

Description and Features

- **TrigMic™ LaserPick** – professional music equipment. This is complete solution with two laser-triggers and multilayer sound module
- Device fixes onto the hoop of kick drum
- Standard XLR-type connector allows to route the audio signal to the mixer console directly
- Contains a set of factory-preloaded sounds
- User can upload own sounds
- Adjustable parameters of dynamics
- Remote control via Bluetooth

 **How does it work:** Each one Laser Beam is watching the pedal's beater with the distance 6..15". The stroke will be detected as soon as the beater enters to the laser beam. Electronic circuit estimates the stroke's force and the sound module generates the sound signal without delay.

TrigMic *LaserPick*

reading head

laser beam
watching the beater

surface is marked
with token sticker



Controls and Displays



Installation and Connection

- The device should be fixed onto the kickdrum's hoop by musician side, above the center of drum head. Plug the microphone cable to XLR-connector on the rear side.

 *Before connecting be sure that the device and mixer are **MUTED** and the **48V-phantom** is **NOT APPLIED**. Minimize the channel's **gain**, switch off the **EQ** and **dynamic processes**.*

Switching on

- Please ensure that the device is MUTED. Move the PWR switch to the ON position. You will see the short flash of LED5 when the power feed. If the charge is normal then the LED5 will flash every 5 second.

- User can check the battery voltage by pressing the BAT/UP button. All the five lighting points means the battery is full. Two lower points means the battery is partially discharged. The lower LED1 means the device is going to shutdown.

About Batteries

- Please watch the charge. Replace the battery beforehand. Prevent the shutdown during a concert. If the charge is OK then the device flashes LED5 every five second. Partial discharge will be shown by flashing LED5 with tempo 120 bpm. It means the battery should be replaced. Mute the device, switch the PWR off, pull the tape to eject the battery. Insert new one battery observing the polarity, Plus outside of yourself.

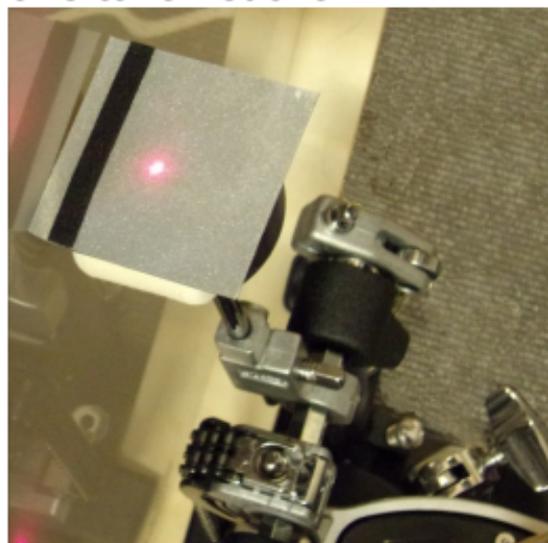
 *Use any kind of the AA-sized batteries with the voltage 1.2 ... 4.2V. Default type is Alkaline 1.5V. When You use another type of battery, please don't forget to change the dedicated parameter in Thin Settings. Inconsistency will case the wrong voltage display.*

*We recommend the **GP Lithium** and **ENERGIZER Ultimate***

 ***Get Default:** Turn on the device holding the BAT/UP button to set the default battery type Alkaline 1.5V*

Token stickers on the beaters

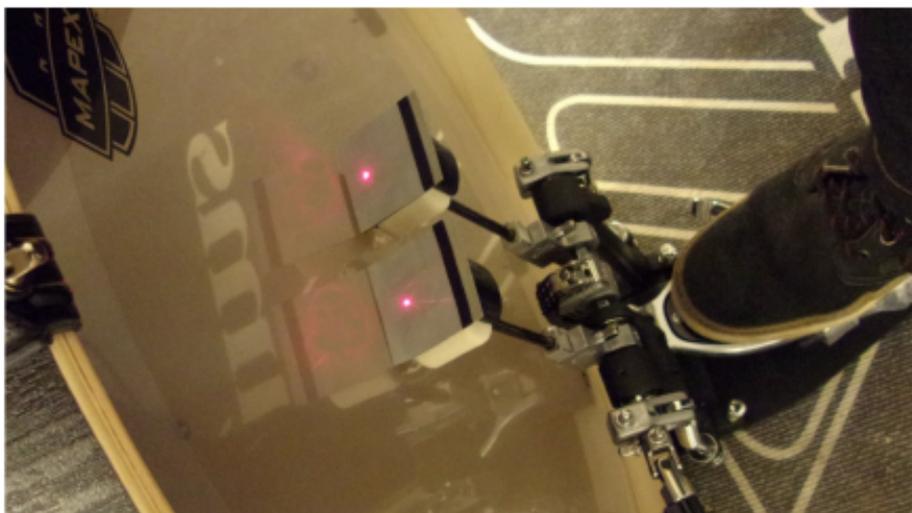
- There is a kit of self-adhesive token stickers (two silver color squares with black bar). Each one token sticker should be placed onto the top side of the beater as shown on picture. For single kick drum pedal use only one token sticker.



 *There are two work modes — With dynamic and Without that. To play with dynamic (different force of strokes) direct the sticker's bar-side to the drum head. To play without the dynamic (all the strokes maximal force) direct sticker's bar-side to yourself.*
Default mode is Dynamic. How to change the mode - find out more info in a chapter "Laser Mode"

Aiming the Lasers

• At the bottom side of the device there are two laser reading heads. Laser beams go down when the device is on. Each one reading head has a ball hinge of two degrees of freedom. This allows You to deviate the beam and send it to the desired point. Each one beam should be aimed to the token sticker **when the pedal is pressed and the beater is leaning against the drum head.**



 Usual distance between drum head surface and aiming point of laser is about 1/2" ... 3/4".

Laser Modes

There are three modes of lasers: with dynamic, without dynamic, and left reading head off, for single pedal play (to economy the battery). User can change the laser mode using the Android application,

Settings menu – **Sensor Type and Mode**

- **"LaserPick Right Beam"** for single pedal with dynamic
- **"LaserPick Dual Beam"** (default) for double pedal play with dynamic
- **"Dual Beam Machine Gun"** for double pedal play without dynamic (tokens should be rotated by black bar to yourself)



The second way to change laser mode using the buttons: Press and hold

MODE and FILE buttons over 10 sec.

Current laser mode will be displayed on the LEDs. Keep buttons hold and change the mode by pressing BAT/UP button

- LED5 - double pedal without dynamic
- LED4 - double pedal with dynamic
- LED3 - right beam only (single pedal with dynamic)

Sensitivity set up MODE

- When the dynamic laser mode is chosen, trigger can estimate the force of stroke by measuring the rate of beater entering to the laser beam. Weak strokes with too slow motion of beater will be ignored. More powerful strokes will be detected, estimated by force and going playback by sound module with corresponding loudness. The MODE parameter is setting up the sensitivity. The higher value the more sensitive to weak strokes.

- Press and hold the MODE button. Current value will be displayed. The scale has 9 levels. All the five lighting LEDs mean mid level 5. Keep holding the MODE and change the level by pressing the BAT/UP button. Each press increases the sensitivity by 1, up to level 9. The next press gives level 1.

Adjust the sensitivity of the ear, according to the features of your strokes.



Value has no affect when the non-dynamic laser mode is chosen.

Response set up RESP

- The RESP parameter is setting up the dynamic response. In the TrigMic™ LaserPick there is a set of dynamic curves: hyperbolic, parabolic, linear, exponential and fixed. User can choose one of nine curves. It allows to achieve more natural transfer of the dynamic.

Adjust the response of the ear, according to the features of your strokes.

- Press and hold the RESP button. Current value will be displayed. The scale has 9 levels. All the five lighting LEDs mean mid level 5 (linear function). Keep holding the RESP and change the level by pressing the BAT/UP button. Every push increases the response by 1, up to level 9 (fixed). The next push gives level 1 (hyperbolic).



Value has no affect when the non-dynamic laser mode is chosen.

During the play

- MUTE switch should be in OPEN position to pass the audio signal to the connected cable. User can change sounds and banks, adjust the parameters and operate the MUTE during the play.

Files and Banks

- In the device there are 2 banks of 5 slots per each. One slot can be loaded with one sound file. User can erase factory preloaded sounds via Bluetooth.

- To choose the file press and hold FILE button. Non-empty slots will be shown flashing. Current slot – continuous light. Keep FILE button hold and change the current slot by pressing BAT/UP button.

- To choose the bank press and hold FILE+RESP. Current bank will be displayed: LED1 means Bank1, LED2 means Bank2. Change the bank by pressing BAT/UP. Each one bank contains own set of sound files.

After the play

- Close the MUTE. Turn off the PWR.

Android - application

• Device is ready to remote control and service via Bluetooth using the application "**TrigMic Hard Tool V2x**" for Android. Download it free on Google Play Market.



Activate the Bluetooth

• Bluetooth - antenna should be activated before remote control session. Press and hold MODE+RESP buttons simultaneously over 5 sec, till the LED-BT flashes. Now the Bluetooth is on and the device is open to bluetooth connection for 120 sec.

 *Attention! Device consumes more energy while the Bluetooth is active. To successful work the battery should be charged more than 50%. Check the battery charge before the Bluetooth - connection!*

Create a bluetooth - pair (first connection)

- Perform the follow steps: Activate the Bluetooth in the TrigMic device. On the Android device open Settings-Bluetooth. Start new device search. Look for the device "TrigMic" appears. Make a pair with it using the password 1234. When the pair is successfully created switch the TrigMic off!

Regular connection

- Turn on the device. Activate the Bluetooth. Start the application "TrigMic Hard Tool". Press Search button. For preliminary-paired device the connection will be established automatically, over few seconds. The Live Mode will be shown when the connection is established.

Live Mode

- In this mode you can see the serial number of the connected device, the battery charge, the name of the sound file and four basic parameters. Current settings can be changed by buttons.

- Android Menu will show two items: Exchange and Settings.

“Exchange” allows to replace the sound in current slot.

“Settings” opens Thin Settings Menu.

Upload the sound files

- **Attention:** *the current slot will be cleared at the begin of upload. Please, ensure that the FILE and BANK are chosen correctly!*

- Go to the “Exchange” menu item. Select desired file. Press “Upload” to begin the procedure. It may take some time. Watch the progress bar and wait for the end of procedure. The message “successfully uploaded” will be displayed. In case of lost connect the error message will be shown. In this case the slot still empty. Please repeat the procedure.

Firmware update

- Go to the “Settings” menu item. Press “Firmware” and start the upload. Watch the progress bar and wait for the end of procedure. The message “successfully uploaded” will be displayed. Now the image of new firmware is uploaded. Installation will be processed at the next power on - LED4 will flash about half minute.

Attention: *If the firmware upload procedure has been interrupted or failed then the original factory firmware will be automatically installed through the safe recovery machine. LED5 will flash while recovery the firmware. In this case we recommend to repeat the firmware update.*

Refresh the Library

- Device works with special file format 'tms'. These sound files are located in the device memory of Android-device, in the folder /TrigMic/cache/ User can add own files here. The tms-files could be created by special Windows - application "TrigMicGen2FileGen" available on trigmic.com/downloads



Tip: *Make the pre-production before generate the tms-file: Open the source wav-files with waveform editor such as Sound Forge. Delete starting pause. Normalize the gain to 100%. Cut excessive information at the end of waveform (make a waveform as short as possible). Make a Fadeout. Save wav-files as 44100-16-mono*

Safe and Security

- The enclosure is made of glass-filled nylon PA6 which does not pose a health risk and is safe for the environment.
- The device contains small parts and may be dangerous for children. Keep it out of reach of children. **TrigMic™ LaserPick** is not a toy! Never allow children play with device!
- Don't direct laser beams to eyes
- Don't leave a battery inside of device for a long time
- Don't apply excessive force to the screw to prevent mechanical damage
- Don't drop the device to prevent mechanical damage
- Hide the device out from straight sunlight
- Don't use the device with extremely low or high temperature
- Avoid dust and aggressive mist: the lens in the reading heads can become cloudy

Warranty and Certification

- Not recommended for use on objects malfunction of which can cause death, harm to health or cause financial loss. Device **TrigMic™ LaserPick** is not a subject to mandatory certification.
- The product is made in Russian Federation with the approval and by technology of **TrigMic™(USA)** with materials and modules approved by developer.
- Manufacturer “Elijah Mudrenov”, Russia, Moscow, +7(916)8484105 is taking obligations stated in the warranty card. Service contact: trigmic@gmail.com
- Factory warranty is 1 year since the manufacturing date. Warranty does not cover cases of mechanical damage. Warranty doesn't cover consumables such as batteries and token stickers.

Date of manufacture _____

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