# How to set up Grid3 trigger with Ear Switch 16/6/19: version 4

Hardware:

#### Teslong Mini Otoscope, USB Ear Otoscope Inspection Camera with 6 LED Light

Amazon: £25.99

https://www.amazon.co.uk/Teslong-Otoscope-Inspection-Samsung-Android/ dp/B074MQTDB8



(OR: Teslong Wireless Otoscope, WiFi Ear Scope Ear Canal Eardrum Inspection Camera with Carrying Case for iOS and Android Smartphone, iPhone, iPad, Samsung, Tablet

Amazon: £45.99

<u>https://www.amazon.co.uk/Teslong-Otoscope-Inspection-Samsung-Android/</u> <u>dp/B07D757WJM?th=1</u>

NOTE: not this sends images to iPhone, though not yet been able to send to PC to control Grid3 but wifi camera would be ideal for prototype to prevent movement artefact affecting ear switch)



Replacement Spare Earhook Ear Hook Loop Earloop Clip For Bluetooth Headset

eBay: £2.99

https://www.ebay.co.uk/itm/191624222415



7mm Bluetooth Earphones Transparent Silicone Soft Ear Hook Loop Clip Headset

eBay: £0.99 https://www.ebay.co.uk/itm/323432349516

Prototype/ Experimental Setup of Hardware:

Teslong USB otoscope with ear speculum (supplied with otoscope: various sizes)



Ear hook fitted onto the otoscope, abutting/adjacent to the ear speculum & bent to give secure fit on ear of subject

Either: with insulation tape around barrel of otoscope to ensure suitable diameter/fit



Or: 7mm Bluetooth Earphones Transparent Silicone Soft Ear Hook Loop Clip

Headset

OR:



For each patient select suitable size Ear speculum (as shown above) for the otoscope to stay comfortably and securely in ear canal.

To reduce movement pass cable around back of neck and over opposite shoulder

(Production model should not need this as Bluetooth version envisaged)

Download: Grid3 (2 month free trial) Autohotkeys (free) iSpy (free)

## Install Grid3 Set up User



## Open User

## Open Menu Left Hand drop down:



#### Settings:

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Access:



#### Switches:



## Connection:



Change key for Switch 1:

Press "Change Key" with Switch 1 highlighted

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PRESS the "]" square close bracket key (VERY IMPORTANT TO USE THIS KEY)

ENSURE Switch1 shows as "Oem6" --- otherwise the Trigger from Ear Switch wont work with current script below.

Press "OK"

Go back to Grid3 main screen

Check that the "]" key triggers Grid3 to highlight keyboard

#### Install Autohotkeys

After installed:

Create New Folder in My Documents: "Ear Switch"

In folder Right click & select: "New Autohotkey script"

Paste in the following:

#NoEnv ; Recommended for performance and compatibility with future AutoHotkey releases.

; #Warn ; Enable warnings to assist with detecting common errors.

SendMode Input ; Recommended for new scripts due to its superior speed and reliability.

SetWorkingDir %A\_ScriptDir% ; Ensures a consistent starting directory.

## WinActivate, ahk\_class Progman

Send, ]

Save as: "Ear Switch Trigger for Grid3"

## Install iSpy

<u>Change settings by:</u> Plug in USB Otoscope Click Add: Select Local Camera Drop down box & select: Teslong Otoscope



Change the settings as shown below:

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Change settings as shown below and "Click and Draw" a square similar to below:

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Make changes on "Alert Screen" as shown below

Including "Add Alert"

Select "Execute File", and select Autohotkey file as previously saved:

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Other screens are likely to be the default settings - but worth confirming with below screens:

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## Click Finish

Hover over the "Camera Window" on iSpy Ensure Camera is on; Highlight the "Lightening" icon Select the Edit "Cog" icon



#### Select "Motion Detection" tab

Ensure that the detection square is positioned over the central image  $\&\ redraw$  if necessary



## Using the Ear Switch with Grid3:

Open iSpy

Insert USB from otoscope into PC

Put otoscope into ear using ear hook to retain

Select auroscope speculum of the correct size to retain in the ear using ear-hook (bent to fit)  $% \left( f_{\mathrm{e}}^{\mathrm{T}}\right) =0$ 

Ensure good view of drum

Position lead around neck down opposite side of chest to support the lead

Open Grid3

Nick G 16/6/19