Ctrlr

Behringer Model D Ctrlr panel documentation and instructions

V2.6– 2020-02-29

Sunny Synths

Introduction

Hi! Thanks for having purchased this Ctrlr Behringer Model D panel!

The panel is only a patch loader/saver on computer as the Behringer Model D does not support the load/save of programs or the manipulation of program parameters by Midi NRPN/CC messages except for Global settings that can be transferred to the Model D (added from v2.1 of this panel). It can thus also be called a "patch mapper".

It will support you in saving and retrieving Model D patches on your PC but gives you also the possibility to exchange them with other users as they are stored as sysex files.

The look and feel has been respected but of course it would be stupid to not benefit of the computer possibilities. Therefore, you also get a display of the current parameters value, a graphic display of the envelopes, the ability to store and indicate the input/output patches, etc…

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 as well if you would like some enhancement on the panel.

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 Model D and have fun!

Sunny Synths

About this v2.6 version

This 2.6 version provides two corrections to the v2.5 "2019 Christmas edition":
– Internal VST ID changed to allow using several VSTs at once in some DAWs
– Bug correction: the global settings were not sent at program load with AutoGS On
– AU plugin for Mac OS
– Adapted manual (usage with Logic)
– Plugins renamed to just "Behringer Model D"

The v2.5 provided:
– VST 32 and 64 bits plugins provided for Windows
– VST plugin provided for Mac OS
– Manual adapted on how to use them in some DAWs
– All buttons associated to a Midi CC controller number so you can adjust them from a hardware controller (still no impact on the synth of course and unfortunately).

Table of Contents

Installation and features

Installation of the Ctrlr panel

The panel is provided as a compressed .zip file containing:
– the Behringer Model D panel as an .exe file on Windows PC
– the Behringer Model D panel as an .app file on Mac OS (zip folder to be uncompressed)
– the Behringer Model D panel as VST 32 bits and 64 bits for Windows PC
– the Behringer Model D panel as VST and AU plugins for Mac OS
– this manual as PDF
– a folder containing programs from the Minimoog patch book and from the Minimoog user manual
– an Advanced mode template to pilot the panel from a Novation SL MkII keyboard/controller
– a chart with the CC mapping in order to use the panel with a controller

For the PC standalone version, decompress the zip file anywhere on your PC then copy the **Behringer Model D v26.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 Behringer Model Dv26.app.zip. You may have to open the **Behringer Model Dv26.app** file using Ctrl+click as it may not be recognized by the OS.

The program will directly display the Ctrlr window with the Model D panel displaying its main tab.

⚠️ 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 Model D panel as plugin on page 25 further in this manual.

Features

You will find the following features in the Behringer Model D panel:
– Behringer Model D interface with same look as actual synthesizer
– Top row of support "screens" with old look
– Visual feedback by using "LED" ring buttons and indication of the value (on change or on click)

– Envelopes graphs handled by mouse or classical ADS rotary encoder and Decay switch
– Load / Save programs from individual .syx files
– Easy program renaming
– Display and export of program parameters as text file
– Ability to describe 9 input/output colored patch cables with different sources/destinations
– Programs have a name, author, save date and description. They can be associated to a category
– Browser of the files on the disk with reading of associated wav file if any
– Patch sheet tab with patch sheet for Model D and other gear (external synths/sequencers)
– Global settings management with automatic/manual send to the Model D synth
– Automatic reading of wav files associated to a patch
– Manual/Automatic reading of any wav file
– All buttons associated to a Midi CC controller number so you can adjust them from a hardware controller (still no impact on the synth of course and unfortunately).

Communication with your Model D synth

> 💡 If you don't want to manage global settings or if your Model D is not connected by USB or Midi to your PC then you can skip this section.

Preliminary info

As mentioned in the introduction of this manual, the Behringer Model D synthesizer does not support the load/save of programs or the manipulation of program parameters by Midi NRPN/CC messages.

It does however support the modification of global settings via sysex commands (see p30 and 31 of the Model D manual). Unfortunately, it is also not possible to know/read the state of the global settings; only to send a message to set their value.

Global settings management and sending messages to the Model D synth is new from the v2.1.

Some examples of connection setup

You can connect your Model D, a master keyboard / controller and your computer in different ways. The Midi settings in the panel will be different according to the setup you choose.

Configuration 1: full USB
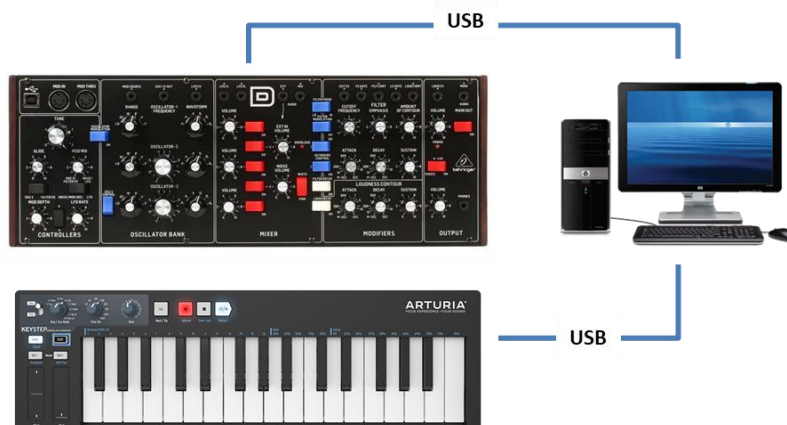
- – Connect the Model D to the computer by USB
- – Connect your master keyboard / controller to the computer by USB (connecting the master keyboard by USB to the computer gives you the possibility to use it for the Model D but also for VST plugins or other soft synths)
- – Power the Model D On
- – Start the Model D panel
- – In the **Midi** menu, select **Input – Device** *your_master_keyboard*
- – In the **Midi** menu, select **Input – Channel** *1* (set this to the Midi channel of your Model D). This is done to receive notes from the master keyboard.
- – In the **Midi** menu, select **Output – Device** *Model D*
- – In the **Midi** menu, select **Output – Channel** *1* (set this to the Midi channel of your Model D). This is done to send Global Settings and Notes to the Model D

– In the **Midi** menu, select **Midi Thru – Input Device -> Output Device**. This is done to send the
received notes to the synth

Configuration 2: USB and Midi DINs

– Connect the Model D to the computer by USB
– Connect your master keyboard by Midi DIN to the Model D. Notes will come from this connection
– Power the Model D On. The master keyboard will be dedicated to the Model D.
– Start the Model D panel
– In the **Midi** menu, select **Output – Device** *Model D*
– In the **Midi** menu, select **Output – Channel** *1* (set this to the Midi channel of your Model D). This is
done to only send Global Settings to the Model D

Configuration 3: USB and USB-Midi
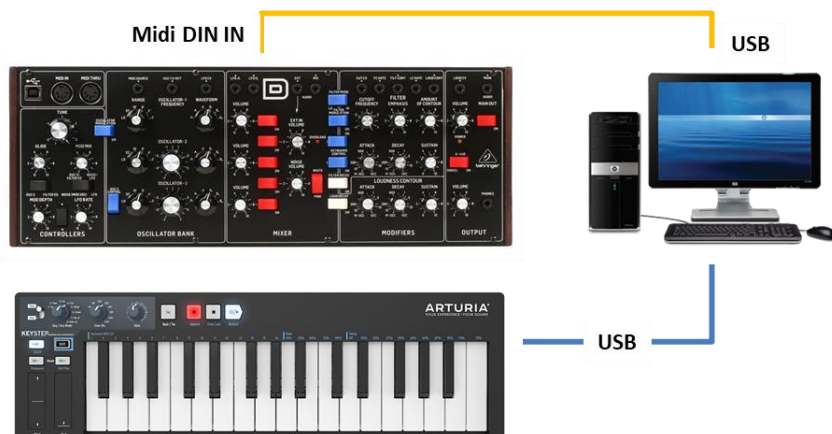
– Connect the Model D to the computer by USB – Midi cable going OUT of the PC to the Midi IN of
the Model D.
– Connect your master keyboard by USB (connecting the master keyboard by USB to the computer
gives you the possibility to use it for the Model D but also for VST plugins or other soft synths)
– Power the Model D On
– Start the Model D panel
– In the **Midi** menu, select **Input – Device** *your_master_keyboard*
– In the **Midi** menu, select **Input – Channel** *1* (set this to the Midi channel of your Model D). This is
done to receive notes from the master keyboard.
– In the **Midi** menu, select **Output – Device** *Model D*

- In the **Midi** menu, select **Output – Channel** *1* (set this to the Midi channel of your Model D). This is done to send Global Settings and Notes to the Model D
- In the **Midi** menu, select **Midi Thru – Input Device -> Output Device**. This is done to send the received notes to the synth

Testing the Midi connection

We can now test the Midi connection:
- Press some keys on your keyboard and confirm you get some sound from the Model D. If not, check your audio, check if Midi Thru is activated (not for configuration 2)
- On the panel, press the **Auto GS** button so this is activating the automatic send of all changes done on global settings to your synth
- In the **Tools** menu, select **Midi monitor** and in the new monitor popup check On **Monitor input** and **Monitor Output** in the **View** menu
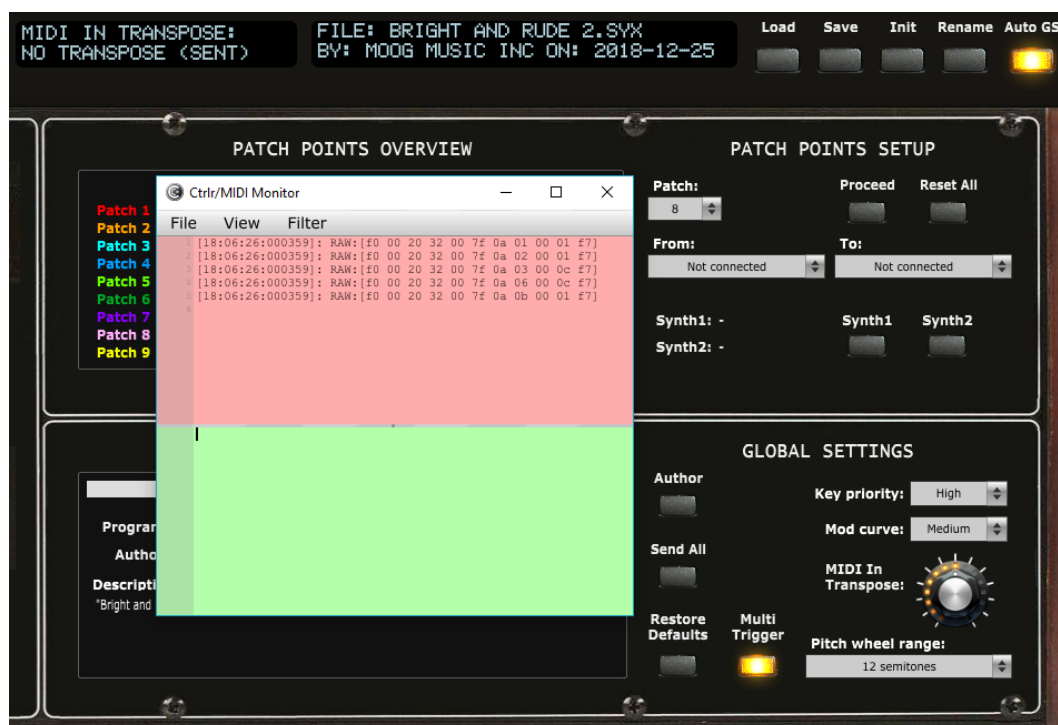
- Play a note on your keyboard and move the pitch wheel to its max. The range should be the default one at 12 semitones
- In the panel, select the second tab and change the Pitch wheel range to 2 semitones (or another low amount) in the Global settings section
- Verify that the last message in the Midi Monitor output section is like **F0 00 20 32 00 7F 0A 03 00 02 F7**
    - the number before the last F7 will depend on your choice of pitch wheel range
- Play the keyboard and move the pitch wheel to its max. The range should now be much lower.
- Change the Pitch wheel range to 12 semitones in the Global settings section
- Verify that the last message in the Midi Monitor output section is like **F0 00 20 32 00 7F 0A 03 00 0C F7**
- Play the keyboard and move the pitch wheel to its max. The range should now be back to its default value

Way of working

As you will discover by yourself, the usage of the panel is pretty straightforward but there are anyway different specific things you should know… ☺

Using the buttons and modifying parameters

You modify parameters using rotary encoders by clicking on the button then moving the mouse cursor vertically up or down.

You can also modify any rotary encoder based parameter by hovering the mouse on the button then using the mouse scroll wheel.

Toggle buttons are modified by simply clicking on them. There is no left/right; up/down effect; just a simple toggle between the two positions
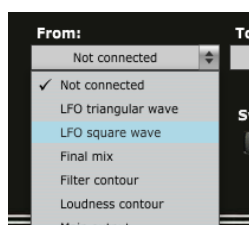

Momentary push buttons are activated by simply clicking on them (what a surprise…). They will momentary flash.

Permanent toggle buttons are activated by simply clicking on them (what a surprise…). They will stay highlighted until the next click.
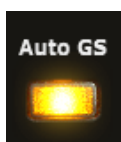
Parameters presented as pulldowns are modified by opening the pulldown and selecting one of the pull-down items.

Quick reset to default value

Most of the rotary encoders have default values set and you can quickly revert to this preset default value by double-clicking on the button. Try with the Oscillator-2/3 Freq Adjust encoders.

Opening and closing the panel

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

When opening the panel, it is checked if the last file used still exists (could have been renamed or moved or deleted). If not found, the Init program is loaded (in the same way as when loading the panel for the first time. If found, it is restored so you can continue your work where you left it.
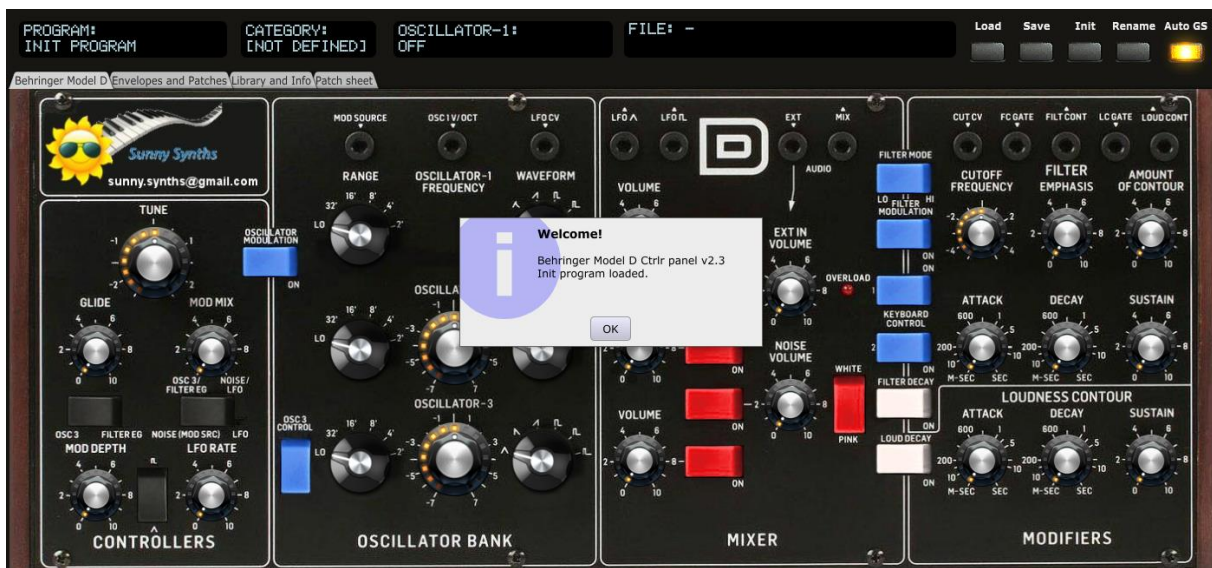
The same is done with the root folder of the File browser (see).

Top panel area

In the top panel area you find 4 feedback "screens", 5 buttons and 4 tabs:

– The first screen displays the **name** of the current program
– The second screen displays the **category** of the current program
– The third one indicates the parameter currently modified and its value
– The fourth one displays the latest sysex file loaded, its author and the save date
– The **Load** button allows loading a sysex file from disk
– The **Save** button saves the current program to a sysex file on disk
– The **Init** button reset all parameters to *a Basic program*
– The **Rename** button allows renaming the current program
– The **Auto GS** button enables/disables the automatic send of global settings
– The **Behringer Model D** tab displays the synth
– The **Envelopes and Patches** tab displays the envelopes as graphs, allows the registration of 9 different input/output patches, the identification of two external synths and allows modifying the Category, the Author and the Description of the current program
– The **Library and Info** tab provides the file browser that allows the selection of sysex files or the ability to listen to wav files, the display and the export of the parameters of the current program as text file and gives About info of the panel. It is also here that you will find the manual panel zoom that is memorized.
– The **Patch sheet** tab displays automatically the Behringer Model D patch sheet with all parameter values (as in the manual) but with the addition of author, date, external synths names and 12 external input/output connections
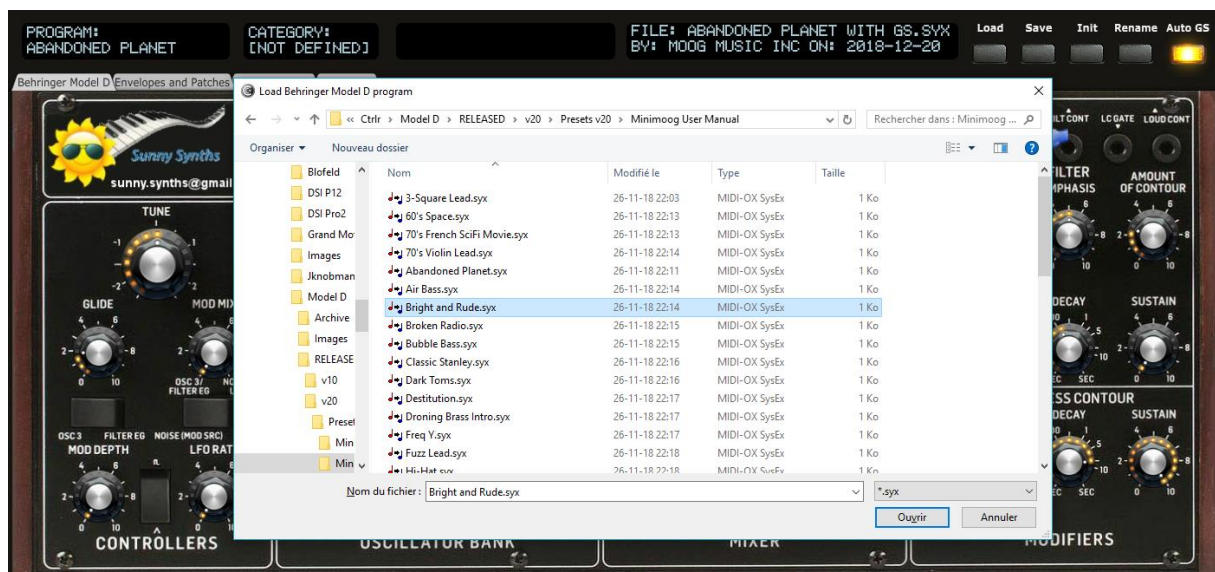
Loading a Behringer Model D program

The panel loads and saves the program parameters as a 420 bytes sysex file (.syx) from/to your computer.

Clicking the **Load** button opens a classical Open file dialog where you can select the file to load. An internal check is done to verify that the file is compatible with the Behringer Model D panel. The parameters are loaded, the top screen is showing the name of the file, the author and the saved date and a confirmation dialog is shown.

If the **Auto GS** (Automatic send of Global Settings) button is lit, the panel will send the Global settings to your Model D synth at load. Nothing will happen if your synth is not connected by Midi/USB or if your synth is on another Midi channel than the one set in the MIDI menu of the panel.

> 💡 Verify the Auto GS button before loading a program. If lit, the panel will send the Global settings to your Model D synth at load.

Saving a Behringer Model D program

The panel loads and saves the program parameters as a 420 bytes sysex file (.syx) from/to your computer.

Clicking the **Save** button opens a classical Save file dialog where you can enter the name of the file to save. At this stage it is needed to select an existing file if you want to overwrite it. In that case, you will get a confirmation message.

Once the parameters are saved, the top of the screen displays the name of the file, the author (as set in the *Envelopes and Patches* tab) and the saved date (thus, the current date) in ISO format *yyyy-mm-dd*. A confirmation dialog is also shown.

The panel stays on the current tab after a Save is done.
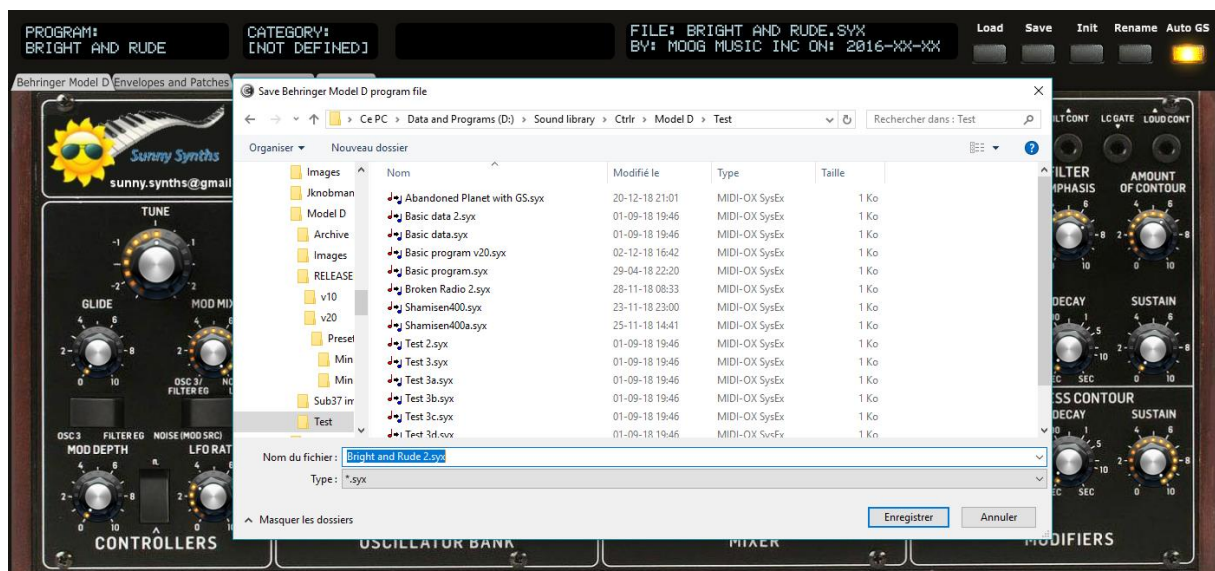
Program Init

Clicking the **Init** button loads the parameters for a Basic program that has the following characteristics:

– Global settings at their default value
- Key priority: LOW
- Mod curve: SOFT
- Pitch wheel range: 12 semitones
- Multi trigger: OFF
- Midi In transpose: 0
– All parameters at 0 or OFF

Program Rename

Clicking the **Rename** button opens a popup window where you can modify the name of the program.
The name should be maximum 20 characters long (will be truncated if longer).

Please note that the program name can (of course) be different than the file name the program is
saved in.

Behringer Model D tab

In the **Behringer Model D** tab, you have access to the same parameters as on the actual synthesizer except the OUTPUT section.

Please refer to the Behringer Model D user manual (https://media.music-group.com/media/PLM/data/docs/P0CQJ/MODEL%20D_M_EN.pdf) for the explanations of each encoder/button.

The third top screen is showing the name and the value of the parameter you are modifying.

Doing a single click on any rotary encoder is displaying its name and current value **without that you need to modify it**.

Modifying the ADS encoders and DecayOn button of the filter and the loudness is setting identical encoders/buttons in the Envelopes and Patches tab and adapting the envelopes graphs accordingly.

Envelopes and Patches tab

In the **Envelopes and Patches** tab, you can:

- adjust the filter and loudness envelopes either with encoders or by moving the anchors of the graphs
- set/indicate up to 9 from/to patches
- adapt the name of the external synths that could be connected to your Model D
- adapt the current program category, author and description (click on the current description to edit it)
- manage 5 Global settings
- manually send or restore defaults Global settings
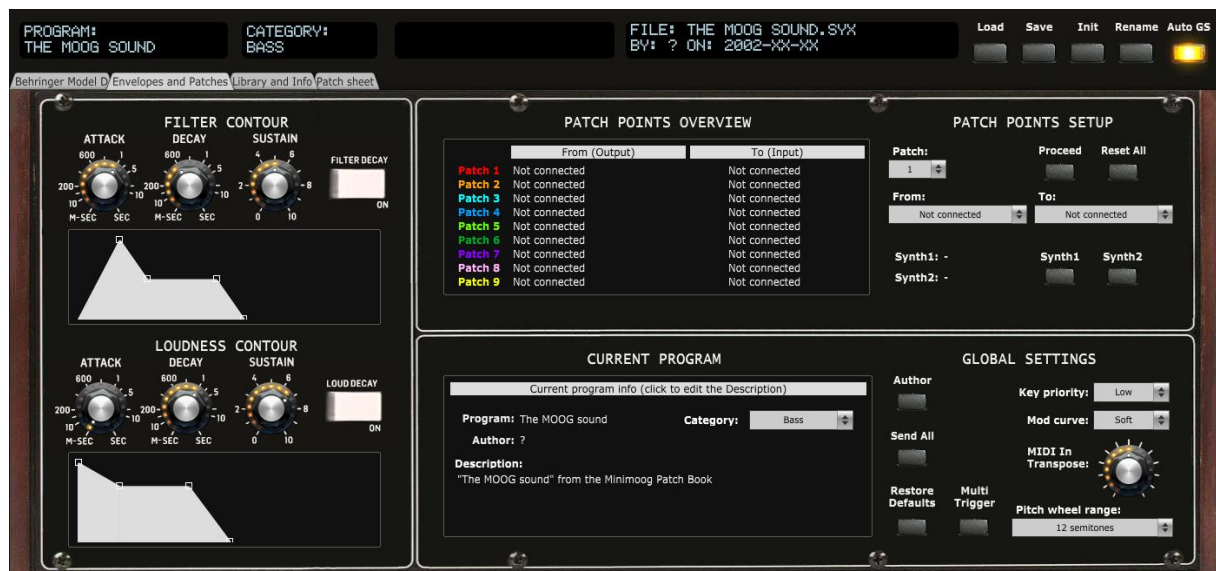
Envelope shapes

You can modify the envelope shapes by either turning the ADS encoders and/or pressing the DecayOn button or by using the mouse and moving the anchors on the graphs either vertically or horizontally.
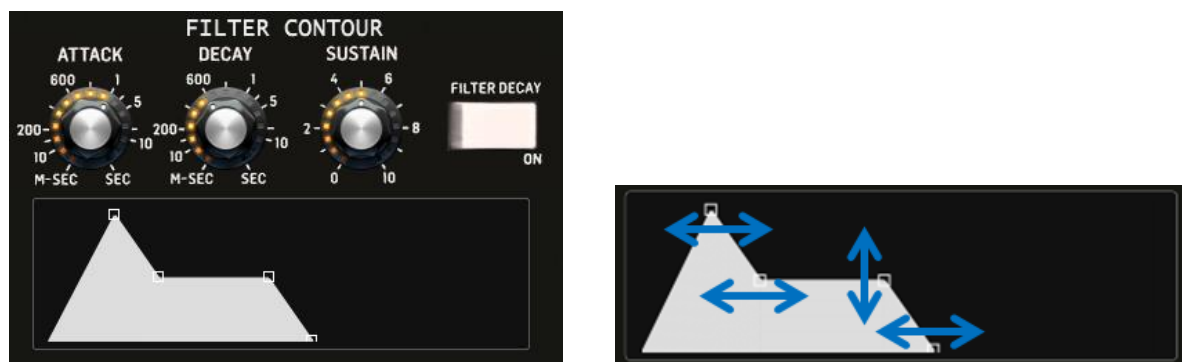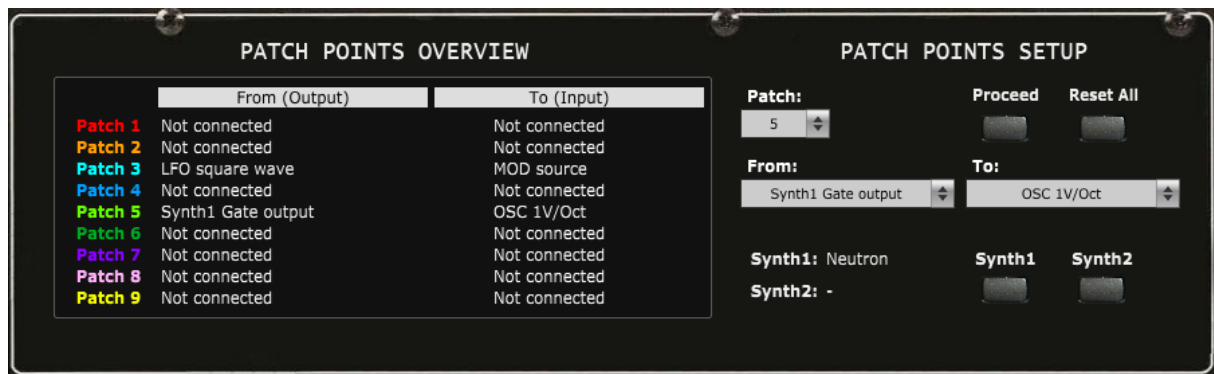

When moving the anchors, the corresponding ADS encoders will also turn and the parameter name and value be displayed in the screen of the top panel area.

The **DecayOn** toggles between No release stage (DecayOn=Off) and a Release stage equal to the Decay stage (DecayOn=On)
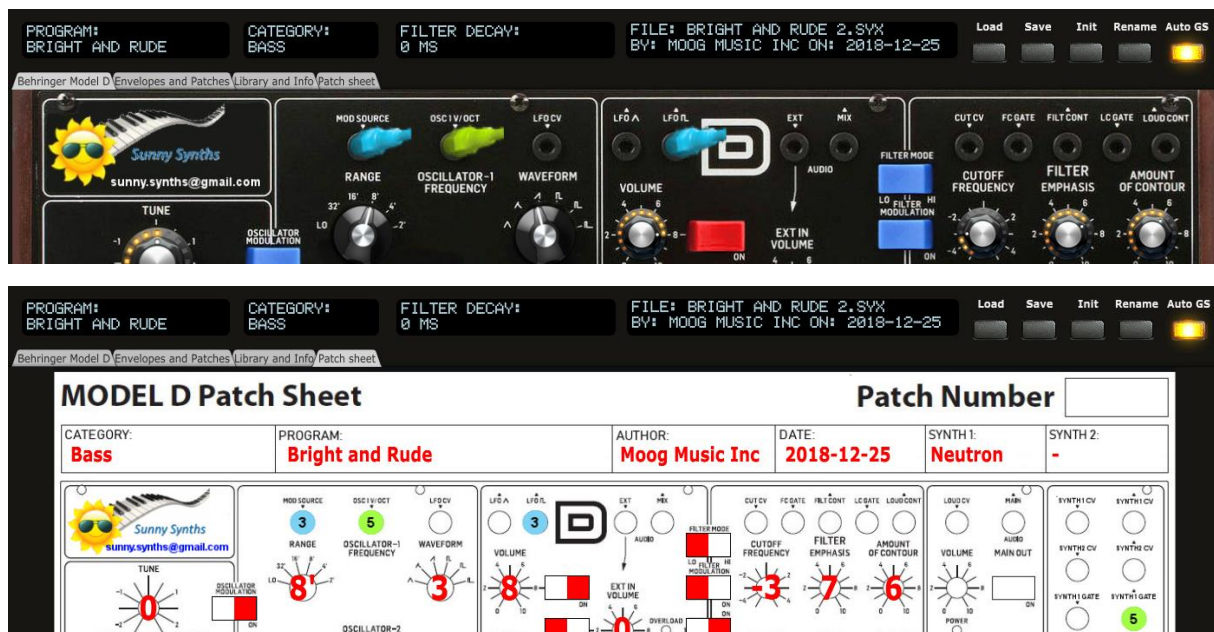
Patch points

You modify the from/to patches as follows:

Clicking anywhere on a patch line (label, input, output, blank space) will select the patch to be modified and display its values in the pull-downs. You modify the "From" source and/or "To" destination and press the Proceed button to make the change.

You can also directly select a patch in the Patch pull-down then modify the From/To and press Proceed.

Patches are numbered 1 to 9 and have a color assigned to them. When a from/to patch is set in the **Envelopes and Patches** tab, corresponding patch cables are displayed on the main Model D tab and corresponding colored numbered circles are displayed on the patch sheet.


Numbered circles are used to help colorblind people.

Available "From" sources are the output patch points of the synthesizer plus a few additional external ones: "Not connected", "LFO triangular wave", "LFO square wave", "Final mix", "Filter contour", "Loudness contour", "Main", "Synth1 CV output", "Synth2 CV output", "Synth1 Gate output", "Synth2 Gate output ", "Sequencer1 track 1", "Sequencer1 track 2", "Sequencer2 track 1", "Sequencer2 track 2"

Available "To" destinations are the input patch points of the synthesizer plus a few additional external ones: "Not connected", "MOD source", "OSC 1V/Oct", "LFO Frequency CV", "Ext. input", "Cutoff frequency CV", "Filter contour gate", "Loudness contour gate", "Synth1 CV input", "Synth2 CV input", "Synth1 Gate input", "Synth2 Gate input"

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

Clicking the **Synth1** button opens a popup window where you can modify the name of a synth connected to your Model D. The name should be maximum 11 characters long (will be truncated if longer). If you leave the Synth1 name empty then a "-" is displayed.
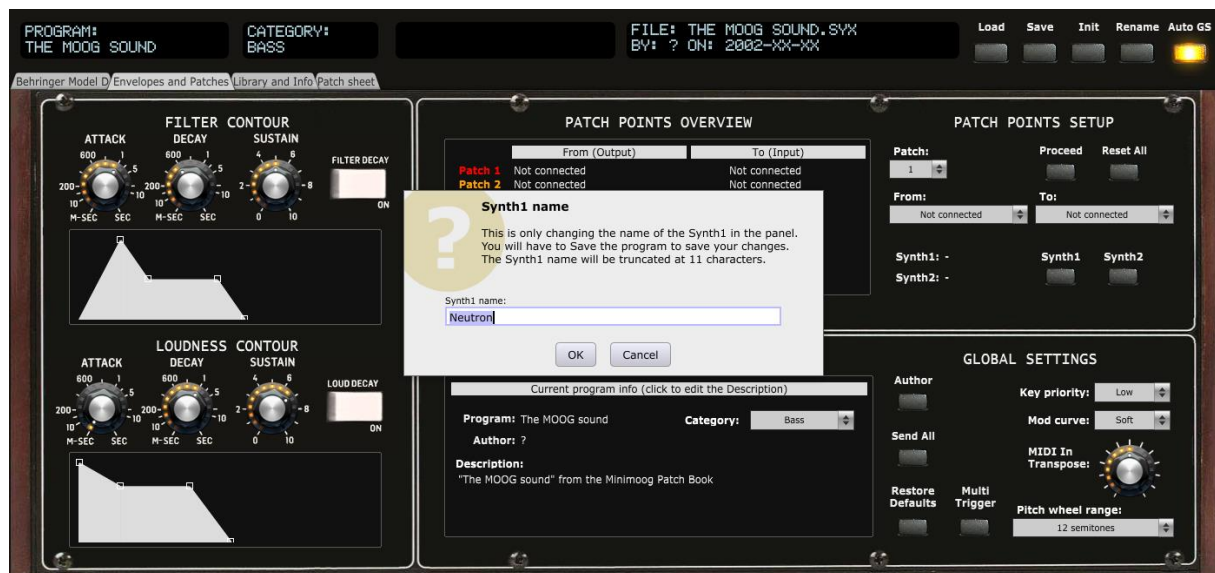
Clicking the **Synth2** button opens a popup window where you can modify the name of a second synth connected to your Model D. The name should be maximum 11 characters long (will be truncated if longer). If you leave the Synth2 name empty then a "-" is displayed.

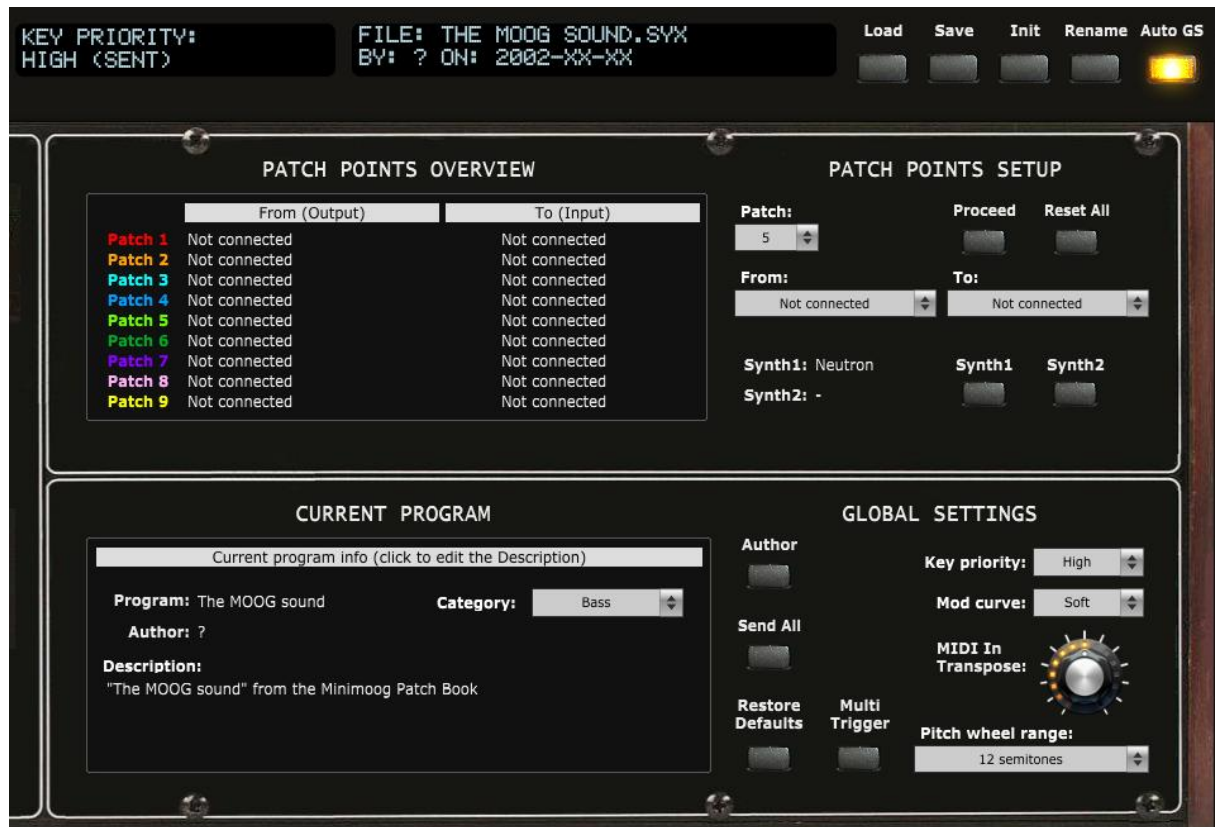**Global settings**

You can manage five Model D global settings:
– Key priority
– Modulation curve
– Midi In Transpose
– Pitch Wheel range
– Multi Trigger

The settings are saved in each program sysex file and thus loaded with them.

The **Auto GS** button on top of the panel allows you to automatically send to the Model D synth the global settings at program load or when each individual global setting is modified.

If you don't want this automatic send at load/change, keep the **Auto GS** button unlit and use the **Send All** button to send all global settings when you need it.

The parameter display will show *(sent)* or *(unsent)* to indicate what is happening.

Programs saved in a version prior v2.1 will have their global settings set to their default values as defined in the Model D manual.

You can restore all Global settings to their default values by pressing the **Restore defaults** button.

Library and Info tab

In the **Library and Info** tab, you have access to:
- a file browser that gives you directly information about the clicked file without having to load it
- the settings when playing a wav file
- an About screen giving you information about the panel version and the history of changes
- the Panel zoom buttons keeping the zoom factor in memory till next usage of the panel
- the display of all program parameters as a text file with the possibility to export it
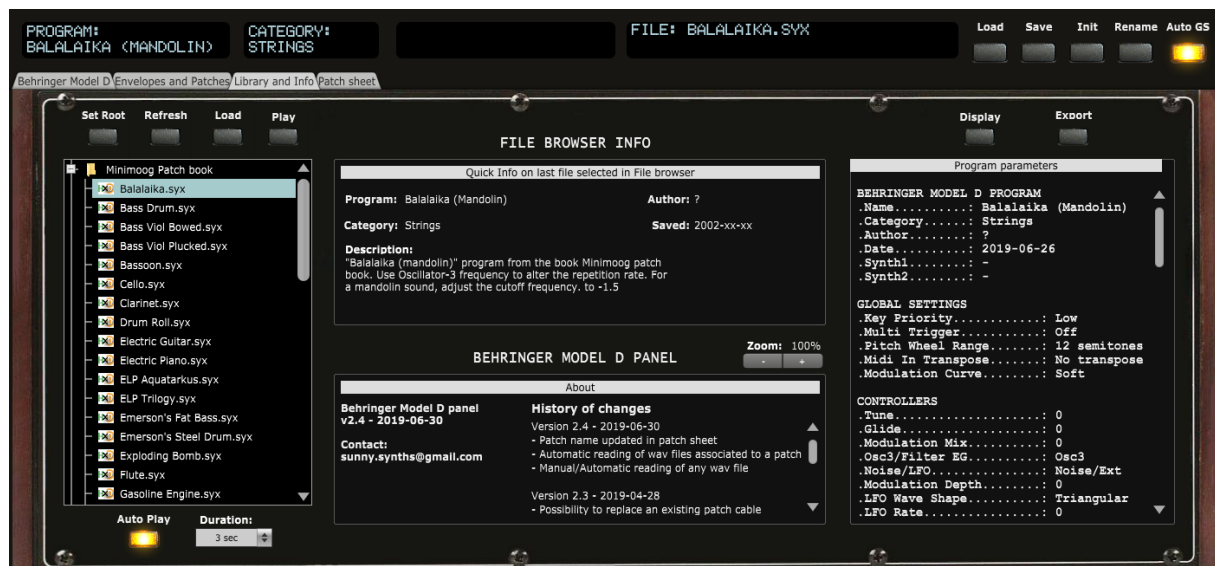
File browser

The **File browser** allows you to navigate on your disk and browse through presets. It works as follows:
- **Click** on any file to display some info (name, category, author, saved date, description) about it in the Quick info window. If you click on a non-Model D or .wav file then it will be indicated. When Auto Play is activated, clicking on a .wav file will play it automatically for the chosen duration and clicking on an Model D .syx file will make the corresponding .wav file play automatically as well (if a wav file with the same name as the Model D.syx file is found)
- **Double-click** on a file to load it (Model D .syx file) or play it (.wav file) directly. A popup will be displayed if you do this on a not recognized file type
- Use the **Set Root** button to select the folder where your presets are (at this stage, the patch saver doesn't remember the location after you quit it). Note that you must at least have one file in the selected directory in order to have **Set root** functioning.

> ⚠️ Sometimes the Set Root doesn't work (displays nothing or stays on the currently selected root directory). I have still not found the reason (thought it was due to no file being present in the folder; only subfolders but seems not to be always the case).
>
> Temporary workaround: just select one level higher. Sorry…

- Use the **Refresh** button to refresh the list after having saved several files or added files outside the patch save
- Use the **Load** button to load the selected file and display its parameters
- Use the **Play** button to manually start playing a .wav file

Wav file play settings
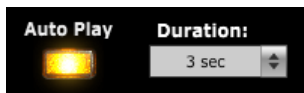
Wav files will be played for the duration set in the Duration pulldown (3s, 5s, 10s or Full).

Activating **Auto Play** will automatically trigger the play of the .wav files OR trigger playing the .wav file corresponding to the clicked Model D .syx file (if found). If there is no corresponding .wav file then nothing happens.

> ⚠️ If some wav files are playing but not others, check that you are not using special characters in the filename. The panel can handle single quotes but maybe not other characters.

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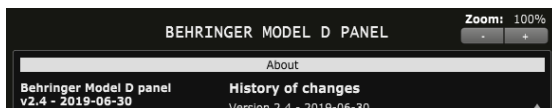
The panel can be zoomed by using the Ctrl + or Ctrl – keys combinations. This is also available from the **View** menu.

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 Ctrlr + / Ctrlr – 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, Save, Init, Rename).

Display and Export info

On the right side of the panel, you have access to Program parameters:

– Use the **Display** button to list the parameters of the current program
– Use the **Export** button to export as a .txt file the parameters of the current program (it is not needed to first display them before exporting)
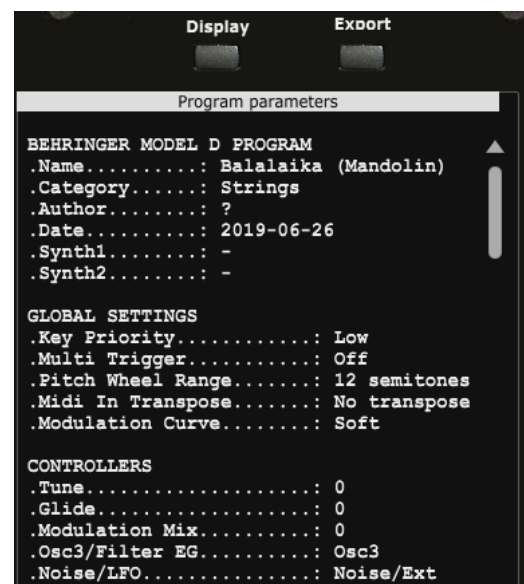
Patch sheet tab

In the **Patch sheet** tab, you have access to:

‒   A one shot view of the values of all parameters, patch cable connections and program info

The content of this tab is adapted automatically. Directly ready for a screenshot!

Installing and using the Model D 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.

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.

> 💡 If your DAW is not listed, please perform some tests as described and send me the equivalent of text and screenshots. I'll add those in the next version of the manual.

Installation

On Windows PC, depending on your DAW version and after unzipping the main file, either copy the **Behringer Model D.dll** file from the Windows VST 64 bits directory to your 64 bits plugins directory and/or the **Behringer Model D.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 **Behringer Model D.vst** file from the MacOS VST directory to your VST plugin directory (/Library/Audio/Plug-ins/VST) and copy **Behringer Model D.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.

Start your DAW and check that the plugin directory is rescanned and that the **Behringer Model D** panel is visible in your list of plugins. Here is an example in Cubase 10 Pro:
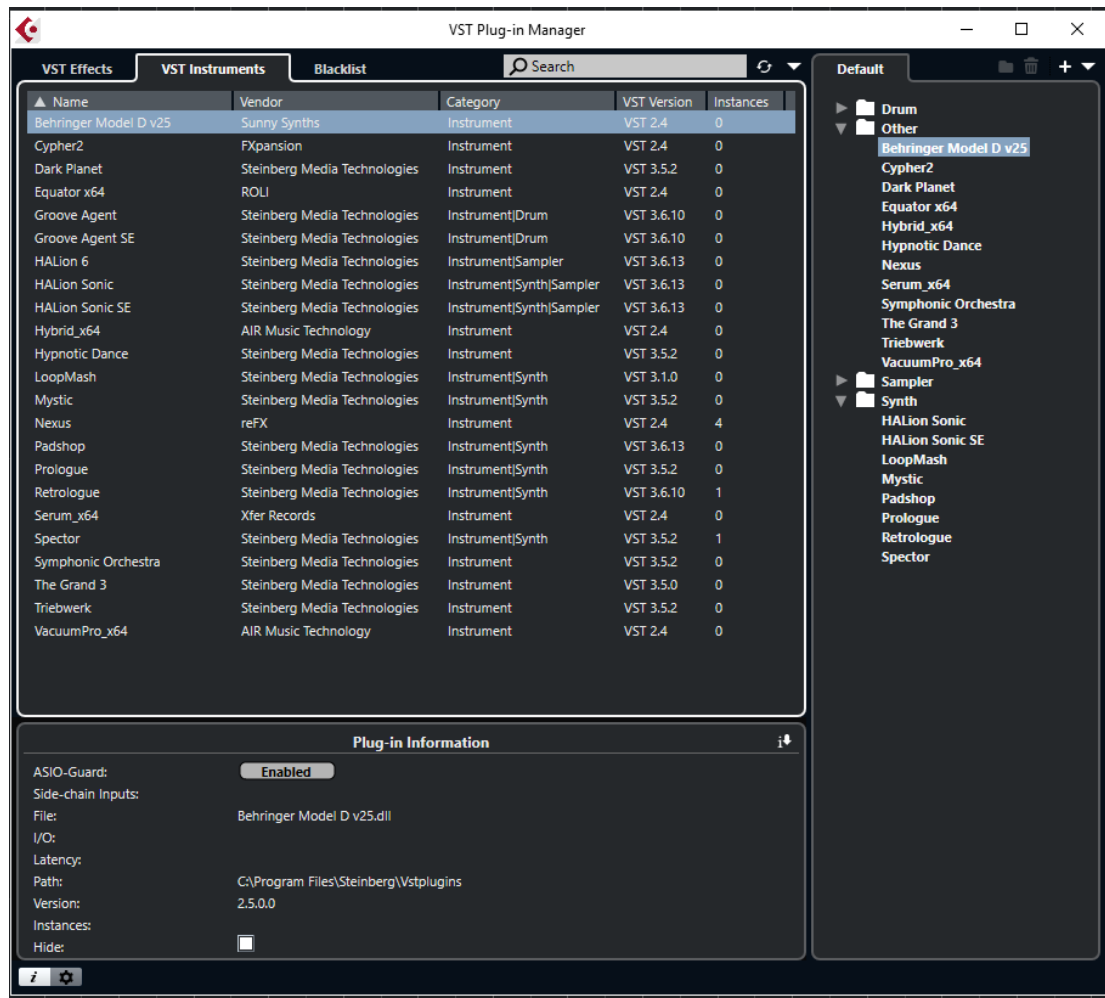
Tests and identified limitations

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

💡 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.

The following actions are checked:
– Creating a track using the plugin
– Displaying the instrument and checking all controls are working fine including Load/Save…
– Playing a wav file from the file browser. The DAW is often using ASIO while the wav files are played with the Windows or MacOs native player
– 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. At this stage it is not possible to load .fxp presets without issues.
– Creating a track by selecting a DAW preset instead of selecting the plugin. Checks if the correct patch is restored

⚠️ Replacing the DAW preset in a track by another DAW preset: **this should not be done** except for Reaper/Logic when presets are saved as FX chains / channel strips and can be replaced.

The workaround is to always use the LOAD and SAVE buttons from the Model D panel itself.

	Cubase	Cakewalk	Reaper	Ableton	Studio 1	Logic
Create track	✓	✓	✓	✓	✓	✓
Using the plugin	✓	✓	✓	✓	✓	✓
Play wav	✓	✓	✓	✓	✗	✓
Save and restore project in DAW	✓	✓	✓	✓	✓	✓
Save and restore project with 2 tracks	✓	✓	✓	✓	✓	✓
Create DAW preset	✓	✓	✓	✓	✓	✓
Create track based on DAW preset	✓	✗	✓	✗	✓	✓
Replace DAW preset by another DAW preset	✗	✗	✓	✗	✗	✓

Cubase

Creating a new track

Add a track as usual then select the Behringer Model D VST.
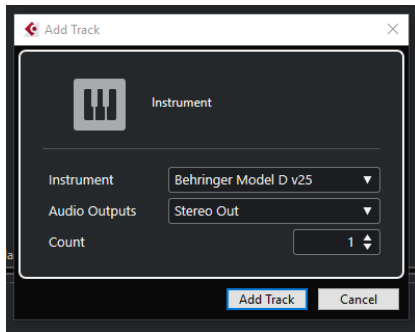
Click on the Instrument button to display the panel and use it as you would do for the standalone version.

Listening to wav files associated a patch is also working even if ASIO is used as audio driver for Cubase while the wav file player is Windows.

When saving the Cubase project, the panel is saved as well. It will be restored with the last patch used and saved.

Using several Model D tracks at once

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

Saving a patch as a Cubase preset

You should save your patches using the Save button **inside** the panel but in addition to that you can also save them as Cubase preset by selecting **Save track preset**. Later on, the content of the panel as is can be restored directly in a new track without the need of a Load from the panel

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
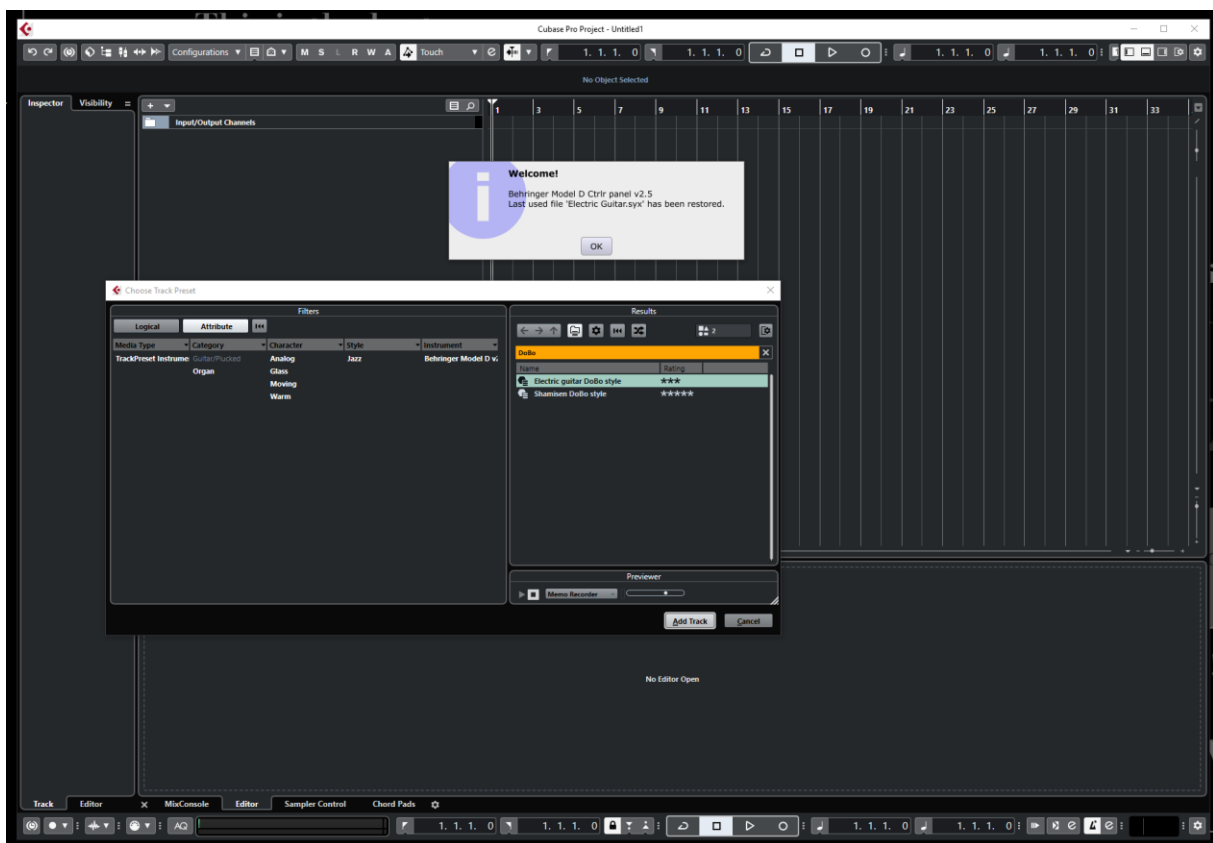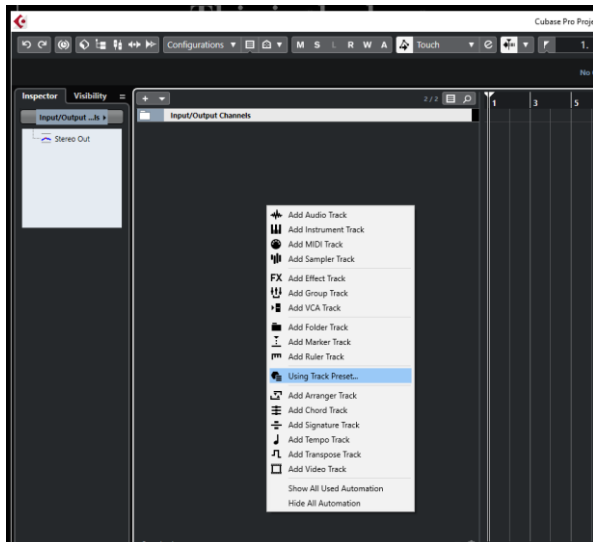
Replacing the preset on an existing track by another preset

This should not be done as it will open a series of popup windows that you will have to close one by one.

The workaround is just to create a new track with the wished preset or to use the Load button or the File Browser inside the panel to change patch.

Cakewalk by Bandlab

Creating a new track

Drag the Model D 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.

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

Listening to wav files associated a patch is also working even if ASIO is used as audio driver for Cakewalk while the wav file player is Windows or MacOs.

When saving the Cakewalk project, the panel is saved as well. It will be restored with the last patch used and saved.

Using several Model D 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.

Saving a patch as a Cakewalk preset

> ⚠️ While it is possible to save a preset, it is not possible to load/change a preset from the panel without having a series of popup windows opening one after each other (just click Cancel). The workaround is thus to always use the LOAD and SAVE buttons from the Model D panel itself.

It is possible to save the current patch as a Cakewalk preset by changing the name at the top of the plugin window (here "Destitution") then clicking on the Save button. However – see last paragraph – it is not possible to load a preset in a nice way
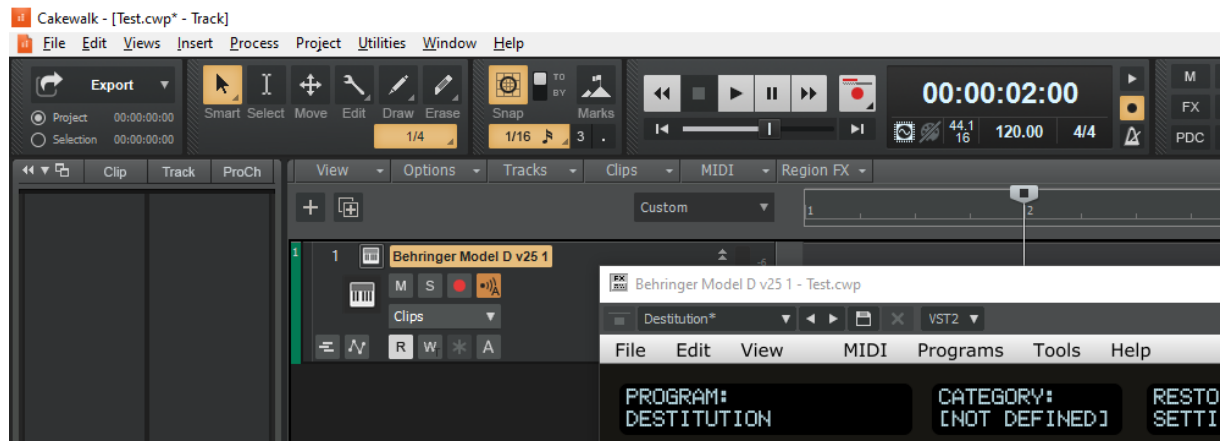
Creating a new track from a Cakewalk preset

Not found… It seems it is always needed to first create a track with the instrument plugin and then to select a preset (but this doesn't work – see next paragraph).

**Replacing the preset on an existing track by another preset**

This is not working and should not be done. Changing preset is triggering the opening of several popup windows (just click Cancel for each window).

Reaper

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 Behringer Model D VST from the VSTi category
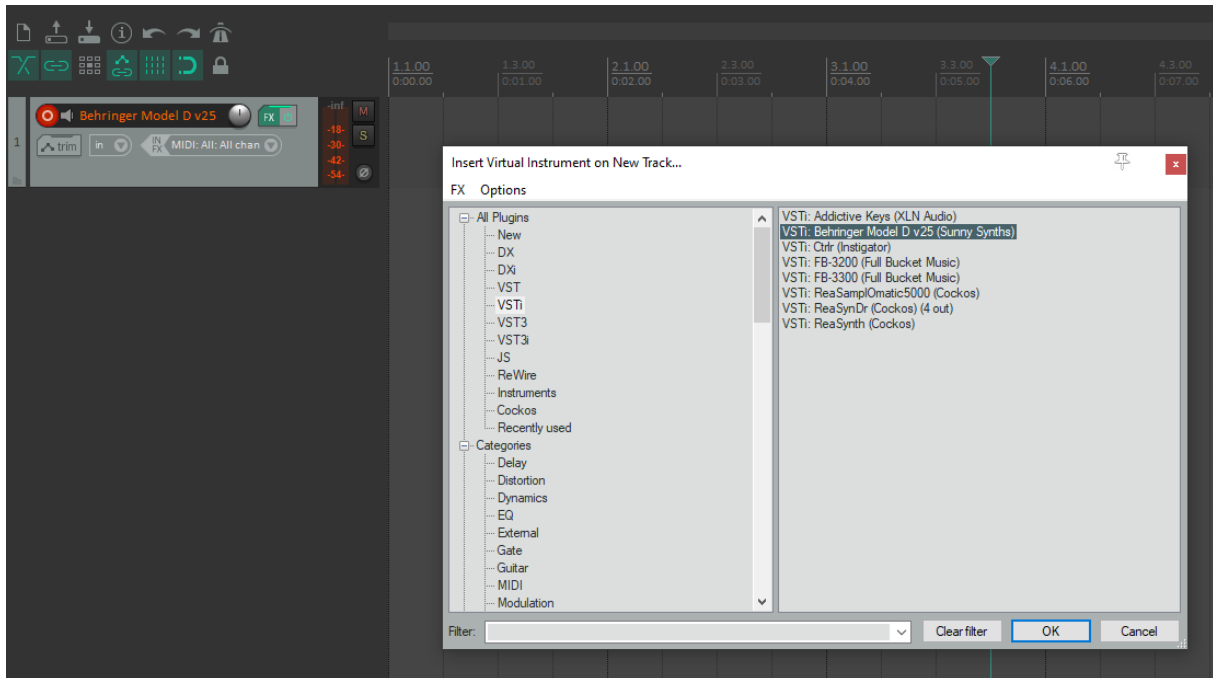
Click on the FX button to display the panel and use it as you would do for the standalone version (right-clicking instead of direct click gives only the plugin window without the blank side area)

Listening to wav files associated a patch is also working even if ASIO is used as audio driver for Reaper while the wav file player is Windows or MacOs.

When saving the Reaper project, the panel is saved as well. It will be restored with the last patch used and saved.

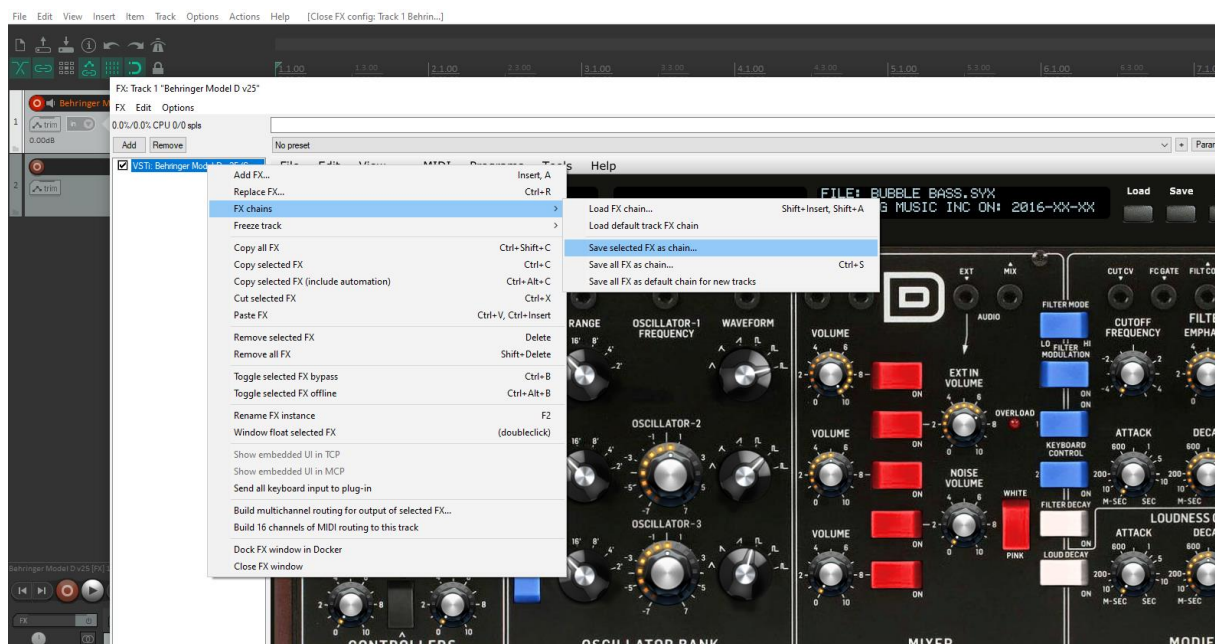### Using several Model D tracks at once
Works fine:

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
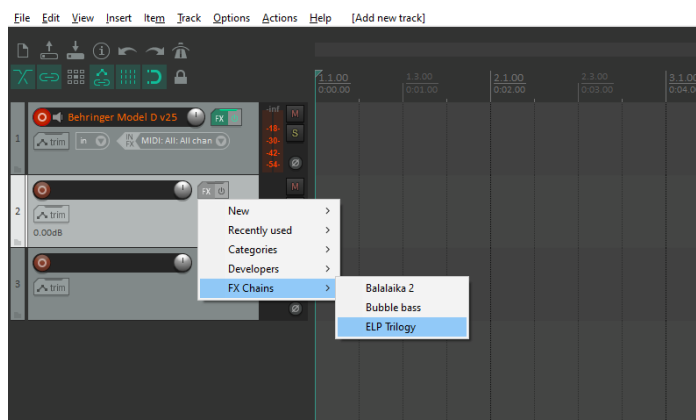
Creating a new track from a Reaper preset

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 Model D plugin and select a saved preset under Presets
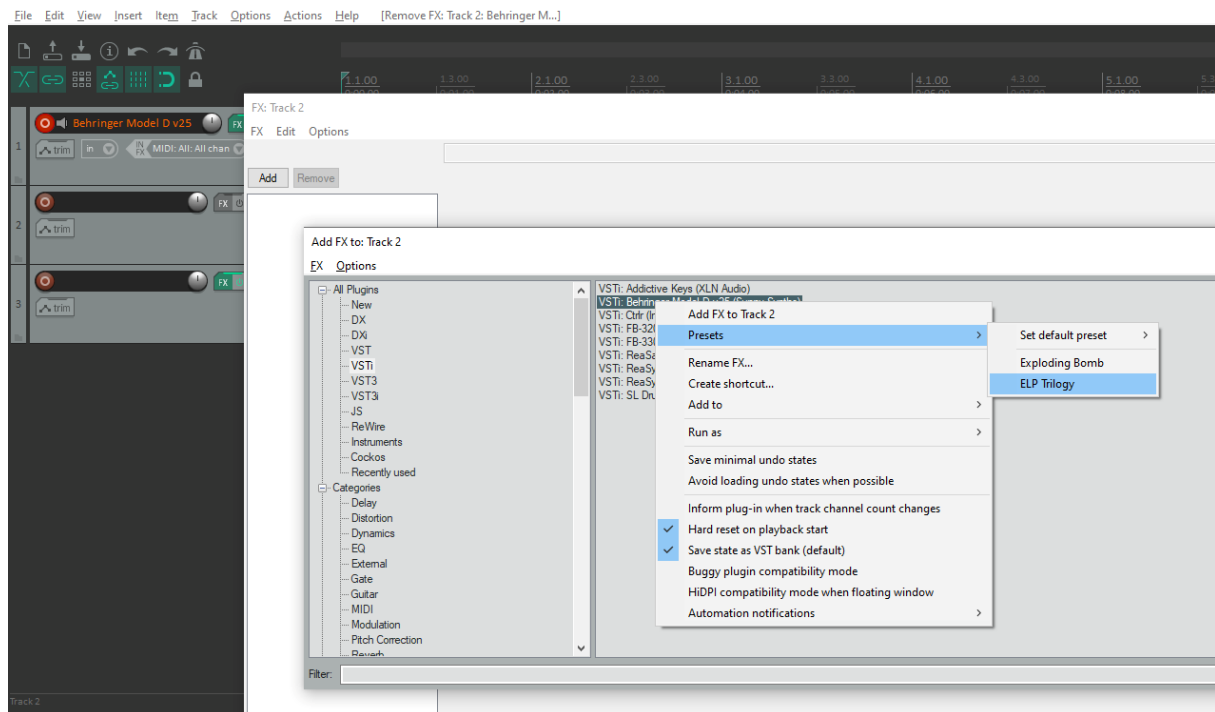
Replacing the preset on an existing track by another preset

Click on the green FX button then in the FX track window, select the FX and press the Remove button.

Add the new one as described above.

Ableton

Status: This has been tested in Ableton Live Lite 10 and it is thus expected to work fine in the full versions. Loading Ableton .fxp saved presets is not working fine.

Creating a new track

Drag the Model D 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.

Listening to wav files associated a patch is also working even if ASIO is used as audio driver for Ableton while the wav file player is Windows or MacOs.

When saving the Ableton project, the panel is saved as well. It will be restored with the last patch used and saved.

Using several Model D 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

> ⚠️ At this stage, while it is possible to save a preset, it seems not possible to load/change a preset from the panel without having a series of popup windows opening one after each other (just click Cancel). The workaround is thus to always use the LOAD and SAVE buttons from the Model D panel itself.

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. However – see last paragraph – it is not possible to load a preset in a nice way
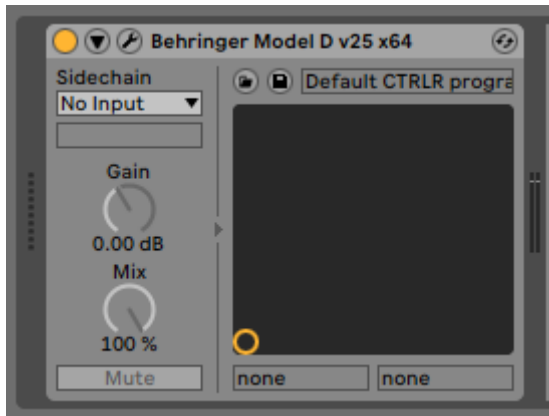
Creating a new track from an Ableton preset

Not found… It seems it is always needed to first create a track with the instrument plugin and then to select a preset (but this doesn't work – see next paragraph).

Replacing the preset on an existing track by another preset

This is not working. Changing preset is triggering the opening of several popup windows for an unknown reason (just click Cancel for each window).

The workaround is just to use the Load button or the File Browser inside the panel to change patch.

Studio One

Status: This has been tested in Studio One 3.5 32 bits and 4.6 64 bits version.

Playing the wav file associated to a patch seems not working. Replacing a preset on a track by another one is also not working well.

Creating a new track

Drag the Model D 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.

Listening to wav files associated a patch is not working even if ASIO is used as audio driver for Studio One while the wav file player is Windows or MacOs.

When saving the Studio One song, the panel is saved as well. It will be restored with the last patch used and saved.

Using several Model D tracks at once

Works fine. The instrument editor is showing one tab by track:
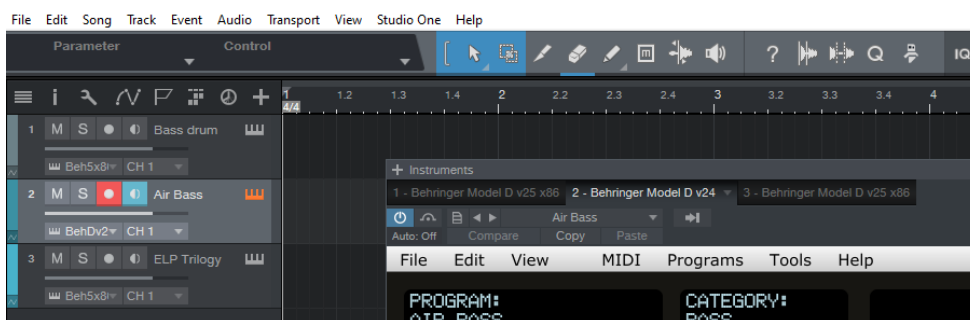
Saving a patch as a Model D Studio One preset

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.

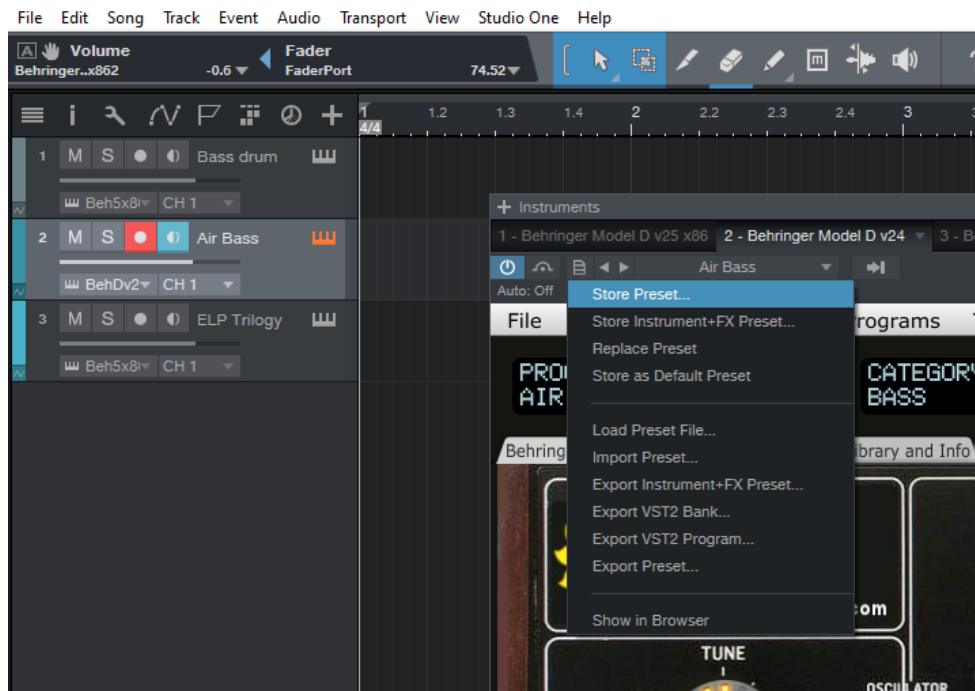In the popup menu, input the name of a Subfolder corresponding for example to the sound category.

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 Model D VST name in the Instruments tab or in the Files tab
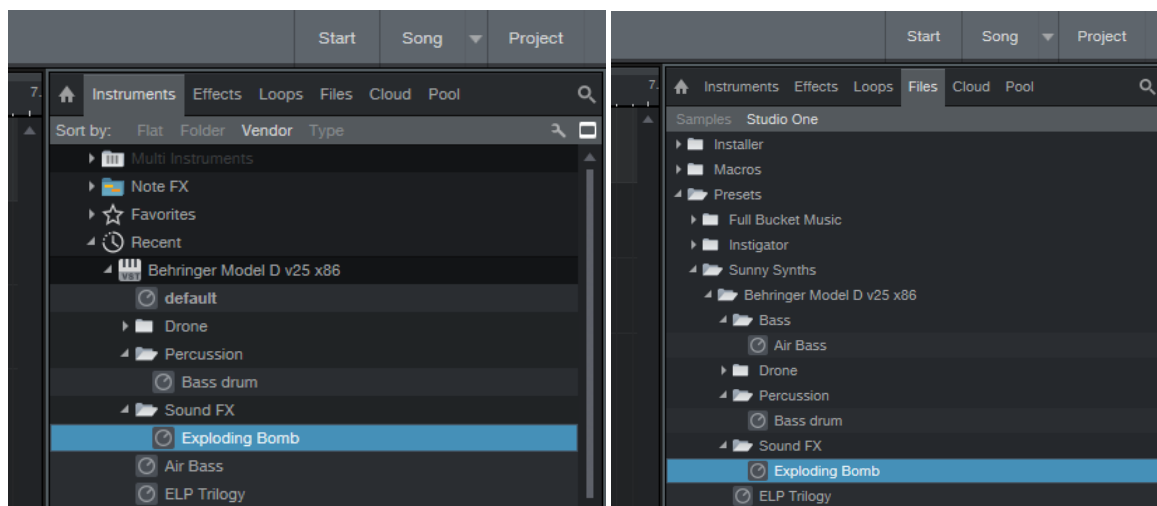
Replacing the preset on an existing track by another preset

This is not working well.

The workaround is just to create a new track with the wished preset or to use the Load button or the File Browser inside the panel to change patch.

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 Behringer Model D.component plugin file in your AU plugin directory.

> ⚠️ At the moment, in order to work with several tracks using the same Model D plugin, you must save a Channel Strip Setting containing the Init patch (this is done only once, the first time you use the plugin) and create the new model D tracks based on that channel strip. Afterwards, it is just a matter to change preset within the plugin using the Load button.

Creating a new first track

Create a new instrument track and select the Behringer Model D 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.

Listening to wav files associated a patch is also working even if ASIO is used as audio driver for Logic while the wav file player is MacOs.

When saving the Logic project, the panel is saved as well. It will be restored with the last patch used and saved.

Using several Model D tracks at once

Works fine but needs a work around.

– Secure that you have a project with the Model D plugin present on only one track. Press the Init button to load the Init patch
– 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 will be created based on that Init channel strip and can then be changed afterwards to other patches with the Load button

Saving a patch as a Model D 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.

When replaced, a popup indicates that the Last file used "xxx" has been restored.
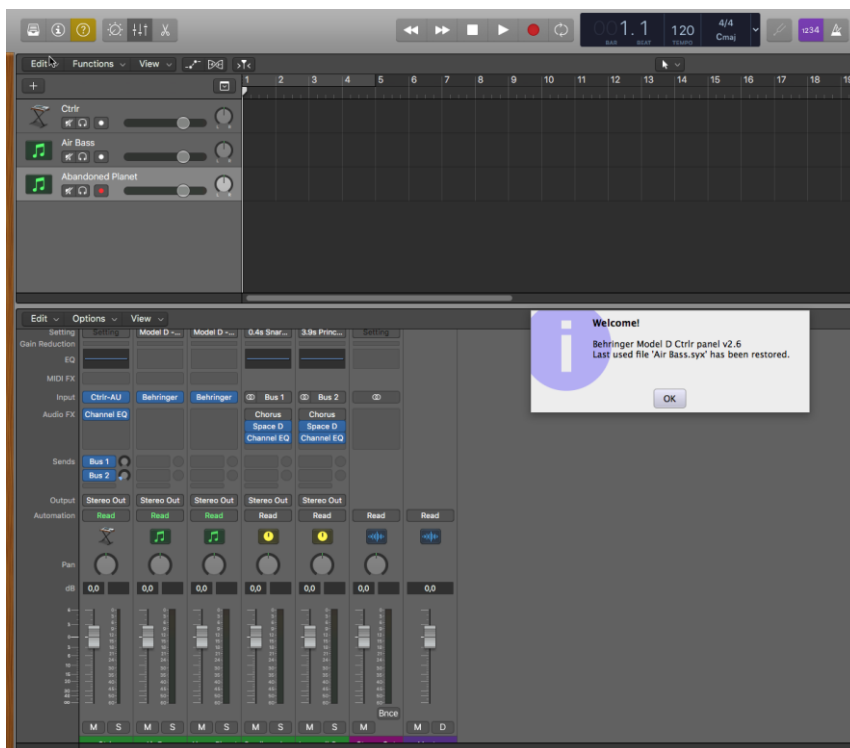
Using a controller to move the buttons

If you connected a controller like the Novation SL MkII then you can benefit from moving all knobs of the panel from your controller.

This has been achieved by assigning Midi CC controller numbers to all the knobs.

Of course, as nothing is changed in the hardware, moving the knobs from your controller will not affect the sound as such.

Connect your controller for example as in Configuration 1 presented on page 6
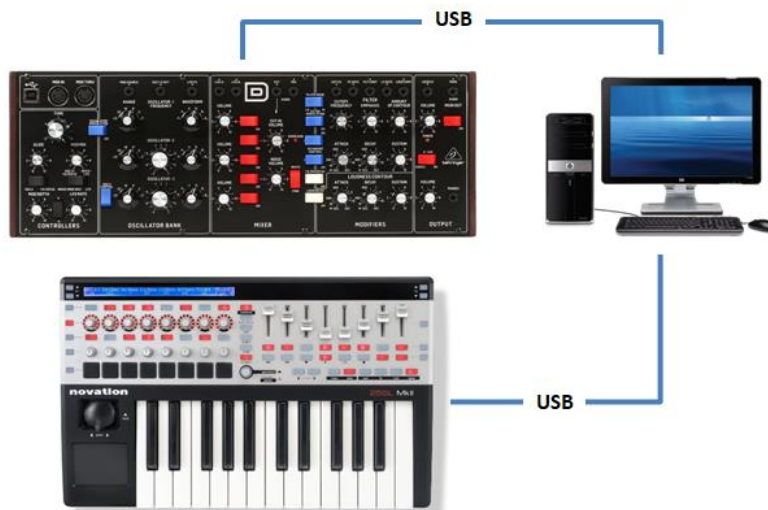
Controller numbers are the following:
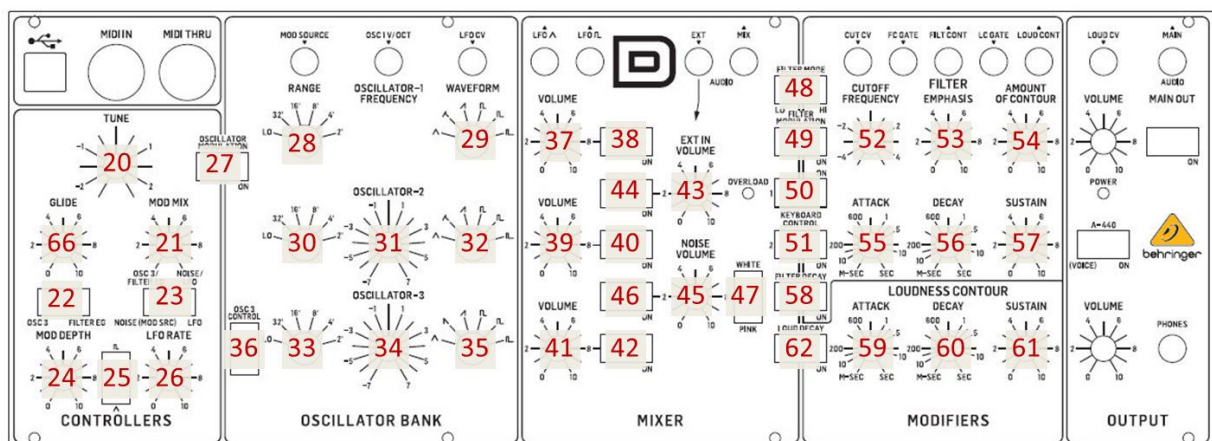
The main Ctrlr menus

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 Model D 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
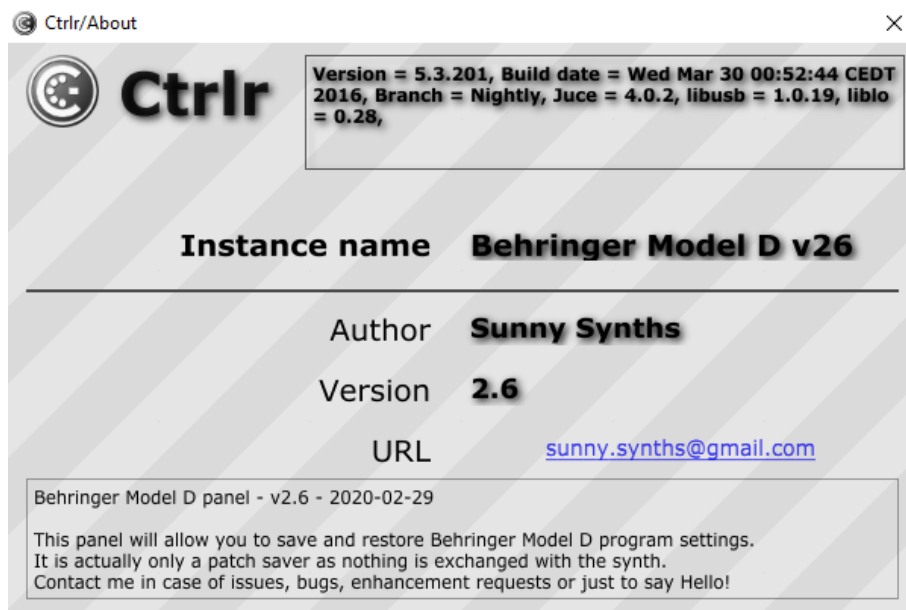
Appendix

Version history

Date	Version	Description	By
2018-10-01	1.0	First version of this manual	Sunny Synths
2018-12-01	2.0	Adapted to version 2.0 of the panel. Added patch sheet, patch cables and new attributes explanations. Added potential virus warning message.	Sunny Synths
2018-12-25	2.1	Added documentation to handle the global settings. Sysex documentation. Some minor text corrections.	Sunny Synths
2019-03-27	2.2	Added "manual" zoom explanation. Init button is doing a full init. Added configuration setup examples.	Sunny Synths
2019-04-28	2.3	Added "Open and close panel" paragraph	Sunny Synths
2019-07-11	2.4	Added documentation on playing wav files	Sunny Synths
2019-12-25	2.5	Added description and usage of VST version in different DAWs. Added CC mapping	Sunny Synths
2020-02-29	2.6	Added description for Logic with AU plugin version	Sunny Synths

Model D information

The Behringer Model D product page:

http://www.musictribe.com/Categories/Behringer/Keyboards/Synthesizers-and-Samplers/MODEL-D/p/P0CQJ

The Moog Minimoog Model D product page:

https://www.moogmusic.com/products/minimoog/minimoog-model-d%C2%AE

Sysex file documentation

Here is the documentation of the sysex file used to store the parameters. It is 420 bytes long.

```
-- // Behringer Model D - Sound data sysex structure - Size=420 bytes v2.x //
-- // Behringer Model D - Sound data sysex structure - Size=346 bytes v1.0 //
--
-- Offset is what is displayed with HxD Hexadecimal analyser
-- getByte() is also using the Offset to retrieve Bytes from sysex dump
--
-- This is just a structure used to save the data on the computer
-- Nothing official or unofficial from Behringer, just a decision made by me ;-)
-- This data is not transferred by Midi


-- 100 = 64
-- 140 = 4C


--   Offset        | Byte content
-- ---------------+-------------------------
--   0000          |    F0           Sysex start
--   0001-3        |    00 20 32     Behringer ID
--   0004          |    00           Model D
```

```
--   0005          |     01          Sound data
--   0006          |     00-64       Tune (32=0)
--   0007          |     00-64       Glide
--   0008          |     00-64       Mod Mix
--   0009          |     00-01       Osc3 / Filter EG
--   0010          |     00-01       Noise / LFO
--   0011          |     00-64       Mod Depth
--   0012          |     00-01       LFO Wave Shape
--   0013          |     00-64       LFO Rate
--   0014          |     00-01       Osc Modulation
--   0015-17       |     00-05       Osc Frequency Range
--   0018-20       |     00-05       Osc Wave
--   0021-22       |     00-8C       Osc Frequency Adjust (Osc 2 and 3) (46=0)
--   0023          |     00-01       Osc3 Control
--   0024-28       |     00-64       Volume (Osc1-3, ExtIn, Noise)
--   0029-33       |     00-01       On/Off (Osc1-3, ExtIn, Noise)
--   0034          |     00-01       Noise Color
--   0035          |     00-01       Filter Mode
--   0036          |     00-01       Filter Modulation On/Off
--   0037-38       |     00-01       Kbd Control On/Off
--   0039          |     00-64       Filter Cutoff (32=0)
--   0040          |     00-64       Filter Resonance
--   0041          |     00-64       Filter Amount
--   0042          |     00-64       Filter Attack
--   0043          |     00-64       Filter Decay
--   0044          |     00-64       Filter Sustain
--   0045          |     00-01       Filter Decay On/Off
--   0046          |     00-64       Loudness Attack
--   0047          |     00-64       Loudness Decay
--   0048          |     00-64       Loudness Sustain
--   0049          |     00-01       Loudness Decay On/Off
--   0050-58       |     00-0C       Patch source (1-9)
--   0059-67       |     00-0B       Patch destination (1-9)
--   0068-87       |                 Name (20 characters)
--   0088          |     00-10       Category
--   0089-344      |                 Description (256 characters)
--   0345-359      |                 Author (15 characters)
--   0360-369      |                 Date (10 chars for ISO date yyyy-mm-dd)
--   0379-389      |                 Synth1 (11 characters)
--   0390-400      |                 Synth2 (11 characters)
--   0401          |     00-02       Key Priority
--   0402          |     00-01       Multi Trigger On/Off
--   0403          |     00-0C       Pitch Wheel range (0-12)
--   0404          |     00-18       Midi In Transpose (-12 to 12) (0C=0)
--   0405          |                 Midi Note Zero Volt (fixed at 0x24 - Used
to identify the programs without saved global settings)
```

```
--   0406         |     00-02         Modulation Curve
--   0407-0418    |                   Not used
--   0419         |     F7            End of sysex
```