INTRODUCTION

The Roland JX-8P is a fully programmable 6 voice polyphonic synthesizer. Various sounds and performance control functions can be stored, ready to be used.

This document is an addendum to the Roland JX8P manual and describes the new functionality. Please refer to the original document for everything else.

- The JX-8P features the memory capacity that can retain up to 32 different tones.
- Any of the Tone Memory can be called just by pushing appropriate buttons.
- The Tone Memory you have written into memory can be easily edited whenever you like
- Using the Memory Cartridges, it is possible to expand the memory capacity.
- Thanks to the new and refined MIDI implementation the JX-8P can be edited via sys-ex and dedicated Editor Librarians.
- The 61 key keyboard and MIDI functions make the JX-8P an excellent master keyboard
- The "patch" parameters (key assign mode, aftertouch mode, portamento time, etc..) are now stored per tone.
- When selecting a bank (internal, cartridge or preset), the current tone is NOT overwritten until a button 1-32 is pressed. This is similar to the Super-JX but is different from the behavior of a Roland JX8P. The reason for this change is to allow storing the currently edited tone to a different bank.

New midi implementation
- Each parameter is now OFF/RECV/SEND/ON, allowing fine control of what gets sent and what is filtered.
- Sysex support : allow edition of tone individually. (No need for M16C/M64C cartridge)
- Fast bulk dump/load : 4-5 seconds to dump everything. Can dump to/from cartridge and internal memory.
- Edition of parameters sends sysex, so all editions can be sequenced. PG800 is also supported here, so editions made from the PG800 can also be sequenced.
- Copy from/to cartridge to create a full backup of the internal memory (all settings are now copied to the cartridge or restored from it)
- IPR/APR sysex messages can be received in Roland format.

Control enhancement
- The Edit slider can be set to control any tone parameter during play mode, similar to control C1/C2 on the JX10. [This feature is coming soon]

New Memory support
- The flash module provides 32 banks (each storing 32 tones)
- M16C cartridge fully support, provide one bank
- M64C cartridge support added, providing 4 banks

PG-800 support
- New display options
- Control whether updates from sysex, PG-800 or controllers are displayed temporarily on-screen

Chord mode
- A chord up to 6 notes can be defined and used in play mode.

Arpeggiator
- 4 arpeggiators "patches"
- Internal or external synchronization
- Supports up, down up/down, as played and random notes ordering
- Various arpeggio types
- Velocity setting (fixed or as played)
- Note duration (1-15 or legato)

Display

In play mode, the display is showing

```
1 P1  PIANO1
```

The format is BB XYY NNNNNNNNNN
where

- BB : bank number (1-32)
- X : P=preset I=internal C=cartridge
- YY : tone number (1-32)
- NNNNNNNNNN : tone name

Tone/Bank selection

To select a tone, press button 1-32. The new tone is immediately loaded.
To select a bank, press "Internal", "Preset" or "Cartridge". Depending if multiple banks are available for the selection, the bank number will blink. When blinking, the JX8P is awaiting for a selection of the bank (by pressing button 1-32). For Internal, 32 banks are available. For preset, 2 banks are available so pressing "Preset" will toggle between bank 1 and bank 2. For cartridge, a M16C has a single bank so there will be no bank selection. For M64C, banks 1-4 are available.

Writing a tone

Pressing "WRITE" will bring this menu:

```
WRITE TONE 2 I30
```

I30 will be blinking. You can select any tone number by pressing 1-32. You can also switch between Internal and Cartridge. Note: you cannot store a tone directly in another bank from this menu. To achieve this, the procedure is to first select the bank where you want to store the tone (Selecting a different bank doesn't overwrite the tone currently being edited or played), then you can press "WRITE" and select the tone number. To complete the write, press "ENTER". The display will show

```
WRITTEN
```

To cancel the operation, press "WRITE" again.

Editing a tone

The procedure hasn't changed. Press "PARAM" to enter tone edit. You can select the tone parameters using buttons 1-9. You can now press "LEFT" or "RIGHT" to select the previous or next parameter. You can also press "WRITE" to store the changes.

Copying banks

In play mode, pressing "INT->CART" or "CART->INT" will bring this menu:

```
COPY I1 TO C2
```

You can press "LEFT" or "RIGHT" to select source and destination, the corresponding location will blink to indicate that it is under edit. You can press "INTERNAL" or "CARTRIDGE" and 1-32 to select your source and destination. Press "ENTER" to trigger the copy. To cancel, press "WRITE", "INT->CART" or "CART->INT".

BULK DUMP

To send an entire bank in bulk dump format (new sysex), go to the MIDI settings by pressing "MIDI".

```
11 LOCAL   ON
```

Once there, pressing "INT->CART" or "CART->INT" will bring a confirmation menu to bulk load the currently selected internal or cartridge bank :

```
DUMP INT      OK
```

OK will blink. Press "ENTER" to confirm or press "MIDI" to exit the menu.

BULK LOAD

There is no menu to do a bulk load. Simply send the bulk file to the JX8P and it will show progress when receiving the 32 tones. Note that the midi SYSEX parameter must be set to RECV or ON. Memory should also be left unprotected.

IMPORTING TONES (version 5.04 and up)

Prior to this firmware, the JX8P had no "bulk dump" options. Musicians created sysex files containing APR messages of the 32 tones and these files are available on the internet. Loading such a file directly will result in overwriting the tone under edit 32 times, definitely not what we want. To import these 32 tones in a bank, a new menu has been added. The procedure to import tones is the following:
- Select the bank which will contain the tones. This can be an internal bank or a cartridge bank.
- Press "MIDI" to go to the midi settings and press "INT->CART" or "CART->INT". You will be in the "DUMP INT" or "DUMP CART" menu (see above on how to bulk dump). At this stage, press the RIGHT button to switch "DUMP INT" into "IMPORT INT" (press LEFT to go back to the dump menu). Press ENTER to confirm.
```
IMPORT INT
```
-
- Send the file containing the APR messages (make sure SYSEX is set to ON or RECV). The JX8P will display the tone number being imported. Import always starts at tone 1. If the file contains 32

tones, the synth will automatically exit the import mode. If the file has less than 32 tones, press MIDI to exit the import mode.

- That's it, all tones should be imported. Press 1-32 to select one of the newly imported tone.

MIDI PARAMETERS

11 LOCAL ON	LOCAL parameter. If set to OFF, the keyboard won't sound but midi note on/off events will be sent.
12 CHANNEL 1	Midi channel (1-16)
13 SYSEX ON	SYSEX support. Can be OFF/RECV/SEND/ON. OFF turns sysex support completely. Use RECV to receive sysex but not sending them. Use SEND to send sysex but ignore them when receiving. ON turns full support.
14 APR ON	APR support. APR messages are sent when a tone is loaded into memory. Receiving an APR will overwrite the currently selected tone (in edit memory only, the stored version is left intact). Settings can be OFF/RECV/SEND/ON.
15 IPR ON	IPR support. IPR messages are sent anytime a tone parameter is changed. Again valid settings are OFF/RECV/SEND/ON
16 DISPLAY PSC	Display. Controls when the display shows parameters edited from external source. P is PG800, S is SYSEX and C is Control.
17 COMPAT BOTH	Compatibility. Can be NEW/OLD/BOTH. Controls how sysex APR messages are sent : new format, old format (Roland) or both.
21 PRG CHG ON	Control how the JX8P reacts to program changes. Can be OFF/RECV/SEND/ON.
22 AFTER ON	Control how the JX8P reacts to aftertouch midi messages. Can be OFF/RECV/SEND/ON.
23 BENDER ON	Control how the JX8P reacts to bender midi messages. Can be OFF/RECV/SEND/ON.
24 MOD ON	Control how the JX8P reacts to modulation messages. Can be OFF/RECV/SEND/ON.

25 PORTA ON	Control how the JX8P reacts to portamento messages. Can be OFF/RECV/SEND/ON.
26 HOLD ON	Control how the JX8P reacts to hold messages. Can be OFF/RECV/SEND/ON.
27 MIDI VOL ON	Control how the JX8P reacts to midi volume messages. Can be OFF/RECV/SEND/ON.
28 CC ON	Control midi CC (NRPN) messages. Can be OFF/RECV/SEND/ON.
31 PRESET 1 P1	Select which bank is PRESET 1. P1 is the default tones from rom, but any internal bank 1-32 can be selected to act as the preset 1 bank.
32 PRESET 2 P2	Select which bank is PRESET 2. P2 is the default tones from rom, but any internal bank 1-32 can be selected to act as the preset 2 bank.

SYSEX IPR and CC parameters

Tone parameter	SYSEX	CC
Name	0-10	-
11 DCO1 RANGE	11	0
12 DCO1 WF	12	1
13 DCO1 TUNE	13	2
14 DCO1 LFO	14	3
15 DCO1 ENV	15	4
21 DCO2 RANGE	16	5
22 DCO2 WF	17	6
23 DCO XMOD	18	7
24 DCO2 TUNE	19	8
25 DCO2 FTUNE	20	9
26 DCO2 LFO	21	10

27 DCO2 ENV	22	11
31 DCO DYNA	26	15
32 DCO MODE	27	16
33 DETUNE	59	48
41 DCO1 MIX	28	17
42 DCO2 MIX	29	18
43 MIX ENV	30	19
44 MIX DYNA	31	20
45 MIX MODE	32	21
51 HPF	33	22
52 VCF FREQ	34	23
53 VCF RES	35	24
54 VCF LFO	36	25
55 VCF ENV	37	26
56 VCF KEY	38	27
57 VCF DYNA	39	28
58 VCF MODE	40	29
61 VCA LEVEL	41	30
62 VCA MODE	58	47
63 VCA DYNA	42	31
64 CHORUS	43	32
71 LFO WF	44	33
72 LFO DELAY	45	34
73 LFO RATE	46	35
74 BEND LFO	60	49
81 ENV1 ATT	47	36

82 ENV1 DECY	48	37
83 ENV1 SUST	49	38
84 ENV1 REL	50	39
85 ENV1 KEY	51	40
91 ENV2 ATT	52	41
92 ENV2 DECY	53	42
93 ENV2 SUST	54	43
94 ENV2 REL	55	44
95 ENV2 KEY	56	45
BEND RANGE	61	50
PORTA TIME	62	51
ASSIGN MODE	63	52
AFTERTOUCH SEL	64	53
PORTA SW	65	54

ARPEGGIATOR

Version 5.04 introduces the arpeggiator (found in versions 3.x and 4.x of the Super-JX).

Due to the lack of dedicated buttons, some changes have been made to add support for the arpeggiator. Button "MTUNE" is used to enter the arpeggiator settings menu. To reach the master tune setting, first go to MIDI setting then press MTUNE. In arpeggiator settings, buttons 1-8 are used to select a parameter (similar to editing a tone). Buttons 16-19 are used to select an arpeggiator set of settings, named "A" to "D".

A11 BPM 130	Beat per minute
A12 MODE UP	Mode : controls how the arpeggiator sorts the chord being arpeggiated. Can be set to UP, DOWN, UP-DOWN, PLAYED or RANDOM
A13 OCTAVE 2	Number of octaves used to arpeggiate. 1 to 4.

A14 INSERT NONE	Controls if notes are inserted in the chord during arpeggiation. Can be NONE, HIGH (highest note is added between notes), LOW (lowest note is added), UP3-DOWN1 or UP4-DOWN2.
A15 RATE 1/8	Rate. Can be 1, 1/2D, 1/2, 1/4D, 1/2T, 1/4, 1/8D, 1/4T, 1/8, 1/16D, 1/8T, 1/16, 1/16T, 1/32
A16 DURATION 15	Duration of arpeggiated note. Goes from 1 to 15 or LEGATO.
A17 VELOCITY 128	Velocity. Set the velocity of arpeggiated notes. Can be 1-127 or PLAYED.
A21 WHEN WHOLE	Control when notes are arpeggiated. Can be WHOLE (all notes) or SPLIT+ (notes above split point) or SPLIT- (notes below split point)
A22 SPLIT A4	Split point. Ignored when mode is "WHOLE".
A23 MIDI KEYB	Control which notes are considered for arpeggiating. KEYB (keyboard only), MIDI (midi only), ALL (keyboard+midi), K+O (keyboard in, arpeggiated notes are sent on midi out), M+O (midi in, midi out), KM (keyboard+midi, midi out)

Note: The arpeggiator runs well but it can easily overload the old CPU of the JX8P if a high bpm and rate are selected (and midi output is enabled). Remember the JX8P is a synth from the eighties!

Starting and stopping the arpeggiator is done by pressing ENTER (in play mode or arpeggiator settings mode) Pressing it will toggle the arpeggiator on/off. (User feedback is provided by blinking the aftertouch LEDs).

The LEFT button, in play mode, controls arpeggiator hold. When hold is on, the aftertouch LEDs will blink from right to left instead of left to right.

CHORD MODE

Chord mode is added in firmware 5.05.

To define a chord, press NAME when in play mode. This will enter chord entry mode. Simply play notes to define the chord. The lower note is considered the base note. If a new note is played below the current base note, the chord is blanked so that it can be defined again. Alternatively, you can press PARAM to manually blank the current chord. Once you are happy with the chord, press ENTER or NAME to accept it, the synth will return in play mode.

BOOTLOADER

Pressing "2" while booting the JX8P will make it stay in bootloader mode, where a new firmware can be installed.

```
BLOADER 00-0000
```

In this mode, press "1" will run the OS (if valid). If invalid, that is if a tentative was made to upload a new firmware but failed, the synthesizer will remain in bootloader mode until a successful upload is made.

Pressing "2" will display the current OS version :

```
APP  5.03
```

Pressing "3" will display the bootloader version:

```
BOOT  1.04
```

Pressing "4" will display technical info on the flash module:

```
FLASH   BF B5 30
```

[Bootloader 1.05 and up] Pressing "5" will test the memory chips inside the JX8P. Each time the button "5" is pressed, the test is repeated. The display will give 2 or 3 counters representing the number of errors detected per ram chip. The first number represents the memory chip IC5. The second number represents the shared memory chip, IC3. The last number, if present, tests the cartridge.

```
0000 0000 0000
```

To install a new version, simply send the .syx file (obtained from http://www.vecoven.com) . Make sure that the delay between sysex messages is set to 200ms. This is required to give enough time to the old CPU of the JX8P to write the received data into the flash module. Refer to your favorite sysex utility for more information. Note: the update procedure is known to work with MIDI OX on PC and Sysex Librarian on Mac. Once completed, press "1" to run the new OS just installed.

To install a new version of the bootloader, the procedure is similar. However, just note that the synthesizer will reboot itself once if the upload is successful. [Note: there is no risk of bricking the synthesizer when uploading a new bootloader. The new bootloader is first stored in the flash module, then it is validated, and if valid, it will overwrite the existing bootloader]

JX8P Motherboard revisions

There are 2 versions of the JX8P motherboard, referred as "A2" and "A3". The early revisions "A2" have the A-2 rom and the gate array chip is a 63H130. The later revisions have the A-3 rom and the gate array is a 63H149 chip. See picture for easy identification.
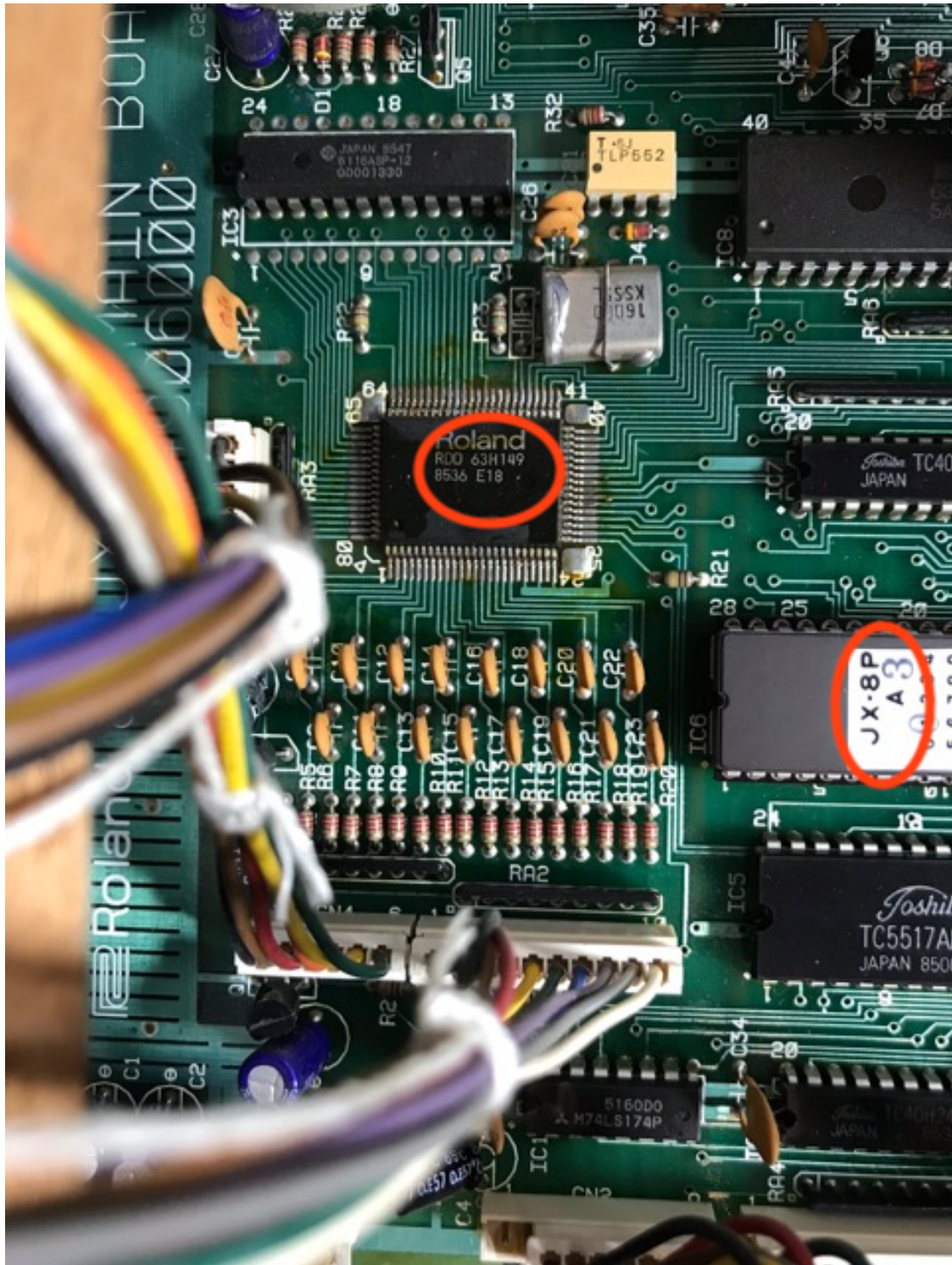
The firmware OS works with both revisions. However, the bootloader is different between A2 and A3. Technically, the changes are very minimal but one change affects the baudrate of the serial (MIDI) interface so having the wrong bootloader will cause midi to not operate, and since the synthesizer also uses the serial link to send commands to the sound generation CPU, the synthesizer will also not sound. This is why you should order the correct flash module (A2 or A3) for your JX8P. However, if you ordered the wrong version or if you want to move the flash module into another JX8P with a different revision, you can use the following trick to temporarily change the code behavior: press button "32" while booting. The bootloader will consider that the synthesizer is "the other revision". This will bring MIDI back so you can safely flash a new bootloader for the correct revision of your JX8P.

Initial install of the flash module

After installing the flash module, boot the synthesizer. The flash modules come with bank 1 empty so the bootloader will detect this condition and will copy your tones (from internal memory) into bank 1. There is no user action required as this is fully automated.

It is advised to do a "factory reset" afterwards. To do this, boot the JX8P while holding buttons "LEFT" and "RIGHT". All parameters (excluding the tones) will be reset to their default values. A message will be temporarily displayed indicating that the parameters are now reset. Afterwards, go to the midi parameters and master tune to set the parameters back to suit your needs.

> FACTORY RESET