



CARNEGIE  
SCIENCE

The Carnegie Observatories

# Planet Finder Spectrograph

## Troubleshooting

<b>Document ID:</b>	<b>Version:</b>
<b>Date:</b> 10/07/2019	<b>Status:</b> Draft
<b>Author(s):</b> Jeff Crane	

## 1 Introduction

For help solving problems, contact a member of the instrument team in the order listed below. Please send any suggestions concerning the following instructions or additional procedures to [crane@carnegiescience.edu](mailto:crane@carnegiescience.edu).

Contact	Office phone	Mobile phone	E-mail
Jeff Crane	626-304-0217	626-644-0116	<a href="mailto:crane@carnegiescience.edu">crane@carnegiescience.edu</a>
Steve Sheckman	626-304-0219		<a href="mailto:shec@carnegiescience.edu">shec@carnegiescience.edu</a>
Ian Thompson	626-304-0225		<a href="mailto:ian@carnegiescience.edu">ian@carnegiescience.edu</a>
Paul Butler	202-478-8866		<a href="mailto:bluaper@gmail.com">bluaper@gmail.com</a>

## 2 PFS needs to be or is accidentally power cycled

If circumstances compel you to power cycle the instrument, or if you trip over the power cord and disconnect it, follow these steps:

1. Close the PFS GUI
2. Turn off the power to the instrument electronics. The power switch is on the back side of the gray electronics enclosure attached to the instrument, near the bottom left side. Wait five seconds. Turn the power back on.
3. Turn on the touch screen on the front of the electronics box. The switch is near the power switch on the back of the electronics box. To operate it, pull it outward and flip. Press the “Menu” button next to the touch screen. Using the arrows, highlight “Internal Thermal” and press “Enter”. On this screen, there is a square labeled “Dewar Heat Off”. Touch the square to toggle the dewar heater. The square should now say “Dewar Heat On”. Turn off the touch screen using the switch on the back of the electronics box.
4. Push the “Run” button on the iodine cell temperature controller. The controller is on the wooden shelf underneath the large white thermal enclosure. Verify that the controller is running. If it is, the display will not say “STOP”.
5. Restart the PFS GUI

## 3 Readout fails

Sometimes an exposure readout fails. We have seen this most often during exposure loops.

1. Try taking a short exposure, e.g. a bias. Do not take a “snap”; the problem does not seem to be reproduced with snaps.
2. If the readout fails, quit and restart the GUI.



3. If the problem persists after GUI restart, the Archon CCD controller should be power cycled. It might work to do this from the PFS GUI. Under the “View” menu, select “Archon Hardhat” and then click the “WARMBOOT” button. This will close the GUI. Wait for 10 seconds and then restart the GUI.
4. If the software-based reboot does not work, quit the GUI and manually power cycle the Archon controller. The power supply is just below the wooden shelf on PFS on the side near the telescope, just below the rotator, and is labeled. Turn it off, wait a few seconds, and then turn it back on. Then restart the GUI.
5. After restarting the GUI, take a “snap” or two before taking any “real” exposures. Remember to turn the PMT back on if this error occurs while observing.

## **4 PFS GUI window appears that says “ArchonIO: invalid response” or “PFS/CCD: insufficient data lines”**

1. Under the “View” menu, select “Archon Hardhat” and then click the “WARMBOOT” button. This will close the GUI. Wait for 10 seconds and then restart the GUI.
2. If the software-based reboot does not work, quit the GUI and manually power cycle the Archon controller. The power supply is just below the wooden shelf on PFS on the side near the telescope, just below the rotator, and is labeled. Turn it off, wait a few seconds, and then turn it back on. Then restart the GUI.
3. After restarting the GUI, take a “snap” or two before taking any “real” exposures. Remember to turn the PMT back on if this error occurs while observing.
4. If the problem reoccurs, reboot the Mac.