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Introduction

Hey Houston fan. ;-) Thank you for trying out my emulation for the „Steinberg Houston“ control surface. With this emulation you can now use your Houston as a Mackie Universal Pro controller. You are also able to easily remap almost every button to your taste.

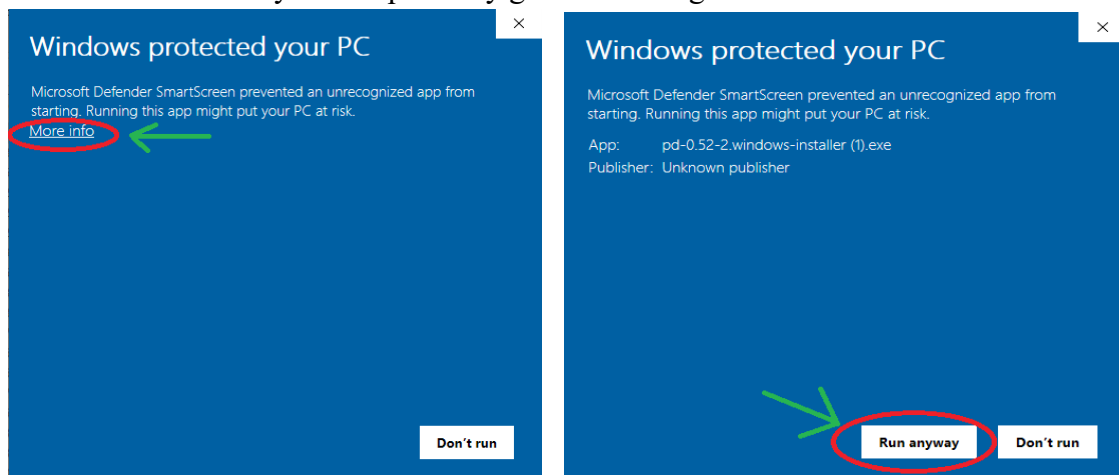
Installation

I used the open source graphical programming environment **Pure Data** and a **virtual midi software**. So in order to get my program to work, you need to download and install the following softwares:

1. The current release of **Pure Data**. Download the software for your operating system here and if you are a Windows user use the installer and not the portable ZIP archive:

<https://puredata.info/downloads/pure-data>

As a Windows user you will probably get this message:



Pure Data is **NOT a VIRUS**, you can google it and read about it on Wikipedia, if you like to: https://en.wikipedia.org/wiki/Pure_Data So just click on “More info” and then you can install it like above.

- **Are there problems with my emulation and it doesn't work?**

Try to install the version of Pure Data in which I programmed the emulation. It is the version 0.52-2, which you can find here:

<https://puredata.info/downloads/pure-data/releases/0.52-2>

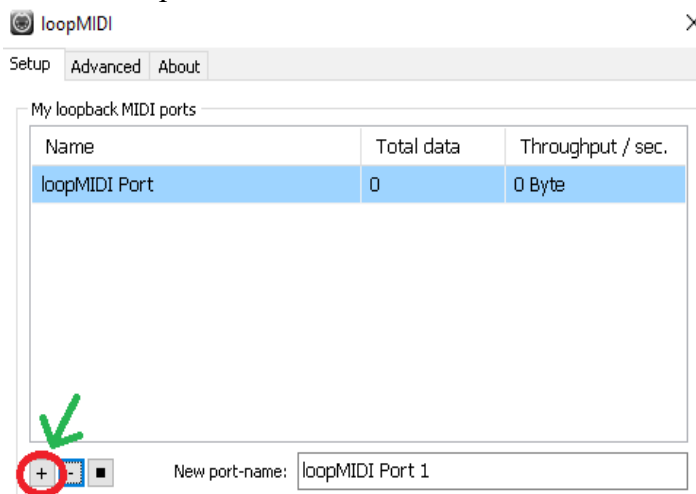
2. A virtual midi software.

- Windows:
 - I recommend you to use **loopMIDI**:
<https://www.tobias-erichsen.de/software/loopmidi.html>
- Mac:
 - Mac provides virtual midi ports natively, which have to get activated. More information about the subject you will get here:
https://dialogaudio.com/modulationprocessor/guides/virtual_midi/virtual_midi_setup.php

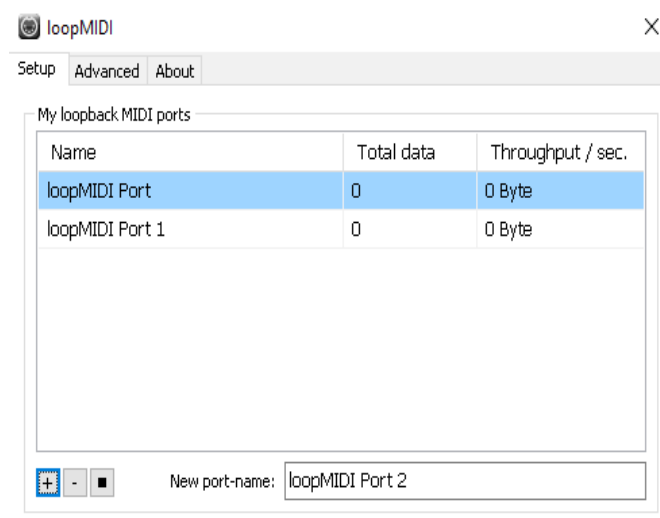
Setup_1

At first you have to setup two virtual midi ports. I guide you through the process with **loopMIDI** on **Windows**:

1. Start loopMIDI



2. After this step the second port is already created.



This was everything you need to do with loopMIDI. You can close it with the X-Icon on the upper right side. It will run in the background. You can give the ports unique names, if you like to do that.

Keep in mind that you need to have this ports activated every time **before** you use my software. This is **VERY IMPORTANT!** A tip is, that you can add this software to the start menu, so that every time you will start your computer, it will automatically start.

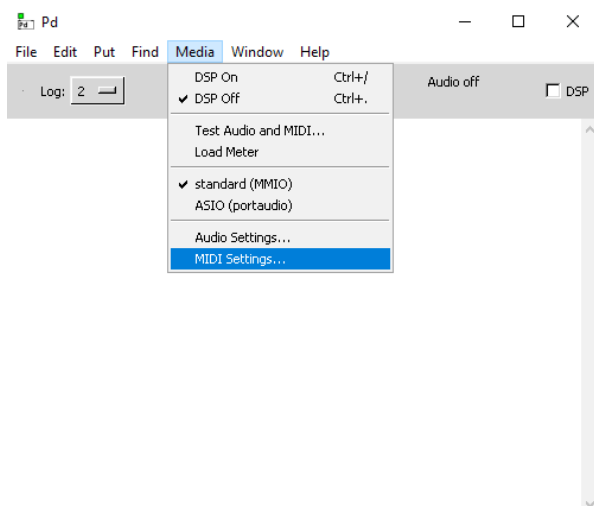


With **Macintosh** you will have to also create two virtual midi ports with your native Midi Software “Midi Studio”.

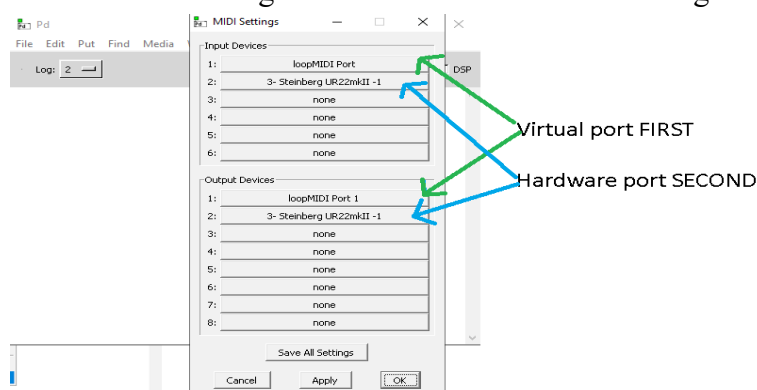
Setup_2

The following steps are almost the same on Macintosh and Windows:

1. Open Pure Data



2. In the menu tab go to Media and then MIDI Settings

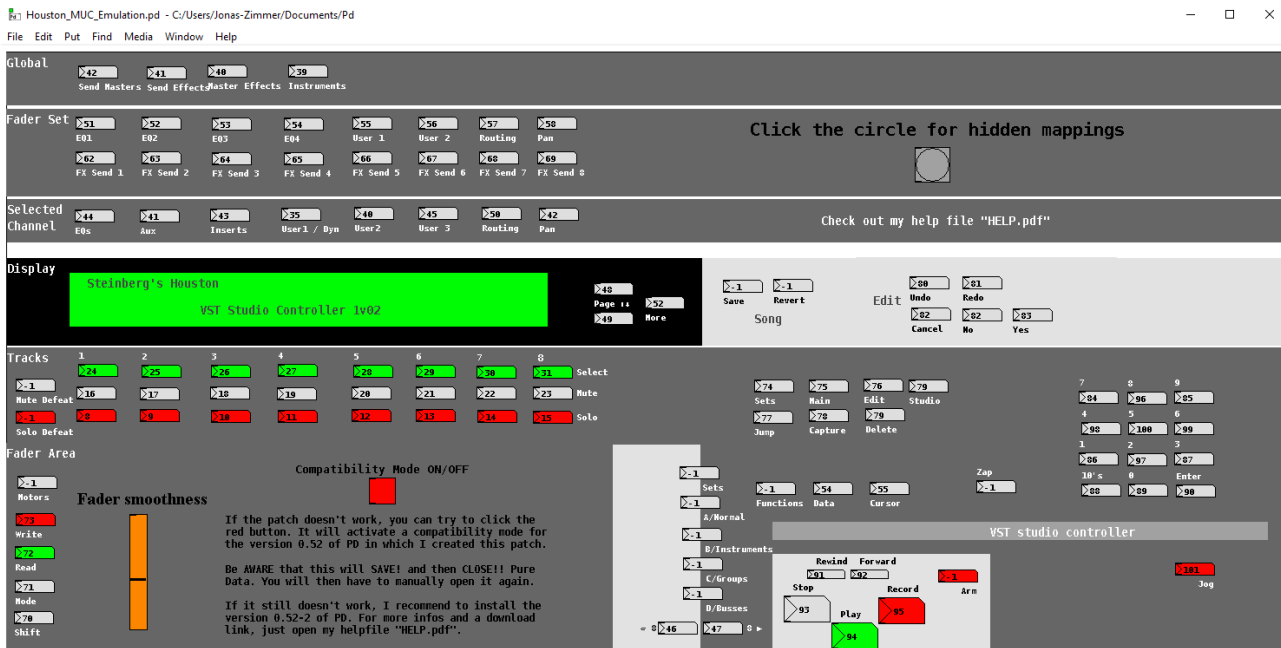


3. The Order is **very important** now! Choose the Virtual Midi port 1 as the Input Device 1 and the Virtual Midi port 2 as the Output Device 1. The Midi Port, which you connected with your “Steinberg Houston” you have to setup as Input and Output Device 2.

If you have setup everything, then click “Save All Settings” and press OK.

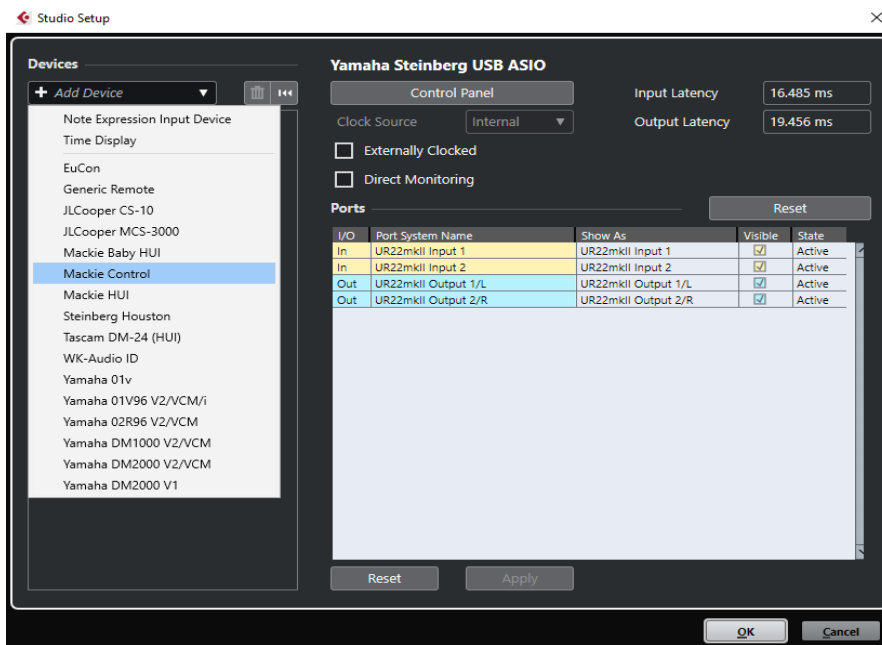
Setup_3

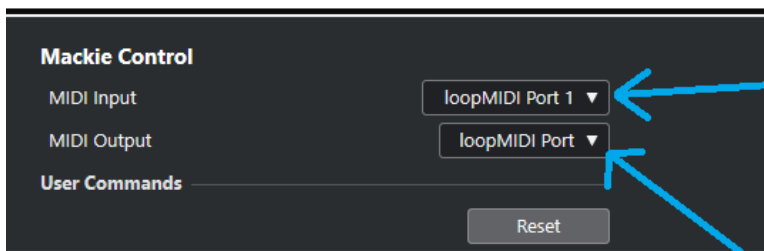
BEFORE YOU OPEN my Pure Data Patch, check that the virtual midi devices and the hardware midi devices, which are connected to the Houston are activated. After the start, **“Houston”** should react if it is activated and the software should look like this:



The buttons are pre mapped. I will guide you through the mapping process later!

You are now ready to start your DAW. In my example it is Cubase 11. You have to search the procedure for your DAW that you would like to use and add a Mackie Control unit:





The virtual midi port 2 as input device. You set this up as a output device in Pure Data.

The virtual midi port 1 as output device. You set this up as a input device in Pure Data.

Go to the Studio Setup and on the left side click “Add Device” and then add the Mackie Control Unit.

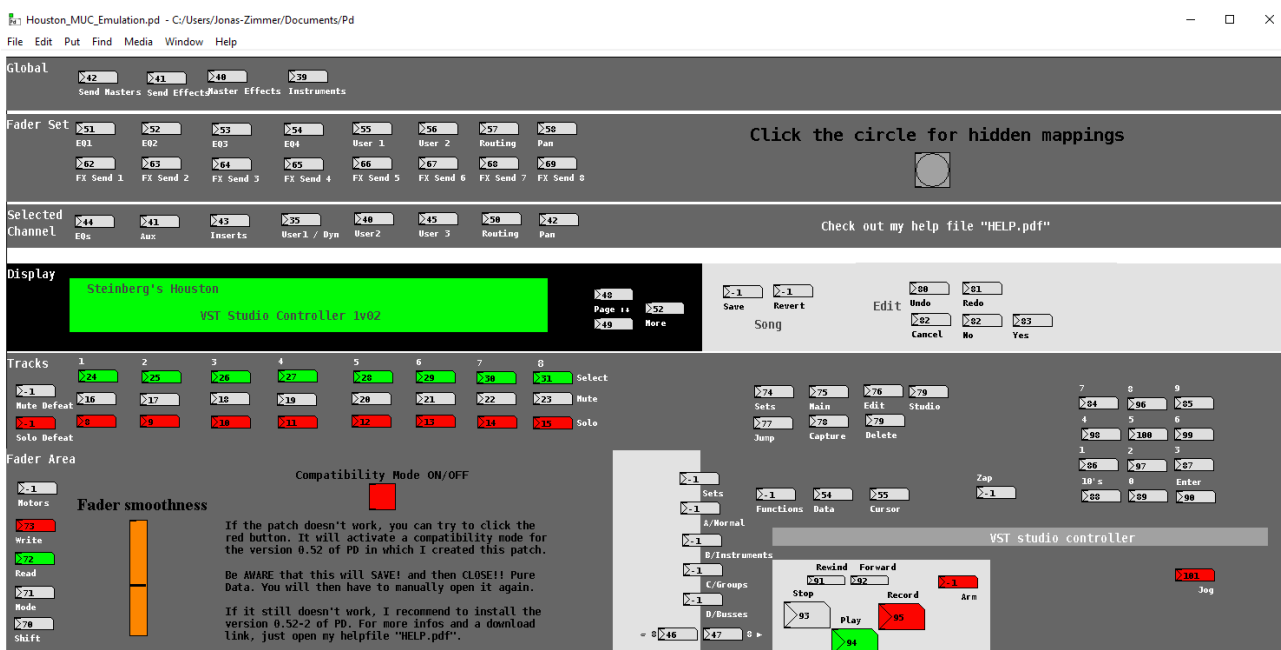
Then you have to set the output and the input device. Your Houston should be activated if you are doing this, and it should then react by moving the faders and lights up some buttons.

MIDI Port Setup						
Device	I/O	Port System Name	Show As	Visible	State	In 'All MIDI
Windows MIDI	In	3- Steinberg UR22mkII -1	3- Steinberg UR22mkII -1	<input checked="" type="checkbox"/>	Inactive	<input type="checkbox"/>

Don't forget to deactivate your Hardware Midi Device in your DAW, as you only use it to interact with Pure Data and don't need midi input from this device in your DAW!

You can now use it! Have fun! :-)

Mapping of the buttons



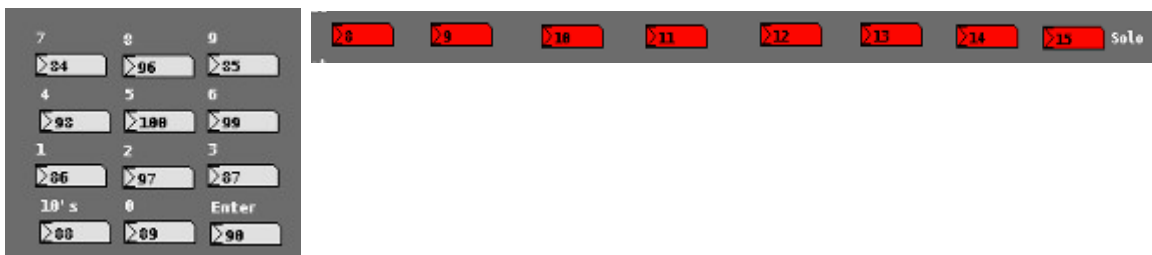
You can easily remap almost all of the buttons by just type in the numbers I provided you in the foto: MUC_MAPPING.pd



To change a number, just click on a number box with the left mouse button, then type in the number and then click enter. The button is remapped.

Hidden mappings and functions

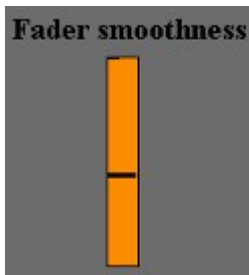
1. The number box area and the solo buttons:



For this buttons are two mapping layers available. You can open the additional mappings, by pressing this:



- The second functions of the **num berbox** area can be activated, if you are pressing the “Functions” button on the Houston. It is pre mapped, so that the buttons 1-9 on the Houston are working as F1-F9 like on the original MUC.
- The second functions of the **Solo buttons** you can activate, if you are pressing the “Arm” button on the Houston. It is pre mapped so that you can use the solo buttons to activate tracks for recording like the original MUC can.



This fader is to emulate the smooth fader movement of the original MUC. If you put it to the bottom, there will be zero smoothing. If you put it to the top, there will be a lot of smoothing. Just set it up to your taste or leave it on the bottom, if you want the Houston to behave like normal.

The **Zap** button will activate a linear curve for the faders. Can be useful, if you would like to control plugin parameters with the faders or if you would like to get the full range of values.

The Display

I had to do some tricks to get the MUC display messages on the display of the Houston. The problem is, that the MUC Display has got 112 digits to display the information, but the Houston only has got 80 digits.

So I developed an algorithm, which deletes the empty space of a message, meant to be sent to the MUC. It deletes as much space as it needs, so that the message fits on the display of the Houston. Sometimes there isn't enough available, that's why I created two display modes.

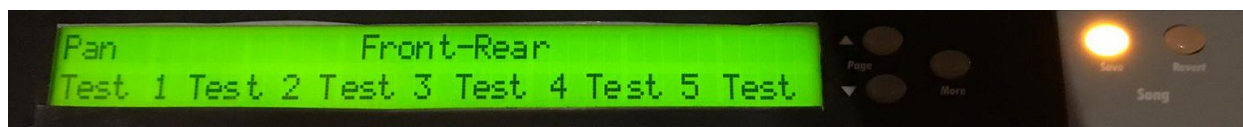
1. My Algorithm as described above
2. The original representation like on the MUC. You can activate this mode by pressing the "Save" Button on your Houston and with the "Revert" Button you can scroll to the right side to read the full display information.

Example:

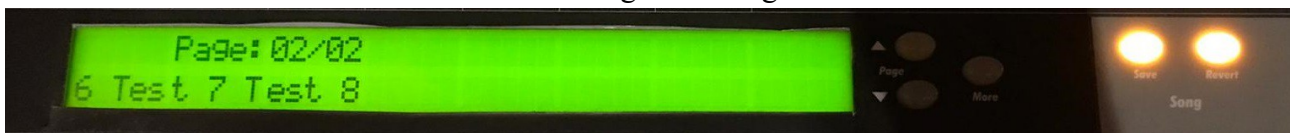
The default space deletion algorithm of me is activated by default:



By pressing the "Save" button one activates the original MUC representation:



With the "Revert" button one can scroll to the right side to get the rest of the information:



Tip:

If you leave the "Revert" button activated you can jump fast to the right by pressing the "Save" button. This is for the cases where not enough spaces are available, so my algorithm can't get the full message on the display of the "Steinberg Houston".

Troubleshooting

Do **not** connect the “Steinberg Houston” with USB. The drivers aren't supported any longer. Do the classic way with midi cables and a midi interface.

1_Always do this order if you would like to use my emulation:

1. The virtual midi devices have to be active
2. The midi interface with which the Houston Controller is connected and active
3. Then you can start my Pure Data patch Houston_MUC_Emulation

2_Check, if the midi devices are set up like in Setup_2, described on page 3

Check also the **order** and check if you connected the correct **input** and **output** devices in your DAW.

Also don't forget to **deactivate** your Hardware Midi Device in your DAW, as you only use it to interact with Pure Data and don't need midi input from this device in your DAW!

3_Try out the compatibility button

I programmed this patch in the version 0.52-2 of Pure Data. So you should **at least** use version 0.52-2.

You could try out the compatibility button, if you are using future versions of PD. This will set PD to the version 0.52-2, when you reopen “Houston_MUC_Emulation.pd” again. You can deactivate this mode for my emulation, if you click the button again.

Clicking the button will **always** SAVE and then CLOSE Pure Data! So, you have to **manually** reopen it again.

Note, that every other open Pure Data patch will then also run in this version until PD will be closed!

4_If you followed every step and it still doesn't work

Try to install the version of Pure Data in which I programmed the emulation. It is the version 0.52-2, which you can find here: <https://puredata.info/downloads/pure-data/releases/0.52-2>