SAVY

Tone Parameters Editor & Controller

Manual Supplement
Roland MKS-80 Super Jupiter

OS 006 ver. 2.0

Contents:

1   FEATURES

Supported instrument: Roland MKS-80 Super Jupiter (both rev.4 and rev.5)

Number of tone memories: 768 (six tone banks)

Individual tone parameters (48x): all Roland MKS-80 tone parameters assigned to MIDI CCs. Patch parameters are not controlled.

Modifiers (4x): MOD RATE, MOD DEPTH, BRILLIANCE, ENV TIME

Macro (4x): ENV ATTACK, ENV DECAY, ENV SUSTAIN, ENV RELEASE

Random functions (13x): VCO-1 – Light, VCO-1 – Full, VCO-2 – Light, VCO-2 – Full, VCO X-Mod, VCO Sync, VCF – Light, VCF – Full, VCA, ENV-1, ENV-2, FX, ALL

Dual tone support: Independent control of both A and B tones within the active Patch Preset[1].

Enhanced features: Each of tones can be individually named. The name is stored in SAVVY's memory as a tone data. [2]

2   PREPARE THE INSTRUMENT

To use SAVVY with your MKS-80 Super Jupiter:

1) Press the **MIDI CHANNEL** button on the instrument panel (display responds the actually selected MIDI Channel) .
2) While holding the **MIDI CHANNEL** button assign the MIDI Channel[3] by pressing a **BANK** button and **NUMBER** button.
3) The display shows selected MIDI Channel number. (The selected MIDI Channel is memorized after the MKS-80 is switched off).
4) Set the **MIDI FUNCTION** switch on the front panel to "**III**" position.

---

[1] See Owner´s manual Chapter 4.2
[2] The tone name is not shown on the instrument's or SAVVY's display but it is viewable and editable with help of support software (see chapter 7).
[3] SAVVY use MIDI channel Nr. 1 as a default after factory reset (see System Parameters table). It can be changed by the user anytime. All other MIDI commands (Note On / Off, Pitch Bend, etc.) for the instrument control must be sent on the same MIDI channel.

3   INSTRUMENT PARAMETERS – MIDI CC ASSIGNMENT

- **Individual tone parameters -** MIDI CCs assigned to control individual tone parameters.
- **Modifiers** - MIDI CCs assigned to tone modifications controls (+/- offsets), that affect more tone parameters simultaneously accordingly to the fixed algorithms. In the middle position (i.e. value 64), the tone is not affected
- **Macros** – MIDI CCs assigned to macro functions that simplify control of more tone parameters simultaneously (e.g simplified ADSR envelope, etc.).
- **Random functions** - MIDI CC assigned to intelligent random functions set random values of selected tone parameters.
- **Tone layer selector** – MIDI CC assigned to switch / select the A or B Tone within the active Patch Preset

All changes of individual tone parameters, Modifiers and results of Macro and Random functions can be saved in SAVVY´s tone memories.

The following tables show factory assigned MIDI CCs numbers, however the assigned MIDI CCs are user definable[4] and can be changed by user.

INDIVIDUAL TONE PARAMETERS			
Parameter Name	**CC Nr.**	**Parameter Name**	**CC Nr.**
LFO-1 RATE	13	VCF CUTOFF FREQ	50
LFO-1 DELAY TIME	14	VCF RESONANCE	51
LFO-1 WAVEFORM	12	VCF ENV SEL	56
VCO MOD LFO-1 DEPTH	42	VCF ENV POL	52
VCO MOD ENV-1 DEPTH	43	VCF MOD ENV DEPTH	54
PW	35	VCF MOD LFO-1 DEPTH	53
PWM	36	VCF KEY FOLLOW	55
PWM MODE SEL	33	VCA ENV-2 LEVEL	71
PWM POL	34	VCA MOD LFO-1 DEPTH	70
VCO KEY FOLLOW	45	ENV DYNAMICS TIME	86
VCO KEY FOLLOW SEL	44	ENV DYNAMICS LEVEL	87
XMOD MANUAL DEPTH	46	ENV RESET	73
XMOD ENV-1 DEPTH	47	ENV-1 DYNAMICS	79
XMOD POL	48	ENV-1 ATTACK TIME	74
VCO-1 MOD	21	ENV-1 DECAY TIME	75
VCO-1 RANGE	18	ENV-1 SUSTAIN LEVEL	76
VCO-1 WAVEFORM	20	ENV-1 RELEASE TIME	77
VCO SYNC	41	ENV-1 KEY FOLLOW	78
VCO-2 MOD	37	ENV-2 DYNAMICS	85
VCO-2 RANGE	24	ENV-2 ATTACK TIME	80
VCO-2 FINE TUNE	26	ENV-2 DECAY TIME	81
VCO-2 WAVEFORM	27	ENV-2 SUSTAIN LEVEL	82
MIXER	58	ENV-2 RELEASE TIME	83
HPF CUTOFF FREQ	49	ENV-2 KEY FOLLOW	84
MODIFIERS			
Modifier Name	**CC Nr.**	**Modifier Name**	**CC Nr.**
MOD RATE	95	BRILLIANCE	93
MOD DEPTH	94	ENV TIME	91

---

[4] To see how to change the assigned MIDI CCs or make new user map see chapter 5.

4

MACROS			
Macro Name	**CC Nr.**	**Macro Name**	**CC Nr.**
ENV ATTACK	110	ENV SUSTAIN	112
ENV DECAY	111	ENV RELEASE	113
RANDOM FUNCTIONS			
Random Setting Name	**CC Nr.**		
VCO-1,2 / SYNC / VCF / VCA / ENV-1,2 / FX	3		
TONE LAYER SELECTOR			
Layer Selector Name	**CC Nr.**		
A (UPPER) / B (LOWER)	9		

3.1 MODIFIERS

MOD RATE

MOD RATE is a new performance parameter. This modifier changes the rate of the **vibrato**, **growl, LFO delay** or **PWM** effects.
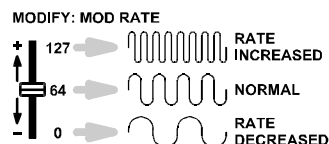
MOD DEPTH

MOD DEPTH is a new performance parameter. This modifier changes the depth of the **vibrato** or **growl** effects.
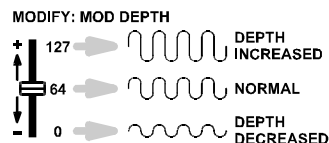
BRILLANCE

BRILLANCE is a new performance parameter. This modifier changes the **brillance / sharpness** of the tone
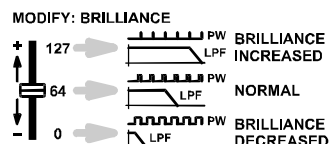
ENV TIME

ENV TIME is a new performance parameter. This modifier offsets all **time segments of both Envelope generators** simultaneously with single MIDI CC, while preserving all other tone settings. The original tone color can be used with various lengths of envelopes from short percussive to long evolving pad.
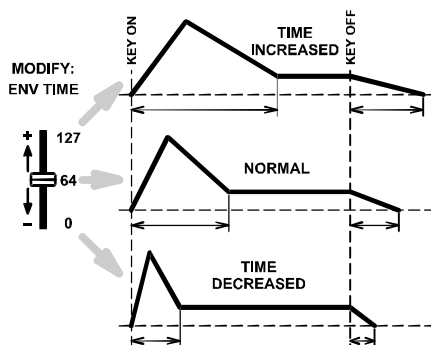
3.2   MACROS

ENV ATTACK

Joint control of **both** Envelopes **Attack times** with a single MIDI CC.
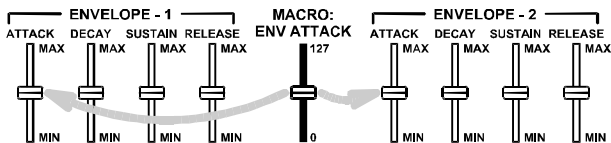
ENV DECAY

Joint control of **both** Envelope **Decay times** with a single MIDI CC.

ENV SUSTAIN

Joint control of **both** Envelope **Sustain levels** with a single MIDI CC.

ENV RELEASE

Joint control of **both** Envelope **Release times** with a single MIDI CC.
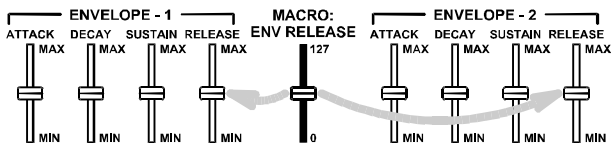
3.3 RANDOM FUNCTIONS

The random functions or "Intelligent random generator" use MIDI CC #3[5]. There are different random algorithms available as described in the table bellow:

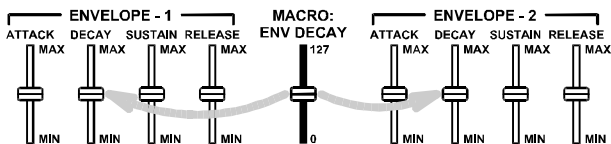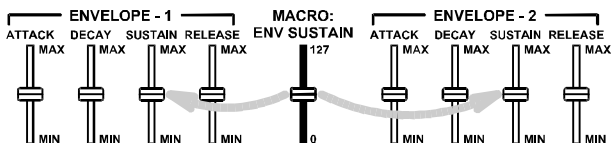| VALUES OF CC ASSIGNED TO RANDOM SETTING FUNCTION CONTROL		
CC Value	Function	Description
0 ~ 7	n/a	Not used
8 ~ 15	VCO-1 – Light	Limited number and range of VCO parameters without pitch modulation effects for more predictable results.
16 ~ 23	VCO-1 Full	All available VCO parameters in full range, including modulation for more excentric tones and sound effect.
24 ~ 31	VCO2– Light	Limited number and range of VCO parameters without pitch modulation effects for more predictable results.
32 ~ 39	VCO2– Full	All available VCO parameters in full range, including modulation for more excentric tones and sound effect.
40 ~ 47	VCO X-Mod	Specially designed combination of VCO-1 and VCO-2 parameters with Cross modulation, tested for more predictable results.
48 ~ 55	VCO Sync	Specially designed combination of VCO-1 and VCO-2 parameters with Oscillator Sync, tested for more predictable results.
56 ~ 63	VCF – Light	VCF limited range random (both HPF and LPF cutoff and resonance settings)
64 ~ 71	VCF – Full	All available VCF paramateres in full range (both HPF and LPF, including modulations)
72 ~ 79	VCA	VCA modulation parameters random
80 ~ 87	ENV-1	Envelope (all parameters) random
88 ~ 95	ENV-2	Envelope (all parameters) random
96 ~ 103	n/a	Not used
104 ~ 111	FX	LFO parameters random
112 ~ 119	n/a	Not used
120 ~ 127	ALL	Full tone random for sound experimenting.

It is recommended to assign push buttons on your hardware MIDI controller with the different MIDI CC #3 values as described in the table above.

3.4 TONE LAYER SELECTOR FUNCTION

The Tone Layer Selector CC selects active layer of the active Patch Preset. Values of the CC from 0 to 63 set "**Upper (A)**" layer, values from 64 to 127 set "**Lower (B)**" layer[6]. Individual tone parameters are controlled only on active tone layer.

It is recommended to assign a "on-off" (bi-stable) push button on your hardware MIDI controller for switching between Tone Layers.

---
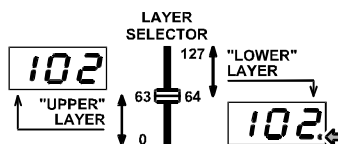
[5] Factory preset value. To see how to change number of assigned MIDI CC see chapter 5.2.
[6] Selected **B / Lower** layer is indicated by decimal point on SAVVY's display.

7

4   SYSTEM PARAMETERS

System Parameters define basic functions of SAVVY (MIDI channel for communication, MIDI data flow processing, tone number display format, display brightness, etc.).

SYSTEM PARAMETERS				
Parameter			**Factory Default**[7]	
Name	**Range**	**Description**	**Value**	**Description**
Global Parameters				
MIDI Channel	0 ~ 15	0: Chnl 1 ... 15: Chnl 16	0	MIDI Channel Nr. 1
Use Bank Select Command	0 ~ 1	0: No / 1: Yes	1	Yes
MIDI Errors Auto Reset	0 ~ 1	0: Off / 1: On	1	On
Remember last tone	0 ~ 1	0: No / 1: Yes	1	Yes
Tone Number Format	0 ~ 1	0: 0 to 767 / 1: 1 to 768	1	Numbers 1 ~ 768
Display Brightness	0 ~ 15	0: min ... 15: max	15	Maximal brightness
Inst → Ctrl Data Transfer				
Select Device ID for Bulk Dump	0 ~ 1	0: Universal / 1:MIDI Chnl Nr.	0	Universal ID Number
Send All CCs (Tone Change)	0 ~ 1	0: No / 1: Yes	1	Yes
Send One CC (Parameter Change)	0 ~ 1	0: No / 1: Yes	1	Yes
Send Manual Tone Slct as Pgm Chng	0 ~ 1	0: No / 1: Yes	1	Yes
Ctrl → Inst Data Transfer				
Cache Modifications in Edit Buffer	0 ~ 1	0: No / 1: Yes	1	Yes
Cache Macro Settings in Edit Buffer	0 ~ 1	0: No / 1: Yes	1	Yes
Cache Random Setting in Edit Buffer	0 ~ 1	0: No / 1: Yes	1	Yes
Accept Pgm Chng from Ctrl	0 ~ 1	0: No / 1: Yes	1	Yes

4.1   GLOBAL PARAMETERS

4.1.1 MIDI Channel

This parameter sets MIDI channel used for the instrument control (**0 for channel 1, 1 for channel 2, etc. up to 15 for channel 16**). All MIDI Channel messages are received and transmitted on selected MIDI channel only. MIDI channel for the SAVVY editor must be the same as selected MIDI channel of the controlled instrument!

4.1.2 Use Bank Select (CC #32)

If the parameter is 1 (i.e. "**YES**"), SAVVY uses the **CC #32** as the **Bank Select LSB** command for communication between the controller / PC and SAVVY. The CC #32 then defines number of active tone memory bank (0 to 6).

If the parameter is 0 (i.e. "**NO**"), the CC #32 can be used as universal CC for setting of a tone parameter (see chapter **Chyba! Nenalezen zdroj odkazů.**).

4.1.3 MIDI Errors Auto Reset

If the parameter is 1 (i.e. "**ON**") and an error in MIDI communication occurs, the **communication is reset** and the device continues normal operation.

If the parameter is 0 (i.e. "**OFF**") and an error in MIDI communication occurs, the **device stops operation** and the error status it indicated.

---

[7] Factory preset values are user editable. See chapter 5 for details..

4.1.4 Remember Last Tone

If the parameter is 1 (i.e. "**YES**"), SAVVY **remembers last selected tone number** after switching off (for next session).

If the parameter is 0 (i.e. "**NO**"), SAVVY always **starts with the first tone** number.

4.1.5 Tone Number Format

This parameter sets the displayed tone number format. It can be either **0 to 767** (parameter value is 0) or **1 to 768** (parameter value is 1).

4.1.6 Display Brightness

The parameter sets the display brightness (**0 for minimum, 15 for maximum**).

4.2   INST → CTRL DATA TRANSFER PARAMETERS

4.2.1 Select Device ID for Bulk Dump

The parameter selects identification number of the SAVVY editor for both transmitted and received MIDI Bulk Dump SysEx Messages.

If the parameter is 1 (i.e. "**MIDI Channel**"), the Device ID number is the same as number of MIDI channel chosen for MIDI communication with the instrument (i.e. global parameter MIDI Channel).

If the parameter is 0 (i.e. "**Universal ID Number**"), the Device ID number is equal to 127. SysEx messages will be in such setting recognized by any SAVVY editor independently on selected MIDI channel number.

4.2.2 Send All CCs (Tone Change)

If the parameter is 1 (i.e. "**YES**"), the SAVVY editor **transmits all CCs** assigned to tone parameters **when tone number is selected/changed** (manually by button on front panel or by APR SysEx message or Program Change command from the instrument).

If the parameter is 0 (i.e. "**NO**"), **no CCs are transmitted after tone select**/change.

4.2.3 Send One CC (Parameter Change)

If the parameter is 1 (i.e. "**YES**"), the SAVVY editor **transmits MIDI CC** assigned to a tone parameter each time the **parameter is changed on the instrument** (by IPR SysEx message).

If the parameter is 0 (i.e. "**NO**"), assigned **CC is not transmitted** after the parameter change.

4.2.4 Send Manual Tone Slct as Pgm Chng

If the parameter is 1 (i.e. "**YES**"), **Program Change** command is **sent to the controller/PC** each time the tone is changed manually (by buttons on SAVVY´s front panel). If "Use Bank Select Command" parameter (see chapter 4.1.2) is "YES", the Bank Select LSB command (i.e. CC #32) is also sent.

If the parameter is 0 (i.e. "**NO**"), **Program Change** command is **not transmitted**.

4.3   CTRL → INST DATA TRANSFER PARAMETERS

4.3.1 Cache Modifications in Edit Buffer

If the parameter is 1 (i.e. "**YES**"), any **change of tone** parameters made by a "Modifier" CCs are **sent to the instrument and remain in edit buffer** (so they can be saved together with the tone parameters in SAVVY´s memory).

If the parameter is 0 (i.e. "**NO**"), the **changes** are only **sent to the instrument and not cached** in edit buffer.

4.3.2 Cache Macro Settings in Edit Buffer

If the parameter is 1 (i.e. "**YES**"), any **change of tone parameters** made by a "Macro" CC are **sent to the instrument and remain in edit buffer** (so they can be saved as a new tone parameters values in SAVVY´s memory).

If the parameter is 0 (i.e. "**NO**"), the **changes are only sent** to the instrument and they are **not cached** in edit buffer.

4.3.3 Cache Random Setting in Edit Buffer

If the parameter is 1 (i.e. "**YES**"), **changes** of tone parameters generated by the "Random" CC are sent to the instrument and **remain in edit buffer** (so they can be saved as a new tone parameters values in SAVVY´s memory).

If the parameter is 0 (i.e. "**NO**"), the **changes** are only sent to the instrument and they are **not cached**.

4.3.4 Accept Pgm Chng from Ctrl

If the parameter is 1 (i.e. "**YES**"), the editor **changes its tone** each time a **Program Change** command **is received** from the connected controller/PC. Number of newly selected tone bank conforms to value of the received Program Change command. If "Use Bank Select Command" parameter (see chapter 4.1.2) is "YES", the Bank Select LSB command (i.e. CC #32) is also accepted and active tone bank is also changed.

If the parameter is 0 (i.e. "**NO**"), **Program Change** command is **ignored** by the SAVVY.

5   SYSEX MESSAGES GENERATOR

As a support for the users we have made software generator to create System Exclusive messages to control the SAVVY editor. Any necessary SysEx message can be created with this generator without difficult calculating of binary or hexadecimal numbers.

The generator is based on Java scripts so it can run on any computer with web browser (Windows, OSX, etc.)[8]. To send the generated commands you will also need a **utility to send the generated text**[9] **as a MIDI SysEx dump** (see chapter 6 for recommended software[10]).

Visit our website and download the "**syxgen_006-20_Roland-MKS-80.zip**" archive for Roland MKS-80 instrument. Expand the archive to a selected folder on your computer's hard drive (i.e. "**index.html**", "**00620_general.html**", "**00620_instrument.html**", "**00620_tone.html**" and "**00620_help.html**" files and "**media**" sub-folder).

To launch the SysEx messages generator, simply open the "**index.html**" file in your web browser (e.g. by clicking on the file icon). The generator type selector window opens.

Click on "**Go**" button to request either **System Parameters** ①, **Instrument Parameters** ② or **Tone Data** ③ SysEx message generator windows.

5.1   SYSTEM PARAMETERS WINDOW

5.1.1 Change the system parameters

To change / adjust the system parameters:

1. Select "**Load**" message type ①.

2. Select the "**Device ID**" ② (It is either the same number as active MIDI Channel Nr. or "**Universal**"[11]).

3. Select / adjust requested values of System parameters to be changed ③.

4. Click the "**Generate**" button ④.

5. The hexadecimal MIDI SysEx message is generated as a text in the "**SysEx Message**" field ⑤.

6. **Copy** the text in clipboard (CTRL+C) and **paste** (CTRL+V) to a MIDI Sysex software[12].

7. Send the message to SAVVY[13].

8. SAVVY starts operation with the new system parameters settings immediately, no reset is necessary.

---
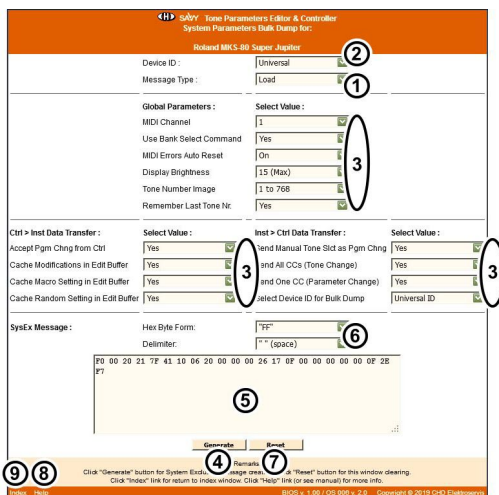
[8] Note that scripts and ActiveX elements must be enabled in web browser for proper function of the generator.
[9] The generated format of the message is **text.** The text can not be saved as a *.syx or *.mid file directly, hence a text to SysEx utility is needed.
[10] It is not necessary to use the recommended utility. The same function is provided by various DAW and MIDI SysEx softwares. For required text format and instructions check the documentation of your DAW/software.
[11] "Universal" ID will be recognized by any SAVY editor.
[12] See Chapter 6.1.2 for recommended MIDI SysEx software.
[13] SAVVY must be set in "**CTRL➔INST**" communication direction.

5.1.2 Request the contents of system memory

To request the contents of System paramters memory for backup in your computer:

1. Select "**Request**" message type ①.
2. Select the "**Device ID**" ② (It is either the same number as active MIDI Channel Nr. or "**Universal**"[14]).
3. Click the "**Generate**" button ④.
4. The hexadecimal MIDI SysEx message is generated as a text in the "**SysEx Message**" field ⑤.
5. **Copy** the text in clipboard (CTRL+C) and **paste** (CTRL+V) in a MIDI Sysex software[15].
6. Send the message to SAVVY[16].
7. SAVVY responds immediately – it sends the System parameter settings as "**Load**" type SysEx message[17].
8. Now you can save the received message in your computer for further use.

5.1.3 Initialize data

To initialize the System data to factory default values:

1. Select "**Initialize**" message type ①.
2. Select the "**Device ID**" ② (It is either the same number as active MIDI Channel Nr. or "**Universal**"[18]).
3. Click the "**Generate**" button ④.
4. The hexadecimal MIDI SysEx message is generated as a text in the "**SysEx Message**" field ⑤.
5. **Copy** the text in clipboard (CTR+C) and **paste** (CTRL+V) in a MIDI Sysex software[19].
6. Send the message to SAVVY[20].
7. SAVVY starts operation with the initialized system settings immediately, no reset is necessary.

5.1.4 Other functions

Select "**Hex Byte Form**" and "**Delimiter**" character ⑥ as required for your MIDI SysEx software[21]. Default setting of the generator is optimized for the recommended **Pocket MIDI** utility[22] (see Chapter 6). However some DAW or MIDI SysEx utilities require different format of the generated text message.

To clear the text field and return all values to their defaults, click the "**Reset**" button ⑦.

"**Help**" link ⑧ opens new window with brief help.

"**Index**" link ⑨ closes this window and returns to initial generator type selection window.

---

[14] "Universal" ID will be recognized by any SAVVY editor.
[15] See Chapter 6.1.3 for recommended MIDI SysEx software.
[16] SAVVY must be set in "CTRL→INST" communication direction and your computer must be connected bi-directonally (both MIDI IN and OUT cables) with SAVVY.
[17] If you are using the recommended MIDI SysEx software, the message should be visible in the "MIDI In Monitor" window - see Chapter 6.1.3.
[18] "Universal" ID will be recognized by any SAVVY editor.
[19] See Chapter 6.1.2 for recommended MIDI SysEx software.
[20] SAVVY must be set in "CTRL→INST" communication direction.
[21] See the documentation of your DAW for required format.
[22] The default format is also compatible with Bome SendSX and various other softwares.

5.2 INSTRUMENT PARAMETERS WINDOW

5.2.1 Create / adjust the MIDI CC map

You can **create** your own user **MIDI CC map** in this generator window (e.g. to use your modern Virtual analogue synthesizer as a controller for your vintage instrument).

To create your own MIDI CC map:

1. Select "**Load**" message type ①**.**

2. Select the "**Device ID**" ② (It is either the same number as active MIDI Channel Nr. or "**Universal**"[23]).

3. For each of tone parameter and functions, select / change the respective MIDI CC[24] Nr. as you need ③.

4. Click the "**Generate**" button ④.

5. The hexadecimal MIDI SysEx message is generated as a text in the "**SysEx Message**" field ⑤.

6. **Copy** the text in clipboard (CTRL+C) and **paste** (CTRL+V) to a MIDI Sysex software[25].

7. Send the message to SAVVY[26].

8. SAVVY starts operation with the new user MIDI CC mapping immediately, no reset is necessary.

5.2.2 Request MIDI CC map

Actual **MIDI CC map** can be **saved** in your computer for backup. To request the MIDI CC map:

1. Select "**Request**" message type ①.

2. Select the "**Device ID**" ② (It is either the same number as active MIDI Channel Nr. or "**Universal**"[27]).

3. Click the "**Generate**" button ④.

4. The hexadecimal MIDI SysEx message is generated as a text in the "**SysEx Message**" field ⑤.

5. **Copy** the text in clipboard (CTRL+C) and **paste** (CTRL+V) in a MIDI Sysex software[28].

6. Send the message to SAVVY[29].

7. SAVVY responds immediately – it sends the MIDI CC map as "**Load**" type SysEx message[30].

8. Now you can save the received message in your computer for further use.

SAVVY Tone Parameters Editor & Controller
Instrument Parameters Bulk Dump for:

Roland MKS-80 Super Jupiter ②

| Device ID : | Universal | |
| Message Type : | Load | ① |

Tone Parameter Name :	Assign CC Nr. :	Tone Parameter Name :	Assign CC Nr. :
VCO MOD LFO-1 DEPTH	42	VCF ENV POL	52
VCO MOD ENV-1 DEPTH	43	VCF MOD ENV DEPTH	54
VCO KEY FOLLOW	45	VCF LFO-1 DEPTH	53
VCO KEY FOLLOW SEL	44	VCF KEY FOLLOW	55
VCO SYNC	41	VCA ENV-2 LEVEL	71
VCO-1-1 RANGE	18	VCA MOD LFO-1 DEPTH	70
VCO-1 WAVEFORM	20	LFO-1 RATE	13
VCO-1 MOD	21	LFO-1 DELAY TIME	14
VCO-2 RANGE	24	LFO-1 WAVEFORM	12
VCO-2 FINE TUNE	26	ENV DYNAMICS TIME	61
VCO-2 WAVEFORM	27	ENV DYNAMICS LEVEL	62
VCO-2 MOD	38	ENV RESET	86
PW	36	ENV-1 ATTACK TIME	74
PWM	37	ENV-1 DECAY TIME	75
PWM MODE SEL	34	ENV-1 SUSTAIN LEVEL	76
PWM MOD POL	35	ENV-1 RELEASE TIME	77
XMOD MANUAL DEPTH	46	ENV-1 KEY FOLLOW	78
XMOD ENV-1 DEPTH	47	ENV-1 DYNAMICS	79
XMOD ENV-1 POL	48	ENV-2 ATTACK TIME	80
MIXER	58	ENV-2 DECAY TIME	81
HPF CUTOFF FREQ	49	ENV-2 SUSTAIN LEVEL	82
VCF CUTOFF FREQ	50	ENV-2 RELEASE TIME	83
VCF RESONANCE	51	ENV-2 KEY FOLLOW	84
VCF ENV SEL	56	ENV-2 DYNAMICS	85

Tone Modification Name :	Assign CC Nr. :	Tone Modification Name :	Assign CC Nr. :
MODIFY MOD RATE	95	MODIFY BRILLIANCE	93
MODIFY MOD DEPTH	94	MODIFY ENV TIME	91

Macro Function Name :	Assign CC Nr. :	Macro Function Name :	Assign CC Nr. :
ENV ATTACK	110	ENV SUSTAIN	112
ENV DECAY	111	ENV RELEASE	113

Random Setting :	Assign CC Nr. :	Layer Selector :	Assign CC Nr. :
(VCO/VCF/VCA/ENV/FX)	3	(UPPER/LOWER)	9

SysEx Message: Hex Byte Form: "FF" Delimiter: " " (space) ⑥

⑤

Generate   Reset ④

⑨ ⑧ Remarks: "Generate" button for System Exclus. message creation. "Reset" button for this window clearing. Click "Help" link or see manual) for more info.
Index   Help

BIOS v. 1.00 / OS 006 v. 1.0   Copyright © 2018 CHD Elektroservis

---

5.2.3 Initialize MIDI CC map

To **Initialize** the MIDI CC map to **factory default** values:

1. Select "**Initialize**" message type ①.
2. Select the "**Device ID**" ② (It is either the same number as active MIDI Channel Nr. or "**Universal**"[31]).
3. Click the "**Generate**" button ④.
4. The hexadecimal MIDI SysEx message is generated as a text in the "**SysEx Message**" field ⑤.
5. **Copy** the text in clipboard (CTR+C) and **paste** (CTRL+V) in a MIDI Sysex software[32].
6. Send the message to SAVVY[33].
7. SAVVY starts operation with the initialized MIDI CC map immediately, no reset is necessary.

5.2.4 Other functions

Select "**Hex Byte Form**" and "**Delimiter**" character ⑥ as required for your MIDI SysEx software[34]. Default setting of the generator is optimized for the recommended **Pocket MIDI** utility[35] (see Chapter 6). However some DAW or MIDI SysEx utilities require different format of the generated text message.

To clear the text field and return all values to their defaults, click the "**Reset**" button ⑦.

"**Help**" link ⑧ opens new window with brief help.

"**Index**" link ⑨ closes this window and returns to initial generator type selection window.

---

[31] "Universal" ID will be recognized by any SAVY editor.
[32] See Chapter 6.1.2 for recommended MIDI SysEx software.
[33] SAVVY must be set in "CTRL→INST" communication direction.
[34] See the documentation of your DAW for required format.
[35] The default format is also compatible with Bome SendSX and various other softwares.

5.3 TONE DATA WINDOW

5.3.1 Create single user tone

A **single tone** can be **created** by entering the individual tone parameter values (e.g. to create tone from a Magazine paper sheets, Video tutorials or advices from other users).

To create your own user tone:

1. Select "**Load**" message type ①.
2. Select the "**Device ID**" ② (It is either the same number as active MIDI Channel Nr. or "**Universal**"[36]).
3. Select the "**Tone Nr.**" you want to create ③.
4. Select / change the respective value for each of tone parameters ④.
5. Click the "**Generate**" button ⑤.
6. The hexadecimal MIDI SysEx message is generated as a text in the "**SysEx Message**" field ⑥.
7. **Copy** the text in clipboard (CTRL+C) and **paste** (CTRL+V) to a MIDI Sysex software[37].
8. Send the message to SAVVY[38].
9. SAVVY saves the new tone to selected "**Tone Nr.**" for immediate use.

5.3.2 Request single tone

A **single tone** can be **backed up** (e.g. to share your sounds with other users).

To request single tone data:

1. Select "**Request**" message type ①.
2. Select the "**Device ID**" ② (It is either the same number as active MIDI Channel Nr. or "**Universal**"[39]).
3. Select the "**Tone Nr.**" you want to request / backed-up ③.
4. Click the "**Generate**" button ⑤.
5. The hexadecimal MIDI SysEx message is generated as a text in the "**SysEx Message**" field ⑥.
6. **Copy** the text in clipboard (CTRL+C) and **paste** (CTRL+V) in a MIDI Sysex software[40].
7. Send the message to SAVVY[41].
8. SAVVY responds immediately – it sends the MIDI CC map as "**Load**" type SysEx message[42].
9. Now you can save the received message in your computer for further use.

SAVY Tone Parameters Editor & Controller
Tone Data Bulk Dump for:
Roland MKS-80 Super Jupiter

Device ID : Universal ②
Message Type : Load ①
Tone Nr. : 1 ③

Tone Parameter Name	Select Value	Tone Parameter Name	Select Value
VCO MOD LFO-1 DEPTH	0	VCA MOD LFO-1 DEPTH	0
VCO MOD ENV-1 DEPTH	0	LFO-1 RATE	41
VCO KEY FOLLOW	40	LFO-1 DELAY TIME	22
VCO KEY FOLLOW SEL	VCO-1	LFO-1 WAVEFORM	Triangle
VCO SYNC	VCO-2 > VCO-1	ENV DYNAMICS TIME	0
VCO1-1 RANGE	60	ENV DYNAMICS LEVEL	82
VCO-1 WAVEFORM	Pulse	ENV RESET	On
VCO-1 MOD	Normal	ENV-1 ATTACK TIME	0
VCO-2 RANGE	High Freq	ENV-1 DECAY TIME	58
VCO-2 FINE TUNE	-30	ENV-1 SUSTAIN LEVEL	28
VCO-2 WAVEFORM	Saw	ENV-1 RELEASE TIME	44
VCO-2 MOD	Inverted	ENV-1 KEY FOLLOW	61
PW	44	ENV-1 DYNAMICS	On
PWM	32	ENV-2 ATTACK TIME	0
PWM MODE SEL	LFO-1	ENV-2 DECAY TIME	59
PWM MOD POL	Normal	ENV-2 SUSTAIN LEVEL	40
XMOD MANUAL DEPTH	0	ENV-2 RELEASE TIME	40
XMOD ENV-1 DEPTH	0	ENV-2 KEY FOLLOW	28
XMOD ENV-1 POL	Inverted	ENV-2 DYNAMICS	On
MIXER	34	TONE NAME (CHR1)	80
HPF CUTOFF FREQ	0	TONE NAME (CHR2)	73
VCF CUTOFF FREQ	51	TONE NAME (CHR3)	65
VCF RESONANCE	0	TONE NAME (CHR4)	78
VCF ENV SEL	ENV-2	TONE NAME (CHR5)	79
VCF ENV POL	Inverted	TONE NAME (CHR6)	32
VCF MOD ENV DEPTH	24	TONE NAME (CHR7)	42
VCF MOD LFO-1 DEPTH	0	TONE NAME (CHR8)	49
VCF KEY FOLLOW	13	TONE NAME (CHR9)	32
VCA ENV-2 LEVEL	80	TONE NAME (CHR10)	32

④ ④

SysEx Message : Hex Byte Form: "FF" ⑦
Delimiter: " " (space)

```
F0 00 20 21 7E 41 36 20 00 00 28 01 00 01 00 01 28 01
00 01 01 3C 00 01 00 55 14 02 20 00 30 01 18 00 0D 50 00
00 52 01 01 00 3A 1C 2C 3D 01 00 3B 00 28 1C 50 49 41 4B 4F 20 2A
31 20 20 40 40 40 40 40 40 40 40 40 40 40 40 40 72 F7
```
⑥

Generate ⑤   Reset ⑧

⑩ ⑨ ... remarks. "Generate" button for System Exclus...age creati... "Reset" button for this window clearing. Click "Index" link for return to index window. Click "Help" link (or see manual) for more info.
BIOS v. 1.00 / OS 006 v. 2.0   Copyright © 2019 CHD Elektroservis

---

[36] "Universal" ID will be recognized by any SAVY editor.
[37] See Chapter 6.1.2 for recommended MIDI SysEx software.
[38] SAVVY must be set in "**CTRL→INST**" communication direction.
[39] "Universal" ID will be recognized by any SAVY editor.
[40] See Chapter 6.1.3 for recommended MIDI SysEx software.
[41] SAVVY must be set in "**CTRL→INST**" communication direction and your computer must be connected bi-directonally (both MIDI IN and OUT cables) with SAVVY.
[42] If you are using the recommended MIDI SysEx software, the message should be visible in the "MIDI In Monitor" window - see Chapter 6.1.3.

15

5.3.3 Initialize single tone

To **Initialize** a single tone to **factory default** values:

1. Select "**Initialize**" message type ①.
2. Select the "**Device ID**" ② (It is either the same number as active MIDI Channel Nr. or "**Universal**"[43]).
3. Select the "**Tone Nr.**" you want to initialize ③
4. Click the "**Generate**" button ④.
5. The hexadecimal MIDI SysEx message is generated as a text in the "**SysEx Message**" field ⑤.
6. **Copy** the text in clipboard (CTR+C) and **paste** (CTRL+V) in a MIDI Sysex software[44].
7. Send the message to SAVVY[45].
8. SAVVY initializes and saves the selected tone immediately, no reset is necessary.

5.3.4 Other functions

Select "**Hex Byte Form**" and "**Delimiter**" character ⑥ as required for your MIDI SysEx software[46]. Default setting of the generator is optimized for the recommended **Pocket MIDI** utility[47] (see Chapter 6). However some DAW or MIDI SysEx utilities require different format of the generated text message.

To clear the text field and return all values to their defaults, click the "**Reset**" button ⑦.

"**Help**" link ⑧ opens new window with brief help.

"**Index**" link ⑨ closes this window and returns to initial generator type selection window.

---

[43] "Universal" ID will be recognized by any SAVVY editor.
[44] See Chapter 6.1.2 for recommended MIDI SysEx software.
[45] SAVVY must be set in "CTRL→INST" communication direction.
[46] See the documentation of your DAW for required format.
[47] The default format is also compatible with Bome SendSX and various other softwares.
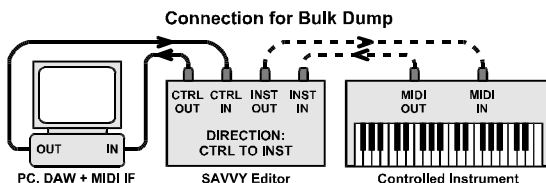
6   RECOMMENDED MIDI SOFTWARE

The hexadecimal MIDI SysEx messages created in the Generators (as described in chapter 5) are in **plain text format.** The text can not be saved as a *.syx or *.mid file directly, hence a text to SysEx capable utility or DAW is needed.

6.1   POCKET MIDI

Pocket MIDI[48] is a utility that can be used to send the text as a SysEx message. It is a simple MIDI monitoring tool for both Windows and Mac OSX platforms. **Pocket MIDI** is a **freeware** for commercial, non-profit or private use.

6.1.1 Setting up the computer[49] and software

1. **Download** the **Pocket MIDI** utility at **https://www.morson.jp/pocketmidi-webpage/**

2. **Install** the utility in your computer.

3. **Connect** SAVVY accordingly to the figure "Connection for Bulk Dump"**.**

4. **Select** the MIDI interface **Input and Outputs** to device where the SAVVY is connected to (drop-down menu **Views → MIDI Settings → Input Port / Outpu Port**).

Connection for Bulk Dump

CTRL OUT   CTRL IN   INST OUT   INST IN

DIRECTION:
CTRL TO INST

OUT   IN

PC, DAW + MIDI IF   SAVVY Editor

MIDI OUT   MIDI IN

Controlled Instrument

6.1.2 Send the text SysEx message to SAVVY

Basic procedure to send any SysEx data to SAVVY.

1. Generate required SysEx message in the SysEx Messages Generator (as described in Chapter 5)[50].

2. **Copy** the text in clipboard (CTR+C) and **paste** (CTRL+V) in "**System Exclusive**" window①**.**

3. Click the "↑" ("**Transmit**") arrow ② to send the data to SAVVY.

4. The sent message appears in the "**MIDI Out Monitor**" window ③.

5. Alternatively **you can save the file** for future use (either by the floppy icon ④ as a *.txt file or in the drop-down "**File**" menu ⑤ as a *.pocketmidi file).

---
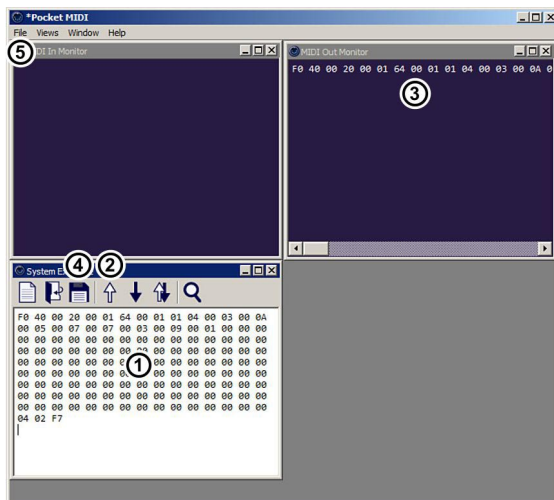
[49] Computer MIDI interface must be active / switched on and all necessary MIDI drivers correctly installed.
[50] The correct "**FF**" Hex Byte Form and "**' (space)**" for Delimiter are the initial values after the generator is launched, so there is no need to change them for Pocket MIDI.

6.1.3 Request the SysEx data from SAVVY

1. **Generate** required ("**Request**" type) SysEx message in the SysEx Messages Generator (as described in Chapter 5)[51].

2. **Copy** the text in clipboard (CTR+C) and **paste** (CTRL+V) in "System Exclusive" window ①.

3. Click the "↑" ("**Transmit**") arrow ② to send the data to SAVVY.

4. The sent message appears in the "**MIDI Out Monitor**" window ③.

5. SAVVY responds with "**Load**" type SysEx message. The received message appears in the "**MIDI In Monitor**" window ④.

6. Click on the "**MIDI In Monitor**" window heading and **Save** the data (File downdrop menu ⑤) as a *.pocketmidi file) for future use.

7. Alternatively **you can copy the data** (CTRL+C) from "**MIDI In Monitor**" window ④ and paste (CTRL+V) to any text editor and **save** as a *.txt or **document file.**
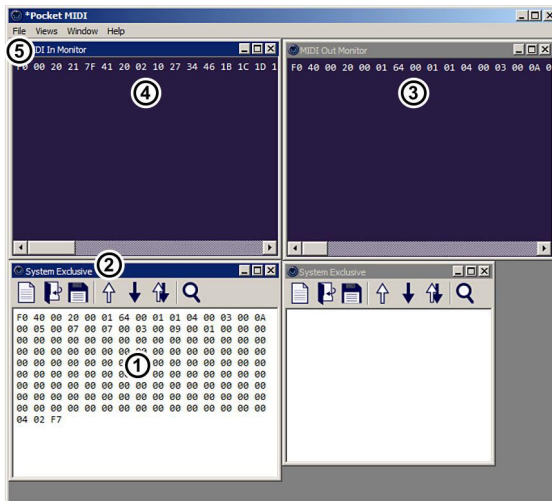
6.2 ALTERNATIVE SOFTWARE SOLUTIONS

There are various DAW and MIDI utilites[52] that can be used for the communication with SAVVY, both commercial and free. Among the others:

MIDI-OX (free for private users, paid for commercial users) – advanced MIDI tool for MS Windows computers:
http://www.midiox.com/

Bome SendSX (postcardware for private users, reasonably paid for commercial users) – Simple and effective MS Windows MIDI utility:
https://www.bome.com/products/sendsx

InerziaSysEx (commercial) – advanced MIDI tool for Mac OSX:
available on iTunes

Steinberg Cubase Pro (commercial) - DAW for both MS Windows and Mac OSX computers with full sysex support:
http://www.steinberg.net

Apple Logic Pro (commercial) – Mac OSX DAW with full sysex support (all versions up to Logic Pro X):
https://www.apple.com/logic-pro/

Cakewalk Sonar (commercial) – MS Windows DAW with full sysex support:
http://www.cakewalk.com/

etc.

---

[51] The correct "**FF**" Hex Byte Form and "**' ' (space)**" for Delimiter are the initial values after the generator is launched, so there is no need to change them for Pocket MIDI.
[52] All mentioned products are copyright of their respective owners.

7   TONE MEMORY ORGANIZER

The Tone Memory Organizer is a support software what we have made for the users to rename and relocate individual tones stored in SAVVY's tone memory. Also whole tone banks can be copied, exchanged or initialized.

The software and guide how to use it are available for downloading at our website.

CHD SAVVY

Tone Parameters Editor & Controller
Model TPE-1 Nr. 8-361 / Bios v. 1.00 / OS Nr. 006 v. 2.0
Document: 8361100-00620_manual

Manufacturer:
CHD Elektroservis, Czech Republic
www.chd-el.cz   info@chd-el.cz

SAVVY

Tone Parameters Editor & Controller