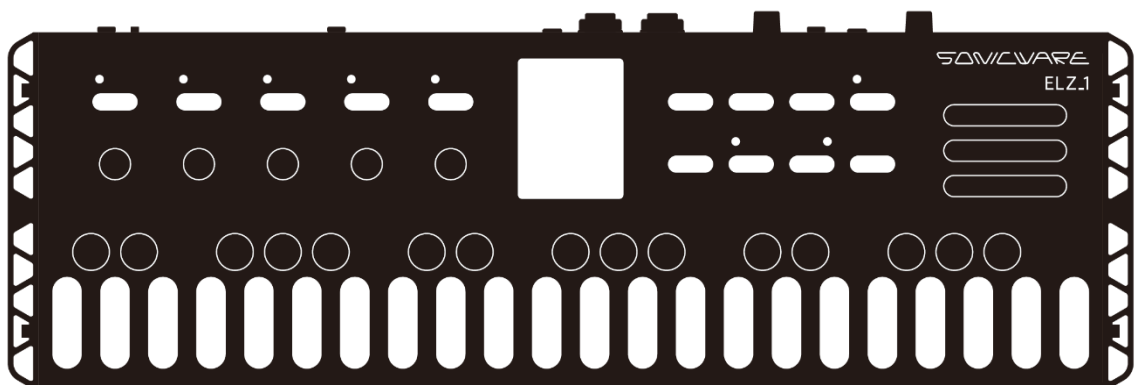




# ELZ\_1 Operation Manual

Rev. 2.6



## Contents

.....	1
ELZ_1 Operation Manual .....	1
1 FCC regulation warning (for USA) .....	5
2 Legal disclaimers .....	5
3 Copyrights and registered trademarks .....	5
4 Important safety precautions.....	6
5 Names of parts.....	7
5.1 Top panel.....	7
5.2 Rear panel .....	7
5.3 Display .....	8
6 Starting up.....	8
7 Turning the unit off.....	9
8 Mode overview .....	9
9 Selecting synth engines and editing parameters .....	10
9.1 Synth engines and parameters .....	10
9.2 Synth engine parameter modulation.....	17
10 Creating, waveforms for the 8BIT WAVEMEM SYNTH, saving and copying them in banks, and exporting and importing them.....	18
10.1 Creating waveforms in the 8BIT WAVEMEM SYNTH .....	18
10.2 Creating waveforms in the 8BIT WAVEMEM SYNTH (FM MODE) .....	18
10.3 Copying waveforms between MEMORY and banks .....	18
10.4 Exporting waveform data used by the 8BIT WAVMEM SYNTH/8BIT WAVMEM SYNTH (FM MODE).....	20
10.5 Importing waveform data for use by the 8BIT WAVMEM SYNTH/8BIT WAVMEM SYNTH (FM MODE).....	21
11 Recording, exporting and importing audio data for use with DNA EXPLORER and SiGRINDER .....	22
11.1 Recording.....	22
11.2 Exporting waveform data used with DNA EXPLORER / SiGRINDER .....	23
11.3 Importing waveform data for use with DNA EXPLORER / SiGRINDER .....	24
12 Selecting and editing envelopes (voice levels).....	25
12.1 Envelope types and parameters.....	25
13 Selecting filters and editing parameters .....	27
13.1 Filter types and parameters.....	27

13.2	Filter modulation .....	29
14	Editing effects .....	30
14.1	Effect types and parameters .....	30
15	Adjusting the MEMORY LEVEL .....	34
16	Changing the VOICE MODE.....	34
17	Selecting and editing the arpeggiator .....	35
17.1	Arpeggiator types and parameters .....	35
17.2	Holding a sequence.....	37
18	Recalling and saving MEMORY settings.....	38
18.1	Recalling MEMORY settings .....	38
18.2	Saving settings to MEMORY .....	38
19	TAP tempo .....	39
20	Changing the keyboard octave range.....	39
21	MEMORY management.....	39
21.1	MEMORY selection .....	40
21.2	Changing MEMORY names .....	40
21.3	Initializing the settings of one MEMORY.....	41
21.4	Exporting MEMORY settings .....	41
21.5	Importing MEMORY settings.....	42
22	MIDI functions .....	43
22.1	Using the ELZ_1 as a USB-MIDI device .....	43
22.2	Connecting USB-MIDI keyboards and USB-MIDI interfaces to control the ELZ_1 44	
22.3	Setting the MIDI reception channel .....	45
22.4	Using the MIDI THRU function .....	45
23	Adjusting the AUX IN GAIN.....	46
24	Applying DELAY and REVERB effects for AUX IN .....	46
25	Storage functions .....	47
25.1	Accessing the ELZ_1 storage from a PC/Mac (USB mass storage mode).....	47
25.2	Deleting files in the storage .....	48
25.3	Backing up all user data in the ELZ_1 .....	48
25.4	Restoring backup user data to the ELZ_1 .....	50
25.5	Formatting the storage.....	50
26	Setting AUTO POWER OFF .....	51
27	Restoring the ELZ_1 to ask factory default settings .....	52
28	System information.....	52

29    Updating the ELZ\_1 firmware.....53

30    Troubleshooting .....54

    30.1   There is no sound or it is very low .....54

    30.2   The display is dark or blinking.....54

    30.3   A PC/Mac does not recognize the ELZ\_1 .....55

## **1 FCC regulation warning (for USA)**

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## **2 Legal disclaimers**

Sonicware Inc. (hereafter, “SONICWARE” strives to assure that this document is as accurate and current as possible, but will bear no responsibility for any compensation, claims or losses due to content included in this document. Moreover, information in this document could be changed without notice. SONICWARE retains the right to change product specifications and programs at any time. SONICWARE will bear no responsibility for any errors depicted in this document. SONICWARE will bear no responsibility for any losses resulting from the use of this information, functions or performance, regardless of contracts, lack of caution or other conduct.

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- Sonicware Inc. will not assume any responsibility related to infringements of copyrights.

## 4 Important safety precautions

You must read the following precautions in order to use the product safely and prevent accidents.

**WARNING: Failure to follow these precautions could result in serious harm to the user or even death.**

- Operation using an AC adapter with USB output

Use an AC adapter with USB output that has an output current of at least 2000 mA.

Do not do anything that could exceed the ratings of outlets and other electrical wiring equipment.

Disconnect the AC adapter with USB output from the outlet when lightning occurs and when not using it for a long time.

- Operation using batteries

Use commercially available 1.5V AA alkaline batteries.

Carefully read the precautions of the batteries being used.

Be sure to insert the batteries with +/— ends oriented correctly.

Do not use new and old batteries together. Do not use batteries of different types together.

Remove the batteries when they will not be used for a long time.

If a leak occurs, thoroughly wipe the battery compartment and battery terminals to remove the leaked fluid.

- Do not open the case and disassemble or modify the product.

- Do not drop, strike or apply excessive force to the unit.

- Did not put liquid on or in the unit.

- Do not put foreign objects into the case.

- Do not use at a loud volume. Doing so could generate loud volumes that might lead to hearing loss.

- When transferring this unit, use the individual packing box and cushioning material that it came with when purchased new.

- When the unit is powered on, do not wrap it in cloth, plastic or other materials.

- Do not step on or apply pressure to the power cord.

- Do not use in the following environmental conditions. Doing so could cause malfunction.

Locations in direct sunlight, environments that exceed 40°C, or near stoves and other heat sources

Locations with extremely low or high temperatures

Locations with extremely high humidity or where the product could become wet

Locations with frequent vibrations or much dust or sand

- If the unit becomes broken or malfunctions, immediately turn the power off and stop using it.

### Usage Precautions

**Failure to follow these precautions could cause injury to the user and physical damage.**

- When connecting cables or working with the power of the unit, minimize the input levels of connected devices or turn them off.

- Cleaning

If the screen or the case become dirty, wipe them gently with a soft cloth.

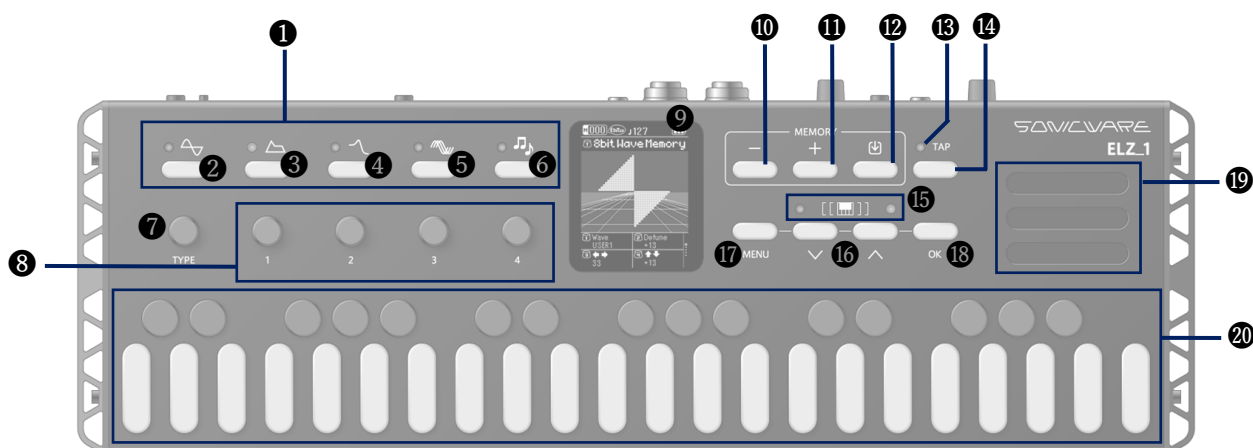
Do not use chemicals, including alcohol, benzene, thinner or cleansers.

If this does not clean them, wipe them with a slightly damp cloth that has been wrung out well.

Do not turn the power on until the product is completely dry.

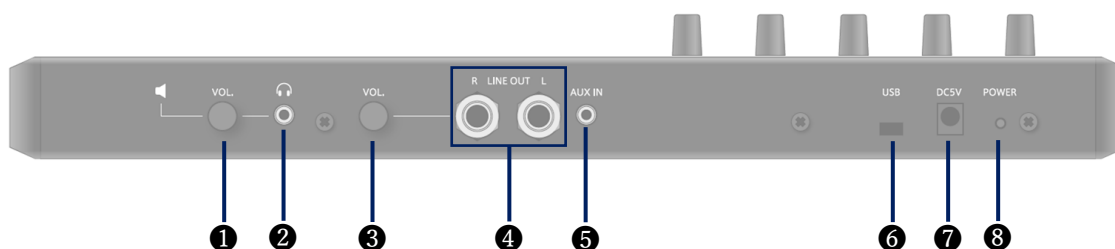
## 5 Names of parts

### 5.1 Top panel



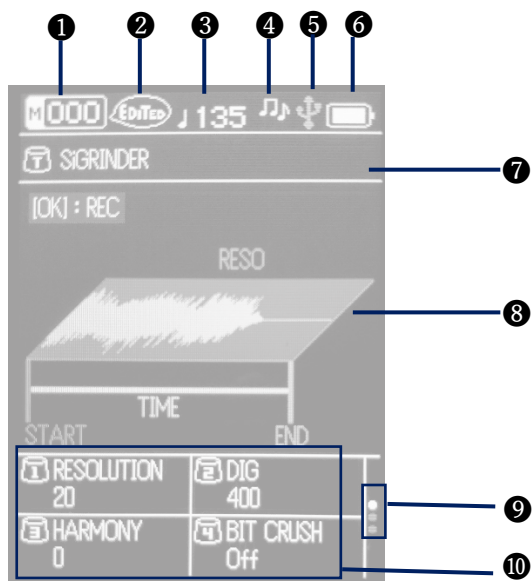
- |                          |                     |
|--------------------------|---------------------|
| ① Mode selection buttons | ② OSCILLATOR button |
| ③ ENVELOPE button        | ④ FILTER button     |
| ⑤ EFFECTS button         | ⑥ ARP/SEQ button    |
| ⑦ TYPE knob              | ⑧ 1 – 4 knobs       |
| ⑨ Display                | ⑩ — button          |
| ⑪ + button               | ⑫ SAVE button       |
| ⑬ TEMPO LED              | ⑭ TAP button        |
| ⑮ OCTAVE LEDs            | ⑯ DOWN/UP buttons   |
| ⑰ MENU button            | ⑱ OK button         |
| ⑲ Speaker                | ⑳ Keyboard          |

### 5.2 Rear panel



- |                              |                  |
|------------------------------|------------------|
| ① HEADPHONE/SPEAKER VOL knob | ② HEADPHONE jack |
| ③ LINE OUT VOL knob          | ④ LINE OUT jacks |
| ⑤ AUX IN jack                | ⑥ USB port       |
| ⑦ DC 5V connector            | ⑧ POWER switch   |

## 5.3 Display



- |                            |                           |
|----------------------------|---------------------------|
| ① MEMORY number            | ② EDITED indicator        |
| ③ BPM indicator            | ④ ARPEGGIATOR indicator   |
| ⑤ USB indicator            | ⑥ BATTERY LEVEL indicator |
| ⑦ TYPE                     | ⑧ IMAGE area              |
| ⑨ PAGE SELECTION indicator | ⑩ PARAMETER area          |

## 6 Starting up

- ① Install batteries or use the included USB cable to connect an AC adapter with USB output (at least 2000mA output current to the DC 5V connector on the unit).
- ② Press and hold the POWER switch.

### HINT

- The battery level indicator is calibrated to be accurate with alkaline batteries. When using some types of rechargeable batteries, the indicator may show more remaining charge than is available.

7      **Turning the unit off**

- ① Press and hold the POWER switch

HINT

- *Sound settings that are being edited will be lost when the unit is turned off. Save the changes if necessary.*

8      **Mode overview**

The ELZ\_1 has five modes.



	Oscillator mode	The ELZ_1 has multiple synthesis engines, including engines that use FM, 8-bit wave memory and granular synthesis. In this mode, select the synth engine and edit its parameters.
	Envelope mode	The envelope can be applied to the volume of the voices. In this mode, select the envelope type and edit its parameters.
	Filter mode	The filter types include low pass, high pass and band pass. In this mode, select the filter type and edit its parameters.
	Effects mode	The effects include drive, modulation, delay and reverb. In this mode, select the effect types and edit their parameters.
	Arpeggiator mode	The arpeggiator types include UP, DOWN and UP & DOWN. In this mode, select the arpeggiator type and edit its parameters.

## 9 Selecting synth engines and editing parameters

- ① Press the OSCILLATOR button to activate oscillator mode.
- ② Turn the TYPE knob to select the synth engine.
- ③ Turn knobs 1–4 to adjust the corresponding parameters on the screen.

### HINT

- If the synth engine has more than four adjustable parameters, press the OSCILLATOR button again to show the next page of parameters.

### 9.1 Synth engines and parameters

The ELZ\_1 synth engines and their parameters are shown in the following tables.

#### LOW-BIT OSC

This low-bit oscillator outputs a sine, square, triangle or saw wave with a resolution of 2–8 bits.

Special operations	None	
PRM1	BIT	8Bit – 2Bit
PRM2	OSC TYPE	Sine, Square, Triangle, Sawtooth, Rev.Sawtooth
PRM3	DUTY	15 – 50%: ratio per cycle of the first half of the waveform
PRM4	—	—
PRM5	MOD TYPE	See “ <a href="#">Synth engine parameter modulation</a> ”

#### STANDARD OSC

This oscillator can output a sine, square, triangle or saw wave.

Special operations	None	
PRM1	OSC TYPE	Sine, Square, Triangle, Sawtooth, Rev.Sawtooth
PRM2	DUTY	15 – 50%: ratio per cycle of the first half of the waveform
PRM3	—	—
PRM4	—	—
PRM5	MOD TYPE	See “ <a href="#">Synth engine parameter modulation</a> ”

## CUSTOM OSC

OSC1 and OSC2 waveforms are blended cyclically over the PERIOD and output. For example, if PERIOD is 1.0, OSC1 is Sine and OSC2 is Square, the output waveform will change from sine to square and back to sine each period.

Special operations	None	
PRM1	OSC1	Sine, Square, Triangle, Sawtooth, Rev.Sawtooth
PRM2	OSC2	Sine, Square, Triangle, Sawtooth, Rev.Sawtooth
PRM3	PERIOD	0.5 – 64.0: Timing in waveform periods of oscillator switching
PRM4	DUTY	15 – 50%
PRM5	MOD TYPE	See “ <a href="#">Synth engine parameter modulation</a> ”

## 8BIT WAVEMEM SYNTH

This is an 8-bit waveform memory synthesizer engine. You can create your own waveforms in addition to using the sine and other preset waveforms.

Special operations	<p>When the WAVE parameter is set to MEMORY, you can edit the waveform with PRM3 and PRM4. See <a href="#">Creating waveforms in the 8BIT WAVEMEM SYNTH</a> for details. Press the OK but to open a dialog for copying waveform data to and from banks. See <a href="#">Copying waveforms between MEMORY and banks</a> for details.</p> <p>NOTE: The banks (Bank01 – Bank50 and FM banks (FM01 – FM20 are saved separately from the MEMORY data in the ELZ_1 and can be used with all MEMORY patches.</p>	
PRM1	WAVE	MEMORY: Editable waveform currently saved in memory Bank01 – Bank50: Waveforms shared within the ELZ_1
PRM2	DETUNE	–16 – +16 (cents)
PRM3	POSITION	0 – 31: Horizontal position when editing waveform (usable when WAVE is set to MEMORY)
PRM4	LEVEL	–128 – +127: Level at current position when editing waveform (usable when WAVE is set to MEMORY)
PRM5	COLOR	Classic, Modern
PRM6	—	—
PRM7	—	—

PRM8	—	—
PRM9	MOD TYPE	See “ <a href="#">Synth engine parameter modulation</a> ”

## 8BIT WAVEMEM SYNTH (MORPH)

This is the morphing mode of the 8-bit waveform memory synth.  
The waveform morphs from WAVE1 to WAVE2 to WAVE3 cyclically.

Special operations	None	
PRM1	WAVE1	MEMORY1 – MEMORY3: Waveforms saved in the current MEMORY  Bank01 – Bank50: Bank waveform shared within the ELZ_1 FM01 – FM20: FM bank waveform shared within the ELZ_1  NOTE: • “None” can only be selected for WAVE3. When “None” is selected, the waveform will morph from WAVE1 to WAVE2 cyclically. • The bank (Bank01 – Bank50 and FM Bank (FM01 – FM20 waveforms cannot be edited.
PRM2	WAVE2	
PRM3	WAVE3	
PRM4	TIME	50 – 4000ms: Waveform switching time
PRM5	COLOR	Classic, Modern
PRM6	—	—
PRM7	—	—
PRM8	—	—
PRM9	MOD TYPE	See “ <a href="#">Synth engine parameter modulation</a> ”

## 8BIT WAVEMEM SYNTH (FM MODE)

This 8-bit waveform memory synth mode is like an FM sound source.

Special operations When the WAVE parameter is set to MEMORY, PRM3 and PRM4 can be used. See [Creating waveforms in the 8BIT WAVEMEM SYNTH \(FM MODE\)](#) details. Press the OK but to open a dialog for copying the current waveform to and from FM banks. See [Copying waveforms between MEMORY and banks](#) details.

NOTE:

- FM banks (FM01 – FM20) are saved separately from MEMORY data, so the same FM bank waveforms can be accessed from every MEMORY in the ELZ\_1.

PRM1	WAVE	MEMORY: Editable waveform currently saved in memory FM01 – FM20: FM bank waveform shared within the ELZ_1
PRM2	DETUNE	– 16 – +16 (cents)
PRM3	FM RATIO	0.5 – 32.0 (usable when WAVE is set to MEMORY)
PRM4	FM LEVEL	1 – 100 (usable when WAVE is set to MEMORY)
PRM5	COLOR	Classic, Modern
PRM6	—	—
PRM7	—	—
PRM8	—	—
PRM9	MOD TYPE	See “ <a href="#">Synth engine parameter modulation</a> ”

## DNA EXPLORER

This synth engine extracts and generates waveforms from audio data saved in the ELZ\_1. Use the AUX IN jack to record audio data into the ELZ\_1.

Special operations	See <a href="#">Recording, exporting and importing audio data for use with DNA EXPLORER and SiGRINDER</a> for how to record audio.	
PRM1	EXPLORE	0 – 2389: Position of waveform extraction from audio data
PRM2	DIG	10 – 1000 (extent of waveform extraction
PRM3	HARMONY	0 – 100 (volume of sound one octave higher than source
PRM4	GAIN	1 – 100
PRM5	WAVE	WAVEDATA1 – 3: Audio data selection
PRM6	COLOR	Classic, Modern
PRM7	—	—
PRM8	—	—
PRM9	MOD TYPE	See “ <a href="#">Synth engine parameter modulation</a> ”

## SiGRINDER

This granular synth engine uses audio data saved in the ELZ\_1. Use the AUX IN jack to record audio data into the ELZ\_1.

Special operations	See <a href="#">Recording, exporting and importing audio data for use with DNA EXPLORER and SiGRINDER</a> for how to record audio.	
PRM1	RESOLUTION	1 – 100: Waveform resolution
PRM2	DIG	10 – 1000 (extent of waveform extraction
PRM3	HARMONY	0 – 100 (volume of sound one octave higher than source
PRM4	BIT CRUSH	Off, On: When On, audio is converted to 2-bit
PRM5	START	0 – 2379: Starting point in audio data
PRM6	END	0 – 2379: Ending point in audio data
PRM7	TIME	100 – 10000ms: Generated waveform length
PRM8	GAIN	1 – 100
PRM9	WAVE	WAVEDATA1 – 3: Audio data selection
PRM10	COLOR	Classic, Modern
PRM11	—	—
PRM12	—	—
PRM13	MOD TYPE	See “ <a href="#">Synth engine parameter modulation</a> ”

## FM SYNTH

This high-quality FM audio source has 4 operators with 31 algorithms.  
Each operator has feedback and detuning.

Special operations	None	
PRM1	RATIO	0.5 – 32.0
PRM2	LEVEL	0 – 127
PRM3	FEEDBACK	–127 – 127
PRM4	DETUNE	–64 – 64 (cents)
PRM5 – 8:	Parameters for operator 2 (RATIO, LEVEL, FEEDBACK, DETUNE)	
PRM9 – 12:	Parameters for operator 3 (RATIO, LEVEL, FEEDBACK, DETUNE)	
PRM13 – 16:	Parameters for operator 4 (RATIO, LEVEL, FEEDBACK, DETUNE)	
PRM17	ALGORITHM	01 – 31
PRM18	—	—
PRM19	—	—
PRM20	GACHA	Randomizes FM synth parameters
PRM21	MOD TYPE1-4	See “ <a href="#">Synth engine parameter modulation</a> ”

## MASKED NOISE

This synth engine incorporates noise in basic waveforms

Special operations	None	
PRM1	NOISE	White, Pink
PRM2	MASK	Sine, Square, Triangle, Sawtooth, Rev.Sawtooth
PRM3	MASK LVL	1 – 100
PRM4	—	—
PRM5	MOD TYPE	See “ <a href="#">Synth engine parameter modulation</a> ”

## SAND FLUTE

This synth engine is inspired by desert wind.

Special operations	None	
PRM1	NOISE	White, Pink
PRM2	FILTER	Off, BPF, PEQ, Notch
PRM3	BAND WIDTH	1 – 100
PRM4	x1 Band LVL	1 – 100
PRM5	x2 Band LVL	1 – 100
PRM6	x3 Band LVL	1 – 100
PRM7	x4 Band LVL	1 – 100
PRM8	x5 Band LVL	1 – 100
PRM9	MOD TYPE	See “ <a href="#">Synth engine parameter modulation</a> ”

## 9.2 Synth engine parameter modulation

Each synth engine has parameters for modulation using an LFO or envelope.

When the MOD TYPE parameter is set to LFO or Envelope, additional modulation parameters become available.

PRM1	MOD TYPE	OFF, LFO, Envelope: Modulation type selection
PRM2	ASSIGN	Select the modulated parameter. The parameters that can be chosen differ according to the synth engine.
The parameters after ASSIGN depend on whether the MOD TYPE is LFO or Envelope.		
When MOD TYPE is LFO		
PRM3	DELAY	0 – 2000ms (delay before modulation starts)
PRM4	WAVE	Sine, Square, Triangle, Sawtooth, Rev.Sawtooth, Random, Log, Rev.Log (waveform used to modulate target)
PRM5	RATE	1 – 100 (modulation speed)
PRM6	DEPTH	0 – 100 (modulation depth)
PRM7	COUNT	Infinite, 1~50: Count of LFO
PRM8	WAVELEN	1~1/8: Range used by LFO waveform
PRM9	PHASE	0, 180: LFO waveform phase
PRM10	TAIL	Hold: Holds the current value of the LFO after the specified number of times when COUNT is not Infinite Origin: the current value of LFO is reset to 0 after the specified number of times when COUNT is not Infinite
When MOD TYPE is Envelope		
PRM3	DELAY	0 – 2000ms (delay before modulation starts)
PRM4	INVERT	Off, On (inverts modulation)
PRM5	DEPTH	0 – 100 (modulation depth)
PRM6	ATTACK	0 – 5000ms
PRM7	DECAY	0 – 5000ms
PRM8	SUSTAIN	0 – 100%
PRM9	RELEASE	0 – 5000ms

## **10 Creating, waveforms for the 8BIT WAVEMEM SYNTH, saving and copying them in banks, and exporting and importing them**

You can create waveform data to use with the 8BIT WAVEMEM SYNTH engines (including MORPH and FM MODE. In addition, you can copy waveform data you have created and save it to an ELZ\_1 waveform data bank. You can also import and export ELZ\_1 data with a PC/Mac.

### **10.1 Creating waveforms in the 8BIT WAVEMEM SYNTH**

---

- ① Turn knob 1 and set the WAVE parameter to MEMORY.
- ② Turn knob 3 to move the position where the level will be adjusted (move the red cursor left and right on the display.
- ③ Turn knob 4 to adjust the level at the cursor position.
- ④ Repeat steps ② and ③ to create the waveform.
- ⑤ Press the SAVE button to save the settings to the MEMORY.

### **10.2 Creating waveforms in the 8BIT WAVEMEM SYNTH (FM MODE**

---

- ① Turn knob 1 and set the WAVE parameter to MEMORY.
- ② Turn knobs 3 and 4 to create the waveform.
- ③ Press the SAVE button to save the settings to the MEMORY.

### **10.3 Copying waveforms between MEMORY and banks**

---

- ① Press the OSCILLATOR button to activate oscillator mode.
- ② Turn the TYPE knob to select 8BIT WAVEMEM SYNTH or 8BIT WAVEMEM SYNTH (FM MODE.
- ③ Turn knob 1 and set the WAVE parameter to MEMORY.
- ④ Press the OK button to open the copy dialog.

- ⑤ Use the DOWN and UP buttons to select the copy direction.  
MEMORY to Bank: Copy from the MEMORY to the bank  
Bank to MEMORY: Copy from the bank to the MEMORY
- ⑥ Use the DOWN and UP buttons or any knob to select the bank used as the copy destination or source.
- ⑦ Press the OK button.

#### HINT

- *Waveform data created with the 8BIT WAVEMEM SYNTH can be copied to 50 banks (Bank01 – Bank50).*
- *Waveform data created with the 8BIT WAVEMEM SYNTH (FM MODE can be copied to 20 banks (FM01 – FM20).*
- *When using the 8BIT WAVEMEM SYNTH and the copy direction is Bank to MEMORY, Bank01 – Bank50 or FM01 – FM20 can be selected as the copy source.*
- *When using the 8BIT WAVEMEM SYNTH (FM MODE and the copy direction is Bank to MEMORY, FM01 – FM20 can be selected as the copy source. (Bank01 – Bank50 cannot be selected.*

## 10.4 Exporting waveform data used by the 8BIT WAVMEM SYNTH/8BIT WAVMEM SYNTH (FM MODE)

---

Waveform data used by the 8BIT WAVMEM SYNTH/8BIT WAVMEM SYNTH (FM MODE can be exported as WAV files.

Exported WAV files are saved in the ELZ\_1 storage and can be accessed using a PC/Mac.

- ① Press the MENU button.
- ② Use the DOWN and UP buttons to select WAVEDATA, and press the OK button to open the WAVEDATA screen.
- ③ Use the DOWN and UP buttons to select the synth engine that you want to export from (8BIT WAVEMEM SYNTH or 8BIT WAVEMEM SYNTH (FM, and press the OK button.
- ④ Use the DOWN and UP buttons to select Bank01 – 50 or FM01 – 20, and press the OK button.
- ⑤ Use the DOWN and UP buttons to select Export, and press the OK button.
- ⑥ Use the TYPE and 1 – 4 knobs to edit the name of the exported file.  
TYPE knob: Move cursor left and right  
Knob 1: Change character  
Knob 2: Change the character type (uppercase letters → lowercase letters → numbers → symbols
- ⑦ Press the OK button to open a confirmation screen.
- ⑧ Use the DOWN and UP buttons to select Yes.
- ⑨ Press the OK button.

### HINT

- *Changes can be canceled by pressing the MENU button.*
- *Data is stored in the WAVEDATA folder in the ELZ\_1 storage.*
- *Waveform data is saved in the WAV file format (8-bit, 48kHz, mono, 32 samples.*
- *The following characters and symbols can be used.*  
*ABCDEFGHIJKLMNOPQRSTUVWXYZ*

abcdefghijklmnopqrstuvwxyz  
0123456789  
!#\$%&'(+, -.;=@[]^\_`{}~ (space

## 10.5 Importing waveform data for use by the 8BIT WAVMEM SYNTH/8BIT WAVMEM SYNTH (FM MODE)

---

WAV files saved in the WAVEDATA folder in the ELZ\_1 storage can be imported to Bank01 – 50 or FM01 – 20 for use in the 8BIT WAVMEM SYNTH.

- ① Press the MENU button.
- ② Use the DOWN and UP buttons to select WAVEDATA, and press the OK button to open the WAVEDATA screen.
- ③ Use the DOWN and UP buttons to select the synth engine that you want to import to (8BIT WAVEMEM SYNTH or 8BIT WAVEMEM SYNTH (FM, and press the OK button.
- ④ Use the DOWN and UP buttons to select Bank01 – 50 or FM01 – 20, and press the OK button.
- ⑤ Use the DOWN and UP buttons to select Import, and press the OK button to open a list of files in the WAVEDATA folder in the ELZ\_1 storage.
- ⑥ Use the DOWN and UP buttons to select the WAV file to import, and press the OK button to open a confirmation screen.
- ⑦ Use the DOWN and UP buttons to select Yes, and press the OK button.

### HINT

- *Only files stored in the WAVEDATA folder in the ELZ\_1 storage are shown in the list.*
- *The first 32 samples are imported as waveform data in WAV file format (8-bit, 48kHz, mono.*
- *Only files exported from 8BIT WAVE MEMORY (FM MODE can be imported to FM01 – 2.*

## 11 Recording, exporting and importing audio data for use with DNA EXPLORER and SiGRINDER

The DNA EXPLORER and SiGRINDER synth engines use audio data saved in the ELZ\_1. This audio data is created by recording sound input through the AUX IN. Recorded audio data can also be exported as WAV files and imported to the ELZ\_1 after editing on a PC/Mac.

### 11.1 Recording

---

- ① Connect an audio device capable of line output to the AUX IN.
- ② Press the OSCILLATOR button to activate oscillator mode.
- ③ Turn the TYPE knob to select DNA EXPLORER or SiGRINDER.
- ④ Press the OK button to open the recording dialog.
- ⑤ While making sound with the audio device, press the OK button to start recording. (Recording will stop automatically after five seconds.)
- ⑥ After recording, use the DOWN and UP buttons or any knob to select the save destination.
- ⑦ Press the OK button to save.

#### HINT

- *Three 5-second audio data files can be saved.*
- *WAV files can also be imported from a PC/Mac. See [Importing waveform data for use with DNA EXPLORER/SiGRINDER](#) for details.*

## 11.2 Exporting waveform data used with DNA EXPLORER / SiGRINDER

---

Waveform data used with DNA EXPLORER/SiGRINDER can be exported as WAV files.

Exported WAV files are saved in the ELZ\_1 storage and can be accessed using a PC/Mac.

- ① Press the MENU button.
- ② Use the DOWN and UP buttons to select WAVEDATA, and press the OK button to open the WAVEDATA screen.
- ③ Use the DOWN and UP buttons to select DNA EXPLORER or SiGRINDER, and press the OK button.
- ④ Use the DOWN and UP buttons to select the desired WAVEDATA and press the OK button.
- ⑤ Use the DOWN and UP buttons to select Export, and press the OK button.
- ⑥ Use the TYPE and 1 – 4 knobs to edit the name of the exported file.  
 TYPE knob: Move cursor left and right  
 Knob 1: Change character  
 Knob 2: Change the character type (uppercase letters → lowercase letters → numbers → symbols)
- ⑦ Press the OK button to open a confirmation screen.
- ⑧ Use the DOWN and UP buttons to select Yes, and press the OK button.

### HINT

- *Changes can be canceled by pressing the MENU button.*
- *Data is stored in the WAVEDATA folder in the ELZ\_1 storage.*
- *Waveform data is saved in the WAV file format (16-bit, 48kHz, mono).*
- *The following characters and symbols can be used.*

ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz

0123456789

!#\$%&'(+, -.;=@[]^\_`{}~ (space

### 11.3 Importing waveform data for use with DNA EXPLORER / SiGRINDER

---

WAV files saved in the WAVEDATA folder in the ELZ\_1 storage can be imported to the three WAVEDATA slots used by DNA EXPLORER and SiGRINDER.

- ① Press the MENU button.
- ② Use the DOWN and UP buttons to select WAVEDATA, and press the OK button to open the WAVEDATA screen.
- ③ Use the DOWN and UP buttons to select DNA EXPLORER or SiGRINDER, and press the OK button.
- ④ Use the DOWN and UP buttons to select the desired WAVEDATA and press the OK button.
- ⑤ Use the DOWN and UP buttons to select Import, and press the OK button to open a list of WAV files in the WAVEDATA folder in the ELZ\_1 storage.
- ⑥ Use the DOWN and UP buttons to select the WAV file to import, and press the OK button to open a confirmation screen.
- ⑦ Use the DOWN and UP buttons to select Yes, and press the OK button.

#### HINT

- *Only WAV files stored in the WAVEDATA folder in the ELZ\_1 storage are shown in the list.*
- *To be imported into ELZ\_1 WAVEDATA1 – 3 slots, waveform data files must be WAV format (16-bit, 48kHz, mono).*
- *If a WAV file is longer than five seconds, the first five seconds will be imported.*

## 12 Selecting and editing envelopes (voice levels)

- ① Press the ENVELOPE button to activate envelope mode.
- ② Turn the TYPE knob to select the envelope type.
- ③ Turn knobs 1–4 to adjust the corresponding parameters on the screen.

### HINT

- *If there are five or more parameters, press the ENVELOPE button again to show additional parameters that can be adjusted.*

### 12.1 Envelope types and parameters

ADSR ENVELOPE		
This is a standard ADSR envelope.		
Special operations		
PRM1	ATTACK	0 – 5000ms
PRM2	DECAY	0 – 5000ms
PRM3	SUSTAIN	0 – 100%
PRM4	RELEASE	0 – 5000ms

ADSR ENVELOPE (CURVE)		
ADSR envelope with curves for ATTACK, DECAY, and RELEASE parameters.		
Special operations		
PRM1	ATTACK	0 – 5000ms
PRM2	A CURVE	– 10 – 10: ATTACK curve
PRM3	DECAY	0 – 5000ms
PRM4	D CURVE	– 10 – 10: DECAY curve
PRM5	SUSTAIN	0 – 100%
PRM6	RELEASE	0 – 5000ms
PRM7	R CURVE	– 10 – 10: RELEASE curve (+ values create a C curve and – values create an A curve)

## ADS-RA-R ENVELOPE

This release attack envelope has an additional attack when a key is released.

Special operations		
PRM1	ATTACK	0 – 5000ms
PRM2	DECAY	0 – 5000ms
PRM3	SUSTAIN	0 – 100%
PRM4	R ATTACK	0 – 5000ms
PRM5	R ATK LVL	0 – 100%
PRM6	RELEASE	0 – 5000ms

## ADS-RA-R ENVELOPE (CURVE)

Release attack envelope with curves for ATTACK, DECAY, RELEASE ATTACK and RELEASE parameters.

Special operations		
PRM1	ATTACK	0 – 5000ms
PRM2	A CURVE	— 10 – 10: ATTACK curve (+ values create a C curve and — values create an A curve)
PRM3	DECAY	0 – 5000ms
PRM4	D CURVE	— 10 – 10: DECAY curve (+ values create a C curve and — values create an A curve)
PRM5	SUSTAIN	0 – 100%
PRM6	R ATTACK	0 – 5000ms
PRM7	R ATK LVL	0 – 100%
PRM8	RA CURVE	— 10 – 10: RELEASE ATTACK curve (+ values create a C curve and — values create an A curve)
PRM9	RELEASE	0 – 5000ms
PRM10	R CURVE	— 10 – 10: RELEASE curve (+ values create a C curve and — values create an A curve)

## 13 Selecting filters and editing parameters

- ① Press the FILTER button to activate filter mode.
- ② Turn the TYPE knob to select the filter type.
- ③ Turn knobs 1–4 to adjust the corresponding parameters on the screen.

### HINT

- If there are five or more parameters, press the FILTER button again to show additional parameters that can be adjusted.
- Press the OK button to show a frequency response graph.

### 13.1 Filter types and parameters

#### LPF-6 / HPF-6

LPF-6: This is a  $-6\text{dB/octave}$  low-pass filter.

HPF-6: This is a  $-6\text{dB/octave}$  high-pass filter.

Special operations	None	
PRM1	FREQUENCY	1 – 50
PRM2	PRE GAIN	$-24 - 24$
PRM3	—	—
PRM4	—	—
PRM5	MOD TYPE	See <a href="#">Filter modulation</a>

#### LPF-12 / HPF-12

LPF-12: This is a  $-12\text{dB/octave}$  low-pass filter.

HPF-12: This is a  $-12\text{dB/octave}$  high-pass filter.

Special operations	None	
PRM1	FREQUENCY	1 – 50
PRM2	Q	1 – 100
PRM3	PRE GAIN	$-24 - 24$
PRM4	—	—
PRM5	MOD TYPE	See <a href="#">Filter modulation</a>

**BPF / NOTCH**

BPF: This is a band-pass filter.

NOTCH: This is a notch filter.

Special operations		
PRM1	FREQUENCY	1 – 50
PRM2	BAND WIDTH	1 – 20
PRM3	PRE GAIN	–24 – 24
PRM4	—	—
PRM5	MOD TYPE	See <a href="#">Filter modulation</a>

**PEQ**

PEQ: This is a peaking EQ.

Special operations		
PRM1	FREQUENCY	1 – 50
PRM2	BAND WIDTH	1 – 20
PRM3	GAIN	–24 – 24
PRM4	PRE GAIN	–24 – 24
PRM5	MOD TYPE	See <a href="#">Filter modulation</a>

**LO EQ / HI EQ**

LO EQ: This EQ adjusts low frequencies.

HI EQ: This EQ adjusts high frequencies.

Special operations		
PRM1	FREQUENCY	1 – 50
PRM2	Q	1 – 100
PRM3	GAIN	–24 – 24
PRM4	PRE GAIN	–24 – 24
PRM5	MOD TYPE	See <a href="#">Filter modulation</a>

## 13.2 Filter modulation

---

Each filter has parameters for modulation using an LFO or envelope.

When the MOD TYPE parameter is set to LFO or Envelope, additional modulation parameters become available.

PRM1	MOD TYPE	OFF, LFO, Envelope: Modulation type selection
PRM2	ASSIGN	Select the modulation target.
The following parameters depend on the MOD TYPE setting.		
<b>When MOD TYPE is LFO</b>		
PRM3	WAVE	Sine, Square, Triangle, Sawtooth, Rev.Sawtooth, Random (waveform used to modulate target)
PRM4	RATE	1 – 100 (modulation speed)
PRM5	DEPTH	0 – 100 (modulation depth)
<b>When MOD TYPE is Envelope</b>		
PRM3	DELAY	0 – 2000ms (delay before modulation starts)
PRM4	INVERT	Off, On (inverts modulation)
PRM5	DEPTH	0 – 100 (modulation depth)
PRM6	ATTACK	0 – 5000ms
PRM7	DECAY	0 – 5000ms
PRM8	SUSTAIN	0 – 100%
PRM9	RELEASE	0 – 5000ms

## 14 Editing effects

- ① Press the EFFECTS button to activate effects mode.
- ② Press the EFFECTS button repeatedly to select different modules to edit.
- ③ Turn the TYPE knob to select the type for the current effect module.
- ④ Turn knobs 1–4 to adjust the corresponding parameters on the screen.

### HINT

- Press the EFFECTS button to cycle through the effect modules in this order: DRIVE/MOD, MODULATION, DELAY, REVERB.
- To turn a module off, turn the TYPE knob to select OFF.

### 14.1 Effect types and parameters

DRIVE/MOD module		
OVERDRIVE		
DISTORTION		
FUZZ		
PRM1	GAIN	0 – 100
PRM2	TONE	0 – 100
PRM3	LEVEL	0 – 100
CHORUS		
PRM1	RATE	0 – 100
PRM2	DEPTH	0 – 100
PRM3	MIX	0 – 100
PRM4	BPM SYNC	Off, 1/1(whole note , 1/2(half note , 1/4(quarter note , 1/8(8th note , 1/16(16th note , 1/32 (32nd note 1/4(3 (8th note triplet , 1/2(3 (quarter note triplet , 1/4. (dotted quarter note , 1/8. (dotted 8th note 1/16. (dotted 16th note
VIBRATO		
PRM1	RATE	0 – 100
PRM2	DEPTH	0 – 100
PRM3	BPM SYNC	Off, 1/1(whole note , 1/2(half note , 1/4(quarter note ,

		1/8(8th note , 1/16(16th note , 1/32 (32nd note 1/4(3 (8th note triplet , 1/2(3 (quarter note triplet , 1/4. (dotted quarter note , 1/8. (dotted 8th note 1/16. (dotted 16th note
<b>PHASER</b>		
PRM1	RATE	0 – 100
PRM2	STAGE	4, 8
PRM3	INVERT	Off, On
PRM4	MIX	0 – 100
<b>TREMOLO</b>		
PRM1	TYPE	Sine, Square, Triangle, Sawtooth, Rev.Sawtooth, Random, Log, Rev.Log
PRM2	RATE	0 – 100
PRM3	DEPTH	0 – 100
PRM4	BPM SYNC	Off, 1/1(whole note , 1/2(half note , 1/4(quarter note , 1/8(8th note , 1/16(16th note , 1/32 (32nd note 1/4(3 (8th note triplet , 1/2(3 (quarter note triplet , 1/4. (dotted quarter note , 1/8. (dotted 8th note 1/16. (dotted 16th note
<b>FLANGER</b>		
PRM1	RATE	0 – 100
PRM2	DEPTH	0 – 100
PRM3	MIX	0 – 100
PRM4	FEEDBACK	-100 – 100
<b>RING MODULATOR</b>		
PRM1	MOD TYPE	Sine, Square, Triangle, Sawtooth, Rev.Sawtooth, Random, Log, Rev.Log
PRM2	RATE	0 – 100
PRM3	DEPTH	0 – 100
PRM4	MIX	0 – 100
<b>AUTO WAH</b>		
PRM1	TYPE	LPF, HPF, BPF, BR
PRM2	SENS	0 – 100
PRM3	DEPTH	0 – 100
PRM4	Q	0 – 100

## MODULATION module

### STEREO CHORUS

PRM1	RATE	0 – 100
PRM2	DEPTH	0 – 100
PRM3	MIX	0 – 100
PRM4	BPM SYNC	Off, 1/1(whole note , 1/2(half note , 1/4(quarter note , 1/8(8th note , 1/16(16th note , 1/32 (32nd note 1/4(3 (8th note triplet , 1/2(3 (quarter note triplet , 1/4. (dotted quarter note , 1/8. (dotted 8th note 1/16. (dotted 16th note

### VIBRATO

PRM1	RATE	0 – 100
PRM2	DEPTH	0 – 100
PRM3	BPM SYNC	Off, 1/1(whole note , 1/2(half note , 1/4(quarter note , 1/8(8th note , 1/16(16th note , 1/32 (32nd note 1/4(3 (8th note triplet , 1/2(3 (quarter note triplet , 1/4. (dotted quarter note , 1/8. (dotted 8th note 1/16. (dotted 16th note

### PHASER

PRM1	RATE	0 – 100
PRM2	STAGE	4, 8
PRM3	INVERT	Off, On
PRM4	MIX	0 – 100

### TREMOLO

PRM1	TYPE	Sine, Square, Triangle, Sawtooth, Rev.Sawtooth, Random, Log, Rev.Log
PRM2	RATE	0 – 100
PRM3	DEPTH	0 – 100
PRM4	BPM SYNC	Off, 1/1(whole note , 1/2(half note , 1/4(quarter note , 1/8(8th note , 1/16(16th note , 1/32 (32nd note 1/4(3 (8th note triplet , 1/2(3 (quarter note triplet , 1/4. (dotted quarter note , 1/8. (dotted 8th note 1/16. (dotted 16th note

### FLANGER

PRM1	RATE	0 – 100
PRM2	DEPTH	0 – 100

PRM3	MIX	0 – 100
PRM4	FEEDBACK	-100 – 100
<b>AUTO PAN</b>		
PRM1	MOD TYPE	Sine, Square, Triangle, Sawtooth, Rev.Sawtooth, Random, Log, Rev.Log
PRM2	RATE	0 – 100
PRM3	DEPTH	0 – 100
PRM4	BPM SYNC	Off, 1/1(whole note , 1/2(half note , 1/4(quarter note , 1/8(8th note , 1/16(16th note , 1/32 (32nd note 1/4(3 (8th note triplet , 1/2(3 (quarter note triplet , 1/4. (dotted quarter note , 1/8. (dotted 8th note 1/16. (dotted 16th note
<b>RING MODULATOR</b>		
PRM1	MOD TYPE	Sine, Square, Triangle, Sawtooth, Rev.Sawtooth, Random, Log, Rev.Log
PRM2	RATE	0 – 100
PRM3	DEPTH	0 – 100
PRM4	MIX	0 – 100
<b>AUTO WAH</b>		
PRM1	TYPE	LPF, HPF, BPF, BRF
PRM2	SENS	0 – 100
PRM3	DEPTH	0 – 100
PRM4	Q	0 – 100

## DELAY module

DELAY

TAPE ECHO

REVERSE DELAY

PINGPONG DELAY

PRM1	TIME	1 – 2000ms (1 – 1000ms for REVERSE DELAY)
PRM2	BPM SYNC	Off 1/1 (whole note 1/2 (half note 1/4 (quarter note 1/8 (8th note 1/16 (16th note

		1/32 (32nd note 1/4(3 (8th note triplet 1/2(3 (quarter note triplet 1/4. (dotted quarter note 1/8. (dotted 8th note 1/16. (dotted 16th note
PRM3	FEEDBACK	0 – 100
PRM4	MIX	0 – 100

## REVERB module

ROOM

HALL

PLATE

PRM1	MIX	0 – 100
------	-----	---------

CUSTOM REVERB

PRM1	PREDELAY	0 – 100
------	----------	---------

PRM2	DECAY	0 – 100
------	-------	---------

PRM3	HI DAMP	0 – 100
------	---------	---------

PRM4	MIX	0 – 100
------	-----	---------

## 15 Adjusting the MEMORY LEVEL

- ① Press the EFFECTS button to activate effects mode.
- ② Press the EFFECTS button 4 more times to select MEMORY LEVEL.  
(Press the EFFECTS button when the REVERB module is selected to open the next page.
- ③ Turn knob 1 to adjust the current MEMORY LEVEL.

## 16 Changing the VOICE MODE

Select from 6-voice polyphonic and two types of monophonic.

- ① Press the EFFECTS button to activate effects mode.
- ② Press the EFFECTS button 5 more times to select VOICE MODE. (Press the EFFECTS button when the REVERB module is selected to open the

next page.

- ③ Turn the TYPE knob to select the VOICE MODE, and use the other knobs to adjust the parameters.

HINT

- *The VOICE MODE setting is saved for each MEMORY.*

VOICE MODE		
POLY		
6-voice polyphonic mode		
PRM1	—	—
PRM2	—	—
MONO		
The envelope is triggered whenever a key is pressed in this monophonic mode		
LEGATO		
The envelope is not retriggered when another key is pressed in this monophonic mode		
PRM1	PRIORITY	The key that is prioritized when multiple keys are pressed Low: The key with the lowest pitch is prioritized High: The key with the highest pitch is prioritized Last: The key last pressed is prioritized
PRM2	GLIDE	0 – 100: Legato speed

**17    Selecting and editing the arpeggiator**

- ① Press the ARP/SEQ button to activate arpeggiator mode.
- ② Turn the TYPE knob to select the arpeggiator type.
- ③ Turn knobs 1–4 to adjust the corresponding parameters on the screen.

HINT

- *To disable the arpeggiator, turn the TYPE knob all the way to the left to select OFF.*

**17.1    Arpeggiator types and parameters**

---

## Arpeggiator

UP

DOWN

UP DOWN

DOWN UP

UP &amp; DOWN

DOWN &amp; UP

RANDOM

PLAY ORDER

When multiple keys are pressed on the keyboard, the arpeggiator plays one note at a time in order according to the speed and sequence type set.

When the type is PLAY ORDER, the sequence will repeat in the order the keys were played.

When the BPM SYNC parameter is set to anything other than Off, the TIME parameter is ignored and the arpeggiator operates in sync with the current BPM.

Special operations	Press the OK button to activate and deactivate the HOLD function. When HOLD is active, pressed keys are remembered and the sequence will continue playing even when they are released. See <a href="#">Holding a sequence</a> for details.	
PRM1	TIME	20 – 1000ms (enabled when BPM Sync is Off)
PRM2	GATE	10 – 90%
PRM3	BPM SYNC	Off 1/1 (whole note) 1/2 (half note) 1/4. (dotted quarter note) 1/4 (quarter note) 1/8. (dotted 8th note) 1/2(3 (quarter note triplet) 1/8 (8th note) 1/16. (dotted 16th note) 1/4(3 (8th note triplet) 1/16 (16th note) 1/32 (32nd note)
PRM4	BPM	40 – 250 (enabled when BPM Sync is not Off)

## 17.2 Holding a sequence

---

When the arpeggiator is active, the HOLD function can be used to remember pressed keys and continue playing the sequence even when they are released.

- ① Select the Arpeggiator mode.
- ② Turn the TYPE knob to select an arpeggiator type other than OFF.  
(The arpeggiator icon appears at the top of the display.)
- ③ Press the OK button to activate the HOLD function.
- ④ When the HOLD function is active, press the OK button again to deactivate it.

### HINT

- *The following operations will clear the recorded sequence.*
  - *Deactivating HOLD*
  - *Changing the MEMORY*
  - *Setting the arpeggiator type to OFF*
  - *Setting the arpeggiator type to PLAY ORDER*
  - *Changing the arpeggiator type from PLAY ORDER to another type*

## 18 Recalling and saving MEMORY settings

### 18.1 Recalling MEMORY settings

---

MEMORY settings can be recalled.

The MEMORY number is shown at the top left of the screen.

- ① Use the — and + buttons.
- ② Recall the desired MEMORY.

#### HINT

- *Factory preset sounds can be recalled immediately after the unit is purchased new.*
- *If you recall a MEMORY when the EDITED icon is shown, all changes to the current sound will be lost. Follow the steps in [Saving settings to MEMORY](#) if necessary.*

### 18.2 Saving settings to MEMORY

---

Edited sounds can be saved to MEMORY.

- ① Press the SAVE button to open a screen to select the save destination.
- ② Use the — and + buttons or any knob to select the MEMORY where you want to save the settings.
- ③ Press the SAVE button.

#### HINT

- *To cancel saving a patch, press a button other than SAVE, — or +.*
- *The EDITED icon will appear at the top of the screen when a sound is edited.*

## 19 TAP tempo

The arpeggiator and some effects can be synchronized to the tempo. Tap the TAP button several times at quarter-note intervals to set the ELZ\_1 tempo.

- ① Press the TAP button several times at the desired tempo. (The TEMPO setting screen will open.
- ② The current tempo will be shown as the BPM on the TEMPO screen. The TEMPO LED will also blink at the set tempo.

### HINT

- *The tempo can also be adjusted precisely by turning a knob when the TEMPO screen is open.*
- *The tempo is saved in the ELZ\_1 and shared by all MEMORY settings.*

## 20 Changing the keyboard octave range

Use the DOWN and UP buttons to change the keyboard octave range (when not using the MENU screen.

UP button: Shift the range up one octave

DOWN button: Shift the range down one octave

The range can be shifted up or down up to two octaves.

### HINT

- *The octave range is saved for each MEMORY.*
- *The current octave shift is shown by the brightness of the lit OCTAVE LED (dim for one octave, bright for two octaves).*

## 21 MEMORY management

Use the MEMORY menu to manage MEMORY settings in the ELZ\_1.

- ① Press the MENU button.
- ② Use the DOWN and UP buttons to select MEMORY.

- ③ Press the OK button to open the MEMORY menu.

## 21.1 MEMORY selection

---

The currently selected MEMORY can be changed.

- ① Use the DOWN and UP buttons to select the MEMORY to use.
- ② Press the OK button.
- ② Use the DOWN and UP buttons to choose Select.
- ④ Press the OK button.

## 21.2 Changing MEMORY names

---

MEMORY names can be changed.

- ① Use the DOWN and UP buttons to select the MEMORY to use.
- ② Press the OK button.
- ③ Use the DOWN and UP buttons to select Rename.
- ④ Press the OK button.
- ⑤ Use the TYPE and 1 – 4 knobs to edit the name.  
 TYPE knob: Move cursor left and right  
 Knob 1: Change character  
 Knob 2: Change the character type (uppercase letters → lowercase letters → numbers → symbols)
- ⑥ Press the OK button to end editing.

### HINT

- Changes can be canceled by pressing the MENU button.
- The following characters and symbols can be used.  
 ABCDEFGHIJKLMNOPQRSTUVWXYZ  
 abcdefghijklmnopqrstuvwxyz  
 0123456789  
 !"#%&'()\*+,-./:;<=>?@[^\]^\_`{|}~ (space)

## 21.3 Initializing the settings of one MEMORY

---

A MEMORY can be initialized to basic settings.

- ① Use the DOWN and UP buttons to select the desired MEMORY, and press the OK button.
- ② Use the DOWN and UP buttons to select Initialize, and press the OK button to open a confirmation screen.
- ③ Use the DOWN and UP buttons to select Yes, and press the OK button.

### HINT

- *Use this operation with care because initialization of a MEMORY cannot be undone.*

## 21.4 Exporting MEMORY settings

---

The selected MEMORY can be exported.

The exported MEMORY is saved in the ELZ\_1 storage and can be accessed using a PC/Mac.

- ① Use the DOWN and UP buttons to select the desired MEMORY, and press the OK button.
- ② Use the DOWN and UP buttons to select Export, and press the OK button.
- ③ Use the TYPE and 1 – 4 knobs to edit the name of the exported file.  
TYPE knob: Move cursor left and right  
Knob 1: Change character  
Knob 2: Change the character type (uppercase letters → lowercase letters → numbers → symbols)
- ④ Press the OK button to open a confirmation screen.
- ⑤ Use the DOWN and UP buttons to select Yes, and press the OK button.

### HINT

- *Changes can be canceled by pressing the MENU button.*

- *It will be saved in the MEMORY folder in the unit storage.*
- *The following characters and symbols can be used.*

*ABCDEFGHIJKLMNOPQRSTUVWXYZ*

*abcdefghijklmnopqrstuvwxyz*

*0123456789*

*!#\$%&'(+, -.;=@[]^\_ `{ } ~ (space*

## 21.5 Importing MEMORY settings

---

A MEMORY file saved in the ELZ\_1 storage can be imported to the selected MEMORY slot.

- ① Use the DOWN and UP buttons to select the desired MEMORY slot, and press the OK button.
- ② Use the DOWN and UP buttons to select Import, and press the OK button to open a list of files in the MEMORY folder in the ELZ\_1 storage.
- ③ Use the DOWN and UP buttons to select the file to import, and press the OK button to open a confirmation screen.
- ④ Use the DOWN and UP buttons to select Yes, and press the OK button.

### HINT

- *Only MEMORY files stored in the MEMORY folder in the ELZ\_1 storage are shown in the list.*

## 22 MIDI functions

### 22.1 Using the ELZ\_1 as a USB-MIDI device

---

By connecting the ELZ\_1 to a PC or Mac by USB, it can be used as a MIDI-controlled sound source.

**Important: Recognition of the ELZ\_1 could take about 10–30 seconds the first time it is connected, depending on the type of PC/Mac. Do not disconnect the USB cable or turn the power off before it is recognized.**

- ① Use a USB cable to connect the ELZ\_1 to a PC/Mac.
- ② Press the MENU button.
- ③ Use the DOWN and UP buttons to select MIDI, and press the OK button.
- ④ Use the DOWN and UP buttons to select USB MIDI, and press the OK button.
- ⑤ Use the DOWN and UP buttons to select MIDI DEVICE MODE, and press the OK button.

#### HINT

- *The supported MIDI messages in Ver. 1.x.x are as follows.*
  - *NOTE ON/OFF (responds to velocity)*
  - *Pitch bend*
  - *Program change (can be used for MEMORY selection)*
  - *MIDI Clock*
  - *Start/ Stop/ Continue*

## 22.2 Connecting USB-MIDI keyboards and USB-MIDI interfaces to control the ELZ\_1

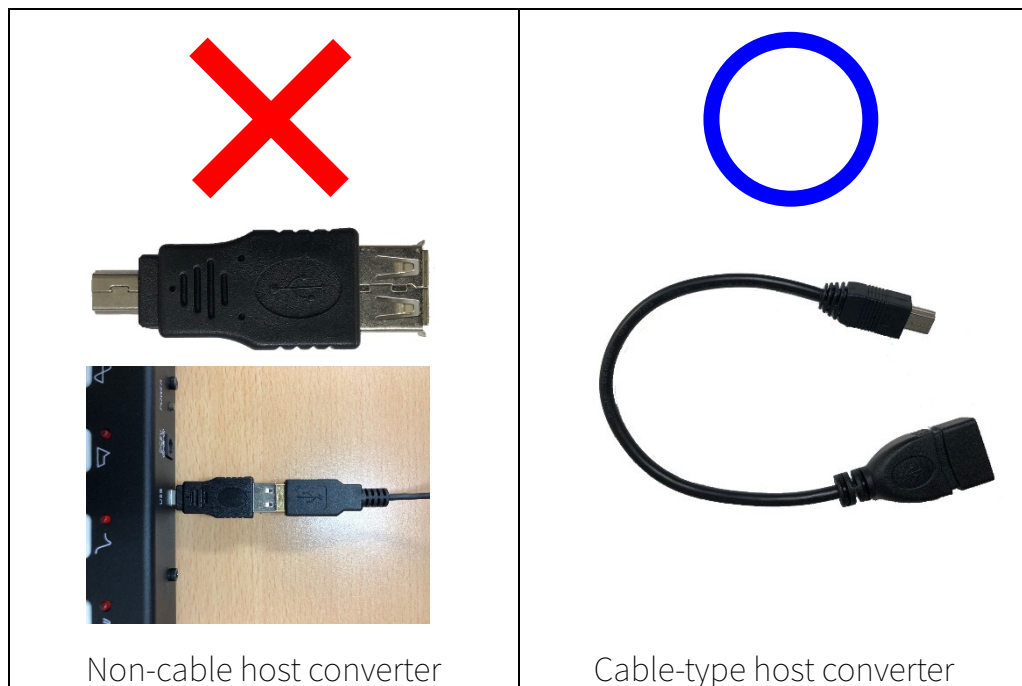
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By connecting a USB-MIDI keyboard or USB-MIDI interface directly to the ELZ\_1 with a USB host cable, you can use the ELZ\_1 as a MIDI-controlled sound source.

### **NOTE**

**Connection with all MIDI devices is not guaranteed. See the SONICWARE website for information about MIDI devices that have been confirmed to work with the ELZ\_1.**

**Depending on its shape and how it is used, using a non-cable USB mini host converter could put a large load on the USB port. Since this could cause damage, please avoid using USB mini converters shaped like the one shown with an × below.**



- ① Connect a USB host cable (commercially-available to the ELZ\_1.
- ② Connect the USB host cable to an external MIDI device (USB-MIDI keyboard or USB-MIDI interface.

- ③ Press the MENU button.
- ④ Use the DOWN and UP buttons to select MIDI, and press the OK button.
- ⑤ Use the DOWN and UP buttons to select USB MIDI, and press the OK button.
- ⑥ Use the DOWN and UP buttons to select MIDI HOST MODE, and press the OK button.

#### HINT

- *The supported MIDI messages in Ver. 1 are as follows.*
  - *NOTE ON/OFF (responds to velocity)*
  - *Pitch bend*
  - *Program change (can be used for MEMORY selection)*
  - *MIDI Clock*
  - *Start/ Stop/ Continue*

## **22.3 Setting the MIDI reception channel**

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- ① Press the MENU button.
- ② Use the DOWN and UP buttons to select MIDI, and press the OK button.
- ③ Use the DOWN and UP buttons to select RX CHANNEL, and press the OK button.
- ④ Use the DOWN and UP buttons to select the desired channel and press the OK button.

## **22.4 Using the MIDI THRU function**

---

MIDI messages input through the ELZ\_1 MIDI IN can be passed THRU as is from its MIDI OUT.

- ① Press the MENU button.
- ② Use the DOWN and UP buttons to select MIDI, and press the OK button.
- ③ Use the DOWN and UP buttons to select MIDI THRU, and press the OK button.
- ④ Use the DOWN and UP buttons to select On, and press the OK button.

## 23 Adjusting the AUX IN GAIN

The volume of external audio input to the AUX IN can be adjusted.

- ① Press the MENU button.
- ② Use the DOWN and UP buttons to select AUX IN, and press the OK button.
- ③ Use the DOWN and UP buttons to select AUX IN GAIN, and press the OK button.
- ④ Use the DOWN and UP buttons or turn any knob to adjust the AUX IN GAIN.

### HINT

- *AUX IN GAIN can be used to greatly amplify the AUX IN volume, but this will also increase the noise. Before using AUX IN GAIN for amplification, raise the volume on the external audio device as much as possible without causing distortion.*

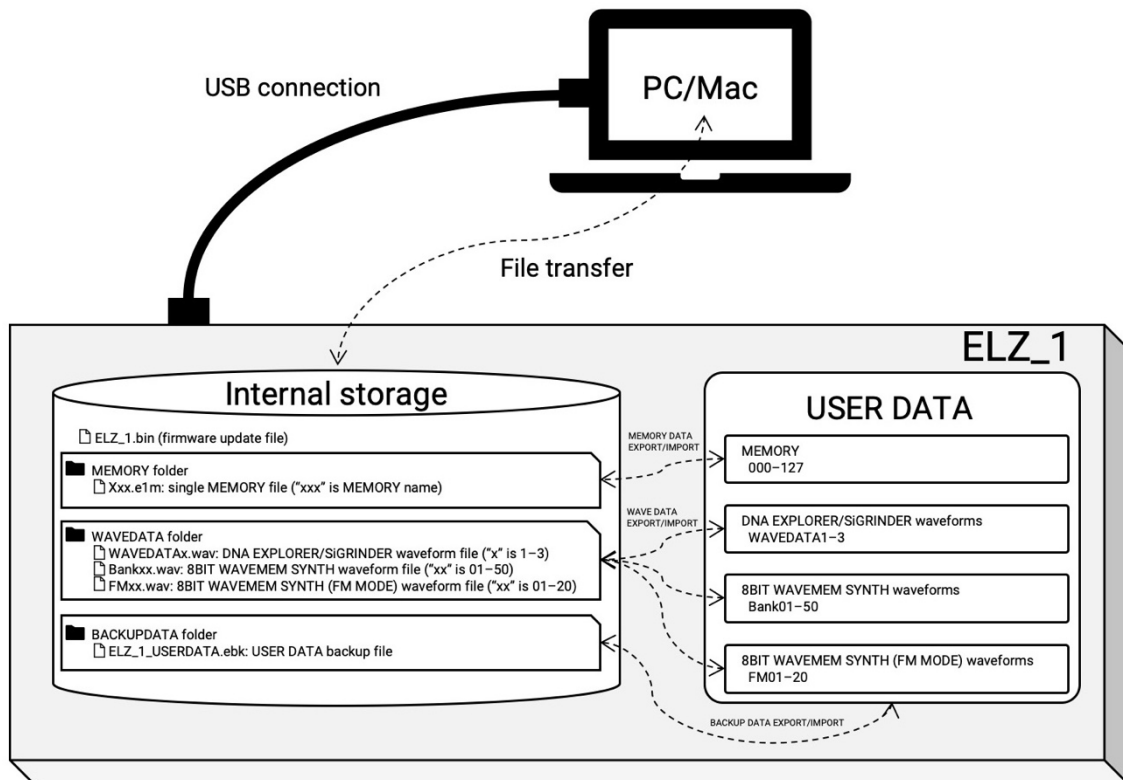
## 24 Applying DELAY and REVERB effects for AUX IN

Applying DELAY and REVERB effects for AUX IN.

- ① Press the MENU button.
- ② Use the DOWN and UP buttons to select AUX IN, and press the OK button.
- ③ Use the DOWN and UP buttons to select EFX INSERT, and press the OK button.
- ④ Use the DOWN and UP buttons or turn any knob to select the effects.

## 25 Storage functions

The ELZ\_1 has internal storage necessary for exchanging waveform files, user data, firmware update files and other data with PCs and Macs.



### 25.1 Accessing the ELZ\_1 storage from a PC/Mac (USB mass storage mode)

Exported files, including MEMORY, waveform and user backup files can be accessed from a PC/Mac.

This is also used during firmware updates.

**Important: Recognition of the ELZ\_1 could take about 10-30 seconds the first time it is connected, depending on the type of PC/Mac. Do not disconnect the USB cable or turn the power off before it is recognized.**

- ① Use a USB cable to connect the ELZ\_1 to a PC/Mac.
- ② Press the MENU button.

- ③ Use the DOWN and UP buttons to select STORAGE, and press the OK button.
- ④ Use the DOWN and UP buttons to select USB MASS STORAGE MODE, and press the OK button to show the ELZ\_1 storage on the PC/Mac.

#### HINT

- *To end USB mass storage mode, first eject the ELZ\_1 drive from the PC/Mac safely, then press the MENU button on the ELZ\_1.*

## **25.2 Deleting files in the storage**

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Exports and other files that the ELZ\_1 created in its storage can be deleted.

- ① Press the MENU button.
- ② Use the DOWN and UP buttons to select STORAGE, and press the OK button.
- ③ Use the DOWN and UP buttons to select DELETE, and press the OK button.
- ④ Use the DOWN and UP buttons to select the type of file you want to delete: MEMORY, WAVEDATA or BACKUPDATA. Then, press the OK button to open a list of files.
- ⑤ Use the DOWN and UP buttons to select the file to delete, and press the OK button to open a confirmation screen.
- ⑥ Use the DOWN and UP buttons to select Yes, and press the OK button.

#### HINT

- *Only files created by the ELZ\_1 can be deleted.*
- *Deleted files cannot be restored. Use this operation with caution.*

## **25.3 Backing up all user data in the ELZ\_1**

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The user data in the ELZ\_1 can be exported to its internal storage. The following data is backed up.

- MEMORY 0 – 127

- Bank01 – 50 and FM01 – 20 waveforms used by 8BIT WAVE MEMORY
- WAVEDATA1 – 3 waveforms used by DNA EXPLORER and SiGRINDER

- ① Press the MENU button.
- ② Use the DOWN and UP buttons to select STORAGE, and press the OK button.
- ③ Use the DOWN and UP buttons to select BACKUP, and press the OK button.
- ④ Use the DOWN and UP buttons to select Export, and press the OK button.
- ⑤ Use the TYPE and 1 – 4 knobs to edit the name of the exported file.  
TYPE knob: Move cursor left and right  
Knob 1: Change character  
Knob 2: Change the character type (uppercase letters → lowercase letters → numbers → symbols)
- ⑥ Press the OK button to open a confirmation screen.
- ⑦ Use the DOWN and UP buttons to select Yes, and press the OK button.

#### HINT

- *We recommend copying the backup data file to a PC/Mac. (See [“Accessing the ELZ\\_1 storage from a PC/Mac \(USB mass storage mode\)”](#).)*
- *The backup file is saved in the ELZ\_1 internal storage BACKUPDATA folder.*
- *The following characters and symbols can be used in the backup file name.*  
ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz  
0123456789  
!#\$%&'(+, -.;=@[]^\_`{}~ (space)

## 25.4 Restoring backup user data to the ELZ\_1

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When restoring from backup data, the following items are overwritten by that data.

- MEMORY 0 – 127
- Bank01 – 50 and FM01 – 20 waveforms used by 8BIT WAVE MEMORY
- WAVEDATA1 – 3 waveforms used by DNA EXPLORER and SiGRINDER

- ① Press the MENU button.
- ② Use the DOWN and UP buttons to select STORAGE, and press the OK button.
- ③ Use the DOWN and UP buttons to select BACKUP, and press the OK button.
- ④ Use the DOWN and UP buttons to select Import, and press the OK button to open a list of backup files.
- ⑤ Use the DOWN and UP buttons to select the backup file with the state you want to restore, and press the OK button to open a confirmation screen.
- ⑥ Use the DOWN and UP buttons to select Yes, and press the OK button.

### HINT

- *Conduct this operation with care, because the backup data will overwrite the current MEMORY settings and waveform data.*
- *If you want to restore a backup file that is saved on a PC or Mac, for example, connect the computer to the ELZ\_1 and copy the backup file to the BACKUPDATA folder in the ELZ\_1 storage. See [“Accessing the ELZ\\_1 storage from a PC/Mac \(USB mass storage mode\).”](#)*

## 25.5 Formatting the storage

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This formats the storage (about 8 MB inside the ELZ\_1 that can be accessed from a PC/Mac. This does not initialize MEMORY settings or waveform data.

**Warning!** This operation will initialize all the data in the ELZ\_1 storage.

Copy any needed data to the PC/Mac in advance.

- ① Press the MENU button.
- ② Use the DOWN and UP buttons to select STORAGE, and press the OK button.
- ③ Use the DOWN and UP buttons to select FORMAT, and press the OK button to open a confirmation screen.
- ④ Use the DOWN and UP buttons to select Yes, and press the OK button.

## **26 Setting AUTO POWER OFF**

The time until automatic shutdown can be set.

- ① Press the MENU button.
- ② Use the DOWN and UP buttons to select AUTO POWER OFF, and press the OK button.
- ③ Use the DOWN and UP buttons to select a time between 30 minutes and 6 hours (or Off to disable the AUTO POWER OFF function, and press the OK button.

## 27 Restoring the ELZ\_1 to ask factory default settings

The ELZ\_1 can be restored to its factory default settings.

Warning! Use this operation with caution because it will delete all user data. Back up user data as necessary beforehand.

- ① Press the MENU button.
- ② Use the DOWN and UP buttons to select RESET, and press the OK button to open a confirmation screen.
- ③ Use the DOWN and UP buttons to select Yes, and press the OK button.

### NOTE

- *This does not erase the storage in the ELZ\_1. To format the storage, see [“Formatting the storage.”](#)*

## 28 System information

Firmware versions can be checked on this screen.

- ① Press the MENU button.
- ② Use the DOWN and UP buttons to select SYSTEM INFORMATION, and press the OK button.

## 29 Updating the ELZ\_1 firmware

The ELZ\_1 firmware can be updated by connecting the ELZ\_1 to a PC or Mac by USB and transferring an update file.

- ① Download the latest firmware from the SONICWARE website and copy it to ELZ\_1 internal storage. See [“Accessing the ELZ\\_1 storage from a PC/Mac \(USB mass storage mode\)”](#).
- ② Turn the ELZ\_1 power off.
- ③ Turn the power on while pressing the OSCILLATOR button.
- ④ Use the DOWN and UP buttons to select SYSTEM UPDATE.
- ⑤ Press the OK button.
- ⑥ If there are no problems in the firmware file check, press the OK button to start the update
- ⑦ When “Please restart” is shown, turn the ELZ\_1 off.
- ⑧ Turn the ELZ\_1 on again.

### *Important*

- *If operating on battery power, use new batteries.*
- *Do not interrupt the power supply during an update. Doing so could make the unit unable to start properly.*
- *Recognition of the ELZ\_1 could take about 10–30 seconds the first time it is connected, depending on the type of PC/Mac. Do not disconnect the USB cable or turn the power off before it is recognized.*

## **30 Troubleshooting**

Check the following items before seeking repair.

### **30.1 There is no sound or it is very low**

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- Confirm that the VOL knob on the back of the unit is set properly
  - Confirm that the MEMORY LEVEL is set properly
  - If the volume of another MEMORY setting is sufficient, it is possible that the settings of the current synth engine, filter, envelope or effects could be making the volume low. Try setting the TYPE to OFF for the filter and effects.
- Check the envelope SUSTAIN value. If the SUSTAIN is set to 0%, the sound will be silent while the note is sustained.
- Confirm that synth engine LEVEL parameters are not set to 0.

### **30.2 The display is dark or blinking**

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- When the remaining battery charge is low, depending on the sound settings, playing sound from the speaker could cause the backlight to dim or blink. This is not a malfunction. Replace the batteries with new ones.

### 30.3 A PC/Mac does not recognize the ELZ\_1

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**Important: Recognition of the ELZ\_1 could take about 10–30 seconds the first time it is connected, depending on the type of PC/Mac. Do not disconnect the USB cable or turn the power off before it is recognized.**

- If you want to use the ELZ\_1 as a MIDI device, confirm that it is in USB MIDI DEVICE mode. See [Using the ELZ\\_1 as a USB-MIDI device](#).
- Confirm that the ELZ\_1 is in USB mass storage mode if you want to connect it as mass storage to a PC/Mac. See [Accessing the ELZ\\_1 storage from a PC/Mac \(USB mass storage mode\)](#).
- Check if it can be recognized when connected to a different USB port.
- Check if it can be recognized when using a different USB cable.
- Check if it can be recognized when connected directly to the PC/Mac without using a USB hub or extension cable, for example.
- Check if the ELZ\_1 can be recognized when all other USB devices are disconnected.
- Check if it can be recognized when antivirus software, monitoring software and other background applications running on the PC/Mac are turned off.
- Restart the computer.
- If another PC/Mac is available, check if it can be recognized by that PC/Mac.
- When the ELZ\_1 is in mass storage mode, if it does not appear on a Mac desktop, open the Finder menu, and select “Preferences...” Open the General pane and put a check in the box next to “External disks” if it is not already filled. Then, restart the Mac, reconnect the ELZ\_1, and check again.
- If an error appears when connected as mass storage, the mass storage data in the ELZ\_1 might have become corrupted. Referring to [Formatting the storage](#), format the mass storage in the ELZ\_1, and check again. (Be aware that this operation will erase the data in the mass storage.



SONICWARE INC.

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