

MIDISynth-CMS 1.0.3

User Guide

www.sigabort.co/midisynth



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1 Overview

MIDISynth-CMSs a VST/AU for Windows and OSX that allows you complete control of your Novation CMS from inside your favourite DAW, or as a standalone application.

1.1 Requirements

- Windows 7+
- OSX 10.7+
- Connection to CMS via USB
- Screen supporting resolution of 1300x510 (zoom available)

1.2 Limitations

1.2.1 Windows Users

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

This also extends to using the VST inside a host – please make sure that the host doesn't open the CMS MIDI input/output (see your host documentation for how to set this up). You can still send data to CMS through the plugin by enabling the **MIDI Thru** option (see section 2.1.8).

1.2.1.1 Windows Virtual MIDI Port

On Windows, MIDISynth will take input from a MIDI port named **MSVP_CMS** and route this through to CMS. You can use this inside your DAW to send clock information to CMS for syncing LFOs etc. Use LoopMIDI or other virtual MIDI port software to set this up.

1.3 Installation

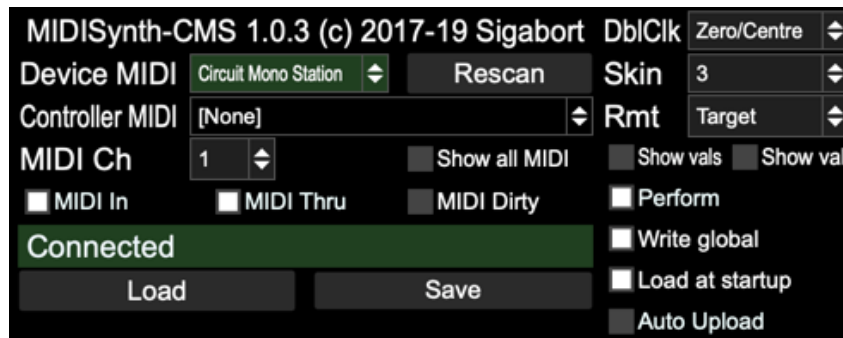
Click on the installer and follow the instructions.

1.3.1 License File

The first time you run the editor you will be asked to provide the location of your license file. Use the search dialog to locate the file and restart the editor to finalise installation.

2 Setup

Click on the **FULL** button to bring up setup options in the lower portion of the editor.



2.1 MIDI

2.1.1 Device MIDI Port

The MIDI port of the CMS is auto-selected if detected at startup. If you are lucky enough to have more than one CMS, use this to select a different MIDI port.

2.1.2 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 3.2) and the custom controls (see 3.2.2). Additionally, all MIDI from this port will be routed through to CMS so you can route an external keyboard or controller to CMS.

2.1.3 Rescan

Rescan connected MIDI devices.

2.1.4 MIDI Ch

The MIDI channel that OSC 1 is set to on the synth.

2.1.5 Show All MIDI

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

2.1.6 MIDI In

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

2.1.7 MIDI Dirty

Enabling this option will cause incoming MIDI (turning the knobs on CMS 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.

2.1.8 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 note information rather than using the CMS on-board sequencer.

2.2 General

2.2.1 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

2.2.2 Skin

Change the look of the App.

2.2.3 Show Vals

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

2.2.4 Show Val

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

2.2.5 Perform

Show the performance options – see sections 3.4, 3.5, and 3.6.

2.2.6 Auto Upload

When enabled the patch will automatically be uploaded to CMS when it is saved.

2.2.7 Write Global (VST/AU only)

If enabled, changes to patches made with the STORE button will also be written to the global patch file (shared with the standalone program).

Note: If this is not enabled then changes to patches in the VST/AU will only be saved with your project set.

2.2.8 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 CMS.

2.3 Storage

2.3.1 Load

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

2.3.2 Save

When saving, the following information is stored:

- Setup data
- Patch data
- Extended patch data
- XY control assignments (global)
- Performance control data
- Custom parameter assignments
- Colour assignments

Please note all state is automatically saved with the host data when running VST/AU, so LOAD/SAVE are convenience functions rather than necessities.

2.3.3 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
- A session is saved
- Performance controls are updated, including setting range
- XY controls are updated, including setting range
- Colours are changed

3 Operation

3.1 Main Controls

The top portion of the screen is filled with the main synth controls.



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

Holding down **SHIFT** and selecting **SYNTH** will bring up a colour selection allowing the colour of the synth controls to be changed.

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



3.1.1 Section Controls

Each section can be individually copied to a copy buffer via the **COPY** button and pasted to a different patch using the **PASTE** button.

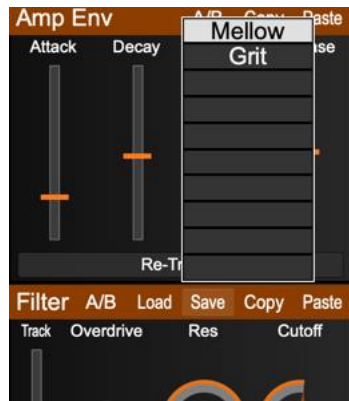
Toggling the **A/B** switch will toggle between your current (edited) settings and those of the patch when it was loaded.

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.

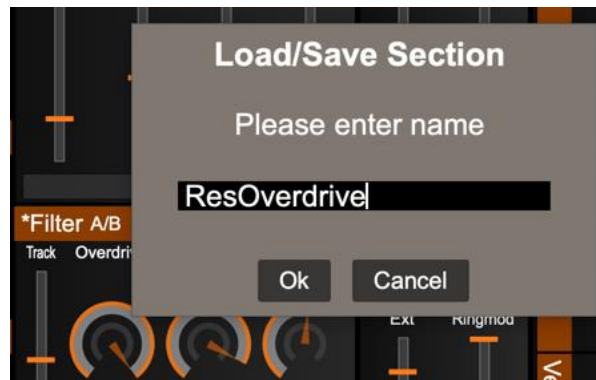
3.1.2 Section Presets

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

Pressing **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.

3.1.3 Section Headers

Each section header responds to a number of key combinations to perform actions on that section:

- **SHIFT** – Randomise the section using the current randomisation settings (see section 3.2.3)
- **CMD/CTRL** – Initialise the section to default values
- **SHIFT + CMD/CTRL** – Reset the section to the values when the patch was loaded

3.2 Sub Controls

Click on the **FULL** button to bring up setup options.

The sub-controls currently in view can be controlled by the selector down the left-hand side of the screen.



3.2.1 XY Controls

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



Clicking the **Map** button will highlight the parameter controls, and these can then be assigned by clicking on the appropriate control. Its name will then appear in the XY control to show it has been assigned. The XY controls will only operate when two controls have been assigned.

To remap a control simply hit the **Map** button and select another control. To unmap a control, hold **SHIFT** and press the appropriate **Map** button.

Holding down **SHIFT** when moving the XY will fix the control at horizontal movement only and holding down **CMD/CTRL** will fix it at vertical.

To invert the output value for an axis, hold **CTRL/CMD** and click on the **Map** button. To pick a random destination for the axis, hold **SHIFT & CTRL/CMD** and click on the **Map** button.

To copy a set of XY controls from patch to patch or to/from the global settings click on the **COPY** button to the left of the XY controls. Then select the destination and press **PASTE**.

3.2.1.1 Global XY Controls

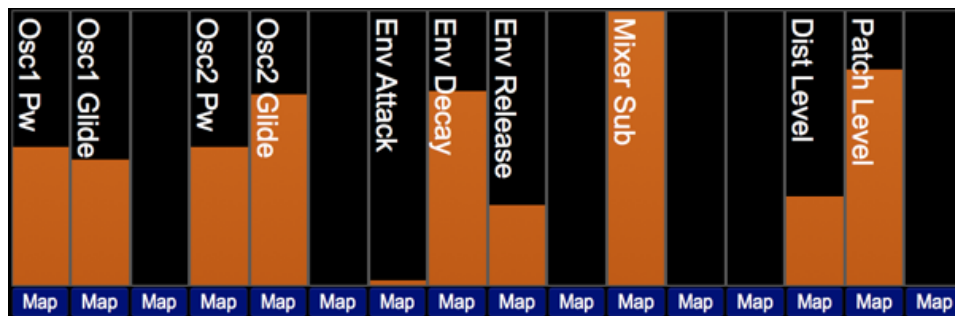
It is possible to store a set of XY definitions for each patch as some controls may be more appropriate for certain patches compared to others.

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

To enter global XY control mode, click on the **XY** button whilst already in XY sub-mode. 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.

3.2.2 Custom Parameter Assign

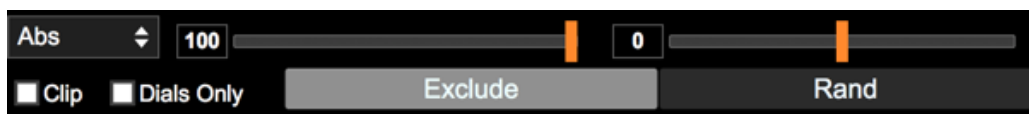
16 parameters can be freely assigned to any parameter on the synth and these will then be available on the Lemur template or via other OSC interfaces.



Mapping is similar for the XY controls – hit the **Map** button underneath a slider to enter map mode and then select the destination control. **CMD/CTRL** clicking the button will toggle the operation between normal and inverted. Remapping and unmapping follow the same process as for the XY controls.

3.2.3 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.



3.2.3.1 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.

3.2.3.2 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.

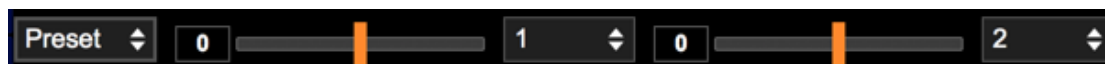
3.2.3.3 Relative



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.

3.2.3.4 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.

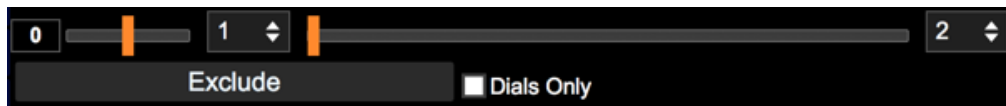
- Patch Select 1 – the first patch number to use
- Affinity – whether the value tends to favour patch 1 (-ve) or patch 2 (+ve)
- Patch Select 2 – the second patch number to use
- Noise – how often (%age) the affinity is ignored to pick a completely random value. Negative values still obey the bounds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

3.2.3.5 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.

3.2.4 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 3.2.3.5)

3.3 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 Circuit (selected via buttons **A-D**), and the start, end and depth of each parameter can be controlled.

The virtual macros operate like the built-in circuit macros with two differences:

- 1) Any control on Circuit can be used as a destination
- 2) V-Macros only operate whilst the editor is running

Using the **LEARN** button, each V-Macro can be MIDI learnt to a controller assigned to the Controller MIDI port (see 2.1.2). Engage learn and then move the control on your MIDI controller to assign. SHIFT-click LEARN to remove the assignment.

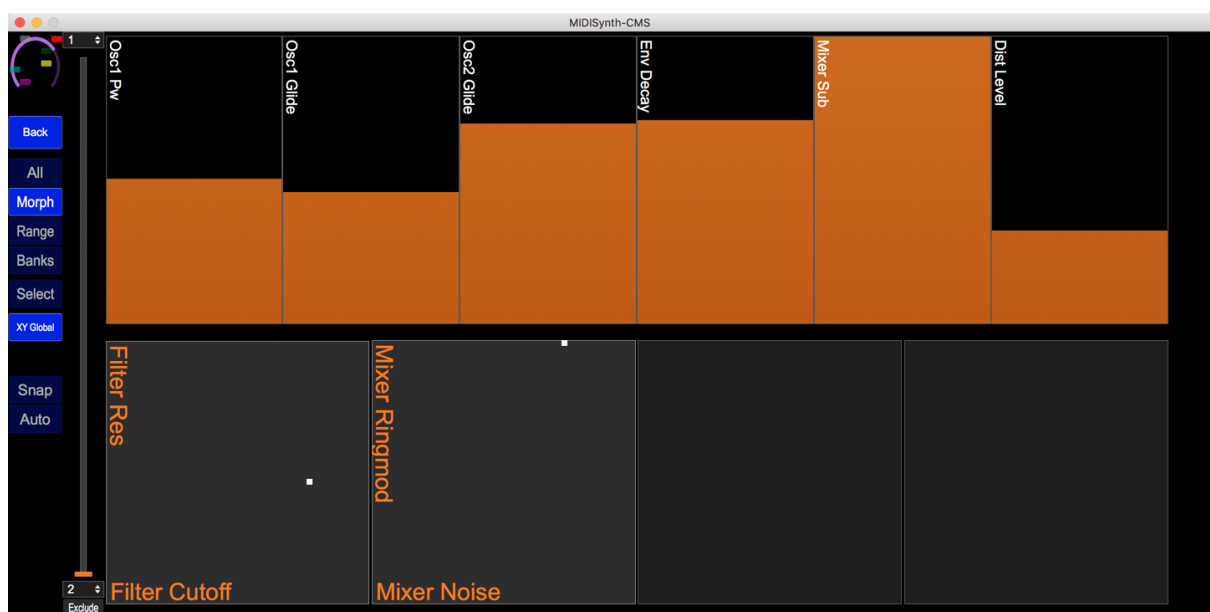


3.4 Performance Mode

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 CMS rather than patch editing and management.

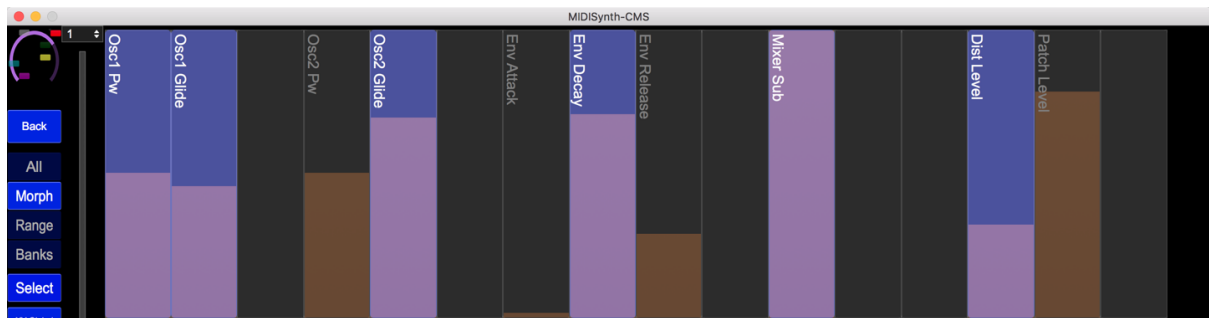
This mode consists of:

- 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

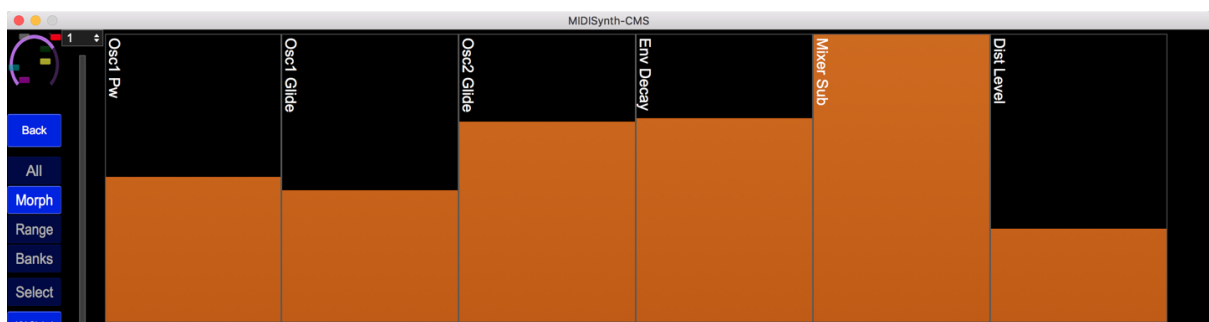


3.4.1.1 Zooming Performance Controls

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

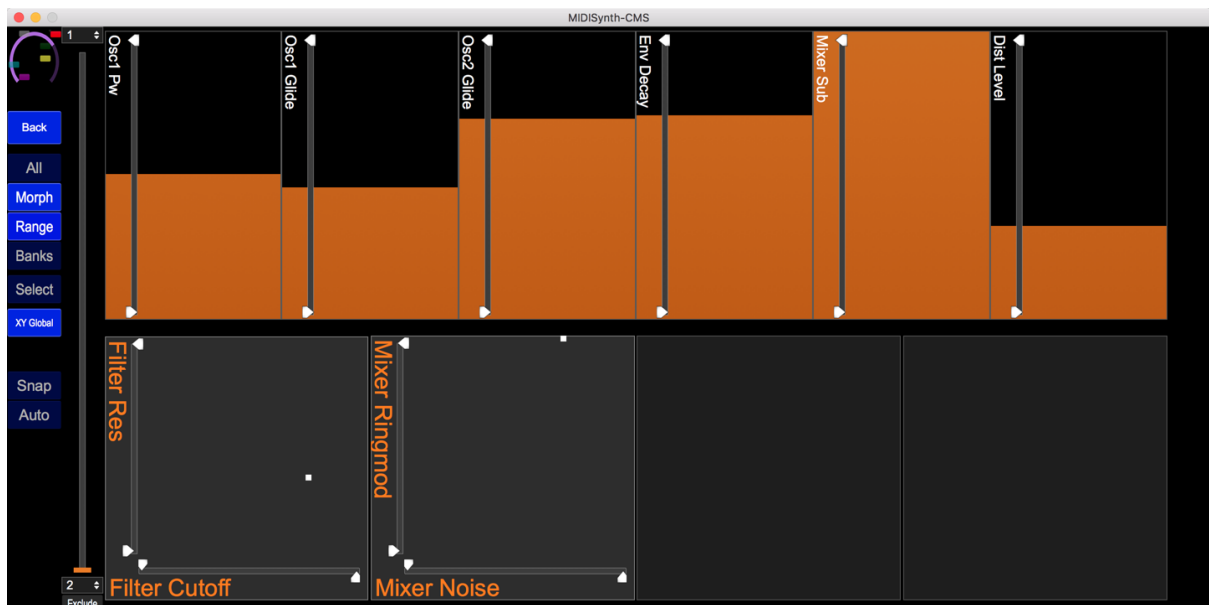


Pressing **SELECT** again will display the controls you have selected.



3.4.1.2 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.



3.4.1.3 Morphing

Enabling the **MORPH** button will add a slider to the display that will morph between two custom parameter banks (see section 3.4.1.4).

Pressing the **EXCLUDE** button under the 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.

3.4.1.4 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.

3.4.1.5 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

3.4.1.6 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.

3.4.1.7 Snap(snapshot)

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.

3.4.1.8 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.

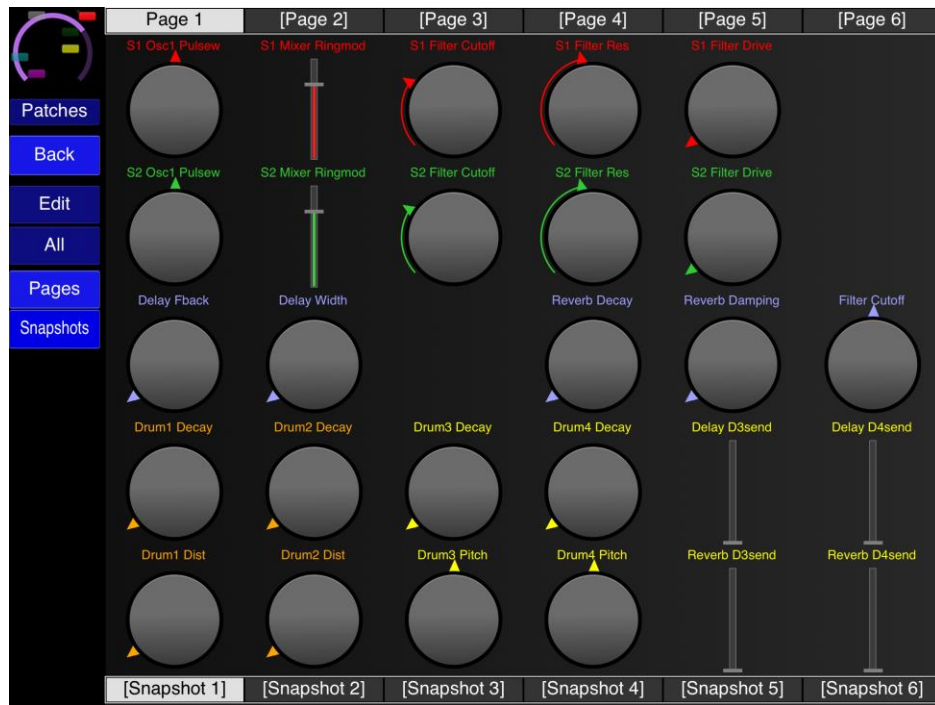
Touch-screen users: The reset values are set with a long-press of the **AUTO** button. Any controls being operated at this point will have their values updated.

3.5 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.

3.5.1 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.

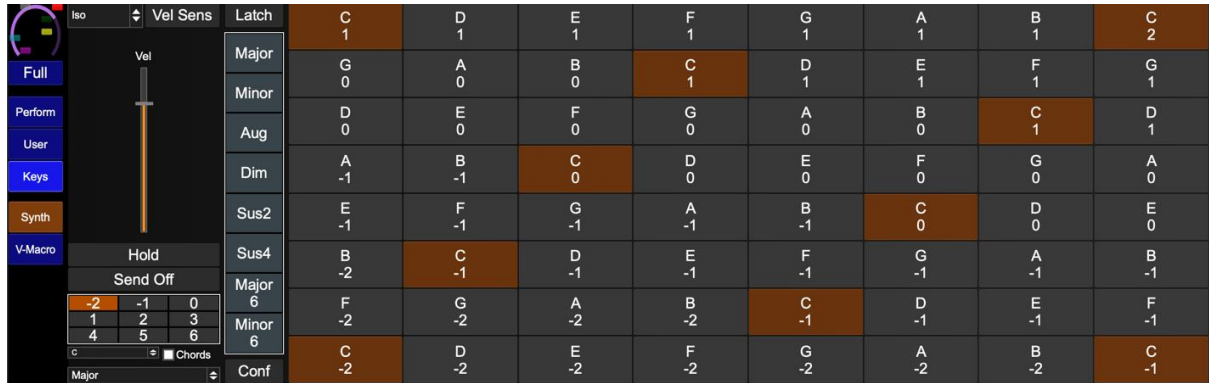


You can name the snapshot at the same time as storing it or press the **CLEAR** button to clear the contents. Snapshots that are not defined (i.e. are empty) are indicated by [].

To load a snapshot simply press the appropriate snapshot button.

3.6 Keyboard Mode

The keyboard module allows you to send note data to Peak.



When running the demo, the following limitations are imposed:

- Chord configure is not available

3.6.1 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

3.6.2 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.

3.6.3 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.

3.6.4 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.

None	I
II	III

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.

3.7 Patch Management

1: Classic Mono ▾			-	+
Store	Store To	Init		
Fetch	Upload	1		
Load Bank	Save Bank	Audition		
Load Sysex Preset		Save Sysex Preset		
Load Sysex Bank		Save Sysex Bank		

3.7.1 Load/Save Single Sysex

Load/save a single sysex patch that is compatible with Novation Components and other versions of CMS editor.

3.7.2 Load/Save Sysex Bank

Load/save the entire patch bank that is compatible with Novation Components and other versions of CMS editor.

3.7.3 Load/Save Sysex Folder

When saving each patch is saved as a separate sysex file in the standard format to facilitate more granular patch management.

When loading a folder can be specified with any number (up to 64) patches in it. Each patch will be loaded to the patch slot indicated in the filename of the patch.

3.7.4 Load/Save Bank

Saving in this format will save additional information that cannot be stored in the CMS sysex patches. This information consists of:

- XY control assignments (patch)
- Macro names

These buttons will load/save the patch state independently of the rest of the editor state. If you wish to save the sessions as part of an overall setup, then use the **LOAD/SAVE** buttons in the setup section (see 2.2.7).

3.7.5 Store

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

3.7.6 Store To

Pressing **STORE TO** will allow a different patch slot to be selected and the current edit buffer will be stored to that slot.

3.7.7 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 64 slots in the editor. **NOTE: This will overwrite all patches currently loaded in the editor.**

3.7.8 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 64 patches from CMS and update the patch slots in the editor. **NOTE: This will overwrite all patches currently loaded in the editor.**

3.7.9 Upload

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

Holding **SHIFT** and pressing **UPLOAD** will upload all 64 patches to the CMS. **NOTE: This will overwrite all patches currently on CMS.**

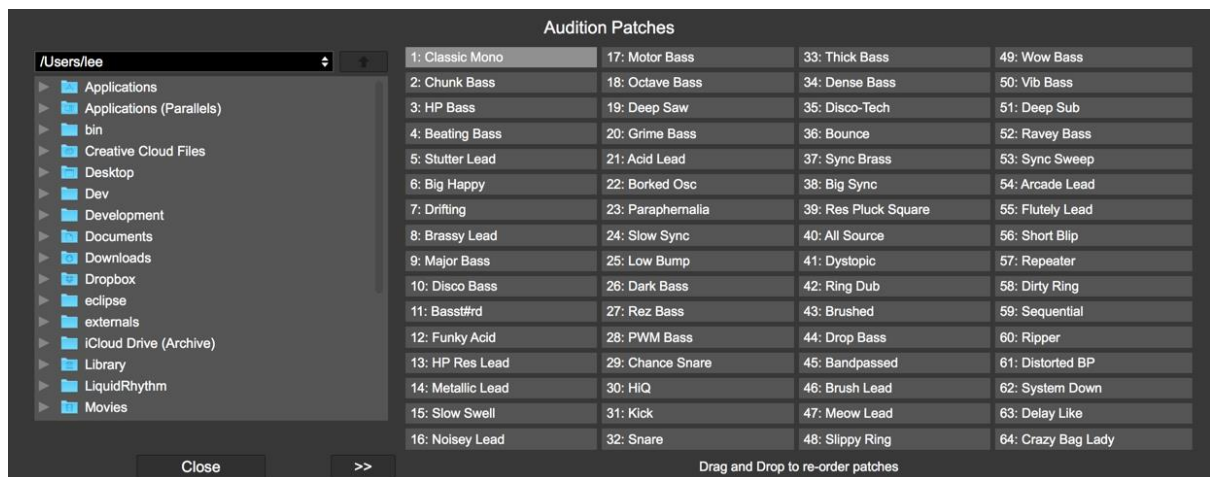
3.7.10 Name/Category



The patch category can be set via the dropdown in the top left corner of the screen.

3.8 Patch Audition

Patch Audition provides a convenient way to audition patches from your hard drive and build them into banks for uploading to CMS.



Using the browser on the left you can navigate to locations on your system where CMS patches are stored. Selecting a patch will load it into the edit buffer on CMS so it can be auditioned immediately.

Use the >> button to transfer the patch to the highlighted slot on the right of the screen. The patch will be replaced with the new patch.

Patches on the right can be dragged from one position to another to swap the two patches around for easy patch bank organisation. Additionally, selecting any patch on the right will upload the patch to the edit buffer on CMS so it can be auditioned.

4 Host Control

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

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

4.1 Selecting Patches from Host

It is possible to select the current patch playing on Synth 1 or Synth 2 from those loaded into the editor.

To do this, send a Program Change message for Bank 1 (normal program changes messages to switch patches on CMS are Bank 0 – depending on how your host numbers these banks you may need to select bank 1 or bank 2) on the configured MIDI channel with a program of 0-63 (or 1-64) for the patch to be loaded.

5 Standalone Editor

The standalone version of the editor operates in the same way as the VST/AU versions but does not require a host to run in and can be used as a standalone application.

6 Troubleshooting

MIDI settings on CMS

Ensure that your CMS is configured to receive and send MIDI – see the MIDI I/O section on page 61 of the user guide.

https://d19ulaff0trnck.cloudfront.net/sites/default/files/novation/downloads/10690/circuit-ug-en_0.pdf