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MINIHOST

Disclaimer:

All information in this manual is given at my best knowledge. I cannot gurantee that this program is working on every system under every condition. If you encounter a problem, please contact me. Features & specifications subject to change without notice

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General questions

What is MiniHost?

MiniHost is a powerful ASIO audio host that loads a VST instrument or effect and processes it in realtime. Many useful features (see below) allow a multitude of different usages for this little program.

What does it cost?

MiniHost is donationware, meaning that you can freely test and play with it, but if you like it, it would be nice to register by sending me a little bit of money for the countless hours I spent coding this program. What is "a little bit"? It is up to you, but even amounts like \$5 or \$10 make me happy, so feel free to show your appreciation. On the about box there is a PayPal link for easy donation processing, or you can go here;

https://www.paypal.com/xclick/business=tobybear%40web.de&item_name=MiniHost

Does it have any restrictions?

Basically, I am appealing to your honesty - the only restriction is that each day (and only *once* each day) it displays a reminder box for some seconds before loading the program. If you register by donating some money, you will receive a registration code that disables the display of this dialog and shows your name in the about box.

Does it have any bugs?

Most certainly! This program is still early in development and of course I can't test it with all VST plugins and ASIO drivers in existence. But if you come across a serious problem, feel free to tell me about it (tobybear@web.de).

What about the source code?

The Delphi source code for *MiniHost* will soon be released. It will however not contain some extra features like the preset manager/randomizer or the virtual keyboard as they use some of my custom Delphi components, but all of the important stuff is there: it contains powerful components for ASIO driver access and for loading and processing VST plugins. It was not an easy decision to publish the sourcecode, but I believe lots of people might have a use for this.

What do I need to run this program?

- a computer running Microsoft Windows (98, ME, 2K, XP supported)
- a sound card with ASIO drivers

ASIO drivers are special sound drivers that allow low-latency audio processing. If your card only has standard Multimedia or DirectX sound drivers (like most notebooks for example), please take a look at the excellent free ASIO4ALL software that turns these drivers into proper ASIO drivers:

<http://michael.tippach.bei.t-online.de/asio4all/>

How do I (un)install the program?

No lengthy installation procedure, no cluttered registry - just one file (*MiniHost.exe*): double-click on it to launch the program. There are some extended startup options which will be explained in a later chapter of this manual. To uninstall the program, simply delete the *MiniHost.exe* file (and the preferences files *MiniHost.ini*, *MiniHost.pro* and *RND_MiniHost.txt* if they exist).

Now let's take a look what *MiniHost* can do...

Audio driver configuration

The program quits with the message "No ASIO Driver present! Application Terminated!"

Just what it says - *MiniHost* needs an ASIO driver to work properly. If you don't have one, install ASIO4ALL (see above).

How do I select the ASIO driver?

When you load *MiniHost*, it displays the currently installed ASIO drivers in the "ASIO - Driver" submenu. If there is more than one driver in the list, preferably choose the one that came with your sound card.

How can I adjust the settings of the current ASIO driver?

Click on "ASIO - Control Panel" (or press F1) to open the ASIO control panel for the current driver.

How can I set the ASIO audio input and output channels?

ASIO drivers often have multiple inputs and outputs. *MiniHost* can currently use one stereo audio input and one stereo audio output from these. To select them, go to "ASIO - Input Channels" or "ASIO - Output Channels". If you do not want to use any audio input, you can also disable it in the submenu.

Can I have a quick overview of the current ASIO settings?

Yes, just click on "ASIO - Show Settings" to open a window which shows (among other things) some information about the current ASIO driver, the buffer size and the input and output channels.

Can I load several instances of MiniHost?

No, unless you have multi-client capable ASIO drivers.

Loading VST plugins

How do I load a VST plugin?

Easy, just click on "VST - Load Plugin". The current plugin will be closed and the new one will load. The "VST - Recent Plugins" subfolder gives you access to the ten last loaded plugins.

Can I load more than one VST plugin at the same time?

No, not at them moment, but maybe in a future release.

What VST plugins can I load?

Theoretically it should work with all Windows VST plugins, effects and instruments. If you encounter a problem with a specific plugin, please contact me.

So can I create standalone versions of all of my plugins?

Basically yes! A neat feature of *MiniHost* is that you can copy the *MiniHost.exe* file to a different name like for example *MySynth.exe* - this new application will have its own config file so you can create various exe files for all your plugins by copying and renaming.

Can I get an overview of what VST plugins I currently have installed?

There is a menu option "VST - Show VSTSpy" which will show you a little window where you can scan a folder (preferably the VST plugins folder) for all valid VST plugins. After scanning, additional information about each plugin is displayed in a spreadsheet-like form. Double-clicking on any entry will launch the selected VST plugin.

What about plugins with multiple outputs?

Especially VST instruments often have multiple outputs. *MiniHost* does however support only one stereo pair for output, which will always be the first two output channels of a VSTi. You can however enable the "VST - Downmix to Stereo" menu option to mix all of the VST's output channels into one stereo pair.

MIDI input/output

How do I configure the MIDI ports?

Click on "MIDI - MIDI In" to set the driver for MIDI input and "MIDI - MIDI Out" for MIDI output. MIDI Out is only for VST MIDI plugins, these are plugins that send MIDI information themselves, such as my MIDIBag collection. Inputs and outputs can also be disabled by setting them to "none".

Are there other way to enter MIDI data?

Yes, besides live MIDI input from a Windows MIDI port, *MiniHost* offer entering notes from the regular computer keyboard, from a virtual MIDI keyboard and from a MIDI file. Any MIDI data can furthermore be processed by an arpeggiator, a step-sequencer and a chord maker.

How does MIDI over the computer keyboard work?

This option can be enabled or disabled by clicking on the "MIDI - Computer Keyboard - Active" menu item. If active, the following keys send MIDI Note On data when pressed down and Note Off data when released:

Key: Q 2 W 3 E R 5 T 6 Z 7 U I 9 O 0 P
 Note: C C# D D# E F F# G G# A A# B C C# D D# E

Key: Y S X D C V G B H N J M , L .
 Note: C C# D D# E F F# G G# A A# B C C# D

The bottom row plays one octave below the top row. The base octave can be set by clicking on "MIDI - Computer Keyboard - Base Octave". Alternatively, you can use the "Page Up" and "Page Down" keys to increase/decrease the octave.

The "y" key and the "z" key seem to play wrong notes!

Don't panic, you probably have the US/UK keyboard layout where the first letter row starts with "QWERTY". Just go to "MIDI - Computer Keyboard - Keyboard Layout" and choose "QUERTY", the notes should then be correct.

How does MIDI with the virtual MIDI keyboard work?

All virtual keyboard related options are found in the "MIDI - Virtual Keys" menu. Here is a short explanation of the various options:

- **Visible:** determines if the virtual keyboard should be displayed
- **Docked:** determines if the virtual keyboard is displayed below the current plugin's GUI or separately as a resizable floating window
- **Velocity sensitive:** if enabled, MIDI note velocity is relative to where you clicked on the note: at the bottom of each key, it is loudest, at the top very quiet. If it is disabled, all notes have the same maximum velocity.
- **Number of Octaves:** sets the number of octaves displayed and available for playback
- **Base Octave:** sets the octave shift: the lowest key visible will start with the selected octave
- **MIDI CC# (H):** sets the MIDI CC for horizontal mouse movement, 0 means disabled (see below)
- **MIDI CC# (V):** sets the MIDI CC for vertical mouse movement, 0 means disabled (see below)

With the **right mouse button** you play single notes, with the **right mouse button**, you play glissandi notes (trigger notes without having to release the mouse button). If you have set a **MIDI CC# (H)** and/or **MIDI CC# (V)** value, the defined MIDI controller values will be sent out if you hold down the right mouse button and move the mouse horizontally or vertically. The **middle mouse button** (if available) plays the currently selected chord. Holding down **Ctrl** and **left-clicking** on a key will hold down that key automatically.

Also note that the virtual MIDI keyboard is **resizable** when it is not docked!

How does MIDI with the MIDI file player work?

Very simple: You go to "MIDI - MIDI File" and load a MIDI file. After loading, you can click on "Start Playback" to play this file and on "Stop Playback" to stop it again. "Looped" determines if the playback should restart at the beginning or not.

Note: please keep in mind that some VST plugins are not built for receiving complex MIDI files with lots of different channel information originally not intended for playback on a certain plugin - your system performance might go down drastically or the plugin might behave strangely if it gets too many MIDI data to process - this is not a bug!

Help! I managed to get some hanging notes!

Just click on "MIDI - Panic!" (or press F11) and all should be quiet again.

Can I send MIDI data from any of MiniHost's sources to an external MIDI port?

Yes, you can - if the "VST - MIDI Thru" option is activated, incoming MIDI data (from external MIDI port, file player, computer keyboard or virtual keyboard) is sent to the selected MIDI output as well, including all chord/arpeggiator/sequencer notes.

What are the MIDI-Tools?

After clicking on "MIDI - Show MIDI Tools", a window will be displayed that contains the settings for *MiniHost's* internal MIDI-Tools, which are a chord maker, an arpeggiator and a step-sequencer.

How do the MIDI-Tools work?

The **chord maker** turns any played note into a chord if the "active" switch is on. The chord itself can be entered in the "chord" entry box as a sequence of numbers that define the transposition relative to the base note. So "0,12" would play the normal note and the same note one octave higher, while "0,3,7" would play a minor chord. You are practically unlimited in the number of notes in a chord. The checkboxes in the lower half define on what MIDI inputs the chord maker is active.

The **arpeggiator** turns played chords (either played live or from the chord maker) into arpeggios. The "pattern" entry box defines if a note should be played at a certain location or not (by setting "0" or "1" at the appropriate position). "direction" defines the sort order of the notes, "octaves" sets the number of octaves the arpeggio will cycle through and finally "speed" controls how fast the arpeggio is played.

The **step-sequencer** works similar to the chord maker, only the notes are not played at once, but after each other with a certain speed. If the "loop" box is checked, the sequence will restart after the last note, else it will just stop.

WAV playback/recording

Can I play a WAV file?

Yes, go to "WAV - Playback" and load a WAV file. After loading, you can click on "Start Playback" to play this file and on "Stop Playback" to stop it again. "Looped" determines if the playback should restart at the beginning or not. Playback is mixed with the VST output if the plugin is an instrument and playback is sent to the VST plugin for processing if it is an effect.

Can I record the audio output to a WAV file?

Yes, go to "WAV - Record" and set a WAV file for recording. Then you can click on "Start Recording" to do just this and on "Stop Recording" to stop it and save the file to disk. In the "Recording Options", you can defined the WAV file format, which can be either "16 Bit Integer" (can be read by most programs) or "32 Bit Float" (best quality, but you need a good audio editor to open this file).

Preset management

How can I save/load individual presets or a bank?

Go to the "Presets" menu, you will find items there to save and load *.FXP files (individual presets) and *.FXB file (bank = collection of presets). Note that *MiniHost* supports both chunked and non-chunked VST plugins (which are two different methods of storing presets).

How can I rename a preset?

Click on "Presets - Rename Preset" (or press F2).

How can I select a certain preset?

Go to the "Presets - List" submenu, you will find all presets there and can click on the one you want. For more sophisticated preset control, you can open the preset manager by clicking on "Presets - Show Preset Manager".

Is there a key for changing to the next/previous preset?

Yes, you can either use "+" and "-" or the cursor up/down keys.

What can I do with the preset manager?

Clicking on "Presets - Show Preset Manager" will open a separate window.

Here you can do the following things:

- scroll through all presets of the plugin
- save and load single presets or a bank
- use "Copy" and "Paste" to copy the current preset to the internal clipboard and paste it at another location

Note that you can select multiple presets in the list by holding down the "Ctrl" or "Shift" key while clicking. If you then click on "Save Preset", it will save all marked presets as separate files.

If "Export with Numbers" is checked, each preset is saved with its number as part of the filename.

If "Import with Numbers" is checked, *MiniHost* tries to determine the preset number from each preset file to load and will then load the preset at the appropriate location.

If "Import Filename" is checked, The name of each imported preset is set to the name of the file itself.

What use do the three options above have?

If you have all three of them checked and export a bunch of presets as separate files, you can rename them in Windows Explorer, changing both the preset location and preset name for later automated importing. This allows you to create custom preset banks very easily.

What can I do with the preset randomizer?

Clicking on "Presets - Show Preset Randomizer" will open a separate window:

"Mutate" a preset: the number box next to it determines how much the preset is mutated, with a value of 1000 being the maximum. The lower the value, the closer the mutated preset will be to the original.

"Total Random!": this sends random values for every MIDI CC from 10 to 122 and randomizes all parameters if the current plugin does not use chunks.

In the large "Randomizer Script" box, you can enter a script file to process. The script syntax is actually very simple, as it knows only two opcodes.

Here is the specification:

lines starting with // or ; are regarded as comments

"par x min max": sets the min and max random range of parameter x

"par x-y min max": same as above but for all parameters from x to y

"CC x min max": sets the min and max random range of MIDI CC x

"CC x-y min max": same as above but for all MIDI CCs from x to y

For the "par" settings, the min and max values are floating point numbers from 0.0 to 1.0, for the "CC" settings integer values from 0 to 127.

Settings that should affect all plugins come into the [Global] section, but each plugin can also have its own section, based on its DLL filename.

Here is a simple example:

```
[Global]
CC 10-90 0 127 // randomize CC 10 to 90 with full range
```

```
[HELIOS]
CC 74 10 80 // randomize CC 74 with limited range
Par 1 0.000 0.500 // attack rate for Helios
```

To run the script, just click on the "Run Script!" button.

You can click on "Show Parameters" to open a box with all parameters of the current plugin. This does however only work for non-chunk plugins, as plugins using chunks for preset saving do not tell the host their parameters and rather use MIDI CC for changing them. Double-click on a parameter in the list to automatically add it to the randomizer script box with default values.

Other stuff

Are there any keyboard shortcuts?

Yes, here is a quick overview:

F1: open ASIO control panel
F2: rename preset
F3: start/stop MIDI playback
F4: start/stop WAV playback
F5: start/stop WAV recording
F6: enabled/disable MIDI computer keyboard
F7: trigger chord maker
F8: trigger arpeggiator
F9: trigger step sequencer
F11: MIDI Panic!
cursor down, +: next preset
cursor up, -: previous preset

What about drag n' drop support?

Currently, you can do the following things:

- drag a DLL file in Windows Explorer on the *MiniHost.exe* file: plugin will be loaded
- drag a DLL file from Explorer to *MiniHost* title bar or preset manager window: plugin will be loaded
- drag a FXB file from Explorer to *MiniHost* title bar or preset manager window: bank will be loaded
- drag one or more FXP file(s) from Explorer to *MiniHost* title bar or preset manager window: preset will be loaded
- drag several marked presets in the preset manager window to any Windows Explorer window: save each selected preset as single file

I am a plugin developer, can you write a custom version of your host for me?

Yes, please contact me about this - as long as you do not want anything too different to what *MiniHost* can currently do, custom or licensed versions should not be a problem.

Thanks & Contact

This program would not have been possible without the following people:

Christian Budde: He did a great job in writing the basic Delphi ASIO and VST hosting code on which this program is based. Thanks for this excellent job!

Frederic Vanmol: He did the Delphi conversion of the Steinberg VST SDK, on which also my VST template is based.

Martin Fay: He wrote the original Delphi OpenASIO SDK routines.

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