

# FLAMINGOS Shutdown Procedure on the Kitt Peak 2.1-m and 4-m Telescopes

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# 1. Introduction

This manual outlines the procedures for shutting down FLAMINGOS at the end of an observing run prior to removal from the telescope or for an emergency such as a severe thunderstorm or power outage. With the current DHCP, this is a much more simplified procedure than described in the original 2003 manual, which should be discarded.

## 2. Shutting Down

**2.1 Transfer of Data.** During observing, a mirror script is used to copy data from the FLAMINGOS computer flamingos1a to the MacMini mayall-2 (4-m) or second-2 (2.1-m), so all of the data should have been copied from flamingos1a.

**2.2 Verify status of wheels and send to home.** Once the motor controller is powered down, all memory of the wheel locations is lost. All of the wheels *except for the MOS wheel* have home switches, so the actual home position can be determined the next time the instrument is powered up, but it is polite to move at least the grism, filter, and decker wheels to their home (zero) position. The MOS wheel *must* be set to the home (imaging) position before the motors are powered off, if it is not already there; if the current observing run was an imaging run, this should be already done. The Lyot wheel can be left at its current position, since it will be adjusted as part of the next instrument checkout.

**2.21 Look for the UFStatus GUI.** This should show the locations of the five wheels, as well as temperature and bias information.

**2.22 Determine the status of the wheels** by clicking on the Update All button. In addition to a name, the motor step position of the wheel will be displayed. The home position is 0, which for the four wheels in question, is:

Decker	Dark
MOS	Imaging (10)
Filter	J
Grism	Open1

**2.23 Configure the wheels to their home positions.** Look for the FLAMINGOS shortcut menu (Figure 1). If it is not on the screen (unlikely), look for the FLAMINGOS icon on the MacMini desktop and double-click it to bring up the shortcut menu.

**2.24 If the MOS wheel is not at the imaging position,** click on the Move MOS Wheel button on the shortcut menu. At the prompt, enter y, which will bring up a list of valid positions. Enter 10 to select the imaging position and y to authorize the motion.

When the motion is completed, the popup script window will close. Check the MOS wheel position with the UFStatus GUI.

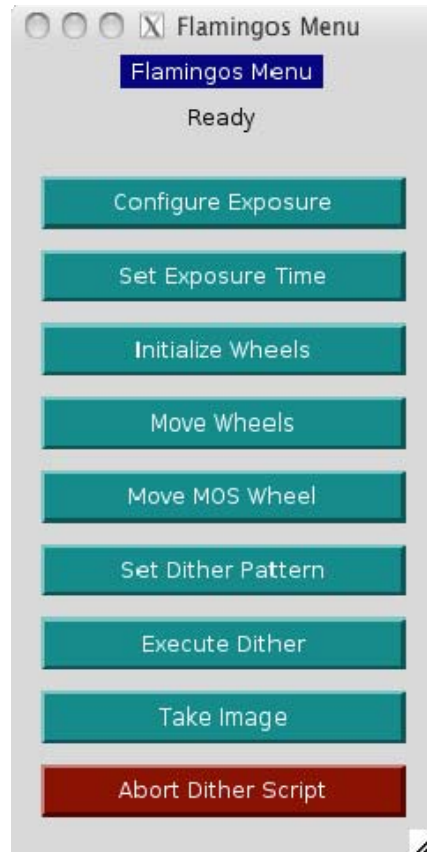


Figure 1: FLAMINGOS command shortcut menu.

2.25 **Move the decker, filter, and grism wheels** to their home positions if they are not already there. On the shortcut menu, click on Move Wheels. At the prompt, type a, c, or e to select the wheel to move. A list of valid positions should appear; select 0 for the home position and y to move the wheel. Only one wheel can be moved at a time, so this step will need repeating for additional wheels.

2.3 **Close all windows except the FLAMINGOS command window.** On the MacMini screen, this can be done by clicking on the red X in the upper left corner of the window.

2.3.1 Close the ds9 window.

2.32 Look for the IRAF\_FLAMINGOS window (should have an IRAF-type prompt), enter logout to exit IRAF and close the window.

2.33 Close the daemon windows TEMP, MOTOR, MCE4, and the UFSTATUS and Record\_Temperature windows.

## 2.4 Power off flamingos1a.

2.41 Within the FLAMINGOS window, login as su, password = \_\_\_\_\_

2.42 Enter poweroff

2.43 Wait several minutes for the computer to fully shut down. Once you type poweroff, the connection to flamingos1a is killed, even though flamingos1a is in the process of shutting down. One can then close the FLAMINGOS window on the desktop, as well as the shortcut menu.

2.44 Turn off Motor Controller (Figure 2)

2.45 Turn off MCE4 power (Figure 2)

2.46 Turn off UPS below flamingos1a (Figure 2).

2.47 Disconnect network Ethernet cable and orange AC power cord from the telescope.

2.5 FLAMINGOS should now be ready for removal from the telescope.



Figure 2: Front view of FLAMINGOS, showing the flamingos1a computer, UPS, Motor Controller, and MCE4 Detector Controller.