Introduction

W32_Astrometry is a Windows 32bits (XP/Vista) user friendly interface for the Astrometry.net web service. W32_Astrometry is provided free of charge and without any warranty.
Ask to be an Alpha tester before submitting!!

Aim of the project

- To offer a friendly user interface for Astronomy.net remote users.
- To explore some usages of an online astrometry web service.

Some basic functionalities

- All parameters required by Astronomy.net are kept through different sessions and last values used are kept at the next launch. You have just to configure “once”.
- You can **manage “profiles”** to keep different set of parameters (i.e. if you use different optical combination for imaging).
- You can select pictures on your PC , on your local network or on the web.
- Web dialog might be handled **in the background** to allow quick repetitive submission.
- Using the file selection box, you are allowed to **“multi-select”** files in a particular directory.
- You can use the contextual menu of your disk explorer to **“open with”** or “**send to**” any file and submit it.
- You can **drag and drop** from your disk browser to submit lots of file.
- You can **“watch over a directory”** to automatically submit incoming new pictures (Automatically along your observation session)

Advanced facilities

- Pictures are **“compressed” for transmission** to improve response-time
- You are allowed to submit **“bmp” images**.
- You are allowed to submit **“raw” images** from most of existing digital cameras (All format/extensions accepted by Dcraw will be processed). Today, no solution is given for proprietary formats of “CCD developers” except Fits format.
- You can use the result of the processing (RA & DEC) to:
    - **Synchronize your scope** (Usage of Poth as Hub on an Ascom interface is recommended).
    - **Update locally your fits header** without downloading processed image (Fits keyword may be changed as per your local needs)
- You can log all your decoding activity in a .CSV file for further personal processing

User Manual

Requirements

A windows 32bit parented OS with .**NET 2.0** is mandatory (The tests where held on an XP configuration).
Ascom Platform is perhaps required.

Installation

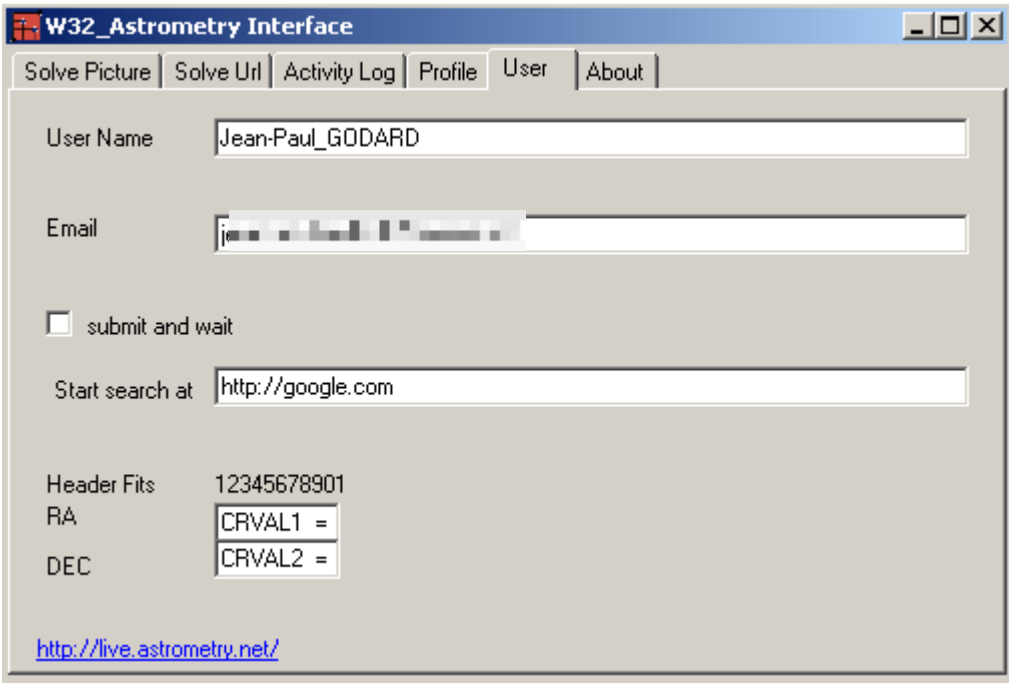
Download the executable for installation and launch it. You will perhaps be required to act as an administrator on the computer.
The installation process copy 2 executable files in the chosen program directory:

- W32_Astrometry.exe
- Dcraw.exe

Additional files for context management are also copied.

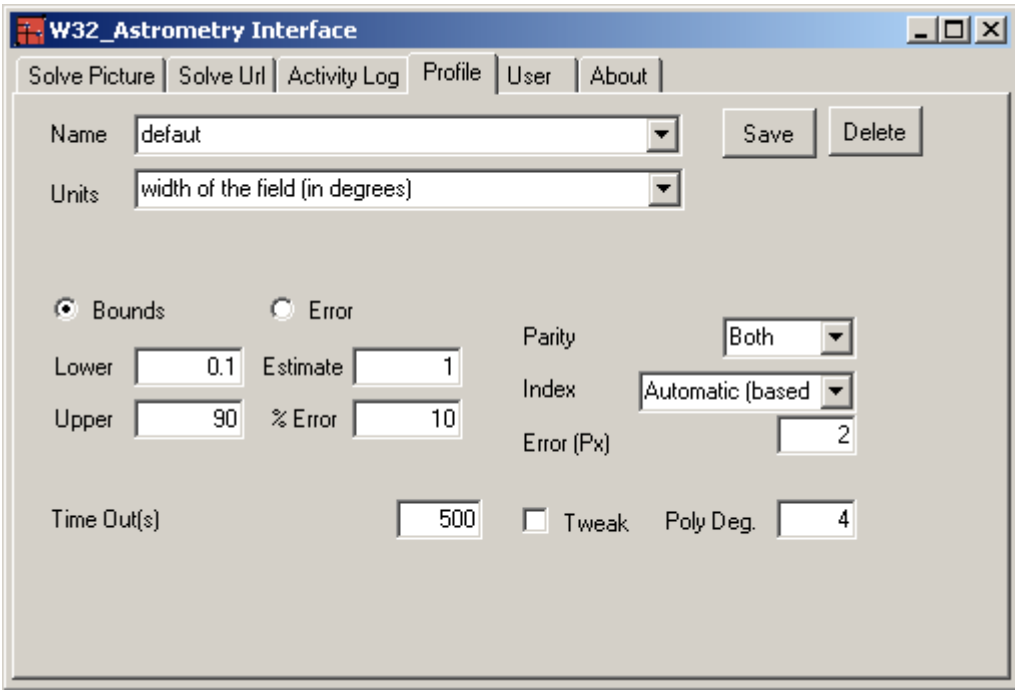
Using W32-Astrometry

Entering personal parameters



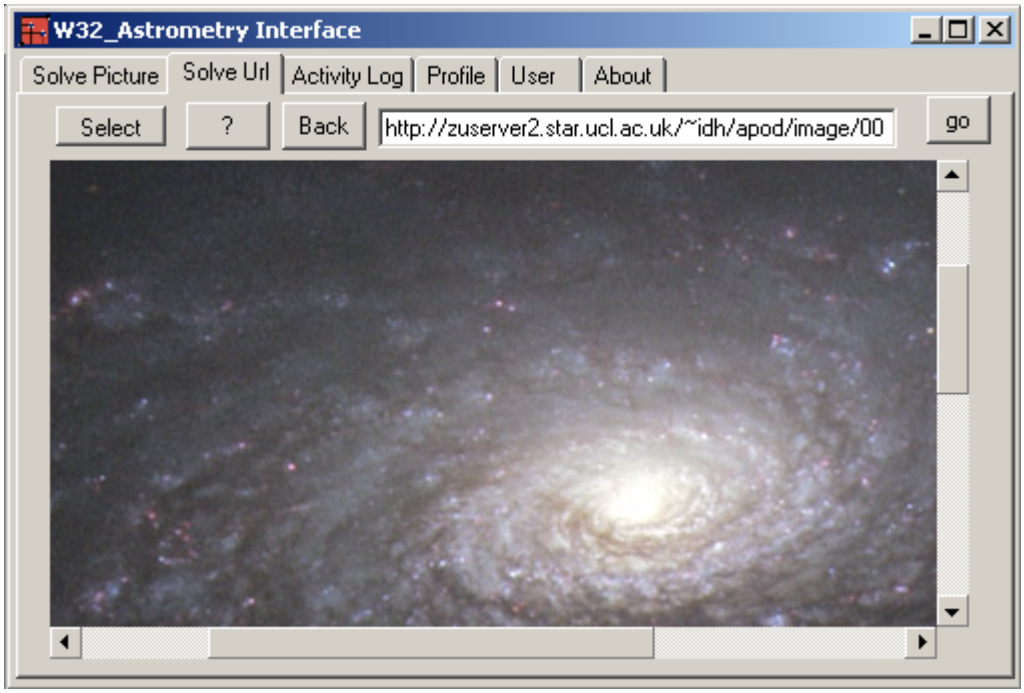
- ❑ Uncheck “submit and wait” to allow background operations
- ❑ Give your start search position (google or nasa site…)
- ❑ Ask to be an Alpha tester before submitting!!

- **Creating, choosing, removing a profile**



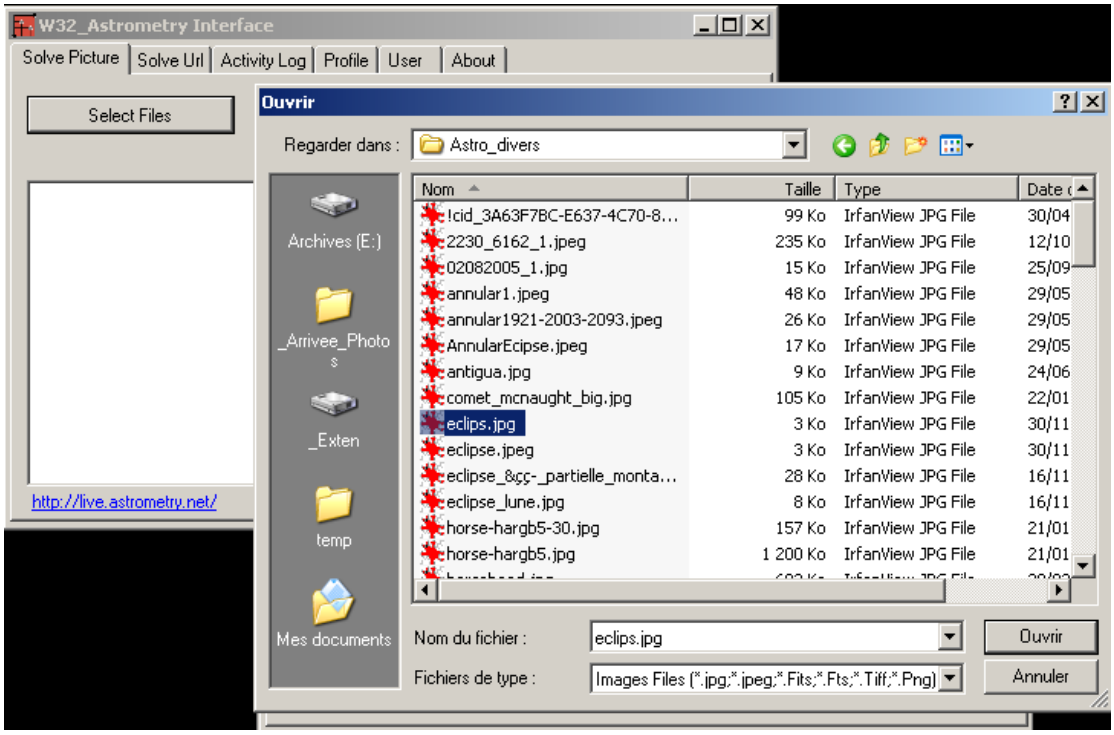
- parameters have the same meaning as on the web site
- click save to update(create) a profile, delete for deletion
- Time out is to cancel the transaction is slow link.

Submitting Web Url



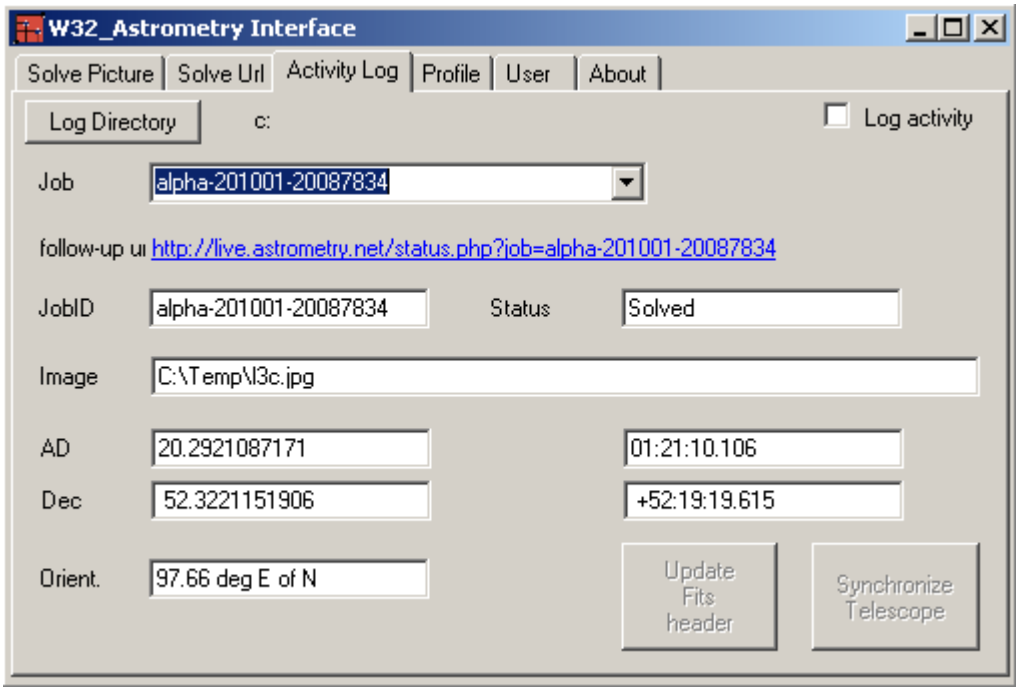
- Browse the web until you reach your image
- Use go and back, click on links in the window…
- When the image is displayed, click select or drag drop image on {?] button

Submitting an image file



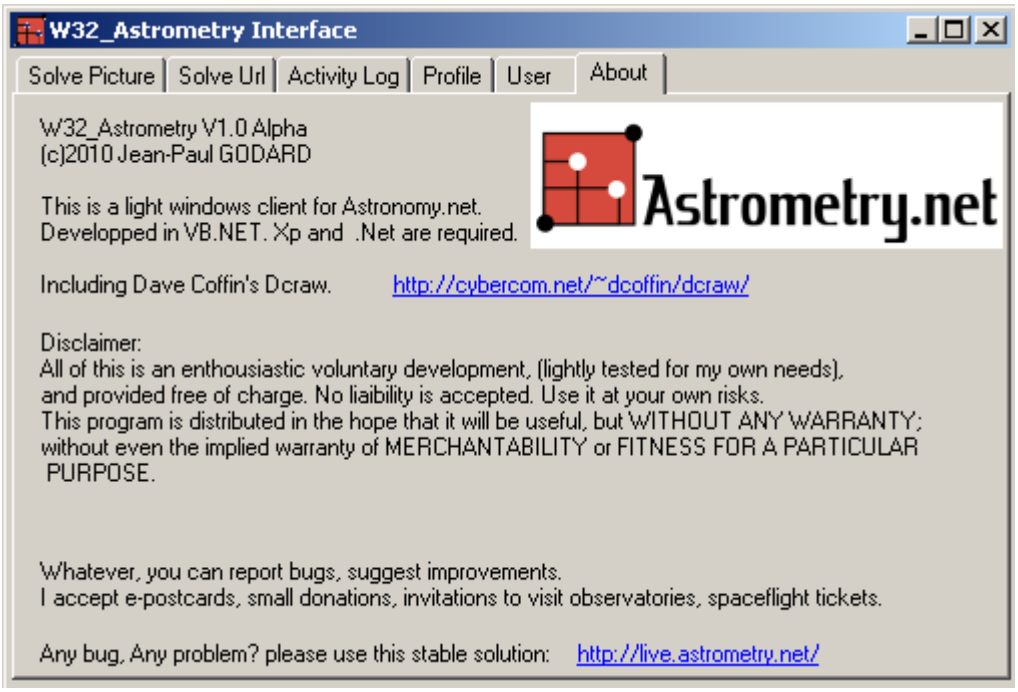
- (Multi) Select with the dialog box!!

Following the results



- Select the job in the drop list (“Job”)
- Status is displayed. Parameters are valid for “Solved” status
- With “solved” job you can update your “Fits” header (for fits file) or **synchronize your telescope** (if connected)

About the project



A “tutorial” button displays this file… (Not a recursive gadget-acronym as the button is not displayed here ;-)

Installation

The application is installed from a web server to a folder on your hard drive by a windows installer . The installation folder (XP) is below:
C:\Documents and Settings\User name\Local Settings\Application Data\Home

Debugging and upgrading

Upgrading for W32-Astrometry may be required from time to time to fix bugs or to allow interface changes in the Astrometry.net service. New versions will be delivered on a Web site and the community will be warned promptly of the new version availability. However no warranty of future service formally is given.

Upgrading of Dcraw.exe may be held on a separate way. Just download the new version from the internet and replace the older one in the installation folder. In this way, you will be able to process images from the most recent camera devices.

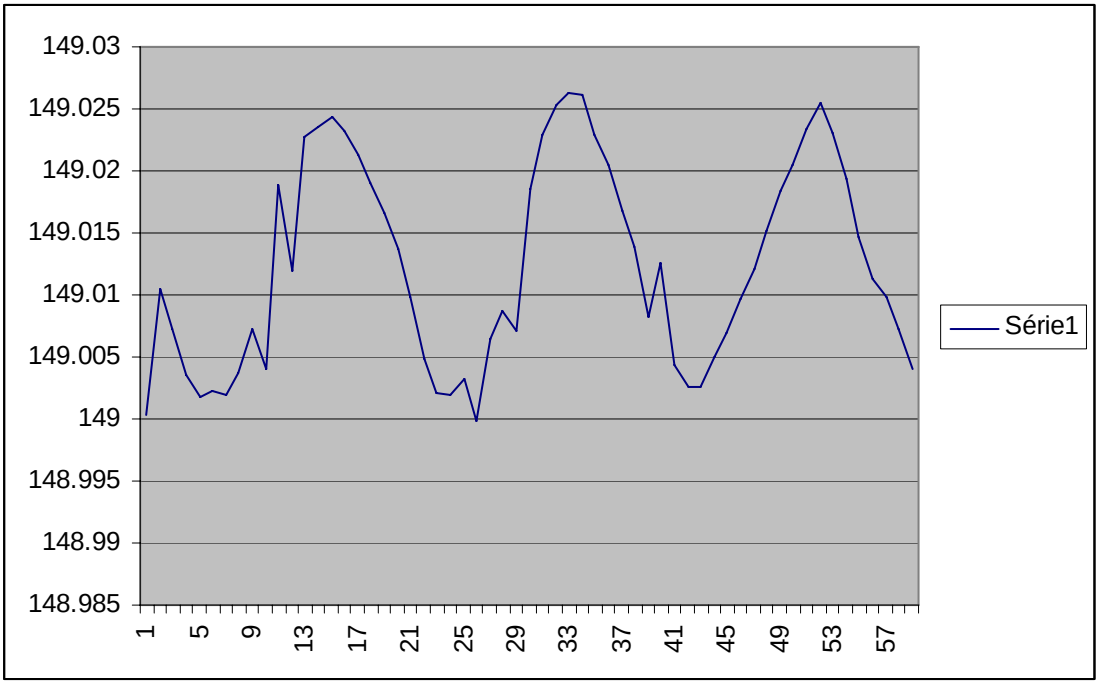
Precision, Periodic error analysis, drift analysis

If you choose to capture and process images from your amateur astronomy camera tracking the sky, you will be able to analyze your drive’s periodic error.

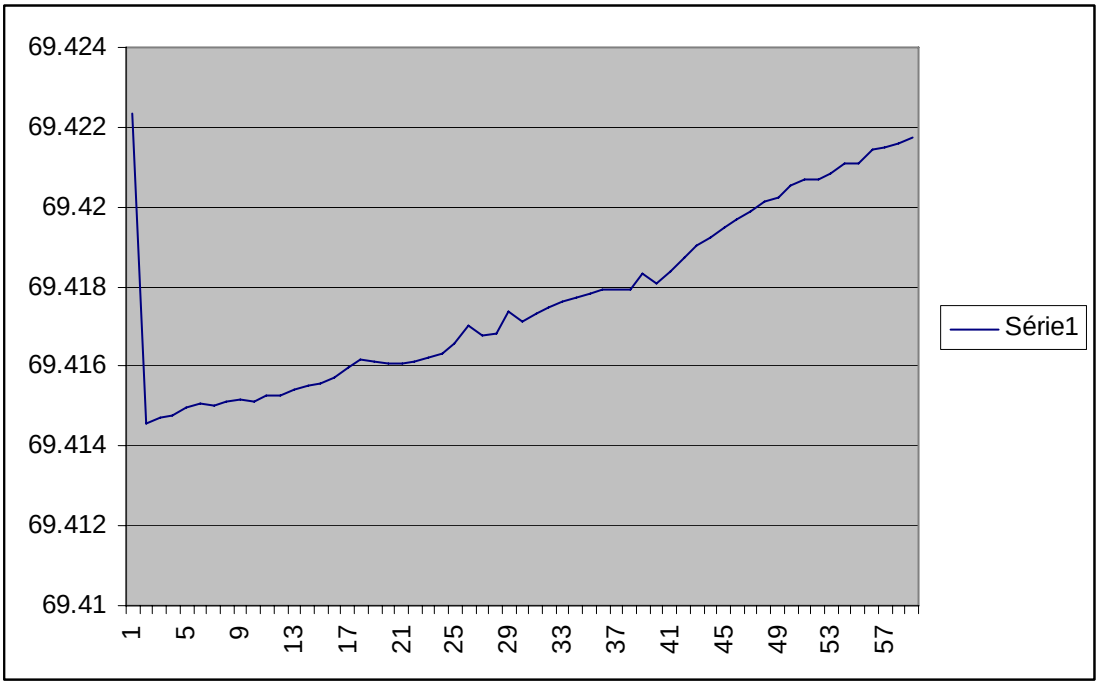
Here are the raw results from my LXD75:

- capture images at a rate near 1/100 of your worm gear rotation time
- process with W32_Astrometry logging the activity
- Open the log text file with XL (or a free equivalent) parsing with “>” and “,” (comma)

- Draw the appropriate curve from right ascension or declination.



Periodic error (uncalibrated): here .025 deg peak to peak



drift due to polar alignement error

Supported Cameras formats as of January 2010

(Full list on http://cybercom.net/~dcoffin/dcraw/)

- Adobe Digital Negative (DNG)
- AgfaPhoto DC-833m
- Apple QuickTake 100
- Apple QuickTake 150
- Apple QuickTake 200
- AVT F-080C
- AVT F-145C
- AVT F-201C
- AVT F-510C
- AVT F-810C
- Canon PowerShot 600
- Canon PowerShot A5
- Canon PowerShot A5 Zoom
- Canon PowerShot A50
- Canon PowerShot A460 (CHDK hack)
- Canon PowerShot A470 (CHDK hack)
- Canon PowerShot A530 (CHDK hack)
- Canon PowerShot A570 (CHDK hack)
- Canon PowerShot A590 (CHDK hack)
- Canon PowerShot A610 (CHDK hack)
- Canon PowerShot A620 (CHDK hack)
- Canon PowerShot A630 (CHDK hack)
- Canon PowerShot A640 (CHDK hack)
- Canon PowerShot A650 (CHDK hack)
- Canon PowerShot A710 IS (CHDK hack)
- Canon PowerShot A720 IS (CHDK hack)
- Canon PowerShot Pro70
- Canon PowerShot Pro90 IS
- Canon PowerShot Pro1
- Canon PowerShot G1
- Canon PowerShot G2
- Canon PowerShot G3
- Canon PowerShot G5
- Canon PowerShot G6
- Canon PowerShot G7 (CHDK hack)
- Canon PowerShot G9
- Canon PowerShot G10
- Canon PowerShot G11
- Canon PowerShot S2 IS (CHDK hack)
- Canon PowerShot S3 IS (CHDK hack)
- Canon PowerShot S5 IS (CHDK hack)
- Canon PowerShot SD300 (CHDK hack)
- Canon PowerShot S30
- Canon PowerShot S40
- Canon PowerShot S45
- Canon PowerShot S50
- Canon PowerShot S60
- Canon PowerShot S70
- Canon PowerShot S90
- Canon PowerShot SX1 IS
- Canon PowerShot SX110 IS (CHDK hack)
- Canon EOS D30
- Canon EOS D60

- Canon EOS 5D
- Canon EOS 5D Mark II
- Canon EOS 7D
- Canon EOS 10D
- Canon EOS 20D
- Canon EOS 30D
- Canon EOS 40D
- Canon EOS 50D
- Canon EOS 300D / Digital Rebel / Kiss Digital
- Canon EOS 350D / Digital Rebel XT / Kiss Digital N
- Canon EOS 400D / Digital Rebel XTi / Kiss Digital X
- Canon EOS 450D / Digital Rebel XSi / Kiss Digital X2
- Canon EOS 500D / Digital Rebel T1i / Kiss Digital X3
- Canon EOS 1000D / Digital Rebel XS / Kiss Digital F
- Canon EOS D2000C
- Canon EOS-1D
- Canon EOS-1DS
- Canon EOS-1D Mark II
- Canon EOS-1D Mark II N
- Canon EOS-1D Mark III
- Canon EOS-1D Mark IV
- Canon EOS-1Ds Mark II
- Canon EOS-1Ds Mark III
- Casio QV-2000UX
- Casio QV-3000EX
- Casio QV-3500EX
- Casio QV-4000
- Casio QV-5700
- Casio QV-R41
- Casio QV-R51
- Casio QV-R61
- Casio EX-S20
- Casio EX-S100
- Casio EX-Z4
- Casio EX-Z50
- Casio EX-Z55
- Casio EX-Z60
- Casio EX-Z75
- Casio EX-Z750
- Casio EX-Z850
- Casio Exlim Pro 505
- Casio Exlim Pro 600
- Casio Exlim Pro 700
- Contax N Digital
- Creative PC-CAM 600
- Epson R-D1
- Foculus 531C
- Fuji FinePix E550
- Fuji FinePix E900
- Fuji FinePix F700
- Fuji FinePix F710
- Fuji FinePix F800
- Fuji FinePix F810
- Fuji FinePix S2Pro
- Fuji FinePix S3Pro
- Fuji FinePix S5Pro
- Fuji FinePix S20Pro

- Fuji FinePix S100FS
- Fuji FinePix S5000
- Fuji FinePix S5100/S5500
- Fuji FinePix S5200/S5600
- Fuji FinePix S6000fd
- Fuji FinePix S7000
- Fuji FinePix S9000/S9500
- Fuji FinePix S9100/S9600
- Fuji FinePix S200EXR
- Fuji IS-1
- Hasselblad CFV
- Hasselblad H3D
- Hasselblad V96C
- Imacon Ixpress 16-megapixel
- Imacon Ixpress 22-megapixel
- Imacon Ixpress 39-megapixel
- ISG 2020x1520
- Kodak DC20 (see Oliver Hartman's page)
- Kodak DC25 (see Jun-ichiro Itoh's page)
- Kodak DC40
- Kodak DC50
- Kodak DC120 (also try kdc2tiff)
- Kodak DCS200
- Kodak DCS315C
- Kodak DCS330C
- Kodak DCS420
- Kodak DCS460
- Kodak DCS460A
- Kodak DCS520C
- Kodak DCS560C
- Kodak DCS620C
- Kodak DCS620X
- Kodak DCS660C
- Kodak DCS660M
- Kodak DCS720X
- Kodak DCS760C
- Kodak DCS760M
- Kodak EOSDCS1
- Kodak EOSDCS3B
- Kodak NC2000F
- Kodak ProBack
- Kodak PB645C
- Kodak PB645H
- Kodak PB645M
- Kodak DCS Pro 14n
- Kodak DCS Pro 14nx
- Kodak DCS Pro SLR/c
- Kodak DCS Pro SLR/n
- Kodak C330
- Kodak C603
- Kodak P850
- Kodak P880
- Kodak Z980
- Kodak Z1015
- Kodak KAI-0340
- Konica KD-400Z
- Konica KD-510Z

- Leaf AFi 7
- Leaf Aptus 17
- Leaf Aptus 22
- Leaf Aptus 54S
- Leaf Aptus 65
- Leaf Aptus 75
- Leaf Aptus 75S
- Leaf Cantare
- Leaf CatchLight
- Leaf CMost
- Leaf DCB2
- Leaf Valeo 6
- Leaf Valeo 11
- Leaf Valeo 17
- Leaf Valeo 22
- Leaf Volare
- Leica Digilux 2
- Leica Digilux 3
- Leica D-LUX2
- Leica D-LUX3
- Leica D-LUX4
- Leica V-LUX1
- Logitech Fotoman Pixtura
- Mamiya ZD
- Micron 2010
- Minolta RD175
- Minolta DiMAGE 5
- Minolta DiMAGE 7
- Minolta DiMAGE 7i
- Minolta DiMAGE 7Hi
- Minolta DiMAGE A1
- Minolta DiMAGE A2
- Minolta DiMAGE A200
- Minolta DiMAGE G400
- Minolta DiMAGE G500
- Minolta DiMAGE G530
- Minolta DiMAGE G600
- Minolta DiMAGE Z2
- Minolta Alpha/Dynax/Maxxum 5D
- Minolta Alpha/Dynax/Maxxum 7D
- Motorola PIXL
- Nikon D1
- Nikon D1H
- Nikon D1X
- Nikon D2H
- Nikon D2Hs
- Nikon D2X
- Nikon D2Xs
- Nikon D3
- Nikon D3X
- Nikon D40
- Nikon D40X
- Nikon D50
- Nikon D60
- Nikon D70
- Nikon D70s
- Nikon D80

- Nikon D90
- Nikon D100
- Nikon D200
- Nikon D300
- Nikon D300s
- Nikon D700
- Nikon D3000
- Nikon D5000
- Nikon E700 ("DIAG RAW" hack)
- Nikon E800 ("DIAG RAW" hack)
- Nikon E880 ("DIAG RAW" hack)
- Nikon E900 ("DIAG RAW" hack)
- Nikon E950 ("DIAG RAW" hack)
- Nikon E990 ("DIAG RAW" hack)
- Nikon E995 ("DIAG RAW" hack)
- Nikon E2100 ("DIAG RAW" hack)
- Nikon E2500 ("DIAG RAW" hack)
- Nikon E3200 ("DIAG RAW" hack)
- Nikon E3700 ("DIAG RAW" hack)
- Nikon E4300 ("DIAG RAW" hack)
- Nikon E4500 ("DIAG RAW" hack)
- Nikon E5000
- Nikon E5400
- Nikon E5700
- Nikon E8400
- Nikon E8700
- Nikon E8800
- Nikon Coolpix P6000
- Nikon Coolpix S6 ("DIAG RAW" hack)
- Nokia N95
- Olympus C3030Z
- Olympus C5050Z
- Olympus C5060WZ
- Olympus C7070WZ
- Olympus C70Z,C7000Z
- Olympus C740UZ
- Olympus C770UZ
- Olympus C8080WZ
- Olympus X200,D560Z,C350Z
- Olympus E-1
- Olympus E-3
- Olympus E-10
- Olympus E-20
- Olympus E-30
- Olympus E-300
- Olympus E-330
- Olympus E-400
- Olympus E-410
- Olympus E-420
- Olympus E-500
- Olympus E-510
- Olympus E-520
- Olympus E-620
- Olympus E-P1
- Olympus SP310
- Olympus SP320
- Olympus SP350

- Olympus SP500UZ
- Olympus SP510UZ
- Olympus SP550UZ
- Olympus SP560UZ
- Olympus SP570UZ
- Panasonic DMC-FZ8
- Panasonic DMC-FZ18
- Panasonic DMC-FZ28
- Panasonic DMC-FZ30
- Panasonic DMC-FZ35/FZ38
- Panasonic DMC-FZ50
- Panasonic DMC-FX150
- Panasonic DMC-G1
- Panasonic DMC-GH1
- Panasonic DMC-L1
- Panasonic DMC-L10
- Panasonic DMC-LC1
- Panasonic DMC-LX1
- Panasonic DMC-LX2
- Panasonic DMC-LX3
- Pentax *ist D
- Pentax *ist DL
- Pentax *ist DL2
- Pentax *ist DS
- Pentax *ist DS2
- Pentax K10D
- Pentax K20D
- Pentax K100D
- Pentax K100D Super
- Pentax K200D
- Pentax K2000/K-m
- Pentax K-x
- Pentax K-7
- Pentax Optio S
- Pentax Optio S4
- Pentax Optio 33WR
- Pentax Optio 750Z
- Phase One LightPhase
- Phase One H 10
- Phase One H 20
- Phase One H 25
- Phase One P 20
- Phase One P 25
- Phase One P 30
- Phase One P 45
- Phase One P 45+
- Pixelink A782
- Polaroid x530
- Rollei d530flex
- RoverShot 3320af
- Samsung GX-1S
- Samsung GX-10
- Samsung S85 (hacked)
- Samsung S850 (hacked)
- Sarnoff 4096x5440
- Sigma SD9
- Sigma SD10

- Sigma SD14
- Sinar 3072x2048
- Sinar 4080x4080
- Sinar 4080x5440
- Sinar STI format
- SMaL Ultra-Pocket 3
- SMaL Ultra-Pocket 4
- SMaL Ultra-Pocket 5
- Sony DSC-F828
- Sony DSC-R1
- Sony DSC-V3
- Sony DSLR-A100
- Sony DSLR-A200
- Sony DSLR-A300
- Sony DSLR-A330
- Sony DSLR-A350
- Sony DSLR-A380
- Sony DSLR-A500
- Sony DSLR-A550
- Sony DSLR-A700
- Sony DSLR-A850
- Sony DSLR-A900
- Sony XCD-SX910CR
- STV680 VGA

Future developments….

- ❑ Guiding a scope
- ❑ Ensuring field position before occultation observation
- ❑ Automatic scope alignment
- ❑ Polar alignment (King Method)
- ❑ Automatic scope pointing model determination
- ❑ Etc…