



User Manual

HX3.5 Manager

(as of Version 5.706, November 2021)

Contents

HX3.5 Manager	3
Connecting	4
Tab/Drawbar Panel	5
HX3.5 Specials	6
Presets on PC function keys	7
Saving Presets to the HX3 device	7
Presets Panel	7
Preset Backup and Restore	7
Preset Mover	8
HX3.5 Editor	10
File Menu	11
Edit Menu	11
Window Menu	11
Action Menu	11
Help Menu	11
Parameter editing	12
Setting up the Hardware Configuration	13
System Inits	14
Assigning Controls	14
Assigning analog inputs	15
Assigning dual drawbar sets	16
Assigning digital inputs	16
Checking the controls	14
Input Monitor	17
Configuring the HX3 menu	18
Updater	19
Checklist	20
Updates via SD Card	20
Updates of single firmware components	20
DSP Updates	22
GM Sounds	22
Reverb programs	23
Updating the DSP Firmware, Soundbank Installation	23
CC Set Editor	24
CapSet/Tapering Designer	26
Create new taperings	27
HX3.5 Manager on a Mac	28

HX3.5 Manager

HX3.5 Manager is a Windows application. You need not install it though. Just make sure all files contained in [HX35 Update 5x.zip](#) file are copied to a folder on your local hard disk and launch the app from the update directory. All files must be present in the same folder. How to connect your HX3 device to the HX3.5 Manager is described in the following chapter [Connecting](#).

The HX3.5 Manager can also be used with MacOS, see chapter [HX3.5 Manager on a Mac](#).

The HX3.5 Manager supports the use of your HX3 device with a variety of functions:

The **Panel** contains switches and drawbars for your HX3 device. In the panel window, you can adjust sounds and effects, as well as create, name, and save presets. When the panel is open, you can recall presets live using the function keys on your PC keyboard.

The **Preset Mover** makes it easy to manage presets. You can use it to try out, move, and rename presets. Also use the Preset Mover to transfer presets from a file to the HX3 device or to save presets to a file.

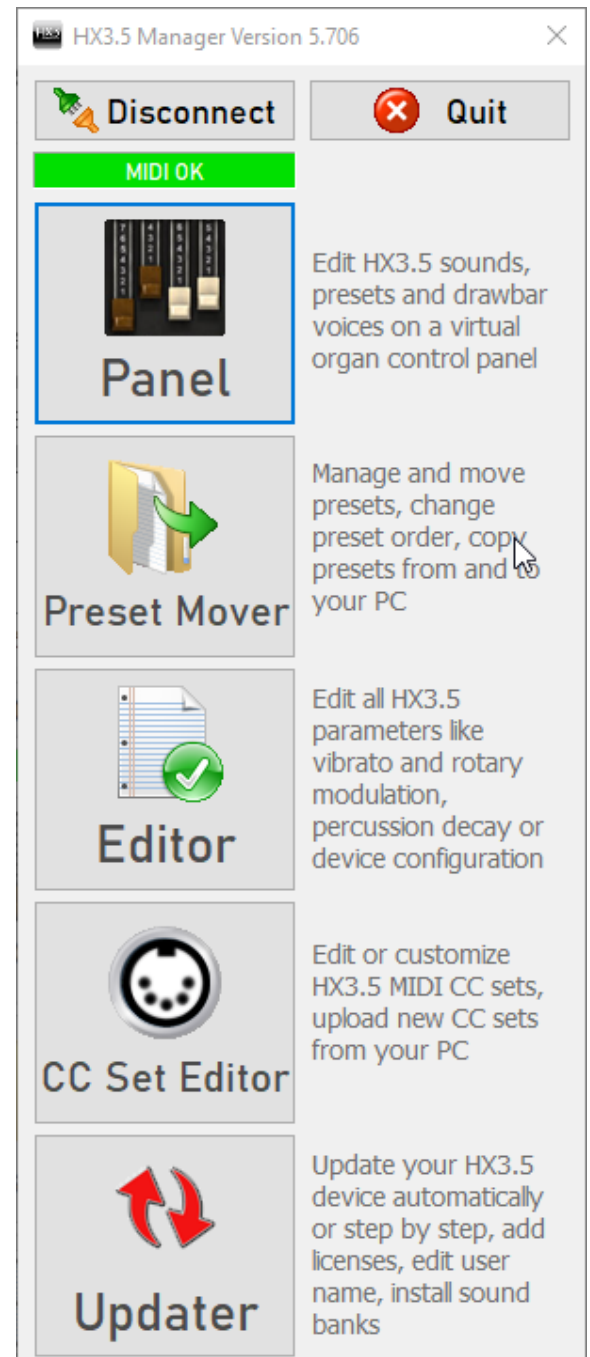
With the **Editor**, you can set up the HX3.5 for all conceivable hardware configurations, access all available parameters, and fine-tune sounds and effects.

With the **CC Set Editor** you can edit the MIDI CC Sets of the HX3, create new CC Sets or load them as a file from your PC. This allows you to make the best use of your keyboard controller to control your HX3 Expander, even if none of the included CC sets fit right away.

The **Updater** updates the operating software of your HX3 device entirely in an automatic process or individual selected components. Use the Updater also to activate an Extended License or to change the user name.

In the start window of the HX3.5 Manager, click the button of the component you want to use.

The application for old HX3 versions *HX3.4 Remote* is **not** suitable for the HX3.5. Vice versa the HX3.5 Manager cannot handle older HX3 hardware versions.



Connecting

HX3.5 Manager can connect to the HX3.5 mainboard through several channels:

- Preferably through **MIDI over USB** using a cable to the B-type USB Jack of the HX3 device,
- through a bi-directional **MIDI connection (IN/OUT)** using a third-party USB MIDI adaptor,
- through our **FTDI serial adaptor cable** FT232R-5V (available at our shop). Attach USB-to-serial adaptor cable FT232R-5V to the HX3.5 6-pin header PL19, black wire (BK) facing to black header PL17,
- through any **FTDI device** with FT232 interface chip like the one on our discontinued HX3 Extension Board mk4. Connect the USB cable to the B-type USB jack of the HX3 Extension Board mk4.

Choose the channel that fits your configuration best. In the Manager application all channels are equal, with one exception: **DSP updates can be made through USB only.**

When using a "MIDI over USB" connection, no cable must be connected to the secondary (left) MIDI input DIN jack. During an update MIDI DIN cables must be removed.

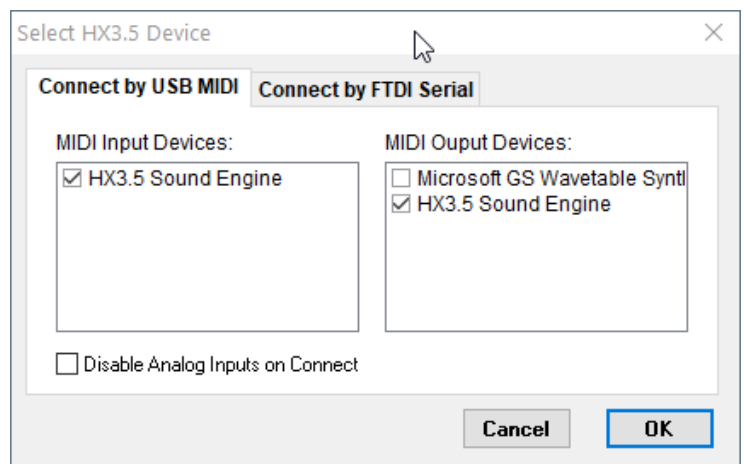
In the start window of the HX3.5 Manager, click *Connect*.

MIDI connection: The HX3 device appears in the *Select HX3.5 Device* window as "HX3.5 Sound Engine" or similar. These entries are selected by default, and the connection is made via MIDI over USB. Select "USB Midi Cable" when connecting via USB MIDI interface.

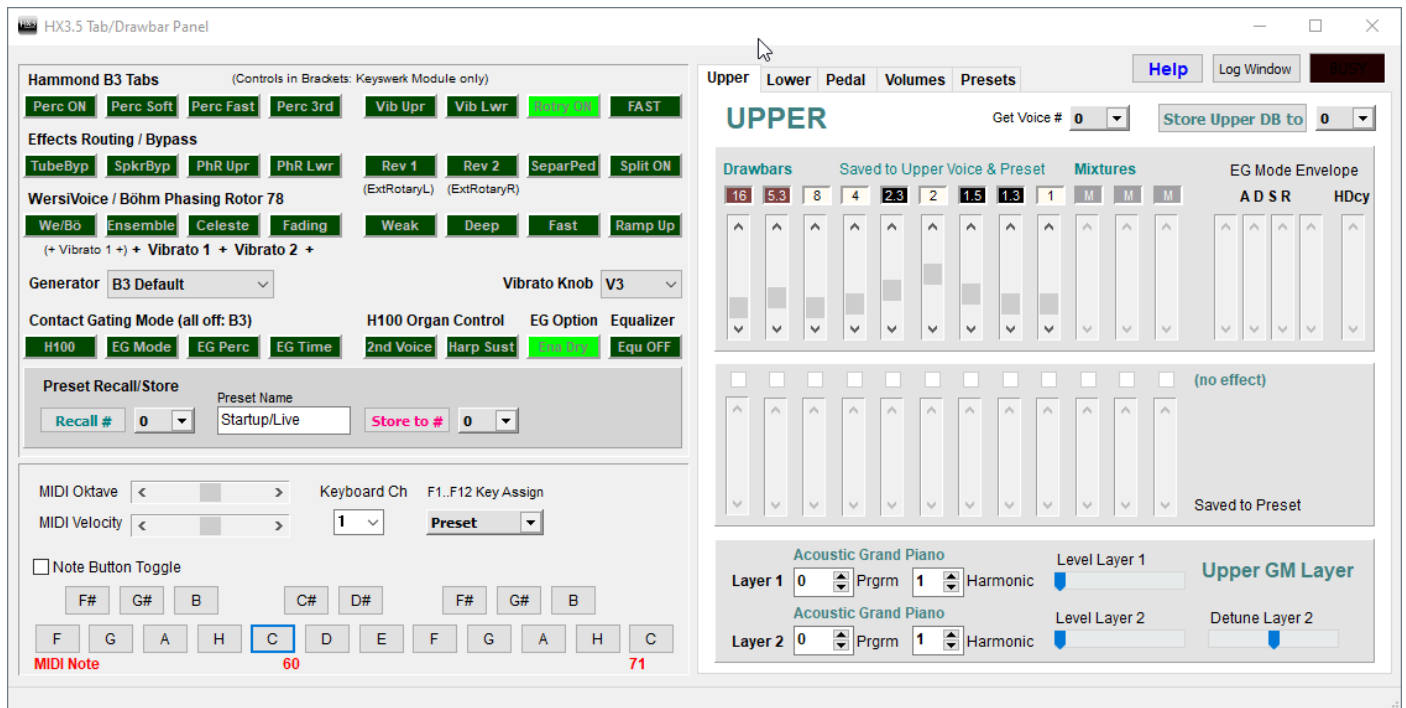
FTDI connection: Select *Connect by FTDI Serial*. Select "FT232R", "TTL232R" or similar in the device lists. Windows will automatically install the FTDI driver the first time you use it. For Windows XP and Windows 7, the driver may need to be installed manually. You will find instructions for this in the README file in the update directory.

Close the Input/Output Devices window by clicking on OK. When the connection is established, a green highlighted display appears at the top of the startup window and a log window opens showing the "Board Info" with the version numbers of the operating software components.

If no MIDI connection is established with Connect, open analog inputs are a possible reason. The inputs are floating and create a confused data stream that interferes with communication. In this case, activate the *Disable Analog Inputs on Connect* checkbox. If the connection now works, correct the settings as described in the [Assigning Controls](#) section. Re-enable the analog inputs if needed by setting parameter 1502 in the System Inits to match your configuration. Especially after changes to the configuration of your HX3 device, also pay attention to the [Update Checklist](#).



Tab/Drawbar Panel



With the Tab/Drawbar Panel, the HX3 device can be operated using virtual controls. You may adjust sounds and effects, create, name, and edit presets. When the panel window is open, you can access presets live using the function keys on your PC keyboard.

The green buttons correspond to the buttons of a classic organ. Some functions are only available if an Extended License is installed. With the Standard License only the first three models *B3 Default*, *B3 Old* and *M3/M100* of the *Generator* pull-down menu can be used effectively, with the Extended License also *H100* and the various Transistor models.

If the HX3 device is connected through MIDI or MIDI over USB, you may play the sounds for trying out by touching the **virtual keyboard** with the mouse pointer..

By clicking on the tabs *Upper*, *Lower*, *Pedal* or *Volumes* you approach the operating controls of the respective manual like the drawbars and ADSR/Percussion enable switches, GM Layer sounds or the volume controls. In each section you may recall and save the respective Voice presets. Voice presets contain organ drawbar settings only.

Depending on the set *Gating Mode*, the *EG Mode Envelope* drawbars and the lower row of drawbars are activated. The latter change their function, as do the checkboxes above them, with the set *Gating Mode*. For details see the following section [HX3.5 Specials](#).

By the way: Alternatively, the HX3 device system can be controlled with a tablet or smartphone, see [User Manual HX35 TouchOSC](#), but not simultaneously with the Tab/Drawbar Panel.

HX3.5 Specials

Special functions not found on other organs are explained here:

Perc ON/Soft/Fast also work in H100 mode (*H100* is ON). Percussion sounds on the harmonics activated with *H100 Percussion* checkboxes on the right (upper) when Perc ON is ON.

2nd Voice will disable the percussion decay circuit, so the percussion part of these harmonics will have a steady tone, bypassing vibrato and phasing rotor. This allows some nice chorus effects by routing some drawbars to effects, some not.

Harp Sust enables a decay/sustain effect on 4' harmonic.

In Electronic Gating mode (*EG Mode*), a soft-switching envelope generator is used instead of the B3-type "mechanical" key contacts. The ADSR parameters are controlled by the *EG Mode Envelope* drawbars on the right.

With EG Perc activated, the ADSR circuit forms a percussive sound. The percussive part is adjusted with the *Poly Perc Levels* drawbars, which are now active. The decay time is set with the Decay drawbar of the *EG Mode Envelope* group

If *Ena Time* is activated, the attack/decay/release times can be set to different lengths with the now activated *ADSR Time Modifiers* drawbars. This makes it possible to mimic the different response of long and short organ pipes.

With *Ena Dry* activated, the checkboxes on the right in all EG modes for the upper manual take over the function *Drawbar to Dry*: The harmonics marked thereby sound "dry", they bypass Vibrato and Phasing Rotor, which can be used to achieve nice chorus effects.

If *PercON* is activated with *EG Mode* or *EG Time*, the *Mono Percussion* checkboxes can be used to add H100-like percussion to individual harmonics.

The drawbar *HDcy* control (Harmonic Decay) algorithmically shortens/extends the decay/release times differently for all harmonics. This creates effects like from a Fourier synthesizer, since HX3.5 has a separate ADSR/VCA envelope generator for each foot position and each note on each manual.

The lower manual does not distinguish between the different EG modes. The checkboxes take over the *EG ADSR Enables* function when an EG mode is active. Activating a checkbox switches the associated lower manual harmonic to ADSR mode. Otherwise, only a sound without keyclick is heard.

On *Upper*, *Lower* and *Pedal* tabs you may also add a GM Synth Voice Layer to your drawbar sound or play the GM Voice without drawbar sound at all. GM program numbers follow the General MIDI standard.

The Extended License provides a second GM Synth Layer that can be detuned against the first to create a richer sound. Both layers can be harmonically transposed with respect to the drawbar base note.

Presets on PC function keys

By hitting the *Esc* key or one of the *function* keys 1...12 you may select the live preset 0 or preset 1...12 quickly on the PC keyboard, if the Panel is connected. To select voices quickly, choose upper manual, lower manual, or pedal in the drop down menu "F1..F12 Key Assign" or by hitting one of the keys U, L, or P, respectively. Push C or the spacebar to switch back to quick common preset selection.

Saving Presets to the HX3 device

Adjust your preset to your needs with upper, lower, pedal, volumes and common controls. Edit the preset name as desired and choose a preset destination number in the dropdown menu. Then click on the *Store to #* button. An existing preset at this position will be overwritten. Preset names can contain up to 15 characters, but no umlauts. Drawbar presets (voices) cannot be named. You save them with the controls at the top of the tab for the respective manual.

Presets Panel

Click on the *Presets* tab to open the Presets panel. On the Presets panel you can determine, which items are recalled with your presets.

Items that checked will be stored individually with single presets. Items that are not checked will be stored in preset #0 as default values and thus be valid for all presets.

Upper Lower Pedal Volumes Presets Help Log Window

Preset Settings Checked items are recalled from overall Common Presets.

- ☒ Upper/Lower/Pedal Drawbars
- ☒ All Tabs/Knobs, ADSR values, EG Drawbars
- ☒ All GM Voices, GM Levels, GM Harmonics
- ☐ Volumes, Equalizer, TrimPots
- ☐ Vibrato/Generator/Percussion Params
- ☐ Keyboard/Contact Settings
- ☐ Split On Tab, Split Point, Split Mode, Local Enables
- ☐ Rotary Live Control Params, Stop/Run/Fast

Startup values must be stored to Preset #0.

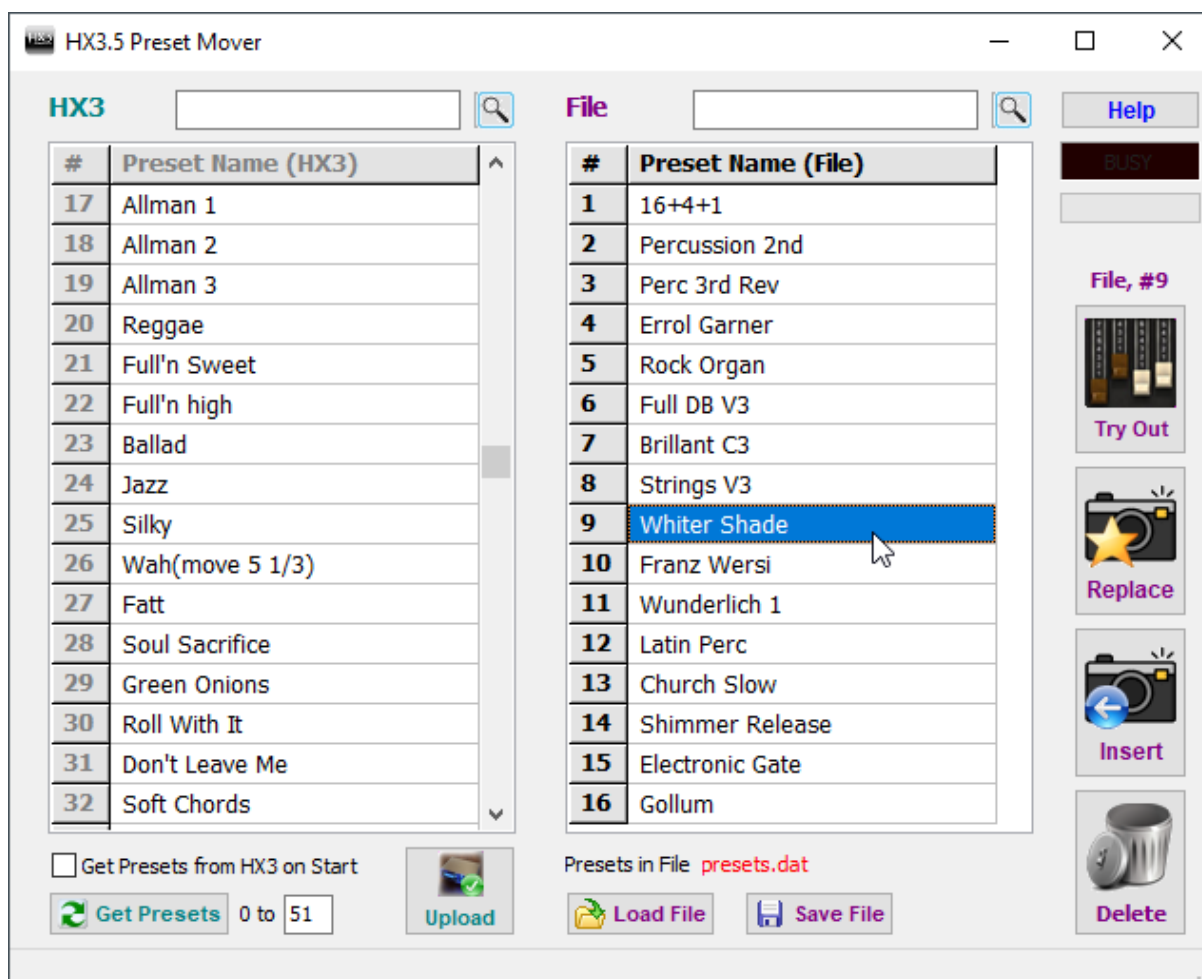
Backup Voices Restore Voices Backup Presets Restore Presets

Preset Backup Range
Presets 0 to 99

Preset Backup and Restore

Use the respective buttons to backup or restore presets or voices. If you do not use all 99 presets, you may speed up the backup procedure by limiting the number of presets that are written to the backup file on the Presets Panel. Presets can also be renamed, saved and loaded using the Preset Mover.

Preset Mover



With the Preset Mover you can easily manage your presets. You can try out, move, and rename presets. You can transfer presets from a file to the HX3 device or save them to a file.

The left column corresponds to the connected device, the right column to a preset file.

Click *Get Presets* at the bottom left to load the number of presets set next to the button from the connected HX3 device to the left column. Click *Upload* to transfer all presets from the left column to the device. Presets present in the device at the same positions will be overwritten.

Click *Load File* at the bottom right to load a preset file into the right column. Click *Save File* to save all presets from the right column to a file. If you select an existing file, its contents will be overwritten.

To try out a preset from either list, select it and click the *Try Out* button. The preset will then be activated on the HX3 device, but will not overwrite any existing preset. At the same time, the name and settings are displayed in the panel window and can of course be changed here if desired. Please note: If you use *Store to #* in the panel, the preset will be stored in the HX3 device in the place set in the drop-down menu and may overwrite an existing preset.

Click *Insert* to insert the preset currently selected on the HX3 device before the preset currently selected in the Preset Mover. Click *Replace* to overwrite the currently selected preset. *Insert* and *Replace* work in both columns.

If you double-click on the name of the preset, you can change it. Click on another line to finish editing. Preset names can contain up to 15 characters, but no umlauts.

You can move presets individually or in as a block between the two columns. You can also move presets within a column and thus re-sort them. To select a block, hold down the Shift key. Hold down the left mouse button and drag the preset or block to the desired position. Drag to the *Trash* or click on the *Trash Icon* to delete the preset or block.

If you make changes in the Preset Mover in the left column, they will not be transferred to the HX3 device and saved permanently until you click the *Upload* button. Changes made in the right column are not saved to a preset file until you click *Save File*.

The two columns in the Preset Mover can hold up to 200 entries each. However, *Upload* will only transfer the first 99 from the left column to the HX3 device. The rest are lost when the program is terminated. The right column, on the other hand, is saved in full to the preset file with *Save File*. Please be careful not to exceed the number 200, otherwise existing entries will be overwritten.

HX3.5 Editor

HX3.5 Editor is a powerful tool for setting up the HX3.5. By means of the HX3.5 Editor you may set up the HX3.5 for any possible hardware configuration, trigger firmware updates, and adjust sounds and effects.

At the same time, HX3.5 Editor is KeyboardPartner’s production tool; it does enable you as well to adjust your HX3.5 in a way that renders it completely useless for your configuration. Please use the Editor with due diligence; do not adjust parameters without knowing what they mean.

On the right you see several buttons. The HX3.5 parameters are organized in groups. To find a particular parameter group, click on the corresponding button. The group will move to the top of the table, and will be marked as active by green parameter numbers.

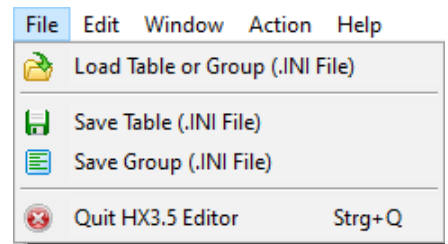
When you change values in a parameter group, they take effect immediately but are not stored. Click *Store Group Values* to permanently transfer the values to the HX3 device.

File Menu

You can save all parameter values to a file using the *Save Table* function in the *File* menu and load them from a file using *Load Table or Group*.

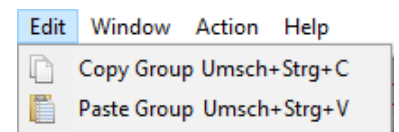
Use this function to create a backup of the parameter values before you change settings so that you can revert to the old values if necessary.

With *Save Group* you can save the values of a parameter group. When you load this file with *Load Table or Group*, the values are automatically placed in the table.



Edit Menu

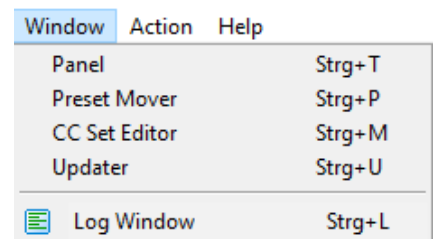
In the *Edit* menu, you can use the *Copy* function to copy the values of a parameter group to the clipboard. With the *Paste* function you can paste the values from the clipboard into the currently activated parameter group. This function should be used with caution. The editor does not check whether the copied values make sense.



Window Menu

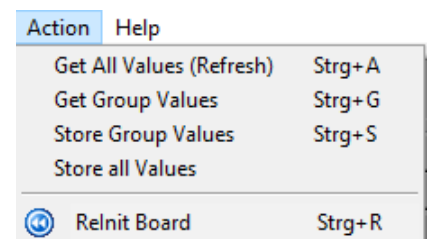
From the *Window* menu, just as from the Start window, you can call the Panel, Preset Mover, CC Set Editor and Updater components, optionally using keyboard shortcuts when the Editor window is open.

In the Log Window the communication is logged.



Action Menu

Get All Values (Refresh) and *Get Group Values* can be used to load parameter values from the device into the table. Normally this is not necessary because the values are already transferred at Connect. With *Store Group Values* and *Store All Values* parameter values are transferred to the HX3 device for permanent storage. *ReInit Board* must be executed after updating the FPGA, the DSP or the Scan Driver. More about this in the following chapter.



Help Menu

Go to Entry leads directly to a selected parameter group, similar to the buttons on the right side of the editor window; however, the list contains more groups. *Find Parameter Number ...* takes you quickly to a specific parameter whose number is known.

Parameter editing

In the column *Value* click on the parameter value you want to edit.

A **help text** for the selected parameter appears on the right at the bottom of the main window. Depending on the type, for many parameters, when you click on the value, a variable scroll bar, an ON/OFF switch or a drop-down list appears.

Param	Description	Value
#	Upper Drawbars	
1000	DB #0, Upper Drawbar 16	119
1001	DB #1, Upper Drawbar 5 1/3	102
1002	DB #2, Upper Drawbar 8	126
1003	DB #3, Upper Drawbar 4	17
1004	DB #4, Upper Drawbar 2 2/3	17
1005	DB #5, Upper Drawbar 2	56
1006	DB #6, Upper Drawbar 1 3/5	16
1007	DB #7, Upper Drawbar 1 1/3	16
1008	DB #8, Upper Drawbar 1	16
1009	DB #9, Upper Mixture Drawbar 10	16
1010	DB #10, Upper Mixture Drawbar 11	16
1011	DB #11, Upper Mixture Drawbar 12	16

Please do not change values you don't fully understand. In particular, the System Inits, ScanVib and Rotary Setup group are delicate to changes, which may lead to unwanted results.

Normally all parameter values are transferred from the HX3 device on *Connect* and can be read in the table. In rare cases it may be necessary to retrieve the values. This is done with the *Get Group Values* or *Get All Values* entry in the *Actions* menu.

Important: First create a **backup** of the entire parameter table using the *Save Table* function in the File menu. The saved ini file contains all parameter numbers and values in plain text. You can open the file and read values to undo individual changes. Use *Load Table or Group* to load the backup file back into the editor. Then select *Store All Values* in Action menu to transfer the data to the HX3 device.

Changes to parameter values are always executed immediately, but they are not retained unless the edited parameter group is saved. *Store Group Values* stores all values of the active group in the HX3 device. The storage location depends on the parameter type and is indicated by a color coding of the parameter values (see legend in the lower right corner of the main editor window).

All black and turquoise colored parameter values are stored as **Common Preset**.

Red parameter values are stored as the power-on **default** value; they are common to all Voices and Presets. These settings can be lost during a firmware update in case of major version jumps.

Pink values (**System Inits**) are also saved as switch-on default values for all Voices and Presets. These parameter values remain untouched even with major firmware updates. Check these values carefully after changing your hardware configuration. Also check the values the first time you use a brand new motherboard that is configured as a MIDI Expander at the factory.

Values shown in grey should not be changed (read only).

Setting up the Hardware Configuration

After changing the configuration to a different device type (e.g. from expander to drawbar organ), check the **System Inits** parameters with the Editor. These values are persistent even when firmware is updated.

Normally the values of this parameter group are set automatically by the "config_xxx.ini" file matching your device.

Factory programming of parameter 1503 **ADC Configuration** is "Swell only" for MIDI expander use, so set the configuration according to your needs.

Also, the "MIDI Input" **scan driver** is installed. If you are using FatarScan2 or Scan16/Scan61, install the appropriate scan driver "scanxxx.dat" contained in the Editor directory.

On custom installations, also check Analog Remaps and Switch Remaps (see section [Assigning Controls](#)) as the Editor will install default values here.

Select your desired configuration settings in parameter 1501. Check if the setting of parameter 1497 "Vibrato Knob Mode" corresponds to your configuration.

With parameter 1498 you can define which settings should be stored and recalled with the Common Presets of the HX3. You can set the same on the preset page of the panel.

HX3.5 Editor Version 5.706
File Edit Window Action Help

Param	Description	Value
#	Board Inits	
1496	2ndDB Select Voice Number (enabled when 1..15)	40
1497	Vibrato Knob Mode	2 Vibrato on 4 Radio Btns
1498	CommonPreset Save/Restore Mask	129 x - - - - - x
1499	(not used)	0
1500	(not used)	0
1501	Various Configurations	20 - - - x - x - -
1502	(not used)	0
1503	ADC Configuration	1 Swell ADC only
1504	(not used)	0
1505	(not used)	0
1506	Pedal Drawbar Configuration	0 2 Pedal DBs (B3)
1507	ADC Scaling	100
1508	(not used)	0
1509	HX3.5 Device Type	1 MIDI Expander
1510	Preset/EEPROM Structure Version	32
1511	Magic Flag	165

System Inits

Depending on firmware version, parameters shown in Editor may differ from picture.

- 1496** 2ndDB Select Voice Number. Selecting this voice # on a manual (menu or Preset16/Preset12-2 connected to inverted keys) will turn on second drawbar set
- 1497** Vibrato Knob Mode. 0 = Rotary Switch PL24, 1 = 3 toggle buttons, 2 = 4 radio buttons.
- 1498** Common Preset Restore Mask. Determines which params are saved to CommonPresets: Bit 0 (rightmost): Tabs/Knobs/ADSR, Bit 1: GM Voices, Bit 2: Volumes/TrimPots, Bit 3: Vib/Gen/Perc params, Bit 4: Keyboard/Contacts, Bit 5: Split Mode/Split Point/Local Enables, Bit 6: Rotary Setup. Bit 7: Drawbar settings.
- 1501** Various Config Bits (see help text in editor window).
- 1503** ADC Configuration (0=off/module mode, 1 = swell pedal only, 2 = 0 to 24 internal inputs with DB9-MPX drawbar switching plus 0 to 64 external DBX/PTX inputs, 3 = 0 to 24 internal inputs plus 0 to 64 external DBX/PTX inputs with DBX drawbar switching.
- 1506** Pedal Drawbar Configuration (0 = 2 Drawbars, 1 = 4 DBs, 2 = 12 DBs; if 0 or 1, higher virtual pedal drawbars will be auto-adjusted according to setting.
- 1507** ADC Scaling for analog Drawbar Input control voltages (100 = 100%, more for limited potentiometer voltage range, eg. in MAG organs set to 120).
- 1509** HX3.5 Device Type (see help text in editor window).
- 1510, 1511** Internal use, do not change.

Checking the controls

The parameter display for all controls will be refreshed automatically, since the HX3 device transmits all changes to the editor.

With all analog inputs enabled (parameter 1503=2), check if changes on drawbars are to be seen on *Upper DB* respectively changes on all other analog input groups are to be seen in the parameter table. Non-working analog inputs may have been remapped wrongly or to "not assigned". See [Assigning analog inputs](#).

If a parameter value changes randomly, this indicates a "floating" analog input. This should be avoided as it leads to unwanted sound changes. Connect a control or disable floating analog inputs (value 254 in the *Analog Remap* section, see [Assigning analog inputs](#)).

Assigning Controls

Each analog and switch input of the HX3.5 mainboard can be assigned to (almost) any function. By the way, in delivery state the HX3.5 pinout largely corresponds to that of the older HX3.4 board, but the connectors have different numbers.

The 24 internal analog inputs (PL22, PL23) can be expanded to a total of 88 inputs (24 internal, 64 external) by DBX and PTX boards on PL20; mixed operation of the older DB9 and DB12 boards and the DBX and PTX boards is also possible.

In a similar way, the 16 internal pushbutton/switch inputs (PL25/PL26) can be expanded by 48 external to a total of 64 switch inputs; this is achieved by using a maximum of 3 Preset16 boards jumpered as external panels, that can be connected in series to PL21 via a bus system.

Assigning analog inputs

Two groups are available for assigning the analog inputs: For the internal inputs at PL22 and PL23 the parameter group 5000 to 5023 (Analog Input Assignment/ Remap), for the external MPX inputs the parameter group 5024 to 5087 (Analog MPX Input Assignment/Remap).

Call up the assignment table with the *Analog Remap* button. For each analog input, you will find the assigned function as a value; a drop-down menu with the possible assignments is displayed in the currently active line. Use this to select the desired assignment, but you can also enter known values directly (double-click on the number).

For example, parameter 5009 has the function

"Master Volume" assigned to input PL22 pin 10. If you have connected the TONE control to this input, set the value in the pull-down menu to "87 Tone Pot Equ". Make sure that you do not assign a function twice.

Set unused inputs to "254 Not Assigned", these are skipped during the query and may then also be "open". The value "255 End of Assign Table" marks the end of the table group; the following inputs (only of this group!) are not considered.

Param	Description	Value
#	Analog Input Assignment/Remap	
5000	Analog Input 0 (UPR PL22-1) Function	0 0 Upr1 DB 16
5001	Analog Input 1 (UPR PL22-2) Function	1 Upr1 DB 5 1/3
5002	Analog Input 2 (UPR PL22-3) Function	2 Upr1 DB 8
5003	Analog Input 3 (UPR PL22-4) Function	3 Upr1 DB 4
5004	Analog Input 4 (UPR PL22-5) Function	4 Upr1 DB 2 2/3
5005	Analog Input 5 (UPR PL22-6) Function	5 Upr1 DB 2
5006	Analog Input 6 (UPR PL22-7) Function	6 Upr1 DB 1 3/5
5007	Analog Input 7 (UPR PL22-8) Function	7 Upr1 DB 1 1/3
5008	Analog Input 8 (UPR PL22-9) Function	8 Upr1 DB 1
5009	Analog Input 9 (UPR PL22-10) Function	80 Master Vol
5010	Analog Input 10 (UPR PL22-11) Function	81 Rotary Sim Vol
5011	Analog Input 11 (UPR PL22-12) Function	254 Not assigned
5012	Analog Input 12 (LWR PL23-1) Function	16 Lwr1 DB 16
5013	Analog Input 13 (LWR PL23-2) Function	17 Lwr1 DB 5 1/3
5014	Analog Input 14 (LWR PL23-3) Function	18 Lwr1 DB 8
5015	Analog Input 15 (LWR PL23-4) Function	19 Lwr1 DB 4
5016	Analog Input 16 (LWR PL23-5) Function	20 Lwr1 DB 2 2/3
5017	Analog Input 17 (LWR PL23-6) Function	21 Lwr1 DB 2
5018	Analog Input 18 (LWR PL23-7) Function	22 Lwr1 DB 1 3/5

If one of the table groups is not to be used at all because only internal (PL22, PL23) or only external (MPX PL20) inputs are used, set the first entry of the unused group to "255 End of Assign Table". For example, if only DBX and PTX boards are connected to MPX PL20, set parameter 5000 to "255 End of Assign Table". If no DBX or PTX boards are used, set entry 5024 to "255 End of Assign Table".

Assigning dual drawbar sets

On our older DB9 MPX boards, switching two sets of drawbars per manual was fixed by default. The new DBX boards also allow two sets of drawbars per manual; to do this, *System Inits* parameter 1503 must be set to "3 DB9/12 and DBX".

Set analog inputs for the second drawbar sets to an entry marked "Upr2" or "Lwr2" (values from 128). Drawbars assigned in this way become active when Drawbar Voice 1 (or the voice specified in *System Inits* parameter 1496) is called; for Voice 0, the drawbars with "Upr1" or "Lwr1" are active.

By the way, old DB9/DB12 drawbar sets can also be assigned to PL22/PL23 as a second set. For DB9 MPX boards use operation mode 1503 = "2 DB9/12 and DB9-MPX". In this operation mode additional analog inputs are also polled on MPX PL20, but without considering the assignments on "Upr2" and "Lwr2". Operation of the old DB9 MPX boards is not possible in operation mode 1503 = "3 DB9/12 and DBX".

Assigning digital inputs

To assign switch inputs to the desired HX3.5 functions, use the *Switch Remap* table groups. For the 16 inputs at PL25/26 there is the subgroup *Switch Remap Onboard*. With the parameters *Input Mode* or *Input Mode Onboard* you specify whether the inputs are switches (value ON) or pushbuttons (OFF).

Param	Description	Value
#	Button/Switch Input Assigns, onboard	
5132	Input 32 (onboard Pin PL25-1) Function Button	0 0 Perc ON
5133	Input 33 (onboard Pin PL25-2) Function	1 Perc SOFT BTN
5134	Input 34 (onboard Pin PL25-3) Function	2 Perc FAST BTN
5135	Input 35 (onboard Pin PL25-4) Function	3 Perc THIRD BTN
5136	Input 36 (onboard Pin PL25-5) Function	4 Vibr Upper ON BTN
5137	Input 37 (onboard Pin PL25-6) Function	5 Vibr Lower ON BTN
5138	Input 38 (onboard Pin PL25-7) Function	6 Leslie RUN BTN
5139	Input 39 (onboard Pin PL25-8) Function	7 Leslie FAST BTN
5140	Input 40 (onboard Pin PL26-1) Function	84 V1/C1 Button BTN
5141	Input 41 (onboard Pin PL26-2) Function	85 V2/C2 Button BTN
5142	Input 42 (onboard Pin PL26-3) Function	86 V3/C3 Button BTN
5143	Input 43 (onboard Pin PL26-4) Function	87 V/C Button BTN
5144	Input 44 (onboard Pin PL26-5) Function	12 Reverb 1 BTN
5145	Input 45 (onboard Pin PL26-6) Function	13 Reverb 2 BTN
5146	Input 46 (onboard Pin PL26-7) Function	14 Separate Pedal BTN
5147	Input 47 (onboard Pin PL26-8) Function	15 Keybd Split ON BTN
#	Button/Switch Input Assigns, Ext Panel 3	
5148	Input 48 Function (ExtPanel 3, JP set to \$63)	255 End of Assign Table BTN

Input Monitor

Value

17

Lwr1 DB 5 1/3

18

Lwr1 DB 8

19

Lwr1 DB 4

20

Lwr1 DB 2 2/3

21

Lwr1 DB 2

22

Lwr1 DB 1 3/5

23

Lwr1 DB 1 1/3

24

Lwr1 DB 1

72

Ped DB 16 Mix

74

Ped DB 8 Mix

67

Ped Release

254

Not assigned

254

Not assigned

254

Not assigned

254

Not assigned

254

Not assigned

254

Not assigned

254

Not assigned

254

Not assigned

0

0 Upr1 DB 16

1

Upr1 DB 5 1/3

2

Upr1 DB 8

3

Upr1 DB 4

4

Upr1 DB 2 2/3

5

Upr1 DB 2

6

Upr1 DB 1 3/5

7

Upr1 DB 1 1/3

8

Upr1 DB 1

Parameter

Input Monitor

Digital Input Monitor

for Panel16/Preset16/Extend16

☒ Activate Monitor

Top Btn Row on Panel16/Preset16

Bottom Btn Row on Panel16/Preset16

Panel/Input	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0 extern \$60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1 extern \$61	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2 onboard \$62	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3 extern \$63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4 extern \$64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
5 extern \$65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Analog Input Monitor

☒ Activate int. ADC Monitor (raw)
 ☒ Activate MPX ADC Monitor (raw)

0	1	2	3	4	5	6	7	8	9	10	11
225	233	224	228	212	217	208	219	185	171	129	123
110	118	105	118	86	95	88	96	81	91	76	86
51	60	150	216	0	25	12	16	--	--	--	--
24	0	14	19	227	216	153	255	--	--	--	--
252	231	249	240	216	255	249	255	--	--	--	--
83	252	199	249	201	248	230	235	--	--	--	--
222	250	255	255	255	249	255	255	--	--	--	--
249	248	255	255	255	255	255	250	--	--	--	--
255	255	255	249	255	255	249	254	--	--	--	--
248	251	252	251	252	254	254	254	--	--	--	--

ADC Input

Upper (PL22)

Lower (PL23)

+0 (MPX PL20)

+8

+16

+24

+32

+40

+48

+56

Click on entry to show Remap assignment in table

Shift-Click on entry to show assigned parameter in table

☐ Debug Messages

The editor function *Input Monitor* supports you in assigning analog and digital control elements to the HX3.5 functions. Click on the Input Monitor tab at the top right of the editor window.

The **Digital Input Monitor** table displays the state of switches and buttons. The **Analog Input Monitor** table shows the raw values of the analog-to-digital converters (ADC) for drawbars, pots and other analog controls. Check the respective checkbox for the PL22 and PL23 (internal) connectors located on the HX3 board or the components connected via the MPX bus. Unused analog inputs show random raw values in the Input Monitor, this does not indicate a fault.

If you click on a table field, the corresponding position in the parameter table is called up, where you can assign the desired function using the pull-down menu. Use Shift+Click to go to the parameter of the assigned function.

Please note: As long as the Input Monitor is open, value changes are only displayed in its tables. To check the function of the controls in the parameter table, first close the Input Monitor by clicking the tab *Parameter*. Do not forget to permanently save the edited assignment table with *Store Group Values*.

Configuring the HX3 menu

The HX3.5 menu system includes quite a number of entries for tuning the HX3 sound engine. For live performances you may prefer a scarcer, clearer menu. No problem: Configure the menu to your desire by using the Editor.

You may reduce the number of menu entries deliberately for your live configuration.

Click on the button **Menu Enables** at the bottom right. This will select the first group of menu system entries in the parameter table. It starts with parameter 6000 “Enable HX3 Preset” (this one should be left ON all the time, however).

In the column *Value* click on a menu entry to witch it on or off. Menu entries switched to ON are 255, while menu entries switched OFF are 0.

The menu entries have been divided into three groups due to the large number. Scroll down the parameter table to reach the next group. It will be selected, if you click on a value in the column *Values*.

Once you have modified the menu items as desired, select *Store All Values* from the *Actions* menu to transfer the changes to the HX3 device.

If you want to make further changes, call up the respective group of menu entries again and repeat the steps described.

Once the concise menu is configured as desired, you can save it to a file together with all other parameter values. Choose *Save Table* from the *File* menu. Save your Live Menu under a unique name.

When finalizing (*Finalize* in the *Updater*) and thus also with an automatic update, the comprehensive default menu is installed again. To restore the saved menu configuration, load the file with *Load Table* and transfer the table to the HX3 device with *Store All Values*.

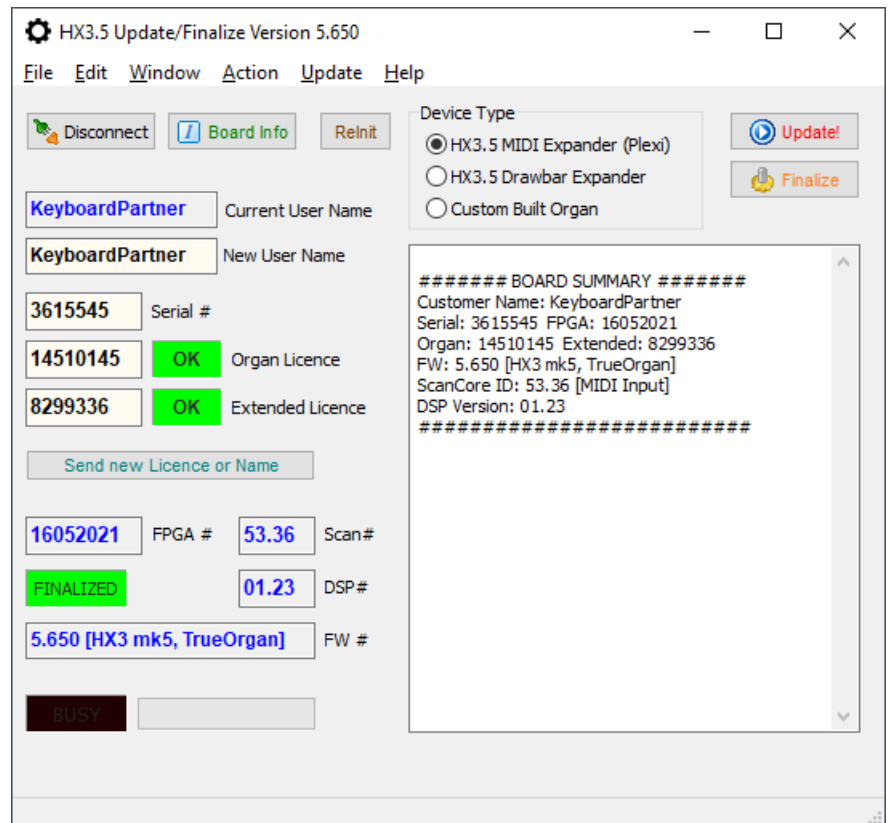
Alternatively, you can save only the parameter groups containing the menu enables individually as files. To do this, use the *Save Group* function in the *File* menu. When loading the respective file with *Load Table or Group*, the parameters are automatically sorted into the correct places in the table. Transfer the respective group with *Store Group Values* into the HX3 device.

Updater

For a **complete automatic update**, check and correct if necessary the type of your HX3 device under *Device Type* and click **Update!**. The automatic updater determines which parts of the operating software require an update and installs the necessary files.

The automatic update is not finished until the UPDATE SUMMARY, followed by the message "Update Done!" appears in the log window. **Please do not interrupt the process, otherwise the firmware may be damaged.**

Finalize is already included in the automatic update.



All presets stored from firmware versions below #5.5 will be overwritten. Backup not necessary (cannot be used anyway). You will be asked if old invalid Presets should be initialized. Click "Yes/OK" when dialog box appears and your old firmware was older than #5.5.

Should the update freeze or throw an error, disconnect, power cycle HX3 device and start all over. Files successfully installed will be not uploaded again. Updating very old firmware may require a single step procedure. See [Updates of single firmware components](#) section below.

In the text field on the right the "Board Info" of the connected HX3 device appears. Here you can read the name of the user, the serial number of the HX3.5 mainboard, the license keys for "Organ" and "Extended" as well as the version numbers of the active parts of the operating software. The user name can be edited, an Extended License can be added.

You can start complete or partial updates from the *Updates* menu and retrieve configuration files ('.INI' files) from the *File* menu.

On a factory programmed HX3.5 mainboard for organ installation, check Basic Settings first. In particular, the *System Inits* usually are default values appropriate for MIDI Expander use.

If controls do not work as before after an update, check the configuration settings in *Systems Inits*.

Checklist

- Is the **Organ License** OK "LED" lit (light green)? Otherwise, license number is invalid or a communication error occurred reading it. You may need to enter the valid license number(s) again in the finalize window. Then click on *Send new Licence or Name*.
- Is the appropriate **Scan Driver** installed? Should be either MIDI Input for HX3 MIDI Expander and HX3 Drawbar Expander FW), or FatarScan or Scan16/61 driver for other configurations. You may replace the Scan Driver by using the Updater (see section "Firmware Updates" below).
- Are HX3.5 **System Inits** correct? HX3.5 will not scan buttons or analog inputs if not set correctly. You can change the *System Inits* with the editor.

In order to **configure the board** for a particular device execute the appropriate file "config_xxx.ini" (xxx = device name) from the *File* menu.

Updates via SD Card

Update files may as well be provided on a SD or SDHC card. An appropriate SD card adaptor is available at our shop. Updates from SD card may as well be initiated in the *Update* menu or automatically on power-up. Attach the SD card adaptor to HX3.5 mainboard PL17. For details please see guidance "[HX3.5 SD Card Usage](#)".

To use an SD card, please double-click on the appropriate batch file "make_sdcard_xxx.bat" ("xxx" representing your configuration) in the update directory. This will generate a sub directory containing all files for the SD card. Copy the files to the root directory of an empty card.

Updates of single firmware components

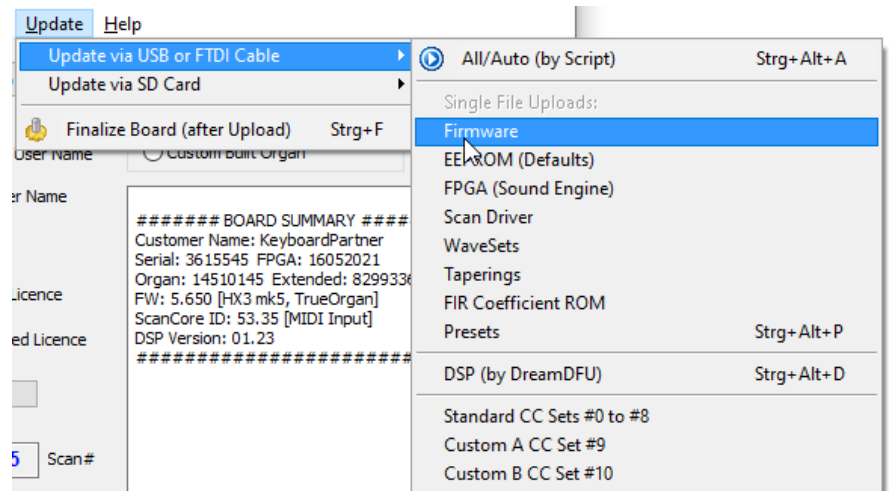
Updates for HX3.5 consist of several parts:

- Controller Firmware including EEPROM content (firmware.bin and eeprom.bin), handles user interface behaviour and MIDI CC
- FPGA Sound Engine (hx3_main.bin), all organ sound generation
- Wavesets (wavesetX.bin), waveform definitions for Sound Engine, different organ models
- Scan Driver (scanXXX.dat), handles keybed scanning or MIDI receive
- Taperings (taperX.dat), B3/H100 tone generator filters and manual tapering definitions
- FIR coefficients (fir_coe.dat), coefficient file for rotary horn simulation
- DSP firmware (reverb, sound generation by GM synthesizer)
- DSP Sound Banks (audio wave table for GM synthesizer)

Files may be used independently and may carry different time stamps; some will rarely need an update (Wavesets, Taperings, FIR Coeffs). See [Changelog](#) on our update server for details which files are to be updated since last commit.

For a single component update through MIDI or FTDI device, proceed as follows:

- **Firmware:** From the *Update* menu select *Update via MIDI or FTDI Cable*, click on entry *Firmware*, and open file "firmware.bin" (default). Upload takes a while. After upload a blinking message reminds you to finalize the firmware. Click on the *Finalize* button.



- **EEPROM:** Note: As long as the preset and parameter structure has not been changed in a new firmware version (otherwise will be noticed in Changelog), do not update the EEPROM content as it holds all board settings and drawbar settings. The update from SD card will skip the EEPROM update automatically if data structures have not changed.

From the *Update* menu *Update via MIDI or FTDI Cable* select entry "EEPROM (Defaults)" and open file "eeprom.bin" (default). Upload takes a few seconds. After upload a blinking message reminds you to finalize the firmware. Click on the *Finalize* button.

- **FPGA (Sound Engine):** From the *Update* menu *Update via MIDI or FTDI Cable* select entry "FPGA (Sound Engine)" and open file "hx3_main.bin" (default). Upload takes a while.
- **Scan Driver:** From the *Update* menu *Update via MIDI or FTDI Cable* select entry "Scan Driver" and open file "scanxxxx.dat" according to your device: *scanfatr.dat* for FatarScan2 equipped organs, *scanmidi.dat* for expanders or *scansr61.dat* for single-contact Scan16/61 boards. Upload takes a few seconds. When it is finished, select *ReInit Board* from the *Action* menu. Check updated scan driver information.
- **Others:** If mentioned in Firmware Changelog, proceed with Taperings, Wavesets and FIR coefficient file (rarely needed) in the same manner as with FPGA.
- **DSP firmware:** Update DSP firmware by selecting " DSP (by DreamDFU)" From the *Update* menu *Update via MIDI or FTDI Cable*. The Updater then switches the HX3 device to DFU transfer mode and calls the DreamDFU external application. More about this in the following section.

DSP Updates

While organ sound generation is done entirely in hardware (FPGA), the HX3.5 mainboard uses a Digital Signal Processor (DSP) for reverb effects (EFX) and General MIDI voice generation. 128 GM sounds are installed as a so-called soundbank.

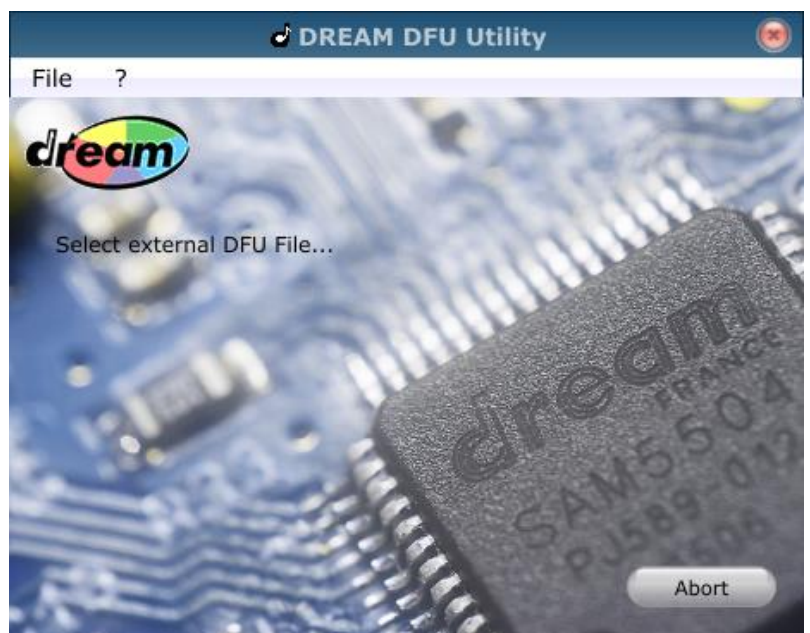
The DSP firmware and DSP soundbank(s) may be updated through the **USB connection only**. Connect the USB cable from your PC either to USB mini jack (internally connected to PL3) or HX3 B-type USB-Jack. Please note: The USB B-type connector on our discontinued HX3 Extension Board mk4 does not have direct access to the DSP chip and cannot be used for DSP updates.

The DSP update package consists of the following files ("xxxx" represents the version number):

- DSP Updater (file DreamDfu.exe for Windows, update by USB connection)
- DSP firmware (file HX35_5504-FW_xxxx.dfu with Reverb and GM synth sound generation)
- DSP firmware (file *HX35_5504-FW_xxxx_noGM.dfu* with Reverb and longer reverb programs, but **without** GM synth sound generation)
- DSP default sound bank (file GMBK5X64_0x8008.dfu, default GM soundbank for DSP GM synth)
- Optional soundbank (e.g. file HX35_Pianos_0x8050.dfu for the DSP-GM synthesizer)

The DSP updater application "DreamDFU.exe" handles the DSP communication. It will be launched by the Updater, if you start the DSP Update. The update package is contained in the update directory.

For Windows 7 and up, DFU mode does not need a driver. For Windows XP, the driver is contained in the update directory: Please direct Windows driver installer to file "dream_dfu_device.inf" in directory "DFU_driver_XP" if Windows does request a driver path.



GM Sounds

The DSP reverb firmware *HX35_5504-FW_xxxx.dfu* combined with the GM sound bank *GMBK5X64_0x8008.dfu* includes the sounds as specified by the GM2 standard.

Reverb programs

The DSP reverb firmware files *HX35_5504-FW_xxxx.dfu* and *HX35_5504-FW_xxxx_noGM.dfu* (**no GM sounds**) include the following reverb programs:

0: Off

1: Short Room

2: Room A

3: Room B

4: Small Hall A (only *HX35_5504-FW_xxxx_noGM.dfu* without GM-Sounds)

5: Small Hall B (only *HX35_5504-FW_xxxx_noGM.dfu* without GM-Sounds)

6: Large Hall A (only *HX35_5504-FW_xxxx_noGM.dfu* without GM-Sounds)

7: Large Hall B (only *HX35_5504-FW_xxxx_noGM.dfu* without GM-Sounds)

8: Short Plate (only *HX35_5504-FW_xxxx_noGM.dfu* without GM-Sounds)

9: Vocal Plate (only *HX35_5504-FW_xxxx_noGM.dfu* without GM-Sounds)

If you want to do without the GM sounds and prefer to use other reverb programs instead, install the file *HX35_5504-FW_xxxx_noGM.dfu*. Then run the ini file "reverb_noGM" from the scripts directory in the *Updater*.

Updating the DSP Firmware, Soundbank Installation

To update the DSP firmware or update/install an optional GM2 soundbank, proceed as follows:

- Open the Updater window and select "DSP (by DreamDFU)" from the *Update* menu *Update via MIDI or FTDI Cable*. The connected PC will close the USB MIDI connection and recognize a DFU device instead.
- The updater app "DreamDFU.exe" will be launched and display a file select dialog. DreamDFU should show a window as shown in picture.
- Select DSP firmware file "HX35_5504-FW.dfu" or open supplied DSP soundbank file, e.g. "HX35_Pianos_0x8050.dfu" or similar, respectively.
- The HX3.5 menu panel display shows "DSP Update (DFU)".
- Click on *Update Device*. A progress bar will indicate the update progress.
- When finished, close DreamDFU by clicking on *Abort*. HX3 device will revert to MIDI over USB mode.

CC Set Editor

Param	HX3.5 Function	Channel	CC	min.	max.	Value Mode
#	Upper Drawbars					
1000	DB #0, Upper Drawbar 16 Clear Learn	1 1 (Upper) ▼	12 12 (0x0C) ▼	0	127	0 0 (Limit to min/max) ▼
1001	DB #1, Upper Drawbar 5 1/3	1	13	0	127	0
1002	DB #2, Upper Drawbar 8	1	14	0	127	0
1003	DB #3, Upper Drawbar 4	1	15	0	127	0
1004	DB #4, Upper Drawbar 2 2/3	1	16	0	127	0
1005	DB #5, Upper Drawbar 2	1	17	0	127	0
1006	DB #6, Upper Drawbar 1 3/5	1	18	0	127	0
1007	DB #7, Upper Drawbar 1 1/3	1	19	0	127	0
1008	DB #8, Upper Drawbar 1	1	20	0	127	0
1009	DB #9, Upper Mixture Drawbar 10	1	21	0	127	0
1010	DB #10, Upper Mixture Drawbar 11	1	22	0	127	0
1011	DB #11, Upper Mixture Drawbar 12	1	23	0	127	0
#	Upper Env/Perc Drawbars					
1096	DB #96, Upper Env/Perc Drawbar 16	1	41	0	127	0
1097	DB #97, Upper Env/Perc Drawbar 5 1/3	1	42	0	127	0
1098	DB #98, Upper Env/Perc Drawbar 8	1	43	0	127	0
1099	DB #99, Upper Env/Perc Drawbar 4	1	44	0	127	0
1100	DB #100, Upper Env/Perc Drawbar 2 2/3	1	45	0	127	0
1101	DB #101, Upper Env/Perc Drawbar 2	1	46	0	127	0
1102	DB #102, Upper Env/Perc Drawbar 1 3/5	1	47	0	127	0
1103	DB #103, Upper Env/Perc Drawbar 1 1/3	1	48	0	127	0
1104	DB #104, Upper Env/Perc Drawbar 1	1	49	0	127	0
1105	DB #105, Upper Env/Perc Mixture Drawbar 10	1	50	0	127	0
1106	DB #106, Upper Env/Perc Mixture Drawbar 11	1	51	0	127	0

When the CC Set Editor is called, the current CC Set is loaded. If you want to modify another existing CC Set, select it from the *Action / Retrieve CC Set from HX3.5* menu. Some CC Sets are limited editable because they contain proprietary encodings.

The *HX3.5 Function* column in the Editor contains all functions that can be controlled via MIDI CCs. Set the MIDI channel under Channel and the CC numbers under CC according to the MIDI implementation table of your keyboard.

Alternatively, you can use the **learning function** of the Editor: Use the control element that you want to assign. The last received MIDI message will then be displayed in green letters above the table. To check whether this MIDI message is already assigned, click the *Find in Table* button. To assign an HX3.5 function, select the appropriate row and click the *Learn* button.

If a CC number is assigned twice, a warning message will appear. For some functions, however, it may be useful to use the same CC number more than once, for example, for a chorus/vibrato rotary switch. Here, the function is then determined more precisely based on the received data value. This setting option can be found under "Special Range Functions" at the bottom of the table.

In the section "Special Range Functions" you will also find two "Dummy Functions". If you assign them, the HX3.5 system will do nothing when it receives this MIDI data. The Dummy Functions are used to prevent unwanted reactions to MIDI data that some keyboards send under certain circumstances.

The default value range is from 0 to 127 for drawbars and potentiometers, but also for switches (0 = Off, 127 = On). For some functions, the value range is smaller, which you can set in the *min.* and *max.* columns.

In the column *Value Mode* you choose how received MIDI data is interpreted:

- *Limit to min/max* Values below or above the range are limited to the respective end value.
- *Scale to min/max* If a smaller value range is set, e.g. 0 to 5, the received values 0 to 127 are scaled to the set range.
- *Ignore out of range* Values outside the set range are ignored.
- *Invert value* Received values are inverted, i.e. 0 becomes 127, 127 becomes 0.
- *Toggle value* The function is switched on and off alternately each time the control element is operated.
- *Mid Threshold* When the average value between min and max is exceeded, a function is switched on.
- *Threshold Inverted* When the average value between min and max is fallen short of, a function is switched on.
- *ON when in Range* The selected function is switched on when the CC value is between min and max.

Press the *Try Out* button to transfer all settings to the HX3 device for testing. These are stored in RAM, but not yet permanently saved.

When all settings have been made as desired, you can give the new CC Set a name in the *CC Set Name* edit box and transfer it to the device with the menu item *Actions / Send CC Set to HX3.5 as....* There are two memory locations named "Custom 1" and "Custom 2" available for this purpose. However, you can also overwrite an existing CC Set. The assigned name will then be displayed on the menu panel in the "MIDI Setup" submenu.

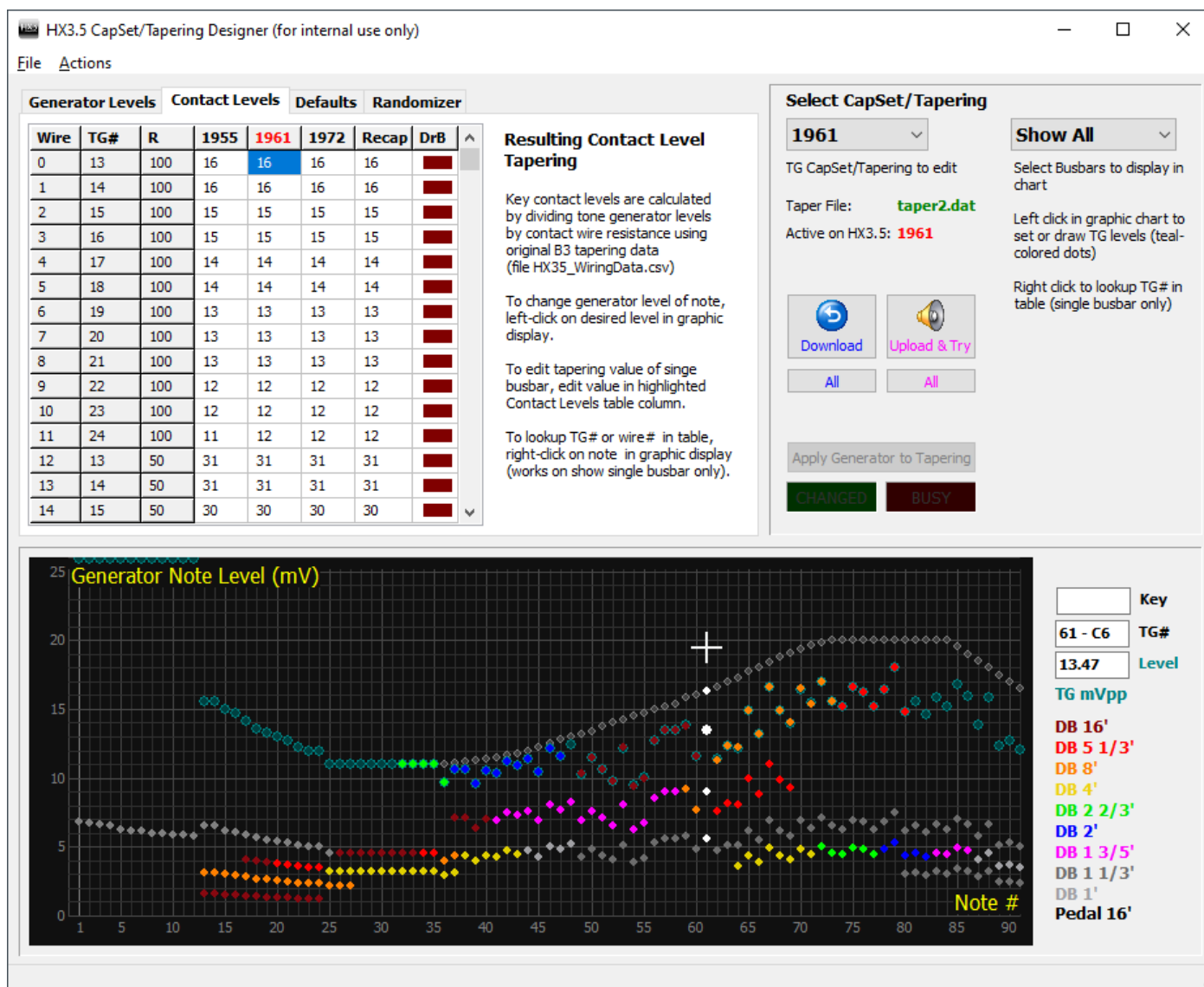
In the *File* menu, you can save a CC Set from the Editor as a .csv file and load it into the Editor from a .csv file. You can also save and load a CC Set in .dat format. In .dat format, the CC Set can be saved on an SD card and transferred from the SD card to the HX3.5 system.

CapSet/Tapering Designer

The HX3.5 Manager contains a sixth component, which was developed only for internal use at KeyboardPartner and therefore is not visible in the start window at first. However, for experts with special desires we would like to make the CapSet/Tapering Designer available. **Please note:** This tool should only be used by expert users who do not need a comprehensive user manual and know exactly how tone generation and tapering works on the real thing.

Drag the bottom of the start window down with the mouse to make the *Tapering* button accessible. After launching, a window appears with the generator levels (*Generator Levels* tab, default values) of the active generator. Select the CapSet to be edited using the *Select CapSet/Tapering* drop-down menu. To retrieve the values stored on the HX3.5 device instead of the default values, click the *Download* button.

Attention: Older HX3.5 taperings (before FW #5.654) do not contain the original generator levels; the Tapering Designer tries to determine these from the contact levels. You may shift the levels with the *Generator Levels Shift* slider in the *Defaults* tab, but it is better to create a completely new tapering (see below).



The diagram displays the levels of all 91 notes. To display the level of an individual note in the table, right-click on the desired tonewheel note in the graphic. You can change the level in the table, but also by left-clicking or left-dragging (for multiple notes) in the diagram. The gray dots represent the idealized factory calibration for orientation purposes.

Note that the levels for the "Complex Tonewheels" (notes 1 to 12) are outside the graphic display area and can only be edited in the table. Changes to the generator levels basically affect all keys connected via the tapering.

After changes, transfer the values back to the HX3.5 device with *Upload&Try*; you can then check your settings immediately. For archiving, you can also save the table locally on your hard disk. The created single tapering file is saved in DAT format suitable for the *HX3.5 Updater* or SD card update (menu File->Save DAT Taper File).

Tables in text format with 91 or 96 tonewheel levels can be imported with *Import Strip mV Levels*, e.g. CSV columns created with Excel. An example of an importable file (tg_levels_textfile.txt) can be found in the *user* directory.

To display the levels after resistor wiring (i.e. directly at the key contacts), switch to the *Contact Levels* tab. All harmonics are initially displayed together here in different colors. Select an individual harmonic at the top right to display only the levels of a specific harmonic and to change them if necessary. This diagram always displays only 61 notes (keybed range). A change here or in the *Contact Levels* table has no effect on the original generator level. The *Contact Levels* are ultimately the values that HX3.5 uses for the overall tapering in the *taperX.dat* files.

Create new taperings

Select *Reset to Default* in the File menu and save the taperings with *Save All DAT Taper Files* to your *updates* directory (later if necessary). You can also upload the new taperings to the HX3.5 device immediately with *Upload All*.

The "randomness" of the level distribution for the *1955*, *1961* and *Recap* settings is determined by the sliders in the *Randomizer* tab; the algorithm primarily affects the LC-filtered tonewheels. The *1972* setting represents the factory adjustment; no randomization occurs here. Note that changes to the sliders immediately affect all generator levels in the current column; manual changes in both the generator and contact level tables are thus lost. These must always be made after a slider setting.

HX3.5 Manager on a Mac

HX3.5 Manager is compatible with the free Windows runtime environment **Wine**. Wine is available for MacOS 10.8 to 10.14 (not yet for Catalina at the time of publication of this guide). Here's how it works:

- 1) Download and install XQuartz.
- 2) Download "Wine Stable" and install it in default configuration (without 64-bit support).
- 3) Connect your HX35 system to your Mac via USB and start it.
- 4) Start HX35_Manager.exe as usual by double clicking on the file icon. In the Wine dialog box that opens, confirm "Run directly in ...". The HX35 Manager app should now appear on your screen and work as intended.

Alternatively, you can use the HX3.5 Manager in the Wine variant **CrossOver** from Codeweavers (also for Catalina and Big Sur). The trial version runs for 14 days free of charge. Steps:

1. Create a new bottle by hovering to the CrossOver top menu "Bottle" and select "New Bottle".
2. Name your bottle, select type Window 10 and create.
3. Right click the bottle, select "open c:drive" and copy the HX35_Updates_xxxx folder into "program files".
4. Click "run command" and browse for the HX35_Manager.exe and click run.
5. One the application launch click "save command as launcher" to save an icon of the application. In the future you can start the HX3.5 Manager with a double-click.

DSP updates cannot be performed under Wine or CrossOver as things stand. Use the Mac version of the Dream DFU utility (DreamDFU_kbp) for this purpose. Put the HX3 device into DFU mode by pressing and holding the upper button of the menu panel while powering on (firmware version 5.630 and higher) or start the DSP update from the update menu without using the opening Windows version of the Dream DFU utility.

Of course you can also set up a complete Windows environment on the Mac, for example using **Apple Boot Camp** or in a virtual machine such as **Parallels Desktop**, **VMware Fusion** or the free **VirtualBox** from Oracle.

For VirtualBox, note: The USB connection must be assigned in the VirtualBox's *Devices* menu. After a reboot of the HX3 device, the USB connection is interrupted and has to be assigned again, because VirtualBox does not restore it automatically.

DSP updates in DFU mode can also be performed in VirtualBox on the Mac. As described above under DSP updates, click Start DFU and select the entry "Keyboardpartner SAM 5504..." in the USB menu of VirtualBox. Then DreamDFU.exe can do its work. Then re-establish the USB connection to VirtualBox and Manager.

Documents library, Download repository:
updates.keyboardpartner.de

KEYBOARDPARTNER UG

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