Boller & Chivens Open House Operations Guide – Long Version

1 Getting Started

1.1 Fans

First, you need to open the dome up so the telescope can get acclimatized to the surroundings. To do this, ***turn on the switch for the fans, located just behind the door once it is open***. This will make quite a ruckus and you'll want to turn it off once you feel the air temperature has equalized. You will also want to ***open the windows by moving the screen, twisting the latch and pushing outward***.

1.2 Dome Slit

Next, you'll need to open the dome slit, which is only possible after clambering up the rickety (but sturdy) ladder. If the individual last at the telescope closed it properly, the dome slit will be pointing north. Once at the top, you'll notice a hand crank and switch with a push plate underneath. To begin, ***move the plate then turn the switch so that the dome begins to open***. Once the dome has opened a bit, you may then ***rotate the hand crank so the dome flap lowers***.

1.3 Telescope Power and Telescope Mirrors

Only when the dome is open may you proceed. There is a possibility that stuff may drift down from the dome while it is opening. This stuff falling on the mirror would be bad, so avoid that possibility. First, you'll need to ***turn on the main telescope power by flipping up the black switch at the bottom of the blue telescope mount***. It is on the side you first face upon entering the dome. Next, ***above the black switch is a metallic flip switch on a control panel with a light to its right. Turn this on***. Turning this on should start the tracking motor, which you'll hear.

Now you're ready to uncover the telescope mirrors. ***Take the ghetto looking control paddle and move the telescope east or west until it is horizontal. The covers for the main and finder telescopes are then easy to remove***. Then move the telescope so it is pointing back to the zenith and wait for it to get dark.

2 Setting Coordinates

Once it is dark enough, ***turn on the Telrad and sight in a bright star so it is in the middle of the evil red reticle by using the ghetto control paddle***. For open houses this is usually done with either Arcturus or Vega. Keep in mind that you may need to rotate the dome to zero in on a bright star. ***To rotate the dome, use the switch box dangling against the wall to the right of the black telescope power switch – the one with the newer looking red knob***. Once you have sighted in the star in the Telrad, it should be in the finder telescope. Again, use the ghetto paddle to center the star. Once it is centered in the finder, it should be viewable in the main telescope's eyepiece. ***Once the star is centered in the telescope's eyepiece, dial in its coordinates with the Allen wrench in the right ascension dial. The declination should not ever need to be changed, but dial that in if needed***. If you don't know which star is

up, look at a sky map, and good monthly ones are located at: `www.skymaps.com`. For coordinates, the best resource I've seen at HLCO is the yearly updated "Observer's Handbook" which Dr. Gies kindly gets for us from The Royal Astronomical Society of Canada. About 3/4 of the way through the book is a table of bright stars.

3 Objects to Observe

There are many lists of cool objects to observe on-line. The main problem is that they do not have coordinates with them. Once again, the "Observers Handbook" is a good resource which has nice observable objects by season and their coordinates. I've found that with a little care to watch coordinates, you can at least put an object in the finder telescope once you have set your coordinates properly.

4 Oddities You Need to Know

The ghetto paddle has two sets of N-S-E-W buttons. The rightmost are for fine movements, once you have an object in the telescope's eyepiece. Unfortunately, ***the south on the rightmost panel of buttons goes north***. This means you have to tap the south button in the leftmost group very quickly or lose your object.

Things which are low on your horizon require people to climb to the top of the ladder. Some small children may not be able to see, just because they are too short. Just in general, stick to objects with a pretty high altitude. After a few times running the telescope, you'll get a feel for this.

The focus of the telescope can change drastically over the course of the summer due to temperature variances. The focus can be changed by pushing one of the two buttons on a small box on the telescope body itself, up and to the right of the location of the telescope eyepiece.

5 Closing Down

This should happen in the reverse order in which you opened. ***Replace mirror covers and put the telescope back in the home position, pointed toward the zenith***. Remember that we don't want junk from the dome slit falling on the mirror. ***Turn off the tracking motor and telescope main power***. You are now done with the telescope. ***Rotate the dome around to north***. The reason for this is so that you may access the hand crank and the dome slit motor switch with greatest ease. If you are having trouble determining which way is north, the blue telescope mount's widest side (where the ghetto paddle resides) faces north. ***Close the dome flap with the hand crank first, then close the dome slit with the push plate and switch***. Now everything should be closed off to the outside environment after you ***close the windows***. Now check the odds and ends: ***make sure the Telrad is off, turn off the lights, check for any trash left behind by the public***.