This guide will focus on giving a brief introduction to the Atlas Data Acquisition Software. The goal is to allow you to install, configure, navigate and start recording data quickly

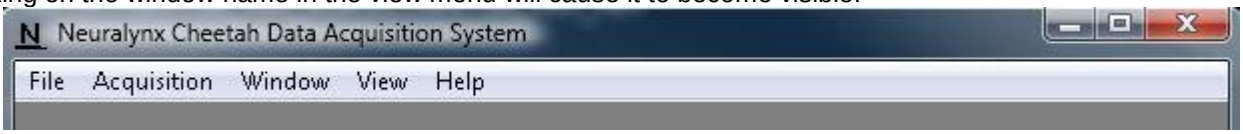
Starting the Atlas Software

Double-click on the Run Atlas icon on the desktop. This will start the Atlas software will all the most important windows visible.

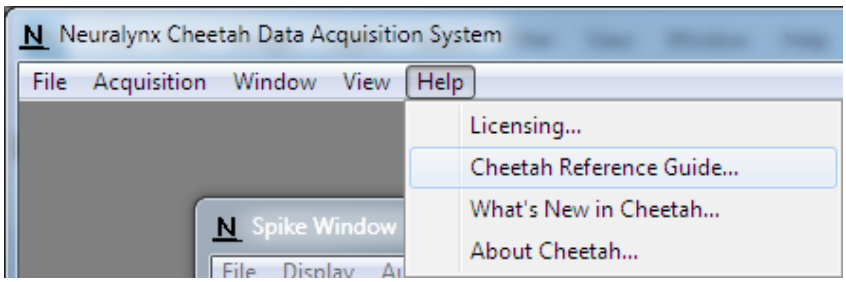
The Most Important Windows

Cheetah has a lot of different windows and options, but the most used ones are the Main Window, Cheetah Reference Guide, Time Plot Window, System Status Dialog, and the Properties dialog. Each of those windows has many options and display types, all of which are covered in the Cheetah Reference Guide.

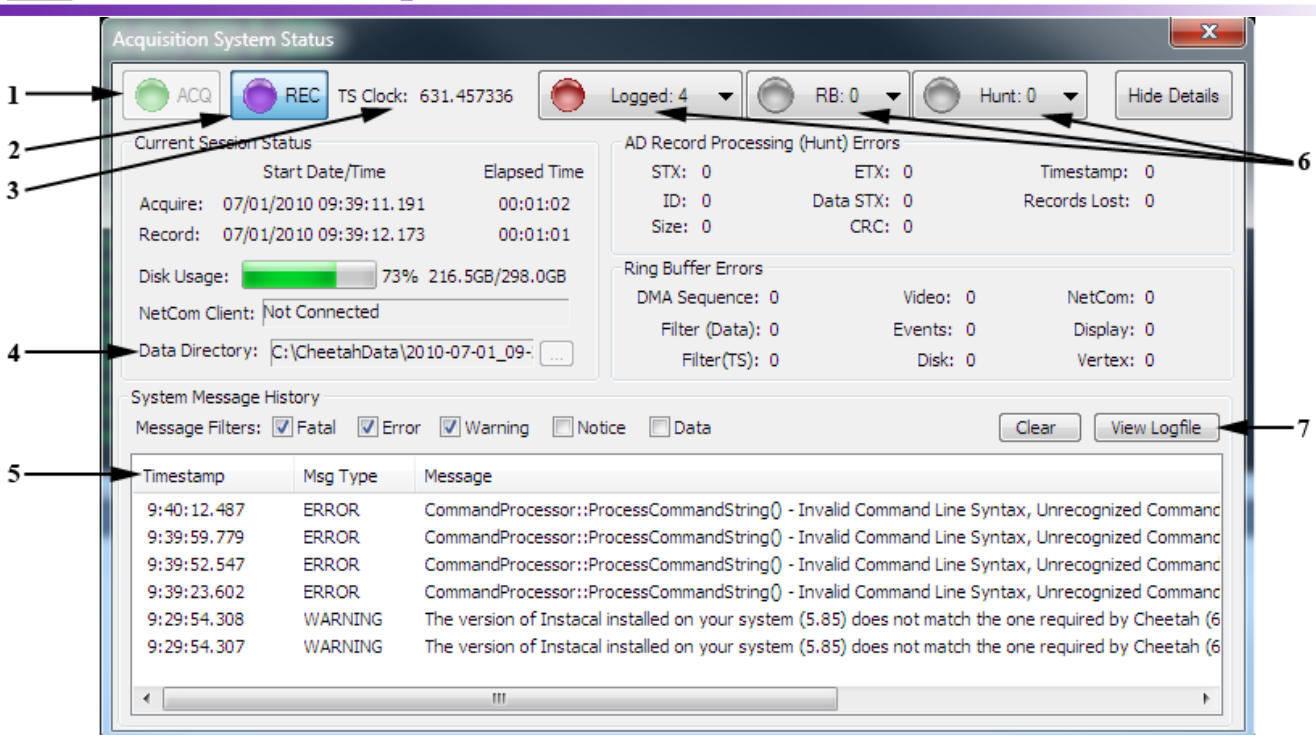
1. **Main Window**: Contains all of the other windows in Cheetah. Closing this window closes Cheetah. There is a menu bar that allows you to perform general operations in Cheetah. The only menu will be covered in this quickstart is the View menu. It is used to show the different settings windows in Cheetah. If a window is opened, and cannot be seen; clicking on the window name in the view menu will cause it to become visible.



2. **Cheetah Reference Guide:** As stated previously, the Cheetah Reference Guide contains information on every aspect of the Cheetah Data Acquisition Software. To open the Cheetah Reference Guide, simply select it under Cheetah's Help menu:

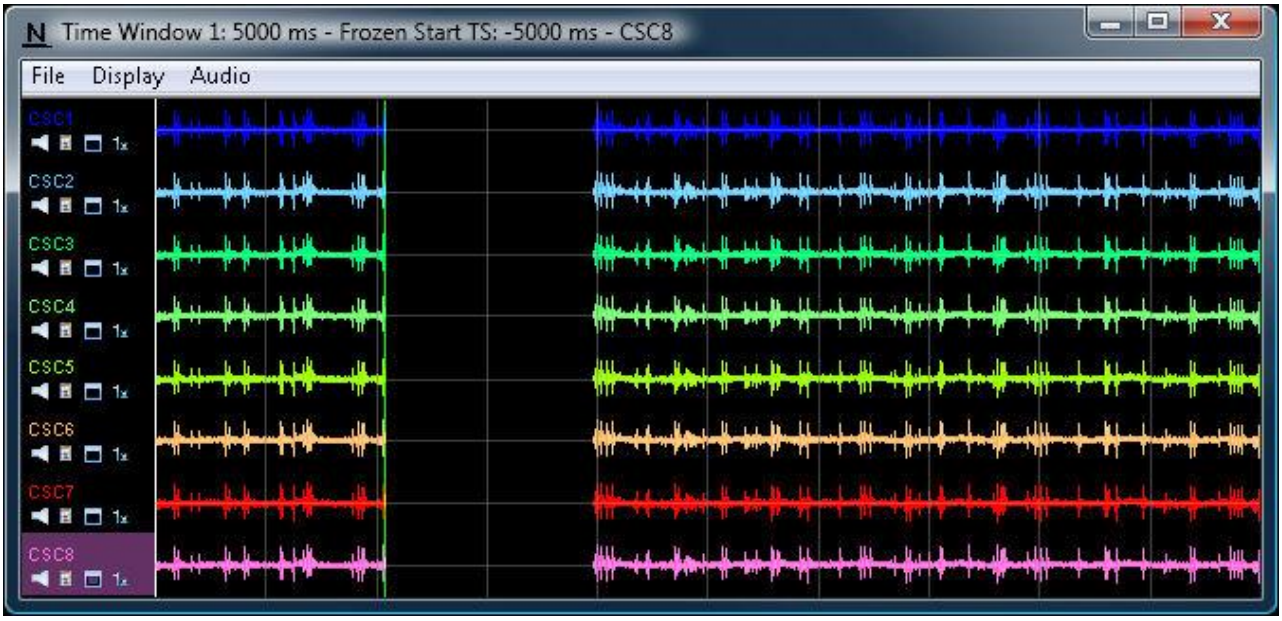


3. **System Status**: This is the control center of Cheetah. It shows the current system state, as well as any problems that may have occurred. There is a detailed view and a single line view for this dialog. This can be changed by clicking the Show Details or Hide Details button. The most important parts of the dialog for the quickstart are identified in the detailed view below:



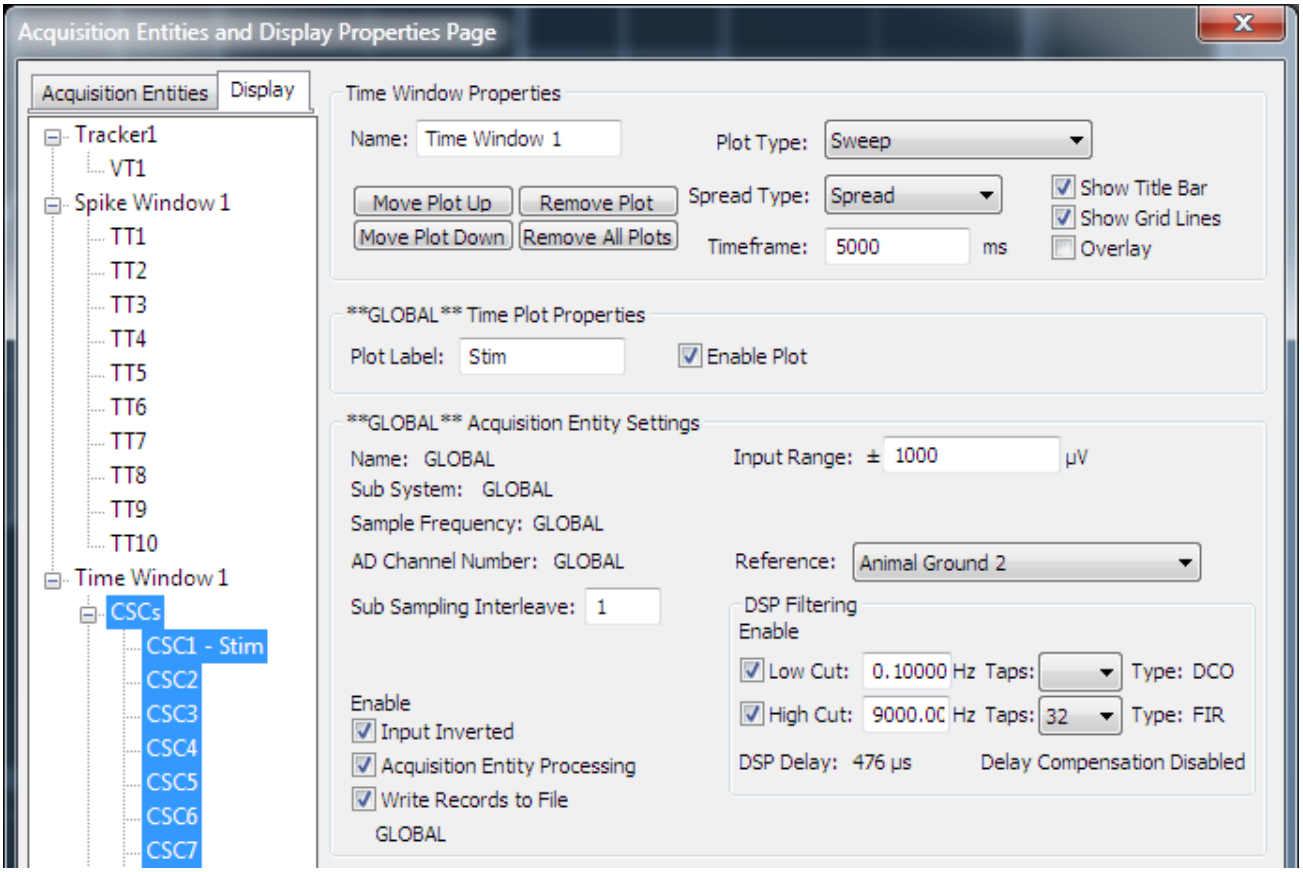
1. **ACQ**: When the button is Green, Cheetah is in Acquisition mode. Acquisition can be started or stopped by clicking on the button. The Ctrl+A hotkey will also toggle acquisition. No data is saved when Cheetah is in Acquisition mode.
2. **REC**: When the button is Purple, Cheetah is in Recording mode. The Acq button will also be Green when in recording mode. Recording can be started or stopped by clicking on the button. The Ctrl+R hotkey will also toggle recording. Data is recorded to files when Cheetah is in Recording mode.
3. **TS Clock**: The current Cheetah timestamp. This number is in seconds and should always be increasing.
4. **Data Directory**: This is where all of the data files are saved while recording.
5. **Message History**: A listing of all of the messages saved to the logfile.
6. **Logged, Ring Buffer and Hunt**: These buttons will turn Red when an error occurs, and the error counts will update to let you know what type of error has occurred. Clicking on the buttons will give you options for each error type.
7. **View Logfile**: Shows the current logfile. When calling Neuralynx for support, this file will aid in figuring out problems that have occurred. This can also be done by clicking on the Logged button and selecting View Logfile.

3. **Time Plot Windows**: All of the data for CSCs will be visible in these windows. Event data may also be added to Time Plot Windows. For a complete description of these windows, review the CSC display section of the Cheetah Reference Guide.



Time Window

4. **Properties Dialog**: The Properties dialog is where adjustments to the way that data is shown and processed in Cheetah are made. Clicking on the properties icon on the plot whose properties you want to edit will immediately show the properties dialog and select the plot whose icon was clicked. Important properties for plots, windows and acquisition entitles will be covered shortly. At this point the guide will focus on the tree view on the left side of this dialog.



There are two tabs for the properties tree. The Display tab will group all acquisition entities by the windows that contain their plots. The Acquisition Entities tab will group all acquisition entities by their acquisition entity type. When an individual item is highlighted in the tree, the properties for that item are shown on the right side. Editing any of the properties will take effect immediately (pressing ENTER on some of the properties is necessary to change them). You can change the properties of more than one acquisition entity or plot by selecting a group item. In the above image, all CSCs in Time Window 1 will be affected by any property changes. You can tell when you are in global change mode when **GLOBAL** appears in a section heading and more than one item in the tree is highlighted, as shown above.

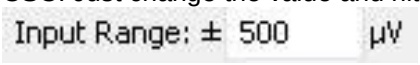
Acquiring Data

Connect a signal generator or some other signal to the hardware so there will be something to see on the displays. Once a signal has been connected, hold down Ctrl and press A. Data may not be visible in the plot windows. This means that the data being input is not in range for the current Cheetah settings. Adjusting of properties will be required.

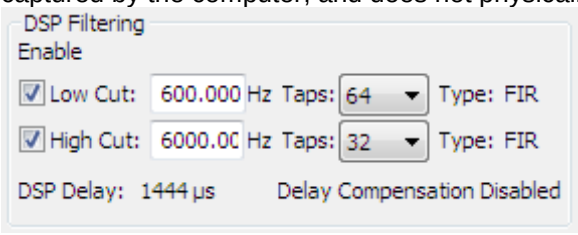
The Most Important Properties

Windows, plots and acquisition entities all have separate properties that can be changed. There are three properties that will probably have to be adjusted at the start of a recording. All of the properties detailed below are available on the Properties dialog (discussed previously). These properties are:

1. **Input Range**: Sets the voltage range of the data that will be acquired by Cheetah. This value is used to scale the data so that it has the highest resolution (volts per AD count) possible within your expected voltage range. Setting this value too low can cause your data to clip, meaning you will lose any waveforms with voltage values outside the input range. Setting this value too low can cause your data to have poor resolution, meaning you may miss some details present in the original data. This value is set differently depending on the acquisition entity you select.
   a. **CSC**: Just change the value and hit ENTER.



2. **DSP High Cut and Low Cut filters**: Cheetah has the ability to use DSP filtering on the incoming signals. The high cut and low cut values are the only ones that generally need adjustment. DSP filtering is applied after the signal is captured by the computer, and does not physically change the electrical signal. Checking the box enables the filter.



Recording Data

Now that everything is adjusted so that CSC data can be seen in the plot windows, that data can be recorded to a file for later analysis. Hold down Ctrl and press R. As long as Cheetah is recording, all data that is seen will be written to a file in the data directory. To stop recording, hold down Ctrl and R again. Recording to the same file can be started and stopped as long as disk space is available. While the REC button is purple, data will be saved to a file.

Monitoring Data

Once Recording has been turned on, it is a good idea to monitor your experiment. Arrange the Time Windows to your liking such that all important data may be seen at the same time. It is also a good idea to keep the System Status dialog in view. This will notify you if any errors occur. There are two types of errors displayed. One type is hunt errors. Hunt errors deal with processing the data in terms of accuracy. If data is corrupt or formatted incorrectly, hunt errors may occur. A few hunt errors here or there are nothing to worry about. Consistent hunt errors may indicate a problem with the system setup. The other type of errors are ring buffer errors. These deal with data storage and processing throughout the system. If any of these are occurring regularly other than Display, Vertex or NetCom, then you are losing data and may want to check your system setup. Red flashes will occur in the system status window when errors occur. One last thing to watch out for are error messages that get displayed in the system status window. If any of these messages are flagged as FATAL, then a major problem as occurred and the system more than likely should be restarted. If there are not any red flashes on the system status dialog and data is continuously scrolling within all the time windows, then your experiment is running smoothly.

Closing Cheetah

Before closing Cheetah, stop recording and acquisition. Then click the X in the upper right corner of the Main Window. All the changes made to Cheetah while it was running will be saved. The next time Cheetah is started, select "Start Cheetah with Last Configuration" and everything will be as it was when Cheetah was closed.

This guide represents a small portion of Cheetah's capabilities. For more information, see the Cheetah Reference Guide. Send any comments or ideas on how Neuralynx can make Cheetah better to support@neuralynx.com, or post them to the forums on our website.