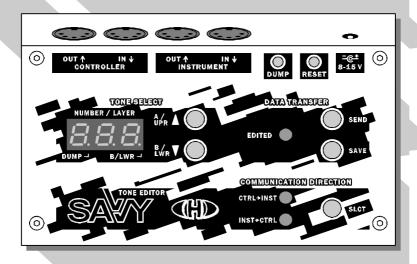


# Tone Parameters Editor & Controller



Manual Supplement Kawai K3, K3M





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## FEATURES

Supported instruments: Kawai K3, K3M.

**Number of tone memories**: 384 (three memory banks, each tone memory can hold its own user additive waveform).

Number of waveforms memories: 128 new pre-defined additive waveforms.

Individual tone parameters (37x): all Kawai K3 tone parameters assigned to MIDI CCs.

Modifiers (3x): MOD RATE, MOD DEPTH, ENV TIME

Macro (5x): ENV ATTACK TIME, ENV DECAY TIME, ENV SUSTAIN LEVEL, ENV RELEASE TIME, SET USER WAVE

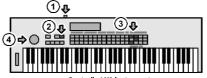
Random functions (13x): OSC – Light, OSC – Full, WAVE Harmonics 1-32, WAVE Harmonics 1-64, WAVE Harmonics 1-96, WAVE Harmonics 1-128, VCF – Light, VCF – Full, VCA, ENV-VCF, ENV-VCA, FX, ALL

**Waveform functions**<sup>1</sup> (7x): pre-defined user waveforms selector, increment / decrement and slope intensity of separate for odd and even harmonics, harmonics numbers inversion function, original / edited waveform compare function.

**Enhanced features:** Each of tones can be individually named. The name is stored in SAVVY's memory as a tone data. <sup>2</sup>

## 2 PREPARE THE INSTRUMENT

To use SAVVY with your Kawai K3, you have to set some MIDI functions:



Controlled K3 Instrument

- 1) Set **PROTECT** switch on the instrument rear panel to "**OFF**" position ①.
- 2) Press the **EDIT MASTER** button on the instrument front panel ②. Button LED lights and display shows the selected parameter number and its value.
- 3) Press the [40] RECEIVE CHANNEL button (MIDI section of MASTER switches ③).
- 4) Set "1" value<sup>3</sup> of the parameter by **INCREMENT** dial **4**).
- 5) Press the [43] SEND CHANNEL button (MIDI section of MASTER switches 3).
- 6) Set "1" value of the parameter by **INCREMENT** dial (4).
- 7) Press the [42] FUNCTION button (MIDI section of MASTER switches (3)).
- 8) Set "5" value of the parameter by **INCREMENT** dial **4**.

<sup>&</sup>lt;sup>1</sup> Please keep in mind that the user waveforms are static waves and can not be controlled in real time as on later Kawai K5/K5000 synthesizers. The K3's internal CPU has to calculate the resulting waveform from entered values first. There are short audible lags when using the waveform functions thus. Nevertheless we optimized the firmware to prevent the operation from any unwanted MIDI errors or instrument crashes.

<sup>&</sup>lt;sup>2</sup> 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).

<sup>&</sup>lt;sup>3</sup> SAVVY uses MIDI channel Nr. 1 as a default for data sending after factory reset (see System Parameters table). It can be changed by the user anytime. All other MIDI commands for the Patch Preset control must be sent on the same MIDI channel.

\*\*ASAVY uses MIDI channel Nr. 1 as a default for data residence of the same MIDI channel.

<sup>&</sup>lt;sup>4</sup> SAVVY uses MIDI channel Nr. 1 as a default for data receiving after factory reset (see System Parameters table). It can be changed by the user anytime. All other MIDI commands for the Patch Preset control must be sent on the same MIDI channel.

<sup>&</sup>lt;sup>5</sup> I.e. receiving of SysEx messages is enabled. Note that there is an error in the K3 user manual (value 6 is listed incorrectly for this function).



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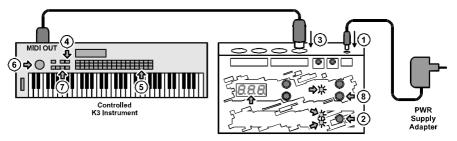
- 9) Press the [44] EXCLISIVE I button (MIDI section of MASTER switches 3).
- 10) Set "1" value of the parameter by INCREMENT dial (4).
- 11) Press the MASTER button again (2). Button LED turns off.

To save the above settings:

- RECEIVE CHANNEL, SEND CHANNEL and FUNCTION MIDI parameters remain stored in instrument's memory
  when set as described above.
- 2) **EXCLISIVE I** MIDI parameter <u>is automatically set to "0" after the K3 is turned off</u>. The above MIDI setting has to be repeated every time you switch the K3 on.

SAVVY always uses patch / tone Nr. 1 and user waveform data from instrument's internal memory. They will be rewritten during the SAVVY operation! It is recommended to copy the patch / tone Nr. 1 to another location (or to cartridge) and to save the user waveform data in SAVVY's memory (or in cartridge) before the first use of SAVVY with your instrument thus.

To save your waveform data from instrument's internal memory to SAVVY:



- 1) Do not connect the MIDI cables from SAVVY to Kawai K3!
- Connect power supply adapter to SAVVY ① and wait utill reset sequence is complete (a tone number is dispayed and CTRL → INST green LED lights).
- Press COMMUNICATION DIRECTION SLCT button ② (CTRL → INST green LED goes off and INST → CTRL yellow LED lights).
- 4) Connect the instrument and SAVVY with MIDI cable **(3)** now. Connecting MIDI-OUT of the instrument and INSTRUMENT-MIDI-IN of SAVVY is required. No other cable is necessary.
- 5) Press the **EDIT MASTER** button on the instrument's panel **4**. Button LED lights and instrument's display shows selected parameter number and its value.
- 6) Press the **[45] EXCLISIVE II** button **(5)** (MIDI section of MASTER switches of the instrument). Display shows **"45"** parameter number and **"0"** value.
- 7) Set "1" value of the parameter by **INCREMENT** dial **(6)**.
- 8) Press the **PROGRAM INTERNAL** button **7**. The instrument sends the waveform data and **EDITED** red LED on SAVVY confirms receiving of the data.
- 9) Press the **MASTER** button again (4). Button LED turns off.
- 10) Now you can save the received waveform data in a SAVVY's tone memory by pushing the **SAVE** button **(as described in SAVVY Owner's manual).**

**Remark:** This procedure should be done every time you have edited your own user additive waveform directly from your K3 instrument panel.

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 $<sup>^{\</sup>rm 6}$  I.e. transmitting of SysEx messages is enabled.

<sup>&</sup>lt;sup>7</sup> It is also possible to press the **PROGRAM – CARTRIDGE** button for saving of your user waveform from cartridge to SAVVY.



# INSTRUMENT PARAMETERS – MIDI CC ASSIGNMENT

- Individual tone parameters MIDI CCs assigned to individual tone parameters control.
- 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.
- **User waveform functions** MIDI CC assigned to User Wave Selector selects the new pre-defined waveforms and waveform functions modifying the content of odd and even harmonics.

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

The following table shows factory assigned MIDI CCs numbers, however the assigned MIDI CCs are user definable<sup>8</sup> and can be changed by user.

INDIVIDUAL TONE PARAMETERS						
Parameter Name	CC Nr.	Parameter Name	CC Nr.			
OSC-1 WAVE SELECT	20	VCA DECAY	81			
OSC-1 RANGE	18	VCA SUSTAIN	82			
OSC-2 WAVE SELECT	27	VCA RELEASE	83			
OSC-2 COARSE	25	LFO SHAPE	12			
OSC-2 FINE	26	LFO SPEED	13			
OSC BALANCE	58	LFO DELAY	14			
PORTAMENTO SPEED	37	LFO OSC	21			
PITCH BEND RANGE	9	LFO VCF	53			
AUTO BEND	47	LFO VCA	69			
LOW CUT (HPF)	49	VELOCITY VCF	52			
VCF CUTOFF	50	VELOCITY VCA	70			
VCF RESONANCE	51	PRESURE OSC-BALANCE	41			
VCF ENV	54	PRESURE VCF	56			
VCF ATTACK	74	PRESURE VCA	72			
VCF DECAY	75	PRESURE LFO-OSC	22			
VCF SUSTAIN	76	KCV VCF	55			
VCF RELEASE	77	KCV VCA	84			
VCA LEVEL	71	CHORUS	66			
VCA ATTACK	80		•			

MODIFIERS						
Modifier Name	CC Nr.	Modifier Name	CC Nr.			
MOD RATE	95	ENV TIME	91			
MOD DEPTH	94					

 $<sup>^{8}</sup>$  To see how to change the assigned MIDI CCs or make new user map see chapter 5.



MACROS						
Macro Name	CC Nr.	Macro Name	CC Nr.			
ENV ATTACK TIME	110	ENV RELEASE TIME	113			
ENV DECAY TIME	111	SET USER WAVE	117			
ENV SUSTAIN LEVEL	112					

#### RANDOM FUNCTIONS

Random Setting Name	CC Nr.	l
DCO-1,2 / SYNC / VCF / VCA / ENV / LFO / FX	3	l

USER WAVEFORM FUNCTIONS							
Function Name CC Nr. Function Name CC Nr							
USER WAVE SELECTOR	46	SLOPE EVEN HARMONICS	109				
INCREMENT / DECREMENT ODD HARMONICS	106	INVERT HARMONICS	118				
INCREMENT / DECREMENT EVEN HARMONICS	107	COMPARE	119				
SLOPE ODD HARMONICS	108	_					

## 3.1 MODIFIERS

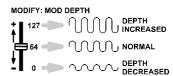
#### MOD RATE

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



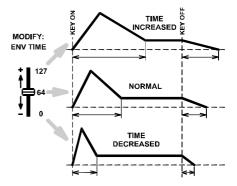
#### MOD DEPTH

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



#### **ENV TIME**

ENV TIME is a new performance parameter. This modifier offsets all **time segments** of both VCF and VCA **Envelope generators** with single MIDI CC, while preserving all other tone settings (see picture below). The original tone color can be used with various lengths of envelope from short percussive to long evolving pad.

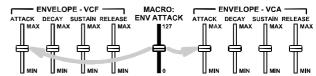




#### 3.2 MACROS

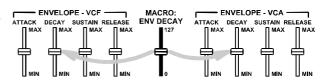
#### **ENV ATTACK TIME**

Joint control of **both** VCF and VCA envelopes **Attack times** with a single MIDI CC.



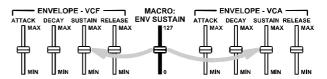
#### **ENV DECAY TIME**

Joint control of **both** VCF and VCA envelopes **Decay times** with a single MIDI CC.



#### **ENV SUSTAIN LEVEL**

Joint control of **both** VCF and VCA envelopes **Sustain levels** with a single MIDI CC.



#### **ENV RELEASE TIME**

Joint control of **both** VCF and VCA envelopes **Release times** with a single MIDI CC.



## **SET USER WAVE**

Sets **both oscillators waveforms** to **user additive wave**<sup>9</sup>. To do so, use any CC value in the range of 64 –127. Values 0 to 63 have no effect.

It is recommended to assign push button on your hardware MIDI controller to this MIDI CC.

 $<sup>^{9}</sup>$  I.e. both OSC-1 WAVE SELECT and OSC-2 WAVE SELECT parameters are set to value 32.

## 3.3 RANDOM FUNCTIONS

The random functions or "Intelligent random generator" use MIDI CC #3<sup>10</sup>. 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	OSC Light	Limited number and range of OSC,1 and OSC-2 parameters without pitch modulation effects for more predictable results.						
16 ~ 23	OSC Full	All available OSC,1 and OSC-2 parameters in full range, including modulation for more excentric tones and sound effect.						
24 ~ 31	WAVE 1-32 <sup>th</sup>	Random setting of harmonics numbers in the limited range from 1 to 32 (both harmonics Nr. and intensity)						
32 ~ 39	WAVE 1-64 <sup>th</sup>	Random setting of harmonics numbers in the limited range from 1 to 64 (both harmonics Nr. and intensity)						
40 ~ 47	WAVE 1-96 <sup>th</sup>	Random setting of harmonics numbers in the limited range from 1 to 96 (both harmonics Nr. and intensity)						
48 ~ 55	WAVE 1-128 <sup>th</sup>	Random setting of harmonics numbers in the full available range <sup>11</sup> from 1 to 128 (both harmonics Nr. and intensity)						
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 – VCF	VCF envelope (all parameters) random						
88 ~ 95	ENV – VCA	VCA envelope (all parameters) random						
96 ~ 103	n/a	Not used						
104 ~ 111	FX	LFO and CHORUS random						
112 ~ 119	n/a	Not used						
120 ~ 127	ALL	Full tone random for sound experimenting.						

The "WAVE" random functions generate random number of harmonics and also their random intensity values. The range of randomly generated harmonics is defined by the CC value – harmonics from  $1^{st}$  to  $32^{th}$  for value 24  $\sim$  31 up to full harmonicsrange from  $1^{st}$  to  $128^{th}$  for value 48  $\sim$  55 (see table above).

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 USER WAVEFORM FUNCTIONS

## **USER WAVE SELECTOR**

The original Kawai K3 instrument can create and hold only one user additive waveform in its memory. SAVVY allows to select any of 128 newly pre-defined additive waveforms as the user waveform (user waveform Nr. 32 must be selected for OSC-1 WAVESHAPE or OSC-2 WAVESHAPE or both tone parameters), MIDI CC #9<sup>12</sup> selects a pre-defined additive waveform from SAVVY's memory. For the full list of new pre-defined waveforms see the table below.

 $<sup>^{10}</sup>$  Factory preset value. To see how to change number of assigned MIDI CC see chapter 5.2.

 $<sup>^{\</sup>rm 11}$  Please keep in mind that the higher harmonics are less audible in the resulting waveforms.

<sup>&</sup>lt;sup>12</sup> Factory preset value. To see how to change number of assigned MIDI CC see chapter 5.2.

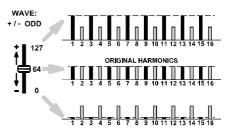
	PRE-DEFINED WAVEFORMS								
СС	Wa	ve	СС	Wa	ave	СС	Wa	ive	
Value	Name	Shape	Value	Name	Shape	Value	Name	Shape	
0	Octaves	MANANAN	17	Organ 4	Many	34	Analog Brass	1	
1	Honky Tonk	Manhort	18	Jazz Organ 1		35	Cheesy Brass	4	
2	El. Piano (dist.)	1	19	Jazz Organ 2		36	Brass	man	
3	FM El. Piano 1	Amment	20	Jazz Organ 3	<u>~~~</u>	37	Digi Brass	4	
4	FM El. Piano 2		21	Church Organ	Marana	38	Orchestra	4	
5	FM El. Piano 3	Monthly	22	Church Organ 2	M	39	FM Brass	M	
6	El.Piano (deep)		23	Church Organ	M	40	Guitar 1	M	
7	Acc Piano	M	24	Digi Organ	MM	41	Guitar 2	WW W	
8	Simple Piano		25	Glass Organ 1	<del>^</del>	42	Guitar 3	4	
9	Toy Piano	A	26	Glass Organ 2	**************************************	43	Guitar 4	<b>√</b> √√	
10	FM Rhodes	M	27	Street Organ		44	El. Guitar	Marrow May	
11	Digi Piano	mmmmmm	28	Street Organ 2		45	Ac. Bass		
12	Clavi	Murrandy	29	Accordion	M	46	El. Bass	M-M-	
13	Harpsichord	- HANNAN AND AND AND AND AND AND AND AND AN	30	Strings 1	Many	47	FM Bass		
14	Organ 1		31	Strings 2	- Marine Marine	48	Digi Bass	many many	
15	Organ 2	M.M.	32	Cheesy Strings		49	Syn Bass	<u></u>	
16	Organ 3		33	Analog String	Many	50	Glass	-	

		PRE-	DEFINE	D WAVEFO	RMS - CONTI	INUE		
СС	Wa	ve	cc	Wa	ave	cc	Wa	ive
Value	Name	Shape	Value	Name	Shape	Value	Name	Shape
51	Glass Harp		68	Glass Flute 2	- Un-tal/adjatedy	85	Saw 1	
52	Voice 1	1	69	Pan Flute	Lamany	86	Saw 2	1
53	Voice 2	W.	70	Ocarine	₩₩	87	Saw 3	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
54	Voice 3	Mwww.	71	Sax	James	88	Digi Saw	hm.
55	Voice 4		72	Clarinet	1	89	Hi Saw 1	4
56	Crystal Voice 1	<b>₩</b> ₩	73	Bass Clarinet	$M_{\rm M}$	90	Hi Saw 2	<u></u>
57	Crystal Voice 2	<b>M</b>	74	Oboe	4	91	Reso Saw 1	home
58	Digital Voice 1	M-VV	75	Trumpet	1	92	Reso Saw 2	
59	Digital Voice 2	1	76	SQR		93	Hi reso Saw 1	
60	Whistle 1		77	Digi SQR 1	Hardy Hard	94	Hi reso Saw 2	+
61	Whistle 2	₩₩₩₩₩ <u></u>	78	Digi SQR 2	HH	95	Hi reso Saw 3	-
62	Digi Flute 1	W	79	Digi SQR 3	-+++-	96	Hi reso Saw 4	throughous -
63	Digi Flute 2	MM	80	Digi SQR 4	- Mary	97	Hi reso Saw 5	h
64	Digi Flute 3		81	Digi SQR 5		98	Digi Wave 1	Marrandy
65	Digi Flute 4		82	Digi SQR 6	halm/m/my	99	Digi Wave 2	Manual Horney
66	Digi Flute 5		83	Digi SQR 7	- house production of the second	100	Digi Wave 3	<del></del>
67	Glass Flute 1		84	Tiny Digi SQR	4	101	Digi Wave 4	<u> </u>

	PRE-DEFINED WAVEFORMS - CONTINUE								
СС	Wave		cc	Wave		СС	Wa	ive	
Value	Name	Shape	Value	Name	Shape	Value	Name	Shape	
102	Digi Wave 5	Am	111	Bell 2	MAM	120	Overtones 1	- (4/4m4m4m4/p)	
103	Digi Wave 6	- MW	112	Tubular 1		121	Overtones 2	HAMMAH	
104	Digi Wave 7	AMMMAMA	113	Tubular 2		122	Overtones 3	-	
105	Digi Wave 8	4mm/homy	114	Glockenspiel 1	WW.	123	Overtones 4		
106	Digi Wave 9	- hyddwynddydd	115	Glockenspiel 2	Whith	124	Overtones 5		
107	Digi Reso Wave 1		116	Syn Bell 1	- Marylanany	125	Digi 7 <sup>th</sup> 1	<b>₩</b>	
108	Digi Reso Wave 2	Married Property of the Parket	117	Syn Bell 2	MANNA	126	Digi 7 <sup>th</sup> 2	<b>WW</b>	
109	Vibe Bell	mmy	118	Syn Bell 3	www	127	Digi Clock	44444444444	
110	Bell 1	April	119	Little Syn Bell	<b>₩</b>				

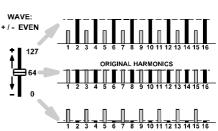
## **INCREMENT / DECREMENT ODD HARMONICS**

The CC increments or decrements intensity of all used odd harmonics. In the middle position (value 64 of the CC), the waveform is not affected by the function. Values 63 to 0 decrease the intensity of all used odd harmonics, values 64 to 127 increase the intensity of all used odd harmonics.



## **INCREMENT / DECREMENT EVEN HARMONICS**

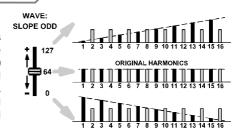
The CC increments or decrements intensity of all used even harmonics. In the middle position (value 64 of the CC), the waveform is not affected by the function. Values 63 to 0 decrease the intensity of all used even harmonics, values 64 to 127 increase the intensity of all used even harmonics.



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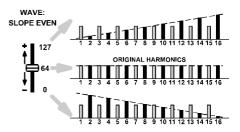
#### **SLOPE ODD HARMONICS**

The CC adjusts the slope of all used odd harmonics intensities. In the middle position (value 64 of the CC), the waveform is not affected by the function. Values 63 to 0 increase the intensity of used lower odd harmonics and decrease the intensity used of higher odd harmonics, values 64 to 127 decrease intensity of the used lower odd harmonics and increase the intensity of used higher odd harmonics



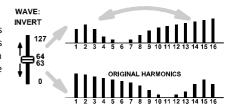
#### SLOPE EVEN HARMONICS

The CC adjusts the slope of all used even harmonics intensities. In the middle position (value 64 of the CC), the waveform is not affected by the function. Values 63 to 0 increase the intensity of used lower even harmonics and decrease the intensity of used higher even harmonics, values 64 to 127 decrease the intensity of used lower even harmonics and increase the intensity of used higher even harmonics



#### **INVERT HARMONICS**

The CC swaps the numbers of all used harmonics. It works as a two-position switch. Values 64 to 127 invert the numbers of used harmonics (the highest harmonic is swapped with the lowest harmonics etc.), values 0 to 63 returns the swapped harmonics numbers back to their original values.



#### COMPARE

The CC allows comparison of the original waveform (before User Waveform funcion<sup>13</sup> had been used) and modified waveform (edited by User Waveform funcion). If the CC values are 0 to 63, modified waveform is called up and audible. For values 64 to 127, original waveform is called up and audible.

#### Remarks:

All User Waveform Funcions affect/modify only the harmonics used in the selected/created waveform<sup>14</sup>. No new harmonics are added to the original set of used harmonics.

The original K3's ROM waveforms can not be modified! The Waveform functions affect only the user additive waveforms! To listen to the results of the Waveform functions select for one or both oscillators the User waveform - number 32 first (OSC-1 WAVE SELECT, OSC-2 WAVE SELECT parameter).

<sup>&</sup>lt;sup>13</sup> The comparison is possible only for both INCREMENT / DECREMENT, for both SLOPE and for INVERT functions. It does not work for USER WAVE SELECTOR as well as for all random setting of the waveform – these functions are not comparable.

<sup>&</sup>lt;sup>14</sup> I.e. waveform loaded as a content of the tone or waveform copied from table of pre-defined waveforms or randomly generated wave by RANDOM function.



## 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								
Pa	rameter		F	actory Default <sup>15</sup>				
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 383 / 1: 1 to 384	1	Numbers 1 to 384				
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. <u>MIDI channel for the SAVVY editor must be the same as selected MIDI channel of the controlled instrument!</u>

## 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 3).

#### 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.

 $<sup>^{\</sup>rm 15}$  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 **127** (parameter value is 0) or **1** to **128** (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)

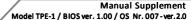
If the parameter is 1 (i.e. "YES"), the SAVVY editor transmits MIDI CC assigned to a tone parameter each time the parameter is changed on the instrument (by IPR SysEx message).

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

#### 4.2.4 Send Manual Tone Sict 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 SAWY'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.



## 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.)<sup>16</sup>. To send the generated commands you will also need a **utility to send the generated text<sup>17</sup> as a MIDI SysEx dump** (see chapter 6 for recommended software<sup>18</sup>).

Visit our website and download the "syxgen\_007-20\_Kawai-K3.zip" archive for Kawai K3 instrument. Expand the archive to a selected folder on your computer's hard drive (i.e. "index.html", "00720\_general.html", "00720\_instrument.html", "00720\_tone.html" and "00720\_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.

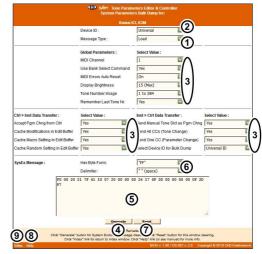


#### 5.1 SYSTEM PARAMETERS WINDOW

#### 5.1.1 Change the system parameters

To change / adjust the system parameters:

- 1. Select "Load" message type 1.
- Select the "Device ID" (a) (It is either the same number as active MIDI Channel Nr. or "Universal" 19).
- 3. Select / adjust requested values of System parameters to be changed (3).
- 4. Click the "Generate" button (4).
- The hexadecimal MIDI SysEx message is generated as a text in the "SysEx Message" field (5).
- Copy the text in clipboard (CTRL+C) and paste (CTRL+V) to a MIDI Sysex software<sup>20</sup>.
- 7. Send the message to SAVVY<sup>21</sup>.
- 8. SAVVY starts operation with the new system parameters settings immediately, no reset is necessary.



 $<sup>^{16}</sup>$  Note that scripts and ActiveX elements must be enabled in web browser for proper function of the generator.

<sup>&</sup>lt;sup>17</sup> 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.

<sup>&</sup>lt;sup>18</sup> 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.

<sup>&</sup>lt;sup>19</sup> "Universal" ID will be recognized by any SAVY editor.

<sup>&</sup>lt;sup>20</sup> See Chapter 6.1.2 for recommended MIDI SysEx software.

<sup>&</sup>lt;sup>21</sup> 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" (22).
- 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<sup>23</sup>.
- 6. Send the message to SAVVY<sup>24</sup>.
- 7. SAVVY responds immediately it sends the System parameter settings as "Load" type SysEx message<sup>25</sup>.
- 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" 26).
- 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<sup>27</sup>.
- 6. Send the message to SAVVY<sup>28</sup>.
- 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<sup>29</sup>. Default setting of the generator is optimized for the recommended **Pocket MIDI** utility<sup>30</sup> (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 ?.

"Help" link (8) opens new window with brief help.

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

<sup>&</sup>lt;sup>22</sup> "Universal" ID will be recognized by any SAVY editor.

<sup>&</sup>lt;sup>23</sup> See Chapter 6.1.3 for recommended MIDI SysEx software.

<sup>&</sup>lt;sup>24</sup> 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.

<sup>&</sup>lt;sup>25</sup> 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.

<sup>&</sup>lt;sup>26</sup> "Universal" ID will be recognized by any SAVY editor.

<sup>&</sup>lt;sup>27</sup> See Chapter 6.1.2 for recommended MIDI SysEx software.

 $<sup>^{\</sup>rm 29}$  See the documentation of your DAW for required format.

<sup>&</sup>lt;sup>30</sup> 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).

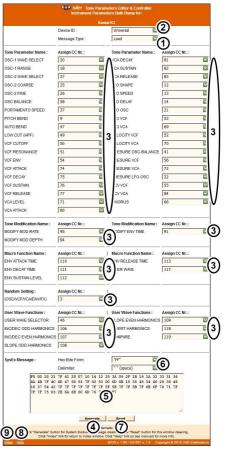
To create your own MIDI CC map:

- 1. Select "Load" message type 1.
- Select the "Device ID" (It is either the same number as active MIDI Channel Nr. or "Universal"<sup>31</sup>).
- For each of tone parameter and functions, select / change the respective MIDI CC<sup>32</sup> 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).
- Copy the text in clipboard (CTRL+C) and paste (CTRL+V) to a MIDI Sysex software<sup>33</sup>.
- 7. Send the message to SAVVY<sup>34</sup>.
- 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.
- Select the "Device ID" (2) (It is either the same number as active MIDI Channel Nr. or "Universal" (35).
- 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<sup>36</sup>.
- 6. Send the message to SAVVY<sup>37</sup>.
- 7. SAVVY responds immediately it sends the MIDI CC map as "Load" type SysEx message<sup>38</sup>.
- 8. Now you can save the received message in your computer for further use.



<sup>&</sup>lt;sup>31</sup> "Universal" ID will be recognized by any SAVY editor.

 $<sup>^{\</sup>rm 32}$  You can assign more than one parameter to a single MIDI CC Nr.

<sup>33</sup> See Chapter 6.1.2 for recommended MIDI SysEx software.

<sup>&</sup>lt;sup>34</sup> SAVVY must be set in "CTRL→INST" communication direction.

 $<sup>^{\</sup>rm 35}$  "Universal" ID will be recognized by any SAVY editor.

<sup>&</sup>lt;sup>36</sup> See Chapter 6.1.3 for recommended MIDI SysEx software.

<sup>&</sup>lt;sup>37</sup> 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.

<sup>&</sup>lt;sup>38</sup> 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.





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## 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" (39).
- 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 40.
- 6. Send the message to SAVVY<sup>41</sup>.
- 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 <sup>42</sup>. Default setting of the generator is optimized for the recommended **Pocket MIDI** utility <sup>43</sup> (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 ?.

"Help" link (8) opens new window with brief help.

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

 $<sup>^{\</sup>rm 39}$  "Universal" ID will be recognized by any SAVY editor.

<sup>&</sup>lt;sup>40</sup> See Chapter 6.1.2 for recommended MIDI SysEx software.

 $<sup>^{\</sup>rm 42}$  See the documentation of your DAW for required format.

<sup>&</sup>lt;sup>43</sup> 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).
- Select the "Device ID" (2) (It is either the same number as active MIDI Channel Nr. or "Universal" 44).
- 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).
- Copy the text in clipboard (CTRL+C) and paste (CTRL+V) to a MIDI Sysex software<sup>45</sup>.
- 8. Send the message to SAVVY46.
- SAVVY saves the new tone to selected "Tone Nr." for immediate use.

## Remark:

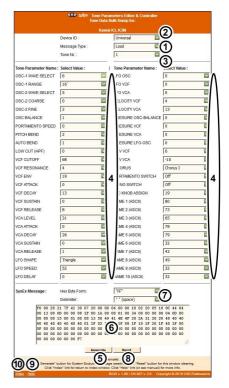
The window offers three parameters PORTAMENTO SWITCH, MONO SWITCH and INCREMENT KNOB ASSIGN. These three parameters are not available in instrument's parameter menu (editing buttons) but their actual status is stored in tone memory together with other sound parameters.

#### 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" (1) (It is either the same number as active MIDI Channel Nr. or "Universal" (47)).
- 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).



 $<sup>^{\</sup>rm 44}$  "Universal" ID will be recognized by any SAVY editor.

<sup>&</sup>lt;sup>45</sup> See Chapter 6.1.2 for recommended MIDI SysEx software.

<sup>&</sup>lt;sup>47</sup> "Universal" ID will be recognized by any SAVY editor.



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- 6. Copy the text in clipboard (CTRL+C) and paste (CTRL+V) in a MIDI Sysex software 48.
- 7. Send the message to SAVVY<sup>49</sup>.
- 8. SAVVY responds immediately it sends the MIDI CC map as "Load" type SysEx message 50.
- 9. Now you can save the received message in your computer for further use.

## 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"51).
- 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<sup>52</sup>.
- 7. Send the message to SAVVY<sup>53</sup>.
- 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 (a) as required for your MIDI SysEx software 4. Default setting of the generator is optimized for the recommended Pocket MIDI utility 5 (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.

<sup>&</sup>lt;sup>48</sup> See Chapter 6.1.3 for recommended MIDI SysEx software.

<sup>&</sup>lt;sup>49</sup> 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

<sup>&</sup>lt;sup>50</sup> 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.

 $<sup>^{\</sup>rm 51}$  "Universal" ID will be recognized by any SAVY editor.

<sup>&</sup>lt;sup>52</sup> See Chapter 6.1.2 for recommended MIDI SysEx software.

<sup>53</sup> SAVVY must be set in "CTRL→INST" communication direction.

 $<sup>^{\</sup>rm 54}$  See the documentation of your DAW for required format.

 $<sup>^{\</sup>rm 55}$  The default format is also compatible with Bome SendSX and various other softwares.



## RECOMMENDED MIDI SOFTWARE

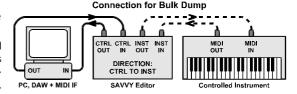
The hexadecimal MIDI SysEx messages created in the Generators (as described in chapter 5) are in **plain text format.** The text can not be saved as a \*.syx or \*.mid file directly, hence a text to SysEx capable utility or DAW is needed.

## 6.1 POCKET MIDI

**Pocket MIDI**<sup>56</sup> 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<sup>57</sup> and software

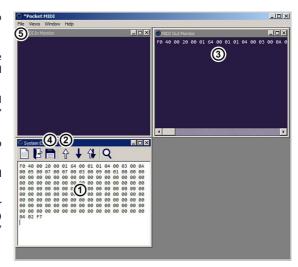
- 1. Download the Pocket MIDI utility at https://www.morson.jp/pocketmidi-webpage/
- 2. Install the utility in your computer.
- Connect SAVVY accordingly to the figure "Connection for Bulk Dump".
- Select the MIDI interface Input and Outputs to device where the SAVVY is connected to (drop-down menu Views → MIDI Settings → Input Port / Outpu Port).



## 6.1.2 Send the text SysEx message to SAVVY

Basic procedure to send any SysEx data to SAVVY.

- Generate required SysEx message in the SysEx Messages Generator (as described in Chapter 5)<sup>58</sup>.
- 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.
- Alternatively you can save the file for future use (either by the floppy icon @ as a \*.txt file or in the drop-down "File" menu (\$) as a \*.pocketmidi file).



<sup>&</sup>lt;sup>56</sup> Pocket MIDI is Copyright © MORSON JAPAN Co.,Ltd. All rights reserved.

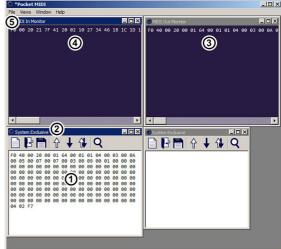
<sup>&</sup>lt;sup>57</sup> Computer MIDI interface must be active / switched on and all necessary MIDI drivers correctly installed.

<sup>58</sup> 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)<sup>59</sup>.
- 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 document file.



(CTRL+C) from "MIDI In Monitor" window (4) and paste (CTRL+V) to any text editor and save as a \*.txt or

#### **ALTERNATIVE SOFTWARE SOLUTIONS** 6.2

There are various DAW and MIDI utilites<sup>60</sup> 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.

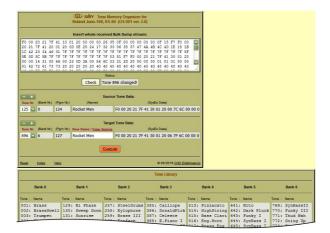
<sup>59</sup> The correct "FF" Hex Byte Form and "' ' (space)" for Delimiter are the initial values after the generator is launched, so there is no need to change them for Pocket MIDI

<sup>&</sup>lt;sup>60</sup> All mentioned products are copyright of their respective owners.



# 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.





Manual Supplement Model TPE-1 / BIOS ver. 1.00 / OS Nr. 007 -ver. 2.0



Tone Parameters Editor & Controller Model TPE-1 Nr. 8-361 / Bios v. 1.00 / OS Nr. 007 v. 2.0 Document: 8361100-00720 manual

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**Tone Parameters Editor & Controller**