

5. Guiding

Objectives

To Discuss the following:

- ST4 Port Guiding
- Pulse Guiding



ST4 Guiding

- Direct Wired Camera to Mount
- EQMod only Sets the Rate!



Selected EQASCOM RA Rate	ST-4 RA+	ST-4 RA-
x0.25	1.25 x Sidereal	0.75 x Sidereal
x0.5	1.50 x Sidereal	0.50 x Sidereal
x0.75	1.75 x Sidereal	0.25 x Sidereal
x1.00	2.00 x Sidereal	Stopped

Selected EQASCOM DECRate	ST-4 DEC+	ST-4 DEC-
x0.25	0.25 x Sidereal	-0.25 x Sidereal
x0.5	0.50 x Sidereal	-0.50 x Sidereal
x0.75	0.75 x Sidereal	-0.75 x Sidereal
x1.00	1.00 x Sidereal	-1.00 x Sidereal

ST4 Guiding

- Advantages:
 - Available in All EQMod Connection options
- Disadvantages:
 - Rate changes will require re-calibration
 - Can not be combined with PEC

PHD for SSAG

ST4 - Equinox 80

- Camera - Star Shoot Auto Guider
 - Mount menu - **On Camera**
 - Brains (starting Point)
 - RA Aggressiveness: 95
 - RA Hysteresis: 10
 - Dec Algorithm: Resist Switch
 - Max Dec Duration: 300
 - Calibration Steps: 800
 - Min Motion: 0.15
 - Search Region: 15
 - Exposure 2.0 - 3.5 sec
- | | |
|-------|-----------|
| EQMOD | ST4 Rate: |
| RA: | 0.5 |
| DEC: | 0.5 |

Pulse Guiding

- Guide commands sent via EQMOD
- Advantages:
 - Variable rate pulse guiding
 - Modify/modify pulse control on the fly
 - Combine with PEC
- Disadvantage:
 - Can only work with EQDIRECT configuration
 - Too many variables (things to remember)

Pulse Guiding

- Enable in Toolbox - Driver Setup

ASCOM Setup

EQMOD ASCOM SETUP

Mount Options

Type: SyntaEQ Coordinate Type:

EQMOD Port Details

Timeout: 1000
Retry: 2
Baud: 9600
Port: Find
COM5

Site Information

Latitude: N 51 0
Longitude: W 0 0
Elevation (m): 100
Hemisphere: North

General Options

Allow Auto Meridian Flip

Slew Preset Rates: 4 No. of Presets: 1
Set

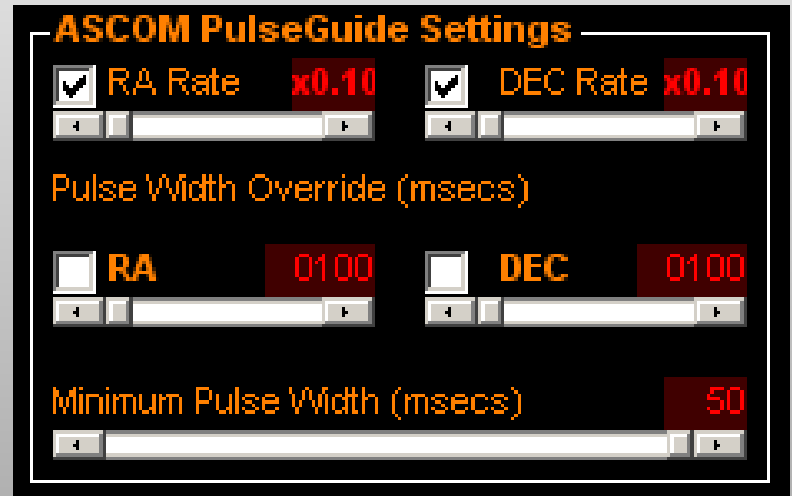
ASCOM Options

Pulse Guide Support
 PulseGuide Exceptions
 Issue Exceptions

OK

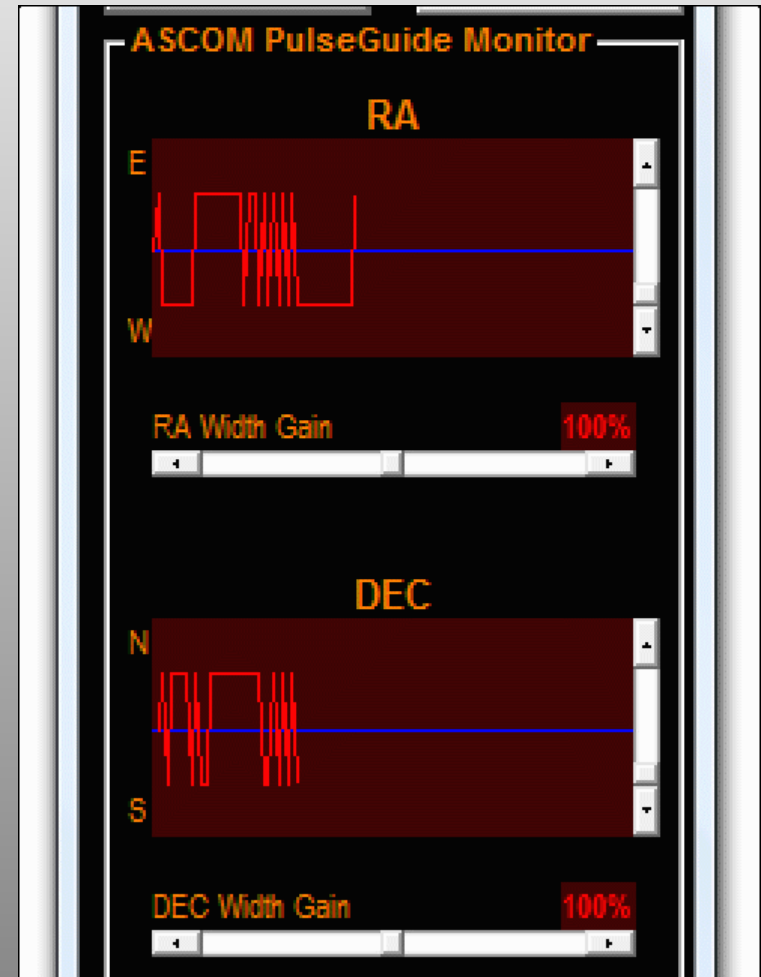
Pulse Guiding Controls

- Rate - Sidereal x
- Override - Changes variable rate to a fixed rate duration
- Minimum Width - leave at 50

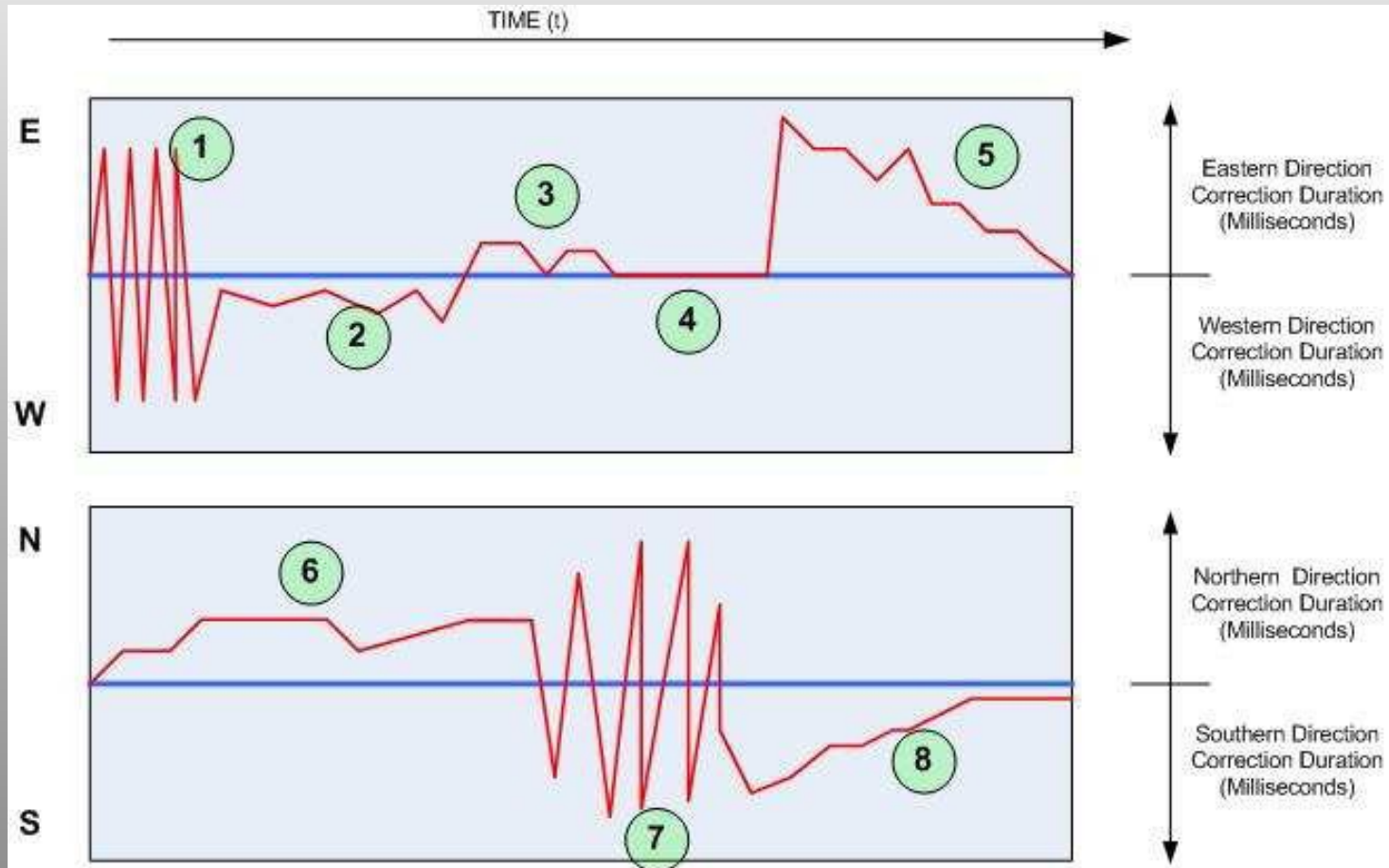


Pulse Guiding Controls

- Rate - Sidereal x
- Override - Changes variable rate to a fixed rate duration
- Minimum Width - leave at 50
- Display+ : Guide Monitor
 - Gain: Correction duration in % (Changed on the fly)
 - **Always Calibrate at 100%**



Pulse Guide Monitor



PHD for SSAG

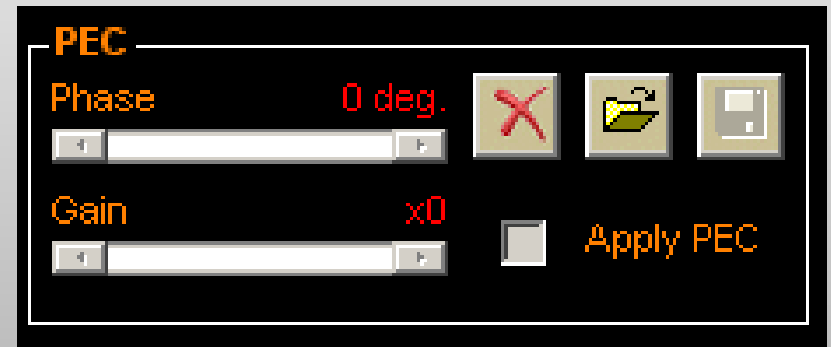
Pulse - Equinox 80

- Camera - Star Shoot Auto Guider
- Mount menu - **ASCOM**
- Brains (starting Point)
 - RA Aggressiveness: 20
 - RA Hysteresis: 10
 - Dec Algorithm: Resist Switch
 - Max Dec Duration: 1000
 - Calibration Steps: 800
 - Min Motion: 0.15
 - Search Region: 15
 - Exposure 1.0 - 3.5 sec

EQMOD Pulse:
RA rate: 0.5
DEC rate: 0.5
RA Override: off
Dec Override: off
Min width: 50

Periodic Error Correction

- Load the PEC table
- Uses Variable Speed PEC
- Can be combined with Pulse Guide
- Benefit depends on Image Scale



EQMOD Reference Docs!

- [EQASCOM_Guiding.pdf](#)
- [eqmod pulse guide monitor tutorial.pdf](#)
- [eqmod_vs-pec.pdf](#)
- [PEC_and_guiding.pdf](#)

Questions?