

## SCU\_ReadMe file, revised November 2016

ServoCAT Utility (SCU) is a Windows command line utility, which relies on v3.5 .NET (or later) runtime support for serial port access. It is designed as a simple command line utility, so it can be called from a simple **batch file** to perform simple operations like parking your ServoCAT or turning off tracking. This allows simple operations to be executed by way of script files to automate certain operations. Script files can be started manually, or as jobs run by the windows task scheduler

Runtime .NET 3.5 support is commonly part of most recent Windows operating systems, and can be enabled or downloaded if your Windows version lacks this level of .NET runtime support.

SCU is distributed as a file you can download and run – it does not do any Windows setup tasks, so it can be run from your download directory, or copied to another location and run from the new location. The only prerequisite is that it relies on v3.5 .NET (or later) runtime support for serial port access. It is usually best to start it from a Windows command line prompt. If you double click on SCU, it will run in a command prompt window.

You must disconnect any ASCOM driver before running SCU, and you must quit SCU before running the ASCOM ServoCAT driver. This is required because only one application can use your ServoCAT USB/Serial Port at any given time. SCU is not an ASCOM-aware application, so it cannot be used with an ASCOM hub like POTH.

When you start SCU you will see something like this:

```
ServoCAT Utility: SCU.exe, v1.2, 11/07/2016
SCU can query Firmware version and set selected ServoCAT states.
SCU can accept command line arguments for COM Port number to read, command
to send, and seconds to wait after command is sent before reading response
```

```
At 11/07/2016 10:43:00 AM:
```

```
The following serial ports were found:
```

```
COM1
```

```
COM5
```

```
COM6
```

```
Please enter COM Port number (1, 2, 3, etc.) or X to exit program: 1
```

Once you have entered the correct number for the COM Port used by your ServoCAT, you should see something like this:

```
Testing COM1 for active ServoCAT connection: .
17 BytesToRead = Legacy : COM Port read: 18.624 +38.799
.
20 BytesToRead = HighRes : COM Port read: 18.62468 +38.7987?'
.
5 BytesToRead = Version number: 62 : COM Port read: 62.P
```

Integer value of Status Byte is: 17

```
Tracking is ON,
Not Moving using HC,
GoTo not in progress,
Scope is not Parked,
Scope is Aligned
```

Please enter H for help, P to toggle park status, R to toggle tracking status, S for status report, D to request current parameters, X to exit program or a number from 1 to 30 for seconds to wait for a command response:

If you do not specify the correct COM Port, you will see:

No response from ServoCAT, please check your cables and power supply

If your ServoCAT firmware is an older version, you may see this message:

Only a Legacy mode response was received from your ServoCAT, so no other operations are possible. This means your firmware version is less than 61. You may be able to upgrade your firmware to a newer version. Please contact StellarCAT if you have questions about a firmware upgrade.

The following commands are available, and this summary can be seen if you enter H for Help:

D: download current SC parameters, and optionally save them to files

H: display this command help

P: toggle park state (Park/Unpark)

R: toggle tracking state (Tracking On/Off)

RE: turn off tracking for elevation (Alt axis)

RZ: turn off tracking for azimuth (AZ axis)

RB: turn off tracking for both axis (same as single R command)

S: show current SC status

V: request SC firmware version

1 to 30: number of seconds to wait for a ServoCAT command reply

Please enter H for help, P to toggle park status, R to toggle tracking status, S for status report, D to request current parameters, X to exit program or a number from 1 to 30 for seconds to wait for a command response: D

In response to a D command, you will see something like this:

```
ServoCat data file,02,02
Download,AZ,2000,16780,55,140,240,45,60,130,3,0,0,1265,48,17261
Download,AL,2000,16048,50,140,240,40,60,130,3,0,1,1265,50,500
END
```

Downloaded parameters can be saved to two files that will be written to your Desktop. They can be used with ServoCAT-Sky.exe to configure your ServoCAT: Please use SC\_CurrentParameters.dat to load values into ServoCAT-Sky.exe, and use SC-Sky\_Screen\_Help.txt to guide your on-screen entry of parameters. Do you want to save these two files to your Desktop? (Y/N):

Please note that the .dat file representation shows gear ratios that are twice what you see from the ServoCAT-Sky entry screen.

As mentioned earlier, SCU accepts command line arguments to facilitate use from a **batch file** or automating common responses. Here are some example batch files:

SCU.exe 8

This batch file will request COM Port 8. This is a handy way to automate your COM Port choice and move directly into the command mode of SCU. At this point you can then request a wait-for-reply interval with your first command (like V4).

SCU.exe 4 V 5

This batch file will request COM Port 4, send the firmware version request and establish a 5 second interval to wait for a reply.

SCU.exe 3 P 10

This batch file will request COM Port 3, send the Park/Unpark request and wait 10 seconds and wait for a reply. This allows the park process to complete before the command is acknowledged.

Any batch file that sets COM Port + command + wait time will cause SCU to execute the command request then terminate without pausing for more command requests. This allows SCU to be from a batch script file without requiring your interaction. Such script files can be used to automate startup or shut down operations.

Some people have had problems getting SCU to connect to their ServoCAT. Here are several tips and factors to consider:

- 1) Be sure you are trying to connect on the correct serial port. SCU lists available serial ports when you run it, so be sure you select the correct one for your ServoCAT.
- 2) If you are not connected to your Argo Navis, or it is not turned on, the ServoCAT can be very slow to reply to SCU. You might try running SCU with command line arguments, as outlined earlier. For example, you can start a command prompt, go to the directory where SCU.exe is stored, and then enter this:

```
SCU.exe 3 D 15
```

This command uses Com 3, requests a report of stored parameters by using the D command, and waits 15 seconds for a reply.

- 3) Your original SC firmware version probably does not include the D command (report stored parameters), or other new commands. Once you upgrade your SC firmware, you will have the new commands. You might try upgrading your firmware, then read what is still in the unit with SCU. This may show your correct parameters if they were not deleted by the firmware upgrade.

Here is another command line example:

```
SCU.exe 2 V 8
```

This example uses Com 2, requests a report of SC firmware version by using the V command, and waits 8 seconds for a reply. Here is a link to on-line SCU resources:

<http://www.unm.edu/~eschman/SCU.htm>