



Korg MS20 Ctrlr panel documentation and instructions

V1.1a- 2021-08-22



Introduction

Hi! Thanks for having purchased this Korg MS20 panel!

As you know, the Korg MS20 don't have presets but it is always nice to keep a track of the settings used for a nice sound and it is even nicer to have a track on the ways of using a particular sound.

Therefore, you will have the possibility to map your settings and also allow you to automatically listen to a wav file associated to your patches.

However the panel is a pure patch mapper as the Korg MS20 does not support the load/save of programs or the manipulation of its program parameters by Midi NRPN/CC/Sysex messages.

It will support you in saving and retrieving Korg MS20 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 philosophy has been respected as much as possible.

Of course it would also 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. You have even the possibility to have the different colors of the synth.

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 Korg MS20 and have fun!

Sunny Synths

About this v1.1 version

This 1.1 version provides the following changes to the panel:

- Added a **Load OK Confirm** switch
- Added the display of Patch From and To changes in the LCD
- Added the setting of the transparency of the patch cables
- Remembers the last file saved path and name so it is used by default at next Save

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Installation and features

Installation of the Ctrlr panel

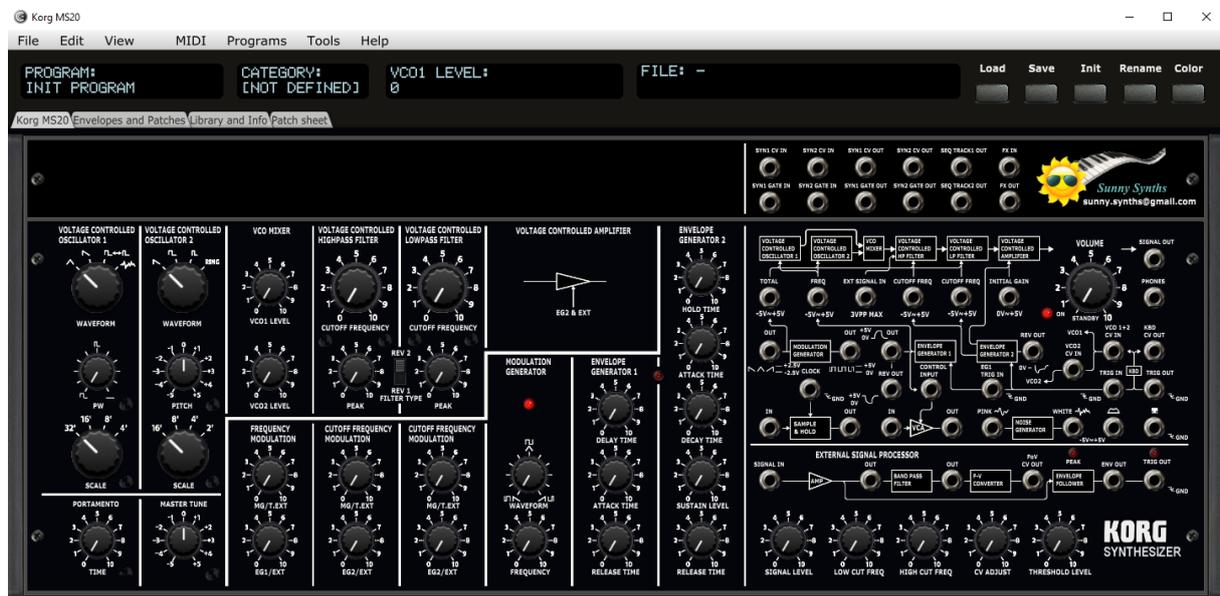
The panel is provided as a compressed .zip file containing:

- the Korg MS20 panel as an .exe file on Windows PC
- the Korg MS20 panel as an .app file on Mac OS (zip folder to be uncompressed)
- the Korg MS20 panel as VST 32 bits and 64 bits for Windows PC
- the Korg MS20 panel as VST and AU plugins for Mac OS
- this manual as PDF
- a folder containing the presets from the Korg MS20 Patch book

For the PC standalone version, decompress the zip file anywhere on your PC then copy the **Korg MS20.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 Korg MS20.app.zip. You may have to open the **Korg MS20.app** file using Ctrl+click as it may not be recognized by the OS.

The program will directly display the Ctrlr window with the Korg MS20 panel displaying its main tab.



The panel will most probably not be responding after the initial installation. Simply close the program and restart it to solve the issue.

For the installation of the plugins, please refer to Installing and using the MS20 panel as plugin on page 23 further in this manual.

Features

You will find the following features in the Korg MS20 panel:

- Korg MS20 interface with same look and similar way of working as actual synthesizer
- Button to switch the layout between the different colored editions (black, blue, green)
- 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 buttons
- 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
- Patch cables drawing directly on main panel with adjustable transparency level
- Ability to display full cables or cable plugs
- Extra input/output patch points from/to external synths, sequencer and FX chain
- Programs have a name, author, save date and description. They can be associated to a category
- Browser of the files on the disk
- Patch sheet tab with patch sheet for Korg MS20 and other gear (external synths/sequencer/FX)
- 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).

Way of working

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

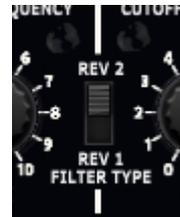
Using the buttons and modifying parameters

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

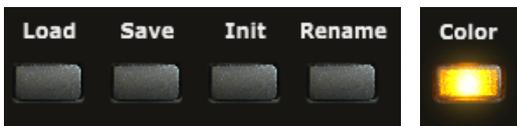


You can also modify any rotary encoder based parameter by hovering the mouse on the button then using the mouse scroll wheel.

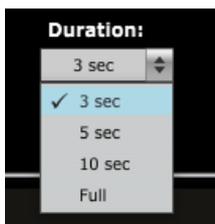
A switch is handled by clicking on it. It will take successive positions as the actual switch.



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 another surprise...).



Parameters presented as pull-downs are modified by opening the pull-down 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.

Different colored layouts

The Korg MS20 has been re-issued in different colors and when you have only one version, you can now benefit from the others in the virtual world (except the white one) ;-)

To switch layout it is simply needed to toggle the Color button in the upper right side of the panel.

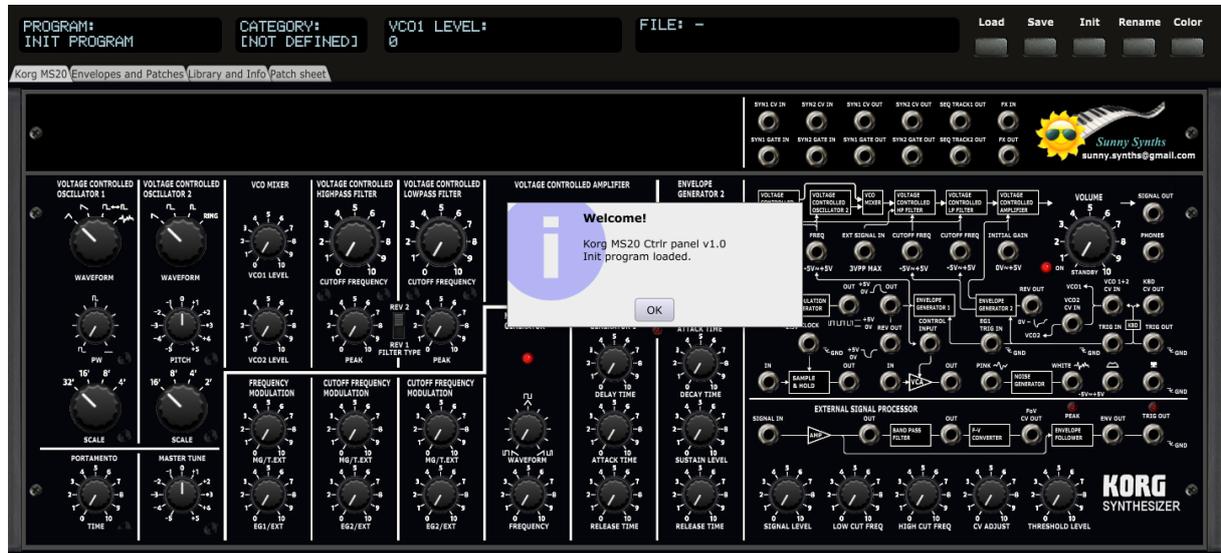


Opening and closing the panel

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).

When no file is found, the Init program is loaded (in the same way as when loading the panel for the first time (unless the button **No program load at panel load** in the **Envelopes and Patches** tab is ON).

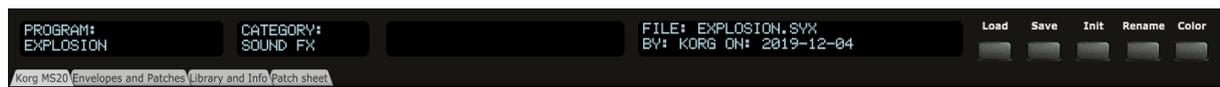


When the last saved file is found, the panel is restored so you can continue your work where you saved it (unless the button **No program load at panel load** in the **Envelopes and Patches** tab is ON).



The same is done with the root folder of the File browser (see **Library and Info** tab on p20).

Top panel area



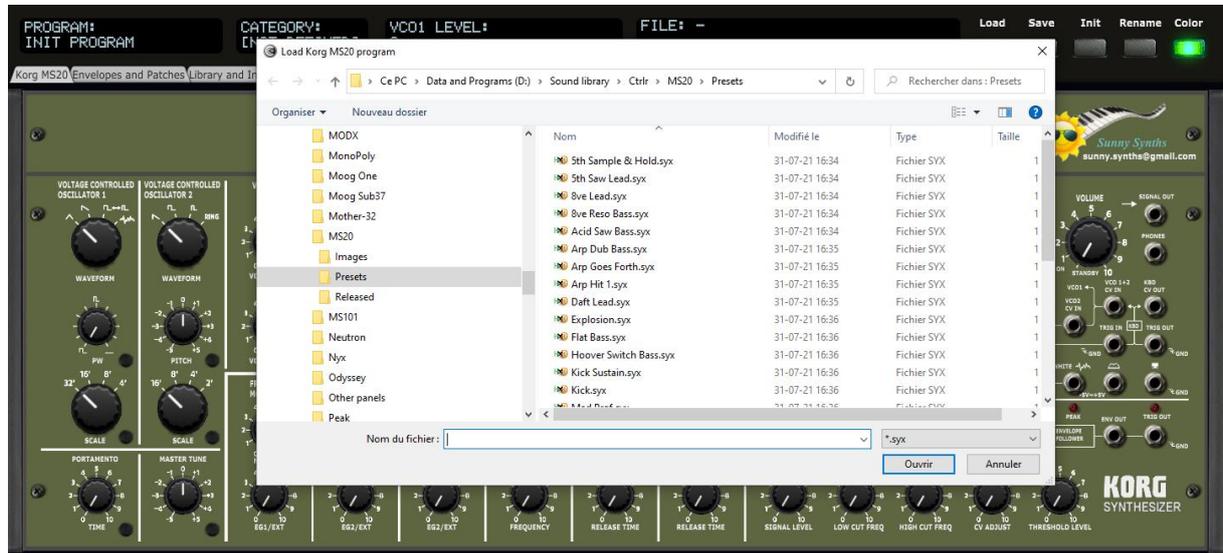
In the top panel area you find 4 feedback “screens”, 4 buttons and 4 tabs:

- 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 **Korg MS20** tab displays the synth main panel including an extension for 12 patch points related to external synths, a sequencer and an FX chain
- 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, one FX chain 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 Korg MS20 patch sheet with all parameter values (as in the manual) but with the addition of author, date, external synths and FX chain names and 12 external input/output connections

Loading a Korg MS20 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 Korg MS20 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.



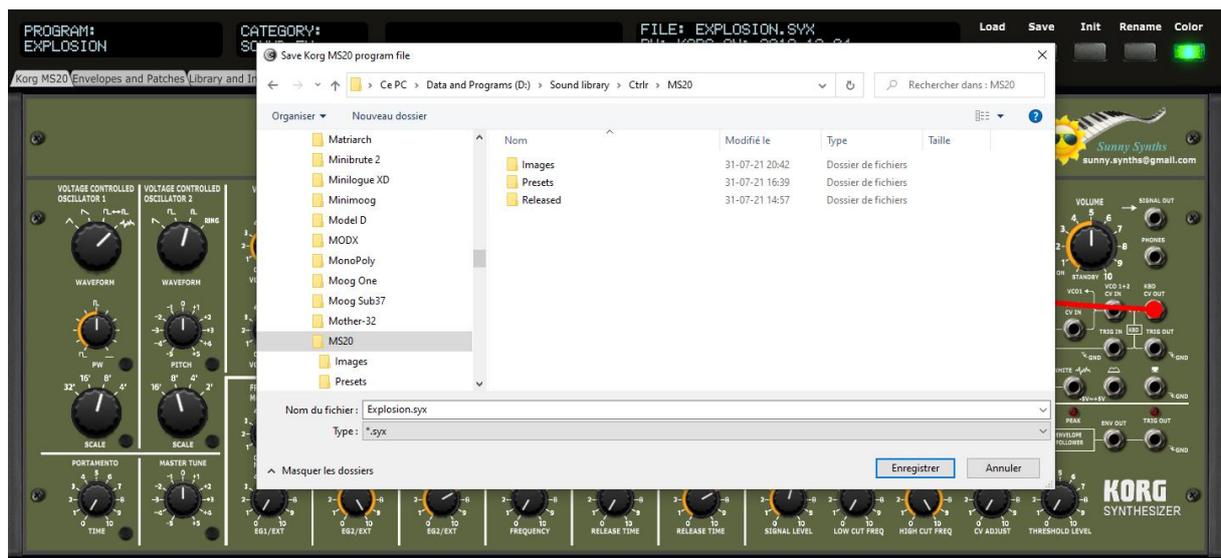
Saving a Korg MS20 program

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. The last saved filename and path is proposed by default. You will get a confirmation popup if you select an existing file and want to overwrite it.

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

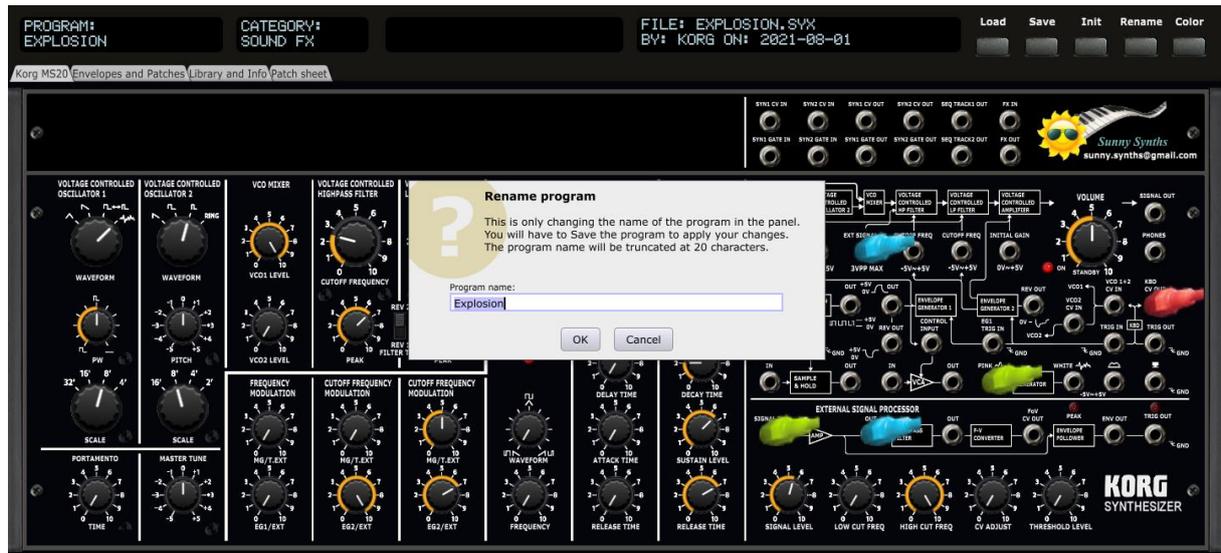
Clicking the **Init** button loads the parameters for a Basic program that has the following characteristics:

- 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.

Korg MS20 tab

In the **Korg MS20** tab, you have access to the same parameters as on the actual synthesizer.

Please refer to the initial Korg MS20 user manual

<https://www.korg.com/us/support/download/manual/0/134/2441/>

for the explanations of each encoder/button.



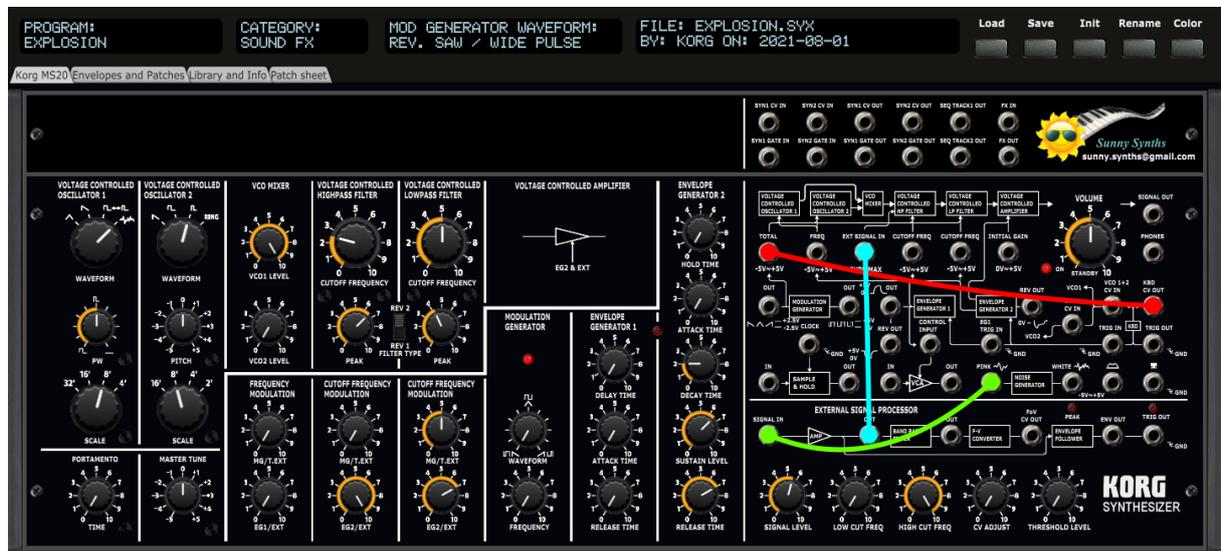
The third top screen is showing the name and the value of the parameter you are modifying.

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

Modifying the Delay, Attack, Decay, Sustain, Hold, Release encoders of the envelopes is setting identical encoders/buttons in the Envelopes and Patches tab and adapting the corresponding envelope graph accordingly.

Patch cables drawing

In this tab you can also draw your patch cables.



To draw a patch cable, click on an output patch point, keep the mouse button pressed, drag the cable to a patch input point then release the mouse button.

Depending on the state of **Cables** button in the [Envelopes and Patches](#) tab, either full cables (**Cables** button ON) or cable plugs (**Cables** button OFF) will be displayed.

Above the actual panel corresponding to the actual MS20 synthesizer you will find 12 additional input/output patch points (CV/Gate for 2 synthesizers, 2 sequencer tracks and one FX chain). This is allowing you to also indicate when some external gear is also part of a certain patch.



As soon as you are using the same input or the same output twice, the Cables button will be locked ON and only full cables will be displayed.

All the patch cables are listed and can be further managed in the [Envelopes and Patches](#) tab.

It is always the next free cable that is selected automatically.

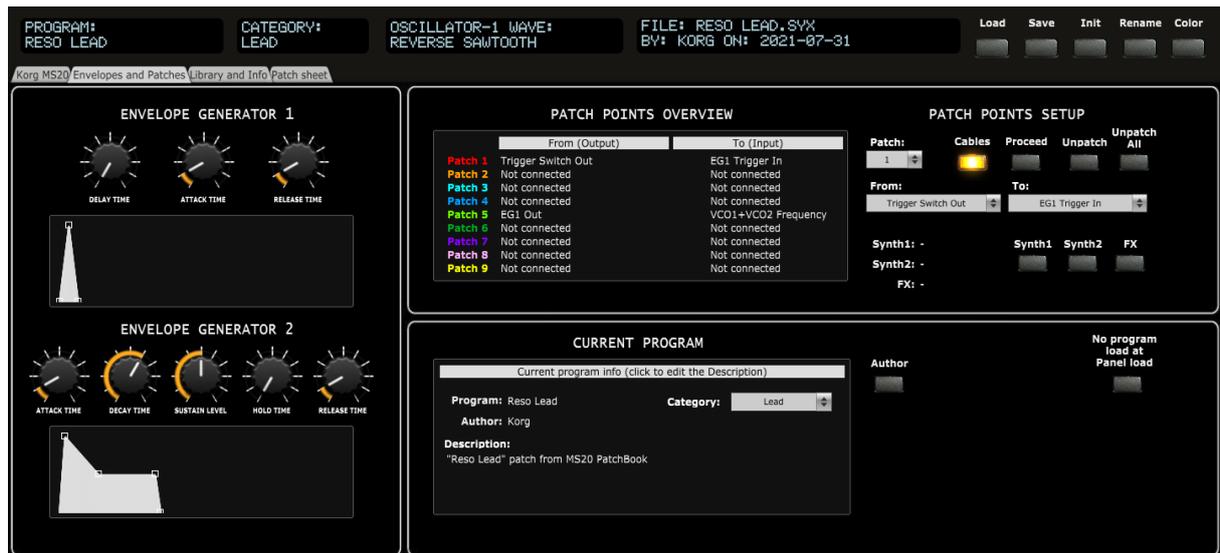
You delete an existing cable simply by re-drawing it from its output to its input.

In the [Envelopes and Patches](#) tab you can also adjust the transparency level of the cables.

Envelopes and Patches tab

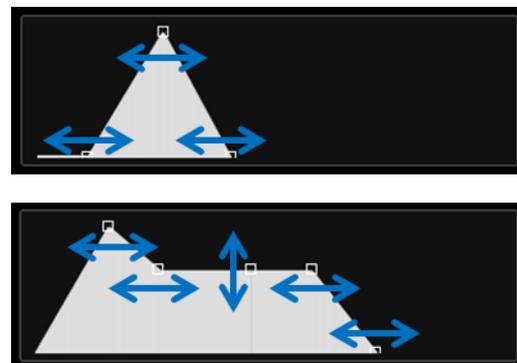
In the **Envelopes and Patches** tab, you can:

- adjust the envelopes either with encoders or by moving the anchors of the graphs
- set/indicate up to 9 from/to patches
- delete a single patch cable or all at once
- switch between the display of patch cables or just cable plugs
- adapt the name of the external synths that could be connected to your MS20
- adapt the name of the FX chain that could be connected to your MS20
- adapt the current program category, author and description (click on the current description to edit it)
- adjust some panel settings



Envelope shapes

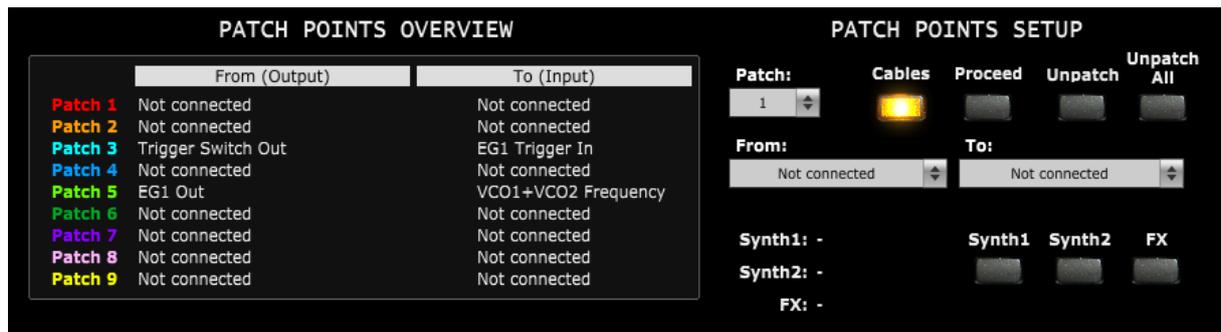
You can modify the envelope shape by either moving the Delay (Env1 only), Attack, Decay, Sustain, Hold (Env2 only), Release encoders or by using the mouse and moving the anchors on the graphs either vertically or horizontally.



When moving the anchors, the corresponding Delay (Env1 only), Attack, Decay, Sustain, Hold (Env2 only), Release encoders will also move and the parameter name and value will be displayed in the screen of the top panel area.

Patch points

You modify the from/to patches as follows:



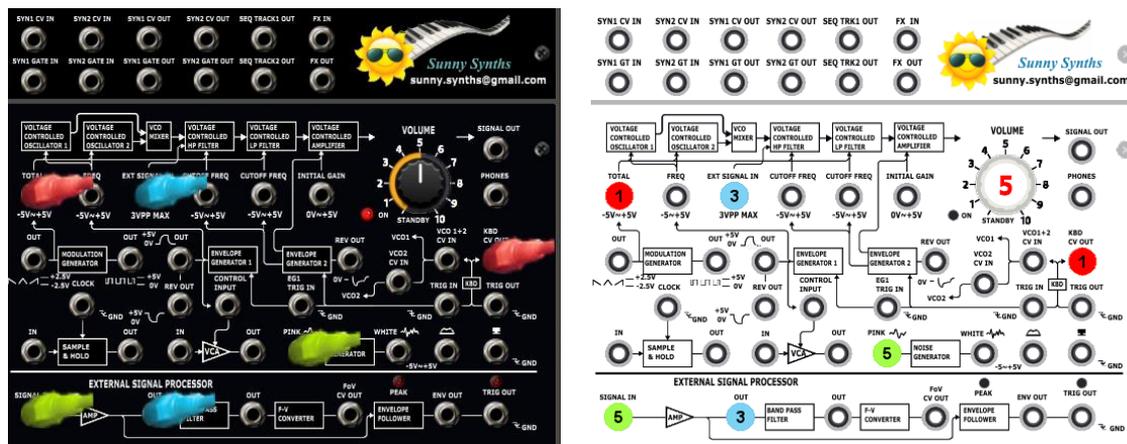
Clicking anywhere on a patch line (label, input, output, blank space) will select the patch to be modified and display its values in the pull-downs. You modify the "From" source and/or "To" destination and press the Proceed button to make the change.

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

Use the **Unpatch** button to delete a patch cable or the **Unpatch All** button to delete all of them at once.

Use the **Cables** button to switch the display on the main panel between patch cables and just cable plugs. This button will be locked on Cables display as soon as the same input or output is used two times.

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 MS20 tab and corresponding colored numbered circles are displayed on the patch sheet.



Numbered circles are used to help colorblind people.

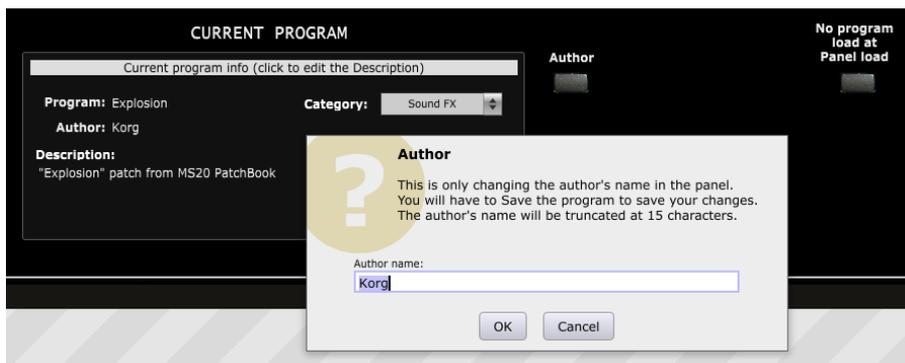
Available "From" sources are the output patch points of the synthesizer plus a few additional external ones: "Not connected", "Signal Out", "Phones", "Mod Generator Out 1", "Mod Generator Out 2", "EG1 Out", "EG1 Reverse Out", "EG2 Reverse Out", "Keyboard CV Out", "Trigger Out", "S&H Out", "VCA Out", "Pink Noise", "White Noise", "Mod Wheel Out", "Trigger Switch Out", "Ext. Signal PreF Out", "Ext. Signal PostF Out", "Freq-Volt CV Out", "Ext. Signal Env Out", "Ext. Signal Trigger Out",

"Synth1 CV output", "Synth2 CV output", "Synth1 Gate output", "Synth2 Gate output", "Sequencer track 1", "Sequencer track 2", "FX output"

Available "To" destinations are the input patch points of the synthesizer plus a few additional external ones: "Not connected", "Total", "VCO1+VCO2 Frequency", "Ext. Signal In", "HPF Cutoff Frequency", "LPF Cutoff Frequency", "Initial Gain", "EG1 Trigger In", "VCO2 CV In", "VCO1+VCO2 CV In", "Trigger In", "S&H In", "Clock In", "VCA In", "VCA Control input", "Signal In", "Synth1 CV input", "Synth2 CV input", "Synth1 Gate input", "Synth2 Gate input", "FX input"

Current Program

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 maximum 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 MS20. The name should be 11 characters maximum 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 MS20. The name should be 11 characters maximum long (will be truncated if longer). If you leave the Synth2 name empty then a "-" is displayed.

Clicking the **FX** button opens a popup window where you can modify the name of a FX chain connected to your MS20. The name should be 15 characters maximum long (will be truncated if longer). If you leave the FX name empty then a "-" is displayed.

Panel settings

Load OK Confirm: by switching this OFF, there is no confirmation popup shown after loading a program. This avoids clicking on OK.

No load at panel load: by switching this ON, when re-opening the panel, the panel will be left as you closed it in the previous session. By switching this OFF, the last saved file is restored if found (or an Init program loaded if not found).

Cables transparency: sets the transparency of the patch cables (not the end plugs).



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 and wav files. 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-MS20 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 a MS20 .syx file will make the corresponding .wav file play automatically as well (if a wav file with the same name as the MS20 .syx file is found)
- **Double-click** on a file to load it (MS20 .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 MS20 .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 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, Save, Init, Rename).

Display and Export info

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

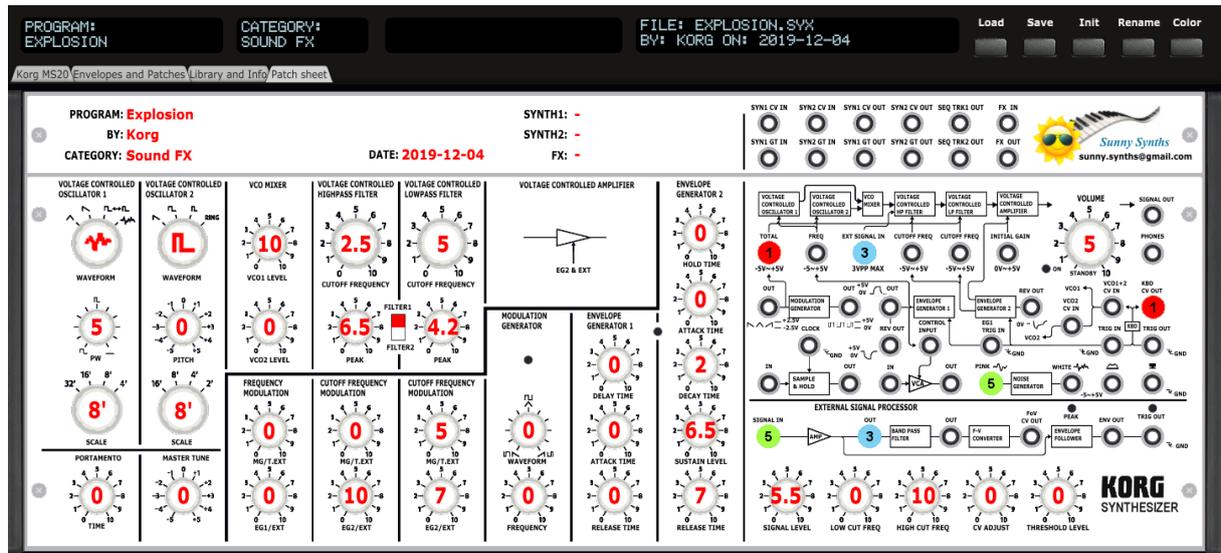
- Use the **Display** button to list the parameters of the current program
- Use the **Export** button to export as a .txt file the parameters of the current program (it is not needed to first display them before exporting)
- Use the **Diff w/Init** toggle switch to just display the differences in comparison with the Init program



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 MS20 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.



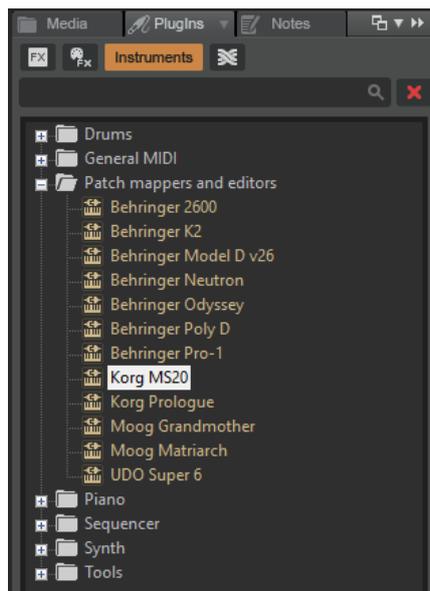
If your DAW is not listed, please perform some tests as described and send me the equivalent of text and screenshots. I'll add those in the next version of the manual.

Installation

On Windows PC, depending on your DAW version and after unzipping the main file, either copy the **Korg MS20.dll** file from the Windows VST 64 bits directory to your 64 bits plugins directory and/or the **Korg MS20.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 **Korg MS20.vst** file from the MacOS VST directory to your VST plugin directory (/Library/Audio/Plug-ins/VST) and copy **Korg MS20.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 **Korg MS20** 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):



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. 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



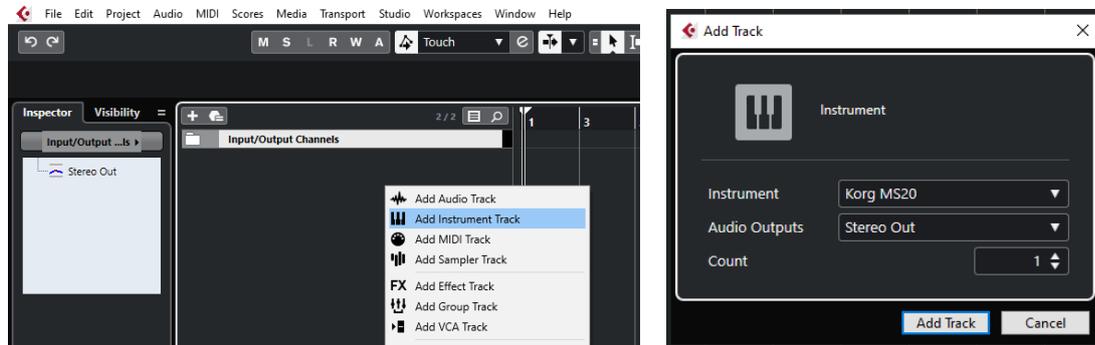
Replacing the DAW preset in a track by another DAW preset is working but it is still better to use the LOAD and SAVE buttons from the MS20 panel itself as the displays in the panel will not show the correct preset name and file even if all buttons will be positioned correctly.

	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 (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 Korg MS20 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).



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 MS20 tracks at once

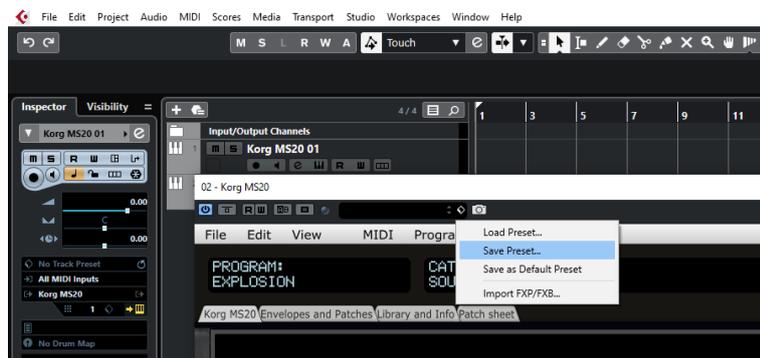
You can associate the panel to several tracks in order to keep track of the different patches used for them. Just drag and drop the plugin two or more times.



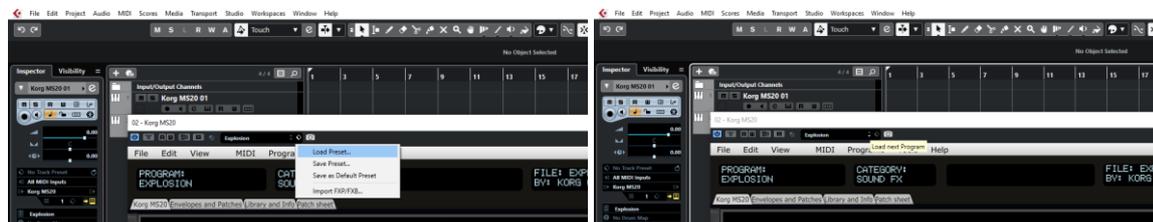
Saving a patch as a Cubase preset

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* 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.



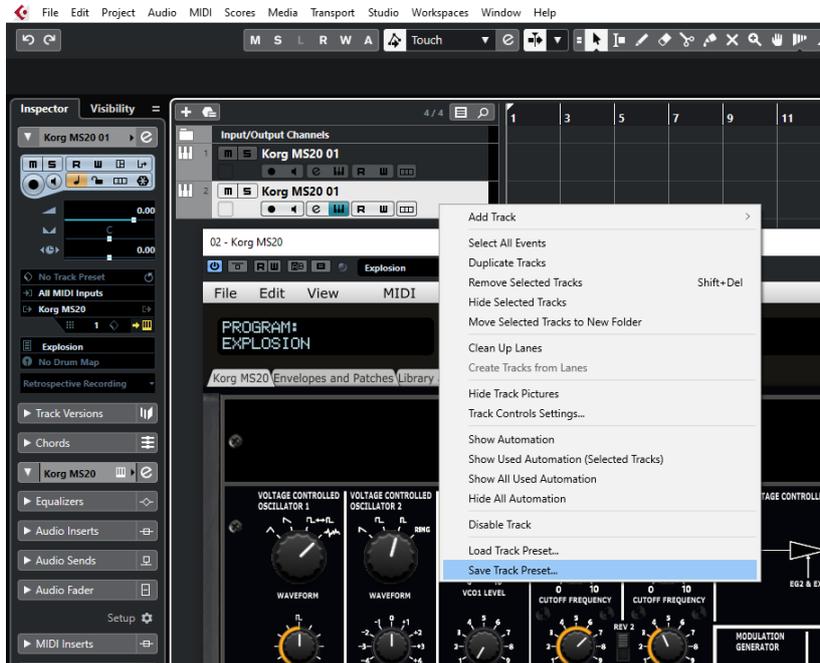
Later on, you can load a preset by using **Load preset** from the same menu or you can navigate through your presets by using the small up and downs triangle buttons.



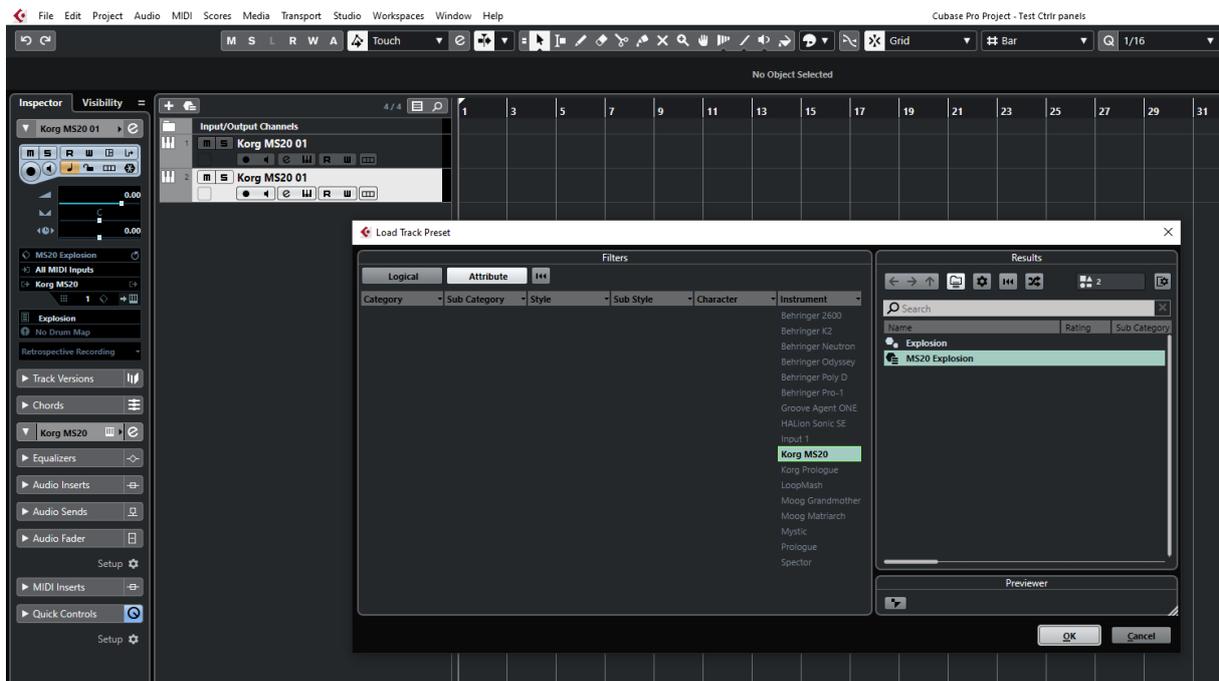
To save as Cubase track preset, select [Save track preset](#) when right clicking on a track.



When closing the panel after Saving the track preset, be sure to set the button **No program load at panel load** to OFF and to close the panel with the upper right red cross to have your buttons positions saved in memory.

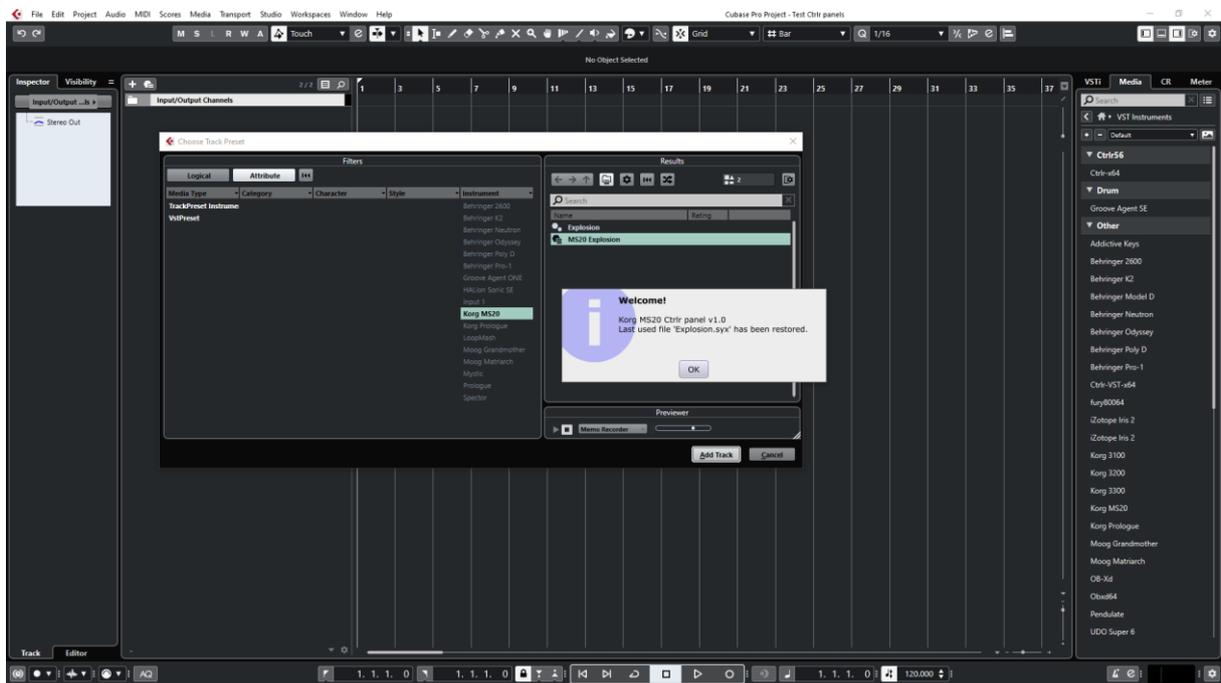
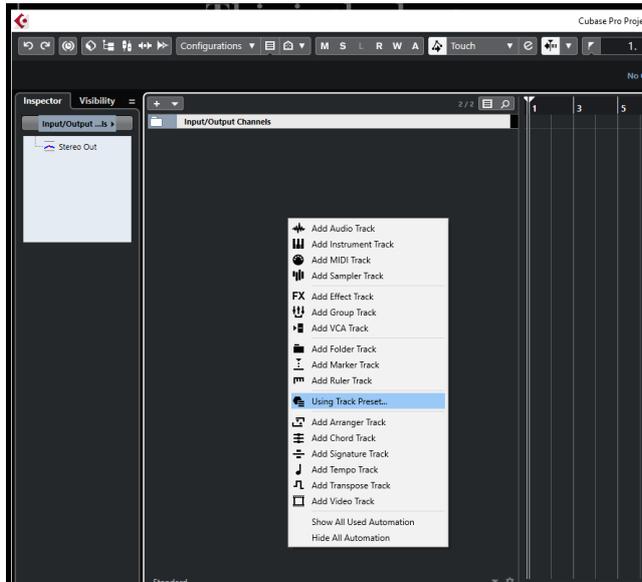


Later on, the content of the panel as is can be restored directly in a new empty track without the need of a Load from the panel by selecting [Load track preset](#) when right clicking on a track.



Creating a new track from a Cubase track 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

Works fine. Just select another previously saved preset at the top left of the plugin window. All buttons will be positioned according to the newly loaded presets.

You can also scroll through the presets with the small up/down buttons.



At this stage, it is still better to use the LOAD and SAVE buttons from the MS20 panel itself as the displays in the panel will not show the correct preset name and file even if all buttons will be positioned correctly. If Display Cables is ON, the cables will also not be redrawn.

Cakewalk by Bandlab

Creating a new track

Drag the MS20 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.

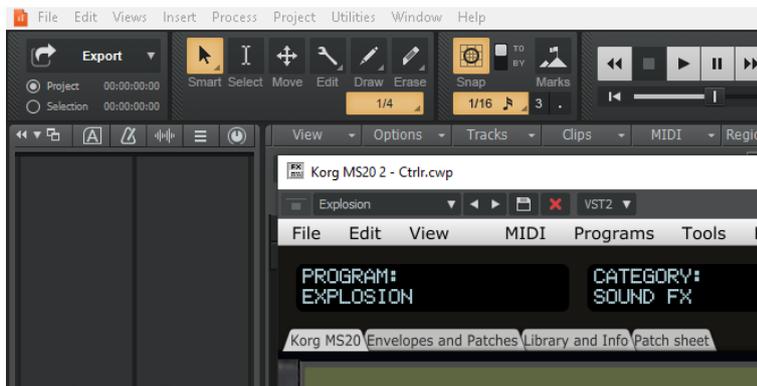
Using several MS20 tracks at once

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

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

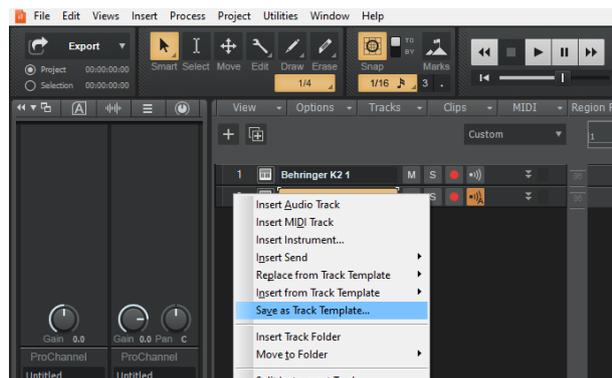


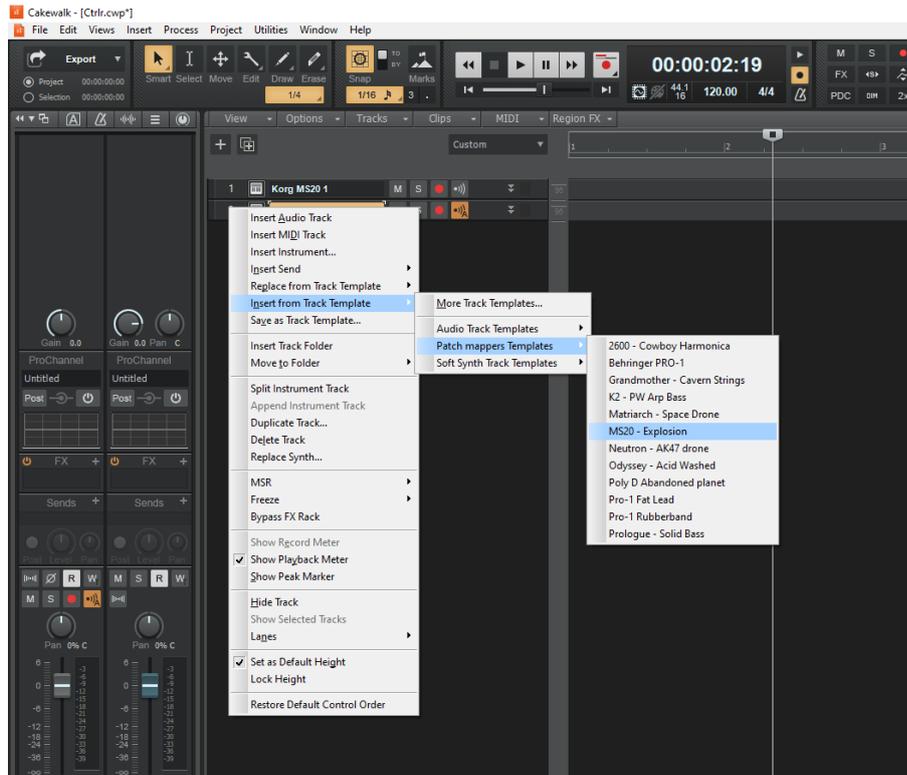
It is also possible to save a complete mixer channel as track template.

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

Works fine. Just select another previously saved preset at the top left of the plugin window. All buttons will be positioned according to the newly loaded presets.



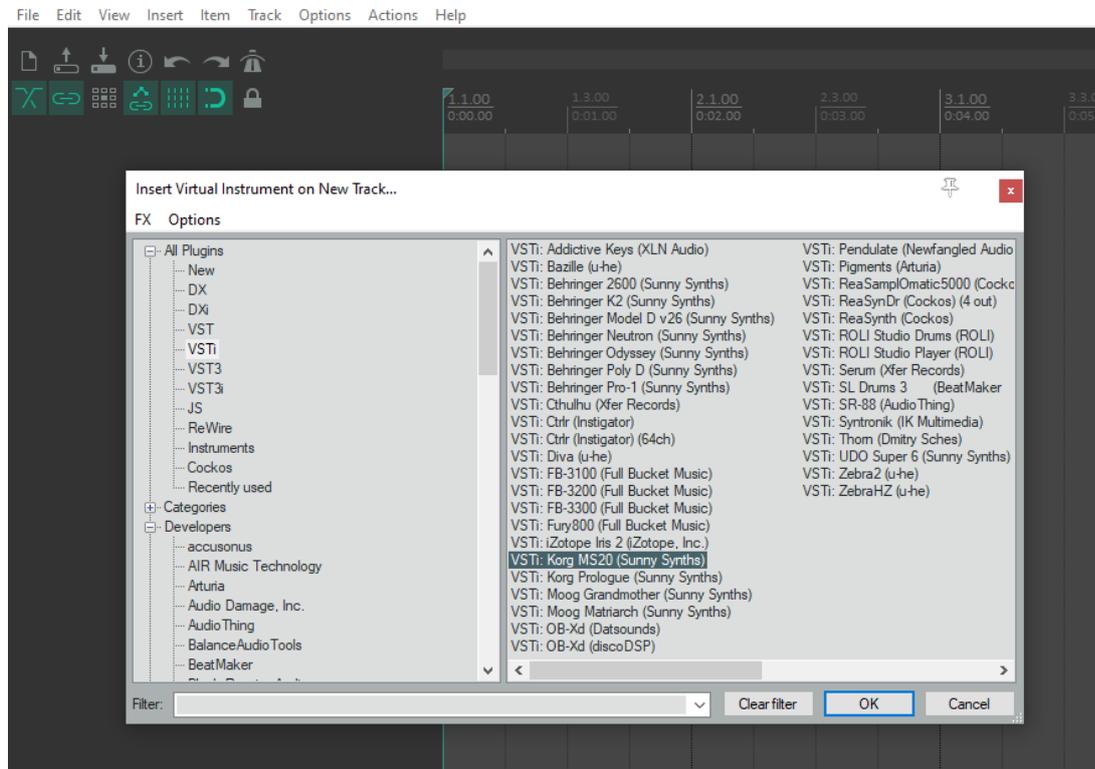
At this stage, it is still better to use the LOAD and SAVE buttons from the MS20 panel itself as the displays in the panel will not show the correct preset name and file even if all buttons will be positioned correctly. If Display Cables is ON, the cables will also not be redrawn.

Reaper

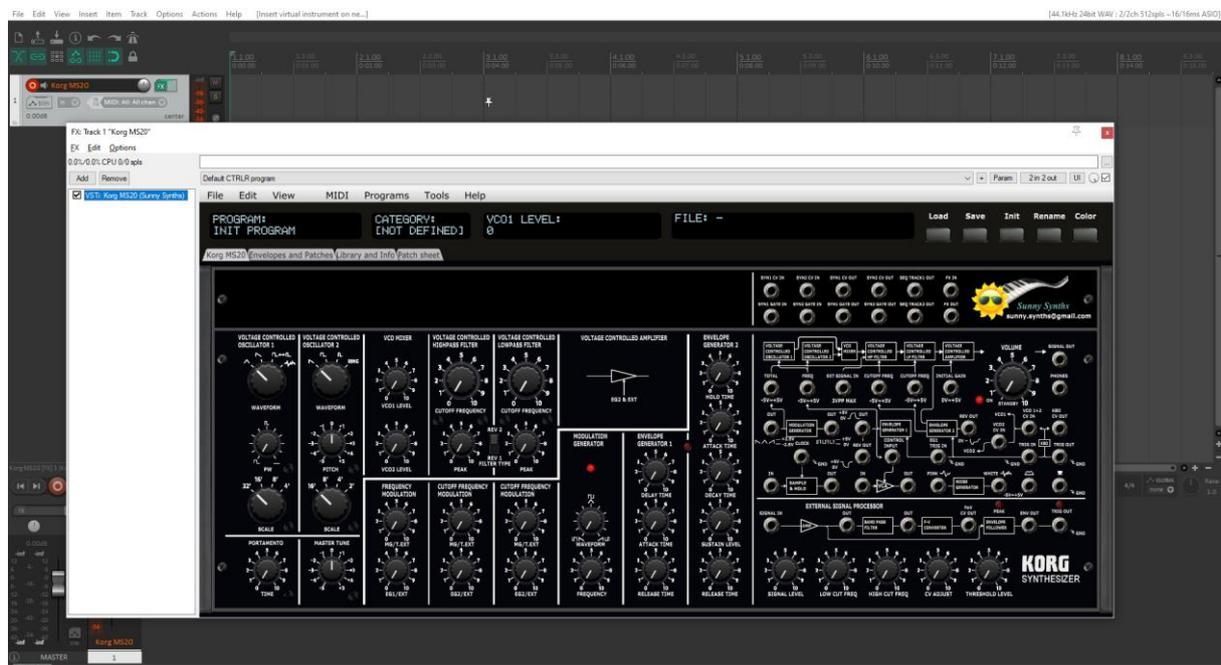
On MacOS, Reaper is supporting both VST and AU plugin versions.

Creating a new track

Select **Insert virtual instrument on new track** in the Track menu then select the Korg MS20 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 MS20 tracks at once

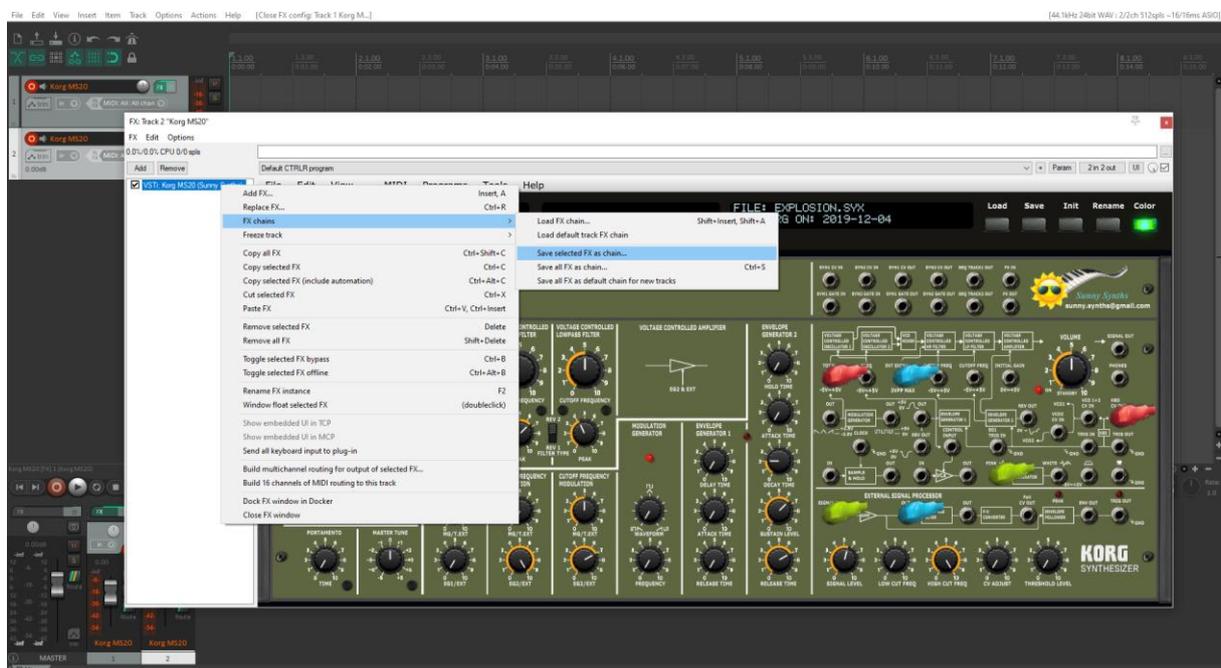
Works fine:

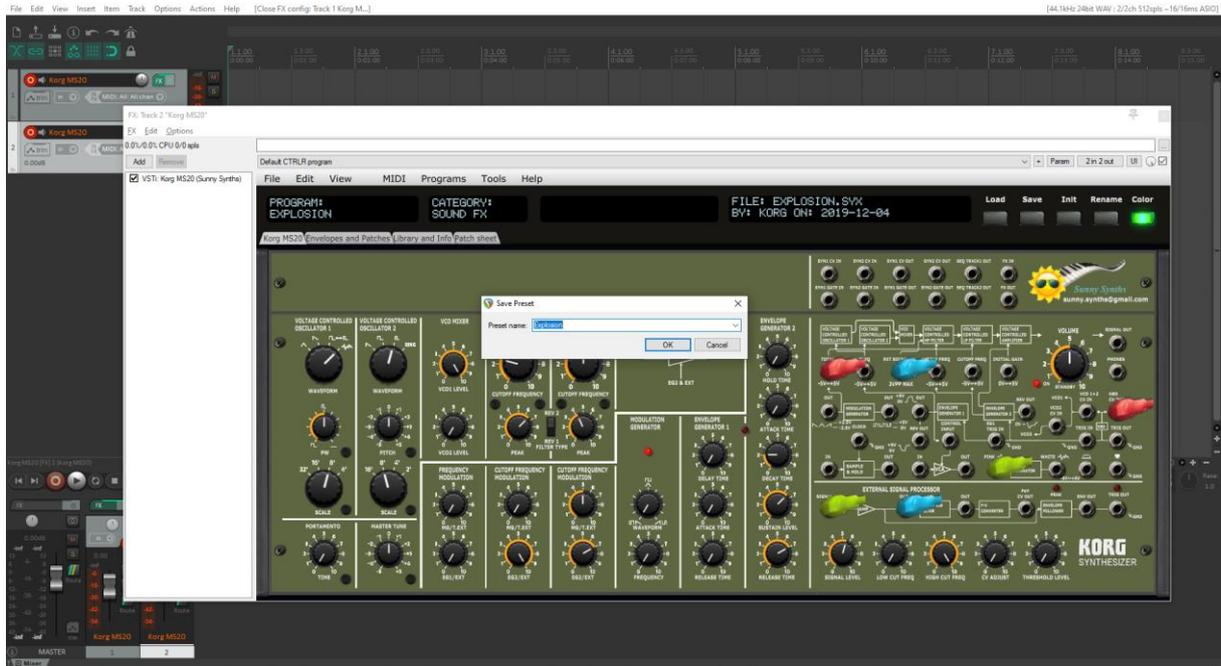


Saving a patch as a Reaper preset

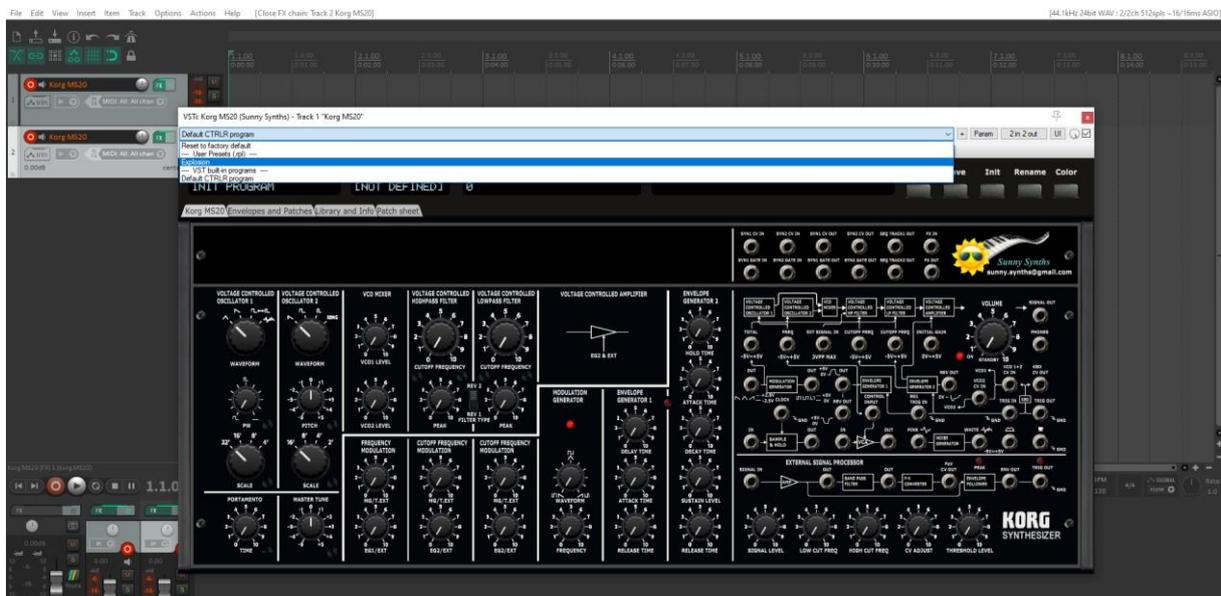
Two different methods are possible:

- 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



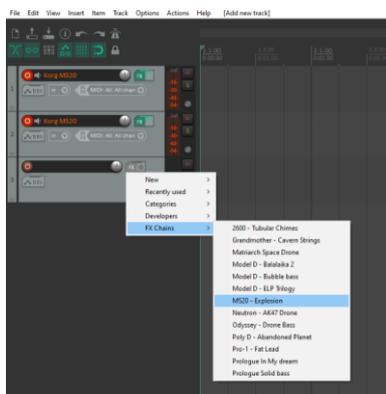


Presets are appearing under User presets



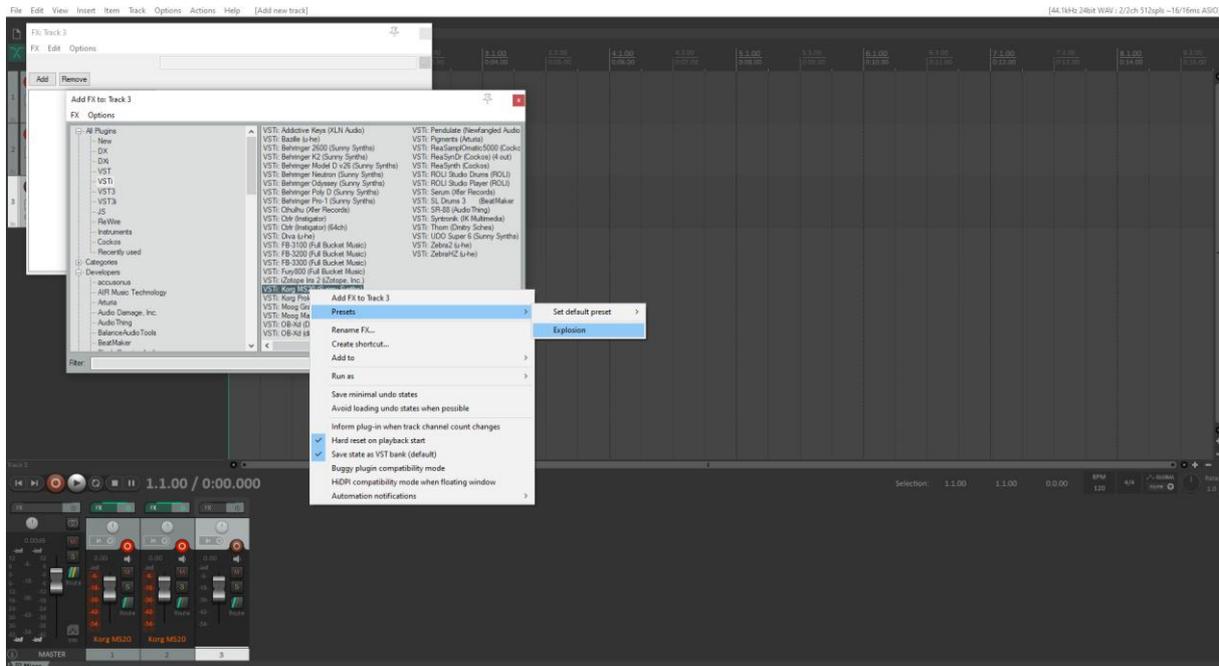
Creating a new track from a Reaper FX chain preset

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 MS20 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.

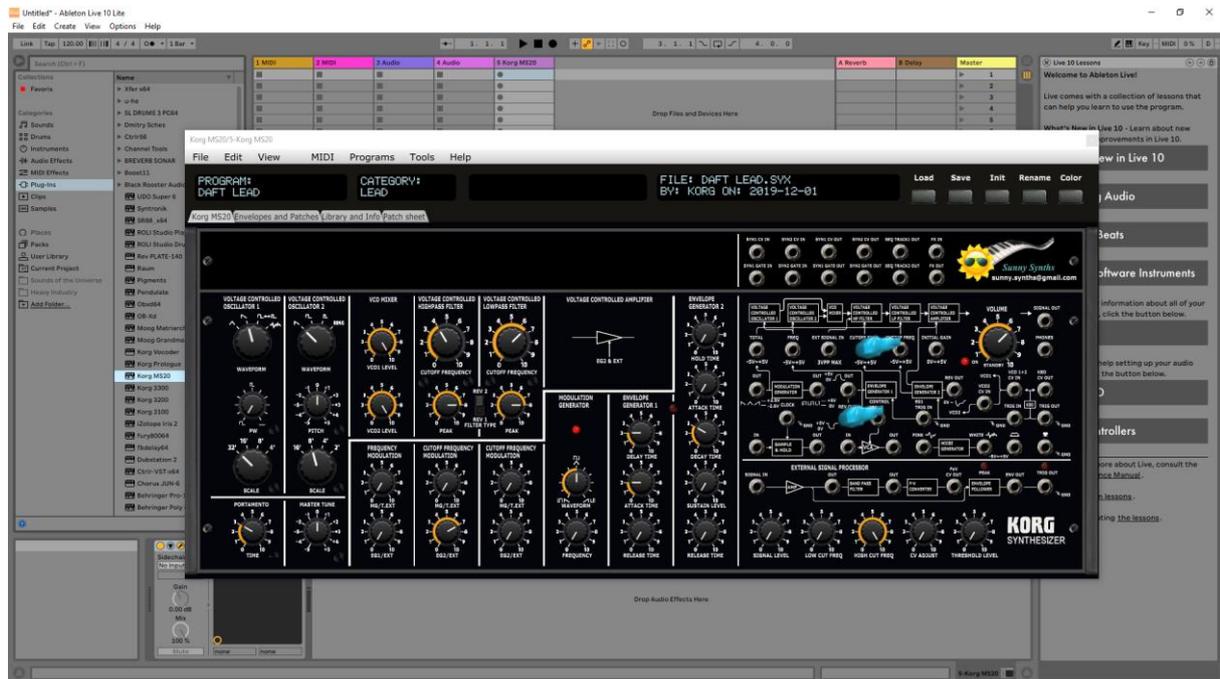
Ableton

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

Creating a new track

Drag the MS20 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.

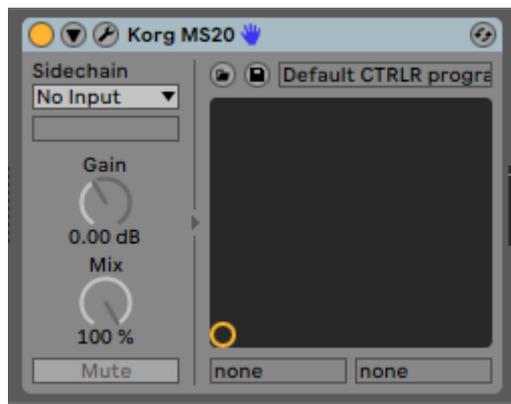
Using several MS20 tracks at once

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

Works fine. Just select another previously saved preset at the top left of the plugin window. All buttons will be positioned according to the newly loaded presets.

 At this stage, it is still better to use the LOAD and SAVE buttons from the MS20 panel itself as the displays in the panel will not show the correct preset name and file even if all buttons will be positioned correctly. If Display Cables is ON, the cables will also not be redrawn.

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.

Creating a new track

Drag the MS20 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.



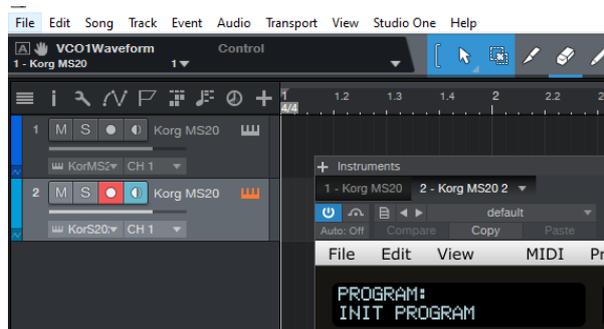
Load a preset from inside the panel and use it as you would do for the standalone version.

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 MS20 tracks at once

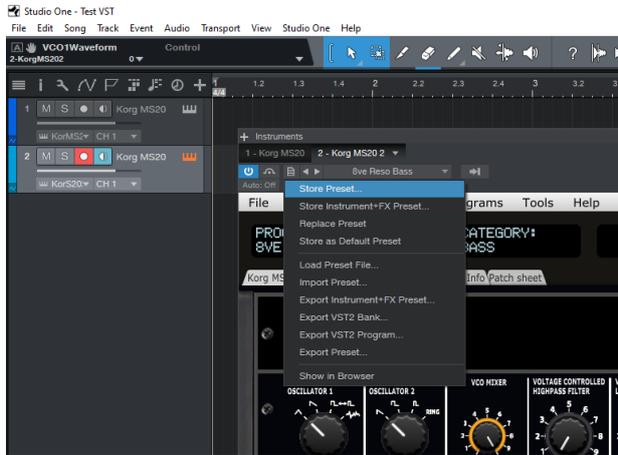
Works fine. The instrument editor is showing one tab by track:



Saving a patch as a MS20 Studio One preset

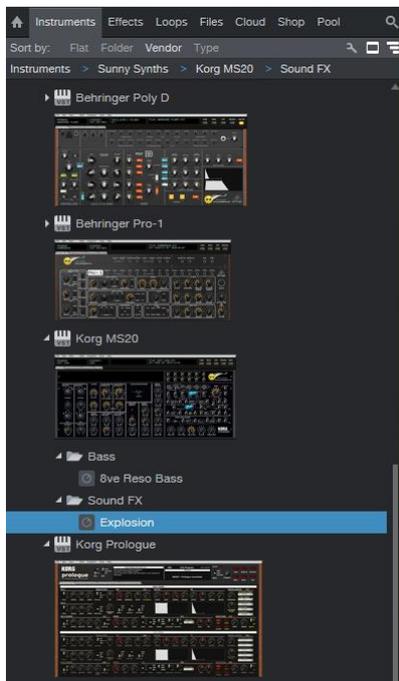
You can save the last patch saved in the panel as a preset in Studio One by selecting **Store preset** in the plugin window preset menu.

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 MS20 VST name in the Instruments tab or in the Files tab



Replacing the preset on an existing track by another preset

Works fine. Just select another previously saved preset at the top left of the plugin window. All buttons will be positioned according to the newly loaded presets.



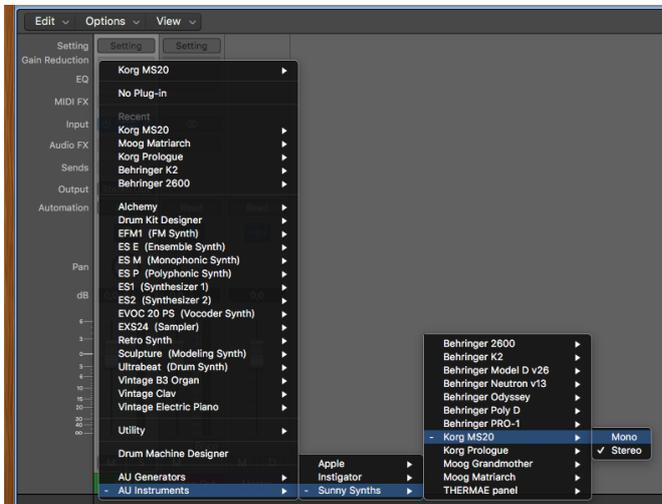
At this stage, it is still better to use the LOAD and SAVE buttons from the MS20 panel itself as the displays in the panel will not show the correct preset name and file even if all buttons will be positioned correctly. If Display Cables is ON, the cables will also not be redrawn.

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 Korg MS20.component plugin file in your AU plugin directory.

Creating a new first track

Create a new instrument track and select the Korg MS20 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.

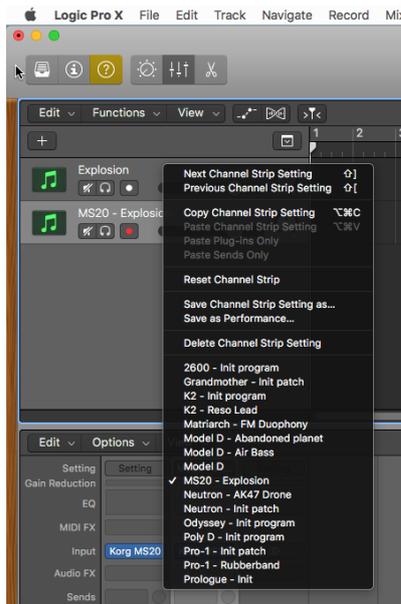
Using several MS20 tracks at once

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 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 MS20 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 MS20 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.

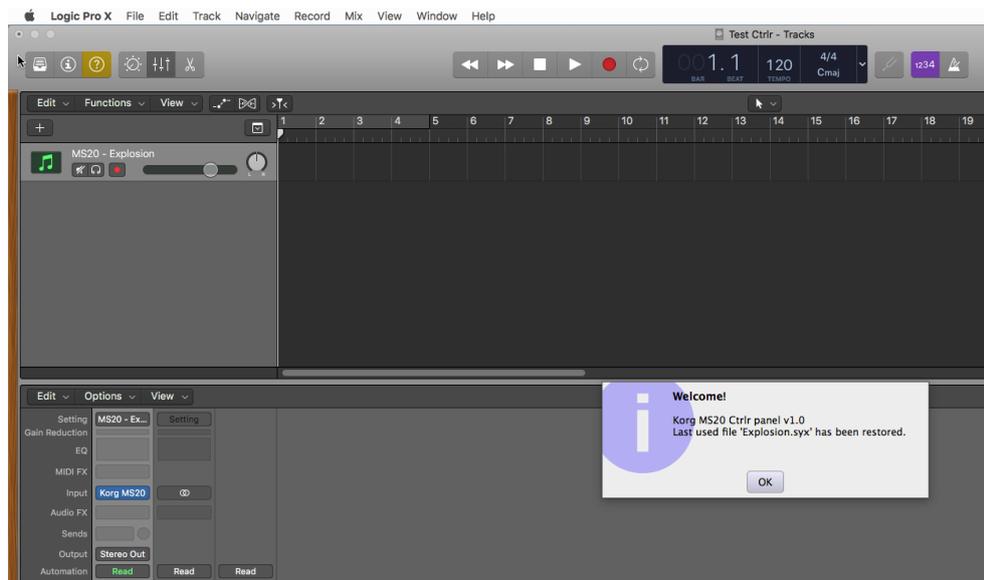
Creating a new track from a Logic channel strip setting

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.



This is also working fine. Just select another previously saved preset at the top left of the plugin window. All buttons will be positioned according to the newly loaded presets.



At this stage, it is still better to use the LOAD and SAVE buttons from the MS20 panel itself as the displays in the panel will not show the correct preset name and file even if all buttons will be positioned correctly. If Display Cables is ON, the cables will also not be redrawn.

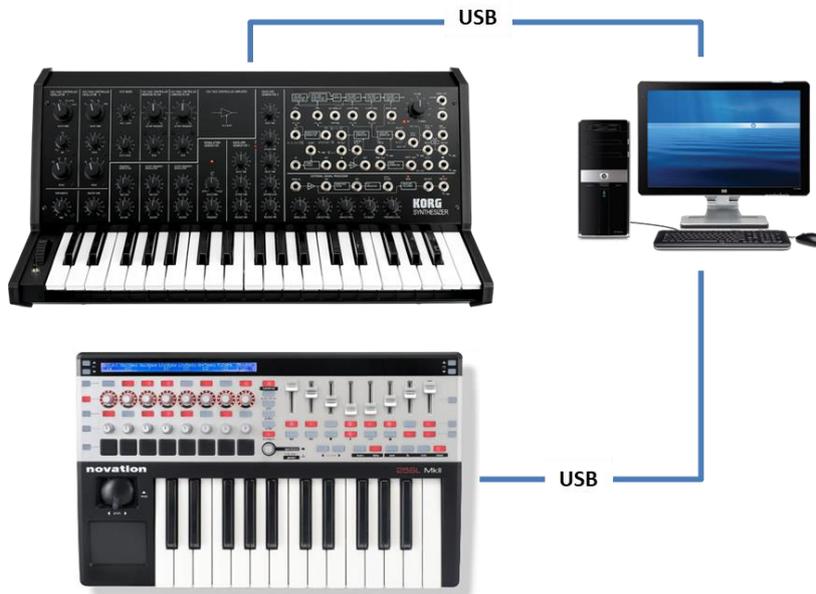
Using a controller to move the buttons

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

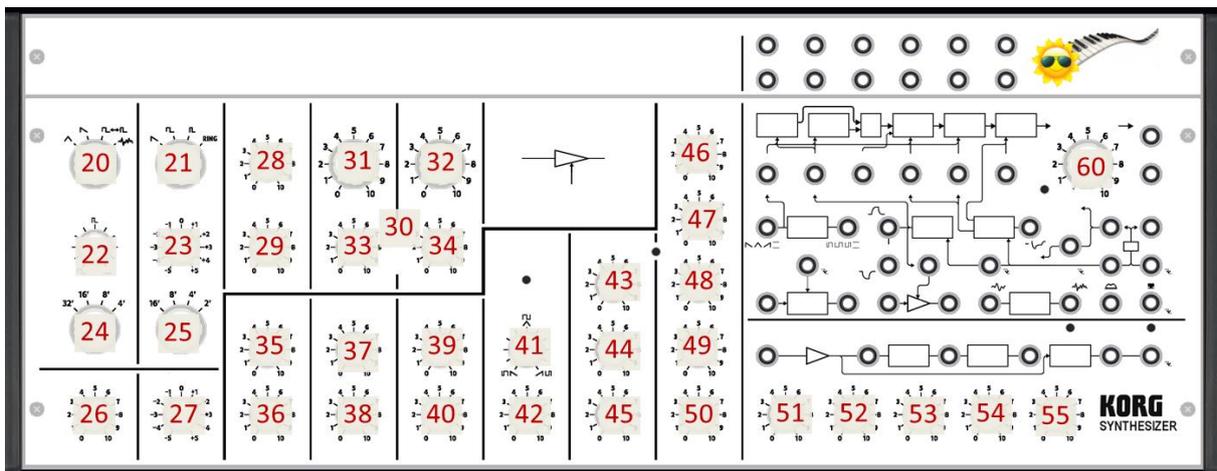
This has been achieved by assigning Midi CC controller numbers to all the knobs.

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:



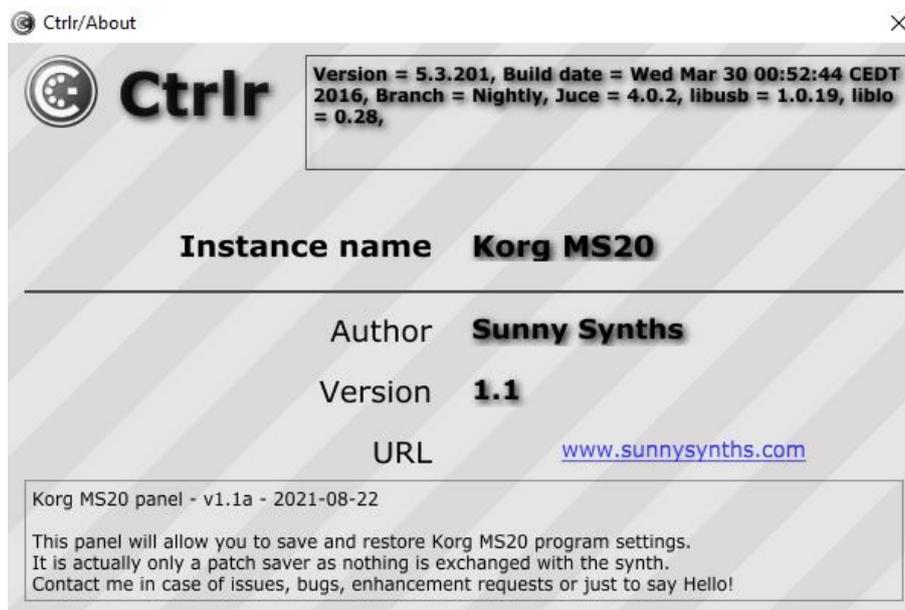
The main Ctrlr menus



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: not used as the MS20 is not transmitting CC, NRPN or Sysex
- **Tools** menu: not used as the MS20 is not transmitting CC, NRPN or Sysex
- **Help** menu: displays the About info of the panel



Appendix

Version history

Date	Version	Description	By
2021-08-04	1.0	First version of this manual	Sunny Synths
2021-08-22	1.1a	Panel settings. Cables transparency	Sunny Synths

Korg MS20 information

The Korg MS20 product page: https://www.korg.com/us/products/synthesizers/ms_20fs/

Sysex file documentation

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

```
-- // Korg MS20 - Sound data sysex structure - Size=420 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 Korg, 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        | 42          Korg ID
-- 0002        | 0A          MS20 (my choice)
-- 0003        | 01          Sound data
-- 0004-05     | 00          Not used
-- 0006-07     | 00-03      VCO Waveform
-- 0008        | 00-64      VCO1 PW
-- 0009        | 00-64      VCO2 Pitch (32=0)
-- 0010-11     | 00-03      VCO scale
-- 0012        | 00-64      Portamento
-- 0013        | 00-64      Master Tune (32=0)
-- 0014-15     | 00-64      VCO Level
-- 0016        | 00-64      Freq Mod MG / T. Ext
-- 0017        | 00-64      Freq Mod EG1 / Ext
-- 0018-19     | 00-64      VCF Cutoff Frequency
-- 0020-21     | 00-64      VCF Peak
-- 0022-23     | 00-64      Cutoff Frequency Mod MG / T. Ext
-- 0024-25     | 00-64      Cutoff Frequency Mod EG2 / Ext
-- 0026        | 00-01      Filter1 / Fiter2 switch
-- 0027        | 00-64      MG Waveform
-- 0028        | 00-64      MG Frequency
-- 0029        | 00-64      EG1 Delay Time
-- 0030        | 00-64      EG1 Attack Time
-- 0031        | 00-64      EG1 Release Time
-- 0032        | 00-64      EG1 Hold Time
-- 0033        | 00-64      EG2 Attack Time
-- 0034        | 00-64      EG2 Decay Time
```

--	0035		00-64	EG2 Sustain Level
--	0036		00-64	EG2 Release Time
--	0037		00-64	Volume
--	0038		00-01	Not used
--	0039		00-64	Signal Level
--	0040		00-64	Low Cut Frequency
--	0041		00-64	High Cut Frequency
--	0042		00-64	CV Adjust
--	0043		00-64	Threshold Level
--	0044-49			Not used
--	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 characters for ISO date yyyy-mm-dd)
--	0379-389			Synth1 (11 characters)
--	0390-400			Synth2 (11 characters)
--	0401-415			FX (15 characters)
--	0416-418			Not used
--	0419		F7	End of sysex

