

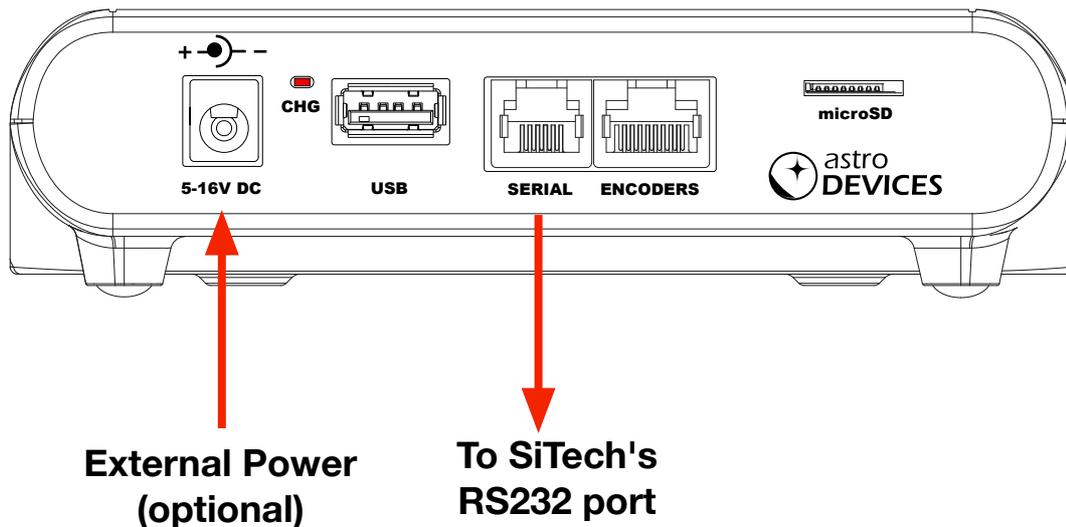
Using Nexus DSC with SiTech Servo Controller

This document describes how to setup your Nexus DSC with SiTech's Servo Controller.

Requirements

- Nexus DSC
- SiTech's Servo Controller unit
- Serial cable Nexus DSC – SiTech (RJ11 to RJ22)

Connections



HERE IS A LIST OF CONNECTIONS:

- Nexus DSC's serial port must be connected to RS232 port on SiTech's Servo Controller
- Telescope encoders must be connected to SiTech's Servo Controller
- Optionally Nexus DSC can be optionally connected to the same battery as used to power the servo controller

CONFIGURE SITECH'S SERVO CONTROLLER

Please refer to the user manual of the servo controller for details on configuring it for use with your telescope. However please make sure that it is not configured for Argo Navis or SkyCommander. Please see screenshots of the configuration pages below. Please note that parameters will most likely be different for your telescope.

Configuring Sidereal Technology Servo Controller

Motors/Encoders AutoTracking Misc. and Action

Azimuth/Right Asc Motor Altitude/Declination Motor

3332096 No of Ticks per Scope Rev 3332096

DPS 1.61 500000 Slew Speed 500000 1.61 DPS

MPS 9.7 50000 Pan Speed 50000 9.7 MPS

SPS 46 4000 Guide Speed 4000 46 SPS

dpsps 6.29 1000 Default Acceleration 1000 6.29 dpsps

15000 Proportional Gain 15000

3000 Integral Gain 3000

4000 Derivative Gain 4000

12800 Error Limit 12800

100.0 Output Limit 100.0

2.40 Current Limit 2.40

22000 Integral Limit 22000

Invert Motor Encoder Direction

HELP Invert Motor Direction Hot Mode is OFF

OK Invert Scope Encoder Cancel

Read Controller Config

1 Y BITS X 101

This telescope is equipped with 40000 steps encoders. Please make sure that encoder ticks are set to the correct value.

Configuring Sidereal Technology Servo Controller

Motors/Encoders AutoTracking Misc. and Action

DragNTrack Parameters

3332096 Number of Azimuth Motor Encoder Ticks Per Scope Rev

3332096 Number of Altitude Motor Encoder Ticks Per Scope Rev

40000 Number of Azimuth Scope Encoder Ticks Per Scope Rev

40000 Number of Altitude Scope Encoder Ticks Per Scope Rev

-34.00 Latitude (Example: 45.34) Use '+' for South Lat.

Use DragNTrack Mode Use SlewNTrack Mode

Ignore Scope Encoders

Equatorial Parameters

Use Equatorial Mode R/A Total Motor Encoder TicksPerRev

12000 Equatorial Rate 30811245

200 Equatorial UpDown adjust

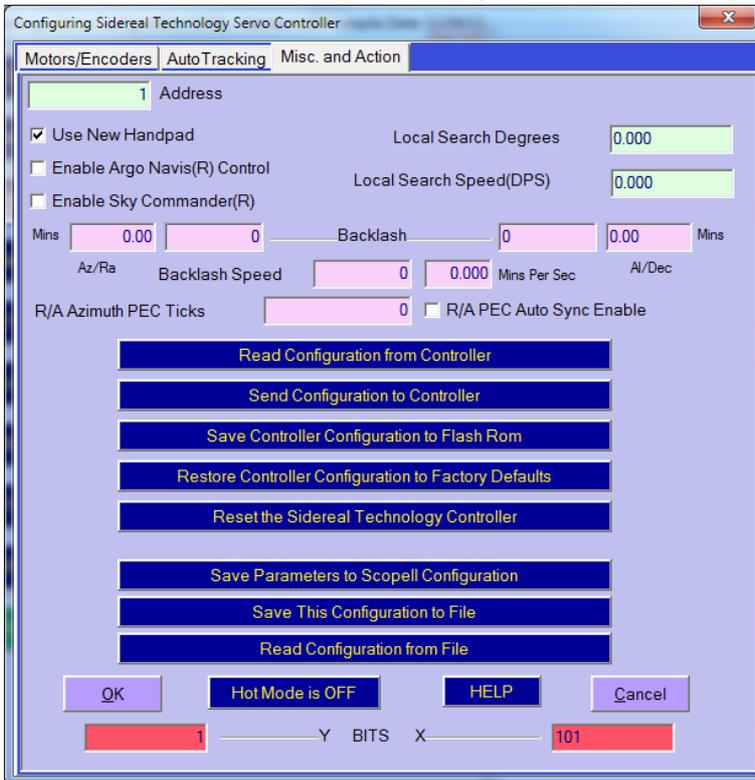
10000000 Tracking Platform Goal

Hot Mode is OFF

OK HELP Cancel

1 Y BITS X 101

Please make sure that both Argo Navis and SkyCommander are disabled:



Setting Nexus DSC up for SiTech's Servo Controller

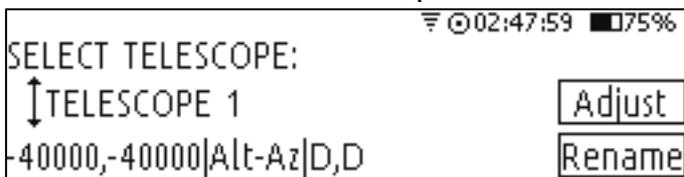
Please turn Nexus DSC ON. The following steps need to be taken only once.

1. Encoder steps

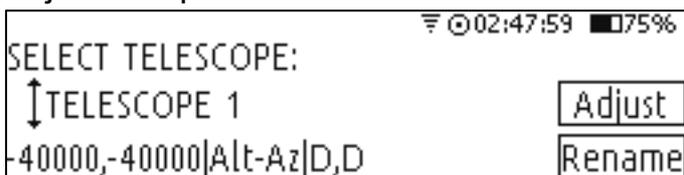
Go to Settings->Telescope



Make sure the encoder steps are set correctly:



Adjust if required:



Please note that the encoder steps have the same values as in Servo Controller's configuration for the telescope.

2. Serial port settings.

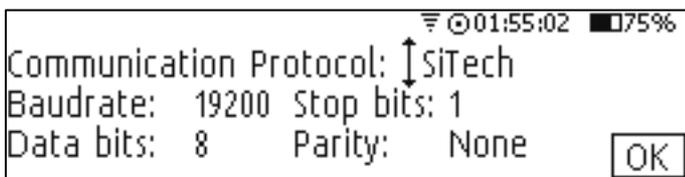
Go to Settings->Communications:



Select Serial and press the OK key:



Make sure that the settings are as follows:



Change them if required and make sure you keep pressing the OK key until you exit this screen to save the new settings.



Please power power cycle Nexus DSC if you changed any settings for Serial port

Testing communications

Now you can test communications between Nexus DSC and SiTech:

1. Make sure both Nexus DSC and Servo Controller are turned off.
2. Turn Servo Controller on first.
3. Now turn Nexus DSC on.
4. Go to Test->Serial



You will see the following screen:

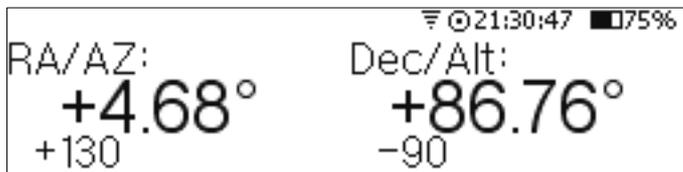


If you set everything correctly then you will see that **Received** and **Sent** are constantly incrementing.

You can also go to Test->Encoders



Move the telescope and make sure that the values are changing.



The setup is finished now.

Using Nexus DSC with SiTech's Servo Controller

Now you can perform the two star alignment and use the telescope. Please note that if Servo Controller is powered down for any reason you will have to perform the two star alignment again and make sure that Servo Controller is turned on before Nexus DSC.

DONE