

# **Juzisound Breath Controller (MIDI Version)**



## **Owner's Manual**

**Version: 1.2**

## Important Safety Instructions



### WARNING

The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



### CAUTION

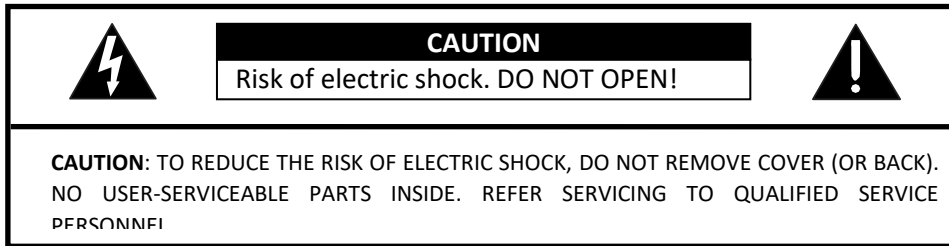
The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

**INSTRUCTIONS PERTAINING TO A RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS.  
SAVE THESE INSTRUCTIONS**

**WARNING** - When using electric products, basic precautions should always be followed, including the following:

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with a dry cloth.
- Install in accordance with the manufacturer’s instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- Always ensure adequate space for ventilation around the device.
- Do not cover the apparatus with newspapers, tablecloths, curtains, etc., as these will impair ventilation and cause overheating.
- Do not put on the device open flame sources such as candles.
- This unit contains a battery which should not be exposed to excessive heat sources such as sunlight, fire, etc.

## Power Supply



- Do not connect this unit to same electrical outlet that is being used by an electrical appliance that is controlled by an inverter or a motor (such as a refrigerator, washing machine, microwave oven, or air conditioner). Depending on the way in which the electrical appliance is used, power supply noise may cause this unit to malfunction or may produce audible noise. If it is not practical to use a separate electrical outlet, connect a power supply noise filter between this unit and the electrical outlet.
- To prevent malfunction and equipment failure, always make sure to turn off the power on all your equipment before you make any connections.
- Although the LCD and LEDs are switched off when the unit is turned off, this does not mean that the unit has been completely disconnected from the source of power. If you need to turn off the power completely, first turn off the unit's switch, then unplug the power cord from the power outlet. For this reason, the outlet into which you choose to connect the power cord's plug should be one that is within easy reach and readily accessible.
- Power Switch is only for functional switching of the device. Does not disconnect the device from the mains.
- Due to the risk of electric shock, replacement of fuse and battery are performed only at an authorized dealer of the manufacturer or person with similar qualifications.

## Maintenance

- For everyday cleaning wipe the unit with a soft, dry cloth or one that has been slightly dampened with water. To remove stubborn dirt, use a cloth impregnated with a mild, nonabrasive detergent. Afterwards, be sure to wipe the unit thoroughly with a soft, dry cloth.
- Never use benzine, thinners, alcohol or solvents of any kind, to avoid the possibility of discoloration and/or deformation.

## Placement

- Using the unit near power amplifiers (or other equipment containing large power transformers) may induce hum. To alleviate the problem, change the orientation of this unit; or move it farther away from the source of interference.
- This device may interfere with radio and television reception. Do not use this device in the vicinity of such receivers.
- Noise may be produced if wireless communications devices, such as cell phones, are operated in the vicinity of this unit. Such noise could occur when receiving or initiating a call, or while conversing. Should you experience such problems, you should relocate such wireless devices so they are at a greater distance from this unit, or switch them off.
- When moved from one location to another where the temperature and/or humidity is very different, water droplets (condensation) may form inside the unit. Damage or malfunction may result if you attempt to use the unit in this condition. Therefore, before using the unit, you must allow it to stand for several hours, until the condensation has completely evaporated.
- When moved from one location to another where the temperature and/or humidity is very different, water droplets (condensation) may form inside the unit. Damage or malfunction may result if you attempt to use the unit in this condition. Therefore, before using the unit, you must allow it to stand for several hours, until the condensation has completely evaporated.
- Do not put anything that contains water on this unit.
- Also, avoid the use of insecticides, perfumes, alcohol, nail polish, spray cans, etc., near the unit. Swiftly wipe away any liquid that spills on the unit using a dry, soft cloth.

## Additional Precautions

- Please be aware that the contents of SD card can be irretrievably lost as a result of a malfunction, or the improper operation of the unit. To protect yourself against the risk of losing important data, we recommend that you periodically save a backup copy of SD card.
- Use a reasonable amount of care when using the unit's buttons, sliders, or other controls; and when using its jacks and connectors. Rough handling can lead to malfunctions.
- Never strike or apply strong pressure to the display.
- When disconnecting all cables, grasp the connector itself—never pull on the cable. This way you will avoid causing shorts, or damage to the cable's internal elements.
- A small amount of heat will radiate from the unit during normal operation.
- To avoid disturbing others nearby, try to keep the unit's volume at reasonable levels. You may prefer to use headphones, so you do not need to be concerned about those around you.
- When you need to transport the unit, package it in the box (including padding) that it came in, if possible. Otherwise, you will need to use equivalent packaging materials.

## Information for Users on Collection and Disposal of Old Equipment



This symbol on the products, packaging, and/or accompanying documents means that used electrical and electronic products should not be mixed with general household waste.

For proper treatment, recovery and recycling of old products, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/96/EC.

By disposing of these products correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.

For more information about collection and recycling of old products, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items.

### **For business users in the European Union**

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

### **Information on Disposal in other Countries outside the European Union**

This symbol is only valid in the European Union. If you wish to discard these items, please contact your local authorities or dealer and ask for the correct method of disposal.

## Buttons and LEDs

Juzisound Breath Controller (MIDI Version) have 2 Buttons and 4 LEDs. With these buttons and led, you have full control over all parameters.

Buttons: Every button have 2 types of pressing: SHORT (Normal) and LONG. Possible combination of 2 buttons together too. For easy addressing, buttons have names B1 and B2.

Leds: Every led have 3 status. Off, On, and flashing. Flashing have 2 variants too. Fast and slow. With all these leds, you have visual control over selected parameter. All leds are with super bright white color, easy visible on sunlight.



## Pressure Level Indication

Juzisound Breath Controller have 4 LEDs. In normal mode these leds indicating pressure level or BYPASS mode. If BYPASS mode is active, all leds blink slowly together. If BYPASS is not active, then LEDs indication breathe pressure level. How to indication work:

- If not have any pressure applied, only LED1 blink slowly. This indicate headset working condition too.
- When somehow breath pressure is applied, and headset start producing MIDI messages, LED1 stop blinking, and all 4 LEDs work together like traditional 4 point level indicator.
- When maximum pressure level is reach, all 4 LEDs start blinking very fast. This indicating that further increasing of breath pressure, will not continue to increase values of generating MIDI messages. *If you thing that very easy reach to this breath level, then my be need to reduce breath GAIN.*

## Modes

Juzisound Breath Controller have 2 main operation modes: Normal mode, and menu mode.

### Normal Mode:

Normal is designed for everyday use. In this mode, with buttons you have control over BYPASS On/Off function, and fast GAIN +/- function. LEDs indicate bypass status, and breathe pressure level.

### Menu Mode:

In menu mode, You have successively access to all parameters, one after one. Available parameters are:

- breath OFFSET
- breath GAIN
- midi messages generation mode
- curve for first MIDI message
- curve for second MIDI message
- base MIDI channel
- additional MIDI channel
- speed response
- bypass activate level / (bypass DISABLE)

## Factory Reset

Factory reset function, return all parameters to default manufactured position.

To execute factory reset use this procedure:

1. Don't apply breath pressure.
2. Power off headset (disconnect USB power connector).
3. Press and hold pressed both buttons B1 and B2.
4. Power on headset (plug USB power connector).
5. Release buttons, and wait until LED indicate factory reset procedure.

With this, factory reset is executed. After factory reset, all LEDs need to blink slowly, and headset is in bypass mode.

Parameters are set to:

- breath offset is set to default level.
- breath gain is set to default level.
- midi message generation is set to Control Change 11 only.
- curve for first MIDI message is set to linear.
- curve for second MIDI message is set to linear too.
- base MIDI channels is set to MIDI Channel 01.
- additional MIDI channels are set to OFF (no additional MIDI channels).
- speed response is set to default state.
- bypass activate level / (bypass DISABLE) is set to value 3.

## Bypass Mode

Bypass is special mode, when headset work, but not generate MIDI messages. Really you mean like headset is OFF. You use this mode, when need to play without headset. In moment when BYPASS mode is activated, headset send default values for all assigned MIDI messages, and reset these MIDI messages to their default position, like headset is not plugged newer before.

BYPASS mode is available only when headset is in normal mode, and not available, when headset is in EXTENDED MENU mode. If BYPASS mode is active when you enter to ADVENCED MENU mode, BYPASS is deactivated automatically.

### Activation of BYPASS mode

Control of BYPASS mode is available by 2 methods: with buttons and with negative/positive pressure.

- **Activate with buttons:** (available only if headset is in NORMAL mode)

Short pressing of **[B1]** will activate BYPASS mode.

Short pressing of **[B2]** will deactivate BYPASS mode, and headset return to normal work.

- **Activate with pressure:** (available only if headset is in NORMAL mode too)

When you apply NEGATIVE pressure for small amount of time, headset automatically go to BYPASS MODE. This allow to control BYPASS mode, without touching headset buttons.

When you apply POSITIVE pressure with maximum level for small amount of time, headset automatically exit from bypass mode, and return to normal operation.

### Indication of BYPASS mode

When BYPASS mode is activated, all 4 LEDs blink slowly together.

## Normal Mode

Normal mode is designed for everyday use. You use this mode when regular playing. When power up headset, headset is in this normal mode.

### Control over parameters in Normal mode:

In this mode, you have fast control to only 2 parameters:

- Bypass control On and Off

- fast GAIN +/- control (without go to extended MENU mode to set GAIN).

### Short pressing of buttons

**Button B1** – this deactivating BYPASS mode. If bypass mode was not active, then no function.

**Button B2** – this activating BYPASS mode. If bypass is already active, then no function.

### Long pressing of buttons

**Button B1** – this increase GAIN value with +1. If BYPASS mode is active, will be deactivated.

**Button B2** – this decrease GAIN value with -1. If BYPASS mode is active, will be deactivated.

These functions provide very fast access to most important parameter Breath GAIN. Use this to fine adjust GAIN to value comfortable for you.



## Extend Menu Mode

In EXTENDEND MENU mode, you have full access to all headset parameters. The parameters are crawled one by one, and every parameter value is indicated with LEDs. After settings of last parameter, headset exit from EXTENDEND MENU, save all parameters, and return to NORMAL MODE. This exit and save process is indicated with LEDs too.

### Entering in EXTENDEND MENU

To enter in EXTENDEND MENU MODE, need to press and hold both buttons B1 and B2 together for 3 seconds. After this, headset will enter in EXTENDEND MENU mode, and will be positioned to first parameter – Breath GAIN.

### Change parameter value in EXTENDEND MENU

In EXTENDEND menu mode the parameters are crawled one by one. Value of selected parameter is changed with short pressing of buttons [B1] or [B2].

### Movement in EXTENDEND MENU

In EXTENDEND menu mode the parameters are crawled one by one, and possible to movement only in forward way. Movement to next parameter is made with **LONG pressing of button [B1]**. If you miss out to set one parameter, is not possible to go back. You have to go around all other parameter, until exit of EXTENDEND MODE, and then again enter in EXTENDEND menu mode.

### Exiting from EXTENDEND MENU

Exiting from this menu is available only by 2 ways:

#### - exit after setting last parameter: (exit and save all parameters)

This exit is made automatically, when setting of last parameter is complete, and when you try to go another one position forward. This is “regular” exit, and this exit method is used in most cases.

**IMPORTANT!!!** After this exit method, headset **SAVE** values of ALL PARAMETERS for next use! All parameters will be active in future power up cycles...

#### - direct exit: (cancel or exit without saving)

This EXIT method is possible at any time in EXTENDEND menu mode. To do this, press and hold button [B2] for 3 seconds. Exit process will be indicated with LEDs.

**IMPORTANT!!!** After this exit method, headset **NOT SAVE** values of ALL PARAMETERS! All edited parameters remain active until power is turned off. In next power up cycle, active will be previous parameter values.

### Change Parameters in EXTENDEND MENU

In EXTENDEND menu mode, every parameter value is changed with short pressing of button [B1] or [B2].

You have consistent access to the following parameters:

#### - breath OFFSET

In breath headset have air pressure sensor, who produce analog level, depended from applied breath pressure. Every pressure sensor is uncial, and produced analog level vary slightly from sensor to sensor. To correct this differences, headset have Breath Offset parameter. Breath offset calibrating this point, where headset CPU mean of “center” point, or point which you don’t apply any breath pressure. Headset electronics indicate this point with 3 LEDs: LED2, LED 3 and LED4. LED1 don’t work in this parameter, and is always OFF.

How to make proper settings of Breath OFFSET:

1. Don’t apply breath.
2. See LEDs. If LED3 is ON, no need to make any changes in BREATH OFFSET.
3. If LED4 is ON, then need to increase breath OFFSET. To do this, click button [B1], until LED3 is ON. Then click button [B1] 2 times more.
4. If LED2 is ON, then need to decrease breath OFFSET. To do this, click button [B1], until LED3 is ON. Then click button [B1] 2 times more.

### - breath GAIN

Breath gain is parameter which control how applied breath pressure reflect to values of generated MIDI Messages. Result of high GAIN, is easy reach to maximum MIDI Controllers value with small breath pressure. Result of low GAIN is need of more breath pressure to reach maximum values of generated MIDI messages. Value of GAIN is changed with clocking of button [B1] or [B2]. Button [B1] increase GAIN. Button [B2] decrease GAIN. While you adjust this parameter, LEDs L2, L3 and L4 work like regular 3 point level indicator. If L1 blink, then headset "mean" no applied pressure level. When L2 and L3 is on, and L4 blink fast, then headset "mean", maximum level of MIDI messages is reach. Set GAIN value to level, comfortable for you.

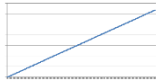
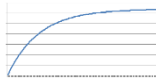
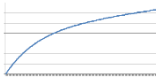
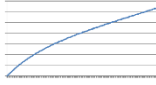
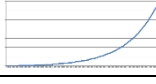
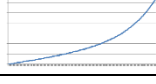
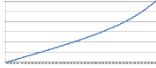
### - midi messages generation mode

With this parameter, you select MIDI messages, generated from headset. Selected MIDI message is indicated with different combination of LEDs 1 2 and 3. Possible to generate one or two MIDI message together. Available combinations are:

Generated MIDI Messages			
LED combination			Generated MIDI Messages
L2	L3	L4	
X			<b>MIDI Control Change 11 (Expression)</b>
	X		MIDI Control Change 2 (Breath)
X	X		MIDI Control Change 7 (Volume)
		X	MIDI Control Change 74 (Brightness)
X		X	MIDI After Touch
	X	X	MIDI Control Change 11 + 74 (Expression + Brightness)
X	X	X	MIDI Control Change 7 + 74 (Volume + Brightness)

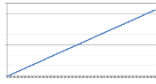
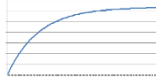
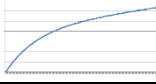
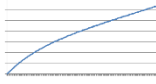
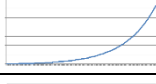
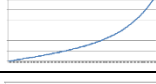
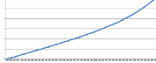
**- curve for first MIDI message**

This parameter select curve for first generating MIDI message. Curves themselves represent pre-adjusted relationships that shape the output MIDI value relative to the input value. The use of different curves for different parameters gives many great features. You can try it.

Selected MIDI Generation Curve for first MIDI message			
LED combination			Curve image
L2	L3	L4	
X			
	X		
X	X		
		X	
X		X	
	X	X	
X	X	X	

**- curve for second MIDI message**

This parameter select curve for second generating MIDI message. No problem first and second MIDI messages to be generated every with independent curve. This parameter is active, only when MIDI generation is selected to generate 2 different types of MIDI messages. When generate only one, then this parameter not matter.

Selected MIDI Generation Curve for second MIDI message			
LED combination			Curve image
L2	L3	L4	
X			
	X		
X	X		
		X	
X		X	
	X	X	
X	X	X	

### - base MIDI channel

This parameter set BASE MIDI channel of generated MIDI messages. This headset possible to generate MIDI messages on 3 MIDI channels together. Only one limitations is to these 3 MIDI channels need to be one after one. Example: If first selected MIDI message is channel 03, next channels will be channel 04 and channel 05. This parameter select FIRST (BASE) midi channel. Possible to select form channel 01 to channel 14. Selected channel is indicated with LEDs combinations:

Selected BASE MIDI Channel			
LED combination			Curve image
L2	L3	L4	
X			<b>MIDI Channel 01</b>
	X		MIDI Channel 02
X	X		MIDI Channel 03
		X	MIDI Channel 04
X		X	MIDI Channel 05
	X	X	MIDI Channel 06
X	X	X	MIDI Channel 07
BLINK			MIDI Channel 08
	BLINK		MIDI Channel 09
BLINK	BLINK		MIDI Channel 10
		BLINK	MIDI Channel 11
BLINK		BLINK	MIDI Channel 12
	BLINK	BLINK	MIDI Channel 13
BLINK	BLINK	BLINK	MIDI Channel 14

### - additional MIDI channel

This parameter select how much additional MIDI channels is used for generation of MIDI messages. Possible to select between: no additional MIDI channel, One or Two additional MIDI channels. Selection is indicated by LEDs combination.

Additional MIDI channels			
LED combination			Curve image
L2	L3	L4	
X			<b>No additional MIDI channels</b>
X	X		One additional MIDI channel
X	X	X	Two additional MIDI channels

### - speed response

This parameter select how fast is reaction of headset of changed breath pressure level. This parameter really controls size of used Moving Average Low-Pass filter. Choices are from sizes: x2, x4, x8, x16, x32, x64 measurements. For default is accepted x8 measurements. Selected value is indicated by LEDs combinations:

Speed response			
LED combination			Curve image
L2	L3	L4	
X			x2 measurements
	X		X4 measurements
X	X		<b>X8 measurements</b>
		X	X16 measurements
X		X	X32 measurements
	X	X	X64 measurements

### - bypass activate level / (bypass DISABLE)

This parameter select how headset will response to negative breath pressure, to activate or deactivate bypass mode with negative pressure. Really parameter set threshold level. If you apply negative pressure, and raw breath is under this threshold, bypass will be activated. If threshold level is set to 0 (minimum value), then activation of bypass with negative pressure is DISABLED.

Indication:

- if threshold level is set to 0, blink only LED 3. Another leds are off. Breath bypass function is **DISABLED!!!**
- if current raw level is over threshold level, only LED4 is ON.
- if current raw level is under threshold level, only LED2 is ON.

Note:

- Threshold from this parameter is compared with RAW breath level. Breath Offset and Breath Gain parameters not have influence over function.
- In **default** settings, this threshold is set to value **3** !!!.
- If you need to disable bypass activation with negative pressure, need to press button B2 many times, until L3 start blink.
- if need to reactivate bypass with negative pressure again, then press button B1 until breath headset start to reaction of negative pressure again.

Speed response			
LED combination			Indication
L2	L3	L4	
	BLINK		Threshold is 0, Bypass is <b>DISABLED</b>
		X	Current raw breath level is over parameter threshold level
X			Current raw breath level is under parameter threshold level