

Setting up the observatory Windows computer

Logging in to the computer

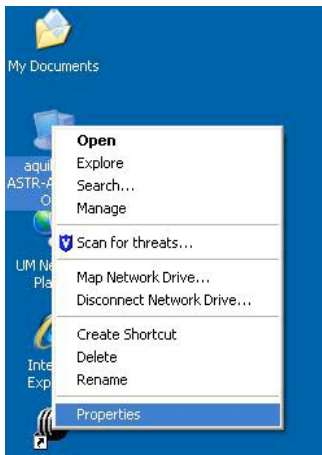
Log in using your unickname and Kerberos password. Make sure the box labeled “Log on to:” is set to UMICH.EDU (Kerberos Realm).

The first time you log in, it will spend a few minutes setting up your local Windows environment.

Setting up Windows

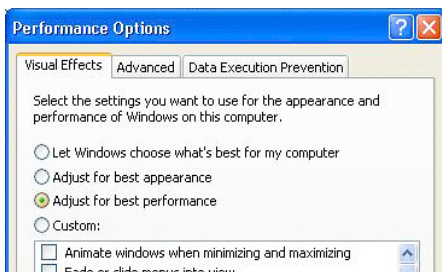
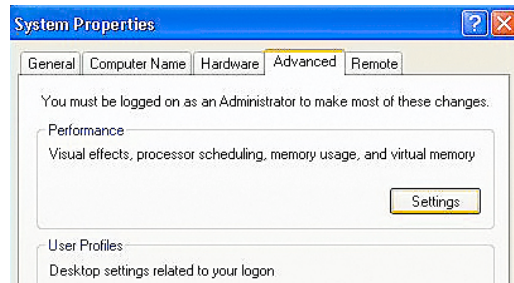
Display Settings

In order for The Sky and CCDSOft to display properly, you’ll need to change your performance settings.



Right-click on the icon labeled “<unickname> on ASTR-AH51...” and select Properties.

Click the Advanced tab, then the Settings button in the Performance section.



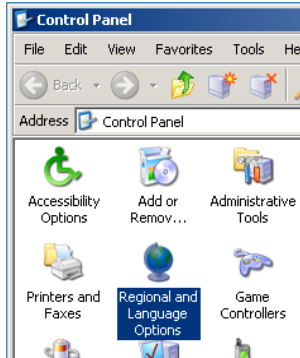
Choose “Adjust for best performance”

Click Apply.

The computer will take a moment to change the display settings. Then you can close the windows by clicking OK.

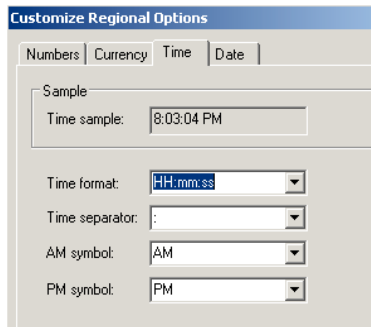
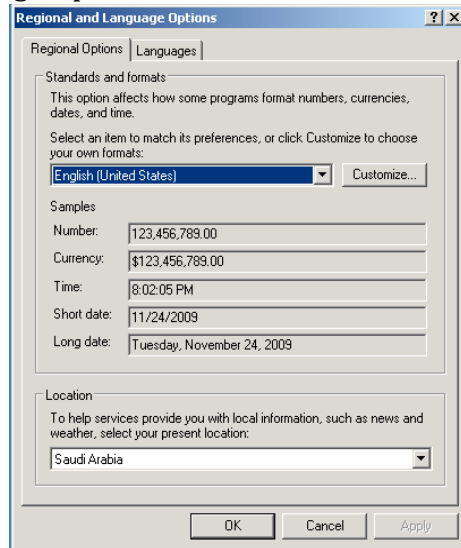
Clock Settings

You may want to have the clock in Windows display the time in 24-hour format to match the time display in the tcs software. If not, skip to the next section.



Open the Control Panels from the Start menu and double click "Regional and Language Options".

Click the "Customize" button to open the "Customize Regional Options" dialog box.



Select the Time tab.

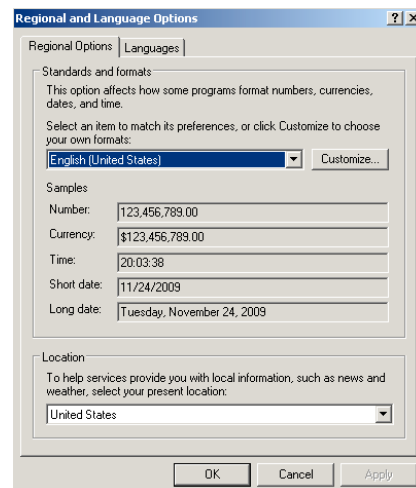
Select HH:mm:ss from the "Time Format" drop down list. Leave the time separator and and the AM and PM settings alone. Click Apply. Check the clock in the bottom right corner of the task bar to make sure it is displaying the time in 24 hour format. It won't display the seconds in the

Taskbar. Click OK.

Check to make sure everything is displayed the way you want. If the Apply button is NOT greyed out (ie it is NOT like the image here), click it to make sure all your settings are applied.

Note the Location may be set to Saudi Arabia. This doesn't appear to actually affect anything with regard to the telescope/CCD operation, but you may want to change it. Select "United States" from the drop down. Click Apply to apply the change.

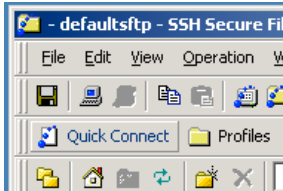
Click OK to close the window.



Setting up the ssh client

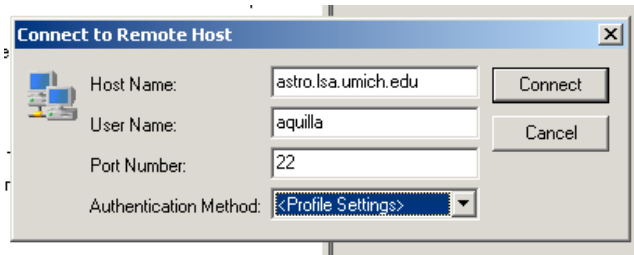
The ssh client makes it easy to transfer files between this computer and your home directory. If all you want to do is run the telescope, you can skip this section.

Double click the SSH Secure File Transfer icon on the desktop

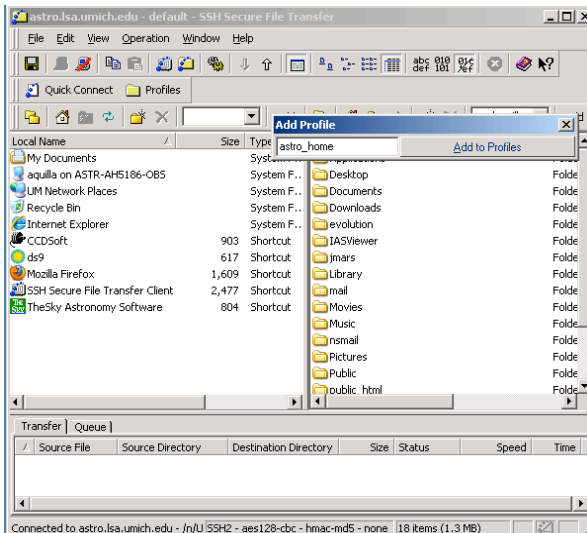


Click the "Quick Connect" button.

Type the name of the server you want to connect to (astro.lsa.umich.edu will connect to aten) and your unickname in the appropriate fields, then click "Connect".



The first time it will warn you about the host you are about to connect to and ask if you want to "...save the new host key to the local database". Click "Yes" or you'll get this message every time. It will also give you a warning about proper use of University resources. Click OK, then enter your password when it asks for it.



It will give you the option of adding this connection to your profiles. Simply type the name and click "Add to profiles". In future, you can click the Profiles button (next to Quick Connect) and select this profile to connect.

The left hand pane is now this computer and the right hand pane your home directory. Drag and drop to copy files from one computer to the other. The bottom pane tells you what activity is going on and will tell you when the file transfer is complete.

Although you can open files in your home directory on this computer, it is generally faster and safer to create a local copy and open that. Just don't forget to copy it back over when you are done.

Setting Up TheSky

Double click the icon to start it.

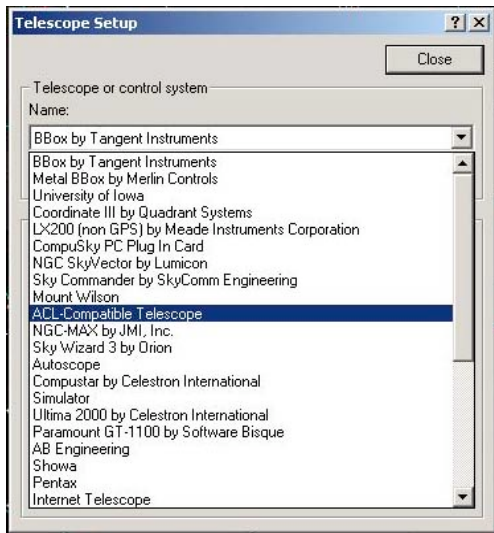
When it opens, it will show you the tip of the day. It's up to you if you want to continue to get this tip or not. If not, uncheck the checkbox.

When you close the Tip of the Day, it will give an error message about "Failed to update the system registry...". Click ok. The error does not appear to affect the ability to use TheSky. If you tell it not to show you the tip of the day, an error box will still pop up, but it will go away on its own before you can read it. Unfortunately, it will also switch applications, so you'll have to alt-tab back to TheSky.

It is recommended that the first thing you do is go to File and choose Save As and save Normal.sky to your "My Documents" folder. That way, if you make changes or do something you don't like, you can re-load the Normal.sky from the program folder, and if you do make changes you like they can be saved to your copy.

Setting up the telescope

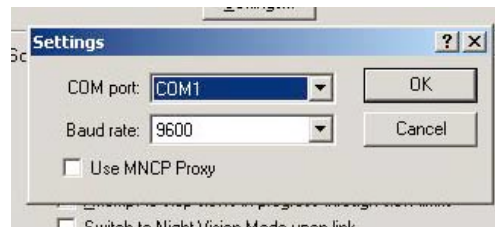
Under the Telescope menu, choose Setup (the very first item).

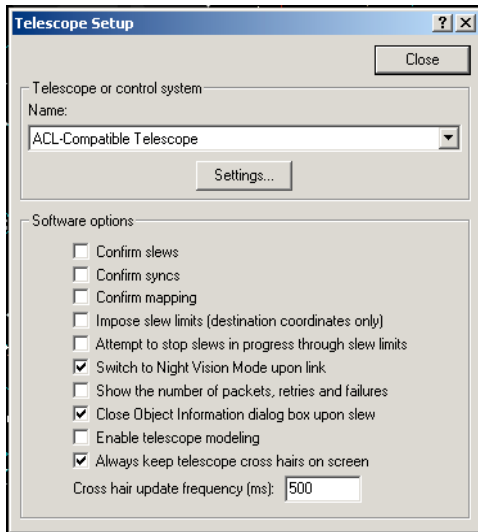


In the drop down list, choose ACL compatible Telescope (it'll be about half way down the visible list)

Click the Setting button and make sure the port is set to COM 1, the Baud rate to 9600, and the "Use MNCP Proxy" checkbox is unchecked.

Click OK.





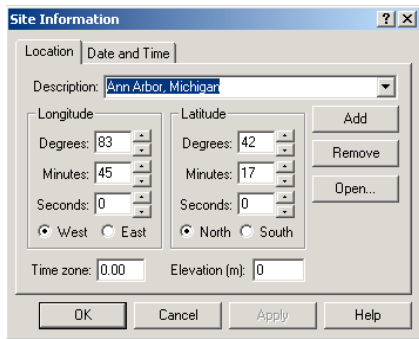
The check boxes are mostly your preference.

The last checkbox must be checked. All others are up to you, but it is strongly recommended that you look through the list below. Some of the items are very annoying.

Although it is possible, you should not change these settings while linked to the telescope. Some of them affect what information goes to the 'scope and can result in unexpected behavior.

- Confirm Slews will ask if you really want to move the telescope. Potentially annoying since you have to use the tcs to actually slew the telescope
- Confirm syncs will ask if you really want to sync. Potentially annoying.
- Confirm mapping is used with TPoint to confirm new coordinate points (see "Enable telescope modeling" below)
- Impose Slew Limits will use the slew limits set in TheSky to prevent you from slewing to an object outside of where the telescope can point. However, the tcs limits are more reliable and safer to follow.
- Attempt to stop slews in progress through slew limits won't work because TheSky doesn't directly control the telescope's movement. It may prevent TheSky from sending coordinates to the tcs if the slew limits aren't set up correctly.
- Switch to Night Vision Mode upon link will change the screen when you link with the telescope. This is useful, however it doesn't automatically change back when you terminate the link, so don't forget to switch back.
- Show the number of packets, retries and failures gives information about how theSky is communicating with the tcs. Probably not useful.
- Close Object Information dialog box upon slew closes the information box once you tell the telescope to slew. We usually have this checked, but it's purely your preference.
- Enable telescope modeling enables the TPoint modeling software, which is overkill for most users.
- **Always keep telescope cross hairs on screen will keep the cross hairs on the screen when you are linked to the telescope so you can always see where the telescope is pointed. This is strongly recommended.
- Cross hair update frequency tells the computer how often to update the position of the telescope cross hairs. 500 is a good setting. Too often can slow down the computer, too seldom and you won't really be able to tell where the telescope is pointing.

Next, make sure the location is correct, and you are set up to use the computer's clock. Go to Data -> Site Information.

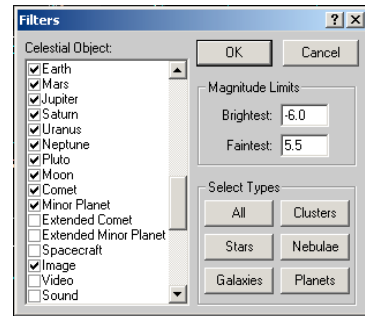


Under the location tab, check the lat & long (see image to the left).

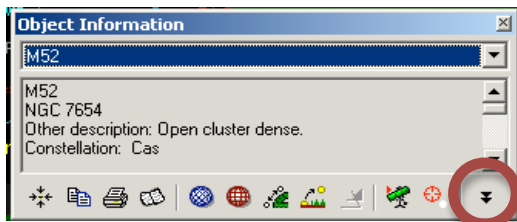
Under the Date and Time tab, check to make sure the "Use Computer's Clock" checkbox is checked.

If you are in a hurry, you can now go to Telescope -> Link -> Establish to connect to the tcs. However, there are a couple more things you might want to change.

To make TheSky show the information box instead of images, go to View -> Filters, scroll down until you find Images and uncheck the check box (note how far down it is.)



You can still get to the images by going to the multimedia tab in the Object Information dialog box if the box is expanded.



You can expand the information box by clicking the double arrow symbol in the bottom right corner.

Exiting and reloading Normal.sky

When you exit, you will be prompted to save Normal.sky. Tell it yes to save all your current settings. If you make a change you don't like, you can always quit without saving.

To reload the original Normal.sky, make sure TheSky is closed, then navigate to C:\Program Files\Software Bisque\TheSky\User\Documents. Double click Normal.sky. Once TheSky is open, do a Save As and save it to your Documents folder again, then check the settings, especially for the telescope and location .

You can also create other documents using SaveAs. For example, you can create a document to show bright objects that are good targets for the C8s.

TheSky always opens with the last document you had open. It only allows one document at a time, so when you open another document, it closes the one that was open.

Setting up CCDsoft

If you won't be using the CCD camera, you are done.

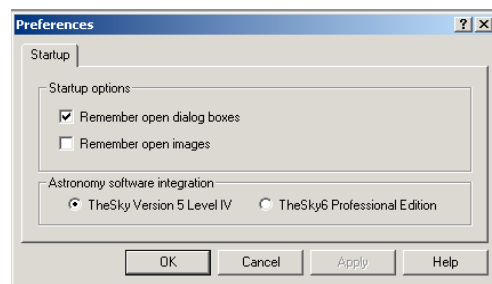
First make sure the telescope is set up and linked in TheSky. Turn on the power strip on the telescope pier to turn on the camera. Then open CCDSoft.

It will give you a warning about updating the Registry, just like the one from TheSky (probably written by the same programmer). Just like TheSky, it will close on its own.

Set the preferences

Go to File -> Preferences.

The Startup options checkboxes can be set the way you want. Astronomy software integration should be set to TheSky Version 5 Level IV.

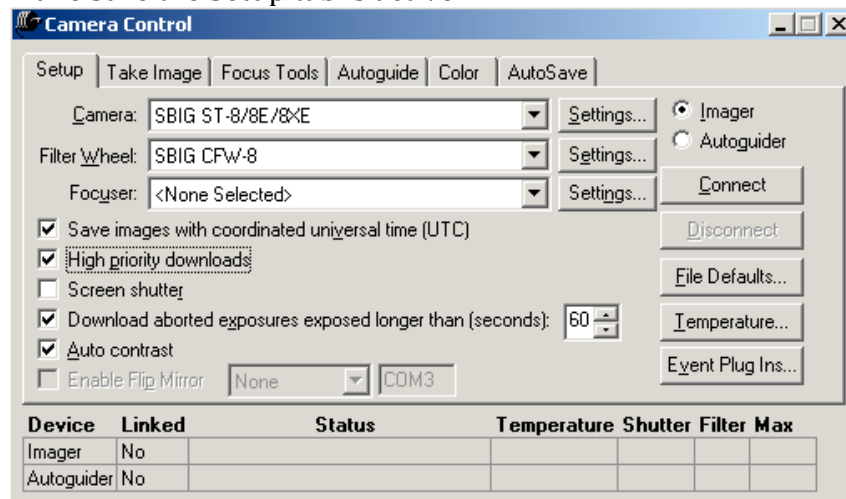


Click Apply, and then click OK.

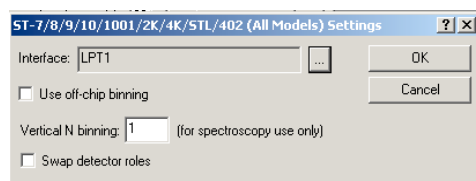
Set Up the Camera

Go to Camera -> Setup or press Ctrl+W

Make sure the Setup tab is active.

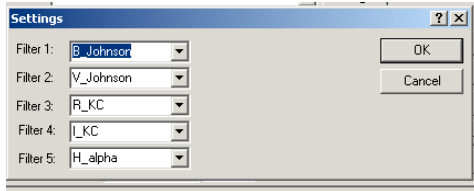
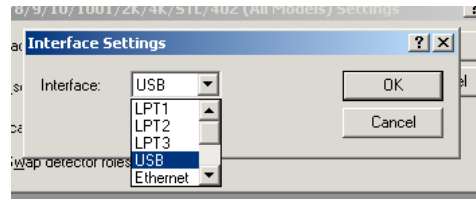


Under the Camera dropdown menu, select the SBIG ST-8. Under the Filter Wheel drop down, select SBIG CFW 8. The checkboxes depend mostly on your preferences, but you should check "High Priority Downloads" (see note at the end of the CCDSoft section.)



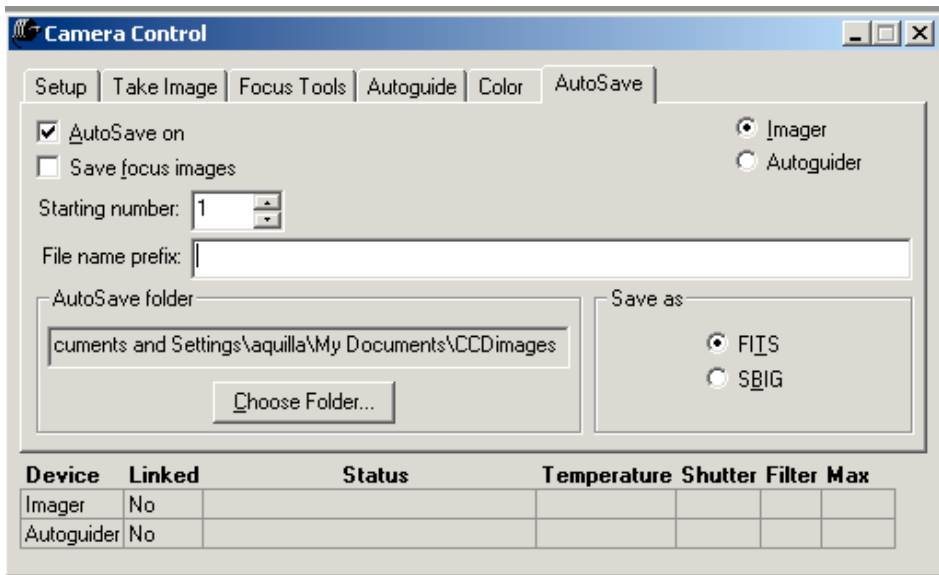
Click the settings button next to the Camera drop down to bring up the Settings dialog box. The Check boxes and Vertical N binning can be left as they are.

Next to the Interface box, click the ... button to get a drop down menu. Select LPT 1. Click OK to close the interface dialog box, then click OK to close the camera settings dialog box. This should put you back at the Camera Control dialog box.



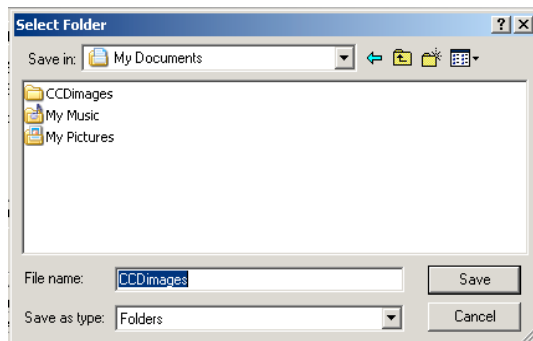
Click the settings button next to the filter wheel. Check the filter set up to make sure it is correct (see image.) If not, select the correct filter from the drop down list. When the listed filters are correct, click OK.

Go to the AutoSave tab.



Check the AutoSave On checkbox.

If you want all your files to have a specific prefix (e.g. if you are doing this for a class you may want the file to start with your unqname), enter that in the “File name prefix” box. You may also want to change the starting number if you have images from the old computer. Also, make sure the Imager and FITS radio buttons are selected.



Under the AutoSave folder area, click the “Choose Folder...” button. The easiest thing to do is create a folder in your “My Documents” folder. You may want to go further and create subfolders named by the observation date to keep your images organized. This makes it easy to use the ssh client to copy the images to your home directory when you’re done.

You should now be ready to use the CCD camera

A brief overview of using the camera is in the observatory manual.

Some final notes:

Taking an image will probably cause TheSky to lose contact with the tcs. You can live with it as long as you remember to re-link before taking the next image. Otherwise, you'll need to change a registry key for TheSky. See "Updating the Registry" below. Also, make sure "High Priority Downloads" in the setup tab of the Camera Control dialog box is checked.

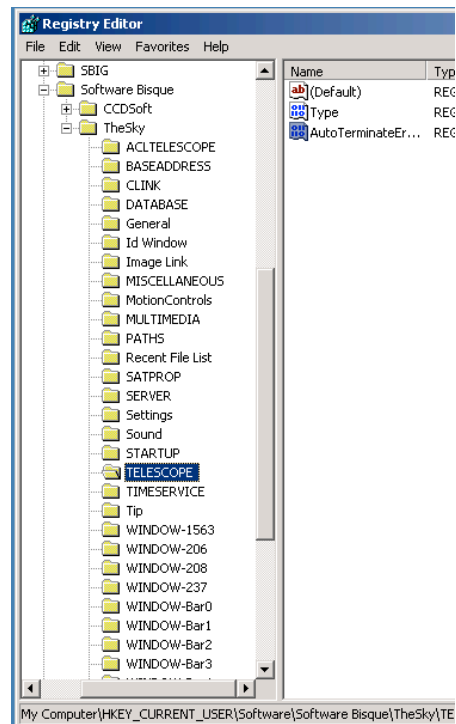
CCDSOFT should get the information (like RA and dec) from TheSky. However, you may have to log out and back in again for this to work. It should automatically work the next time you log in. You can tell if it is working because the file name will contain the RA and dec of the object name.

Updating the Registry

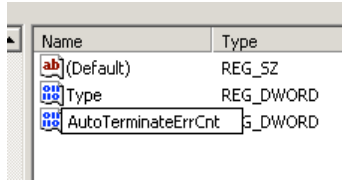
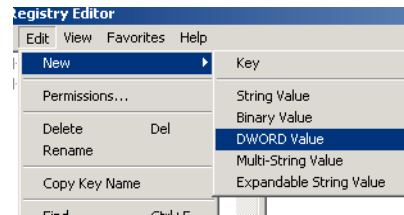
*******Important Note: Under Windows XP normal users do not have permission to backup and restore their registry settings. Pay careful attention to what you do and do only one thing at a time, so if anything goes wrong, you know how to undo it!**

The steps below illustrate how to change the registry to solve the problem with TheSky and CCDSOFT. The same basic steps apply if you need to make other changes. If you decide to make any other changes, make sure you know how to undo them!

Go to Start -> Run. Type in regedit and click OK. Click the +symbol next to HKEY_CURRENT_USER to expand the folder. Repeat this for Software, then Software Bisque, and TheSky. Click the TELESCOPE folder to view the contents in the right hand pane (see image, right).

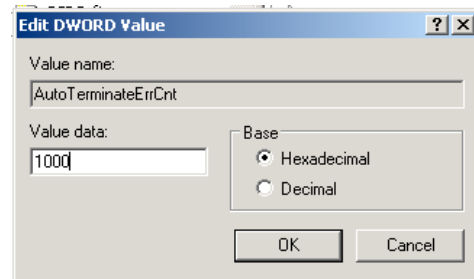


Go to Edit -> New -> DWORD value.



A new entry will appear in the right hand pane, but without a name. Type "AutoTerminateErrCnt" (include the correct capitalization) and press <Enter> or <Return>

Double-click AutoTerminateErrCnt to open a dialog box. In the Value data field, enter 1000. Click OK.



Close the Registry Editor.

Reboot the computer to make sure the changes take effect.