

How to set up Grid3 trigger with Ear Switch

16/6/19: version 4

Hardware:

Teslong Mini Oscope, USB Ear Oscope Inspection Camera with 6 LED Light

Amazon: £25.99

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



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

Amazon: £45.99

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

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>



OR:

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)

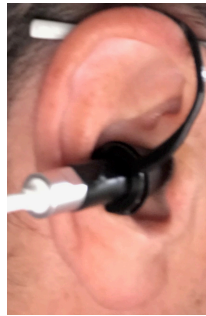


Ear hook fitted onto the otoscope, abutting/adjacent to the ear speculum & bent to give secure fit on ear of subject

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



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



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:

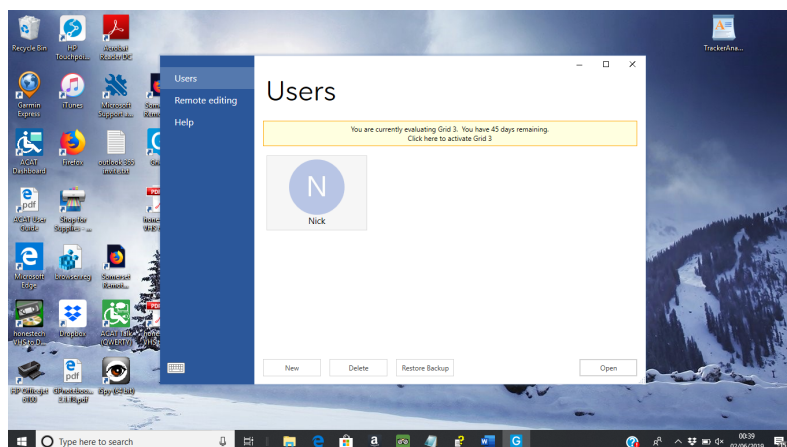
Grid3 (2 month free trial)

Autohotkeys (free)

iSpy (free)

Install Grid3

Set up User

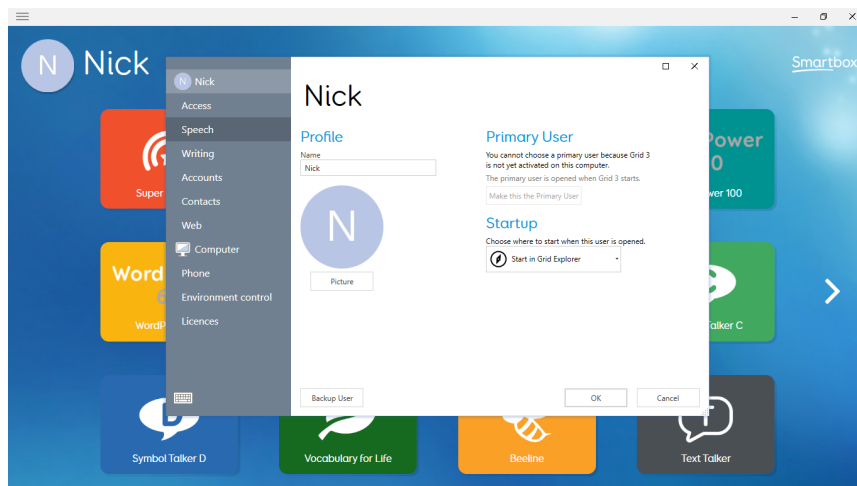


Open User

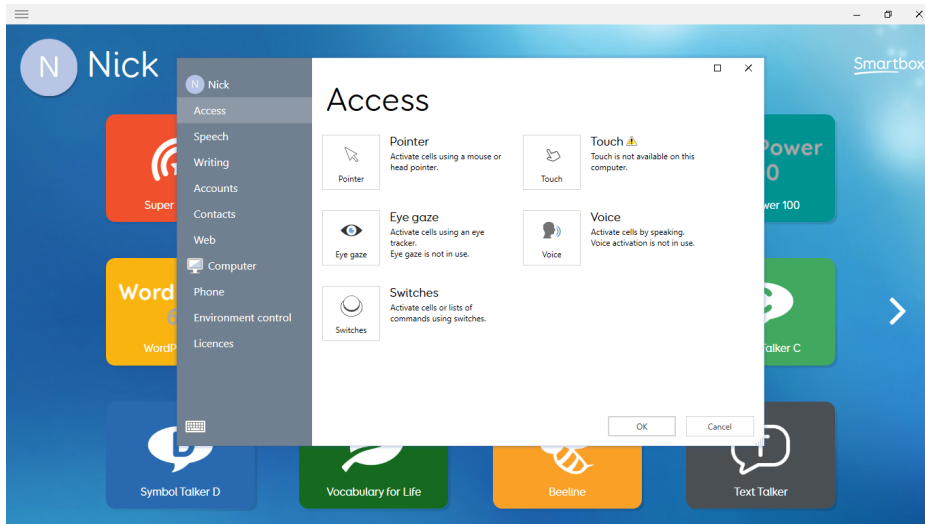
Open Menu Left Hand drop down:



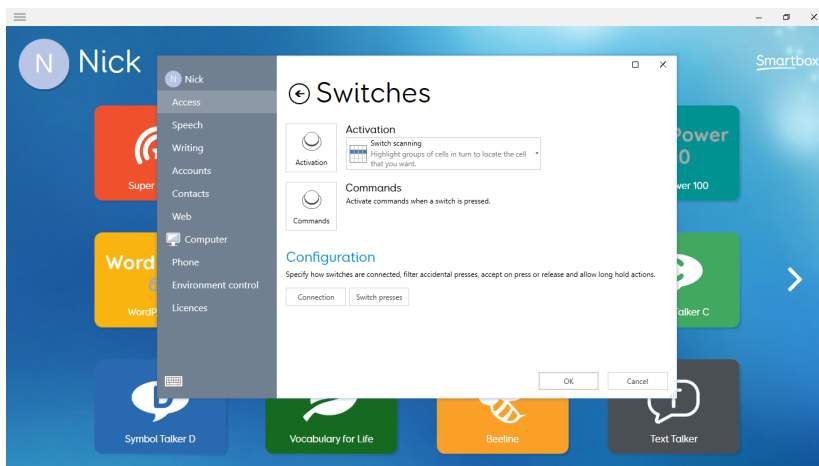
Settings:



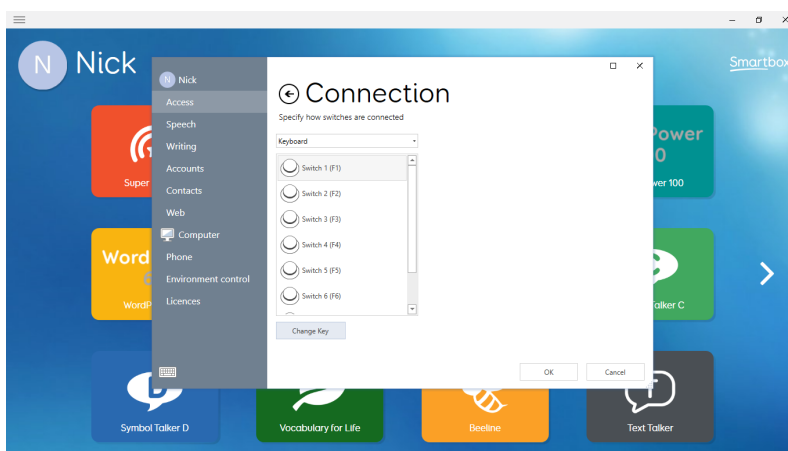
Access:



Switches:



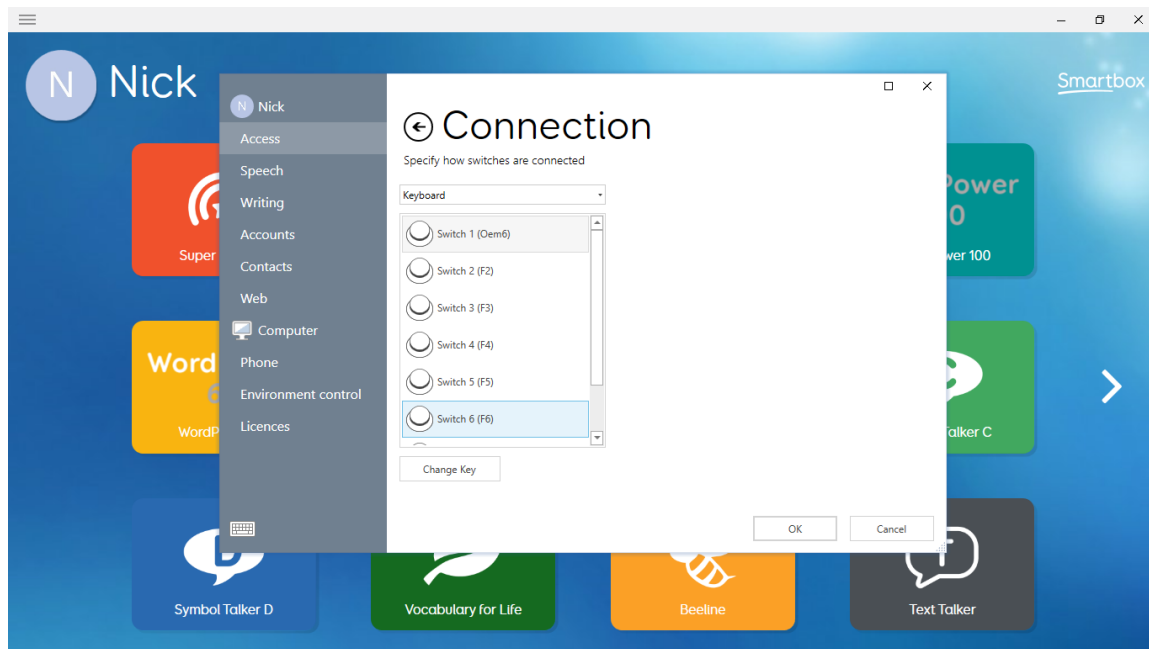
Connection:



Change key for Switch 1:

Press "Change Key" with Switch 1 highlighted

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

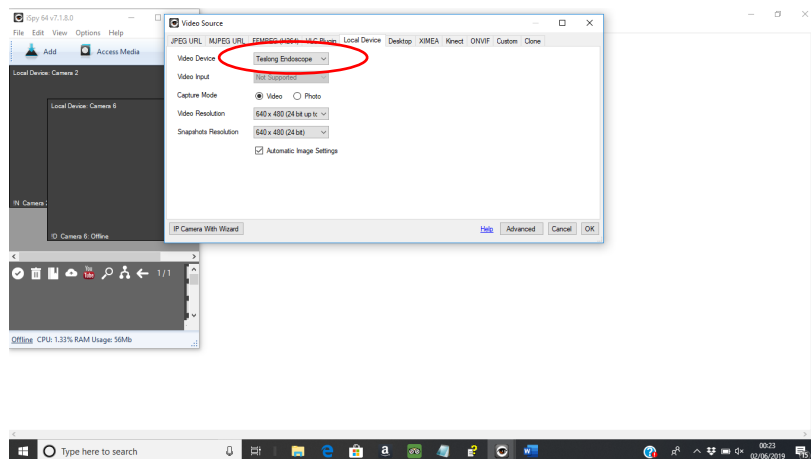
Change settings by:

Plug in USB Oscope

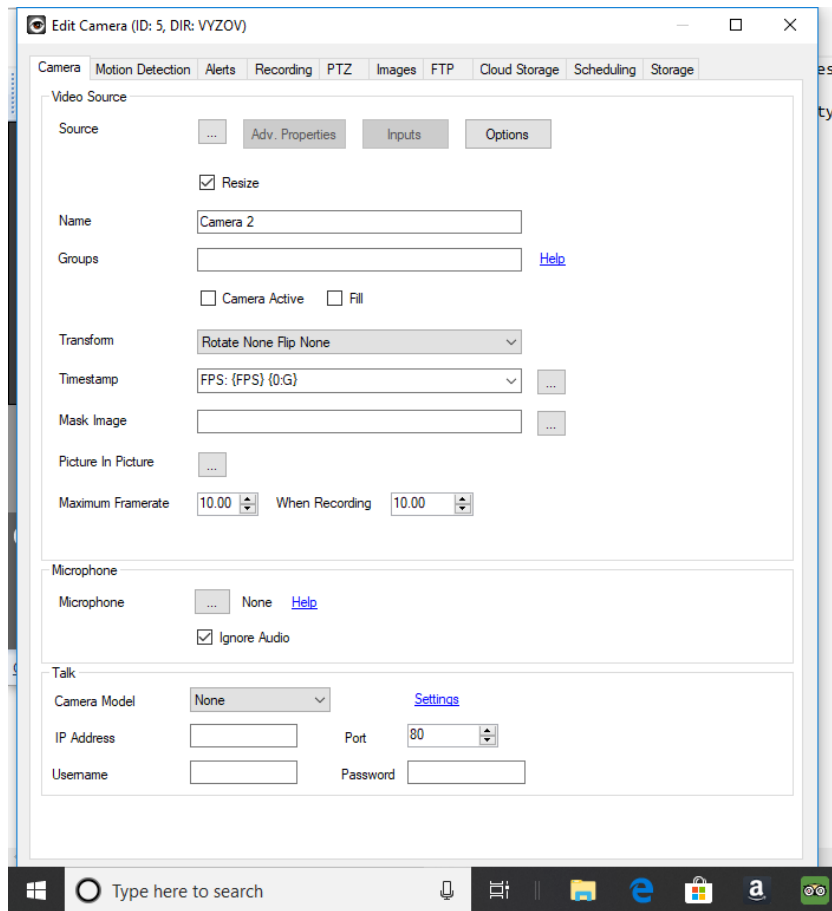
Click Add:

Select Local Camera

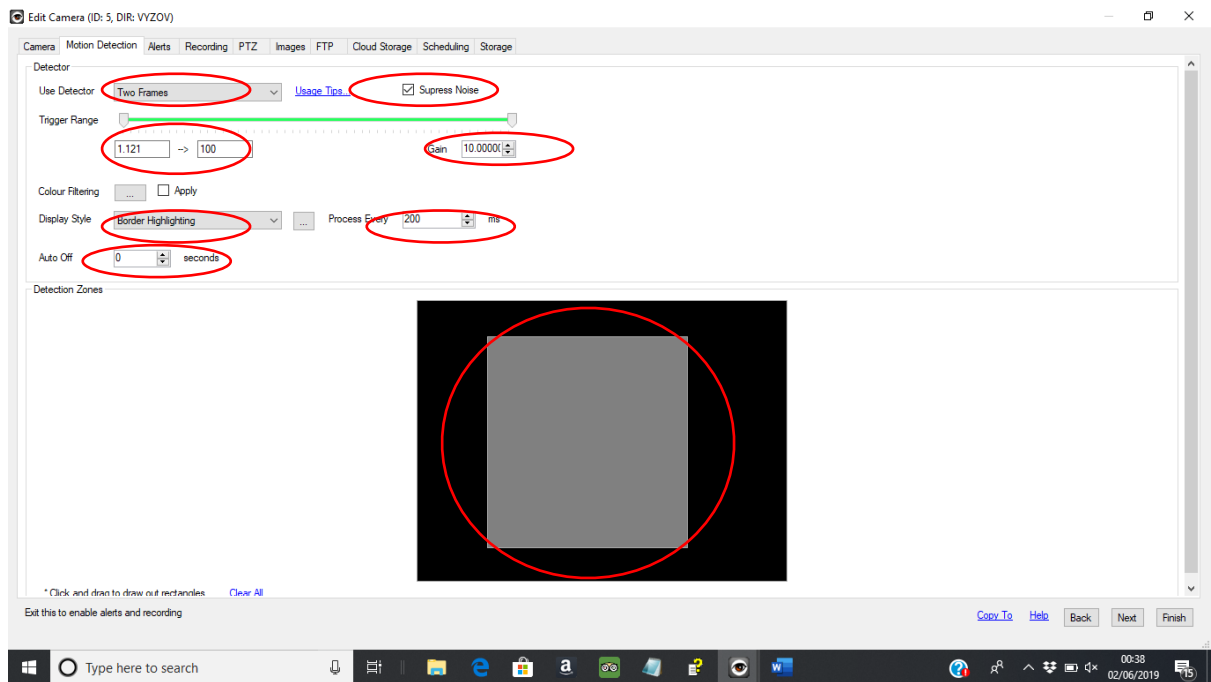
Drop down box & select: Teslong Oscope



Change the settings as shown below:



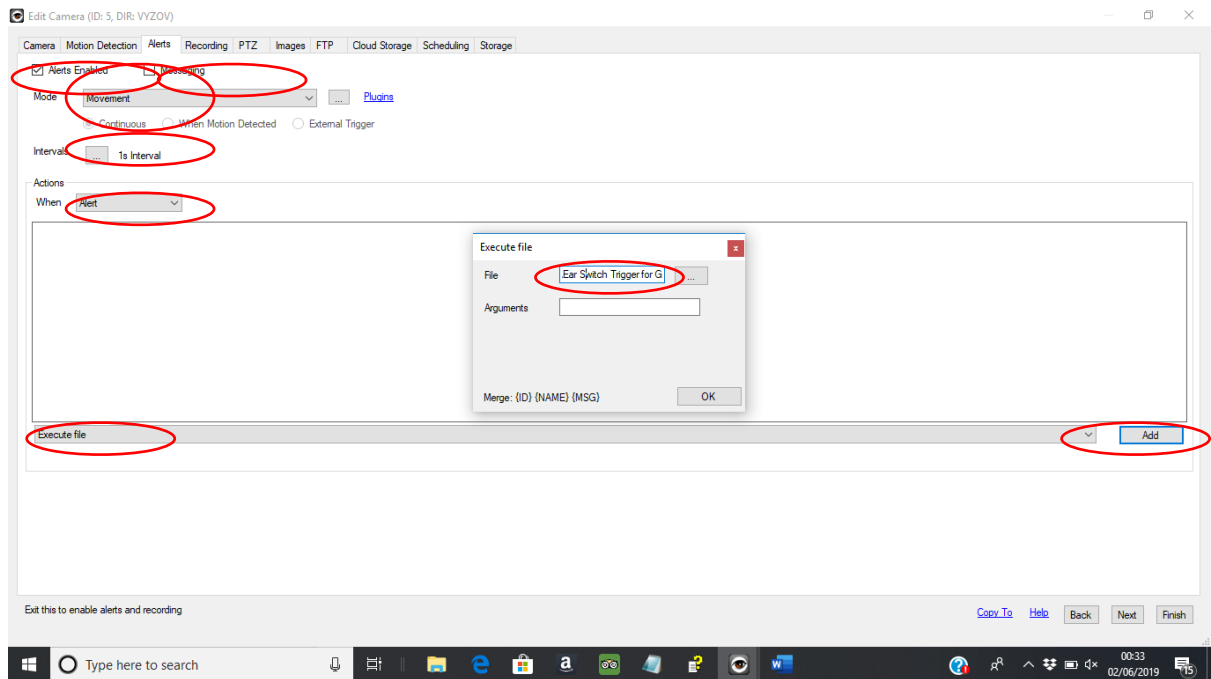
Change settings as shown below and “Click and Draw” a square similar to below:

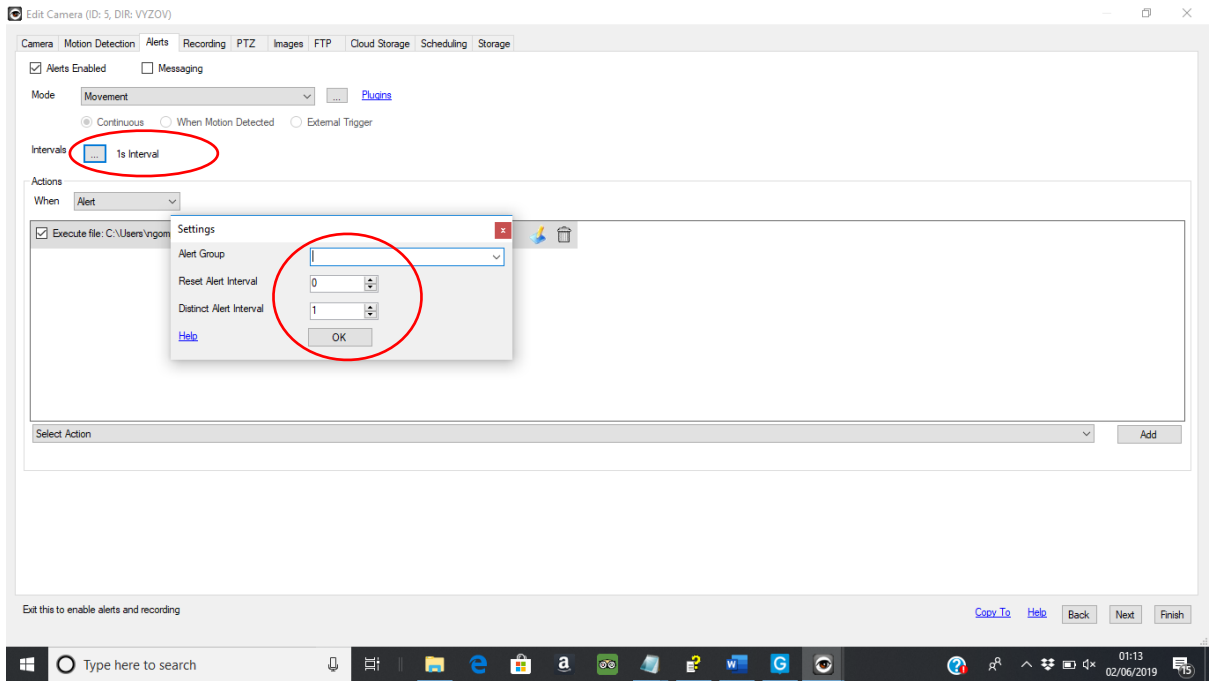


Make changes on “Alert Screen” as shown below

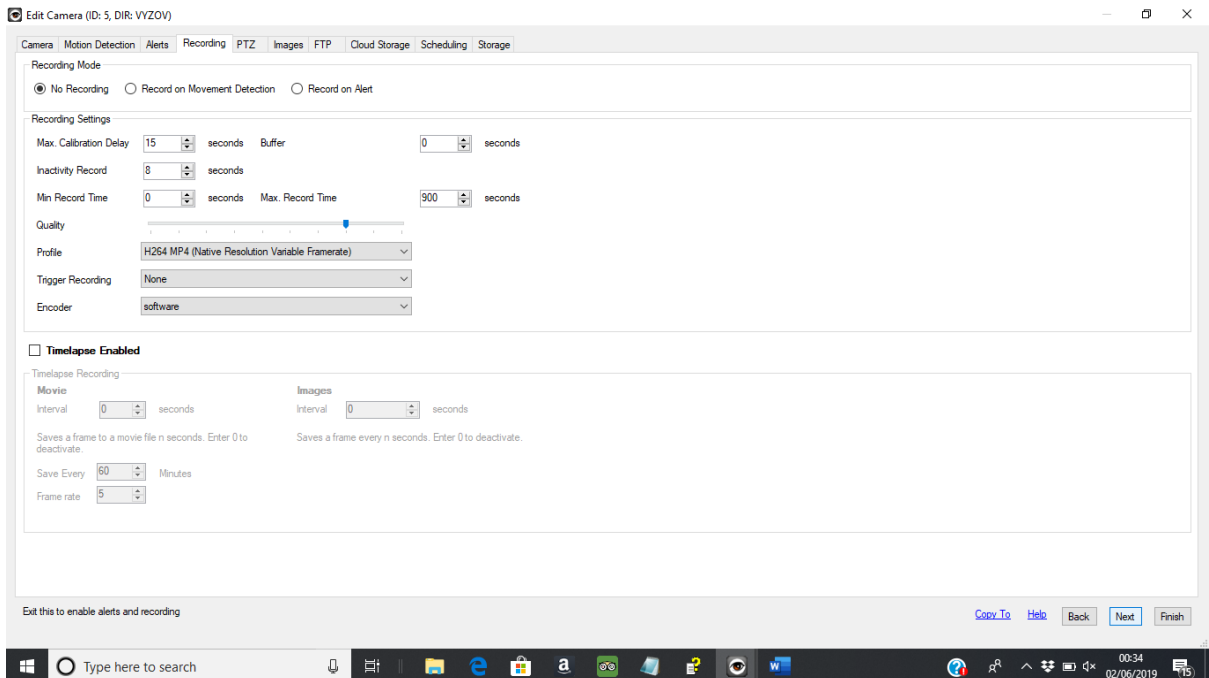
Including “Add Alert”

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





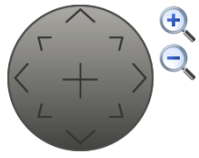
Other screens are likely to be the default settings - but worth confirming with below screens:



Edit Camera (ID: 5, DIR: VYZOV)

Camera Motion Detection Alerts Recording PTZ Images FTP Cloud Storage Scheduling Storage

Camera Model: DIGITAL [Get Latest List](#) [Edit](#) [Reload](#)



Note: You can control PTZ on the live camera view by holding down the middle mouse button.

[Track Objects](#) [Scheduler](#)

Exit this to enable alerts and recording [Copy To](#) [Help](#) [Back](#) [Next](#) [Finish](#)

Type here to search

00:35 02/06/2019

Edit Camera (ID: 5, DIR: VYZOV)

Camera Motion Detection Alerts Recording PTZ Images FTP Cloud Storage Scheduling Storage

Local Saving Enabled [Open Local Folder](#)

Filename: {0yyyy-MM-dd_HH-mm-ss_fff}.jpg Tip: use a date string format to generate unique files, eg: "cam_{0}hh-mm-ss". You can also use {c} to adding an automatically increasing counter.

Save

When: Motion Detection Alerts

Interval: 10,000 seconds

Minimum Delay: 0.0 seconds

Quality:

Overlay Text: Counter Max:

Exit this to enable alerts and recording [Copy To](#) [Help](#) [Back](#) [Next](#) [Finish](#)

Type here to search

00:35 02/06/2019

Edit Camera (ID: 5, DIR: VVZOV)

Camera Motion Detection Alerts Recording PTZ Images FTP Cloud Storage Scheduling Storage

Server
Server Servers

Upload Images
 Enabled

When
 Motion Detection Alerts
 Interval seconds

Filename
 eg /images/mycamimage.jpg
Tip: use a date string format to generate unique files, eg: "cam_{0hh:mm:ss}.jpg".
You can also use {C} to adding an automatically increasing counter.

Minimum Delay Seconds

Quality

Overlay Text Counter Max

Upload Recordings
 Enabled

Filename eg: "Videos/cam_{0hh:mm:ss}.mp4"

Counter Max

Exit this to enable alerts and recording [Copy To](#) [Help](#) [Back](#) [Next](#) [Finish](#)

Type here to search

00:35 02/06/2019

Edit Camera (ID: 5, DIR: VVZOV)

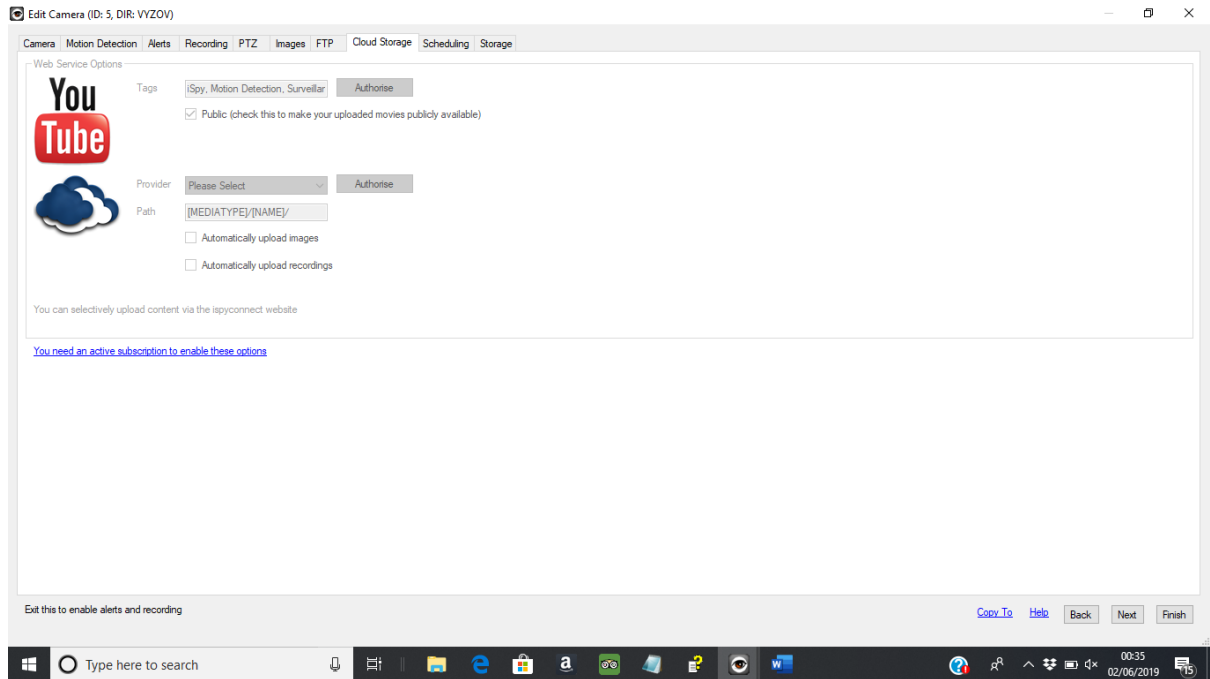
Camera Motion Detection Alerts Recording PTZ Images FTP Cloud Storage Scheduling Storage

Schedule Camera [Copy From](#)

Exit this to enable alerts and recording [Copy To](#) [Help](#) [Back](#) [Next](#) [Finish](#)

Type here to search

00:36 02/06/2019

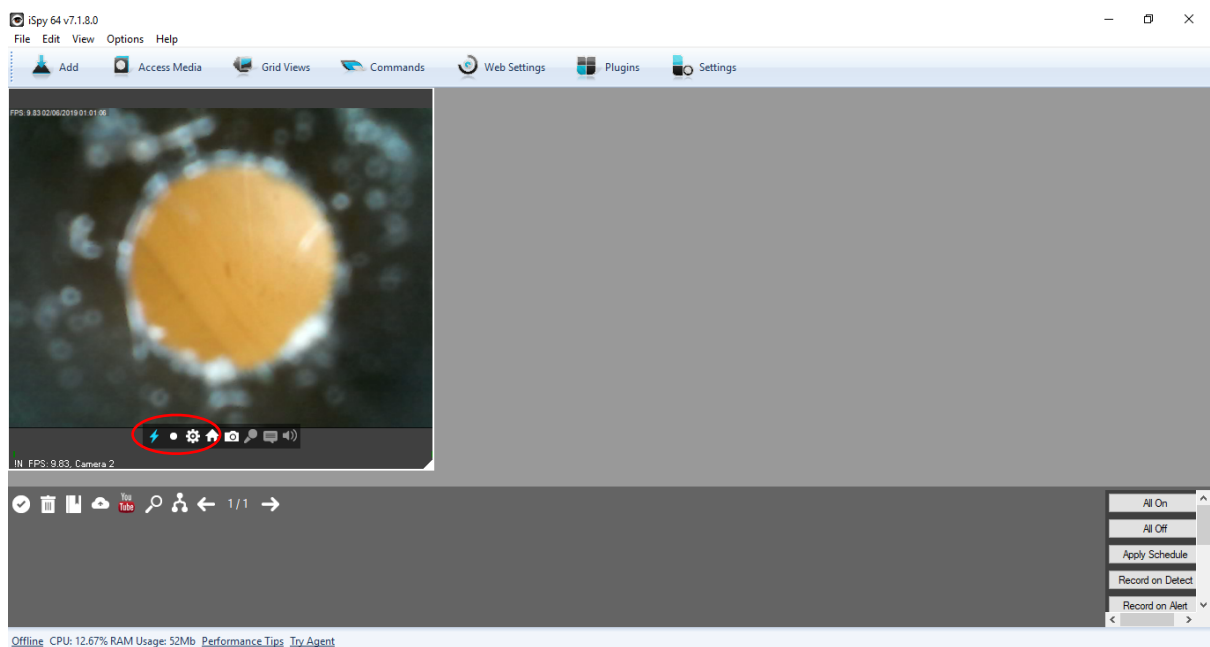


Click Finish

Hover over the “Camera Window” on iSpy

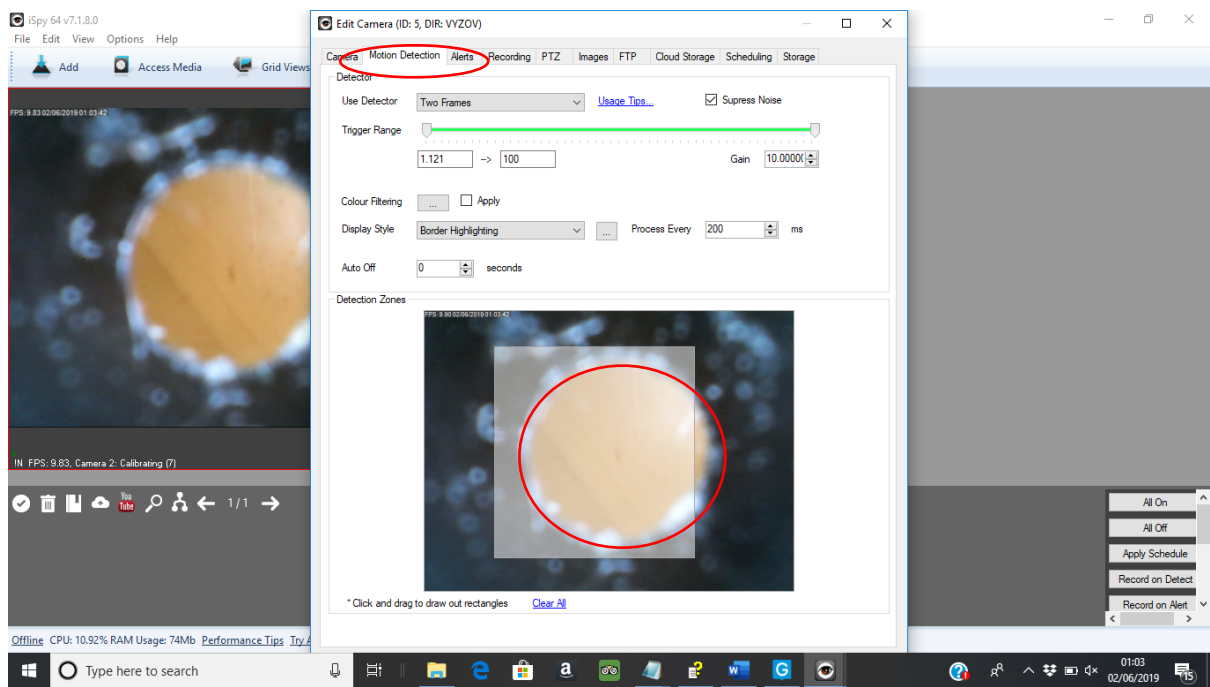
Ensure Camera is on; Highlight the “Lightening” icon

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)

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