Hardware for Meteroastronomy by Stefano Sposetti, June 9, 2014

1. LENSES
Choose the fastest f/ratio you can: f/1.2 or f/1.0 or f/0.9 is better.
Choose lenses for 1/2" sensors.
A focal lenght of 6mm is a good compromise. This lens is a fish-eye. It is very good. For all-sky surveillance is the best choice.
It uses metal iris and therefore during daylight is safe. It is an old product and is not produced anymore.
At the borders the quality is not so good.

http://www.ebay.com/itm/Computar-TV-Lens-HG2610AFCS-HSP-2-6mm-F1-0-New-Never-Used-/321316906148?ssPageName=ADME:L:OC:CH:3160

This http://computarganz.com/product_view.cfm?product_id=531 is suited for 1/3" sensors. Is very good if used above 6mm focal-lenght and vignetting is tolerable. Under FL=6mm vignetting is visible.
Pay attention that this lens uses neutral-density filters for iris, so pointing directly to the sun can damage the sensor.

http://www.ebay.com/itm/Computar-Lens-for-security-cameras-2-9-8-2mm-TG3Z2910FCS-IR-2-years-warranty-/271421502180?ssPageName=ADME:L:OC:CH:3160

I bought also this one (good for 1/2" sensors):
https://www.tamron.co.jp/en/data/cctv_ir/12vg412asir.html
is a good lens, but is f/1.2 and is somewhat expensive.

Also this lens uses neutral-density filters for iris: http://www.pcp.ch/Tamron-3-Megapixel-Weitwinkel-Objektiv-12VG412ASIR-mit-Infrarot-1-2-1a17414404.htm

2. VIDEOCAMERA
I would suggest the Watec 902H2 Ultimate. Not the Watec 902H2 Supreme.
The sensor should be 1/2".
There are several sellers.
I bought here:
http://www.modernastronomy.com/camerasAstroVideo.html#watec902h2%20ultimate
Because I need at least 3 watecs, I suggest that we can take into account a "group-buy".
Jose knows a guy who maybe can do some price-discount.

3. GRABBER
Low cost USB grabbers are here:
http://www.amazon.de/LogiLink-Audio-Video-Grabber-USB/dp/B0013BXFLG/ref=sr_1_1?ie=UTF8&qid=1402132111&sr=8-1&keywords=logilink

Pay attention that some grabbers do not work with Win7 or Win8 OS.
If you want use an internal grabber (PCIe card), I bought the Imaging Source DFG/SV1 PCI, but is expensive: http://www.theimagingsource.com/en_US/products/grabbers/dfgsv1/

4. CABLES AND ADAPTERS

The watec camera has a BNC out-connector.
One should buy BNC cables (for example from Conrad):
http://www.conrad.ch/ce/de/product/101432/BNC-Messleitung-BNC-Stecker-BNC-Stecker-2-m-Blau-Testec-81033?ref=list

and also BNC-to-CINCH adapters and/or CINCH-to-BNC adapters, because the grabber has only cinch-input:

http://www.conrad.ch/ce/de/product/730556/BNC-Adapter-BNC-Stecker-Cinch-Buchse-1-St?queryFromSuggest=true

http://www.conrad.ch/ce/de/product/741108/BNC-Adapter-BNC-Buchse-Cinch-Stecker-1-St?queryFromSuggest=true

5. RESISTORS for WARMING

I bought this one and is very effective:
http://www.conrad.ch/ce/de/product/532878/Heizfolie-selbstklebend-Thermo-L-x-B-110-mm-x-77-mm-Betriebsspannung-12-V-Leistung-12-W

6. 12V POWER for WATEC

I bought this one from Conrad:
http://www.conrad.ch/ce/de/product/510819/Stecker-Netzteil-Festspannung-Dehner-Elektronik-SYS-1421-0612-W2E-EURO-12-VDC-500-mA

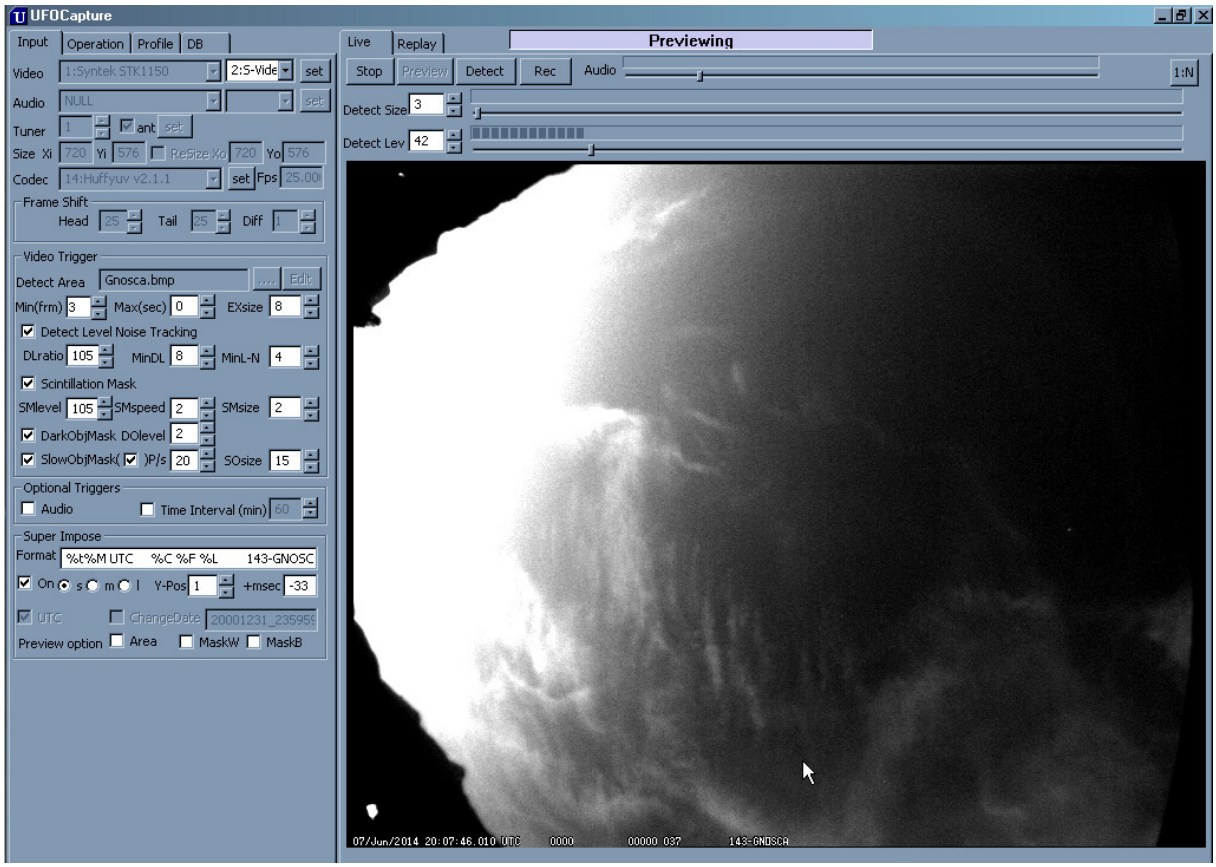
7. 12V POWER for RESISTANCE

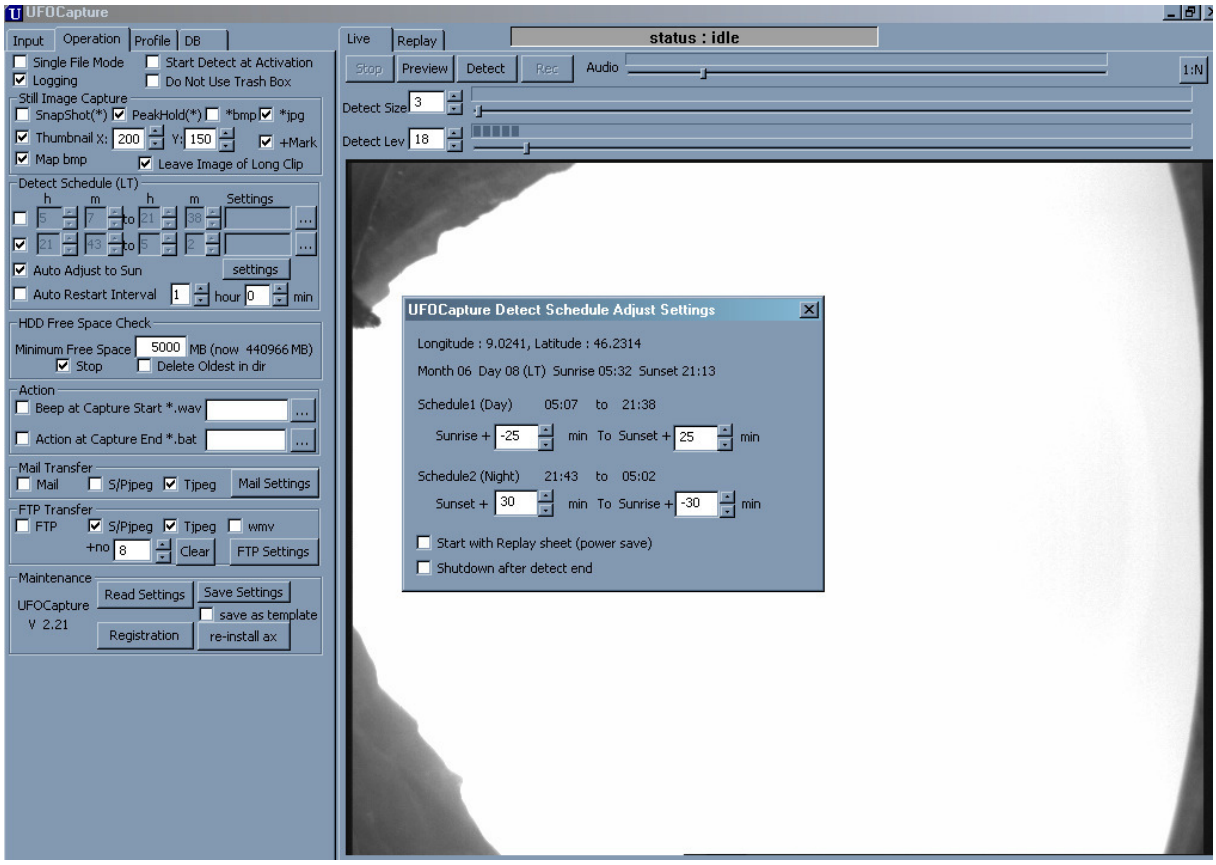
A 12V trafo with at least 1A current output is suitable.

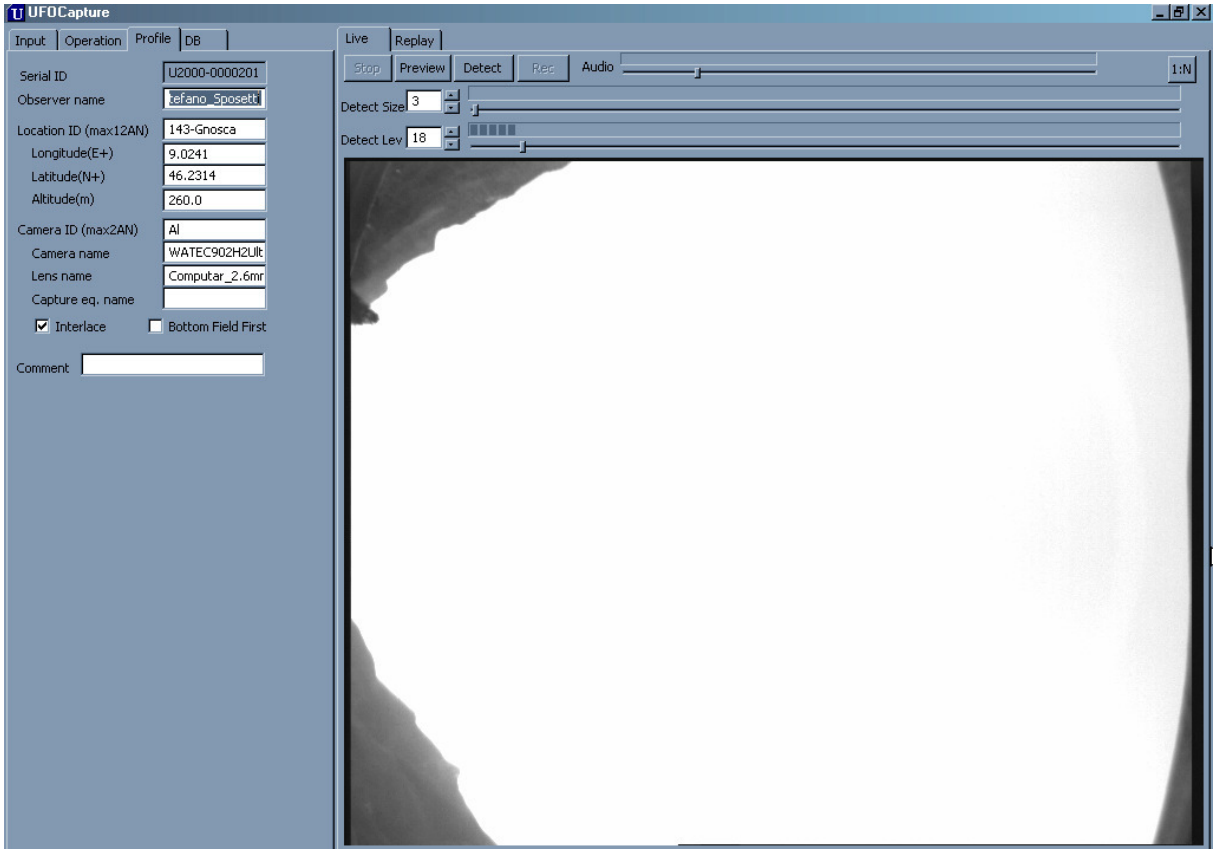
8. CUPOLE

I bought the cupole from ebay, but the product is easy to scratch:
http://www.ebay.co.uk/itm/CLEAR-PERSPEX-ACRYLIC-DOME-150mm-Diameter-with-20mmwide-flange-/271150536276?ssPageName=ADME:L:OC:CH:3160

Printscreens of UFOCAPTURE:






UFOCapture
Input
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DB
Serial ID
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Observer name
Stefano_Sposetti
Location ID (max12AN)
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Longitude(E+)
9.0241
Latitude(N+)
46.2314
Altitude(m)
260.0
Camera ID (max2AN)
AI
Camera name
WATEC902H2Ult
Lens name
Computar_2.6mr
Capture eq. name
Interlace
Bottom Field First
Comment
Live
Replay
Stop
Preview
Detect
Rec
Audio
1:N
Detect Size
3
Detect Lev
18