MIDISynth-Hydra 2.0.3
User Guide

www.sigabort.co/midisynth



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1 Overview

MIDISynth-Hydra is a VST/AU/Standalone application for Windows and OSX that allows you control of your ASM Hydrasynth Keyboard or Desktop inside your favourite DAW, or as a standalone application.

1.1 Requirements

- Windows 7+
- OSX 10.11+

1.2 Limitations

1.2.1 Windows Users

Windows does not have multi-client MIDI drivers and the synth only provides a single USB MIDI input/output, so you'll need to ensure nothing else is connected to synth when using the editor.

This also extends to using the VST inside a host – please make sure that the host doesn't open the synth MIDI input/output, or any MIDI port used for controller input (see your host documentation for how to set this up). You can still send data to the synth through the plugin by enabling the **MIDI Thru** option (see section 3.1.8).

1.2.1.1 Windows Virtual MIDI Ports

MIDISynth will take input from a MIDI port named **MSVP_Hydra_Out** and route this through to Hydrasynth. You can use this inside your DAW to send clock information for syncing arp, LFOs etc (see section 8.3).

MIDISynth will take the note input from Hydrasynth and route this through to a MIDI port called **MSVP_Hydra_In**. You can use this to get note input into your DAW.

Use LoopMIDI or other virtual MIDI port software to set these up.

1.3 Acknowledgments

Windows AVIR image resizing algorithm designed by Aleksey Vaneev.

1.4 Known Firmware Issues

These are known firmware issues as of 1.5.4.

The editor requires firmware 1.5.3 or later to function properly.

1.4.1 Osc

Wavescan solo MIDI not processed by Hydrasynth.

1.4.2 Filter

Vowel order MIDI not processed by Hydrasynth.

1.4.3 Macro

Display not updating when receiving MIDI - unit receives the value, but not updating - you can move encoders and it updates, or exit macro and go back in and screen will update.

1.4.4 Mod

Display not updating when receiving MIDI - unit receives the value, but not updating - you can move encoders and it updates or exit mod and go back in and screen will update.

1.4.5 Arp

If viewing Arp edit on the screen, pressing Triplet sends out an updated Division that indicates triplet is engaged - if not viewing this screen, nothing is sent over MIDI.

Latch sends/receives no MIDI

Clock lock sends/receives no MIDI

1.4.6 Mixer

Solo MIDI not processed by Hydrasynth.

1.5 Patch Edit Buffer

Hydrasynth does not contain an edit buffer as most synths do. In order to transfer a patch from the editor to the synth, a patch slot must be used. By default, this is patch 639, the last patch in Hydrasynth as this is the most unlikely to contain an active patch in use by the user.

You can change this patch by setting **edit_patch** in the properties file (see section 8.4).

The contents of this patch will not be permanently written to Hydrasynth unless:

1) You save the patch from the front panel UI.
2) You perform a burn operation when performing an upload.

1.6 Patch Upload

On most synth when you upload a patch to the synth, the patch slot is updated, and the flash memory updated at the same time. This is usually a quick operation and is hardly noticeable to the user.

In Hydrasynth, these two operations are separated, and it is not possible to flash a single patch – as a result of this, writing the flash memory can take a long time – on my unit it takes about 7-9s. Some people report faster times, some slower.

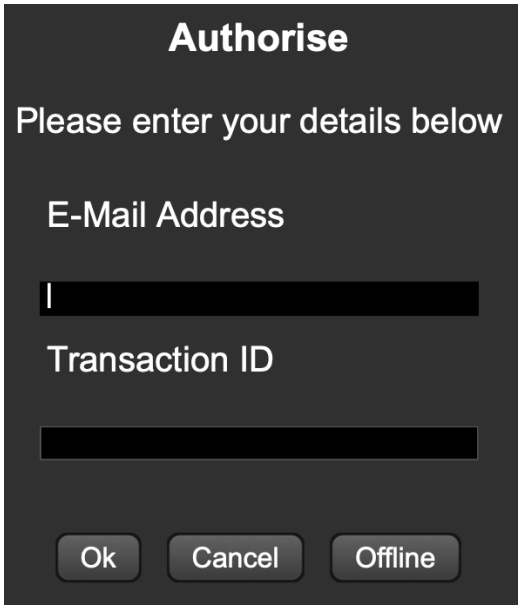
As a result of this it is a fairly inefficient workflow to upload single patches one at a time – it is more productive to work on banks which can be uploaded in a single go, or upload a number of selected patches in one go from the browser.

1.7 Installation

Click on the installer and follow the instructions.

1.8 Authorisation

When you start the editor, you will be asked to authorise.



Enter your purchase email address and the PayPal transaction number you received with your purchase. Authorisation will take 15-20 seconds to complete.

1.8.1 Offline Authorisation

If you wish to use the editor on a computer not connected to the internet, then install the software and hit the **OFFLINE** button.

Follow the instructions to create an authorisation file and send it to:

offline_auth@sigabort.co.uk

Please note that this is currently a manual process and authorisation may take up to 48 hours.

1.8.2 De-Authorisation

If you wish to de-authorise a computer so that a different computer can be authorised, use the button on the settings page (see 3.2.14)

2 Hydrasynth Settings

In order for MIDISynth to operate correctly please ensure the following settings are correct on page 6 of settings:

- Param TX: **NRPN**
  Param RX: **NRPN**
- PgmChgRX: **On**

2.1 DAW Settings

2.1.1 Ableton Live

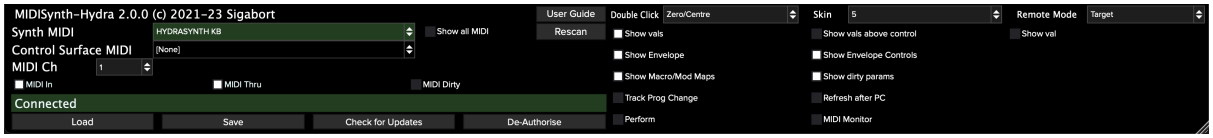
It is not necessary to route audio via an Ableton track into/out of the plugin. For correct operations make sure MIDI From and MIDI To are set to No Input/No Output.

2.1.2 Logic Pro

Go to Settings->MIDI->Inputs and make sure that the synth is not selected to ensure correct operation.

3 Setup

Click on the **FULL** button to display the sub-panel and click **SETTINGS** to show setup options in the lower portion of the editor.



3.1 MIDI

3.1.1 Device MIDI Port

The MIDI port of the Hydra is auto selected if detected at startup. If you are lucky enough to have more than one synth or are using an intermediary interface (e.g. Mio +4), use this to select a different MIDI port.

3.1.2 Controller MIDI Port

The controller MIDI port can be used to select a MIDI device that can be used for controlling the V-Macro controls (see 0) and the custom controls (see 4.2.2) and general MIDI mapping of the controls on the UI (see 4.1.10). Additionally, all MIDI from this port will be routed through to the synth so you can route an external keyboard or controller to the synth.

3.1.3 Rescan

Rescan connected MIDI devices.

3.1.4 MIDI Ch

MIDI channel the synth is set to, as set in settings page 4 on Hydrasynth.

3.1.5 Show All MIDI

Enable this option to show all MIDI ports on the computer, not just those that confirm to the standard synth naming.

3.1.6 MIDI In

Enabling this option will processing incoming MIDI data from the controller and update the GUI appropriately (turning the knobs on the synth or automation data). Depending on the state of the ‘MIDI Sets Dirty’ flag, this will also set the edit buffer as “dirty”.

3.1.7 MIDI Dirty

Enabling this option will cause incoming MIDI (turning the knobs on the synth or automation data) to mark the current edit buffer as “dirty” and flag that the user needs to save it when moving away from the patch.

3.1.8 MIDI Thru

Select this to process note in information from the DAW – this should be selected when a host sequencer (e.g. Live) is being used to send MIDI information to the synth.

3.2 General

3.2.1 Double Click Action

Determines what happens when a control is double-clicked:

- **Off**: No action
- **Zero/Centre**: Control is set to 0 or centred if it is bipolar
- **Default**: Control is set to the Novation default
- **Patch**: Control is set to the value when the patch was loaded

3.2.2 Skin

Change the look of the editor.

3.2.3 Performance Automation

Selection mode of operation for the performance controls (None, Target. Perform) – see section 6.

3.2.4 Show Vals

Enabling this option will show the current value underneath each control. The user can click on this to manually enter a value.

3.2.5 Show Val

Enabling this option will show the value of the currently moving control in the top left-hand corner of the screen.

3.2.6 Show Envelope

Enabling this option will show a graphical representation of envelopes in the appropriate panels.

3.2.7 Perform

Show the performance options – see sections 4.7, 4.8, and 4.9.

3.2.8 Show Vals Above Control

Determines whether control values are shown above or below controls.

3.2.9 Show Envelope Controls

Enabling this option will show envelope controls sliders under the envelope display.

3.2.10 Show Dirty Params

Enabling this option will show dirty parameters for the patch in purple.

3.2.11 Show Macro/Mod Maps

Determines whether mod mappings are shown on the editor – see section 4.1.4.1.

3.2.12 Load At Startup (VST/AU only)

If enabled, the state of the editor when you last saved your project set will be reloaded and sent to the synth.

3.2.13 Check for Updates

A check for updates is automatically performed at startup, but can also be triggered manually,

3.2.14 De-Authorise

De-authorises this computer so that the editor can be used on a different computer.

3.3 Storage

3.3.1 Load

This will load a state previously stored with the **SAVE** button.

3.3.2 Save

When saving, the following information is stored:

- Setup data
- Patch data
- XY control assignments (global)
- Performance control data
- Custom parameter assignments
- Section presets (see 4.1.2)

Please note all state is automatically saved with the host data when running VST/AU and to an auto-save file when running standalone, so LOAD/SAVE are provided for archiving purposes rather than something that needs to be done on a regular basis.

3.3.3 Auto-Save

When running standalone auto-save actions are performed under the following conditions: (this auto-save will automatically be loaded the next time the editor starts up)

- Setup options are updated
- A patch is saved
- Performance controls are updated, including setting range
- XY controls are updated, including setting range
- Section presets are updated

4 Operation

A zoom control is provided at the top of the screen for sizing the display to fit your screen.

Full-screen mode can be toggled via the use of the Sigabort icon in the top-left corner of the screen.

4.1 Main Controls

The top portion of the screen is filled with the main synth controls, covering all parameters of Hydrasynth, apart from the Macros (see section 4.1.5) and Mod matrix (see section 4.1.4). Controls are grouped together into sections indicated by a section title.



Holding **SHIFT** whilst moving a control will allow for fine grained control.

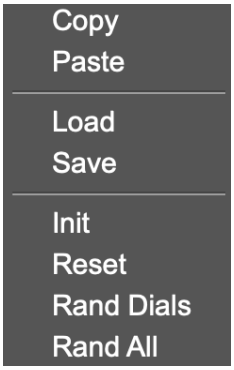
Sections that have been edited (i.e., are different from the current loaded patch), will be marked with an *.



Additionally, if Show Dirty Params is selected, any parameters that are different from the currently loaded patch will be shown in purple.

4.1.1 Section Controls

Each section has an **A/B** button and an **OPTIONS** menu.



Toggling the **A/B** switch will toggle between your current (edited) settings and those of the patch when it was loaded.

Note: When A/B is enabled (i.e. using the loaded patch settings rather than the edited settings), the COPY and SAVE buttons will operate on the patch settings, not the edited settings.

4.1.1.1 Auto

Some sections have an **AUTO** button on them, e.g. the osc. When this is selected and a change is made from the synth, if the change is from an osc not in view then the view will change to display the updated osc. To fix one of the oscs permanently in view, use the numbered buttons.

4.1.1.2 Ex(pand)

Some section have an **EX** button on them, e.g. the filter. When activated this will replace some sections of the UI with both filters so they can be updated at the same time.

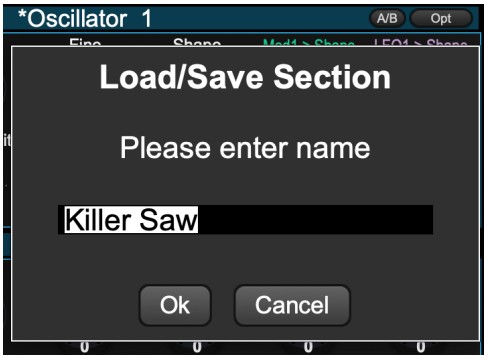
4.1.2 Section Presets

Up to 10 presets can be saved and recalled for use in other patches – think of this as a favourites menu.

Selecting **SAVE** will bring up a menu showing any existing entries. Choose an existing entry to overwrite or an empty slot to create a new preset.



Clicking on an empty slot, or **SHIFT**-clicking on an existing slot will allow you to name the preset.



CMD/CTRL-clicking on an existing slot will delete the preset.

4.1.3 Section Headers

SHIFT-clicking on the section head is a shortcut to perform the randomise dials operation.

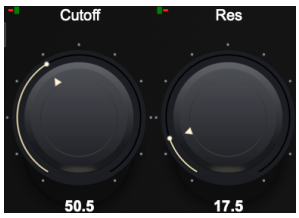
CMD/CTRL-clicking on the section head is a shortcut to perform the randomise all operation.

4.1.4 Macros



Use the **1-4** and **5-8** buttons on each macro to display targets 1-4 or targets 5-8.

4.1.4.1 Show Macro/Mod Mappings



If this is enabled then all macro/mod targets will have two indicators placed next to them, one for macro (first) and one for mod (second). Red indicates the parameters it not mapped to a macro/mod destination, and green indicates that it is.

In this example, Cutoff is mapped to a mod matrix slot, and Res is mapped to a macro.

Right click on the parameter to see what is mapped to the parameter.

4.1.5 Mod Matrix



4.1.6 Arp

Arp controls are available by pressing the **ARP** button on the Mixer section.



4.1.7 Voice

Voice controls are available by pressing the **VOICE** button on the Mixer section.



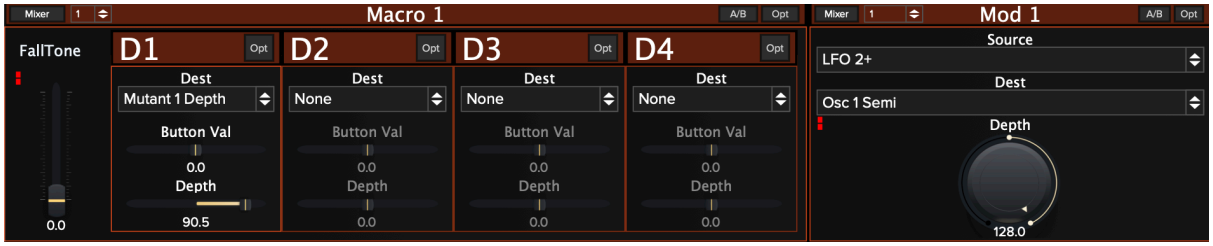
4.1.8 Ribbon & System

Ribbon and System controls are available by pressing the **RIBBON/SYSTEM** button on the Mixer section.



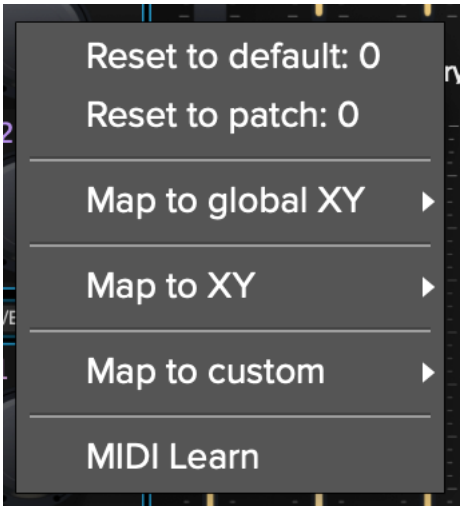
4.1.9 Single Macro and Mod

It's not always convenient (or necessary) to view all macros or mods at once without access to the other synth parameters, so it is possible to view a single macro and mod on the main screen view via the **MACRO/MOD** buttons on the Mixer section.



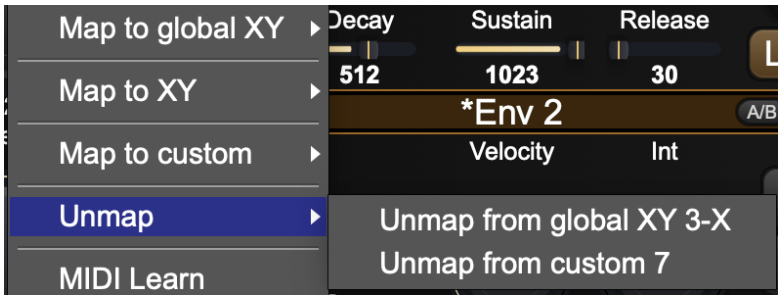
4.1.10 Control Operations

Right-clicking on a control will bring up options for the control.



From here it is possible to assign the control to one of several destinations and perform MIDI learn for any provided controller (see 3.1.2).

You can also unmap any assignments made:



Assignments to XY pads and custom controls can also be made directly from the components themselves.

4.1.10.1 Mod/Macro Mappings

If the parameter is a macro or mod target, an additional menu item will be available allowing the parameter to be assigned to a macro/mod matrix entry.

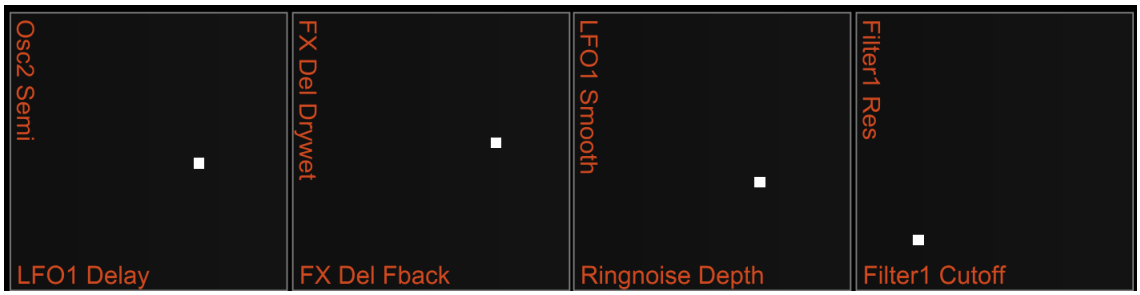


When mapping a macro or mod slot in this way, the display will automatically switch to show the single mod/fx mod so that the depth can be altered immediately (see 4.1.9).

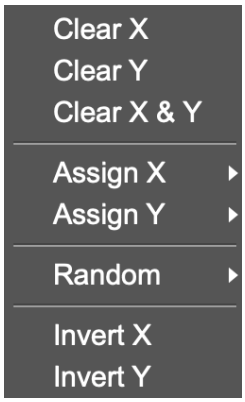


4.2 XY Controls

Four XY controls are provided for easy control of multiple parameters at the same time.



Right-click on the XY pad to bring up options.



Using the **ASSIGN** operations will allow you to pick controls to assign to the XY pad. Alternatively, these can be assigned directly from the controls themselves (see 4.1.7).

Using the **RANDOM** operations will assign random parameters to the pads for some pot-luck surprises.

See section 6 for details of how these controls operate with respect to host automation.

4.2.1 Global XY Controls

It is possible to store a set of XY definitions for each patch as some controls may be more appropriate for certain patches compared to others.

It is also possible to define a set of global XY controls that are always available.

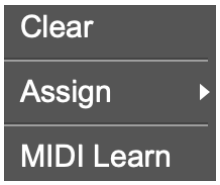
To enter global XY control mode, **SHIFT**-click the **XY**. The button will change colour and you can now define a set of global XY controls. Pressing the button allows easily toggling between the two modes.

4.2.2 Custom Parameter Assign

16 parameters can be freely assigned to any parameter on the synth and these will then be available in performance mode.



Right-click on a parameter to bring up options.



See section 6 for details of how these controls operate with respect to host automation.

4.3 Randomise

Three randomisation algorithms are provided for discovering new sounds. Several parameters are provided for each randomisation mode to tailor how mild or extreme the randomisation is, and sections or individual parameters can be excluded to further increase control.



4.3.1 Common Controls

These controls are available in all random modes.

- Dials Only – enabling this will disable all dropdowns from randomisation
- Exclude – Allows individual controls to be excluded from the randomisation
- Random – Randomise with the current settings

The button matrix can be used to provide high level exclusion of sections of the synth.

4.3.2 Absolute



An absolute value will be set for the parameter between its min and max value.

- **Range** – this determines the max upper value – a random value will be chosen between 0 and this %age of its max value
- **Affinity** – whether the value tends to favour min (-ve) or max(+ve) values.

4.3.3 Relative



This randomiser will generate random values based on the current values in the synth.

- **Range** – the maximum movement as a %age of range (i.e. max – min values) that the value can move
- **Noise** – how often (%age) the range is ignored to pick a random value. Negative values still obey the max of 50% of range, positive values set the range to be 100%
- **Clip** – affects behaviour when the new value would be outside of the min/max range. When clipping is on, they are fixed to min/max values. When disabled, they will "bounce back" from the min/max difference by the appropriate amount.
- **Direction** – sets direction of value change to down, up, or both.

4.3.4 Patch



The new value will be picked between min and max values when the minimum is taken from the first patch specific and the maximum is taken from the second.

- Patch Select 1 – the first patch number to use
- Affinity – whether the value tends to favour patch 1 (-ve) or patch 2 (+ve)
- Patch Select 2 – the second patch number to use
- Noise – how often (%age) the affinity is ignored to pick a completely random value. Negative values still obey the bounds of min/max from patch 1 and 2, positive values will pick a value from min to max of the parameter.

4.3.5 Exclude



Pressing the **EXCLUDE** button will enter exclude mode where each control or section be individually excluded from the randomisation. Controls highlighted in blue are included. To toggle the inclusion/exclusion of a control, simply click on it.

4.3.6 Undo

Pressing the **UNDO** button will undo the last randomise operation.

4.3.7 Morph



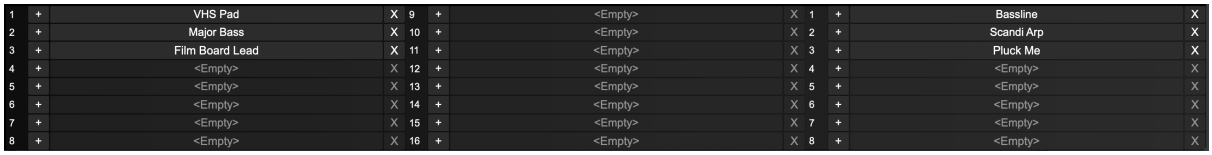
It is possible to morph between 2 patches using the controls provided.

Noise – How often (%age) the min/max values of the patches are ignored to pick a random value. Negative values still obey the bounds of min/max from patch 1 and 2, positive values will pick a value from min to max of the parameter.

- Patch Select 1 – the first patch number to use
- Morph bar – Left is fully patch 1, right is fully patch 2 – in-between is where the magic can happen
- Patch Select 2 – the second patch number to use
- Dials Only – enabling this will disable all dropdowns from morphing
- Exclude – Allows individual controls to be excluded from the morph (see section 4.3.5)

4.4 Favourites

Up to 16 global favourites can be stored along with 8 favourites per plugin instance when using VST/AU.



These 8 favourites are unique to each instance of the plugin allowing you to store and recall 8 sounds specific to each set that you work on. This gives you total confidence to be able to recreate the sounds in your track at a future point whatever happens to the internal state of the synth.

The 16 global favourites and 16 plugin presets can be recalled via the use of Program Change messages – see section 5.1.

Press the **+** button next to a slot in order to store the current edit buffer contents into that slot. Press the **X** button next to a slot to clear that slot.

4.5 Browser

The browser provides patch browse and management functionality.

The browser operates in two modes, one for browsing the patches loaded into the editor, and the other for browsing patches stored on your hard drive.



Files scanned by the browser are:

- Hydrasynth manager banks
- Single XML files (from editor)
- XML banks (from editor)
- XML storage files (from editor – see section 3.3.2).

4.5.1 Operation

4.5.1.1 Internal/Storage

Switch between browsing the patches in the editor and those on external storage.

4.5.1.2 Category

Choose a category to filter by.

4.5.1.3 Genre

Choose a genre to filter by.

Genres are implemented by the software itself. Patches fetched from the synth will not have initial genre information.

4.5.1.4 Pack

Pack lists the folders the patches are stored in, or the name of the sysex file containing a bank of presets and allows filtering by these.

Only enabled when in storage mode.

4.5.1.5 Filter

Allows patches to be filtered via name.

4.5.1.6 Rating

Allows patches to be filtered via a rating.

Ratings are implemented by the software itself. Patches fetched from the synth will not have initial rating information.

4.5.1.7 Colour

Colouring to apply to the entries in the browser:

- Default: Duplicate patches are coloured in red, init patches are shown in white.
- None: No colouring
- Category: Entries are coloured according to category

- Genre: Entries are colours according to genre

It is possible to change the colour assignments in the organiser (see 4.5.3).

4.5.1.8 DB

Brings up DB configuration for specifying patch locations (see section 4.5.1.10).

Only enabled when in storage mode.

4.5.1.9 Organise

Brings up the organiser (see section 4.5.3).

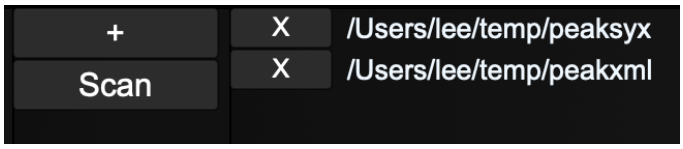
4.5.1.10 Right-hand Mouse Menu

Clicking on a browser entry with the right-mouse button will allow the following operations to be performed:

- Copy/Paste patches
- Assign genre
- Assign rating
- Copy to favourites

Assigning genre and rating can be applied to multiple patches at the same time.

4.5.2 Browser Configuration



Click the **X** button next to a directory to remove it from scanning.

4.5.2.1 +

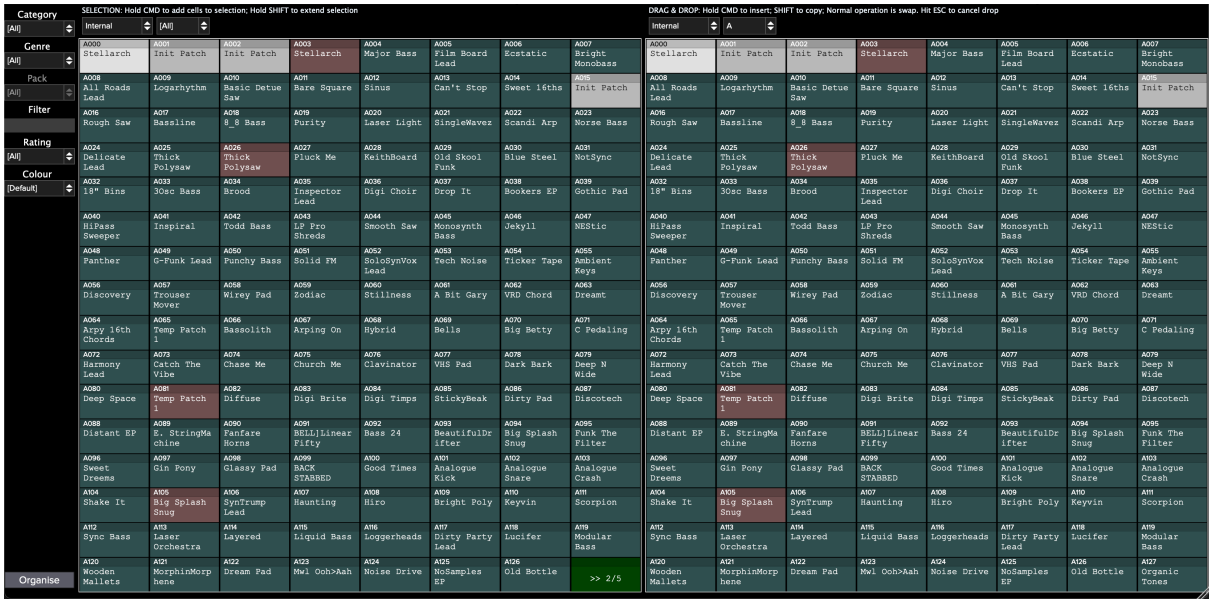
Use this button to add new directories for scanning.

4.5.2.2 Scan

Scan configured directions for patches.

4.5.3 Organiser

The organiser allows the internal patches in the editor to be organised.



The screen is split into 2 panels.

The left panel can be used to internal patches (either free flowing or in banks), external patches, a file browser for searching for patches, and user banks.

The right panel can view internal patches and user banks.

Selections can be made via use of the mouse in combination with the SHIFT and CMD/CTRL keys.

Selections can be dragged from one panel to the other to update the patches in the panel.

The normal drag operation is to swap patches with source and destination, but this can be modified:

- CMD/CTRL insert source patches into destination
- SHIFT copy source patches over destination

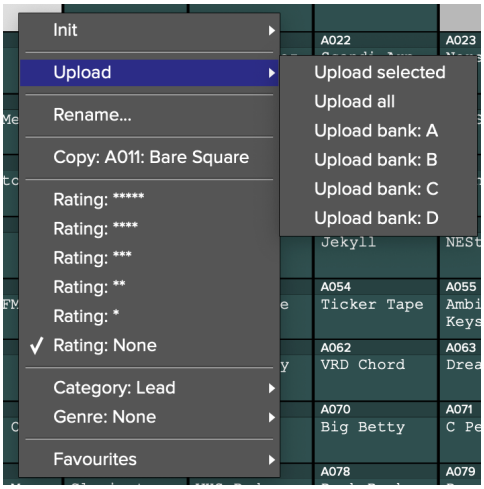
The contents of the left panel can be filtered by the controls on the left-hand side.

Counts are given for a high-level overview of your patch organisation:



For category and genre, it is possible to assign your own colours via a SHIFT-click on an entry.

4.5.3.1 Right-hand Mouse Menu



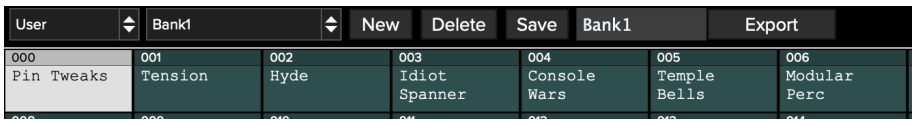
Clicking on an organiser entry with the right-mouse button will allow the following operations to be performed:

- Init patch/bank/selection/all
- Upload patch/bank/selection/all
- Rename patch
- Copy/paste patches
- Assign category
- Assign genre
- Assign rating
- Copy to favourites

Assigning category, genre and rating can be applied to multiple patches at the same time.

4.5.3.2 User banks

It's possible to easily create banks of patches for storage and retrieval in the future.



Banks are stored by default in .xml format but can be exported as sysex files compatible with components by using the **EXPORT** button.

4.5.4 Keyboard Short Cuts

4.5.4.1 General

- +: Next preset
- -: Previous preset
- 0-6: Rating

4.5.4.2 Controls

- Up arrow: Increase control value by 1
- SHIFT-Up arrow: Increase control value by 10
- Down arrow: Decrease control value by 1
- SHIFT-Down arrow: Decrease control value by 10

4.5.4.3 Section

- R: Randomise dials
- SHIFT-R: Randomise controls
- CMD/CTRL-R: Reset to patch
- I: Init
- L: Load
- S: Save
- C: Copy
- P: Paste

4.6 V-Macros

Up to 8 virtual macros can be defined per patch. Each virtual macro can be set to control up to 4 parameters on the synth (selected via buttons **A-D**), and the start, end and depth of each parameter can be controlled.

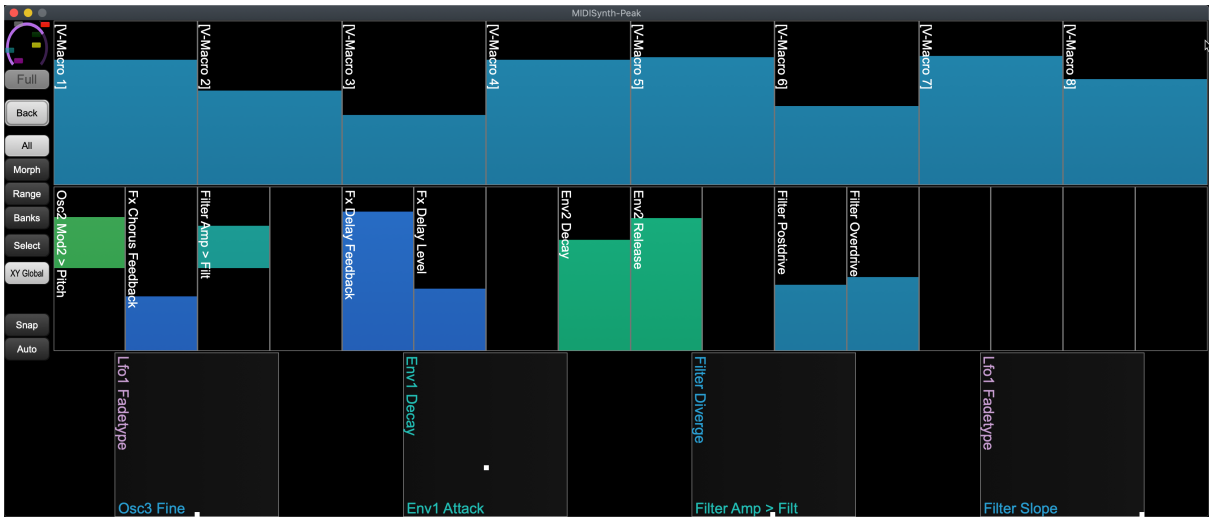


4.7 Performance Mode

Perform mode is primarily designed for touch screen users but can be used by anyone wishing to provide a simple view for performance control of the synth rather than patch editing and management.

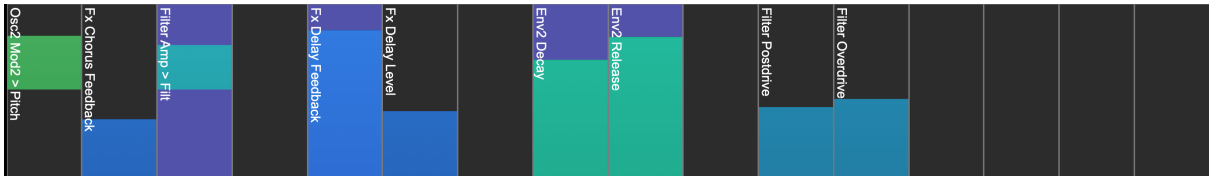
This mode consists of:

- Access to 16 user-defined control mappings
- Access to 8 V-Macro controls
- Access to 4 user defined XY controls
- User-defined control morphing
- Snapshot and Autoreset functions

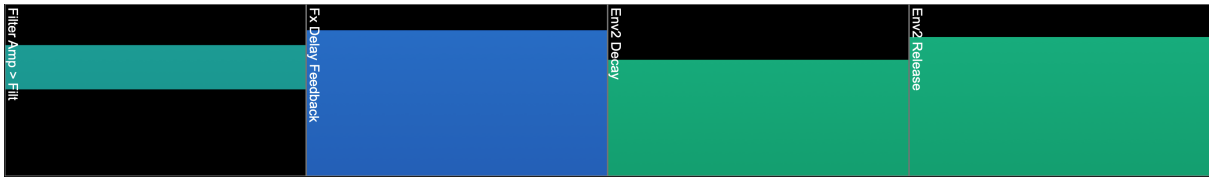


4.7.1.1 Zooming Performance Controls

Pressing the **SELECT** button will allow you to select which controls are on display. If no controls are highlighted, all controls are displayed.

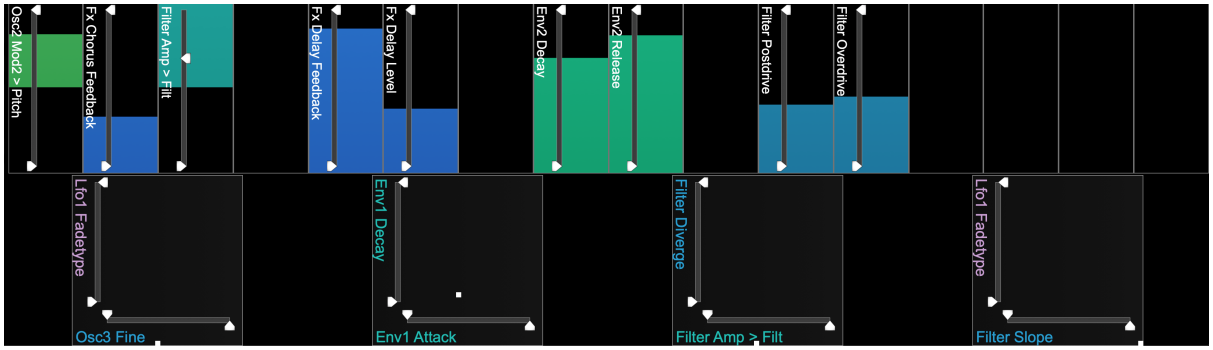


Pressing **SELECT** again will display the controls you have selected.



4.7.1.2 Setting Range of Performance Controls

Pressing the **RANGE** button will superimpose range sliders on the mapped custom and XY controls allowing you to set the minimum and maximum %age value of the control.



4.7.1.3 Morphing

Enabling the **MORPH** button will add a slider to the display to allow morphing between two custom parameter banks (see section 4.7.1.4).

Pressing the **EXCLUDE** button under the left morph control will change the **SELECT** buttons under the custom sliders into **EXCLUDE** buttons. It is then possible to define custom controls that are excluded from the morph operation.

4.7.1.4 Custom Banks

Up to 16 banks of custom parameter values can be stored and retrieved. It is also possible to morph between two banks.

Press the **BANKS** button to bring up the controls for storing banks which operate in a similar way to other banking controls.

4.7.1.5 Selecting View

It is possible to rotate through three view modes for the Performance Mode, accessible from the top control button:

- All: Shows all sliders and XY controls
- Slider: Shows all sliders
- XY: Shows XY controls

4.7.1.6 XY Controls

Pressing the **XY GLOBAL** button will toggle between viewing the global XY controls and those that have been assigned to a patch. It is possible to select which patch controls are used for the XY controls via the selection button underneath.

4.7.1.7 Snap(shot)

Engaging snapshot using the **SNAP** button will take a snapshot of the current performance controls: macros, custom controls, XY controls, channel levels, delay sends, reverb sends, mute states, master filter.

You are then free to change any of these controls and have them all reset back to their value when you engaged snapshot by another press of the button.

4.7.1.8 Auto(reset)

Engaging Autoreset via the **AUTO** button will reset each supported control (macros, custom controls, XY controls) to a specified value when the control is released.

The reset value for each control can be set by **SHIFT** clicking the control for macros and custom controls, and **SHIFT-CMD/CTRL** clicking on the XY for XY controls.

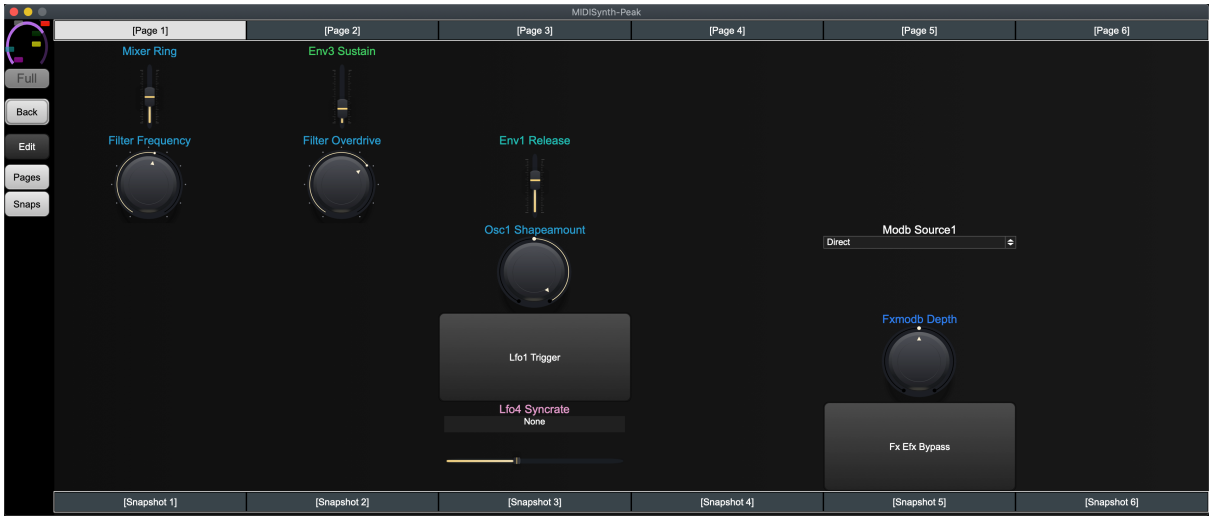
Touch-screen users: The reset values are set with a long-press of the **AUTO** button. Any controls being operated at this point will have their values updated.

4.8 User Layouts

Each user layout consists of a grid of controls that can be from 2x2 in size up to 8x8.

When running the demo, the following limitations are imposed:

- Only 1 page is available
- Only 1 snapshot is available

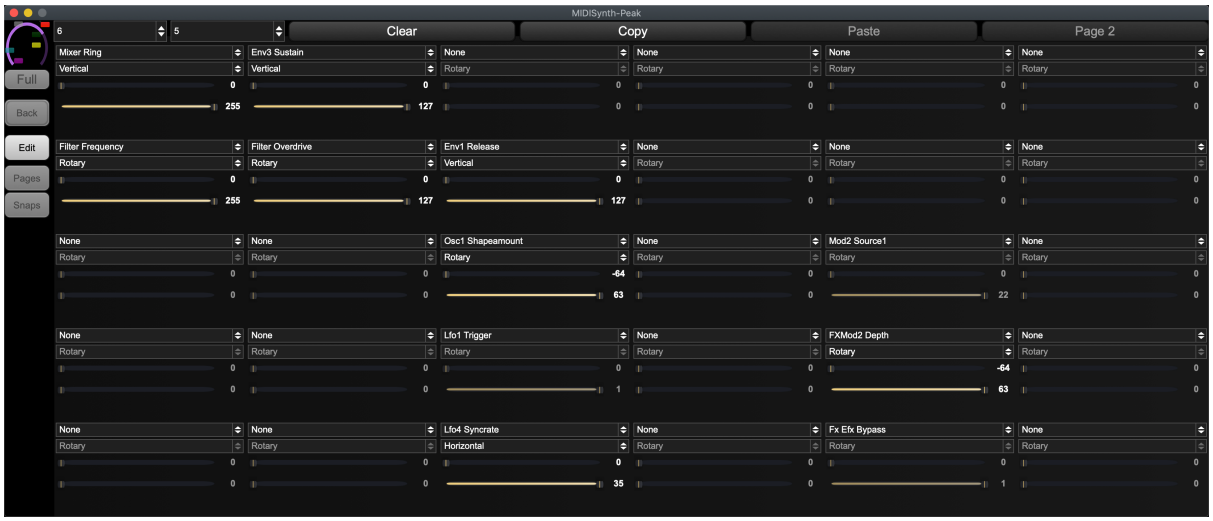


Clicking on the appropriate page button will load the page. SHIFT-clicking the button will allow the page to be named. Pages that are not defined (i.e. are empty) are indicated by [].

Pressing the **PAGES** button will toggle the display of the page selector at the top of the screen.

Pressing the **SNAPSHOTS** button will toggle the display of the snapshot selector at the bottom of the screen.

Pressing the **EDIT** button will change the display into the edit display.



For each cell you can specify:

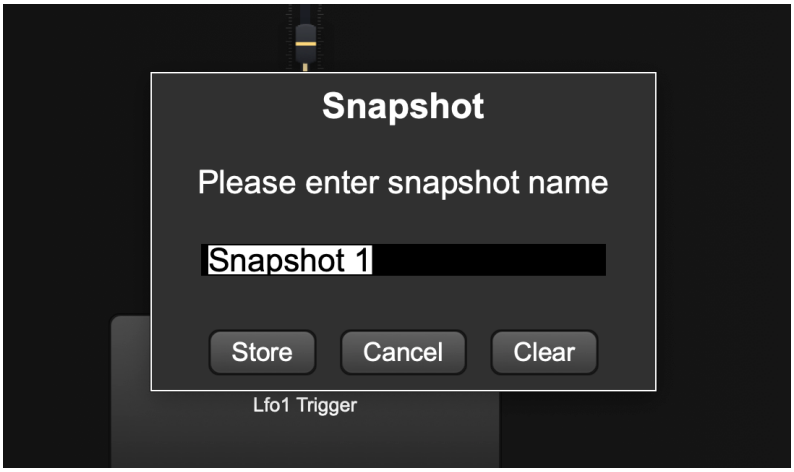
- The control to be placed in the grid cell
- How the control is to be displayed (if appropriate): Rotary, Vertical Slider, or Horizontal Slider.
- Minimum value of the control (if appropriate)
- Maximum value of the control (if appropriate)

Once editing is finished, press the **EDIT** button again to return to normal operation. All updates will automatically be saved.

4.8.1 Snapshots

Each page can have up to six snapshots stored. Each snapshot stores the value of each control at the time it is saved.

To create a new snapshot, SHIFT-click the appropriate slot.

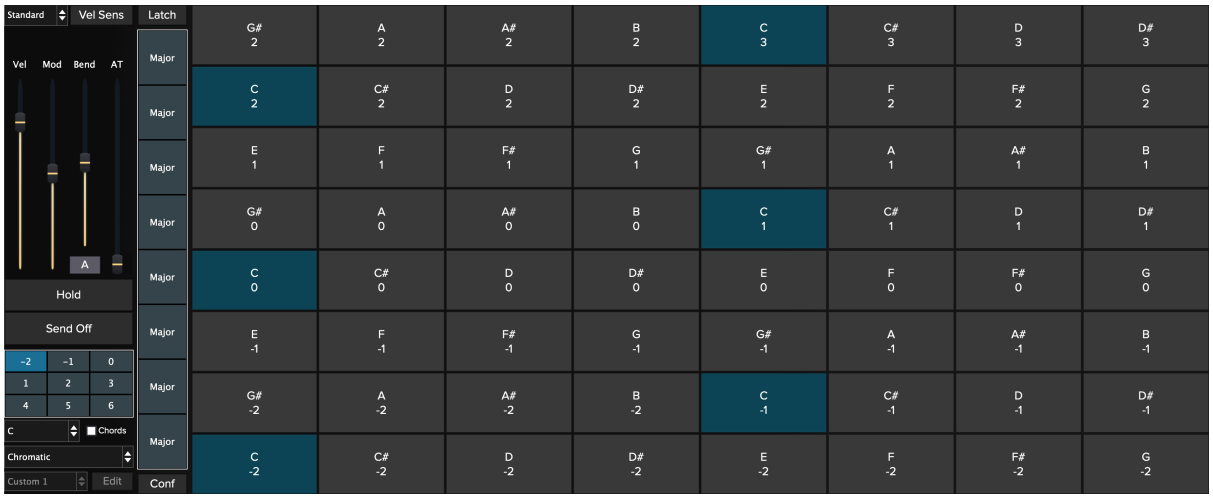


You can name the snapshot at the same time as storing it or press the **CLEAR** button to clear the contents. Snapshots that are not defined (i.e. are empty) are indicated by [].

To load a snapshot simply press the appropriate snapshot button.

4.9 Keyboard Mode

The keyboard module allows you to send note data to the synth.



When running the demo, the following limitations are imposed:

- Chord configure is not available

4.9.1 View Mode

The following view modes are supported:

- Standard – standard keyboard layout
- Iso – Isomorphic grid layout
- Root – Root note grid layout
- Piano – Piano view grid layout

4.9.2 Velocity Sense Mode

Pressing the **VEL SENS** button will enter velocity sensitive mode which will display a fewer number of larger keys. When in this mode you have the option of using the fixed velocity slider (by enabling the **FIXED** button) or using dynamic velocity using the vertical position on the key to adjust the velocity being sent to the synth.

4.9.3 Hold/Send Off

It is possible to create held notes by holding **HOLD** whilst releasing a selected note. Any held notes on a channel can be released by pressing the **SEND OFF** button.

4.9.4 Chord Mode

Enabling the **CHORDS** toggle will display 8 chord selectors which can be used to play a chord from a single keyboard pad. This is momentary by default but can be set to a latch mode by using the **LATCH** button.

When a chord is selected, the octave selector changes to an inversion selector where any inversions for the chord can be selected.

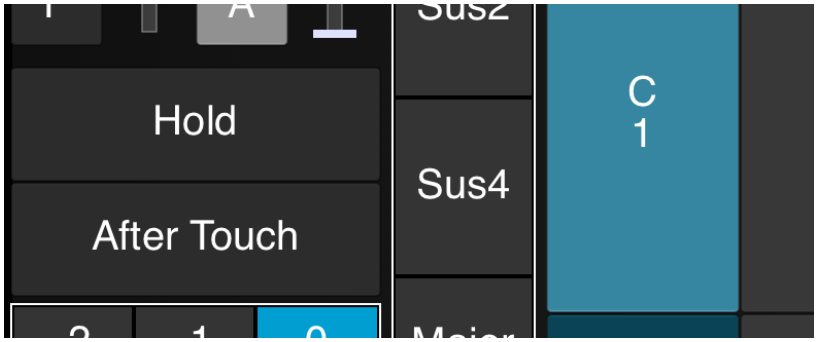


Pressing the **CONF** button will allow a chord to be selected for each slot from those available – each chord is stored along with a selected inversion, so it is possible to store different inversions in each slot.

4.9.5 Polyphonic After-Touch

This is only available when in velocity sensitive mode.

When in 2 octave mode and a note is held down, the **SEND OFF** button will be replaced with an **AFTER-TOUCH** button.



Holding down the **AFTER-TOUCH** button will enable poly after touch mode – whilst held down, dragging up and down on any currently held notes will send an after-touch value for that note.

NOTE: Whilst **AFTER-TOUCH** is held down, no note off messages will be send so it is possible to lift your fingers from any previously held notes to adjust the after-touch value.

4.10 Patch Management



4.10.1 Select Bank

Use the dropdown to select banks A-E.

4.10.2 Select Patch

Use the dropdown to select patches in the current bank.

4.10.3 +/-

Navigate through patches one at a time.

4.10.4 Store

Store the current edit buffer at the currently selected slot. The button will turn red when there are un-stored changes.

SHIFT-click to rename the patch.

CMD-click for **STORE TO**. When storing to a different patch, the patch location is determined by the dropdown selectors to the right of the **UPLOAD** button.

4.10.5 Init

Init will initialise the edit buffer to a clean state (default parameter assignments as defined by Novation). This will not store the patch in a slot unless the **STORE** button is pressed.

Holding **SHIFT** and pressing **INIT** will initialise all 640 slots in the editor.

Holding **CMD/CTRL** and pressing **INIT** will initialise all 128 slots in the current bank.

4.10.6 Fetch

Fetch will fetch the current patch contents of the selected synth and update the edit buffer. This will not store the patch in a slot unless the **STORE** button is pressed.

Holding **SHIFT** and pressing **FETCH** will fetch all 640 patches from the synth and update the patch slots in the editor.

Holding **CMD/CTRL** and pressing **FETCH** will fetch all 128 patches in the current bank.

4.10.7 Upload

Allows patches to be uploaded to the synth for off-line access and uploads the current editor buffer as it stands. You can select which patch slot to upload to on the synth by the dropdowns to the right.

Holding **SHIFT** and pressing **UPLOAD** will upload all 640 patches to the synth.

Holding **CMD/CTRL** and pressing **UPLOAD** will upload all 128 patches in the current bank.



4.10.8 Load/Save Patch

Load/save a single patch.

SHIFT-click to load/save sysex files that are compatible with Novation Components.

4.10.9 Load/Save Bank

Load/save patch banks. Patch banks consist of all 512 patches.

SHIFT-click to load/save sysex files that are compatible with Novation Components.

CMD/CTRL-click **SAVE BANK** to save all patches to a specified folder as individual patches.
SHIFT-CMD/CTRL-click to save each patch as a sysex file.

CMD/CTRL-click **LOAD BANK** to load individual patch files from a specified folder. The numeric prefix at the beginning of the file will be used to determine the patch position.
SHIFT-CMD/CTRL-click to load sysex pattern files.

5 Host Control

If **MIDI THRU** is enabled in setup then the following information is sent from the host to the synth:

- Note information
- CC/NRPN (controller) information
- Program Change information

5.1 Selecting Patches from Host

Patches in the editor can be loaded into the synth by sending Program Change messages on banks 16-19 with a program of 0-127. Depending on how your host numbers these elements, you may need to select banks 17-20 and programs 1-128.

Global favourites can be loaded into the synth by sending Program Change messages on bank 32 with a program of 0-15.

Plugin favourites can be loaded into the synth by sending Program Change messages on bank 33 with a program of 0-7.

6 Performance Control Automation

The performance controls are a collective name for the 4 XY controllers and the 16 freely assignable controls.

When it comes to automation of these parameters three different modes are available which can be chosen in the setup section.

6.1 None

In this mode neither the operation of the performance control or the target control is added to the host automation. Any existing automation for these controls will not be processed.

6.2 Target

When in this mode, automation is recorded for the target parameter, i.e. the control that is at the end of the XY/custom control. Any existing automation will playback as normal.

This is the default mode and recommended for hosts that support all VST parameters.

6.3 Perform

In this mode automation is recorded for the performance control itself and not for the target parameter. Existing automation will be played back for these controls which will then control the target parameters.

The main purpose of this mode is to provide flexibility in Ableton Live.

6.3.1 Automation and Ableton Live

Ableton Live only allows 128 parameters of a VST to be visible in Live at any time. The editor has over 700, meaning that you need to choose a set of parameters to automate.

Please note this does not mean you cannot control all parameters from the UI or assign MIDI controllers to them, it just means that you cannot automate more than 128 parameters.

Whilst you can create a new mapping for each project or create your own default device mapping for the VST, neither of these offers an ideal solution, especially to adding a new parameter to automate on the fly.

Allowing you to automate the performance controls gives you up to 24 easily configurable parameters per project. Just make sure that the 24 performance controls are in your set of 128 parameters available in Live and you're ready to go – assign the other 104 to your most commonly used controls and you have the best of both worlds.

6.3.2 Happy Accidents

The bonus of this mode is that you can easily change the target of automation and keep all the recorded data. Want to see how your filter sweep sounds when controlling filter distortion instead? Or how does the decay automation you've set up sound when controlling the LFO rate instead?

7 Troubleshooting

7.1 Properties File

All MIDISynth configuration is stored in a properties file located in:

Windows: `~\AppData\Roaming\MIDISynth-xxx\MIDISynth-xxx.properties`

Mac: `~/Library/Application Support/MIDISynth-xxx.properties`

If you do not have your personal Library on Mac visible, you can view it via this process: https://www.noterepeat.com/articles/how-to/70-mac-os-x-accessing-hidden-library-folders

If you're having problems, it is recommended that you take a copy of this file and then remove it and see if your problem goes away. If it does, can you please send the file to midisynth@sigabort.co.uk so that it can be examined.

7.2 MIDI Monitor

The MIDI monitor can be used to solve issues if you are having them. After contacting support with an issue, you may be asked to enable this and perform actions to generate (or receive) MIDI and then send logs to support.

The MIDI monitor can be enabled in the settings panel (see **Error! Reference source not found.**). Using the monitor will slightly affect performance so it is recommended to only enable it for trouble shooting.



After collecting MIDI data press the **SAVE OUTPUT** button to save the output which can then be sent to support.

Enable saving to sysex, if requested, by clicking the **SAVE SYSEX** button.

When enabled, fetching a patch saves the contents to:

`~/Documents/patch_fetch.syx`

And sending a patch saves to:

`~/Documents/patch_send.syx`

Send any requested files to midisynth@sigabort.co.uk

8 Custom Properties File Settings

The following entries can be set in the properties file to change certain behaviour in the editor.

Make sure these lines are added before the closing `</Properties>` tag.

8.1 ui_dim

Changing this value will change the automatic dim setting applied to section headers in the editor. The default value is 1.0. Valid values are from 0.0 to 1.0.

```
<VALUE name="ui_dim " val="0.5"/>
```

8.2 button_corner_size

Changing this value will change the roundedness of the corners om buttons. The default value is 7. Valies values are from 0 to n.

```
<VALUE name="button_corner_size" val="0"/>
```

8.3 route_midi_clock_out

By default, MIDI clock messages are not routed over the Windows virtual MIDI ports as this may generate a lot of traffic and most people will not be interested in syncing the synth to the DAW clock.

To enabled clock messages to be sent add:

```
<VALUE name="route_midi_clock" val="1"/>
```

8.4 edit_patch

Changing this value will change the patch number in Hydrasynth used as the edit buffer.

```
<VALUE name="edit_patch" val="0"/>
```