

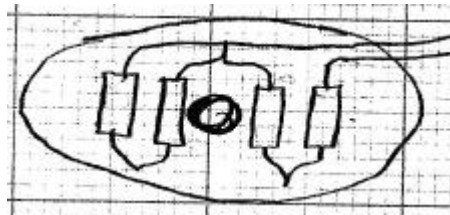
My Dew Heater Assembly

By Cliff Hedgepeth

Living in Eastern Virginia, dew is a big problem as the air is quite wet most of the time and as ambient temperature drops below the dew point, everything gets soaking wet.

My primary scope is an Orion XT12 Intelliscope. Newtonians are much less susceptible to dew than SCTs but still have problems.

Secondary fogging is one main concern along with eyepiece and viewfinder. For the secondary I use 2 1 watt 68 ohm resistors connected in series placed on either side of the post. One 2 watt 150 ohm would probably suffice. If you can't find 1 watt resistors, 4 33 ohm ½ watt resistors in series will work. Place them side by side on either side, 2 on either side of the post. The wires from it are run down the top side of one spider vane. Before you perfectionists cringe, you'll never see it in a ¼ wave mirror. Use small wire and place them on top of each other. I use very sticky tape to secure them and have had on problems in nearly 2 years with the resistors coming loose. See the poorly drawn illustration below. The circle in the middle is the post with 2 33 ohm ½ watt resistors on either side. The resistors are all in series with 12 volts connected to each end. The left wire is not connected to the center.



For the eyepiece and viewfinder I use 6 10 ohm ½ watt carbon resistors connected in series and covered with ¼" shrink tubing. Make the lengths what you need to cover the diameter of the device. I use one on either end of the finder. Just make a loop and place it around the eyepiece or finder. My eyepiece loop will handle both 1 ¼ and 2" eyepieces.



The resistors are soldered together as shown above with 12v hooked to the ends of the string..

For my Telrad, I find a glove hand warmer crammed between the glass and lens works best. There are resistors on the back side of the glass but the lens still fogs.

The whole works is hooked in parallel and connected to a 12v source. I use 2 6v 10AH gel cells in series. Total current drain is about $\frac{1}{2}$ amp.

Cost? All the parts can be found at Radio Shack. The $\frac{1}{2}$ watt resistors are .99 for 5 and the shrink tubing is less than \$3. You can do a Newtonian for less than \$10.

Now in this humidity, I run them wide open all the time. At $\frac{1}{2}$ amp drain, my batteries last all night. Ran it the other night for 5 hours and still had 12v on the battery.

The intent of dew heaters is to PREVENT dew not get rid of it. I start mine when I set up the scope and run them until I shut it down. To get rid of dew you need a hairdryer.

Now some of you are wondering about the primary mirror. If that fogs, I'm going inside and watch TV.