control app for iOS and Android which can control the Perform View, Power and Bypass Buttons to make it easier to work with Divisimate.

The app can be downloaded for free in the App Store and on Google Play.

The app connects to the host Divisimate via WIFI. This means, that your device and your instance of Divisimate have to be connected to the same network in order to connect with each other.

When you open the app, it will show the Network Setup window. If there is an compatible instance of Divisimate in the same network, the app will show the respective IP address with a symbol.



By tapping that symbol, the app will connect to the host and show all corresponding presets and pages. If you are unsure if you are connecting to the correct address, you can open the “Remote Setup” tab on the settings page of the main app to display all ip addresses belonging to your host machine.

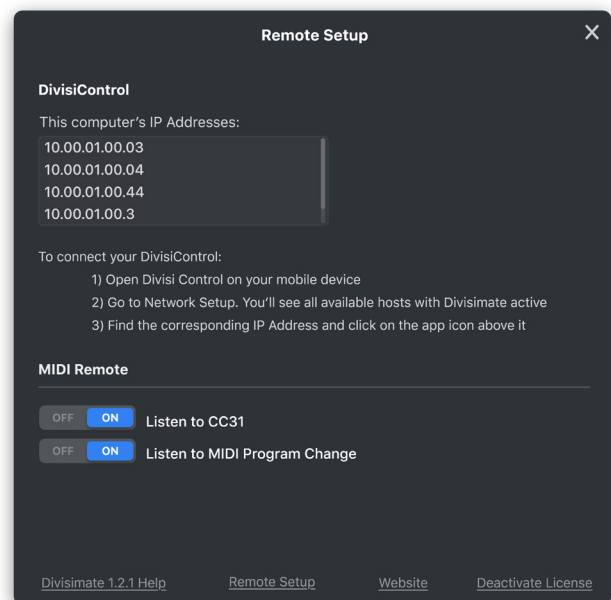
12. MIDI REMOTE

We know that the different ways of working on music are very individual, so next to the app remote we also included the possibility to change presets on the perform page using MIDI values.

When Divisimate receives CC31 or Program Change between 1 and 100 from any input device, it will load a preset corresponding to the value. The same is true for the values 101-110 and the performance quickload slots. There are a few other that can be accessed by MIDI Remote, so here's a full list:

Program Change / CC31 Value	Action
1-100	Perform Pads 1-100
101-110	Performance Quickload Slot 1-10
121	Power on
122	Power Off
123	Bypass On
124	Bypass Off
125	Set Divisi Mode: Top Down
126	Set Divisi Mode: Bottom Up
127	Set Divisi Mode: Fill Voices

If you usually use CC31 or Program Change differently and this functionality gets in the way of your usual workflow, you can turn off this MIDI Remote functionality for each kind of value on the Remote Setup page, which can be found on the bottom of the settings page.



13. KEYBOARD SHORTCUTS

General

Action	Win	Mac
Save as	Ctrl+Shift+S	Cmd+Shift+S
Save Preset	Ctrl+S	Cmd+S
New Preset	Ctrl+N	Cmd+N
Load/Open Preset	Ctrl+O	Cmd+O
Manage Preset	Ctrl+M	Cmd+M
Bypass on/off	B	B
Power on/off	Esc	Esc
Set number of voices	Number Row 1-8	Number Row 1-8
Switch to Perform Page	Tab	Tab
Close Window	Esc	Esc
Bypass Plugin Slot	Ctrl+Click	Cmd+Click
Duplicate Plugin (Orchestrate Page)	Alt+Click/Drag	Alt+Click/Drag
Skip Plugin Override Warning	Shift + Drag&Drop	Shift+Drag&Drop
Instant Drag & Drop (Perform Page)	Cmd+Click/Drag	Cmd+Click/Drag
Change Pages (Perform Page)	Arrow Keys	Arrow Keys
Manage Performance (Perform Page)	Cmd+Alt+M	Ctrl+Alt+M

Plugins & Editors

Action	Win	Mac
Trigger Plugin: Multi-Select Lines	Alt+Click / Shift+Click	Alt+Click / Shift+Click
Multipad: Save Multipad Preset	Ctrl+S	Cmd+S
Multipad: Empty Multipad	Ctrl+N	Cmd+N
Multipad: Open Multipad Preset	Ctrl+O	Cmd+O
Multipad: Edit Current Preset	Tab	Tab
Arpeggiator: Edit all Steps		
Ctrl + Click/Drag	Cmd + Click/Drag	
Arpeggiator: Reset to Default	Alt + Click/Drag	Alt + Click/Drag
Arpeggiator: Reset all to default	Ctrl + Alt + Click/Drag	Cmd + Alt + Click/Drag
Arpeggiator: Scale Step	Mouse Wheel	Mouse Wheel
Arpeggiator: Scale Controller Lane	Ctrl + Mouse Wheel	Cmd + Mouse Wheel
Arpeggiator: Suspend Snap to Step	Shift	Shift



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