

# Locus Engineering Inc.



## E2300 Tongue Click Switch User Guide

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## ***Specifications***

Operating Temperature	0C to +70C
Storage Temperature	-40C to +85C
Power	(3) x AAA NiMH replaceable
Battery Life	approx. 1 week continuous
Charger Type	current limited C/10 charger from USB port
Charge Time	approx. 12 hrs
Charge Interval	approx. every week (overnight)
Microphone Type	electret condenser
Microphone Sensitivity	-40 dB
Output Switch Rating	floating 3A @60V bidirectional
Output Switch Type	normally open
Output Switch Time	closed approx. 100msec
Size (L x W x H)	4.5" x 2.5" x 1.25" or 115mm x 64mm x 32mm
Weight incl. batteries	4.8 ounces or 136 g not including cables or mics

## ***Rules for Safe Operation***

Please read and understand this guide before using the unit. It contains important safety information as well as operating and maintenance advice.

- Turn the unit off before opening the unit for battery replacement. Replace batteries with three AAA NiMH rechargeable batteries only. Any other types will be a safety hazard.
- Observe the battery orientation when replacing as the circuitry will be damaged. Use a small flat screwdriver to help lift one end of each battery during replacement.
- Charge the unit at room temperature and in a well ventilated space.
- Do not operate the unit with the enclosure open as foreign objects can damage the circuit board.
- Do not place foreign objects inside the enclosure.
- Do not operate the unit if wet. Turn off the unit and open the enclosure as soon as possible to remove the batteries and let the unit dry. Ensure the battery holder contacts are clean before re-inserting batteries.
- Dispose of depleted batteries at your local battery recycler.
- Place the unit in a waterproof bag if used outdoors.
- Mount the unit on foam if it will be subjected to shock impacts.

## ***Description***

The E2300 Tongue Click Switch is an assistive device allowing mobility and speech challenged individuals to communicate with a computer or other device using tongue clicks or other high frequency sounds. Up to two microphones can be used to allow for optimum sound pickup. The sound is processed with an audio filter which triggers an optically isolated switch for about 100msec on high frequency sounds such as produced by a tongue click. The unit is battery operated to allow for mobile ease of use.

## ***Carton Contents***

- E2300 Tongue Click Switch Unit
- (3) AAA NiMH (1000 mAH) rechargeable batteries (already installed)
- Output Cable: 3.5mm stereo male to 3.5mm stereo male cable, 6'
- Charger Cable: USB A male to USB B male cable, 3'
- (2) condenser type microphones
- User Guide

## ***Operation***

The unit is shipped with three AAA rechargeable NiMH batteries already installed. The unit can be opened with a #1 Phillips screwdriver to change the batteries. Connect the USB cable between a laptop and the unit to charge for at least 12 hours. Disconnect and store the USB cable for recharging later on.

Connect the microphones to the two input jacks and attach the microphones for optimum sound pickup. The microphones can be zip tied or clipped into place. Locus Engineering Inc. can also supply custom microphone mounts. Connect the output cable to the hosting application which will use the pulsed switch closure information. Test the switch operation by making tongue click sounds and checking the LED indicator and a response from the hosting application. Adjust the sensitivity control for the best switch operation.

It will be noted that other high frequency noises may trigger the output, so the microphone placement should be such that other sources of sound don't interfere. Certain sounds such as s's and t's will also trigger the output.

## ***Maintenance***

The enclosure can be cleaned with a damp cloth, and mild soap.

Replace batteries if there are signs of corrosion.

Batteries are to be replaced with AAA NiMH types only.

Place lid such that foam is on battery side when re-assembling; this keeps the batteries from unseating.

Coil cables by twisting them one turn for each coil. Properly coiled cables will lie flat and will last longer.

## ***Troubleshooting***

### Unit doesn't work

- test operation with sensitivity set to maximum
- replace batteries if the unit only works while the USB charging cable is attached
- try a substitute microphone if there is no response
- check batteries have not become unseated if unit was subjected to shock impact

### Microphones

- check microphone cable for kinks, cuts, and soft areas
- substitute a suspect microphone in a working microphone jack and test

### Batteries

- check USB charger cable for kinks, cuts, and soft areas
- charge batteries for 24 hours before deciding batteries have expired
- replace all three batteries with new AAA NiMH types only
- orient lid when re-assembling so foam holds batteries in place

### Output cable

- check output cable for kinks, cuts, and soft areas
- try a substitute 3.5mm (1/8") stereo cable if there is no response when the indicator LED flashes

## **Warranty**

Locus Engineering Inc. warrants this product to be free of defects in workmanship and materials for a one year period. This unit will be repaired or replaced within the warranty period if returned with a proof of purchase and subject to the following conditions:

- unit must be returned with a Return Material Authorization (RMA) number and bill of sale
- the warranty will not apply to normal wear or consumable items such as batteries
- the warranty will not apply to reverse battery installation
- the warranty will not apply if unauthorized repairs or modifications are made
- the warranty will not apply to damage due to environmental factors such as high moisture or water ingress

## **Support**

Product support is available at [eng@locus-engineering.com](mailto:eng@locus-engineering.com).

All returns must be approved with a Return Material Authorization (RMA) number. Contact Locus Engineering to request an RMA form.

Locus Engineering can customize this product for your application. Contact [eng@locus-engineering.com](mailto:eng@locus-engineering.com) with your details.

Check [www.locus-engineering.com](http://www.locus-engineering.com) for product updates.