



UDO Super 6 Ctrlr panel documentation and instructions

V1.4 - 2023-06-04



Introduction

Hi! First of all thank you for having purchased this Super 6 editor and librarian.

Without covering all its specific detailed features, the Super 6 synthesizer is a very nice and great sounding synth based on the concept of providing access to all controls without using a screen. This approach is great in some circumstances (focus on sound, perform sound design by ears...) but less pleasant in order ones (what are the modulations made for that program, what is the actual/saved value of a parameter...). The management of programs and waveforms is also different than on classic synths (sysex messages and dumps) by providing a direct access to a Super 6 drive where files need to follow a certain pattern corresponding to the program/waves slots. In the same way, as for sound design, this is great on some aspects (no sysex message exchanged, direct visibility, almost just drag and drop in file explorer) but less pleasant on others (manual rename of files to match the slot, cleaning of the trash...).

The objective of this software is to provide some answer to those negative aspects and to support you in your workflow when using the Super 6 synth.

This work is the result of quite long work spent not only on coding but also in trying to understand the patch file and analyzing the possible values of parameters.

It would not have been possible without the great help of Trond Olsen, owner and fan of the Super 6, who gave me the courage to continue a work that I abandoned but also who spent a lot of time producing patch files and scratching his hairs with me trying to understand the Super 6 “secrets”!

The editor and librarian will bring you the visibility of the [saved and actual values of parameters](#), [including all modulations](#) and a direct access to the parameters, including the “Shift” ones.

Each program can have [additional information](#) as author, description, category and usage documented. This can be saved and recalled automatically later on.

It provides a [Bank manager](#) that allows you to arrange your programs in different banks of 128 programs and to organize them as you want without requiring you to care about slot names, etc... Move, Copy, Swap operations are provided and it is also possible to visualize and copy DDS1/LFO1 waveforms from one program to another.

Finally, a [Wave manager](#) allows you to visualize all the Super 6 waveforms present in the synth but also on your computer allowing you to perform copy operations between your computer, the DDS1, LFO1 or any waveform slot.

It is also reading some wav files and provides the ability to convert them to the .ws6 file format.

Due to status of the Super 6 firmware and its Midi implementation (v0.53) the editor will not fully work as it would in an ideal world.

For example, there is no direct access via sysex messages to the Edit buffer which is preventing some direct audible feedback when changing waveforms. To solve this, the A1-P1 program is used as “buffer” for some operations. Another example is that there is no direct access to the individual modulation slots through CC/NRPN messages which is preventing automation of several modulation amounts at once.

This is just a very high level overview and I encourage you to read this manual carefully as, due to the situation, it is important to understand what is happening when performing some operations.

The editor and librarian will get further additions and will of course follow the changes made by UDO on their firmware.

I also hope to get more details and precisions from UDO on the assumptions I made.

Despite careful testing, it is possible that some bugs remain. Please contact sunny.synths@gmail.com if you find one so they can be corrected as soon as possible.

In the same spirit, contact sunny.synths@gmail.com with comments and feedback!

By that, please have a look on this manual to have an idea of the way of using it and its features.

Enjoy making music with your Super 6 and have fun!

Dominique (*Sunny Synths*)

About this v1.x version

The version 1.4 brings the following changes:

- All parameters re-indexed from 0 for easier automation (clearly visible in Cakewalk)
- Display patch name in LCD when scrolling programs
- Added workaround to secure program change to A1-P1. Probably a bug of the Super 6 that seems to not reload the sound from the Super 6 drive when a program change is received on the current program. An issue as I'm using A1-P1 for consecutive loads from D1/D2 banks...
- Only allowing Direct mode with Super 6 bank (temporary because really too slow due to the time to write on the Super 6 drive. Cross fingers for an access to the edit buffer in the next OS update)
- Added Rename source as Program action in Librarian
- Added Rename destination as Program action in Librarian
- Added check for `p0_Init_Program.s6` file in the temp folder at startup
- Complete uncomplete D1/D2 banks with Init programs: when only a few presets are provided on different banks, this is transforming the situation into a full 128 presets bank with the missing programs being Init programs ready to be replaced
- Remove single and double quotes in program names
- Remove not allowed characters `[\]*?:<>|` in names

The version 1.3 brought the following changes:

- Can handle the different .s6 patch file sizes and versions
- Display patch file size and version in Display Info

The version 1.2 brought the following changes:

- Added Arp Hold button
- Program changes on synth are recognized by the panel. Just stay in patch mode and change programs ;-)
- Stacked LEDs for Unison Size and Arp Range
- Bank and Program rotaries are adapted when loading from the synth or the Bank manager
- Review of switches and momentary buttons
- Added wave horizontal and vertical flips

- Added wave rough (stepped) or smooth up-sampling to 4096 samples (it was only smooth linear interpolation in the v1.1)
- Correction: Chorus was not changed when changed on the synth
- Correction: Load program in Program Proceed was not loading the right program
- Correction: Sliders are moving when receiving Midi CC messages from the synth (LoRes)
- Warning: still an issue with Sliders receiving Midi NRPN messages from the synth (HiRes)

Some planned enhancements

No promises but here is already things identified and that will enhance the panel (no specific order):

- Save .s6 program (top priority)
- Trying to understand the issue with DAW presets and solve it
- Multi copy of programs between banks
- Wave morphing between source and destination waves then copy to DDS1, LFO1, wave slot or .ws6 file
- Reading of wav files containing wave tables with possibility to display each wave then copy to DDS1, LFO1, wave slot or .ws6 file
- Reading of Serum wav files
- Morphing between programs
- Add button “No load at panel load”: for the moment, the panel is restored as-is but without reloading the last program file used. The button would add the possibility to select the behavior at load
- Add button “No send at panel load”: when loading the last program file used, some users would prefer that it doesn’t impact the synth. This button will mute all buttons and prevent sending the program to the synth A1-P1 at load while loading the program in the panel
- Add rotary or slider to adjust the Audio In gain (probably not on main panel)
- Comparison of parameters between 2 programs from the library

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Installation and features

Installation of the Super 6 panel

The panel is provided as a compressed .zip file containing:

- the UDO Super 6 panel as an .exe file on Windows PC
- the UDO Super 6 panel as an .app file on Mac OS (zip folder to be uncompressed)
- the UDO Super 6 panel as VST 64 bits for Windows PC
- the UDO Super 6 panel as VST and AU plugins for Mac OS
- a folder containing the factory programs and waves
- a folder containing Additional information files
- this manual as PDF

For the PC standalone version, decompress the zip file anywhere on your PC then copy the **UDO Super 6.exe** file in some directory and launch it. The file may be scanned by your antivirus program (Avast on my computer) and should return no issue. If any, they are false and probably due to the fact that the program is not officially referenced.

For the Mac OS standalone version, decompress the zip file anywhere on your Mac then decompress the UDO Super 6.app.zip. You may have to open the **UDO Super 6.app** file using Ctrl+click as it may not be recognized by the OS.

On Mac you may also do either `chmod +x Contents/MacOS/*` on the package contents or need to go to [System Preferences](#) then [Security and Privacy](#) and to click on the [Open anyway](#) button to have the package/plugin saved as an exception in the security settings.

The program will directly display the Ctrlr window with the Super 6 panel displaying its main tab with a Welcome message. At this stage, the panel always opens as it has been left.





It is possible that the top row buttons are not responding after the initial installation (first try the Init button for ex.). Simply close the program and restart it. The issue should be solved.

For the installation of the plugins, please refer to [Installing and using the Super 6 panel as plugin](#) on page 46 further in this manual.

First things to do after installation

After installation, start your Super 6 then the panel.



By default the S6 drive is read-only. To allow the panel to update the drive content (replacing programs, waves...) **you need to power-on the S6 while pressing the Patch button.**

When starting the synth with the Patch button pressed you should see all 16 programs and banks LED buttons getting lit from left to right then back. Release the Patch button just after. Any changes made on the drive will then be directly available.

The first thing to do is to select the Super 6 as Input and Output Midi device and to set the corresponding Midi channels (see [Communication with your Super 6 synth](#) on p12).

Click on the **AddInfo folder** button (see [Panel Settings](#) on p37) and indicate the folder that will contain the Additional Information related to the banks and programs (see [Additional Information](#) on p32). Copy the provided *Factory bank_AddInfo.xml* and the *Super6_Drive_AddInfo.xml* file into that folder.

The *Super6_Drive_AddInfo.xml* will not contain the right information and you will have to adapt it gradually later on.

Then go to the [Super 6 browser and Info](#) tab and click on the **Super 6** button. You should select the top folder of the Super 6 drive (see [Super 6 drive browser](#) on p35)

Finally, copy the A1-P1 program of your synth to a safe place as it will be used as “edit buffer” by the panel when performing some actions.

Decide to set the **Switch to A1-P1** button to either ON or OFF. When ON, a program change message is sent to the synth when the A1-P1 program is replaced making the synth switch to A1-P1 after the underlying .s6 program file has been replaced.

Warning and important remarks

As you know, the UDO team is a small team and therefore has limited resources, especially time.

In the UDO Super 6 forum, following questions from users about my work on the editor, they stated: *We are unable to support a project with direct technical collaboration that we have not actively embarked on as a team as much as I would like to and there will be a limit to what udo support can assist with in terms of this kind of development project simply because there are limits to our supports technical knowledge of the low level firmware implementation. If you need the file format again please email us. We can provide it, I just can't necessarily be on tap to answer questions about how it all works, not for want of not sharing, simply because we have to apportion our time. This said I will of course do my best*

Following this answer, I indeed emailed them and got the s6 patch structure but with only a few comments. This helped completing our understanding and correcting different things.

Later on, end 2022 and beginning 2023 I had two meetings with George who took the time to answer my detailed questions about the patch file and I should be able to provide a Save function in the 2.0 version.

Due to status of the Super 6 firmware and its Midi implementation (v0.53) the editor will not fully work as it would in an ideal world.

Here is a list of the main current limitations and workarounds:

- There is no direct access via sysex messages to the Edit buffer which is preventing some direct audible feedback when changing waveforms. To solve this, the A1-P1 program is used as “buffer” for some operations. This is leading to a not so nice workflow (needed to first save on the synth the current changes of classical sliders then to reload the program before changing the waves)
- There is no direct access to the individual modulation slots through CC/NRPN messages which is preventing automation of several modulation amounts at once.
- There is no Save program function from the panel due to the lack of documentation and detailed information on the individual parameters way of working towards the patch file. Trond and I are continuing our “Sherlock Holmes and Watson” work to secure this in a coming version
- While it is possible to save DAW presets; at this stage, there are issues when loading them

Here is a list of current uncertainties due to the lack of documentation or answers to questions and the corresponding assumptions made:

- Uncertainty on the positions used to read the values of parameters. This should be OK but it also explains why there is no Save yet (edit: I will review this in the 2.0 version now that I have a much better understanding of the patch file)
- Max values of the sliders and rotary
 - For most of them it seems to be 32766 but some factory patches have 32767. The panel is using 32767 but the difference is so small that this has no influence
 - Despite being able to handle 32767, some parameters seem limited to a much lower value. We identified:
 - tMax["LPFCutoffFrequency"] = 22937
 - tMax["VCALFO1Amount"] = 12287

- `tMax["ArpTempo"] = 19198`
- `tMax["LFO2Rate"] = 20320`
- `tMax["LFO1Delay"] = 32512`

Some time, I hope to get more details and precisions from UDO on the assumptions I made.

Features

You will find the following features in the UDO Super 6 panel:

- UDO Super 6 interface with same look as actual synthesizer (black version; sorry for the fans of the blue one)
- Top “LCD screen” displaying parameter name and full description, CC/NRPN number used (or “No CC”), current and saved values
- Sliders, rotary buttons and switches with same look as synth
- Bi-directional behavior (for CC/NRPN parameters only): modifying a parameter on the panel modifies it on the synth; modifying a parameter on the synth modifies the panel
- Envelopes graphs handled by mouse or the DAHDSR/AHDSR sliders
- Visualization of all fixed and user modulations source, destination and amount
- Low (CC) and high (NRPN) resolution modes
- Desktop mode that modifies some modulations’ names
- Load programs from banks or from individual .s6 files (no Save at the moment)
- Direct mode to directly load and change programs on the synth
- Ability to use your own Init program
- Easy program renaming
- Programs have a name, category, author, description and step by step usage notes
- Super 6 drive browser
- Display or export of text files listing all parameters values, comparisons or only differences
- Complete librarian providing handling of 2 disk banks and one “Super 6” bank (128 programs by bank). The “Super 6” bank is the one from the actual synthesizer drive.
- Operations in banks for programs: init, copy, move, swap programs, copy waves
- Wave manager displaying the waves from DDS1, LFO1, standard and alternative wave slots but also from any .ws6 file and some supported .wav files
- Load of some supported .wav files and conversion/up-sampling/save to Super 6 .ws6 format
- Some basic wave operations (normalize, flip horizontal, flip vertical)
- Copy of waves between the different sources (wav, ws6, DDS1, LFO1, standard and alternative wave slots) and destinations (DDS1, LFO1, standard and alternative wave slots)
- Different switches to modify the behavior of the panel
- Panel zoom with memory

Communication with your Super 6 synth



Connection setup for the Super 6 and standalone version of the panel

You can connect your Super 6 and your computer in different ways but this is the most standard one.



- Connect the Super 6 to the computer by USB or Midi DIN
- Power the Super 6 On
- Start the Super 6 panel
- In the **Midi** menu, select **Input – Device Super 6**
- In the **Midi** menu, select **Input – Channel 1** (set this to the Midi channel of your Super 6 – see p45 of the Super 6 manual)
- In the **Midi** menu, check that **Controller – Device** is set to *None*
- In the **Midi** menu, select **Output – Device Super 6**
- In the **Midi** menu, select **Output – Channel 1** (set this to the Midi channel of your Super 6).
- Quit the panel and re-open it

The panel is maintaining those settings from one session to the next one.

Connection setup for the Super 6 module and standalone version of the panel

You can connect your Super 6 module, a controller and your computer in different ways but this is the most standard one.



- Connect the Super 6 to the computer by USB or Midi DIN
- Power the Super 6 On
- Start the Super 6 panel
- In the **Midi** menu, select **Input – Device Super 6**
- In the **Midi** menu, select **Input – Channel 1** (set this to the Midi channel of your Super 6 – see p45 of the Super 6 manual)
- In the **Midi** menu, check that **Controller – Device** is set to *None*
- In the **Midi** menu, select **Output – Device Super 6**
- In the **Midi** menu, select **Output – Channel 1** (set this to the Midi channel of your Super 6).
- In the **Midi** menu, select **Midi Thru – Input Device -> Output Device**. This is done to send the received parameters changes and notes from your master controller/keyboard to the synth
- Quit the panel and re-open it

The panel is maintaining those settings from one session to the next one.

Further Midi communication settings

On the synth, check that **TX/RX E Patch Select button 1 and 2** are ON (CC messages – low resolution mode) and that **TX/RX P Patch Select buttons 1 and 2** are ON.

For the sliders and some rotaries, you need to decide to work in low resolution mode (CC messages 0-127) or high resolution mode (NRPN messages 0-16383). Set the **TX/RX E Patch Select button 3** accordingly and set the **High resolution** button in the panel's [Super 6 browser and Info](#) tab in the same way.



After changing the resolution it is advised to reload the last program.

Always be sure that your Super 6 is in the same mode as the panel. Should it not be the case then the panel will not recognize the messages coming from the synth (for example, synth sending NRPN while the panel is expecting CC).



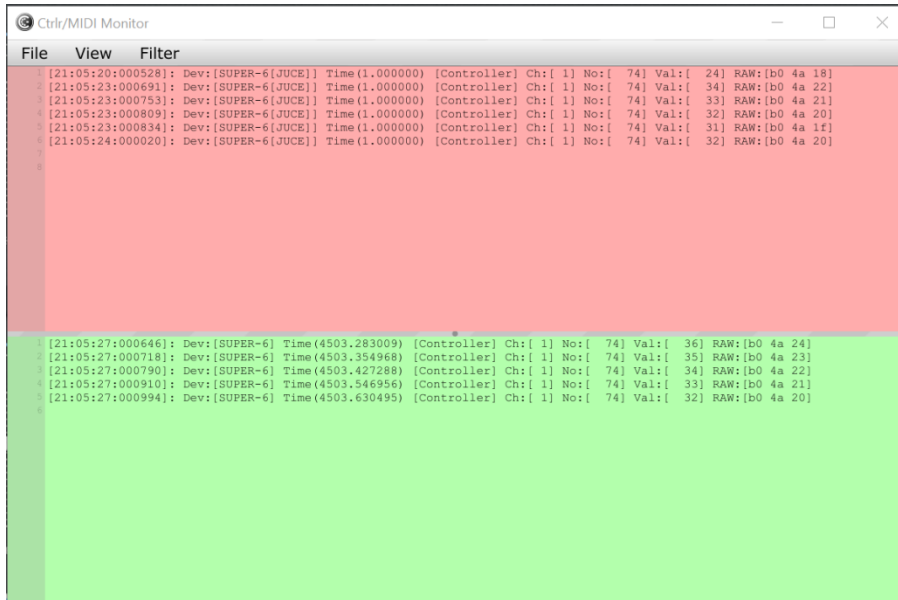
For the moment, **you must work in Low Resolution mode to have a good bidirectional behavior of the editor.**

Set the **TX/RX E Patch Select button 3** so it is blinking and set the **High resolution** button in the panel's [Super 6 browser and Info](#) tab to OFF

Testing the Midi connection

We can now test the Midi connection:

- In the **Tools** menu, select **Midi monitor** and in the new monitor popup check On **Monitor input** and **Monitor Output** in the **View** menu
- In the panel, move the VCF Frequency slider and listen to the sound change
- The Midi Monitor panel should show the CC# messages that are exchanged in the top Output red area
- On the Super 6, move the VCF Frequency slider and check that the corresponding slider is moving in the panel
- The Midi Monitor panel should show the CC# messages that are exchanged in the bottom green Input area
- You can also of course try other sliders or switches



Quick start guide

Now that you have an idea of the features of the panel and have established the connection with the synth, let's go quickly through a few things you can try.

Direct mode

The Direct mode allows to directly loading a program from the Super 6 drive in the panel without using the Load button

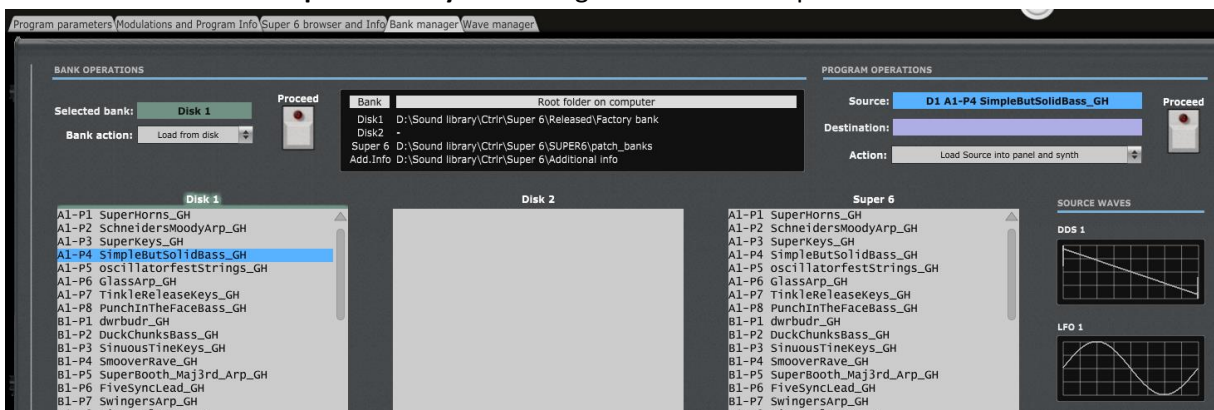
- Switch the **Direct** mode button on the right of the LCD to ON
- Set the Source switch to *Super 6* then use the **Bank** and **Program** rotaries to select a program (you can use the mouse scroll wheel on top of the rotaries)
- The program will directly be loaded in the panel and its details visible in the [Super 6 browser and Info](#) tab
- Modify some parameters; look at the modulations in the second tab...
- At this stage it is not possible to Save a modified program
- So, save the program on your synth

Load a program from your computer

- In **Direct mode** ON, click on the **Load** button to load a program from your computer
- Select one of the .s6 files from the Super 6 drive or from another place
- The file will be loaded in the panel and sent to the A1-P1 program of your synth (at this stage, no possibility to directly interact with the synth's edit buffer)
- Listen and change parameters
- At this stage it is not possible to Save a modified program
- So, save the program on your synth preferably to another slot than A1-P1
- (optional) Switch direct mode OFF, use the **Bank** and **Program** button to navigate to that preset then press the Load button

Load a bank from your disk and select programs

- Go to the [Bank manager](#) tab
- Click on the Disk 1 header just above the Disk 1 list of programs. This is the way to select a bank
- Select **Load from disk** in Bank action then press on the **Proceed** button
- Select the *Factory bank* folder provided. It contains all factory programs
- Left click on any program in the list to select it as source
- Select **Load Source into panel and synth** in Program actions then press on the Proceed button



- The program will be loaded in the panel and sent to the A1-P1 preset on your synth
- Go to the [Program parameters](#) tab, listen and change parameters or go to the [Modulations and Program Info](#) tab to look at the modulations
- (optional) Use the **Bank** and **Program** rotaries to select another program slot (A1-P2 to H2-P8)

Browsing presets to look at their modulations settings (option 1, from the panel)

- Go to the Modulations and Program Info tab
- Set the **Source** switch in the top main panel area to Super 6
- Set Direct Mode OFF
- Position the **Bank** and **Program** rotaries to the far left to select the A1-P1 program
- Set Direct mode to ON
- Now, set your mouse over the Program rotary then use the scroll wheel to gently move to the P2 program. The program will be directly loaded and the corresponding modulations and program info displayed
- Repeat with the mouse hover and scroll on the **Program** and **Bank** rotaries to browse all the presets

Browsing presets to look at their modulations settings (option 2, from the synth)

- Go to the [Modulations and Program Info](#) tab
- Secure that the Patch button is lit on the synth
- Change program on the synth by just selecting a different program and/or bank (make the bank letter blinking to reach the alternative x2 banks). The program is directly loaded in the panel

Way of working and top panel functions

As you will discover by yourself, the main usage of the panel is straightforward but there are anyway different specific things you should know... 😊

Using the buttons and modifying parameters

You modify parameters using a slider or rotary button by keeping the left mouse pressed and moving the mouse cursor vertically up or down. Clicking on the slider or rotary button displays the parameter information and its current and saved values.



You can also modify any slider or rotary encoder based parameter by doing a mouse hover on the button then using the mouse scroll wheel (best method to do small changes and avoid sliders jumping)

Clicking on triple switches modifies their position. There is no up/down effect; just a simple toggle between the three positions.



Clicking on a momentary or permanent switch highlight its LED but also shows a momentary press. Clicking on the label of a momentary or permanent switch displays the parameter information, its current and saved values.

Parameters presented as pull-downs are modified by opening the pull-down and selecting one of the pull-down items. Clicking on the label of a pull-down menu displays the parameter information, its current and saved values.

The Octave switch works by clicking either on the right or the left side of the switch. The switch as such will not move but the Octave LED will indicate the change



Quick reset to default value

Sliders and rotary encoders have default values set and you can quickly revert to this preset default value by **double-clicking on the slider/button**. Try with the Oscillators Mix button.

Opening and closing the panel

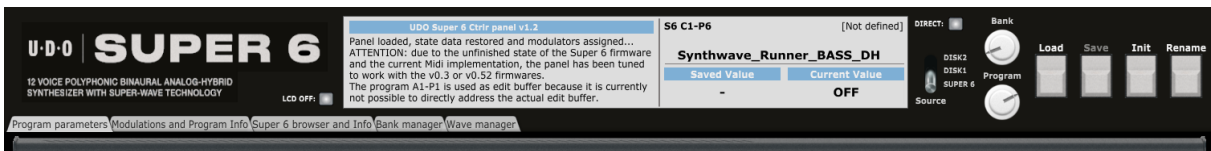
When closing the panel (either by using **File – Quit** or by clicking on the upper right red cross) the state of the panel is stored.

When opening the panel, a Welcome message indicates the panel version. The panel should be in the state you left it (same zoom level, same loaded banks if not moved, same buttons positions...).

Messages will be displayed if bank files have been moved or deleted on your computer as the panel tries restoring them (same for the Super 6 drive and Additional Information folders).



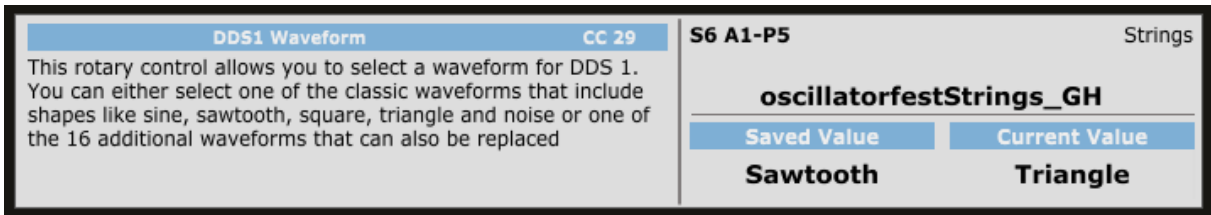
Top panel area



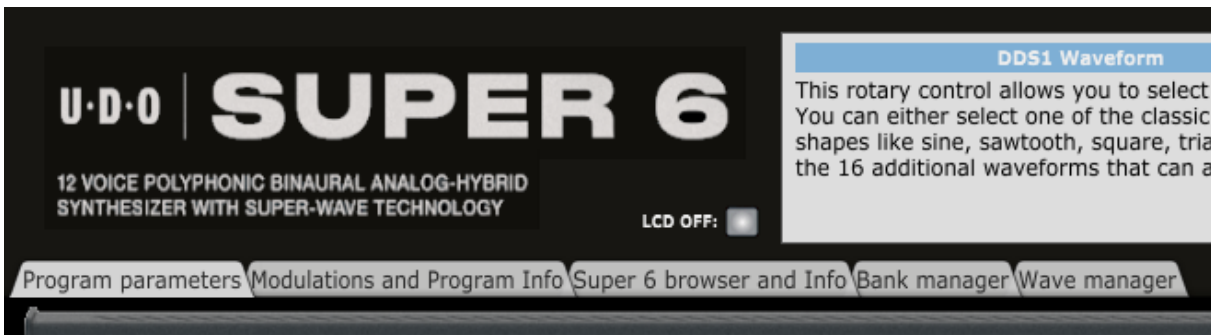
In the top panel area, you will find the main “LCD screen”, different buttons and five tabs.

In the center, the LCD screen will show you:

- The name of the parameter and the number of the CC or NRPN message it is using or “No CC”
- A description of the parameter as in the manual
- The source bank, bank, number, name and category of the current program
- The saved and current value of the selected parameter



On the left side, you find the five tabs and one switch:



- The **Program parameters** tab presents you all the parameters of the current program except the modulations
- The **Modulations and Program Info** tab displays the fixed and user modulations; allows you to provide a description of your program, indicate the author, the category and step by step usage. It also shows the information on the current version of the panel and the possibility to adjust the zoom factor
- The **Super 6 browser and Info** tab provides you a view of all files of the Super 6 drive and the Program information list window allowing you to display and export the detailed information about the current program (saved/actual values, differences).
- The **Bank manager** tab contains the librarian. It allows you to perform different program operations on up to 3 banks of 128 programs (move, copy, swap, init but also wave copy).
- Finally, the **Wave manager** tab allows the visualization of the waves present in the Super 6 (DDS1, LFO1, all 32 wave slots) and the copy of waves between those slots. It also allows browsing and importing some wav files then saving them as .ws6 files after up-sampling.
- The **LCD OFF** button allows to keep the “LCD screen” black and thus not updated when parameter values are changing. This is useful for example when you are using the panel in a DAW

with the automation of different parameters at once. Unless keeping the screen black, the LCD content will jump from one parameter to the other and will keep blinking

On the right side, buttons are performing key program operations and some other duties:



- The **Direct** button selects the **Direct mode**. In that mode, turning the Bank or the Program buttons is directly loading the corresponding program in the panel. Pressing the Load button is opening a dialog box to load a .s6 file from the computer. As it is too slow to load a program from the D1/D2 banks (due to the time to write the file on the Super 6 drive), Direct mode is for the moment limited to the Super 6 bank.
- The **Source** switch selects the bank from the panel librarian that the bank and program rotaries are taken the program from.
- The **Bank** selector allows choosing a Super 6 bank of 8 programs
- The **Program** selector allows browsing the 8 programs in a bank. When the Direct mode is ON, the program is directly loaded. Otherwise it is needed to press the Load button. The top of the LCD screen is showing the current program loaded in the panel while the bottom part is showing the number of the program at the current bank and program rotaries positions.
- The **Load** button allows loading a Super 6 .s6 file (Direct mode ON) or the program selected by the Bank and Program rotaries (Direct mode OFF)
- The **Save** button is disabled for the moment. It will allow saving a .s6 file from the parameters set in the panel
- The **Init** button reset all parameters in the panel to those of an *Init program*
- The **Rename** button allows renaming the current program and its corresponding .s6 file

Loading a program from the main area of the panel

The main area of the panel allows selecting the source bank then the current bank and program in order to Load a Super 6 program. It is the parameters of the stereo voice 1 that are loaded.

The **Source** switch lets you select the current bank of 128 programs among Disk1, Disk2 and Super 6:

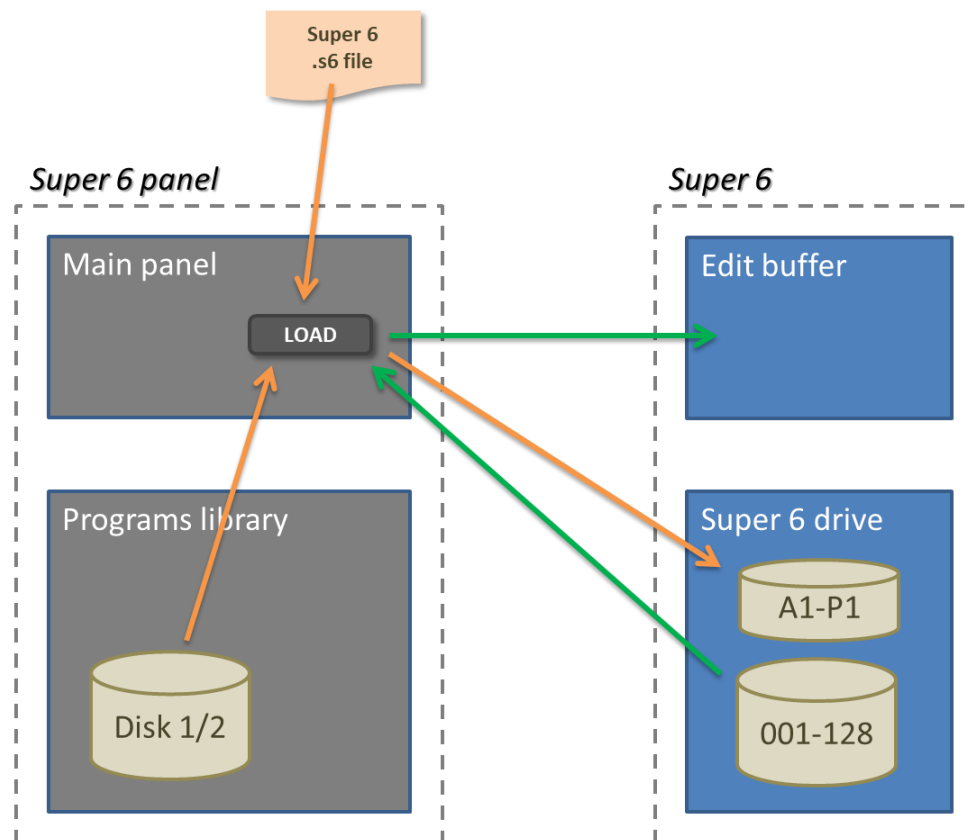
- The Dx banks are Disk banks and are banks loaded in the panel but only existing on the computer
- The Super 6 bank is the actual Super 6 drive and thus should reflect the content of your synth

The **Bank** and **Program** rotary buttons let you select the current program:

- Select one of the 32 banks A1-H2 with the **Bank** rotary button
- Then select one of the 8 programs P1-P8 with the **Program** rotary button
- When Direct mode is ON, the program is loaded directly in the panel and its name displayed in the top part of the LCD display
- When Direct mode is OFF, it is needed to press the Load button to load the program. This is allowing turning the Bank and Program buttons without loading a program at each small change

The **Load** button offers the following possibilities and works as follows:

- Load a single Super 6 program .s6 file in the panel (Direct mode ON)
- Load a program from the D1, D2 banks (if loaded). The loaded program is sent to the Super 6's A1-P1 program as for the moment there is no way to send it to the synth's edit buffer
- Load a program from the Super 6 drive. A program change message is sent to the synth



For the moment, programs are loaded directly without any “OK to load...” question.

When loading an .s6 file or a program from the Disk1/Disk2 bank, A program change message to switch to A1-P1 is sent to the synth.

When Direct mode is ON and that the Bank and Program rotaries are used, the programs are directly loaded and LOADED is indicated in the LCD display. As it is too slow to load a program from the D1/D2 banks (due to the time to write the file on the Super 6 drive), Direct mode is for the moment limited to the Super 6 bank.

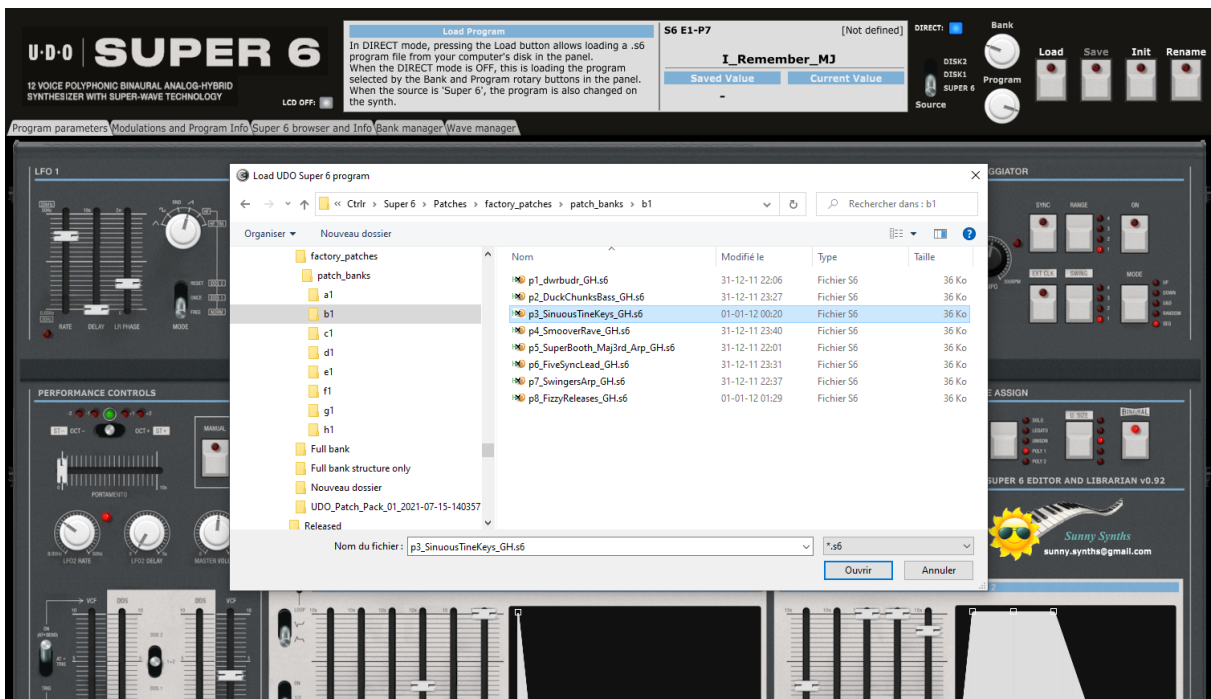
On the top part of the LCD, the source bank, bank and program numbers are indicated but also the program name and, if available, the program category.



Loading a single .s6 Super 6 program file

Set the **Direct mode** switch to ON then press the **Load** button.

In the file browser popup, select a .s6 file. Different checks are performed and, if successful, the program is loaded in the panel.



You may get the following information popup:



This is indicating that the xml file related to the loaded program and containing additional information (category, author, step by step usage...) did not exist in the specified Additional Info folder and has been created. This will often be the case when loading single files.

You can then later modify the additional info and save it (see [Additional Info](#) on p).

If the file to load is not as expected, an error popup will be shown:



Saving a program from the main area of the panel



Due to some uncertainties in the positions of some parameters of the .s6 program file and in the content of some of its areas in general, this is not yet available but I'm working on it.

Program Init



You can define and use your own Init program (see below)

Clicking the **Init** button loads an Init program in the panel and sends it to the A1-P1 program slot:



The Init program used is the file *p0_Init_Program.s6* file stored in the temporary folder of the panel. This folder is created automatically at panel installation.

On Windows, the temporary folder is at: *C:\Users\your_user_name\AppData\Roaming\UDO Super 6\8.+tFDnG8rmrC*

On MacOS, the temporary folder is located in your personal *Library/Preferences* folder. This is a hidden folder that you can see/reach by using the Finder and clicking on Go while pressing the Option (Alt) key.

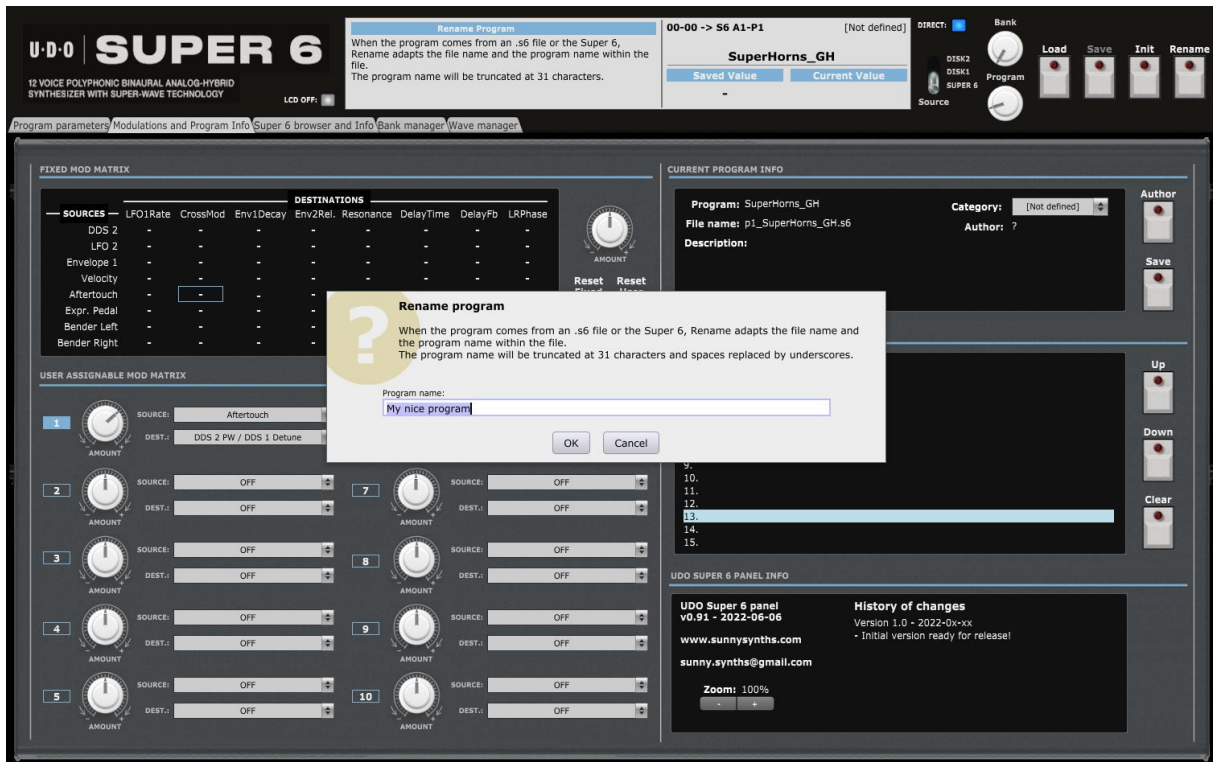
If needed, you can replace the *p0_Init_Program.s6* file by your own. As for the classical Load, it is the parameters of the stereo voice 1 that are loaded.

If the *p0_Init_Program.s6* file is not present or corrupted or not of the right format, an error will be displayed and the Init function will not work anymore.

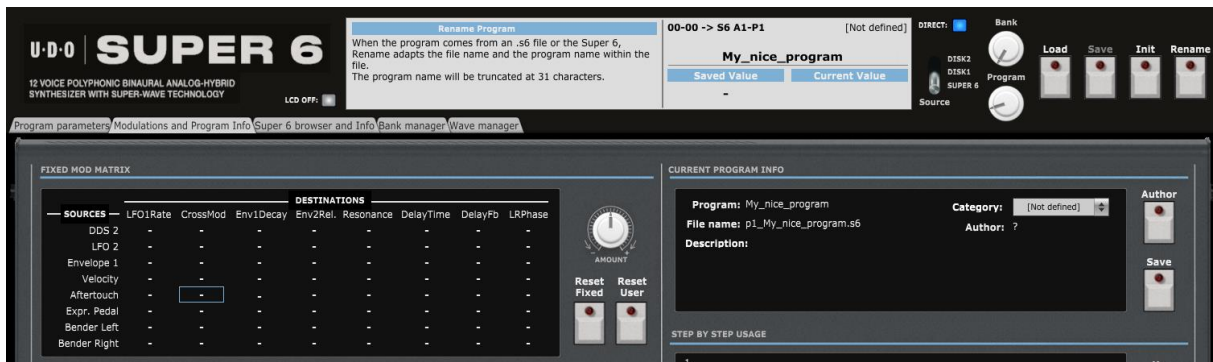


Program Rename

Clicking the **Rename** button opens a popup window where you can modify the name and the file name of the program. The name should be 31 characters long at max (will be truncated if longer) and spaces are replaced by underscores.



The change is immediate.



Managing the main program parameters

Program parameters tab

In the **Program parameters** tab, you have access to the same parameters as on the actual synthesizer including the “Shift” parameters with the possibility to visualize the envelopes and to adjust them by moving the anchors of the graphs but also to visualize the DDS1 wave.



As mentioned earlier, the LCD screen is showing the name, description, saved and current values of the parameter you are modifying.

In Low resolution mode, the sliders have 128 positions while in High resolution they have 16384. Doing a mouse hover then using the scroll wheel allows for fine adjustments.

DDS1 wave

The DDS1 oscillator can have classic and alternative waves.

The panel is showing the DDS1 wave is a small screen.

When a classic wave is selected with the **Waveform** rotary, the Wave rotary button is disabled and the classic wave displayed.

When the **Waveform** rotary is set to the Alternative wave position, the alternative wave selected with the Wave rotary button is displayed. This is one of the 32 alternative waves present in the synth.



When the **Wave** rotary button is positioned to the far left (position 0), the wave present in the loaded program is displayed.

When loading a Super 6 program, the DDS1 wave data inside the file is used to display the wave and is also scanned to see if it matches one of the current 32 waves. If not, the **Unique LED** is lighted.

It is always possible to display the original wave by coming back to the position 0 of the Wave rotary button.

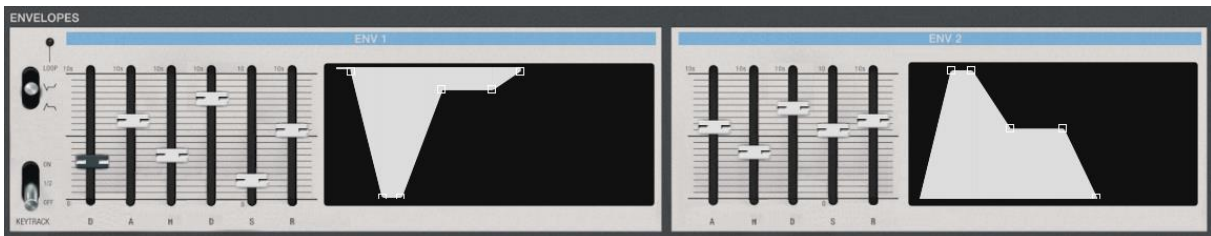


When the DDS1 waveform rotary is set to the Alternative wave position and that you change the Wave, the underlying program file is modified. Therefore **it is very important that you save your program after doing other changes and before changing the wave.** This situation will persist as long as one cannot reach directly the edit buffer.

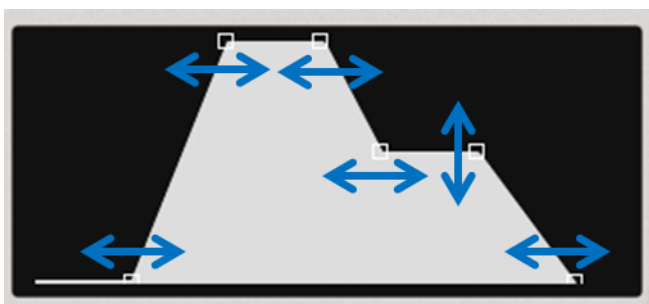
A program change message is sent after any wave change and will reload a program from the Super 6 drive or copy any D1/D2 program to the A1-P1 preset (and change to it if the Switch to A1-P1 is set to ON).

Envelope shapes

The Super 6 has 2 envelopes. In the editor, standard names for the segments are used. Envelope 1 is DAHDSR (Delay, Attack, Hold, Decay, Sustain, and Release) and Envelope 2 is AHDSR (Attack, Hold, Decay, Sustain, and Release). Envelope 1 can be inverted.



You can modify the envelope shapes by either moving the corresponding sliders or by using the mouse and moving the anchors on the graphs either vertically or horizontally.



When moving the anchors, the corresponding sliders will also move and the LCD screen will display the parameter name, description, saved and current values.

Modulations and Additional Information

Modulations and Program Info tab



In the **Modulations and Program Info** tab, you can:

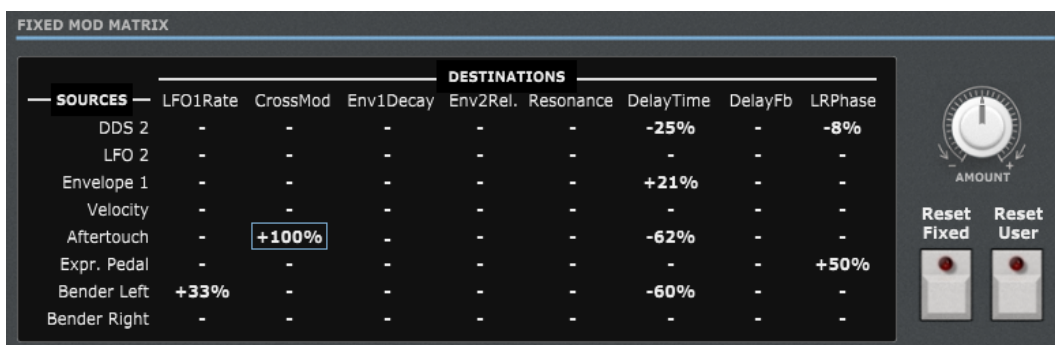
- Display the settings of all fixed modulations slots
- Display the settings of up to 60 user assigned modulations slots
- Display/add/modify a description of the program, its author and assign the program category
- Describe in up to 15 steps some typical way to use the current program
- See information about the current version of the panel and of its last changes



Due to the current Midi implementation, it is not possible to modify each modulation amount separately. Use this as a way to visualize all current modulation routings and amounts, not to modify them. Only one CC/NRPN is provided and associated to the main Amount button.

Modulations

Fixed modulations



The Super 6 has 64 fixed modulations slots corresponding to 8 sources and 8 destinations. The value of the modulation amount is -100% to +100%.

To edit the modulation amount of a slot, click on the corresponding slot in the 8x8 matrix (it will be outlined in blue) then turn the main **Amount** rotary button.

Use the **Reset fixed** button to reset all amounts to 0.



Due to the current Midi implementation, editing individual modulation slots will have no impact on the synth but the editor is already ready to handle this. Cross fingers a future version of the firmware will enable this single slot editing.

Use the Desktop model switch to display the modulation sources present in the desktop version of the Super 6 (see [Panel settings](#) on p37)

User assigned modulations



The 8 fixed modulation sources can also impact up to 22 user assigned destinations (176 slots). In the panel, it is possible to describe up to 60 slots (can be extended later on if needed).

You can display the different slots by “pages” of 10 slots.

When loading a program, all the user assigned modulations are read and displayed. Used slots are indicated by a plain blue label. All subsequent ones are just outlined and showing OFF as source and destination.

On editing, source, destination and amount must be different from OFF and 0 to be considered as a used modulation slot.



Due to the current Midi implementation, editing individual modulation slots will have no impact on the synth but the editor is already ready to handle this. Cross fingers a future version of the firmware will enable this single slot editing.

Additional information

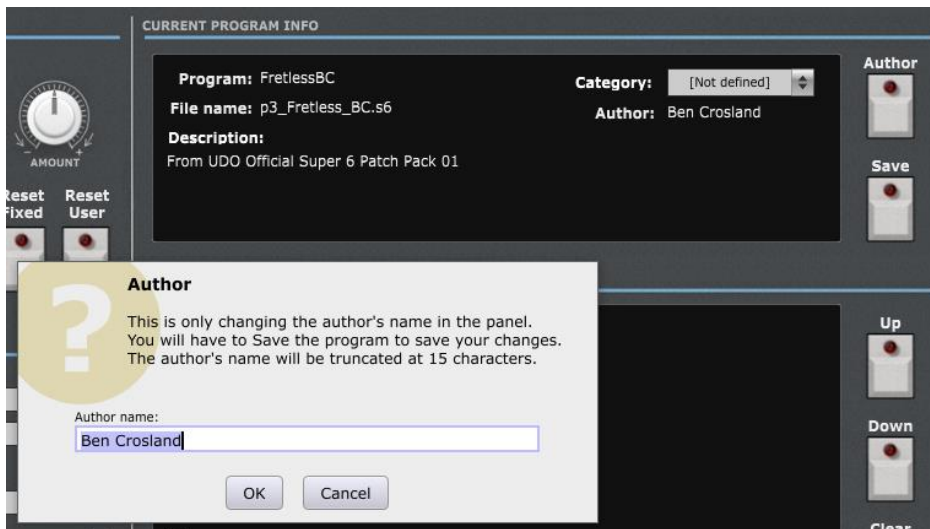
It is possible to add/modify different additional information to a program (description, author, program category, step by step usage).



Don't forget to press the **Save** button to save the additional information!

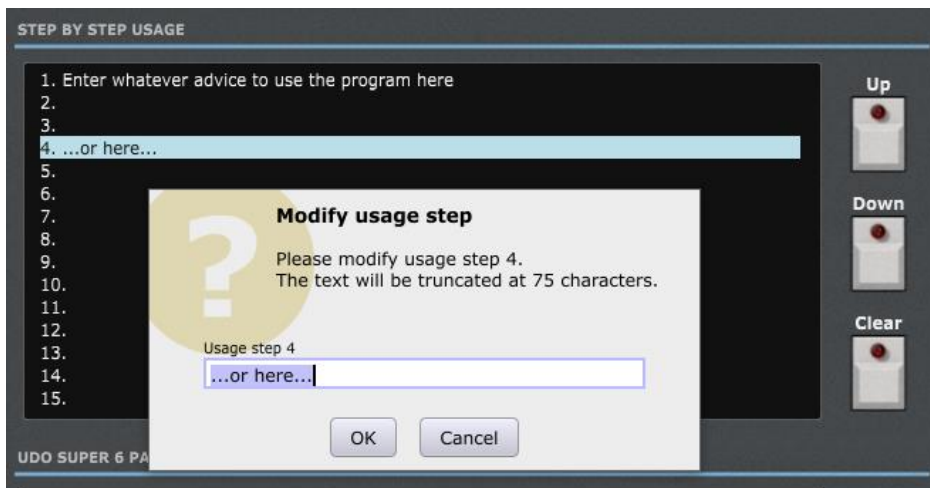
The description is edited by clicking in the description text then typing a new text.

Clicking the **Author** button opens a popup window where you can modify the name of the author of the patch. The name should be 15 characters long at max (will be truncated if longer). If you leave the Author name empty then a "?" is displayed.



Step by step usage of the current program

You can manage the description of the usage of the current program by using up to 15 usage steps. For example: gradually increase resonance; increase echo time; increase amp release; decrease cutoff... The idea is to be able to illustrate the usage of your sound in a more live environment.



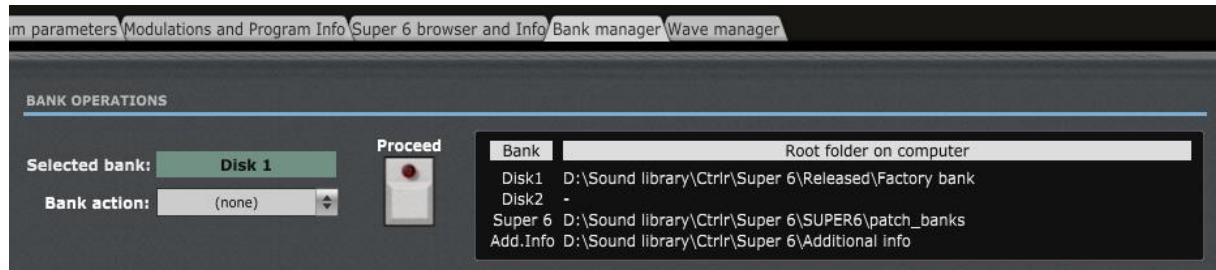
The actions to use the usage steps are:

- double-click on a step line to input or modify a step (max 75 characters by line)

- Use **Up** and **Down** buttons to move a step around
- Use **Clear** or the Delete key to erase a step

Additional information file


The Description, Author, Category and Step by Step texts are saved in a separate xml file that is either unique or associated to a bank. Those xml files are stored / expected to be in the AddInfo folder that you are setting with the **AddInfo folder** button (see [Panel Settings](#) on p37) and that is displayed in the [Bank manager](#) tab.



A unique AddInfo file is created (if not yet existing) or looked at each time you load a single program. A bank file AddInfo file containing the additional information for 128 programs is used when a bank is loaded in the Disk1 or Disk2 bank slots.












The *Super6_Drive_AddInfo.xml* file is used to cover the Super 6 drive content (also 128 programs).

You should adapt the provided *Super6_Drive_AddInfo.xml* file to your own Super 6 drive content.

 One way is to indicate your Super 6 drive then to load each program one by one in the panel. It will also load the Additional Info from the xml file but it should not correspond. Adapt the Additional info as explained and press **Save**. Then, take next program...

An alternative way would be to directly edit the xml file directly with Notepad++ or similar. Always keep a copy of that Super6 xml file in case of...

Example (the bigger files are bank additional info files):

| | | | |
|--|----------------|--------------|-------|
|  Factory bank_AddInfo.xml | 29-05-22 11:37 | Document XML | 20 Ko |
|  Full bank_AddInfo.xml | 22-05-22 14:13 | Document XML | 19 Ko |
|  GlassArp_GH_AddInfo.xml | 22-05-22 22:37 | Document XML | 1 Ko |
|  Init_Program_AddInfo.xml | 22-05-22 12:42 | Document XML | 1 Ko |
|  oscillatorfestStrings_GH_AddInfo.xml | 22-05-22 22:38 | Document XML | 1 Ko |
|  PushPedal_Pad_DZ_AddInfo.xml | 22-05-22 22:38 | Document XML | 1 Ko |
|  SinuousTineKeys_GH_AddInfo.xml | 21-06-22 22:29 | Document XML | 1 Ko |
|  Super6_Drive_AddInfo - Copie.xml | 25-05-22 21:04 | Document XML | 19 Ko |
|  Super6_Drive_AddInfo.xml | 22-06-22 09:44 | Document XML | 20 Ko |
|  SuperHorns_GH_AddInfo.xml | 22-06-22 09:17 | Document XML | 1 Ko |
|  TinkleReleaseKeys_GH_AddInfo.xml | 22-05-22 21:59 | Document XML | 1 Ko |

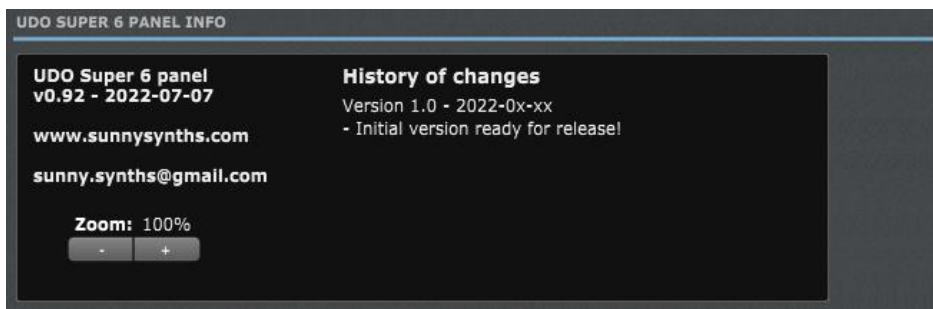
Moving, copying, swapping programs between banks is affecting the Additional information files by the same operations.



As the Additional Info file is an xml file, it can be open as an unformatted text file that you can edit it directly using for example Notepad. Pay attention to respect the syntax.
The *UsageStep* tags are optional.

```
<?xml version="1.0" encoding="UTF-8"?>
<panel-info PanelName="Super 6" PanelID="rnrC">
  <content Type="Bank additional info" Version="1.0">
    <program ProgramNumber="1" ProgramName="SuperHorns_GH" Category="0" Author=""? Description="" UsageStep1="" UsageStep2="" UsageStep3="" UsageStep4="" UsageStep5="" UsageStep6="" UsageStep7="" UsageStep8="" UsageStep9="" UsageStep10="" UsageStep11="" UsageStep12="" UsageStep13="" UsageStep14="" UsageStep15=""></program>
    <program ProgramNumber="2" ProgramName="SchneidersMoodyArp_GH" Category="1" Author="George Hearn" Description="UDO Super 6 Factory preset"></program>
    <program ProgramNumber="3" ProgramName="SuperKeys_GH" Category="5" Author="George Hearn" Description="UDO Super 6 Factory preset" UsageStep1="" UsageStep2="" UsageStep3="" UsageStep4="" UsageStep5="" UsageStep6="" UsageStep7="" UsageStep8="" UsageStep9="" UsageStep10="" UsageStep11="" UsageStep12="" UsageStep13="" UsageStep14="" UsageStep15=""></program>
    <program ProgramNumber="4" ProgramName="SimpleButSolidBass_GH" Category="2" Author="George Hearn" Description="UDO Super 6 Factory preset"></program>
    <program ProgramNumber="5" ProgramName="oscillatorfestStrings_GH" Category="14" Author="George Hearn" Description="UDO Super 6 Factory preset"></program>
    <program ProgramNumber="6" ProgramName="GlassArp_GH" Category="1" Author="George Hearn" Description="UDO Super 6 Factory preset"></program>
    <program ProgramNumber="7" ProgramName="TinkleReleaseKeys_GH" Category="2" Author="George Hearn" Description="UDO Super 6 Factory preset"></program>
    <program ProgramNumber="8" ProgramName="PunchInTheFaceBass_GH" Category="2" Author="George Hearn" Description="UDO Super 6 Factory preset"></program>
    <program ProgramNumber="9" ProgramName="dwbdrdr_GH" Category="0" Author="George Hearn" Description="UDO Super 6 Factory preset"></program>
    <program ProgramNumber="10" ProgramName="DuckChnksBass_GH" Category="0" Author="George Hearn" Description="UDO Super 6 Factory preset"></program>
    <program ProgramNumber="11" ProgramName="SinuousTineKeys_GH" Category="0" Author="George Hearn" Description="UDO Super 6 Factory preset"></program>
    <program ProgramNumber="12" ProgramName="SmooverRave_GH" Category="0" Author="George Hearn" Description="UDO Super 6 Factory preset"></program>
  </content>
</panel-info>
```

Panel information and zoom



The version of the panel and the history of changes are displayed here.

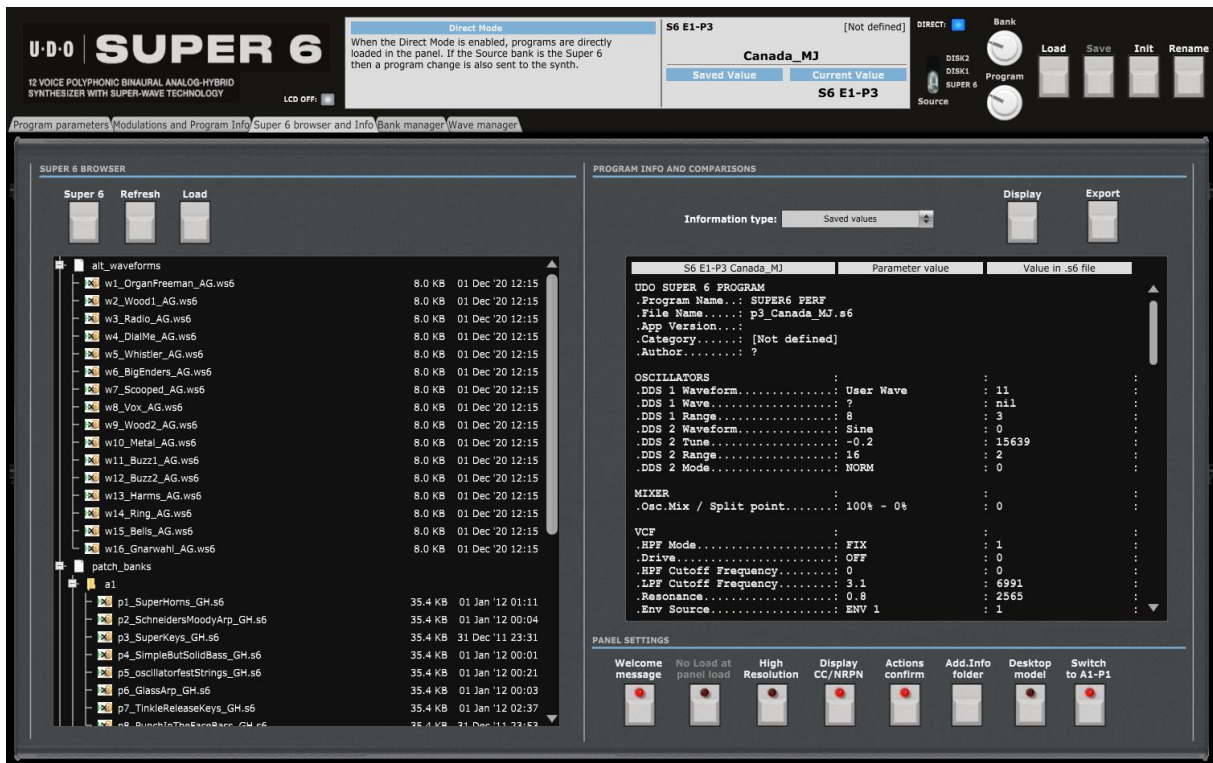
The panel can be zoomed by using the Ctrl + or Ctrl – keys combinations. This is also available from the **View** menu.

Using that method is incrementing/decrementing the zoom factor by 10% steps but the main issue (for some users) is that the zoom factor is not memorized and thus at next usage the zoom is back at 100%.

This is the reason of the implementation of this “manual” zoom. Modifying the zoom factor using those buttons is changing the zoom by 5% steps and will make it keep the zoom factor for next usage.

If you are still modifying the zoom using the View menu or the Ctrl + / Ctrl – keys, no worries! The “manual” zoom is reading the current zoom factor on the panel each time one of the main top panel button is used (Load, Init, Rename).

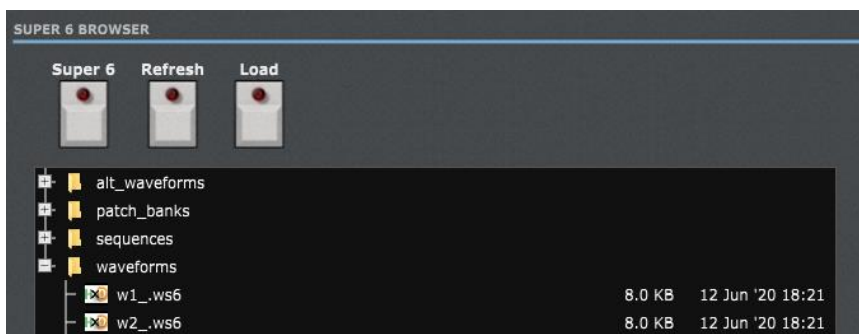
Super 6 browser, Info and Panel Settings



In the **Super 6 browser and Info** tab, you:

- Indicate the Super 6 drive so the panel can exchange programs with the synth
- Can display and export the actual and/or saved values of all the parameters of the currently loaded program
- Can adjust some panel settings to change the behavior of the panel

Super 6 drive browser

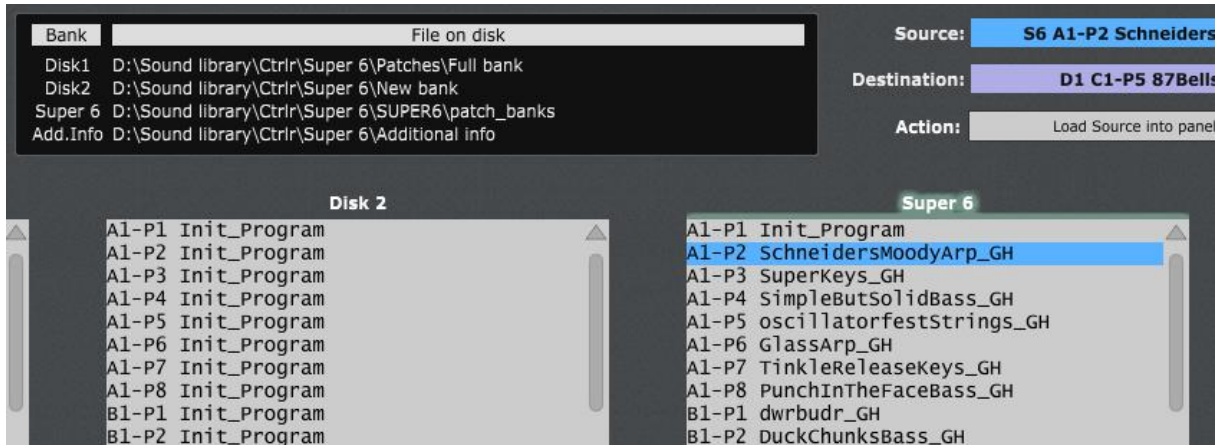


Super 6 button: as mentioned earlier, one of the first things to do after installing the panel is to indicate the Super 6 drive. This is done by clicking on the Super 6 button that will make a folder selection popup appear.

Besides allowing exchange of programs with the synth, this is also allowing the load of programs from your Super 6 and the display of all its data in the browser (128 programs in the *patch_banks* folder, 2 times 16 alternative waves in the *waveforms* and *alt_waveforms* folder and 16 sequences in the *sequences* folder).

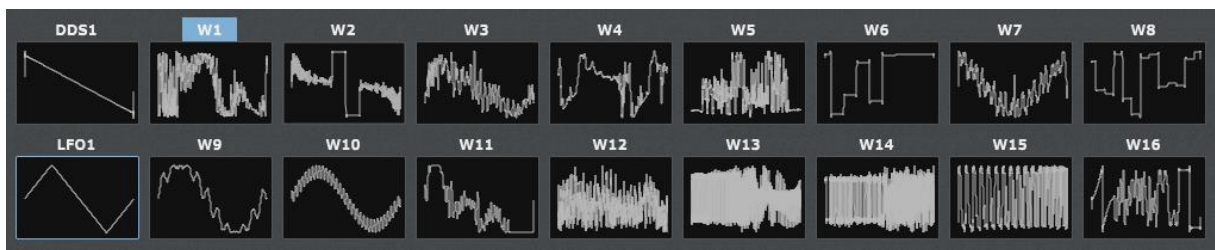
See also the PATCH, SEQUENCE & WAVEFORM MANAGEMENT chapter in the Super 6 manual.

Once the Super 6 drive folder has been indicated, the Super 6 bank is populated with the names of the 128 program files and the path to the *patch_banks* folder indicated.



See [Bank Manager](#) tab on p39.

The waves present in the 32 alternative wave slots are also loaded in the panel.



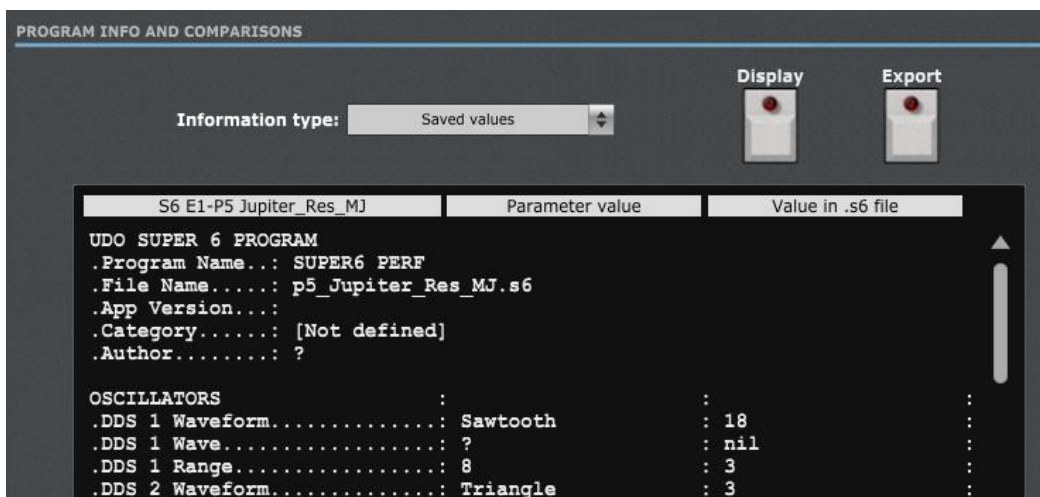
See [Wave Manager](#) tab on p42.

Refresh button: to refresh the browser content (this is needed if some files are changing).

Load button: allows to directly loading a Super 6 program from the browser. You can also perform a double click on the filename to directly load the corresponding program.

Program information and comparisons

On the right side of the [Super 6 browser and Info](#) tab, you have access to different lists of Program(s) parameters.



Display button: lists the information according to the selection made in the drop-down menu.

Export button: first lists the information according to the selection made in the drop-down menu then directly presents a popup window allowing saving the listed information to a text file on the computer.

The following programs info operations are available:

- **Current values**: list all current values of the parameters of the current program
- **Saved values**: list all saved values of the parameters of the current program and the actual values in the .s6 file
- **Full comparison**: list all current and saved values of the current program
- **Differences only**: list only the differences between the current and saved values of the current program

| 00-00 -> S6 A1-P1 My_nice_p | Current Values | Saved Values |
|--|----------------|--------------|
| UDO SUPER 6 PROGRAM | | |
| .Program Name.: My_nice_program | | |
| .File Name.....: pl_My_nice_program.s6 | | |
| .App Version...: | | |
| .Category.....: [Not defined] | | |
| .Author.....: ? | | |
| OSCILLATORS | | |
| .DDS 1 Waveform.....: | Square | Sawtooth |
| .DDS 1 Range.....: | 16 | 8 |
| VCF | | |
| .HPF Cutoff Frequency.....: | 7.6 | 0 |
| PERFORMANCE | | |
| .Master Volume.....: | -0.7 dB | 0 dB |
| 4 differences have been identified. | | |

Panel settings



Different switches are giving you the possibility to slightly adapt the behavior of the panel:

- **Welcome message**: activate or disable the Welcome message at next panel opening
- **High resolution**: when using the High resolution mode, NRPN messages are sent to the synth instead of CC messages for some parameters (mainly all sliders and the rotaries). NRPN messages have a range of 0-16383 which is thus giving a higher precision than the 0-127 values of a CC message.



After changing the resolution it is advised to reload the last program.

The other thing to pay attention to is to be sure that your Super 6 is in the same mode as the panel. Should it not be the case then the panel will not recognize the messages coming from the synth (for example, synth sending NRPN while the panel is expecting CC).

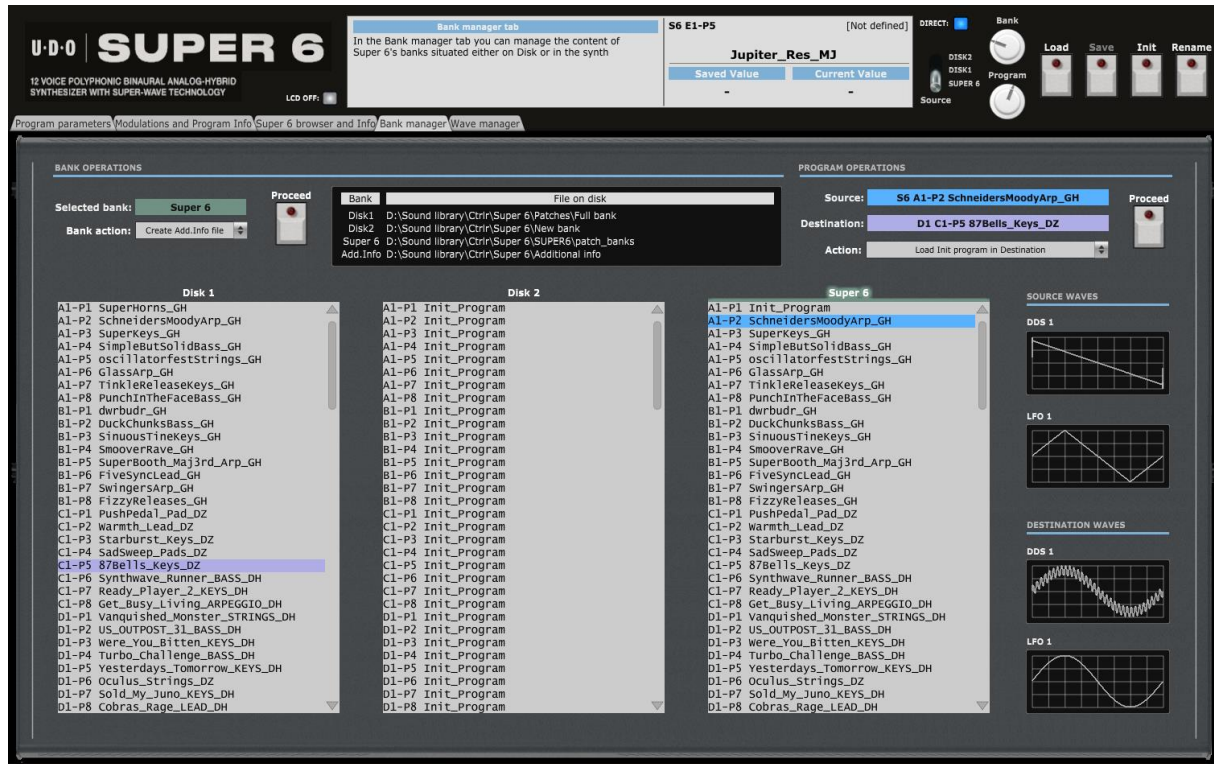
- **Display CC/NRPN**: when this switch is ON, the current CC or NRPN value sent (depending on the High resolution switch) is displayed in the LCD near the actual value of the parameter being modified
- **Actions confirm**: this switch allows you to have more or less confirmation popups when performing bank or program operations in the librarian. It is advised to start using the panel with this switch on the **ON** position
- **Add.Info folder**: this is a momentary switch that enables you to indicate the folder where the Additional information (author, category, description...) files related to each program or bank are stored
- **Desktop model**: if you have the desktop version of the Super 6 instead of the keyboard one, it is advised to set this switch to ON so the specific modulations names of the desktop are used in the panel. This is not changing the panel way of working.
- **Switch to A1-P1**: when loading a program from any source other than the Super 6 drive (separate .s6 file, Disk1, Disk2...), the program is loaded in the panel and replaces the A1-P1 program on the Super 6 drive that is used as buffer. Setting this switch to ON will send a program change to the synth to make A1-P1 the current program

The librarian

Bank manager tab

In the **Bank manager** tab, you have access to the librarian that allows you to:

- Perform different program operations on up to 3 banks of 128 programs (move, copy, swap, Init)
- Copy waves between the source and destination program



Use the factory presets bank from the provided Zip file as starting point in bank Disk 1, initialize a new bank in bank Disk 2 and use your own Super 6 drive data. Please take the time to well read and understand the next paragraph!

Super 6 bank concept

A Super 6 bank contains 128 programs split into 16 banks of 8 programs (see also the PATCH, SEQUENCE & WAVEFORM MANAGEMENT chapter in the Super 6 manual).

The librarian can create and manage such folder structure as a whole. You can thus have on your computer disk several full banks of 128 programs that you can “load” in the panel and that you can use to perform program operations.

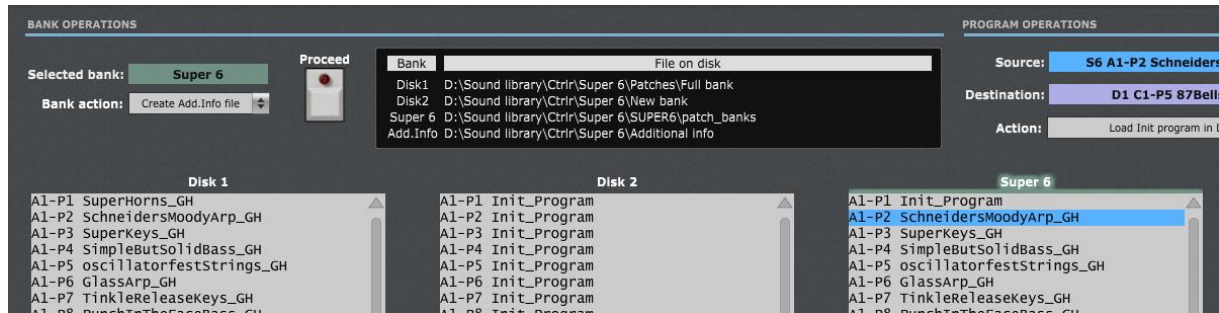
When the Additional Info folder is indicated, a corresponding xml file containing the additional information for the 128 programs of a bank is also loaded and affected by the program operations.

Bank operations

You have **2 Disk banks** and **1 Super 6** bank available.

Disk banks only exist in the computer world; changing them is not affecting the synthesizer and they can be used to assemble programs in some kind of offline mode.

The Super 6 bank is supposed to reflect the content of your synth as it corresponds to the actual Super 6 drive.



The black OLED screen is indicating the root folder for each bank and the folder containing the Additional Info files.

When a Bank is “loaded”, its programs are available for selection by the main panel Bank and Program selectors (in function of the Source switch).

The following Bank operations are available:

- Load a full bank in Disk 1 and Disk 2 banks
- Load an empty bank (128 Init programs) in Disk 1 and Disk 2 banks
- Clean / Reset a bank in the panel
- Create the Additional Info xml file for a bank

The Super 6 bank is automatically loaded when the Super 6 drive is indicated in the [Super 6 browser and Info](#) tab (see p35).

Usage:



1. Select a bank by **left-clicking on one of the three bank labels**
2. Select an action from the **Bank action** drop-down menu
3. Click on the **Proceed** button.

Program operations

Programs can be selected as soon as some banks are loaded.

A **Source program** is selected by **left-clicking** on a program name; a **Destination program** by **right-clicking** on a program name.

The following program operations are available:

- Load a Source program from a bank (better visibility of all programs and easier selection of any Dx, Super 6 program than when using main panel Load). If the source bank is Disk 1 or Disk 2 then the program is replacing the A1-P1 program on the synth. If the source bank is the Super 6 then a program change is performed.
- Load a single.s6 program file in Disk 1, Disk 2 or Super 6 banks. If the destination bank is Disk 1 or Disk 2 then the program is replacing the A1-P1 program on the synth. If the destination bank is the Super 6 then a program change is performed.
- Load an Init program file in Disk 1, Disk 2 or Super 6 banks. If the destination bank is Disk 1 or Disk 2 then the program is replacing the A1-P1 program on the synth. If the destination bank is the Super 6 then a program change is performed.
- Move a program from Source to Destination (the Source program is replaced by an Init program)

- Copy a program from Source to Destination
- Swap Source and Destination programs
- Copy source DDS1 wave to destination DDS1
- Copy source DDS1 wave to destination LFO1
- Copy source LFO1 wave to destination DDS1
- Copy source LFO1 wave to destination DDS1

The screenshot displays the UDO Super 6 Ctrlr panel interface, divided into two main sections: BANK OPERATIONS and PROGRAM OPERATIONS.

BANK OPERATIONS:

- Selected bank:** Super 6
- Bank action:** Create empty bank
- Bank:** File on disk
- Disks:**
 - Disk 1:** Lists programs like SuperHorns_GH, SchneidersMoodyArp_GH, Superkeys_GH, SimpleButSolidBass_GH, oscillatorfestStrings_GH, GlassArp_GH, TinkleReleaseKeys_GH, PunchInTheFaceBass_GH, dwrbudr_GH, DuckChunksBass_GH, SinoouStinekeys_GH, SmooverRave_GH, SuperBooth_Maj3rd_Arp_GH, FiveSyncLead_GH, SwingersArp_GH, FizzyReleases_GH, PushPedal_Pad_DZ, Warmth_Lead_DZ, Starburst_Keys_DZ, Sadsweep_Pads_DZ, 87Bells_Keys_DZ, Synthwave_Runner_BASS_DH, Ready_Player_2_KEYS_DH, Get_Busy_Living_ARPEGGIO_DH, Vanquished_Monster_STRINGS_DH, US_OUTPOST_31_BASS_DH, were_you_Bitten_KEYS_DH, Turbo_Challenge_BASS_DH, Yesterdays_Tomorrow_KEYS_DH, Oculus_Strings_DZ, Sold_My_Juno_KEYS_DH, Cobras_Rage_LEAD_DH.
 - Disk 2:** Lists programs like Init_Program for various banks (A1-P1 to A1-P8, B1-P1 to B1-P8, C1-P1 to C1-P8, D1-P1 to D1-P8).

PROGRAM OPERATIONS:

- Source:** S6 A1-P2 SchneidersMoodyArp_GH
- Destination:** D1 C1-P5 87Bells_Keys_DZ
- Action:** Load Init program in Destination

WAVEFORMS:

- SOURCE WAVES:** Shows waveforms for DDS 1 and LFO 1.
- DESTINATION WAVES:** Shows waveforms for DDS 1 and LFO 1.

Usage:



1. Select a **source** program by **left-clicking** on a program name in a bank
2. Select a **destination** program by **right-clicking** on a program name in a different bank
3. Select an action from the **Program action** drop-down menu
4. Click on the **Proceed** button.

The Wave manager

Wave manager tab



In the **Wave manager** tab, you can:

- View the current content of the Super 6 synth (DDS1, LFO1 and the 32 alternative waves available in two banks)
- Visualize the DDS1 and LFO1 waves of any .s6 program file
- Visualize the wave stored in any .ws6 file
- Visualize the wave stored in some supported .wav file (for the moment, only wav files without extra header, in 16 bits, with a number of samples being a 2 exponent – 128-256...4096)
- Copy the wave from a source (DDS1, LFO1, one of the 32 slots, .s6 file, .ws6 file, .wav file) to a destination (DDS1, LFO1, one of the 32 slots)
- Save the source wave as a .ws6 wave file
- Display a grid or not
- Normalize, flip horizontally, flip vertically the displayed wave
- Select a rough or smooth interpolation when saving a wave having less than 4096 samples
- Set the root folder to list the waves in the wave file browser

Wave file browser

After selecting a root folder, browse your computer from that root folder and select any .s6 program file, .ws6 wave file or .wav file to display the waves they are containing in the visualizer.

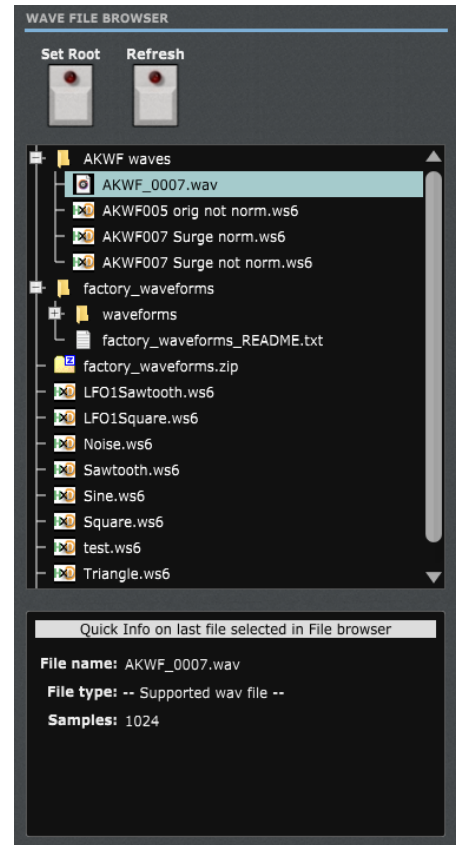
Those waves can then become the source of a Copy operation.

Set Root: displays a popup window to select the root folder of the Wave file browser

Refresh: to refresh the content of the Wave file browser if some files are adapted on the computer

The details of the selected file are displayed in the small window under the Wave file browser. A non-supported wave file is indicated with "-- Unsupported wav file --" or with "-- Not a supported file --".

Currently supported .wav files are using 2 bytes per sample in 16 bits signed and their number of samples must be 16, 32, 64, 128, 256, 512, 1024, 2048 or 4096.



Wave visualizer

The wave visualizer contains two parts:

- The upper area is displaying the current source wave and contains the different command buttons
- The bottom area is showing the content of the Super 6 wave slots: DDS1, LFO1 and one bank of 16 alternative waves

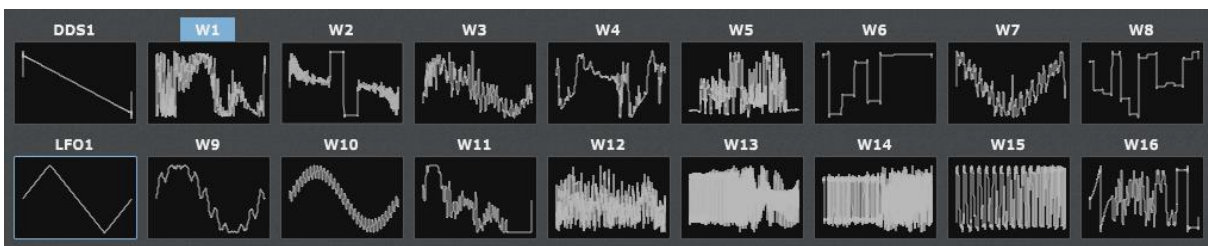
Usage:



1. Select a **source** wave by **left-clicking** on any of the 18 Super 6 wave slots or by clicking on a valid wave file
2. The corresponding wave is visualized and the **Source** switch is positioned according to the selection you made (you can change the switch at any time)

Super 6 content

Once the Super 6 drive root folder has been indicated (see [Super 6 drive browser](#) on p35), the 32 alternative wave slots are populated. The DDS1 and LFO1 wave slots are populated according to the actual DDS1 and LFO1 wave selection on the main panel.

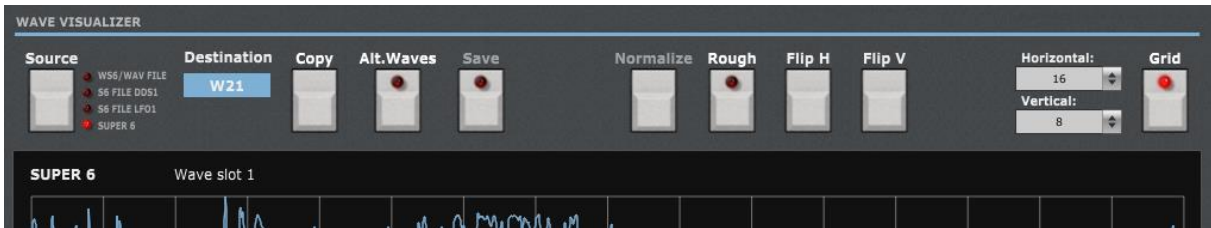


You can switch between the two banks of alternative waves by clicking on the **Alt.Waves** button at the top of the Wave visualizer.

Visualizing waves

Select a source wave by left-clicking on any of the 18 Super 6 wave slots or by clicking on a valid wave file. The corresponding wave is visualized and the **Source** switch is positioned according to the selection you made (you can change the switch at any time).

You can then change the source or click on any of the 18 wav slots to display the corresponding waves.



Grid button: allows displaying a grid behind the wave curve. A good setting is 16 horizontal and 8 vertical.

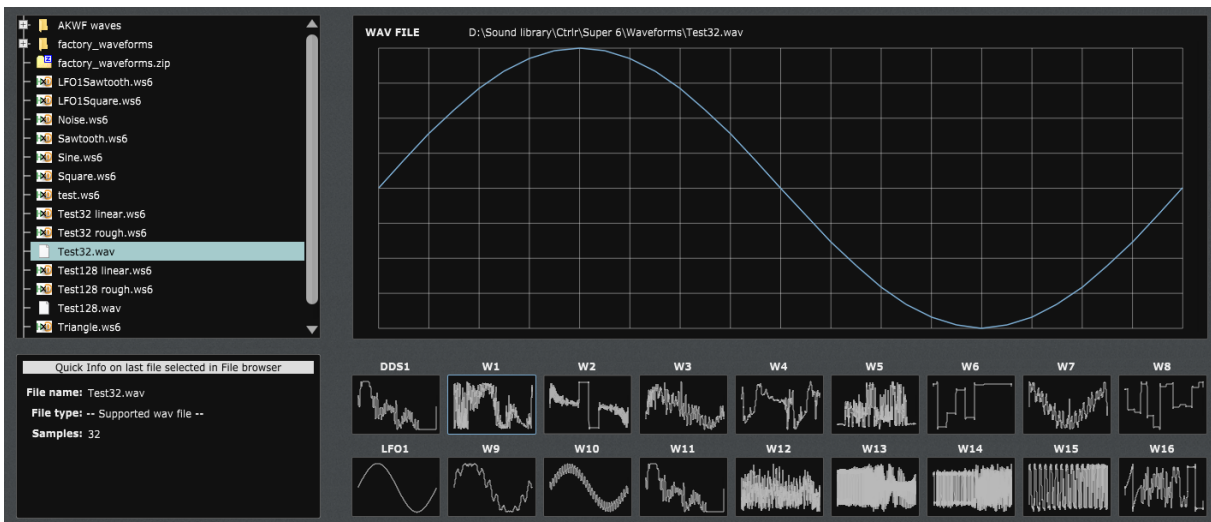
Normalize button: this button is active when a wav file is selected. It allows normalizing the wave (extending the values so the maximum or the minimum of the curve is reaching the maximum or minimum of the value range). The setting of the Normalize button is taken into account when saving the current wav file to a ws6 file.

Flip H / Flip V buttons: flip the current wave either horizontally or vertically

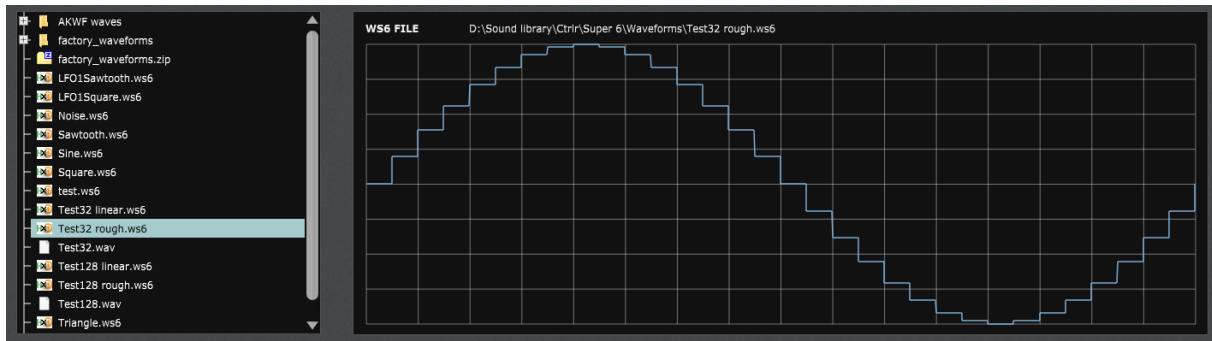
Save button: allows saving a wav file that is not in 4096 samples to a ws6 file with 4096 samples (using linear or rough interpolation depending on the **Rough** button) with or without normalization depending on the position of the Normalize switch.

Rough button: selects linear or rough interpolation when saving a file with less than 4096 samples to a .ws6 file. Rough means keeping the same value between two consecutive samples and is producing stairs. Here is an example for a 32 samples wave.

Original 32 samples wave:



When saved as rough .ws6 file (4096 samples):



Copying waves

It is possible to copy a wave from a source to a destination. The possible destinations are the DDS1, LFO1 or one of the 32 alternative wave slots.

Usage:



1. Select a **source** wave by **left-clicking** on any of the 18 Super 6 wave slots or by clicking on a valid wave file. If needed, use the Source switch to change the source wave
2. Click on the label above any of the 18 wave slot to select the **destination slot**. If needed, use the Alt.Waves button to switch bank before clicking on the label.
3. Press the **Copy** button

Copying to one of the alternative waves slots will replace the content of the corresponding wave file in the Super 6 drive.

Installing and using the Super 6 panel as plugin

First of all, thanks to all people that have made some tests and provided feedback from using the plugin with their DAW.

It is generally better to use the panel in standalone mode and not in VST. VST usage is of course interesting when you want to do some parameter automations or to save the patch setup for the corresponding track (this is saved together with the project). As all DAWs have a different way to handle VST's and this is also depending on your Midi interface setup, it is difficult to describe the setups and identify solutions for all the possible problems.

The following paragraphs will provide info on how to install the plugin version of the panel but also describe the way to use it and the known limitations for each DAW.



Don't hesitate to send a mail to sunny.synths@gmail.com if you see errors or identify ways of doing things in your DAWs. They will be mentioned in the next version of the manual.

Installation

The VST plugin is VST2.

On Windows PC, depending on your DAW version and after unzipping the main file, either copy the **UDO Super 6.dll** file from the Windows VST 64 bits directory to your 64 bits plugins directory and/or the **UDO Super 6.dll** file from the Windows VST 32 bits directory to your 32 bits plugins directory (Steinberg hosts often use C:\Program Files\Steinberg\VSTplugins as the default plugin path).

On Mac OS, unzip then copy the **UDO Super 6.vst** file from the MacOS VST directory to your VST plugin directory (/Library/Audio/Plug-ins/VST) and copy **UDO Super 6.component** file from the MacOS AU directory to your plugin directory (/Library/Audio/Plug-ins/Component). You will most probably need administrator rights to perform those copies.

On MacOS you may also get the message that the *“Component or VST cannot be opened because the developer cannot be verified”*. Go to [System Preferences](#) then [Security and Privacy](#) and click on the [Open anyway](#) button to have the plugin saved as an exception in the security settings.

Other specific MacOS commands that may be needed to enable the plugin in any OS from Catalina are listed in the Appendix.

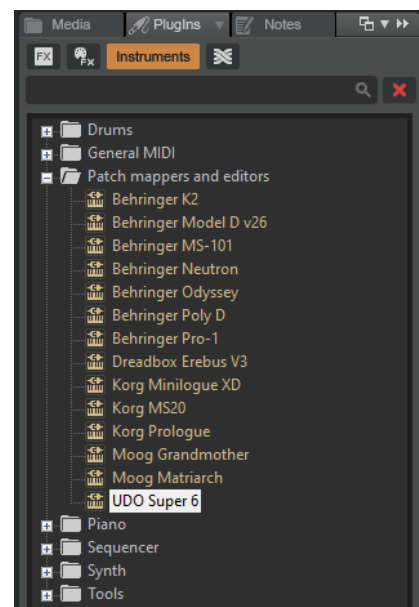
Start your DAW and check that the plugin directory is rescanned and that the **UDO Super 6** panel is visible in your list of plugins.

Here is an example in Cakewalk (a light blue scanning popup is displayed as soon as a file is added or modified in the identified 64 bits VST plugins folder):

Midi setup when using the panel as plugin

There are 2 ways to setup a panel in your DAW:

- In a similar way as for the standalone version by allocating fixed Midi channels to the input and output
- Passing by your DAW that is setting the Midi channels





As mentioned earlier, the setup of the plugin will be different according to your DAW and your hardware setup and thus this is only giving you a place to search and experiment rather than precise indications. Sorry for that.

In most DAW, you must also arm your track and enable monitoring.

Option 1: setup as in standalone mode

- In the **Midi** menu, select **Input – Device Super 6**
- In the **Midi** menu, select **Input – Channel 1** (set this to the Midi Global channel of your Super 6)
- In the **Midi** menu, check that **Controller – Device** is set to *None*
- In the **Midi** menu, select **Output – Device Super 6**
- In the **Midi** menu, select **Output – Channel 1** (set this to the Midi Global channel of your Super 6)
- In the **Midi Thru** menu, at least set **Plugin host -> Output device**. This is allowing the DAW to reach the output device (the Super 6 in that case) for playing notes

Depending on the DAW and as both the DAW and the panel plugin can use the same Midi port you will most probably be obliged to disable the corresponding Midi In and Out channels in your DAW.

This setup is thus in some way rigid because channels are dedicated.

Option 2: “hybrid” way with Input able to do multi-port; Output managed by the DAW

- In the **Midi** menu, select **Input – Device Super 6**
- In the **Midi** menu, select **Input – Channel 1** (set this to the Midi Global channel of your Super 6)
- In the **Midi** menu, under **Plugin Options**, select **Output to plugin host**
- In the **Midi Thru** menu, at least set **Plugin host -> Plugin host**

This option may not work for all DAWs.

First things to do each time a new track is created with the panel

Click on the **AddInfo folder** button (see [Panel Settings](#) on p37) and indicate the folder that will contain the Additional Information related to the banks and programs (see [Additional Information](#) on p32). Copy the provided *Factory bank_AddInfo.xml* and the *Super6_Drive_AddInfo.xml* file into that folder.

The *Super6_Drive_AddInfo.xml* will not contain the right information and you will have to adapt it gradually later on.

Go to the [Super 6 browser and Info](#) tab and click on the **Super 6** button. You should select the top folder of the Super 6 drive (see [Super 6 drive browser](#) on p35)

Finally, copy the A1-P1 program of your synth to a safe place as it will be used as “edit buffer” by the panel when performing some actions.

Decide to set the **Switch to A1-P1** button to either ON or OFF. When ON, a program change message is sent to the synth when the A1-P1 program is replaced making the synth switch to A1-P1 after the underlying .s6 program file has been replaced.

Tests and identified limitations

Different DAWs have been tested and some way of working presented here.

The following actions are checked:

- Creating a track using the plugin



At this stage it seems needed to indicate the AddInfo folder and the Super 6 drive for each instance of the panel (when creating a new track). This will be investigated. On the other side, they are well saved and kept when the project is saved.

- Displaying the instrument and checking all controls are working fine including Load/Save...
- Saving and opening a project in the DAW. This is checking that the last patch saved is restored correctly. As in standalone mode, the last patch used is restored (not the last position of the knobs!)
- Creating a second track with the plugin
- Saving and opening a project in the DAW. This is checking that there can be different tracks using the plugin with each of their last patch saved restored correctly.
- Creating a preset in the DAW. Each DAW has different ways to do this. Creating presets can also be done by saving full channel strips that are including the VST instrument setup (Cakewalk, Reaper, Logic)
- Creating a track by selecting a DAW preset instead of selecting the plugin. Checks if the correct patch is restored. When working, this is done by loading a saved channel strip.
- Replacing a DAW preset by another DAW preset



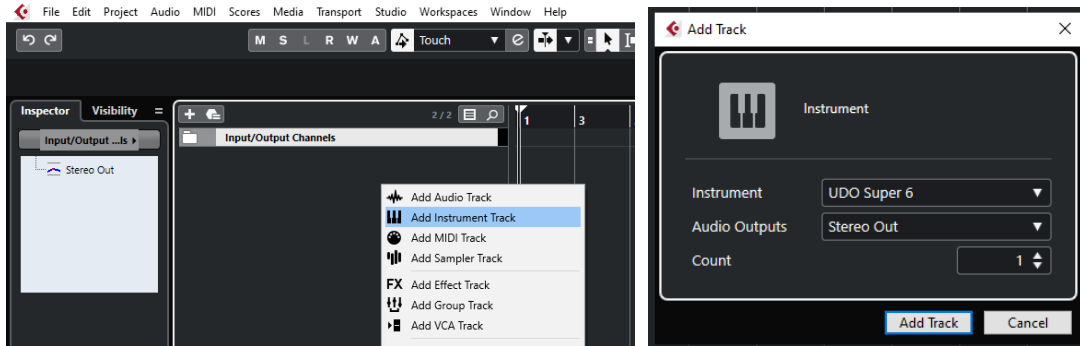
Replacing the DAW preset in a track by another DAW preset is NOT working fine. Therefore, at this stage it is better to load programs as in the standalone mode. Of course, I'll check to improve this situation.

| | Cubase | Cakewalk | Reaper | Ableton | Studio 1 | Logic |
|--|--------|----------|--------|---------|----------|-------|
| Create track | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Using the plugin | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Save and restore project in DAW | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Save and restore project with 2 tracks | ✓ | ✓ | ✓ | ✗ | ✓ | ✓ |
| Create DAW preset | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Create track based on DAW preset (saved channel strip) | ✓ | ✓ | ✓ | ✗ | ✓ | ✓ |
| Replace DAW preset by another DAW preset | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ |

Cubase

Creating a new track

Add an Instrument track by using the Add track menu displayed when right clicking in the middle of the workspace then select the UDO Super 6 VST. Click on the **Instrument button** to display the panel and use it as you would do for the standalone version.



...or by dragging and dropping from the VSTi panel (easier).



Indicate the AddInfo folder and the Super 6 drive folder then use the panel as you would do for the standalone version.

When saving the Cubase project, the panel is saved as well. It will be restored in the same state (Super 6 drive, AddInfo folder, zoom factor, loaded banks if not moved, buttons positions and loaded patch).

Using several Super 6 tracks at once

You can associate the panel to several tracks in order to keep track of the different patches used for them.

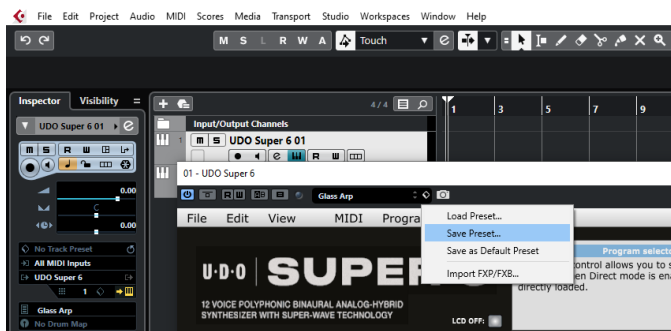
At this stage it is needed to define the AddInfo folder and Super 6 drive for each panel instance.



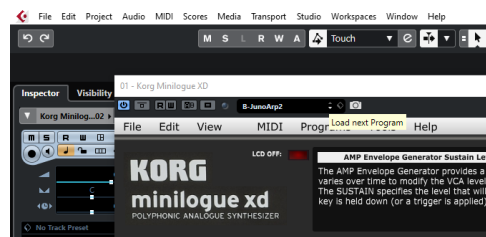
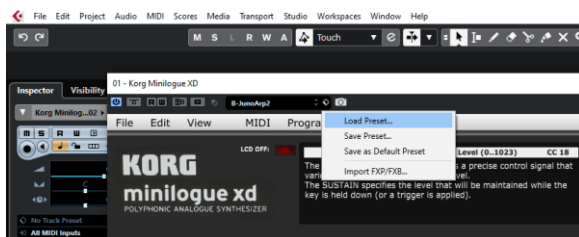
Saving a patch as a Cubase preset

You can save a program as *Cubase preset* or *Cubase track preset*.

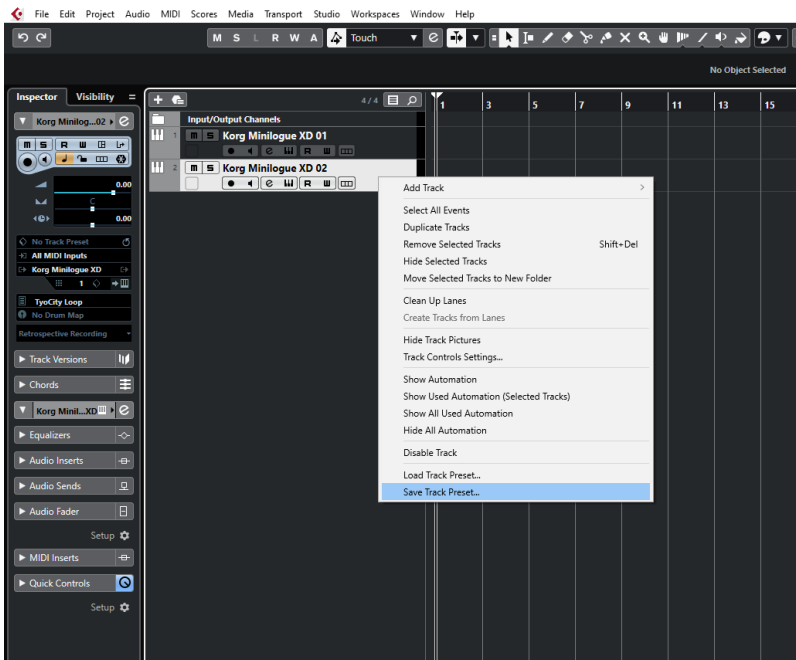
To save as Cubase preset, click on the small diamond to the left of the small camera icon at the top of the plugin window, select **Save preset...** then give a name to your preset.



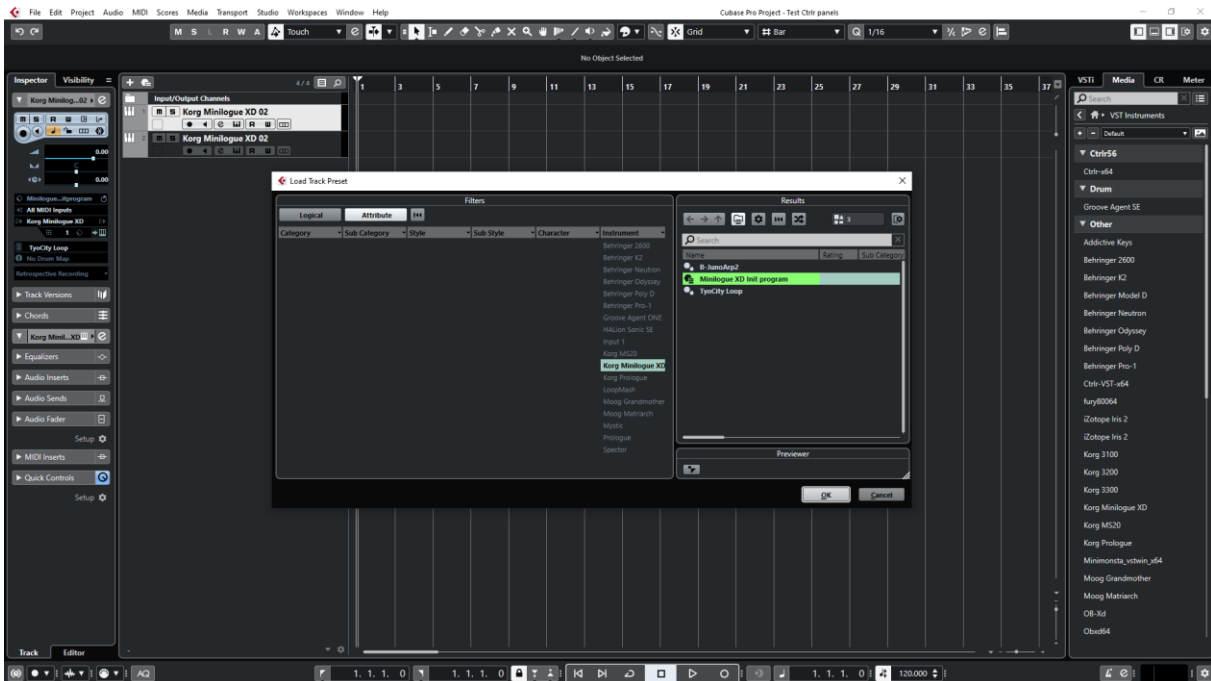
Later on, you can load a preset by using **Load preset** from the same menu or you can navigate through your presets by using the small up and downs triangle buttons **BUT at this stage loading a DAW preset is not working well.**



To save as Cubase track preset, select **Save track preset** when right clicking on a track.

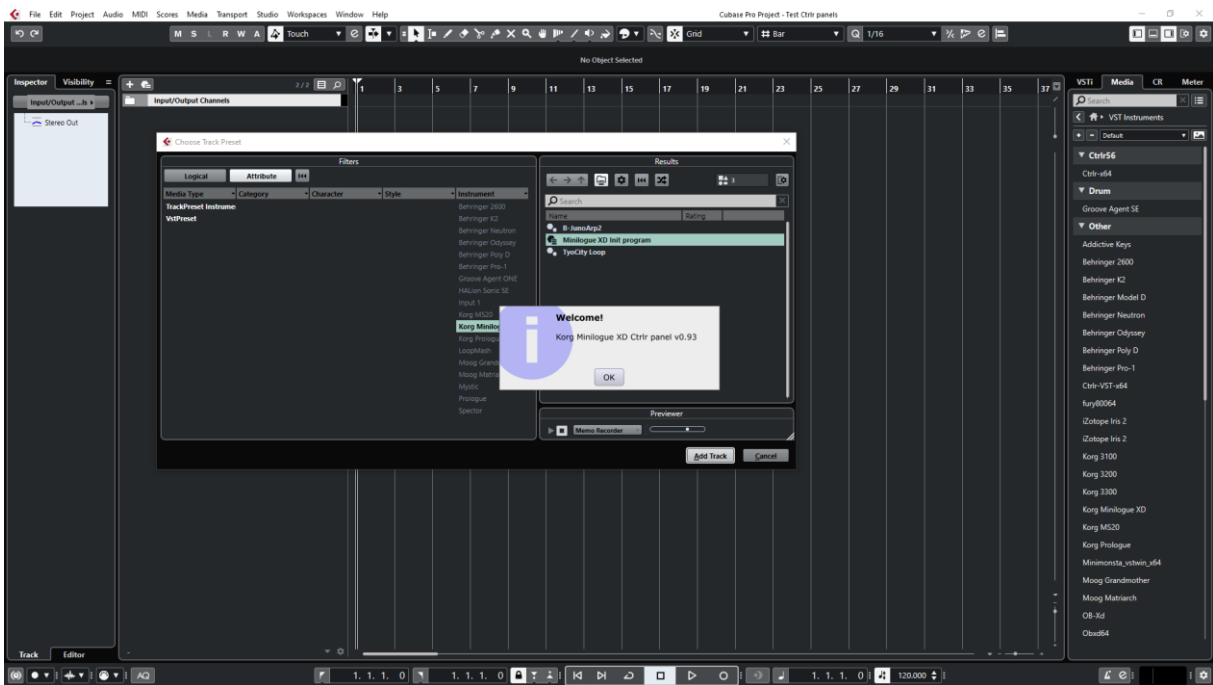
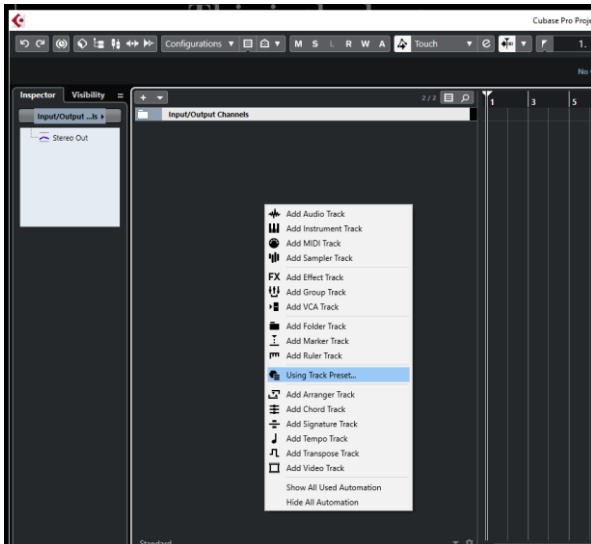


Later on, the content of the panel as is can be restored directly in a new empty track without the need of a Load from the panel by selecting **Load track preset** when right clicking on a track.



Creating a new track from a Cubase preset

When creating a new track you can directly pick [Using track preset](#) from the menu. The patch will appear in the panel on a new track without the need of a using Load from the panel



Replacing the preset on an existing track by another preset

At this stage loading a DAW preset is not working well.

Cakewalk by Bandlab

Creating a new track

Drag the Super 6 plugin from the Instruments plugin window (Synths) and drop it on the main window to create a new track.

Click on the instrument icon near the track name to display the panel.



Indicate the AddInfo folder and the Super 6 drive folder then use the panel as you would do for the standalone version.

When saving the Cakewalk project, the panel is saved as well. It will be restored in the same state (Super 6 drive, AddInfo folder, zoom factor, loaded banks if not moved, buttons positions and loaded patch).

Using several Super 6 tracks at once

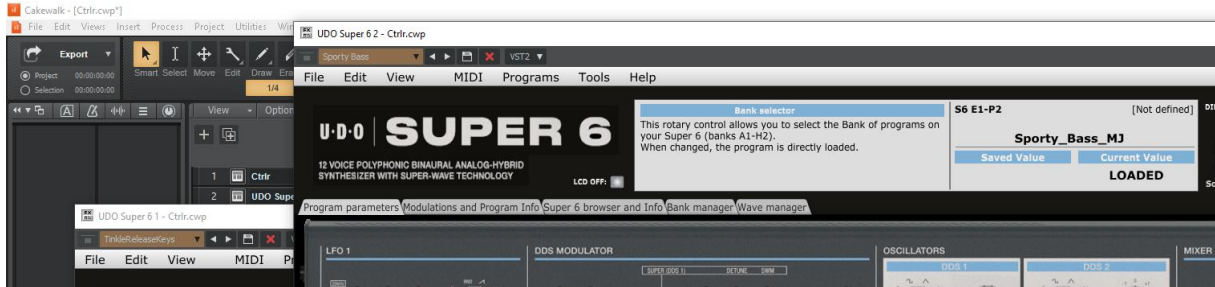
Works fine. To keep several plugin windows opened at once you need to pin them first (pin icon on top right of a plugin window). Patches and windows are restored when re-opening the project.



It is needed to define the AddInfo folder and Super 6 drive for each panel instance.

Saving a patch as a Cakewalk preset

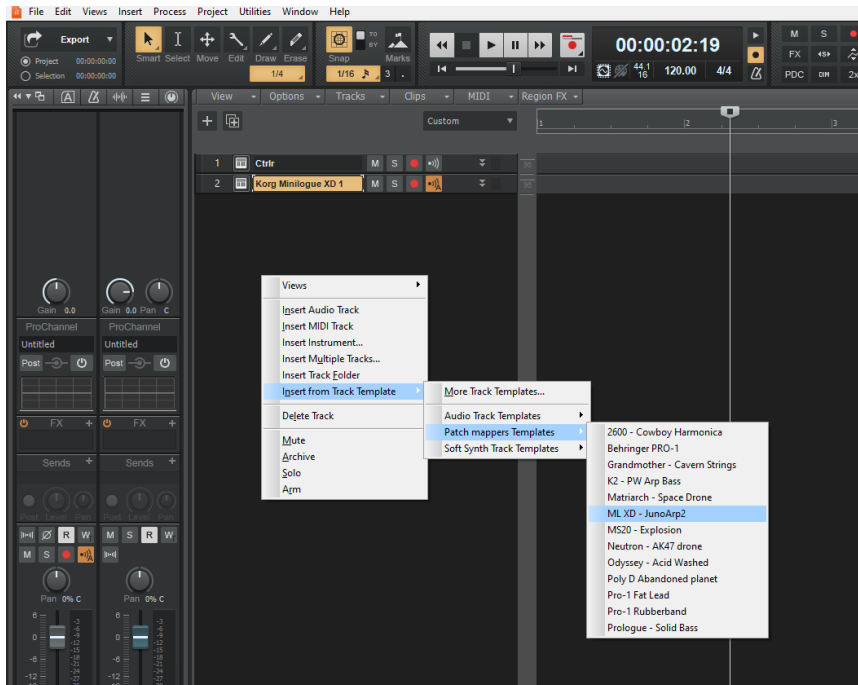
It is possible to save the current patch as a Cakewalk preset by changing the name at the top of the plugin window (here "Sporty Bass") then clicking on the Save icon.



Creating a new track from a Cakewalk preset

Not found... It seems it is always needed to first create a track with the instrument plugin and then to select a preset.

Another possibility would be to save each preset as a separate track template then to create the track from those track template "presets".



Replacing the preset on an existing track by another preset

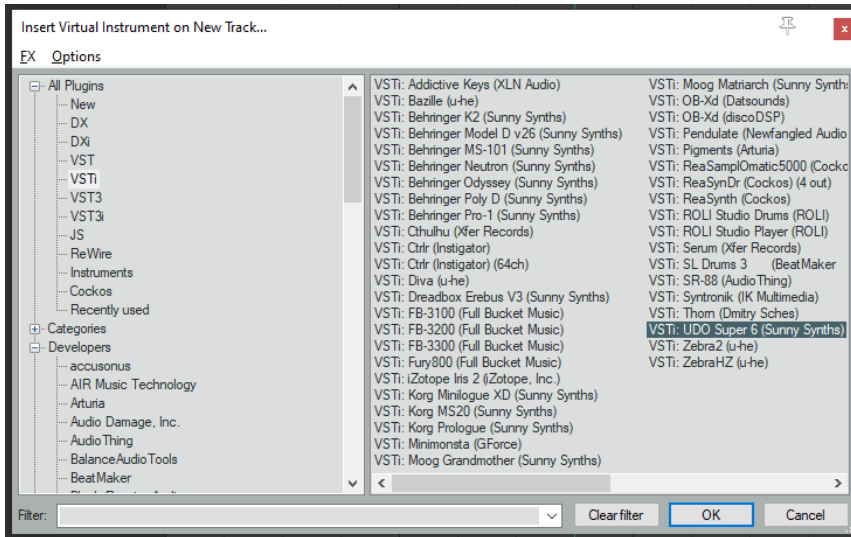
At this stage loading a DAW preset is not working well.

Reaper

Reaper is available on Windows and MacOS. On MacOS, Reaper is supporting both VST and AU plugin versions.

Creating a new track

Select [Insert virtual instrument on new track](#) in the Track menu then select the UDO Super 6 VST from the VSTi category



Click on the [FX button](#) to display the panel and use it as you would do for the standalone version (right-clicking instead of direct click gives only the plugin window without the blank side area)



When saving the Reaper project, the panel is saved as well. It will be restored in the same state (Super 6 drive, AddInfo folder, zoom factor, loaded banks if not moved, buttons positions and loaded patch).

Using several Super 6 tracks at once

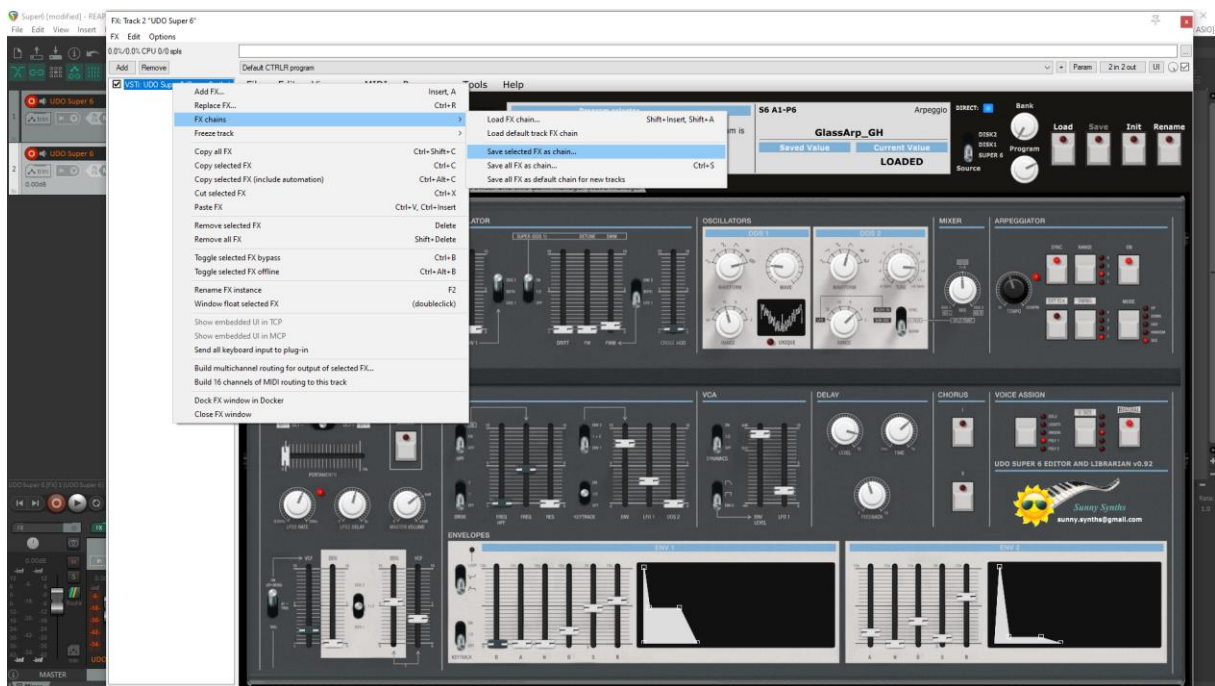
Works fine but it is needed to define the AddInfo folder and Super 6 drive for each panel instance.



Saving a patch as a Reaper preset

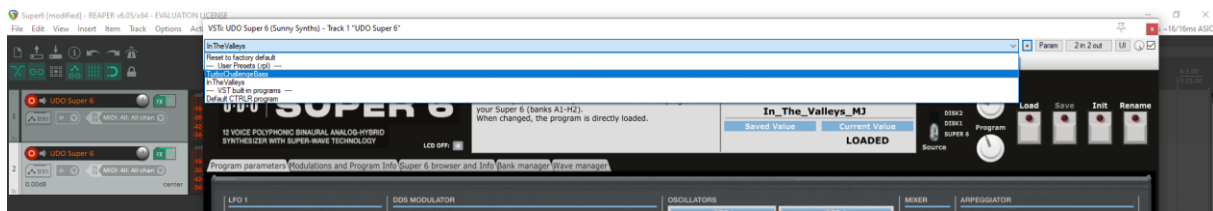
Two different methods are possible:

- Save FX chain – Right click on VST name in white area of plugin window then select **FX chain**
- Save preset - Click on the **+** button in the plugin window then name the preset



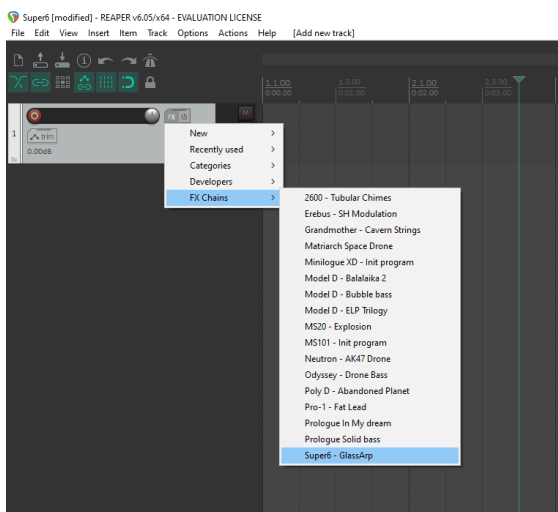


Presets are appearing under User presets



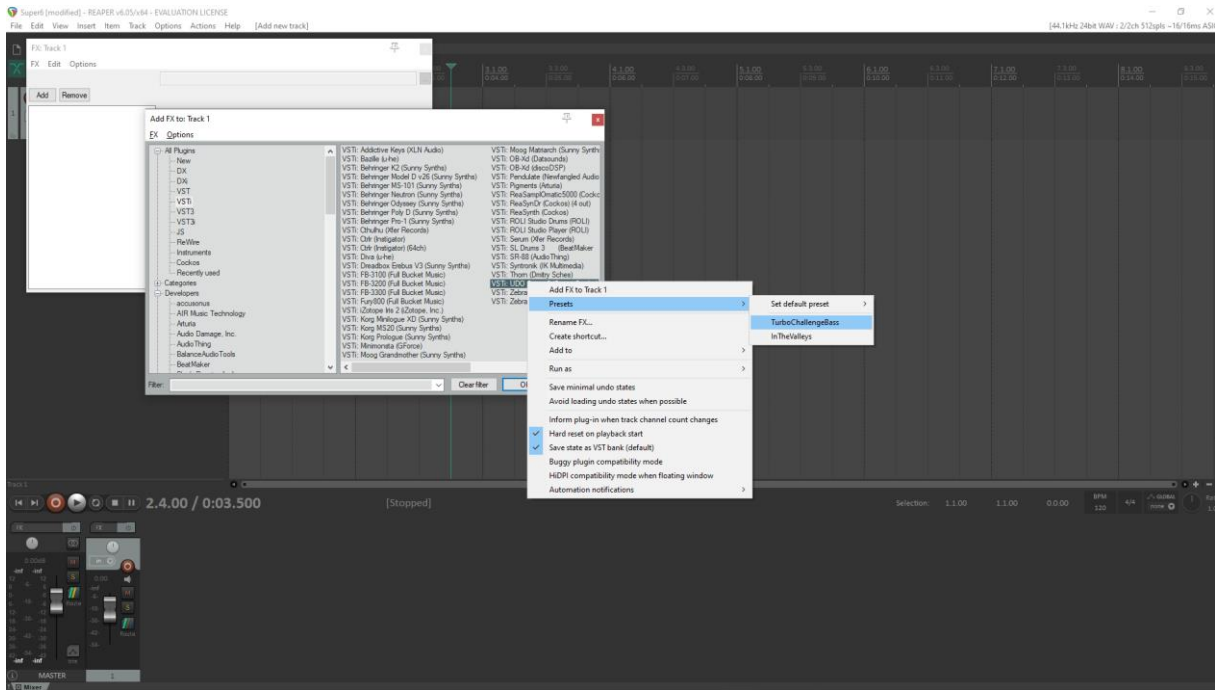
Creating a new track from a Reaper FX chain preset

Create an empty track then right click on grey **FX** button to select a saved FX chain. All data is restored fine.



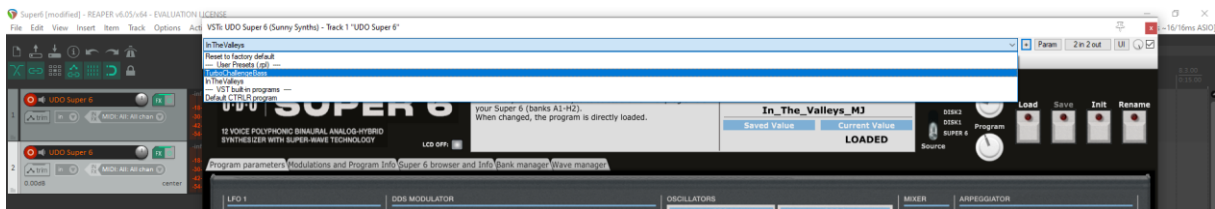
Creating a new track from a Reaper preset

This is not possible directly but well in two steps. First, create an empty track then click on grey **FX** button to display the Track FX window with the VST plugins list. Then, right click on the Super 6 plugin and select a saved preset under **Presets**



Replacing the preset on an existing track by another preset

Click on the + button to list all presets. Simply select another one.



At this stage loading a DAW preset is not working well.

Ableton

Status: This has been tested in Ableton Live Lite 10 and 11. It is thus expected to work fine in the full versions.

Specific remark

In Windows, it is needed to set the main Midi ports of the Super 6 synth to OFF in [Preferences](#) and to set the Midi devices and channels in the panel to allow the bidirectional behavior of the few parameters that can be exchanged with the synth.

This is not required on MacOS that can handle multipoint communication.



Pay also attention to put the plugin in your VST2 folder (not VST3) and to indicate that folder in the Preferences. You need of course to also enable VST2 plugins.

Creating a new track

Drag the Super 6 plugin from the plugin browser and drop it on the main window to create a new track.

The panel should open automatically. If not, click on the small wrench icon in the small window at the bottom.



Load a preset from inside the panel and use it as you would do for the standalone version.

When saving the Ableton project, the panel is saved as well. It will be restored in the same state (Super 6 drive, AddInfo folder, zoom factor, loaded banks if not moved, buttons positions and loaded patch).

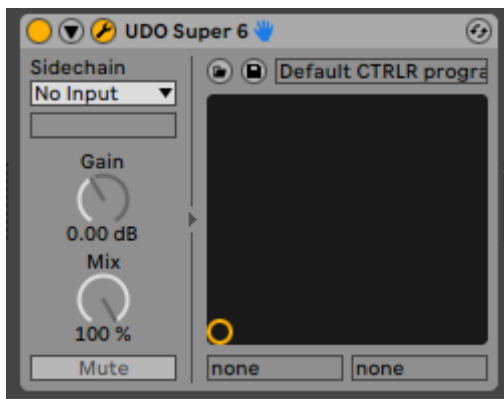
Using several Super 6 tracks at once

Works fine. To keep several plugin windows opened at once you need to change the masking of plugin setup in Preferences. Patches and windows are restored when re-opening the project.



Saving a patch as an Ableton preset

It is possible to save the current patch as an Ableton **.fxp** preset by clicking on the **Save** button in the small instrument window at the bottom.



Creating a new track from an Ableton preset

Not found... It seems it is always needed to first create a track with the instrument plugin and then to select a preset as described in next paragraph.

Replacing the preset on an existing track by another preset

At this stage loading a DAW preset is not working well.

Studio One

Status: This has been tested in Studio One 4.6 64 bits version.

Creating a new track

Drag the Super 6 plugin from the plugin browser and drop it on the main window to create a new track.

The panel should open automatically. If not, click on the small Instrument editor icon on the right side of the track name.

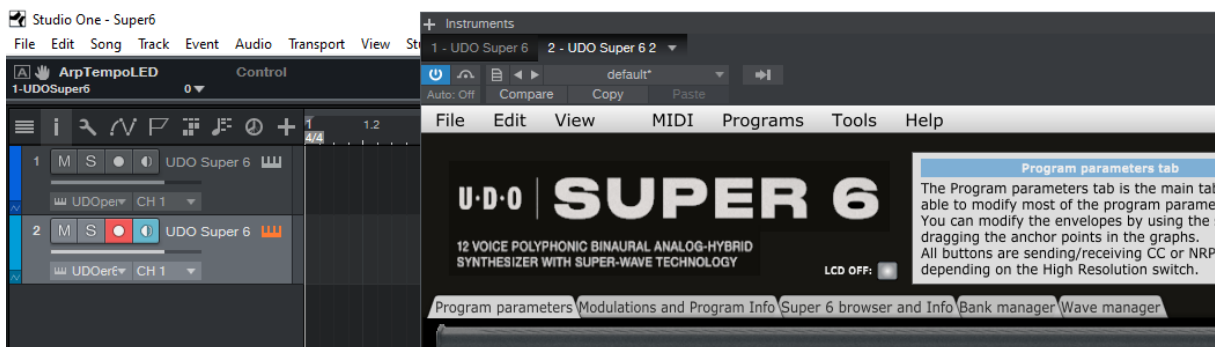


Load a preset from inside the panel and use it as you would do for the standalone version.

When saving the Studio One song, the panel is saved as well. It will be restored in the same state (Super 6 drive, AddInfo folder, zoom factor, loaded banks if not moved, buttons positions and loaded patch).

Using several Super 6 tracks at once

Works fine. The instrument editor is showing one tab by track:

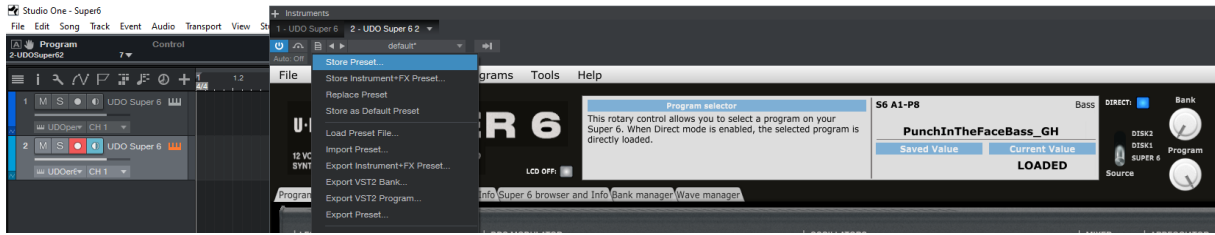


It is needed to define the AddInfo folder and Super 6 drive for each panel instance.

Re-opening a project saved with several Super 6 tracks is working fine.

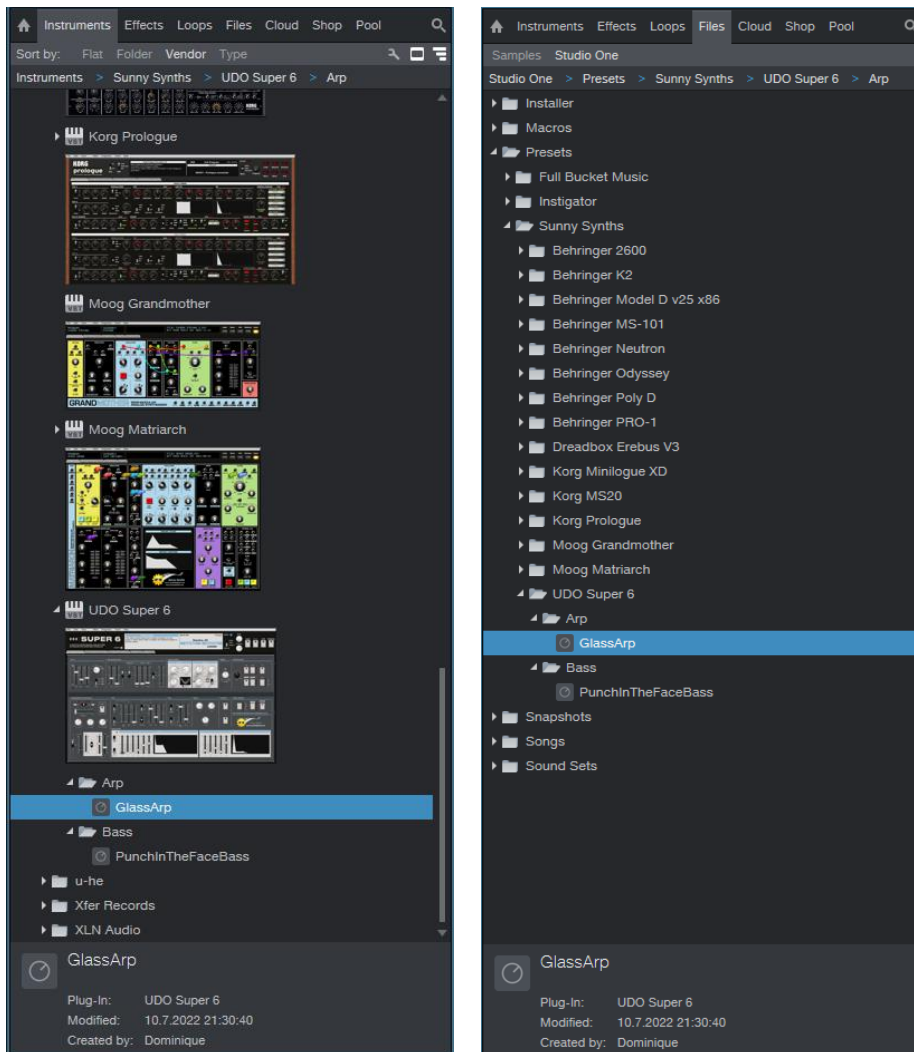
Saving a patch as a Studio One preset

You can save the last patch saved in the panel as a preset in Studio One by selecting **Store preset** in the plugin window preset menu. In the popup menu, input the name of a Subfolder corresponding for example to the sound category.



Creating a new track from a Studio One preset

The presets and their subfolders created with the above method are appearing directly in the browser under the Super 6 VST name in the Instruments tab or in the Files tab



Replacing the preset on an existing track by another preset

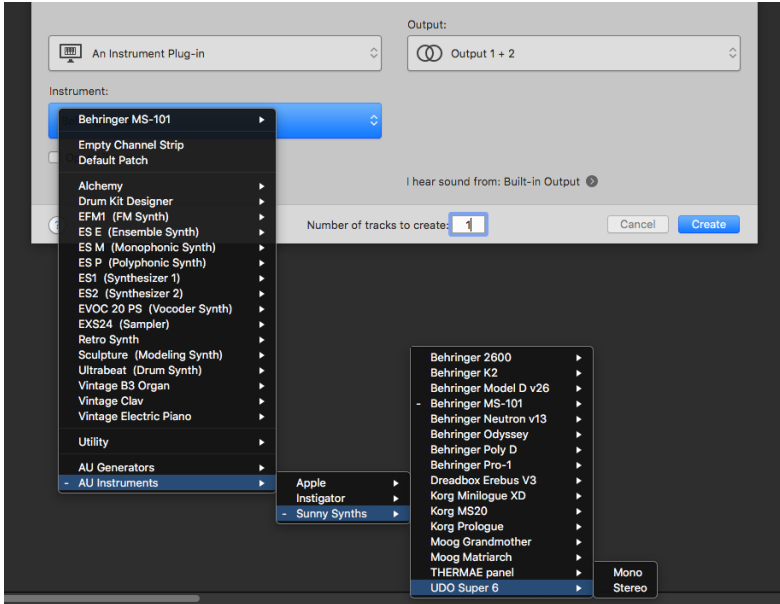
At this stage loading a DAW preset is not working well.

Logic Pro X

Logic Pro X is only available on MacOS and handles only the AU plugin version so you must secure to have the UDO Super 6.component plugin file in your AU plugin directory.

Creating a new first track

Create a new instrument track and select the UDO Super 6 plugin for it (under AU instruments) by clicking on the small Instrument editor icon on the right side of the track Input.



Click in the middle of the track Input to open the panel.



Load a preset from inside the panel and use it as you would do for the standalone version.

When saving the Logic project, the panel is saved as well. It will be restored in the same state (zoom factor, loaded banks if not moved, buttons positions and loaded patch).

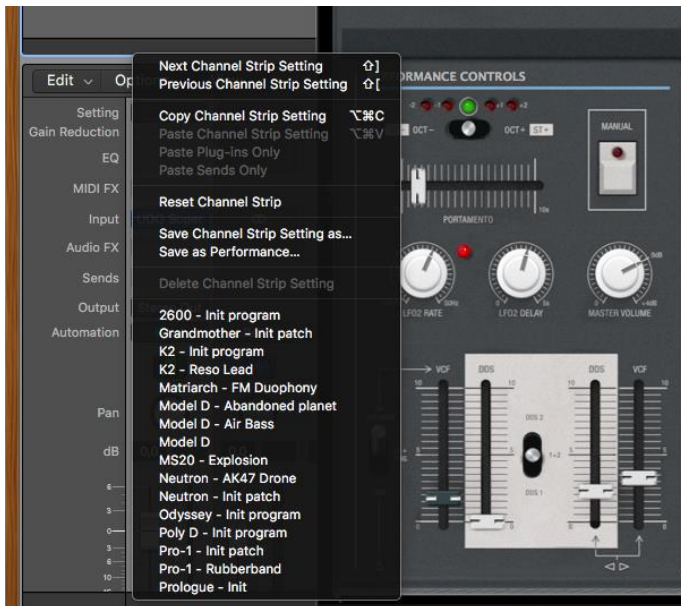
Using several Super 6 tracks at once

Works fine and can be done by simply creating two tracks with the plugin.



If wished, one can also create a channel strip:

- Save the Init patch as a channel strip preset in Logic by clicking on the **Setting** button at the top of the channel strip in the mixer and selecting **Save Channel Strip Setting as...**



- New tracks can be created based on that Init channel strip (see after) and can then be changed afterwards to other patches with the Load button

Saving a patch as a Super 6 Logic preset

You can save the last patch saved in the panel as a plugin preset in Logic by selecting **Save As** in the pulldown menu of the preset area at the top of the plugin window. An .aupreset file will be created.

Saving a patch as a Super 6 Logic channel strip preset

You can save the last patch saved in the panel as a channel strip preset in Logic by clicking on the [Setting](#) button at the top of the channel strip in the mixer and selecting Save Channel Strip Setting as.... Note that this is different than saving a plugin preset.

Creating a new track from a Logic channel strip setting

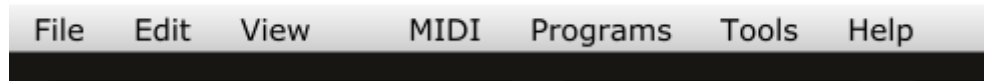
This is not possible directly but well in two steps. First, create a new Software Instrument track then click on the [Setting](#) button at the top of the channel strip in the mixer and select a previously saved channel strip setting.

Replacing the preset on an existing track by another preset

This is working well with Channel Strips Settings **but at this stage loading a saved AU preset is not working well.**

The main Ctrlr menus

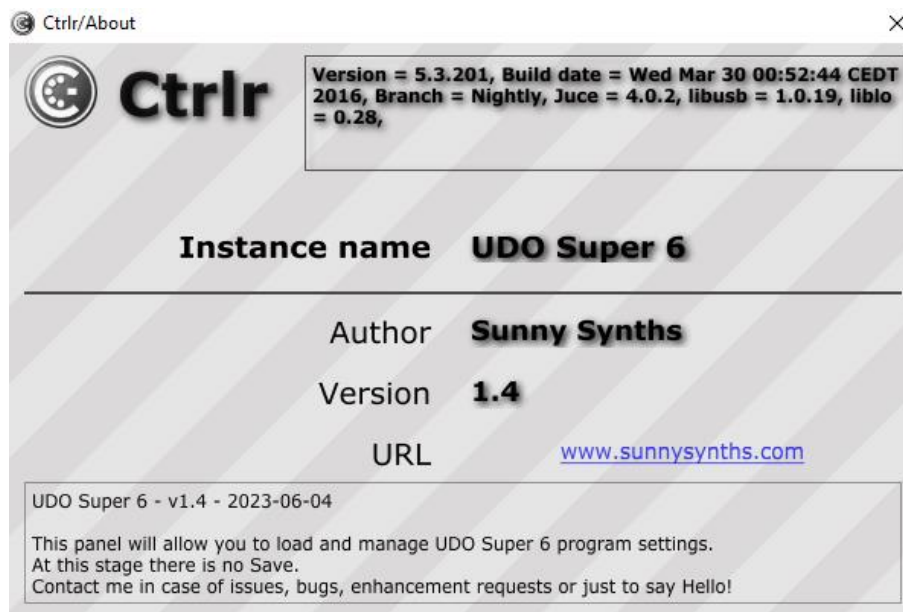
Behringer Odyssey



Actually, not so much is used from the Ctrlr menus...

What you can use is:

- **File** menu: Quit is the only option
- **View** menu: allows zooming the panel in and out by 10% steps
- **Midi** menu: to select your Super 6 as Output Midi device and to set its Midi channel; to set the Midi Thru (Input->Output)...
- **Tools** menu: use the Midi monitor popup to verify the messages between the panel and the synth
- **Help** menu: displays the About info of the panel



Appendix

Version history

| Date | Version | Description | By |
|------------|---------|---|--------------|
| 2022-08-10 | 1.0 | First version of this manual | Sunny Synths |
| 2022-08-20 | 1.1 | No change. Only indicating some corrections | Sunny Synths |
| 2022-09-25 | 1.2 | Buttons and switches. Wave operations. | Sunny Synths |
| 2022-10-09 | 1.3 | No change. Editor can load different .s6 patch files sizes and versions | Sunny Synths |
| 2023-06-04 | 1.4 | Limitation for Direct Mode, Ableton VST2 warning... | Sunny Synths |

Super 6 information

The UDO Super 6 product page: <https://www.udo-audio.com/#introduction>

Specific MacOS setup issues

Developer cannot be verified

On MacOS you may get the message that the *“Component or VST cannot be opened because the developer cannot be verified”*.

Go to [System Preferences](#) then [Security and Privacy](#) and click on the [Open anyway](#) button to have the plugin saved as an exception in the security settings.

For the AU (from a user):

To validate the AU plugin in any OS of Catalina or newer, you’ll need to disable System Integrity checking (the system equivalent of ctrl-clicking the app).

This is done by restarting holding down CMD-R, choose terminal from the top bar menu once logged in to the recovery console, and typing the following command:

```
/usr/bin/csrutil disable
```

It will then stop telling you it can’t be validated and do you want to put it in the bin!

For the VST (from another user)

Just ran the VST on Monterey OS X and it failed. I took my VST and ran 3 commands:

```
sudo xattr -cr  
sudo xattr -r -d com.apple.quarantine  
sudo codesign --force --deep --sign -
```

Opened up my Ableton - everything works like a charm.

