Hardware Connection

1) Connect nFRAME DC MOTOR to usb-nFRAME using supplied VOICE cable. Do not use DATA cables. VOICE cables can be identified by looking at the ends of the cable. Color of wires are reversed comparing one end to the other.

![Voice Cable Image]

2) Connect usb-nSTEP to external 12V DC using supplied power cable -- nFRAME STEPPER will not work without 12V DC connected. Do NOT connect ANALOG motor to As may result in damage to nFRAME electronics

3) Connect nFRAME to PC usb port using supplied USB cable. Use Windows Device Manager to identify/modify COM port assignments.

Before Installing Software

Make sure that your windows account has ADMIN privilege as ADMIN privilege is required to install drivers in Windows.

Driver signature enforcement should only be disabled if you are positive that you need it to be disabled. Driver signature enforcement can be re-enabled by simply rebooting.

Preparing To Disable Driver Signature Enforcement In Windows 8/8.1

- Press Win + C on your keyboard to open the Windows Charm bar.
- Select the gear icon in the charm bar. Selecting this icon will bring you to the modern ui control panel.

WINDOWS 8

- Select ‘General’, scroll all the way to the bottom of the page and click on the restart button located under the ‘Advanced Startup’ section.
- After restarting in the advanced mode, a screen will come up with two options. Select the ‘Troubleshoot’ option.
- When the ‘Troubleshoot’ option is selected, another window will appear. Find and click the option that says ‘Advanced options’.
- In the advanced options window, select the ‘Startup settings’ option.
- Inside the ‘Startup settings’ window, a list of selectable boot options will appear. Press the F7 key to disable driver signature enforcement.
- Once you’ve selected the option to disable driver signature enforcement reboot back into windows.

WINDOWS 8.1 or 10

- In the Modern UI control panel find ‘Update & recovery’ on the left hand side of the menu.
- Once in ‘Update & recovery,’ select ‘Recovery’ in the list of options on the left hand side of the modern ui menu.
- After restarting in the advanced mode, a screen will come up with two options. Select the ‘Troubleshoot’ option.
- When the ‘Troubleshoot’ option is selected, another window will appear. Find and click the option that says ‘Advanced options’.
- In the advanced options window, select the ‘Startup settings’ option.
- Inside the ‘Startup settings’ window, a list of selectable boot options will appear. Press the F7 key to disable driver signature enforcement.
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usb-nFRAME Mono STEPPER Instructions

Software Installation


2) Download and run the nFRAME ASCOM installer

3) Double click on the "GCUSB_nFRAME Setup.exe" and run the exe

4) Accept license agreement and proceed

5) Bring up the usb-nSTEP application and connect to the usb-nSTEP COM port.

6) Bring up the usb-nFRAME application and connect to the usb-nFRAME COM port.

7) Ready to go 😊
Position:
Angle in degrees where the driver thinks the focuser is. Position will change as the nFRAME rotates.

GoTo Position:
Go to desired angle upon pressing GO

Clin/Cout:
Move as long as button held down.

Steps/sec Slider
Steps/sec to execute Clin/Cout. Can be set by sliding the slider, or entering a value. Range is limited by Max Rate set in Setup Window.

Steps/Sec:
Displays the value selected on 'slider', or you can manually enter the number of 'pulses'.

Connect to nFRAME:
Check box to connect control software to usb-nFRAME hardware via the COM port selected in the setup screen (below).

Note: Once connected to the nFRAME you cannot disconnect without quitting program.

Note: An ASCOM application opening the driver will force this connection when 'Linked'

Setup
Select to display usb-nSTEP setup window.

Traffic
Select to display ASCOM usb-nFRAME command traffic with usb-nFRAME hardware.

Position Button
Select to expand window to display the Stored Position / Internal Temperature Compensation features.

nFRAME Control Window

nFRAME Field of View

nFRAME Stored Position

Let's user make changes major elements with large differences in focal plane easily by focusing once and then saving the position with annotation for later 'GoTo' when this element is used.

Save
Saves the current position

Goto
Moves the focuser to the saved position

Description
Lets the user label the position for ease of operation.

Position Dial
Displays angular position as value and dial in degrees.

Setup Window

nFRAME Focuser:
Set to Comm port as shown in device manager for GCUCB-nSTEP identified.

MAX Rate:
Range 4-15 - The quickest stepping rate allowed.

Factory setting is 4. Faster than that, pulses are too short for stepper coils to activate properly.

Steps/degree:
Factory setting is 47.00 deg/step. Can be specified to two decimal points, tweak to assure that 360 degree rotation comes all the way around to same position as 0 degrees.

Backlash Steps:
Factory setting is approx. ½ of steps/degree.

Direction Select:
Set in factory to 0. To reverse direction (between clockwise and counterclockwise rotation) set to 3.

Reset Position
Press to set the current focuser position to zero.

Basic/Advanced
Toggles between displaying the Advanced (full screen as shown at left) or Basic setup (only upper half of screen)

Cancel
Cancel changes and return to the control window.

OK
Apply all changes to setup and return to control window.

1 Year limited warranty: Rigel Systems, 26850 Basswood Ave, Rancho Palos Verdes CA, 90275 warrants to the original consumer purchaser of its product that the product will be free of defects in material or workmanship 1 years from the date of purchase under normal use. During this warranty period, Rigel Systems will, at its option, repair or replace the product without charge for parts or labor when delivered to Rigel Systems with proof of the date of purchase and a statement of the problem with the product. Shipping and handling charges to Rigel Systems are your responsibility. This warranty does not apply if the product has been altered or repaired by anyone other than Rigel Systems or has been subjected to purchaser abuse, accident, negligence or damage subsequent to purchase including battery damage to product. This warranty excludes incidental or consequential damages resulting from the product or use of the product. The product is not a toy. Keep away from children.

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