Instructions for Using PHD\_Broker with CCDc

- 1. Copy the files in the distribution folder to wherever you want them. Just keep them all together.
- 2. Run PHD2 and get connected to your gear. Make sure PHD2 is ready to start guiding and can use an existing calibration.
- 3. Run PHDBroker\_server.exe. The first time around, click on the 'Config...' button to specify your settling parameters. These will be used when there is a dither or guiding is started/resumed. Timeouts don't trigger error conditions they simply mean that CCDc will be told to proceed without the settling conditions having been met. You can run PHDBroker\_Server without having PHD2 running, but you won't be able to do anything besides configuring your settling parameters.
- 4. Once PHDBroker\_server is connected to PHD2, you can test by clicking on the 'Tools' menu, then trying out the functions for start, stop, and dither. The various controls in the main form will show state changes, but remember there can be some latency there. You can also see what PHD2 is doing by looking at its window.
- 5. You can use the CCDc\_Sample\_Actions.act file as a model for how to use PHD\_Broker with CCDc. The .act file doesn't need to live in any particular directory, it can be wherever you normally store these scripts. The main things to do are:
  - a. Specify script actions for every slew phd\_broker\_guiding\_off.vbs and phd\_broker\_guiding\_on.vbs
  - b. Run the guiding\_off script whenever you don't' want PHD2 in the middle of things, then run the guiding\_on script when you are ready to guide.
  - c. Run the dither script whenever you want to do a dither. It's easier to control this by using a "sub-action" in CCDc and doing the dither at whatever rate you want. The sample script shows sub-actions for taking 3 frames while dithering after each frame.
- 6. CCDc is not aware of what's going on in the guiding world so lost-star conditions or anything you might do manually with PHD2 won't have any effect on the script that's running. That could be either good or bad depending on the circumstance.
- 7. PHDBroker\_Server keeps a log file which you can store wherever you want via the 'Config...' dialog. By default, it goes in \Documents\PHD\_Broker. You can also view the log at runtime from the 'Tools' dialog.
- 8. It's probably best to shut down PHDBroker\_Server before you shut down PHD2. It should work either way, but it's cleaner to do it this way.

Good luck, Bruce Waddington bw\_msg01@earthlink.net