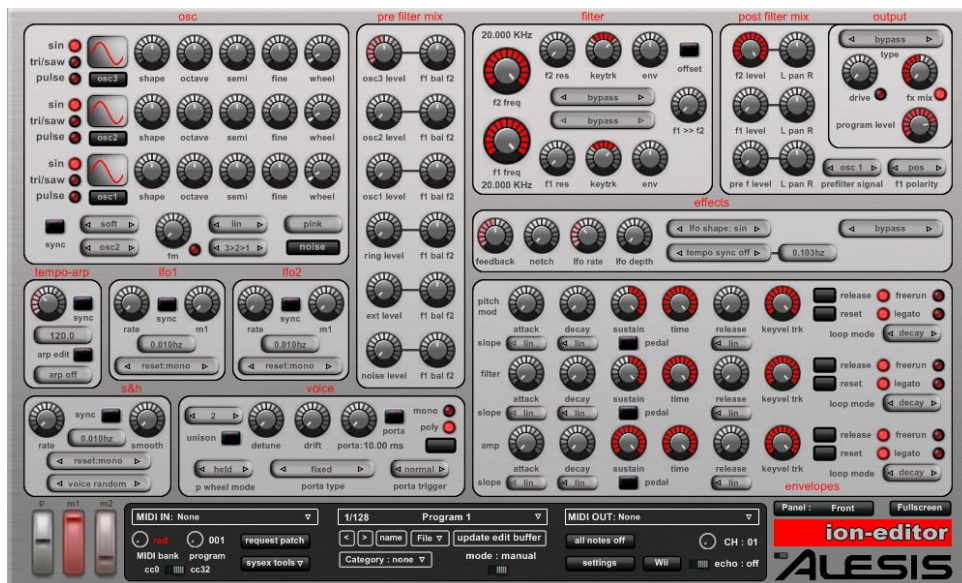


Ion-editor User Manual



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• Installation

- 1) Right Click on the zip file "**ion-editor_vX.X.zip**" and select "Extract All" or "Extract here". (Note: you will receive instructions about how to download this file after ordering)
- 2) Move **ion-editor_vX.X** folder to your VST folder. (You must move the entire folder containing all its files, if you only copy *.dll file the editor will not work properly)

How to run VST plug-in?

You need a VST host program to run a VST plug-in. After the installation the plug-in must appear in the "instruments" menu of your host. If you need further information about adding plug-ins in your host please take a look at the handbook of your host program.

How to run Standalone version?

Simply click on **ion_editor_vX.X.exe**. For quick access to *.exe file you can create a shortcut and move it on your desktop.

If you want to run only the standalone version there is no need for step 2, you can place the extracted folder everywhere you like and click on **ion_editor_vX.X.exe**.

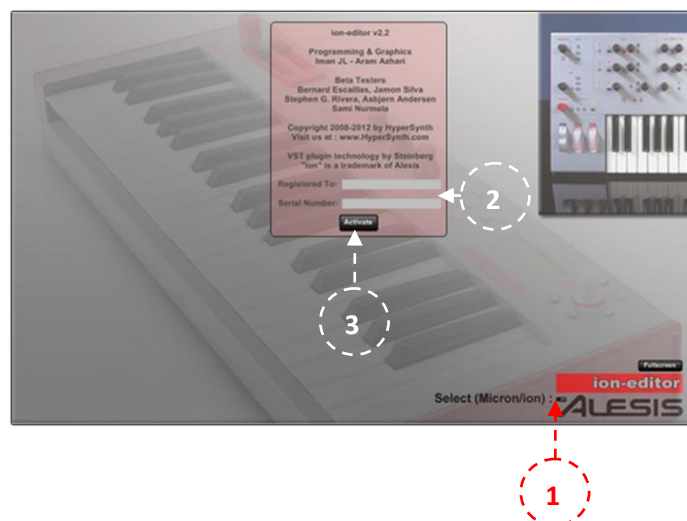
• Registration

You can register VST or Standalone version, once one of them get registered another one will work too. At first startup the "about window" will be displayed. Perform the following steps for registration:

- 1) Select your synth model using a switch in the bottom right corner of the screen.
- 2) Enter or paste your "Full Name" and "Serial number" in the text boxes (Use Ctrl + V or Shift + Insert to paste characters/numbers easily).
- 3) Click on **Activate** button.

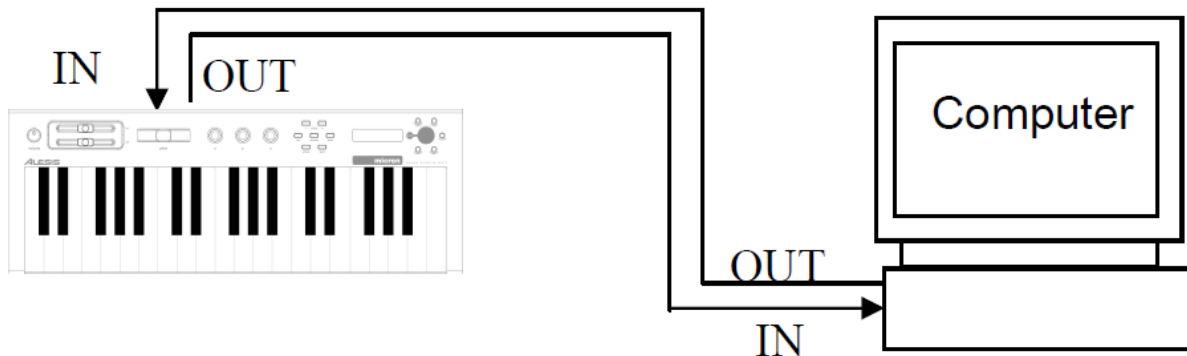
If the information is correct, "**Successfully registered**" message will be displayed and the editor will automatically jump to front panel. (Activate button will be hidden after a successful registration)

If you face to "**Invalid Serial Number**" message you must recheck your name and serial or contact to customer support.



• Setting Up MIDI Connection

Hardware Connections: You need two MIDI cables for setting up a two-way connection between your synth and MIDI interface. However if you don't need **Request Patch/Save Sysex** function one way connection will be enough from your interface output to the synth MIDI Input.



Configuring Editor:

- 1) Select **MIDI IN** device which is connected to your synth MIDI Output.
- 2) Select **MIDI OUT** device which is connected to your synth MIDI Input.
- 3) Make sure that **Channel number** is set to CH:01.
- 4) Make sure that the **cc32** is selected as **bank select message**.



Configuring ION:

- Press the **[global]** button to enter Global mode.
- Go to **midi pgm change** option and set it to **program change**. (If you cannot find that page you must upgrade your OS)
- Go to **midi bank select** option and set it to **cc32**. (By default editor sends **cc32** as MIDI bank message, but responds to both **cc0/cc32**. If you want to select **cc0** the setting must be the same in ION and editor)
- Enable part **a** and make its panel active press **edit part**, go to **midi channel** and set it to 1. (By default editor sends/receives data on channel 1. You can change this later but the channel number must be the same in ION and editor)

Configuring Micron:

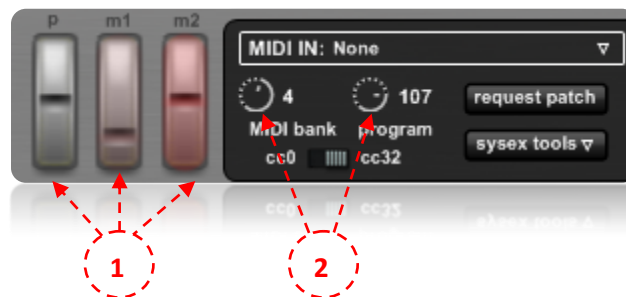
- Press **[config]** to set the Micron's global configuration options.
 - Using Control knob to select **MIDI: channels** option and set it to **start at 1**. (By default editor sends/receives data on channel 1. You can change this later but the channel number must be the same in Micron and editor)
 - Using Control knob to select **MIDI: Pgm change** option and set it to **on (send+recv)**.
 - Press **[program]** to select program mode.
-

Testing MIDI Connections:

After doing above steps it is recommended to test your MIDI connections before using editor:

Testing MIDI IN:

- 1) Move M1/M2 or Pitch wheel on your synth while checking editor, editor's wheels must follow the movement.
- 2) Select different presets on your synth, the bank/program knobs must be changed on editor too.



If the above steps are done successfully so the MIDI IN connection is ok.

Testing MIDI OUT:

Select a program on your synth, play some notes while tweaking editor's wheels or changing program level knob on editor (top right corner). If you hear the sound variation the MIDI out connection is ok.

If your MIDI interface has indicator LED, It will be a useful tool for monitoring the connection.

• Quick Start

One of the basic features of the editor is the ability to create and send **NRPN** messages that are recognized by Ion/Micron. Every time you tweak editor's knobs or switches some specific MIDI messages are generated and sent through MIDI out port. This MIDI messages are used to change the values in **edit buffer** of the sound engine.

What is edit buffer? When you select a patch on your synth and start to change the sound's parameters, A copy of the patch is created in the memory that is called edit buffer. Your changes are not stored directly in patch but in edit buffer and the original patch is still there unchanged unless you store that patch manually. **NRPN** messages can only change the edit buffer so you must not worry about losing your patch or mistakes in editing. Ion has 4 edit buffers (A, B, C, D) while Micron has only one edit buffer.

NRPN vs CC: NRPN has 14 bit resolution (16,384 steps) while CC has 7 bit (127 steps). NRPN can change parameters more precisely if the device supports it. NRPNs occupy more MIDI bandwidth than CCs.

Which parameters can I change remotely via NRPNs?

As you see in the front panel of editor nearly all the parameters of sound-engine can be controlled, **MOD Matrix** and **Tracking Generator** are located in the rear panel. For switching between the panels use **panel selector** at the bottom right corner of the screen. Dual modes bring **MOD Matrix** in front panel for easy access. A randomizer panel shows **Randomizer module** that can randomize some parameters of editor. Every parameter of editor can be automated by your DAW. When the DAW plays your track the recorded automations are reflected in editor and then through your synth:



Front Panel



Rear Panel



Dual 2



Randomizer

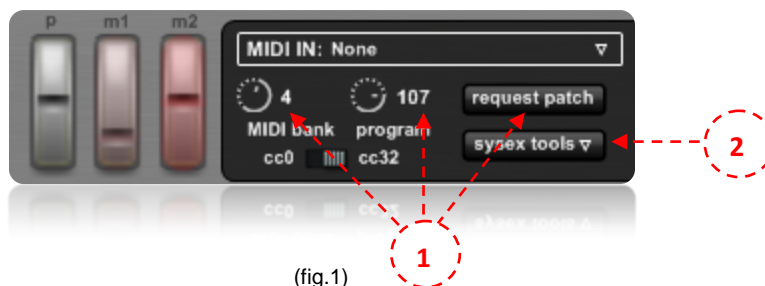
• Request Patch

Request patch loads a patch from specific ION/Micron Memory location into the editor. Program **name** and **Category** are stored in the patch. But a patch cannot be requested by its name, you must address it by **program number** and **bank number** (fig.1-1). When you change your synth presets, the synth automatically transmits the program and bank number out of its MIDI port. Editor receives this information and sets the bank/program number, Only thing you must do is to click on the request patch button. You can find request patch button in the tool bar under MIDI IN device selector (fig.1-1).

If you don't want to touch your synth and want to select the patches remotely, you must know the program and bank number of the patches for setting it in the editor:

How to find out the program and bank number in Micron? Hold down the **[programs]** button for a second, and these numbers will appear on the display. Note that Micron lists its presets in alphabetical order, bank and program numbers may not follow ascending order in a category!

Tip: Request patch is done by using system exclusive messages “**Sysex**”. Sysex messages are usually used to transfer large amount of data between MIDI compatible audio gears. Patch name, category and all sound related parameters can be sent out from your synth in sysex format and editor will convert them to a ***.syx** file and save them in your HDD. The size of a standard Ion/Micron sysex file that contains one program is **434 bytes**. Larger files may contain multiple programs, bank or operating system firmware. (Ion stores Program number, bank number and edit buffer location in sysex while Micron ignores these data)



• Sysex Tools Menu

Using this menu you get access to all Sysex operations that editor is capable of including **load**, **send**, **save and renaming** of a sysex file (fig.1-2).

How to load a sysex patch from your HDD into the editor?

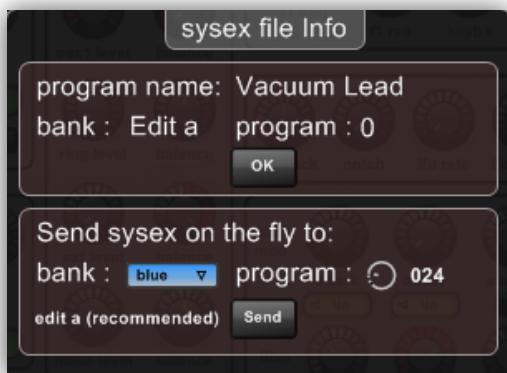
- 1) Open **Sysex tools** menu.
- 2) Select **Load *.syx**.
- 3) A window will be displayed and asked you for file location on your HDD. Select the file and click on **open** button.

Here the patch is loaded into the editor, if you want the patch to be sent to your synth too you must do the following steps:

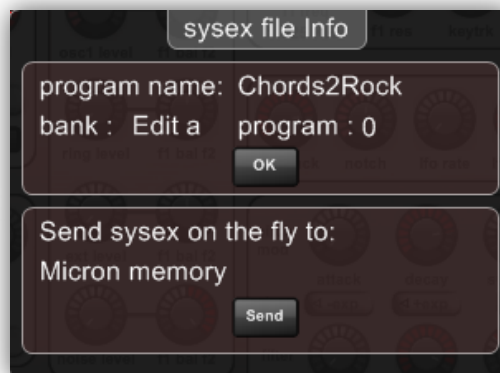
- 1) Open **Sysex tools** menu.
- 2) Select **Load and Send**.
- 3) A window will be displayed and asked you for the file location on your HDD. Select the file and click on **open** button.

- 4) After step 3 **sysex file info** pop up window will be displayed while showing some information about the selected patch, if you click on **send** button it will be sent to your synth memory. **OK** button will just close the window.

“**Sysex file info**” window is different in ion-editor mode (fig.2) and Micron-editor mode (fig. 3). In Ion mode you can specify patch destination in banks even part (a,b,c,d) edit buffers. In Micron mode you cannot see these options because Micron ignores program/bank number and the received patch will go to comp category or a random category in Memory. If a patch with the same name was already there, Micron replaces the new patch with the old one:



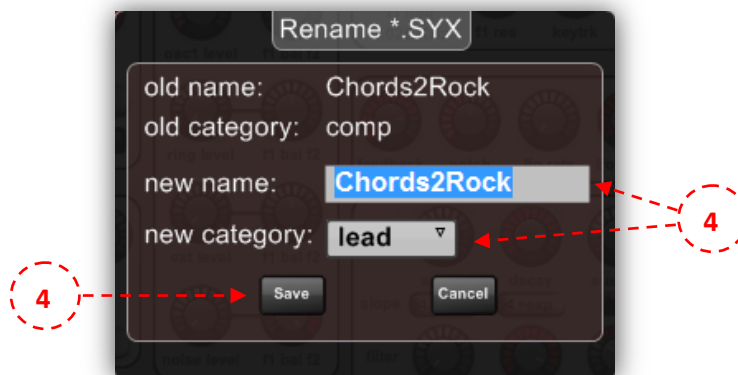
(fig.2) Ion-editor



(fig.3) Micron-editor

How to change the program name and category of a sysex file?

- 1) Open **Sysex tools** menu.
- 2) Select **Change Program Name/Category**.
- 3) A window will be displayed and asked you for the file location on your HDD. Select the file and click on **open** button.
- 4) After step 3 “**Rename *.SYX**” pop up window will be displayed while showing program name and category. Enter new program name in the text box and select new category using the category selector then click on **save** button.
- 5) A window will be displayed and asked you for choosing the file path on your HDD. Select your desired path, enter a name for the file then click on **save** button. (if you select the original file it will be overwritten with new information)



How to save a Ion/Micron program from Memory as a sysex file?

- 1) Select the patch using program and bank knob on editor, or manually on your synth.
- 2) Open **Sysex tools** menu.
- 3) Select **Save (Selected Program)**.
- 4) A window will be displayed and asked you for choosing the file path on your HDD. Select your desired location and click on **save** button.

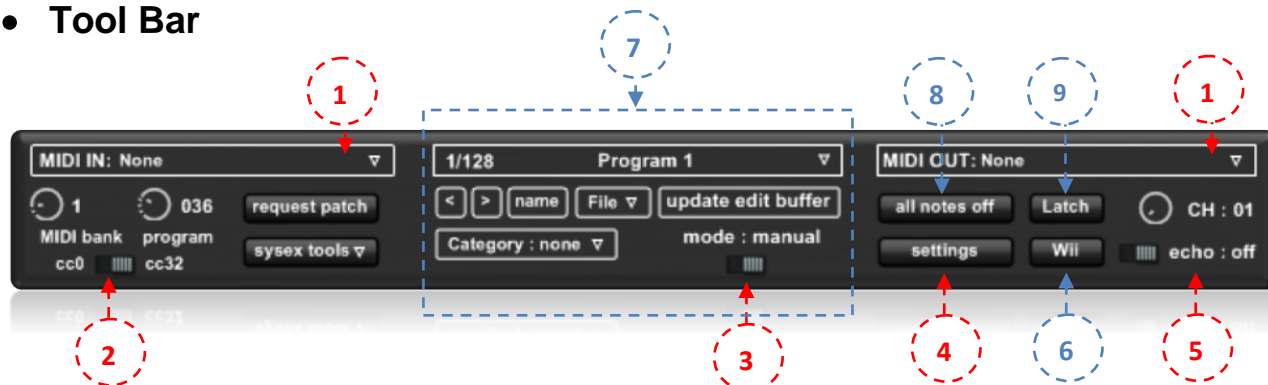
How to save editor program as sysex file?

- 1) Open **Sysex tools** menu.
- 2) Select **Save (Editor Program)**.
- 3) A window will be displayed and asked you for choosing the file path on your HDD. Select your desired location and click on **save** button.

It is recommended not to use this feature, unless you make sure about the amounts of available mod slots in the current program (For more info please read "**About ION/Micron OS**" part of this manual). These notes must be considered while using **save (editor program)**:

- ✓ It uses Ion/Micron hardware for decoding the patch so your synth must be turned on.
- ✓ It overwrites the edit buffer.
- ✓ Editor's preset name is stored in sysex file as program name.

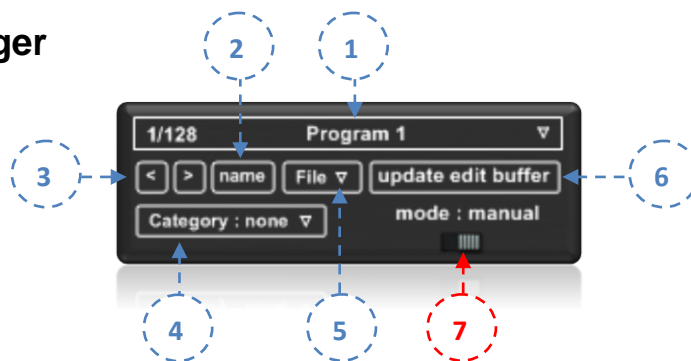
• Tool Bar



- 1) **MIDI IN** and **MIDI out** device selector
- 2) **Bank Select message** switch: allows you to designate which MIDI controller number the Ion-editor transmits as a Bank Select message. (must be set to cc32 in Micron mode)
- 3) **Update mode** switch: (explained in preset manager part)
- 4) **Settings** button: opens up settings window (explained in settings part)
- 5) **Echo** switch: "**Echo: off**" prevents Note-on/Note-off message transmission from editor's MIDI IN to the editor's MIDI out. If it set to **on** and you play notes with your synth keyboard, all notes will be triggered twice and you will hear overlapped attack stages.
- 6) **Wii**: (explained in Wii Remote part)
- 7) **Preset manager**: (explained in preset manager part)
- 8) **All notes off**: shuts off all eight voices like double-press of home button on Ion or program button on Micron.
- 9) **Latch** button: Only available in Micron mode, it enables/disables latch function of Micron. (latch acts like sustain switch in Micron but it has a specific controller number)

Note: all Items that are pointed with **red numbers** are saved by editor every time you change them and will be loaded at the next start up. These items are not stored by your DAW in the track. They are global settings and the same between VST and standalone version.

• Preset Manager



Editor's presets are stored and loaded by preset manager. Preset manager can store/load a bank containing 128 presets. It is also connected to your VST host and updated when you open your project in DAW.

Note that an editor's preset is different from an Ion/Micron program or a sysex file. Editor saves the presets and banks in TXT format:

- 1) **Program name:** Name of the current program that will be updated after request patch. If you rename it manually, it won't reflect in Ion/Micron.
- 2) **Name button:** This button renames the current preset.
- 3) **Left & Right Arrow keys:** increments/decrements the preset number in the bank.
- 4) **Category:** Sets the sound category in Micron.
- 5) **File Menu:** User can save and load editor's presets and banks using this menu.
- 6) **Update edit buffer:** Transfers all NRPNs values to the edit buffer in regard to CH setting. If you select a preset from the preset list it will be triggered automatically by the software (auto update).
- 7) **Auto update/manual:** enables/disable the auto update function of preset manager. Auto update triggers "update edit buffer" at these situations:
 - ✓ After selecting a new preset.
 - ✓ After loading *.txt preset file.
 - ✓ After plugin startup.

If you want to block sending all NRPNs to synth in these situations set it to manual.

Which parameters are stored in the editor's preset?

- ✓ All the parameters of Ion/Micron sound-engine in front and rear panel of editor excluding **randomizer module**.
- ✓ M1 and M2
- ✓ Program and Bank numbers
- ✓ Category
- ✓ MIDI Channel
- ✓ Panel selector
- ✓ Program name

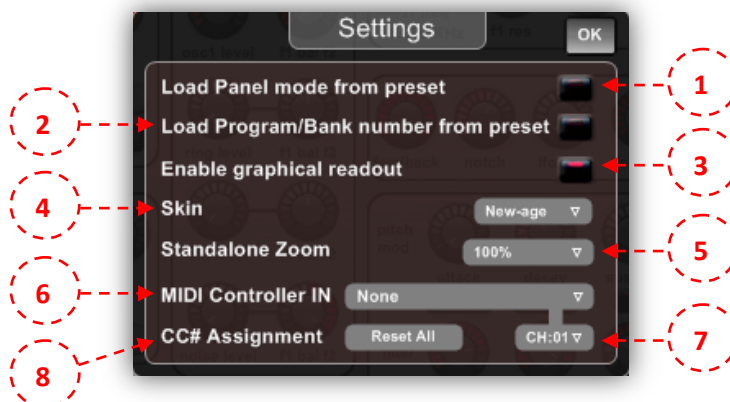
Which parameters can be automated by the VST host?

Pitch wheel + all parameters of the editor's preset excluding **panel selector**.

How can I disable loading program/bank number and panel mode from presets?

If you want these items to be fixed all the time and not jump from one setting to another every time you select a different preset in the bank or every time you load a different project in DAW with different settings, Click on **Settings** button in tool bar, there are specific options for disabling each one.

• Settings



- 1) If set to **Off**, panel mode (front, rear, dual ...) will not be loaded from preset at the startup or when you change the preset number.
- 2) If set to **Off**, Program/Bank numbers will not be loaded from preset at the startup or when you change the preset number.
- 3) Enables/Disables graphical readout (can be turned off for saving CPU while playing back automations)
- 4) Skin Selector
- 5) Standalone Zoom level (note that if you right click on the GUI and change Zoom Level it does not keep the zoom level at the next start up. The best place for changing zoom level is here in settings window)
- 6) **MIDI Controller Input**: Sets the MIDI device which your secondary keyboard or MIDI controller is connected to. "**VST Input (Host)**" forces the plug-in to receive CCs from your host.
- 7) Sets the MIDI channel of the Controller Input.
- 8) Resets all the CC# assignments to their default mapping.

• Shortcut keys and Tips

- If you press **shift** key while tweaking a knob, the value will change more precisely. "**Double Click**" and "**Ctrl + Click**" set the knob's position to its default value.
- **Ion/micron mode**: It is not recommended to switch between Ion and Micron modes while MIDI out device is connected to your synth. Set MIDI out to "**None**" then switch between modes if it is really needed. (fig. 4/5-1)
- **Full Screen and Zoom** functions are only available in standalone version (fig. 4/5-2).
- **About window**: By clicking over the editor's logo about window will be displayed and show you brief information about the software, current version and credits. (fig. 4/5-3)
- **Arp**: shows/hides Arp edit page (Only in Ion mode). **Sync button** synchronizes ion tempo with the VST host tempo. This parameter is dedicated to ion-editor and there is not such parameter in ion. (fig. 6)



fig. 4



fig. 5



Fig. 6

• MIDI LEARN

MIDI Learn function lets you remotely control most parameters of editor using Midi Continuous Controller Data (Midi CC). In addition to the messages specified in the MIDI Implementation Chart, the following MIDI CC messages in "MIDI CC Tables" are recognized and affect their associated parameters. By sending MIDI CC messages, you can change these parameters. You can override the default mapping as listed in "MIDI CC Tables" on demand by learning the controls to different CCs. MIDI learn can be accessed by right clicking over the knobs or buttons. Before using MIDI learn you must select the MIDI device that your hardware MIDI controller is connected to. MIDI learn device selector is located in **settings menu**.

Learn a control on editor to an external controller:

1. Right Click on a knob, button or switch and select MIDI Learn.
2. Move the controller on your controller device which you want to learn to it.

If you want to disable the current or default mapping you should right click on the knob and select midi forget.

• Wii Remote

Ion-editor allows you to receive input data from the Nintendo Wiimote + Nunchuck(optional) and convert them to MIDI messages that are recognizable by Ion/Micron. At first Wiimote must be paired with your PC via Bluetooth.

How to pair a Wiimote in Windows 7?

- 1) Make sure that the Bluetooth dongle is connected to your USB port.
- 2) Hold **1** and **2 buttons** on the Wiimote (do not release the buttons).
- 3) Go to Devices and Printers under the Control Panel and click Add a Device.
- 4) Select **Nintendo RVL-CNT-01** and click Next.
- 5) Select **Pair Without Using Code**.
- 6) Wait for driver installation to be completed.
- 7) Run editor.
- 8) Click on **Wii button** in the toolbar of the editor.
- 9) Release **1** and **2 buttons** on the Wiimote.

The process may be different for other operating systems. Once the Wiimote is paired the Wii button in the toolbar gets blue and shows that the connection is live. By default Wiimote's **A** button generates note on/off message, **+** and **-** buttons transpose the octave of the current note.

Learn a control on editor to Wiimote or Nunchuck controller:

1. Right Click on a knob, button or switch and select Wii remote or Wii Nunchuck.
2. Select your desired controller from the sub menus.

Accel X, Y are raw acceleration data in the X-axis and Y-axis. You get the best result out of the Wiimote movement and turn by linking to Accel X and Y. The infra red camera at the front of the Wiimote can detect and track up to 4 IR dots. The X and Y positions of these dots are returned by BlobX X/Y. Note that at least one Infrared source (an Infrared LED, Pen, Glove or a Candle) must be visible by IR camera for a blob to be detected and tracked.

- **Appendix A**

MIDI Implementation Chart

| Function | | Txd | Rxd | Remarks |
|------------------|---------------|-------|--------|--|
| Basic Channel | Default | 1-16 | 1-16 | Messages are always received on all channels |
| | Changed | 1-16 | 1-16 | |
| Mode | Default | x | Mode 1 | OMNI Mode is always on |
| | Changed | x | x | |
| Note number | Sound range | 0-127 | 0-127 | |
| Velocity | Note On | o | o | |
| | Note Off | o | o | |
| Aftertouch | Keys | x | x | |
| | Channels | o | o | |
| Pitchbend | | o | o | |
| Control Change | | o | o | |
| Program Change | Actual No. | o | o | |
| System Exclusive | | o | o | |
| NRPNS | | o | x | |
| RPNs | | x | x | |
| System Common | Song Position | x | x | |
| | Song Select | x | x | |
| | Tune Request | x | x | |
| System Real Time | Clock | x | x | |
| | Commands | x | x | |
| Aux Messages | Local On/Off | x | x | |
| | All Notes Off | o | x | |
| | Act. Sensing | x | x | |
| | Reset | x | x | |

Txd = Transmits MIDI message

Rxd = Receives MIDI message

o = implemented

x = not supported

• Appendix B MIDI CC Tables

| Parameter | CC# |
|-------------------------|-----|
| m1 wheel | 1 |
| m2 wheel | 2 |
| osc3 waveform | 3 |
| osc3 shape | 4 |
| osc3 octave | 9 |
| osc3 semitone | 10 |
| osc3 fine tune | 11 |
| osc3 p wheel range | 12 |
| osc2 waveform | 13 |
| osc2 shape | 14 |
| osc2 octave | 15 |
| osc2 semitone | 16 |
| osc2 fine tune | 17 |
| osc2 p wheel range | 18 |
| osc1 waveform | 19 |
| osc1 shape | 20 |
| osc1 octave | 21 |
| osc1 semitone | 22 |
| osc1 fine tune | 23 |
| osc1 p wheel range | 24 |
| osc sync(Micron/Miniak) | 25 |
| osc sync(ion) | 25 |
| FM level | 26 |
| FM type(Micron/Miniak) | 117 |
| FM type(ion) | 117 |
| noise type | 27 |
| osc3 level | 28 |
| osc2 level | 29 |
| osc1 level | 30 |
| ring level | 31 |
| ext level | 33 |
| noise level | 34 |
| osc3 balance | 35 |
| osc2 balance | 36 |
| osc1 balance | 37 |
| ring balance | 39 |
| ext balance | 40 |

| Parameter | CC# |
|-----------------------|-----|
| noise balance | 41 |
| filter2 type | 42 |
| filter2 freq hz | 43 |
| filter2 freq octave | 43 |
| filter2 res | 44 |
| filter2 keytrk | 45 |
| filter2 env | 46 |
| filter 2 offset | 47 |
| filter1 type | 48 |
| filter1 freq | 74 |
| filter1 res | 71 |
| filter1 keytrk | 49 |
| filter1 env | 50 |
| f1 >> f2 | 51 |
| filter2 level | 52 |
| filter1 level | 53 |
| pre f level | 54 |
| filter2 pan | 55 |
| filter1 pan | 56 |
| pre f pan | 57 |
| pre filter signal | 58 |
| drive type | 59 |
| drive level | 60 |
| FX mix | 8 |
| FX balance | 61 |
| program level | 7 |
| lfo1 rate | 62 |
| lfo1 sync | 63 |
| m1 to lfo1 | 64 |
| lfo2 rate | 66 |
| lfo2 sync | 67 |
| m1 to lfo2 | 68 |
| s&h rate | 70 |
| s&h sync | 75 |
| s&h smoothing | 76 |
| unison(Micron/Miniak) | 79 |
| unison enable (ion) | 79 |

| Parameter | |
|----------------------|-----|
| unison voices(ion) | 81 |
| unison detune | 82 |
| analog drift | 83 |
| porta time | 5 |
| porta(Micron/Miniak) | 84 |
| porta enable(ion) | 84 |
| porta trigger(ion) | 85 |
| porta type | 86 |
| mono/poly | 87 |
| P wheel mode | 88 |
| pitch env A | 89 |
| pitch env D | 90 |
| pitch env S | 91 |
| pitch env ST | 92 |
| pitch env R | 93 |
| pitch env A slope | 94 |
| pitch env D slope | 95 |
| pitch env R slope | 102 |
| filter env A | 103 |
| filter env D | 104 |
| filter env S | 105 |
| filter env ST | 106 |
| filter env R | 107 |
| filter env A slope | 108 |
| filter env D slope | 109 |
| filter env R slope | 110 |
| amp env A | 73 |
| amp env D | 111 |
| amp env S | 112 |
| amp env ST | 113 |
| amp env R | 72 |
| amp env A slope | 114 |
| amp env D slope | 115 |
| amp env R slope | 116 |
| ion arp on | 118 |
| ion arp latch | 119 |
| mod 1 level | 65 |
| mod 2 level | 69 |
| mod 3 level | 77 |
| mod 4 level | 78 |

• About ION/Micron OS

For accessing all the editor's features, It is recommended to upgrade your ION/Micron OS to the latest version although the latest OS still has several MIDI related bugs and limitations. Latest OS version is 1.06 for ION and 1.1 for Micron. You can download the latest OS file from Alesis website and load it to your synth. For more information about upgrading OS please read your synthesizer reference manual.

How to find out ION OS version?

Turn the Ion's power on while holding both the **[panel active a]** and **[panel active d]** buttons.

Ion OS v1.06 bugs/limitations:

- OSCs Wheel range (0-12): This parameter can be set only to "0" or "1" and the range between 2-12 cannot be set via NRPN.
- Effect part-->LFO Rate: This parameter can be set when tempo sync is off but does not change when sync is on.
- Ion Master Tempo: The tempo value shown on main page (home) does not change when the tempo is set by NRPN. But the tempo really changes behind on the Arp Edit page and it updates correctly.
- It is not possible to rename a program via NRPN. (only sysex)

How to find out Micron OS version?

Turn the Micron's power on while holding both the **[programs]** and **[setups]** buttons.

Micron OS v1.1 bugs/limitations:

- It is not possible to add modulation path in mod matrix via NRPN, User must add mods manually or send a pre-added empty sysex file to memory before programming a new sound (the file is located in plugin folder). This flaw also affects "update edit buffer" function and causes sound difference when sending a preset to synth with number of mod paths more than available.
- It is not possible to change tempo remotely.
- It is not possible to change patterns/ sequences, setup/multi and rhythms via NRPN however you can save/load them via sysex.
- It is not possible to rename a program via NRPN. (only sysex)
- Micron draws "OSC Waveshapes" wrongly or inverted, editor draws the correct waves.

Support info: If you encounter any problems, or you have suggestions for future revisions, don't hesitate to contact our technical support at: Support@hypersynth.com