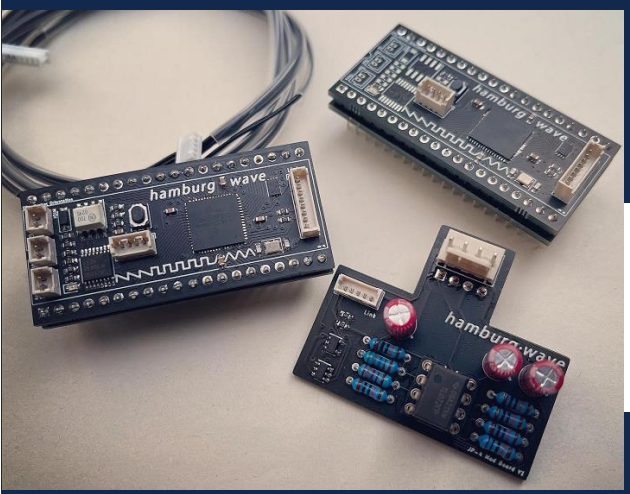
hamburg·wave

MIDIcore Universal Platform



MIDI-enabled CPU kit for Roland Jupiter-4

Installation Manual · Operation Manual · Technical Specifications

FW Version 1.3 (2022/11/19)

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INSTALLATION

PREPARATION

- Ensure the synth is working as intended prior to the installation
- As we need to access the synth from all sides including the bottom side, the synthesizer should be preferably placed on a stand, better than on a table or work bench.
- You will need the following tools to complete the installation:
    - 15mm wood drill
    - CPU lifter, or small flat screwdriver
    - Phillips screwdriver (big)
    - Phillips screwdriver (small)

OPENING UP YOUR SYNTHESIZER

First, make sure the synthesizer is completely plugged out of its power outlet. We need to work on the inside, and the Jupiter-4 has some areas where dangerous voltages are directly accessible and can be easily touched when not paying enough attention. So be careful and plug out your synth!!

Use a Phillips screw driver to remove the 4 screws on the JP-4 top panel, depicted below:

You can now fold up your top panel by pulling the “Range” and “Waveform” knobs up.

MIDI SOCKET INSTALLATION

The MIDIcore platform is designed to rely on both MIDI In and MIDI Out connectivity, in order to be able to communicate with the accompanying windows software utility in both directions. This means that **at least MIDI In and MIDI Out connectors need to be installed**. For basic usage, MIDI Thru is optional, but needed when chaining up multiple synths.

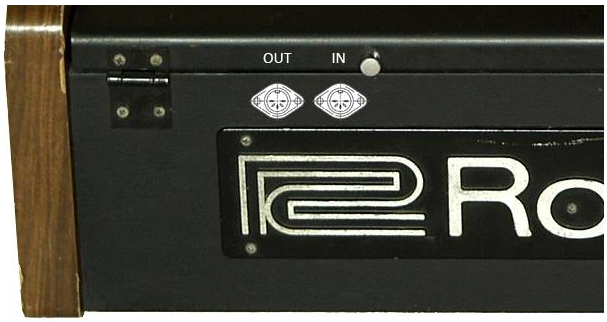
The sockets should be best installed in the back right corner near the big “Roland” badge.

When installing the sockets, keep the following in mind:

- MIDI sockets are usually mounted in right-to-left order, so that you have the correct “In / Out / Thru” order when you are standing in front of the synth, playing it.
- A MIDI socket is usually fitted with the the five contacts inside the MIDI socket forming a “U” shape in the lower half. This way you have the orientation notch in a plug on the top when you plug it into the socket.

Mounting option one (preferred): horizontally aligned above the “Roland” badge:

1a: MIDI In / Out / Thru



1b: MIDI In / Out

Mounting option two (alternative): install the sockets vertically aligned between the “Roland” badge and the side cheek:

2a: MIDI In / Out / Thru

2b: MIDI In / Out

Personally I prefer the first option, as the socket labels can be better applied to the metal top cover than to the other surfaces of the backside area. **But be sure to place the socket in a way that the sheet holder metal stub fits in the gap between to sockets when you fold up the panel lid.**

Now drill 2 or 3 holes with a 15mm diameter drill, according to the instructions above. Please pay attention, as incautious drilling may apply unwanted damage to your beloved instrument. Use a vacuum cleaner on low power to remove the dust.

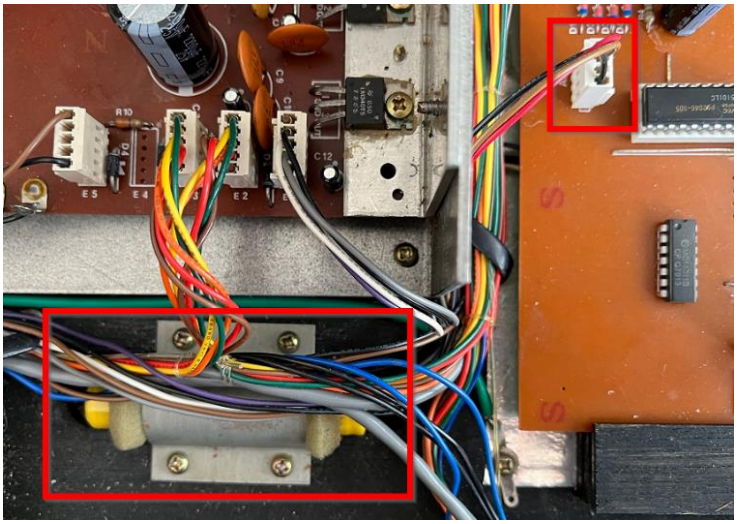
After cleaning, install the MIDI sockets into their respective locations with the contact holes on the bottom side in a “U” shape. Use a small phillips screw driver to fasten the sockets with the small screws included with the kit.

BATTERY REMOVAL

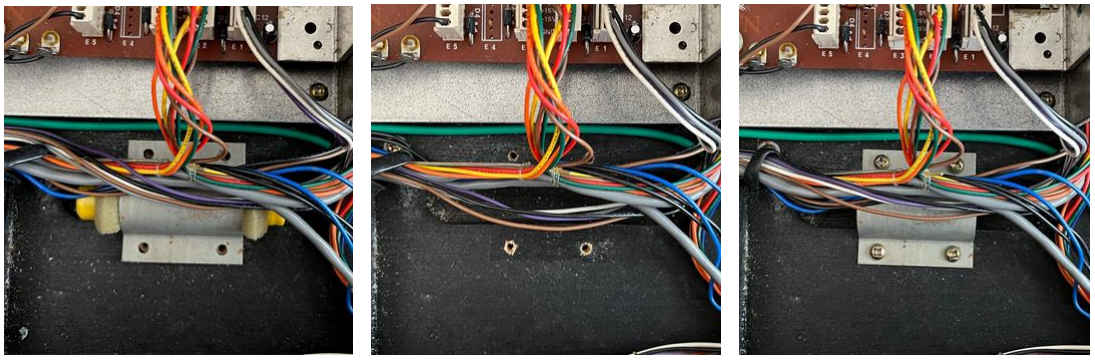
As the battery will not be needed anymore with the new CPU kit, it should be removed in the installation process to prevent leakage. To access the battery, we will need to move out the keybed a little bit. To do this, remove the **6 Phillips screws on the bottom side** of the synthesizer:

When removed, the keybed becomes loose so that you can carefully move it more towards the front edge of the synthesizer. Please note some of the are cables going to the keybed are permanently fixed, so you will not be able to remove the keyboard assembly completely.

Under the left hand side of the keybed, the battery area should appear:



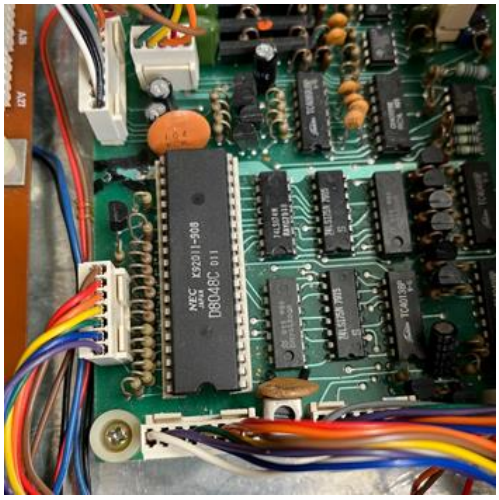
Remove the screw from the metal flap holding the battery. Then take out the battery and disconnect its cable from the main circuit board.

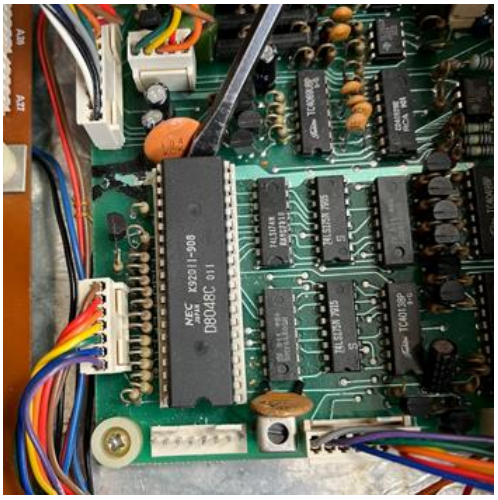


Keep the keybed in its current position, as it eases handling of the next steps.

FIRST CPU REPLACEMENT (KEY ASSIGNER BOARD)

Locate the circuit board at the far right of the synthesizer. The biggest chip on it should read “D8048C 011”. Carefully pull it out by lifting it up from the edges with a small flat screwdriver as a lever. Removing the cable connection directly next to the chip may significantly help. Pay attention to lifting it evenly on both sides to avoid bending the legs too far. Put the chip aside in a secure place out of your working range.

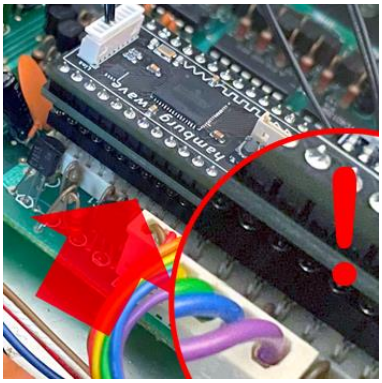




Next, take out the first of the two CPU modules included in the kit. We need the chip that has three small extra connectors on one end of the unit. Carefully remove the chip from its packaging. Pay extra attention to the legs, as they are really fragile and may break easily. Put the chip into the socket that held the 8048 chip before. The three small connectors must point to the front side of the synth with the keybed, the bigger connector will be towards the backside. Also make sure all pins fit into the socket and the chip is not shifted to the left or right side. Push the module in the socket with slight force so it completely pops in. When the chip is installed, the logo on it should be readable from the right side like on the pictures below. Do not forget to reattach the cable connection next to it if you have removed it earlier.

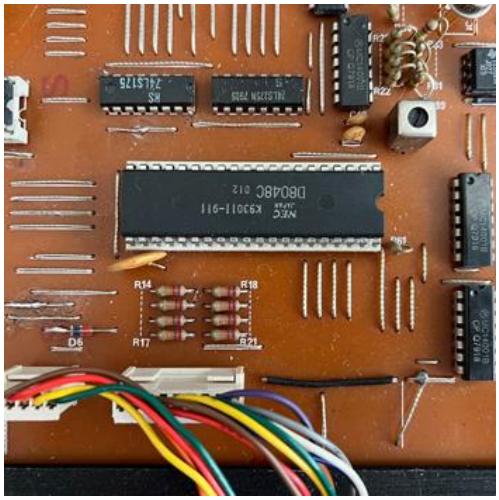
Use the packaging of the new CPU module to safely store the original chip in case you want to restore the instrument to its original state.

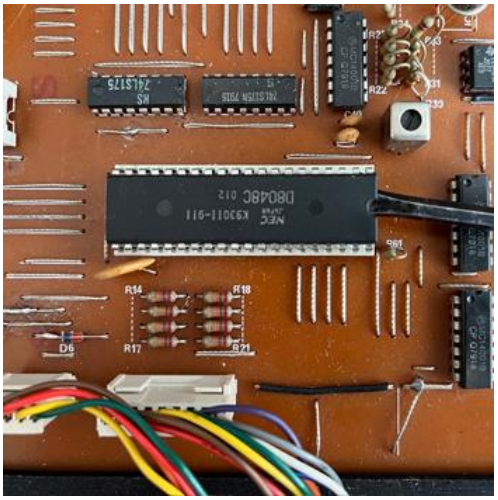
Attention: seating the new modules might require some light force. Please make sure the modules completely slide into the sockets. If you can still see the modules pins on one or both sides, it is likely not completely pushed into the socket and requires an extra push (but still careful – you don't want raw violence in this delicate area of your synth.



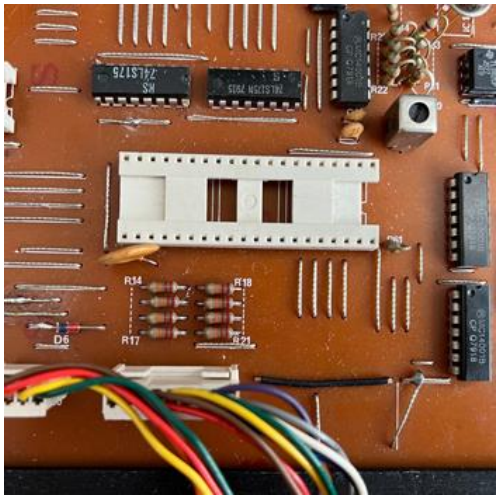
SECOND CPU REPLACEMENT (MAIN BOARD)

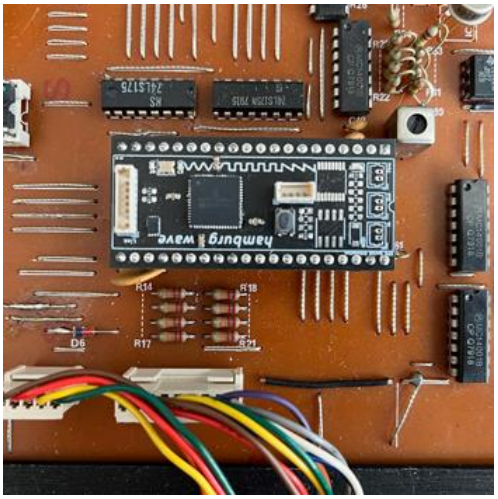
Next, find the other big 8048 chip in the instrument. It is located on the large central board and should read "D8048C 012". Remove this chip as you did with the first one: carefully lift it from both sides, take it out and keep it in a safe location.





Take the other CPU module from the package contents. Place it in the now empty socket on the main board. Pay attention: it needs to be placed with the bigger connector on the left side, so the **writings on it will be downside up** like in the pictures below! Push the module in the socket with slight force so it completely pops in. Also make sure that all pins fit into the socket with no overlapping left or right, like you did with the other one.

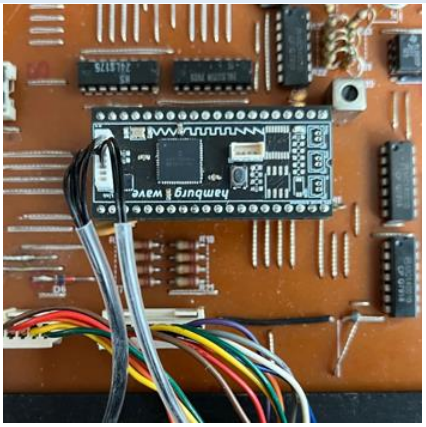




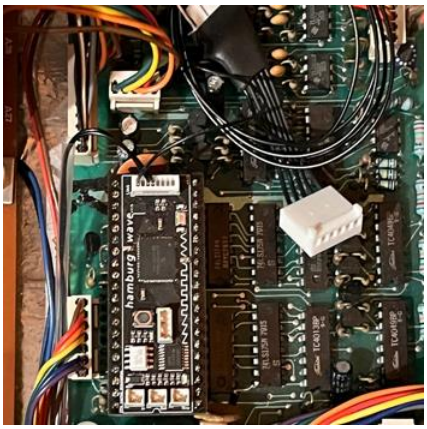
Again, put the original CPU into the packaging to keep it safe and warm in case you need it again.

CABLING

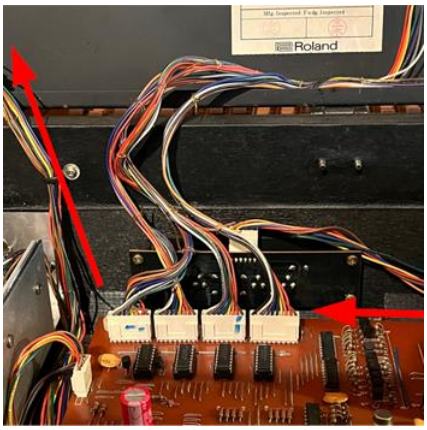
Now it's time for some connectivity. Take out the cable harness. It has 3 small white connectors, and one supplemental single wire coming out of one of the three connectors, and leading to a short 6-pin short connector bridge. First, find the middle one of the three small connectors and plug it into the main board CPU. It only fits in one direction, so you should be able to gently plug it in without much force.



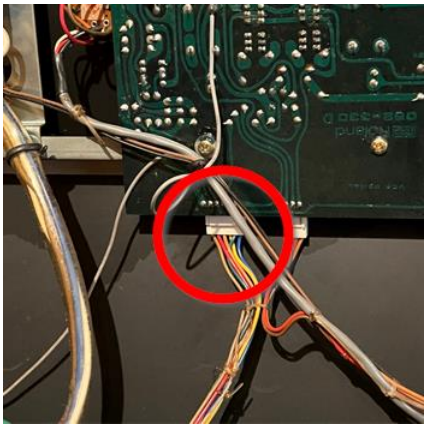
Next, find the cable side with the small 8 pin connector with the single wire attached. This connector needs to be connected to the other CPU (the one installed first). You can join the new cable with the existing wiring below the keybed. This way they will be nicely out of the way when reassembling everything.



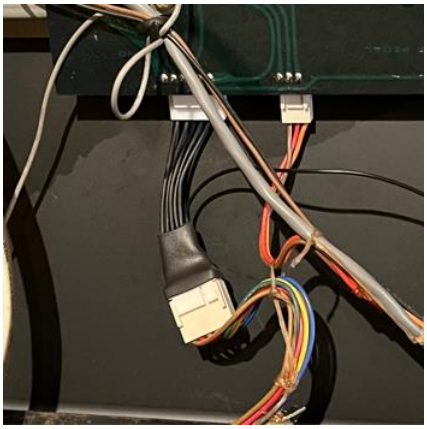
Then, route the single wire through the instrument: from the chip on the right, along the back panel, behind the voice card cage, behind these connectors depicted, up to the panel. Join the new wire with the bundle of other ones on their way up to the panel, and attach it inside the metal clip together with them.



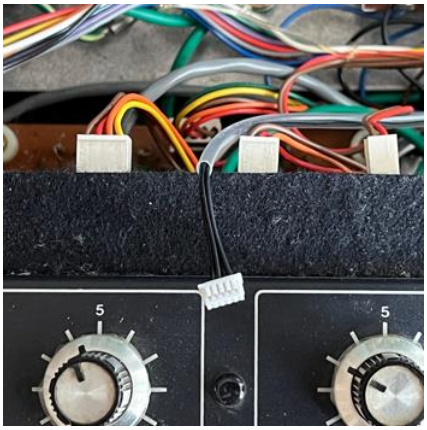
Find the leftmost connector of the panel board and unplug it.



Take the new bridge connector and plug it into the panel connector. Then attach the original connector to the other side of the cable. Make sure the single wire is not too loose and doesn't get squeezed when closing the lid later.



Finally, locate the 5 pin connector on the other side of the wire harness. This will later be connected to the left hand modulation module, so let it join the wiring under the keybed that leads to the left side of the synth, and let it hover freely in that area for now.



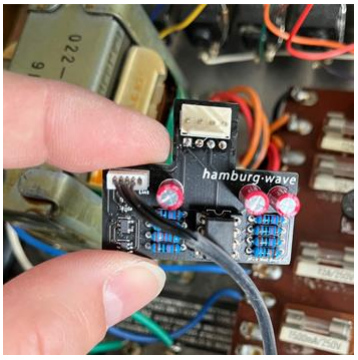
We almost forgot the midi connections. Identify the cables coming from the respective MIDI In/Out(/Thru) connectors that we mounted on the back side earlier. Plug them into the corresponding sockets in the right CPU module:

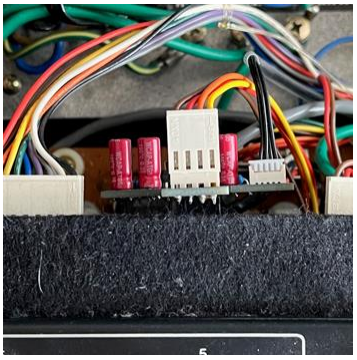
Left = MIDI In
Middle = MIDI Out
Right = MIDI Thru

MODULATION MODULE INSTALLATION

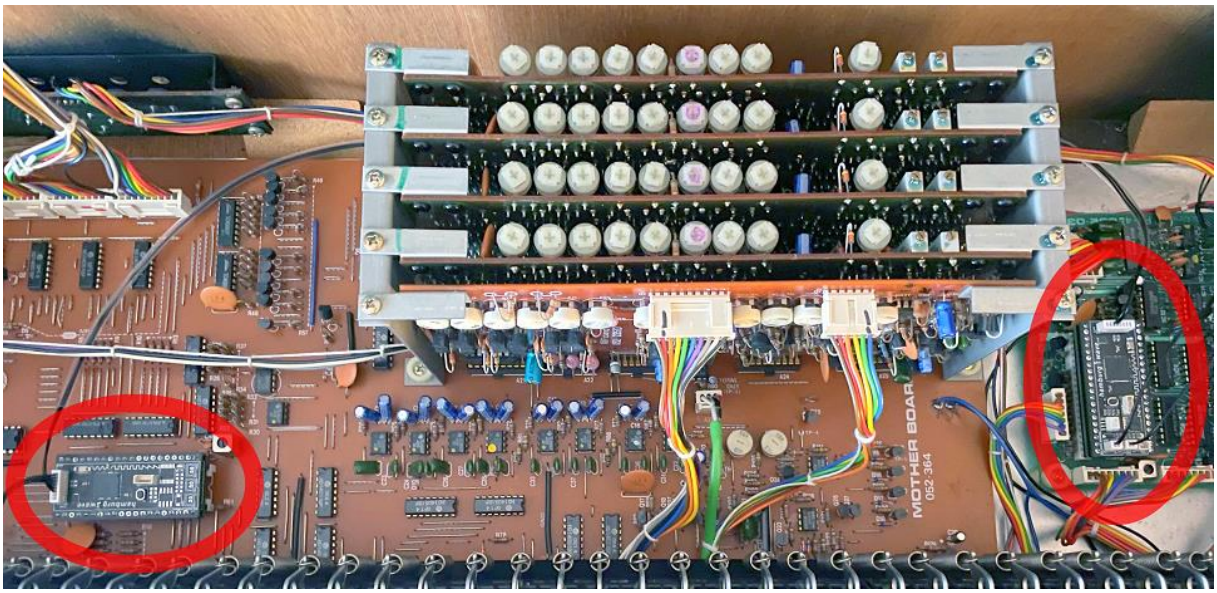
Now it's time to put back the keybed into its place. Make sure there are no wires crushed underneath the keybed stands. Reinstall the six screws on the bottom side holding the keybed.

There should be one module left in the packaging. Obviously this one will be inserted behind the modulation panel. The first step is to locate the 5 pin connector that we left hovering in the left area. Find it and connect it to the "Link" connector on the new module. Next, pull out the cable with the 4 pin connector from the back of the modulation control area. Plug the cable into your new modulation module. Finally, plug the whole module with its socket on the backside onto the empty 4 pin connector in the modulation section. Again, make sure the connector is correctly seated and not shifted left or right.





Now your packaging should be quite empty. Time to double-check the orientation of the modules. The big connector needs to be on the left edge of the module on the motherboard (which is missing the three small MIDI connectors) and on the rear-facing edge of the module on the key-assigner (with its three small MIDI connectors facing the keybed):



When powering on the synth you should see a short flash on both module's LEDs, which indicates both have power and have their OS booting up. Also, the key assigner module's LED will indicate incoming MIDI traffic.

Time to close the lid of your synthesizer and give it a go. Do some more testing first, before you finally reinstall the four panel screws.

FIRST TESTING

When first switching the Jupiter-4 on with the new modules, it should behave as normal, apart that your original user sounds will be empty and these memory positions will have random values until you program them.

So, to check if everything is working, the following settings are suggested:

- Key assign mode “POLY 1”
- A preset sound like “STRINGS”
- “HOLD” switched off
- All three pitch wheel selectors in center position (“OFF”)

Now you should be able to play the synth as normal. Make sure everything works as expected. If this is the case, the previous steps have been completed correctly. Congratulations!

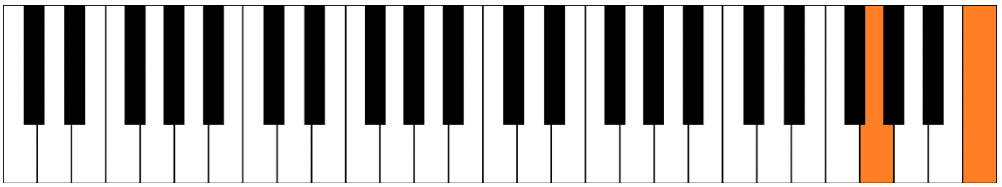
The pitch wheel will need to be initially calibrated using the setup mode, as described on the next pages.

SETUP MODE

ENTERING SETUP MODE

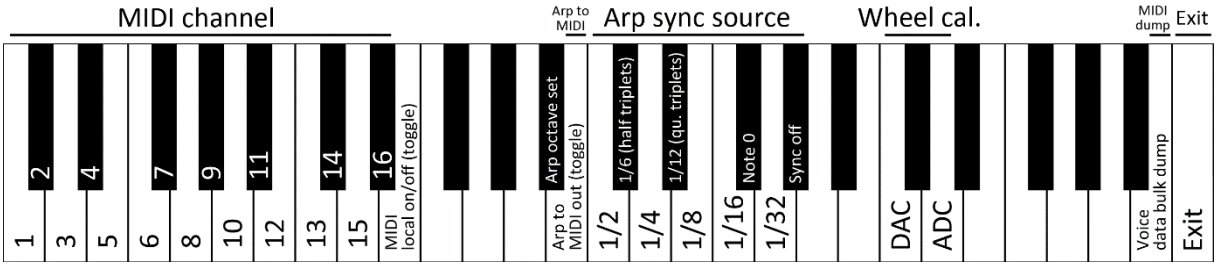
Due to limited control elements on the synth, some basic settings and routines are only accessible during a special setup mode. This setup mode can be entered as follows:

1. Switch off your synthesizer
2. Hold down the top G and C notes:



3. Switch your synthesizer back on
4. A short sound effect will indicate you have successfully started setup mode.

Once in setup mode, the different settings are spread across the Jupiter's keyboard:



During initial installation, you'll want to calibrate the pitch-wheel's DAC and DAC values first. In in that case, skip to those respective sections.

MIDI CHANNEL SETUP

To change the send/receive MIDI channel for the synthesizer, press one of the keys from C1 to D#2 to select a channel from 1 to 16. The key last pressed will be stored as new MIDI channel. A short sound will indicate that a channel has been selected and stored.

MIDI LOCAL ON/OFF

When using an external sequencer or DAW that forwards MIDI data back to your JP4's midi input, you might want to disable the connection between keyboard and synthesizer. Press E2 to choose if local control is enabled (upward confirmation sound) or disabled (downward sound). This value will also be stored into flash memory and restored when power-cycling the synth.

ARP OCTAVE SELECTION SET

Depending on your preference, you can choose between 2 different arpeggiator octave-selection button sets for direct access via the front-panel push buttons (see page 20).

Pressing A#2 with an upward confirmation sound will give you the alternative selection:

Button combination	*Arpeggiator octave range*
MANUAL + 5	*1 octave mode*
MANUAL + 6	*2 octave mode*
MANUAL + 7	*3 octave mode*
MANUAL + 8	*Original mode*

Pressing A#2 with a downward confirmation sound re-enable the default selection:

Button combination	*Arpeggiator octave range*
MANUAL + 5	*2 octave mode*
MANUAL + 6	*3 octave mode*
MANUAL + 7	*Chord mode*
MANUAL + 8	*Original mode*

ARPEGGIATOR TO MIDI OUT TOGGLE

The arpeggiator can also be used to generate MIDI note events to control other instruments. Use the B3 key to enable or disable this feature. An upward confirmation sound indicates the value has been enabled, a downward tone shows it has been disabled. This value will also be stored into flash memory and restored when power-cycling the synth. As default value, arpeggiator to MIDI-out is disabled.

MIDI ARPEGGIATOR SYNC BASE

You can choose how incoming MIDI clock events will be translated to the Jupiter's arpeggiator. Choose a key from C3 to E3 to select a time base between 1/2 note and 1/16 note resolution. A short sound will indicate that a setting has been selected and stored.

PITCH WHEEL ZERO-VALUE ADJUSTMENT (DAC CALIBRATION)

Press C4 to run the routine. A steady note from the synthesizer will start to sound constantly. In the wheel section, adjust the switches to the following settings:

- Bend sensitivity: 10
- LFO modulation: 0
- VCO selector switch: OFF
- VCF selector switch: OFF
- VCA selector switch: OFF

Having done this, switch the VCO selector switch back and forth from "OFF" to "BEND". When perfectly calibrated, the pitches should be the same in both switch positions.

If you note a difference in tuning, keep the switch in the "BEND" position. Move the pitch wheel about 1/3 to the left or right to change the pitch in small steps. Or, if the pitch is far off when in "BEND" position, fully move the wheel to either left or right direction to change pitch in higher steps. Switch back regularly to "OFF" setting to control the pitch difference.

When the pitches in "OFF" and "BEND" position are matching best, press C5 to exit DAC setup mode. The constant sound should stop and short sound indicates that the new center value has been stored.

PITCH WHEEL RANGE ADJUSTMENT (ADC CALIBRATION)

Use this setup mode to adjust the positive and negative moving area of the pitch bend wheel. Press D4 to start this mode.

First, for 2-3 seconds after hitting D4, do nothing. Keep your hands away from the pitch bend wheel. During this time, the synthesizer will gather values to find where the wheel's center position is.

After that, proceed with the following movements:

- Move the bender stick to the far left position, stay there for ca. 1 second
- Move the bender back to the center, stay there for ca. 1 second
- Move the bender stick to the far right position, stay there for ca. 1 second
- Move the bender back to the center, stay there for ca. 1 second

Repeat these four steps 2-3 times, when the stick is finally back in center position, press C5 to exit ADC setup. A short sound will indicate that the new values have been stored.

VOICE DATA BULK DUMP

Use this option to initiate a voice/patch data bulk dump transmission via MIDI. Use your favorite sequencer software or MIDI SysEx-tool to record your patch data and save it to a file, to be able to reload it later.

Reloading patch data:

You can playback your voice patch data at any time into the synth, it will be automatically stored into its memory locations. You don't need to be in setup mode to do that.

Also, the patch dump can be triggered anytime via a SysEx command. Find the command in the reference table at the end.

EXITING SETUP MODE

When done with everything, press C5 once more. A final sound sequence will indicate you are leaving setup mode.

After exiting setup mode, the synthesizer will return to normal operation mode, of course using the new settings you just have configured.

OPERATION MANUAL

No, we won't reproduce the original operation manual originally issued by Roland themselves.

We will just concentrate on the changes or additions to the Jupiter 4's handling after the *hamburg·wave* MIDI kit is installed. Some things obviously behave a little different to make use of the additional functions the kit is offering.

LIVE-EDITING THE PATCHES

Obviously, this doesn't need much explanation. With the original JP-4 firmware, the sound parameters could only be changed from the "MANUAL" mode. With the hamburg·wave MIDI kit, you can do freely adjust every parameter anytime, no matter what patch mode you are in.

ACCESSING THE NEW PATCH MEMORY LOCATIONS

The kit comes with up to 87 memory locations. These can be selected like this:

- Locations 1 to 8: simply press COMPU-MEMORY 1 to 8 (as originally)
- Locations 9 to 16: press BASS, together with memory number 1 - 8
- Locations 17 to 24: press STRING, together with memory number 1 - 8
- Locations 25 to 32: press FUNKY CLAVI, together with memory number 1 - 8
- (…)
- Locations 81 to 87: press THE FORCE, together with memory number 1 - 7
  (88 = patch randomizer, see below)

MANUAL	COMPU-MEMORY								PRESET								
	1	2	3	4	5	6	7	8	BASS	STRING	FUNKY CLAVI	PIANO	VOICE	TROMBONE	SAX	TRUMPET	SYNTH	THE FORCE
	1	2	3	4	5	6	7	8	9-16	17-24	25-32	33-40	41-48	49-56	57-63	64-72	73-80	81-87

For example, to load program 42, press together the "VOICE" and the "2" buttons.

PATCH RANDOMIZER

The last patch 88 (press THE FORCE, together with memory number 8) will create a new unique patch with all randomized parameters:

MANUAL	COMPU-MEMORY								PRESET								
	1	2	3	4	5	6	7	8	BASS	STRING	FUNKY CLAVI	PIANO	VOICE	TROMBONE	SAX	TRUMPET	SYNTH	THE FORCE
								X										X

This can lead to really interesting results. But remember, all parameters will get random values, so if it results in no audible sound, there might be no wave selected, cutoff closed, attack very high or similar. Use several attempts and tweak the sound according to your needs. If you want to keep the result, you can use the following procedure to store it in a different memory location.

STORING TO PATCH MEMORY LOCATIONS

When storing a patch to a memory location, we need to deal with a limitation the JP-4 has in its electrical design: the “WRITE” functionality cannot be initiated unless one of the “COMPU-MEMORY [1-8]” buttons is activated.

To address this, storing of patches can be done in one of two ways:

If one of the “COMPU-MEMORY [1-8]” buttons is currently pressed (if coming from a user memory locations)**:**

a) To save the current memory location:

Press “WRITE” and “PROTECTION” and hold them for at least 3 seconds.

b) To save to a new location:

Press “WRITE” and “PROTECTION” together and release them again. Then, within 3 seconds, dial in the desired new memory location.

If currently none of the “COMPU-MEMORY [1-8]” buttons are pressed (if coming from “MANUAL” or one of the factory presets)**:**

Keep the “WRITE” and “PROTECTION” buttons pressed, while selecting the new memory location, selecting the “COMPU-MEMORY [1-8]” button first, then the bank selector with one of the “PRESET” buttons. Keep the “WRITE” and “PROTECTION” buttons pressed for 3 more seconds, then release them.

Advice: use one of the locations [1-8] as a temporary storage, then proceed to the final location using the less complicated procedure above.

CHORD PLAY MODE

Your Jupiter-4 now also has a chord play mode. To engage it, follow these steps:

- Select POLY 1 or POLY 2 mode and play a chord with up to 4 notes on the keyboard.
- While keeping the chord pressed, change the assign mode to UNISON 1. Then release the keys.
- Now, when playing a single key on the keyboard, the previously played chord will sound, transposed accordingly to your played key (which will represent the lowest key in your chord).

ARPEGGIATOR MODES

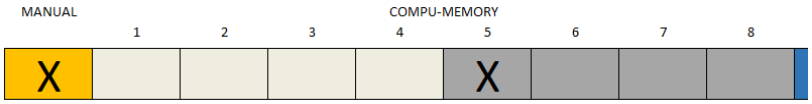
With this hamburg·wave kit you get a selection of different arpeggiator operation modes. Toggling between these can be done by temporarily engaging two push-buttons together on the memory-selector: The “MANUAL” button, together with of the buttons “5” to “8”.

2 OCTAVE MODE

In this mode, the arpeggio will be just played in the current octave, plus the one above, i.e.:

C2 - C3 - C2 - C3 (when pressing C2 in “UP” mode)

This mode can be selected by temporarily pushing down “MANUAL” and “5”.



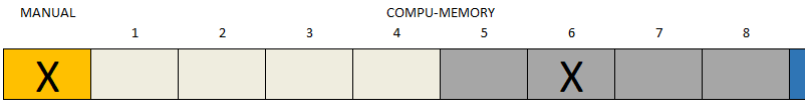
Afterwards, you can select any other program you want without changing arpeggiator behavior.

3 OCTAVE MODE

In this mode, the arpeggio will be played in the current octave, plus two octaves above, i.e.:

C2 - C3 - C4 - C2 - C3 - C4 (when pressing C2 in “up” mode)

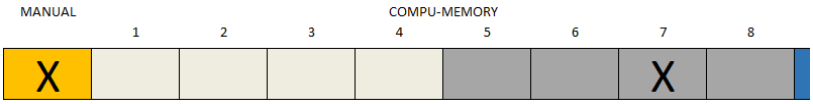
This mode can be selected by temporarily pushing down “MANUAL” and “6”:



Afterwards, you can select any other program you want without changing arpeggiator behavior.

CHORD MODE

In this mode, all notes on the chord will be played simultaneously, without changing octave (like the original chip does when you press an arpeggiator button together with either “UNISONO 1” or “POLY 1”. This can be selected by temporarily pushing down “MANUAL” and “7”:

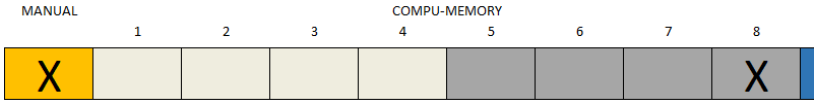


Afterwards, you can select any other program you want without changing arpeggiator behavior.

ORIGINAL MODE

This reflects the behavior the Jupiter-4 has without any changes (4 octave mode with “UP” and “DOWN”, 3 octave mode in “UP & DOWN” mode).

This mode can be selected by temporarily pushing down “MANUAL” and “6”:



Afterwards, you can select any other program you want without changing arpeggiator behavior.

Even more via MIDI Cc!

You can also use control change 104 to choose between these arpeggiator styles. Due to limited hardware buttons, this even enables you to use one more mode arp mode – the 1 octave mode, where all keys are repeated according to the selected arpeggiator, but without changes in octave.

Value	*Arpeggiator style*
0 - 24	*JP-4 original mode (4 octaves)*
25 - 48	*1-octave mode*
49 - 72	*2-octave mode*
73 - 96	*3-octave mode*
97 - 127	*chord mode*

ARPEGGIATOR AND VCF SAMPLE & HOLD SYNC SOURCES

You can use various modes to sync your Jupiter's arpeggiator and (starting with firmware version 1.2) and the VCF sample & hold clock to different sync sources. You can choose between these clock sources:

MIDI clock

Use this MIDI realtime signal, to let the sync follow your sequencer in an equal manner, using a given division source (see table below).

When stopping the MIDI clock, your JP-4 will fall back to internal clock mode. If you don't like this, you can prevent it by inserting an empty jack (like an adapter) into the Jupiter's clock input, and set your arp toggle switch to "EXT".

MIDI note 0

With this source, you can advance the steps with playing note "0" with your sequencer. This is a note that normally isn't used while regular playing (a 88-key piano keyboard starts with note 21 as A0, so technically this note is C-1). But it can be used to trigger your arp (or S&H) in uneven patterns. This mode does not fall back to internal clock when no events are received, as it consists only of single events and there is no way to tell if it's still running or not.

MIDI sync disabled

If your MIDI environment has clock or note 0 data going that you don't want the JP-4 to follow, completely disable the MIDI sync with this option.

Changing the sync source in JP-4 setup mode will set the arpeggiator and S&H clock to a common sync source and base, which will be persistently stored and reloaded when powering on the JP-4.

When in normal mode, use the following MIDI CC parameter settings to edit these values independently from each other in real time:

MIDI CC	*Operation target*
102	*Arpeggiator sync source*
103	*Sample & hold sync source*

The value settings for both sync targets are identical:

Value	*Sync source*
0 … 12	*MIDI clock (1/2 note)*
13 … 24	*MIDI clock (1/4 note)*
25 … 36	*MIDI clock (1/8 note)*
37 … 48	*MIDI clock (1/16 note)*
49 … 60	*MIDI clock (1/32 note)*
61 … 72	*MIDI clock (1/2 note triplets)*
73 … 84	*MIDI clock (1/4 note triplets)*
85 … 96	*MIDI clock (1/8 note triplets)*
97 … 108	*Note 0 "on"-event*
109 - 127	*External sync disabled*

STACKING MODE

One more new feature is the new stacking mode, that enables you (if you have more than one hamburg·wave MIDI-equipped Jupiter-4) to use up to three slave Jupiter-4 units as additional voice sources.

The master unit:

- assigns voice usage across the available master and slave units
- controls all (MIDI-enabled) sound parameters as well as pitch and hold controls
- can use its internal patch memory storage to control all of the units

A slave unit:

- has its (MIDI-enabled) panel controls and patch memory disabled
- needs to be manually adjusted for desired modulation settings (like pitch/modulation wheel mode, pitch range, portamento or keyboard octave setting)

CABLING

Follow the scheme displayed above, you just need to use the MIDI Out from the master unit to connect to the slave unit(s). If you have more than one slave, they must be either cascaded using their MIDI Thru ports. Alternatively, use an external MIDI Thru splitter/distributor to supply every slave with the MIDI Out signal of the master device.

MASTER UNIT CONFIGURATION

To configure the master synth, use a combination of the “UNISON 1” button together with one of the “ARPEGGIO” buttons to enable master mode and tell the master how many slaves need to be addressed:

Buttons pressed	Number of units	Independent voices
“UNISON 1” and “UP”	1*	4
“UNISON 1” and “DOWN”	2	8
“UNISON 1” and “UP & DOWN”	3	12
“UNISON 1” and “RANDOM”	4	16

* Although a stacking mode with only one unit does not seem to make sense, it still enables stacking mode and with a slave configured as “unit 1” it makes the slave not just a conventional MIDI slave but will also use the contents of the master unit’s voice memory.

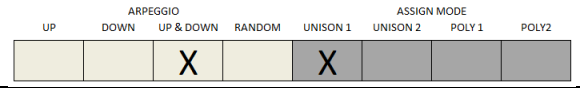
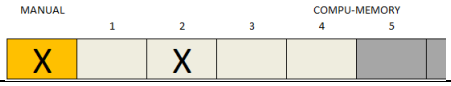
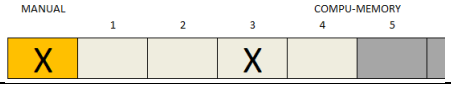
SLAVE UNIT CONFIGURATION

To configure slave units, use a combination of the “MANUAL” button together with one of the first four “COMPU-MEMORY” buttons.

Buttons pressed	Unit number
“MANUAL” and “1”	1*
“MANUAL” and “2”	2
“MANUAL” and “3”	3
“MANUAL” and “4”	4

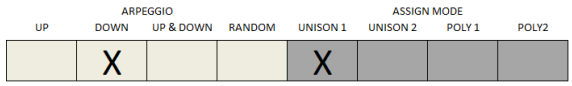
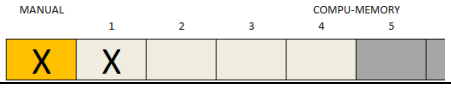
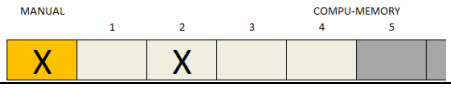
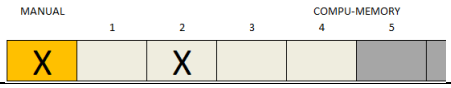
* see note above

EXAMPLE CONFIGURATION 1 – ONE MASTER AND TWO SLAVES (3X4 SETUP)

Unit	Button combination
Master	
Slave 1	
Slave 2	

Select “UNISON 1” and “UP & DOWN” for the master as you have three units in total you want to control individually. The master will act as unit 1, the slave as units 2 and 3, giving you 12 single voices.

EXAMPLE CONFIGURATION 2 – ONE MASTER AND THREE SLAVES, IN 2X2X4 VOICE SETUP

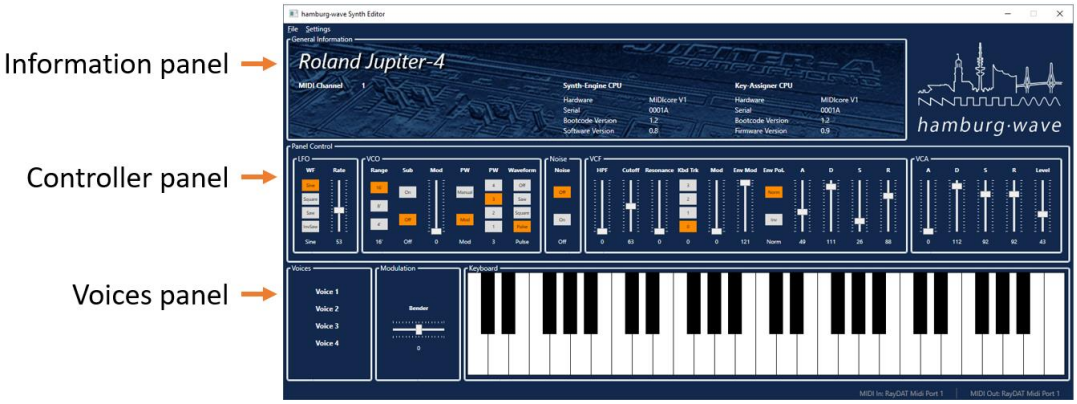
Unit	Button combination
Master	
Slave 1 (unison with master)	
Slave 2	
Slave 3 (unison with slave 2)	

Select “UNISON 1” and “DOWN” for the master as you want 8 voices in total. Then configure 1 slave as unit 1 to double the master, and the other two slaves as unit 2 to also double each other. Stereo-pan the units and/or change the octave selector or fine-tune to get a richer sound.

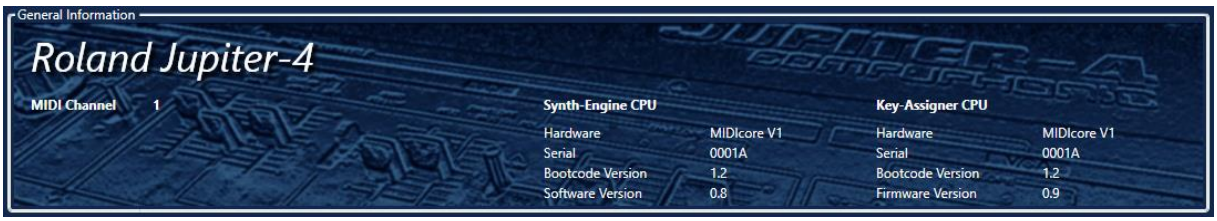
THE COMPANION EDITOR SOFTWARE

MAIN WINDOW

Your new MIDI kit comes with a free software utility (currently for MS Windows PCs only). This enables you to get a better insight in your synthesizer:

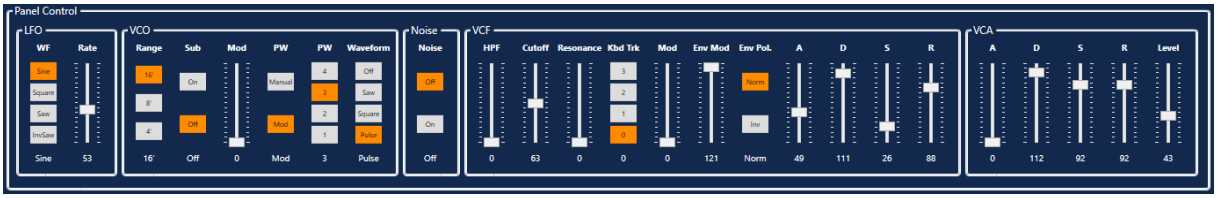


INFORMATION PANEL



Find information about your system's version, MIDI channel, and other general information.

CONTROLLER PANEL



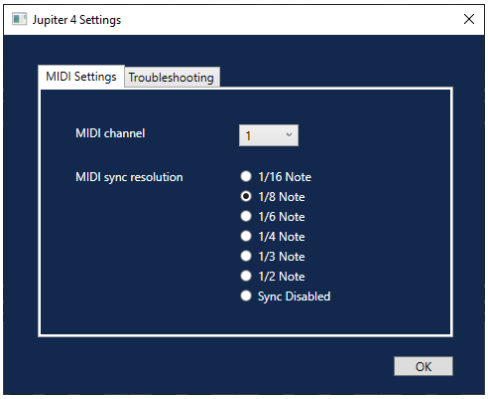
See real time visualization of your current patch's settings and change them from your screen.

VOICES

Find out how many and which voices are currently sounding.

MIDI SETTINGS

- Set your MIDI channel (same for send & receive).
- Set your desired arpeggiator time base resolution from MIDI clock.



You can also set these settings using the startup setup mode directly on your synth (see earlier chapter).

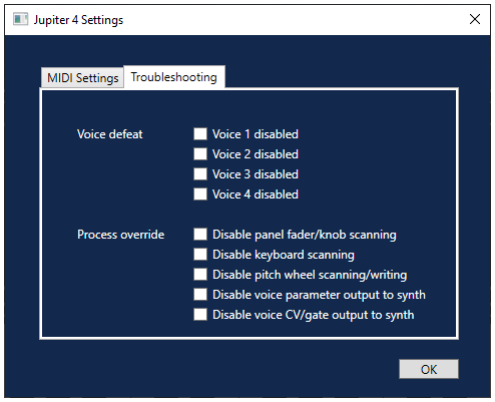
These settings are stored persistently and will be restored when the instrument is powered up.

ENGINEERING EXTRAS

VOICE DEFEAT

Temporarily defeat one or more voices when tuning your synth, or if one of your voices is faulty.

This setting is non-persistent and will be reset when the instrument is powered off.



PROCESS OVERRIDE

If you experience unusual behavior of your instrument, you may find it helpful to temporarily disable some of the device's core features. For this purpose, you can:

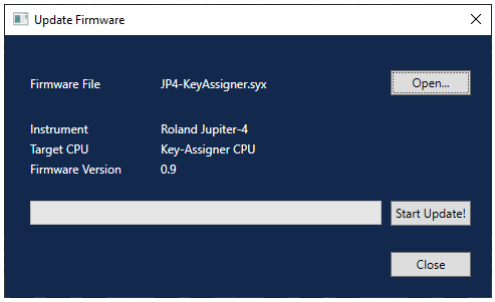
- disable keyboard scanning and try to trigger notes via MIDI in
- disable controller scanning and load check if preset sounds or parameter manipulation via MIDI works correctly
- disable the synthesizer engine to see if your controllers and keyboard send MIDI events correctly.

These settings are non-persistent and will be reset when the instrument is powered off.

FIRMWARE UPDATE

Find new firmware files for your MIDI kit on http://www.hamburg-wave.de to benefit from future functionality improvements and possible bug fixes.

Be aware that your synth is a dual CPU synthesizer, you need two firmware files to update your system. The synthesizer will automatically recognize the different files for both your modules.



MIDI IMPLEMENTATION CHART

MIDI CONTROL CHANGE TABLE

Controller #	Description	Values
16	VCF Cutoff (same as 72)	0 … 127
64	Hold	0-63: Hold off 64-127: Hold on
71	VCF Resonance	0 … 127
72	VCF Cutoff	0 … 127
73	VCA Env Sustain	0 … 127
74	VCF Env Sustain	0 … 127
75	HPF Cutoff	0 … 127
76	LFO Rate	0 … 127
77	VCA Level	0 … 127
78	VCF Envelope Modulation	0 … 127
79	VCA Release	0 … 127
80	VCA Decay	0 … 127
81	VCA Attack	0 … 127
82	VCF Release	0 … 127
83	VCF Decay	0 … 127
84	VCF Env Attack	0 … 127
85	VCF LFO Modulation	0 … 127
86	VCO LFO Modulation	0 … 127
87	VCO PWM	0-63: Manual 64-127: LFO Mod
88	VCF Envelope Polarity	0-63: Positive 64-127: Negative
89	VCF Keyboard Follow	0-31: 0 32-63: 1 64-95: 2 96-127: 3
90	VCO Sub Oscillator	0-63: Off 64-127: On
91	LFO Waveform	0-31: Inverted Saw 32-63: Saw 64-95: Square 96-127: Sine
92	Noise	0-63: Off 64-127: On
93	VCO PW/PWM Amount	0-31: 1 32-63: 2 64-95: 3 96-127: 4
94	VCO Waveform	0-31: Off 32-63: Pulse 64-95: Square 96-127: Saw
95	VCO Range	0-31: 32' (Octave Down) 32-63: 16' 64-95: 8' 96-127: 4'
102	Arpeggiator Sync Source	0-12: MIDI clock 1/2 note 13-24: MIDI clock 1/4 note 25-36: MIDI clock 1/8 note 37-48: MIDI clock 1/16 note 49-60: MIDI clock 1/32 note 61-72: MIDI clock 1/6 note (half note triplets) 73-84: MIDI clock 1/12 note (quarter note triplets) 85-96: MIDI clock 1/24 note (eighth note triplets) 97-108: MIDI note 0 (NoteOn event) 109-127: MIDI sync disabled

103	VCF S&H Sync Source	0-12: MIDI clock 1/2 note 13-24: MIDI clock 1/4 note 25-36: MIDI clock 1/8 note 37-48: MIDI clock 1/16 note 49-60: MIDI clock 1/32 note 61-72: MIDI clock 1/6 note (half note triplets) 73-84: MIDI clock 1/12 note (quarter note triplets) 85-96: MIDI clock 1/24 note (eighth note triplets) 97-108: MIDI note 0 (NoteOn event) 109-127: MIDI sync disabled
104	Arpeggiator Style	0-24: original mode 25-48: 1-octave mode 49-72: 2-octave mode 73-96: 3-octave mode 97-127: chord mode
123	Panic – all notes off	Any

MIDI SYSTEM EXCLUSIVE TABLE

Byte 0	Byte 1-3	Byte 4	Byte 5	Payload	Last	Description
F0					F7	SysEx Start/End
	00 21 6A					Vendor ID
		00				Product 00 = MIDIcore Firmware/Bootloader CPU1
			00	3 Bytes		RX: Sysex File Content Info (will be ignored)
			01	n Bytes		RX: Firmware Data Message CPU1
			02	1 Byte		RX: Firmware FinalChecksum Message CPU1
			03	1 Byte		TX: Firmware Checksum Message CPU1
			10			RX: System ID Request CPU1
			11	1 Byte		TX: System ID Response CPU1
			12			RX: System Version Request CPU1
			13	5 Bytes		TX: System Version Response CPU1
			20			RX: CPU Internal EditorPing Only
		01				Product 01 = MIDIcore Firmware/Bootloader CPU2
			00	3 Bytes		RX: Sysex File Content Info (will be ignored)
			01	n Bytes		RX: Firmware Data Message CPU2
			02	1 Byte		RX: Firmware FinalChecksum Message CPU2
			03	1 Byte		TX: Firmware Checksum Message CPU2
			10			RX: System ID Request CPU2
			11	1 Byte		TX: System ID Response CPU2
			12			RX: System Version Request CPU2
			13	5 Bytes		TX: System Version Response CPU2
		10				Product 10 = MIDIcore JP4
			00			RX: System Mode Request
			01	2 Bytes		TX: System Mode Response
			10			RX: System Parameter Dump Request
			11	n Bytes		TX: System Parameter Dump Response
			12	1 Byte		RX: System Parameter Specific Request
			13	2 Bytes		TX: System Parameter Specific Response
			14	2 Bytes		RX: System Parameter Set
			20			RX: Controller Value Dump Request
			21	24 Bytes		TX: Controller Value Dump Response
			22			RX: SynthEngine Value Dump Request
			23	24 Bytes		TX: SynthEngine Value Dump Response
			24			RX: SynthEngine Gate Dump Request
			25	4 Bytes		TX: SynthEngine Gate Dump Response
			30			RX: Patch Data Dump Request
			31	1 Byte		RX: Patch Data Specific Request
			32	34 Bytes		TX: Patch Data Specific Response