

3rd Attempt: 4 sec exposure; gain 85

Solved first step of the PA and then ran Plate Solve and transferred the position to Stellarium – position is close to Sigma Octans

SharpCap Pro (v3.2.6482) - ZWO ASI120MM Mini (via USB2) - C:\Users\Salty Dog\AppData\Local\Temp\Tmp1878.tmp.png - D:\SharpCap Captures

File Cameras Options Capture Tools Scripting Help

Start Capture Quick Capture Stop Capture Pause Snapshot Live Stack Target Name: FX: None Zoom: Auto

Plate solve succeeded, currently pointing at RA=23:09:33, Dec=-89:27:01S (J2000), field of view is 1.08x0.81 degrees, up is 303.1 degrees E of N. Copy

Stellarium 0.20.4

Polaris Australis
σ Oct - HIP 104382 - SAO 258857 - HD 177482 - HR 7228

Type: pulsating variable star (DSCTC)
Magnitude: 5.45 (reduced to 5.73 by 2.14 Airmasses)
Absolute Magnitude: 0.67
Color Index (B-V): 0.29
Magnitude range: 5.45-5.50 (Photometric system: V)
RA/Dec (J2000.0): 21h08m47.99s/-89°57'22.9"
RA/Dec (on date): 21h26m19.09s/-89°52'00.8"
HA/Dec: 19h50m54.10s/-88°51'10.5" (apparent)
Az./Alt.: +178°51'03.7"/+27°54'16.2" (apparent)
Gal. long./lat.: -56°05'40.9"/-27°42'49.0"
Supergal. long./lat.: -152°57'16.0"/-14°50'14.4"
Ecl. long./lat. (J2000.0): +271°52'16.2"/-65°50'24.6"
Ecl. long./lat. (on date): +272°10'10.9"/-65°50'34.7"
Ecliptic obliquity (on date): +23°26'14.9"
Mean Sidereal Time: 17h11m36.2s
Apparent Sidereal Time: 17h11m35.3s
Transit: 0h07m
Circumpolar (never sets)
IAU Constellation: Oct
Distance: 294.10±3.71 ly
Proper motion: 28.4 mas/yr towards 78.4°
Proper motions by axes: 27.8 5.7 (mas/yr)
Parallax: 11.090±0.142 mas
Spectral Type: F0IV
Period: 0.097 days

Search window

Object	SIMBAD	Position	Lists	Options
Coordinate system: Equatorial (J2000.0)				
Right ascension		Declination		
23h 9m 33.00s		-89° 27' 1.00"		
Note: this tool doesn't apply the refraction correction for coordinates.				

Barth, Highvale, 97 m

2021-08-08 19:51:46 UTC

Frame: 1.1/2.9

Previewing: 717 frames (0 dropped) in 0:28:32, 0.3 fps Memory: 2 of 873 frames in use.

Type here to search

17°C 7:51 PM 8/08/2021

Polar Align

Polar Alignment Introduction

SharpCap can help you quickly and accurately polar align your equatorial mount. You just need to work through the steps of this wizard taking images of the sky near the pole. SharpCap will calculate the polar alignment error and guide you through correcting it.

SharpCap Polar Alignment is inspired by the [PhotoPolarAlign](#) concept by Themis Tsikas, ideas used with his generous permission.

☐ Skip this introduction in future.

Requirements:

- An Equatorial Mount!
- A camera/scope combination that provides a field of view of at least 10-15 degrees
- A 200mm focal length finder/guide + guide camera is ideal
- To be able to see at least 10-15 stars in the field of view of the camera
- Initial rough polar alignment - within 5 degrees of the pole.
- Your mount should start in the 'home' position with weights disengaged

You Don't Need:

- To align your finderscope particularly accurately or correct cone error.
- A goto mount.
- Any other software or an Internet connection.

Ran PA gain; first step successful

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Start Capture Quick Capture Stop Capture Pause Snapshot Live Stack Target Name: FX: None Zoom: Auto

Press the 'Next' button before rotating the RA Axis

15' 30' 45' 1"

Polar Align

Step 1 - Capture First Image

SharpCap is scanning each frame for stars and matching them against its own list of stars near the pole.
SharpCap needs to find at least 10-15 stars.
Detected stars are outlined in yellow or red.
Start with a high gain value and an exposure of 1-2s, then adjust as required.
When the status to the right shows that SharpCap has located a match, you can press Next to move to the next stage.

First Frame

Status: **Completed**
Detected Stars: 59
Used Stars: 15
Field of View: 1.09x0.81"
Pixel Size: 3.05"
Centre RA: 00:17:37
Centre Dec: 89:25:36N
Solve Time: 5ms

☐ Advanced
☐ Allow smaller rotation angles (may be less accurate)

Star Detection

Noise Reduction: 2.0
Minimum star width: 3 pixels
Maximum star width: 16 pixels
Black Level Threshold: 50
Digital Gain: Off

Location

27.470S, 153.030E
Refraction correction: 1.9 minutes of arc

Auto Advance

☐ Automatically advance to the next stage when the current stage is completed.

Plate Solving Status

Most Recent Frame: **Solved**

Camera Control Panel

Capture Profiles

Load Save Save As... Manage...

Capture Format and Area

Colour Space: MONO8
Capture Area: 1280x960
Binning: 1
Output Format: PNG files (*.png)

Camera Controls

Exposure: 4.00 s ☐ LX Mode
Quick Picks: 4s ☐ Auto
Gain: Auto 82
Frame Rate Limit: Maximum
Flip: None
Turbo USB: Auto 85
Overclock: 0
High Speed Mode: Off
Discard Split Frames: Off
Temperature: 14.7

Image Controls

Misc Controls

Preprocessing

Display Histogram Stretch

Previewing: 738 frames (0 dropped) in 0:29:52, 0.3 fps Memory: 2 of 873 frames in use. Frame: 3.1/0.9

17°C 7:53 PM 8/08/2021

Rotated mount approx. 90 to the right

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File Cameras Options Capture Tools Scripting Help

Start Capture Quick Capture Stop Capture Pause Snapshot Live Stack Target Name: FX: None Zoom: Auto

Warning: The last 5 frames failed to solve. Check your star detection settings and camera exposure/gain

Now rotate the RA Axis

15° 30° 45°

Polar Align

Step 2 - Capture 2nd Image
Now rotate your mount through about 90 degrees about the RA axis.
Once the rotation is big enough SharpCap can work out the polar alignment error and you can press the Next button to move to the next stage.
Plate Solving Status
Most Recent Frame: **Could not solve**

First Frame	Second Frame
Status: Completed	Status: Rotate Further...
Detected Stars: 59	Detected Stars: 80
Used Stars: 15	Used Stars: 15
Field of View: 1.09x0.81°	Field of View: 3.05°
Pixel Size: 3.05"	Pixel Size: 178ms
Centre RA: 00:18:06	Centre RA: -0.1°
Centre Dec: 89:25:35N	
Solve Time: 11ms	

Results: Polar Align Error ?

Restart Previous Next

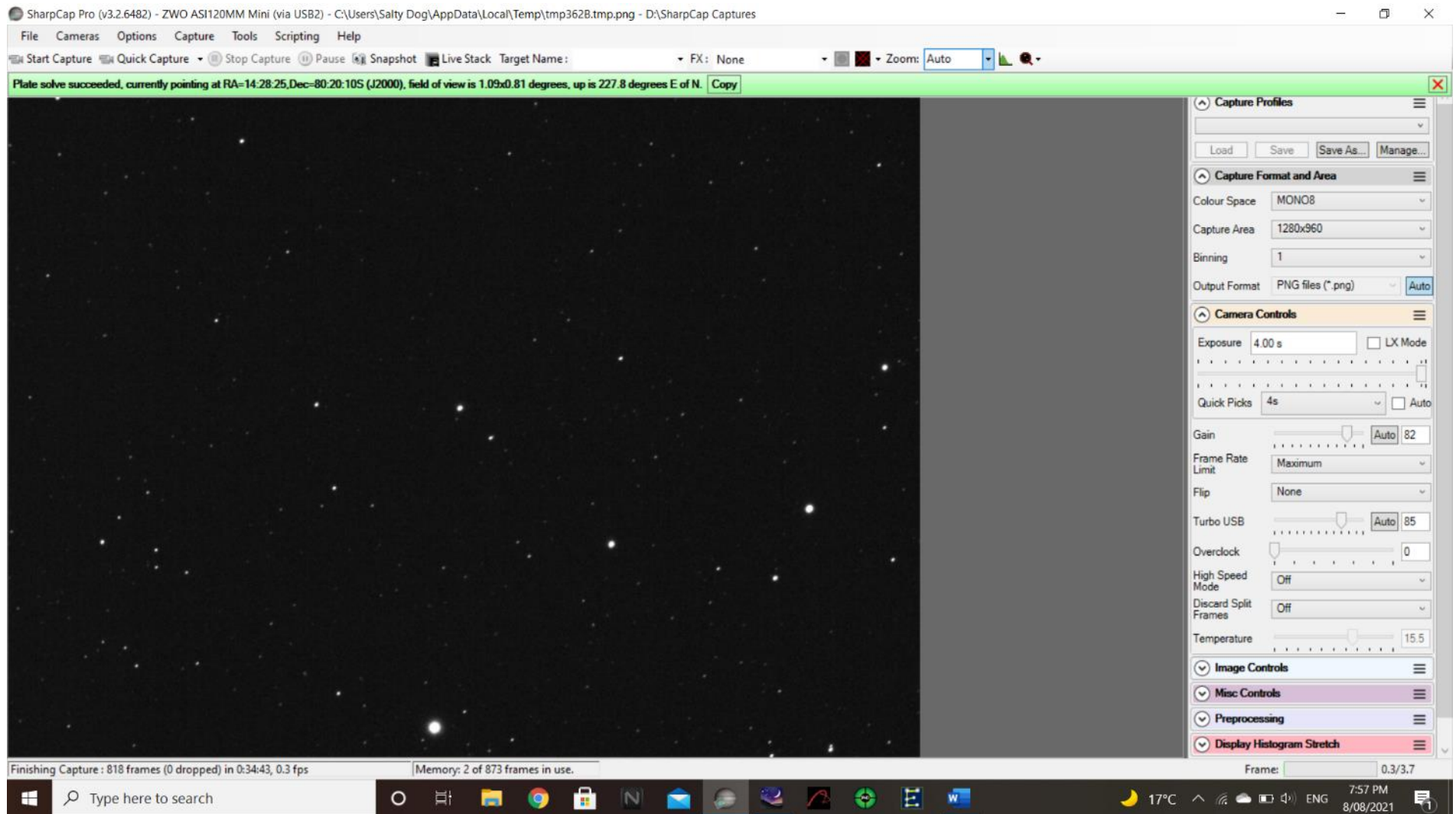
Previewing: 748 frames (0 dropped) in 0:30:26, 0.3 fps Memory: 2 of 873 frames in use.

Frame: 0.9/3.1

17°C 7:53 PM 8/08/2021

Image Controls: Misc Controls: Preprocessing: Display Histogram Stretch

Ran Plate Solve with the mount rotated by 90 to the right



4th Attempt: 4 sec exposure; gain 85

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File Cameras Options Capture Tools Scripting Help

Start Capture Quick Capture Stop Capture Pause Snapshot Live Stack Target Name: FX: None Zoom: Auto

Press the 'Next' button before rotating the RA Axis

Camera Control Panel

Capture Profiles

Load Save Save As Manage

Capture Format and Area

Colour Space: MONO8

Capture Area: 1280x960

Binning: 1

Output Format: PNG files (*.png) Auto

Camera Controls

Exposure: 4.00 s LX Mode

Quick Picks: 4s Auto

Gain: Auto 82

Frame Rate Limit: Maximum

Flip: None

Turbo USB: Auto 85

Overclock: 0

High Speed Mode: Off

Discard Split Frames: Off

Temperature: 14.7

Image Controls

Misc Controls

Preprocessing

Display Histogram Stretch

Restart Previous Next

Polar Align

Step 1 - Capture First Image

SharpCap is scanning each frame for stars and matching them against its own list of stars near the pole.

SharpCap needs to find at least 10-15 stars. Detected stars are outlined in yellow or red.

Start with a high gain value and an exposure of 1-2s, then adjust as required.

When the status to the right shows that SharpCap has located a match, you can press Next to move to the next stage.

First Frame

Status: Completed

Detected Stars: 49

Used Stars: 15

Field of View: 1.08x0.81°

Pixel Size: 3.05"

Centre RA: -01:33:22

Centre Dec: 89:25:00N

Solve Time: 6ms

Advanced

☐ Allow smaller rotation angles (may be less accurate)

Star Detection

Noise Reduction: 2.0

Minimum star width: 3 pixels

Maximum star width: 16 pixels

Black Level Threshold: 50

Digital Gain: Off Reset All

Location

27.470S, 153.030E

Refraction correction: 1.9 minutes of arc

Auto Advance

☐ Automatically advance to the next stage when the current stage is completed.

Plate Solving Status

Most Recent Frame: Solved

Previewing: 755 frames (0 dropped) in 0:30:53, 0.3 fps Memory: 2 of 873 frames in use.

Frame: 2.1/1.9

17°C 7:54 PM 8/08/2021

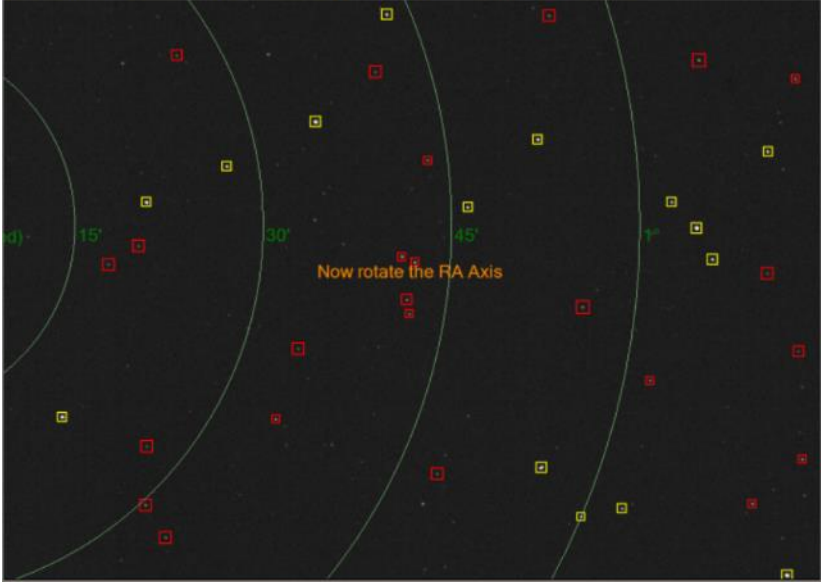
Rotated mount approx. 90 to the left

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File Cameras Options Capture Tools Scripting Help

Start Capture Quick Capture Stop Capture Pause Snapshot Live Stack Target Name: FX: None Zoom: Auto

Warning: The last 5 frames failed to solve. Check your star detection settings and camera exposure/gain



Now rotate the RA Axis

Polar Align

Step 2 - Capture 2nd Image
Now rotate your mount through about 90 degrees about the RA axis.
Once the rotation is big enough SharpCap can work out the polar alignment error and you can press the Next button to move to the next stage.
Plate Solving Status
Most Recent Frame: **Could not solve**

First Frame	Second Frame
Status: Detected Stars: 51 Used Stars: 15 Field of View: 1.08x0.81° Pixel Size: 3.05" Centre RA: -01:33:01 Centre Dec: 89:25:01N Solve Time: 7ms	Status: Detected Stars: 40 Used Stars: 15 Field of View: 1.08x0.81° Pixel Size: 3.05" Centre RA: -01:33:01 Centre Dec: 89:25:01N Solve Time: 133ms Rotation: 0.0°

Completed

Rotate Further...

Results

Polar Align Error

?

Restart Previous Next

Previewing: 765 frames (0 dropped) in 0:31:30, 0.3 fps Memory: 2 of 873 frames in use.

Frame: 2.2/1.8

7:54 PM 8/08/2021

17°C

Ran Plate Solve with the mount rotated by 90 to the left

