INSTRUCTION MANUAL

Orion® StarShoot™ Computer Control for Orion® StarShoot™ AllSky Camera II and Orion® StarShoot™ Deep Space Video Camera II

#52194 Windows and Mac OS X

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The Orion Computer Control software uses RS-232 protocol to communicate with the Orion Starshoot AllSKy II camera and the Orion Starshoot Deep Space Video Camera II.

The user has the option of using either the serial ports directly (COM1/COM2) if present on their Laptop/PC or alternatively using the included USB to Serial adapter.

The USB to Serial adapter is necessary when a Laptop/PC has available USB ports but no serial ports.

Figure 1. Included Items.

Parts List

- Orion Video Camera Control software CD
- USB to Serial Adapter
- 50ft Aux Serial Cable

Software Installation

Place hybrid Windows/Mac OS CD into CD drive to select software to install (**Figure 2**).

Figure 2. Hybrid CD.

USB to Serial Drivers

There are two methods to connect to the camera.

1. Using the built in COM ports 1 or 2 (normally found on desktop PCs)

2. Using a USB to RS-232 adapter (included)

If you are using a desktop PC with available COM ports you do not need to install the driver for the USB to Serial adapter or use the USB to Serial adapter.

For users with an available COM port only the 50ft AUX Serial cable needs to be used to connect the camera to the computer.

If you are using a laptop or computer without COM ports then the USB to RS-232 adapter and 50ft AUX Serial cable can be used.

Please read the following instructions to install the correct driver for your operating system.

Windows

Select from the installer CD "USB to Serial Drivers" to be taken to an additional page to select the driver to install based upon your operating system.

The main drivers for windows are XP, Vista and Windows 7.

Additional OS drivers can be found by selecting "Explore additional drivers and tools". A new window will open showing you the additional software.

Within this same directory a tool called SetComm.exe can be copied locally and used to reconfigure the COMM port to a desired port number rather than a default.

Select the driver that matches your OS and follow the on screen installation instructions.

Once installed proceed to the section **"Camera Control Software Installation"**.

Mac OS

Included on CD are 3 different Mac OS X drivers to be selected based upon the target Operating system.

PL2303-1.2.1r2 (For Mac OSX 10.1)

　　　MacOS 10.1 or later for PowerPC based Mac

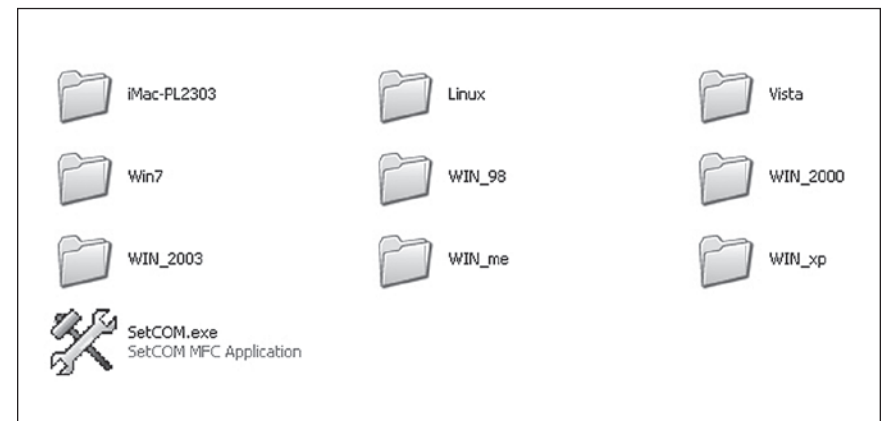　　　MacOS 10. 4 or later for Intel based Mac

Figure 3. Windows Drivers.

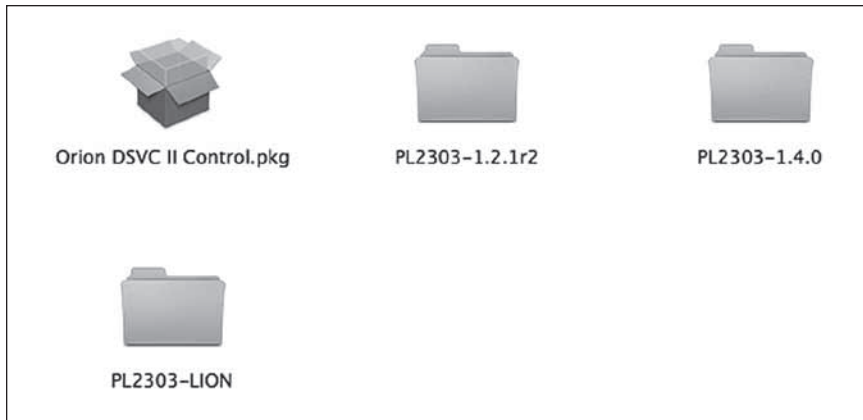**Figure 4.** Additional Drivers and Tool.

Figure 5. Mac serial drivers and Control software.

PL2303-1.4.0 (For Mac OSX 10.6)

     MacOS X 10.6 Snow Leopard (32 & 64 bit kernel)

     MacOS X 10.7 Lion (32 & 64 bit kernel)

PL2303-LION (For Mac OSX 10.7 or higher)

     MacOS X 10.7 Lion (32 & 64 bit kernel)

Select the directory that matches your OS with the correct driver above.

Double click the DMG disc image to extract the PKG Package file. Double click the PKG file within the selected directory and follow on screen installation instructions to install the correct driver.

Once installed proceed to the section **"Camera Control Software Installation"**.

Camera Control Software Installation

Select which Camera Control software to install based upon your camera.

• AllSky II Computer Control Software (windows only)

• Deep Space Video Camera II Computer Control Software (Windows/Mac OS X)

Windows

Select either AllSky II or Deep Space Video II from the installer screen (**Figure 6**) to install Camera Control software.

Mac OS

Double click the "Orion DSCV II Control.pkg" file and follow on screen instructions.

When installation is complete setup your camera so that you can see its output on TV or Laptop (using the Video Capture Device).

Windows / Mac OS

Plug one end of the 50ft Aux Serial cable into your camera and the other end into either your USB to Serial adapter (if using that option) or directly into your available COM ports.

Figure 6. Windows Launcher screen.

Deep Space Video Camera II Computer Control

Selections are made within the camera control software interface using the sliders, dropdowns, buttons and checkboxes in the software interface. (**Figure 7**).

COM Port

To begin using your Computer control the software needs to know which COM port is connected to the camera in order to communicate with the camera.

Figure 7. DSVC II Computer Control Software Interface.

Windows

If using the USB to Serial adapter the COM port will be in the range of 1 to 10. If using a computer with COM ports available the COM port will normally be either 1 or 2.

You can use either the SetComm.exe tool to find out which COM port is the USB to RS-232 adapter or use the Port Check option in the Computer Control Software. To check for available ports enter a Port number into the entry box near Port Check and click on the "Test" button to be notified if that port is available **(Figure 8)**.
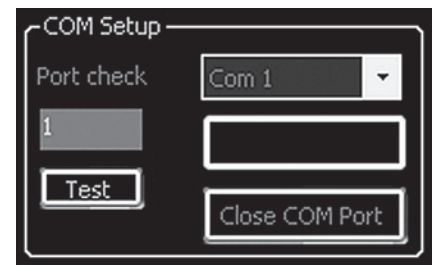

Figure 8. Windows COM Setup.

To connect to the camera select the COM port number in the dropdown menu and select "Open COM Port" **(Figure 8)**. You should now be connected to your Deep Space Video Camera and all the features will now become active.

Mac OS

To connect to the camera select the serial device in the dropdown menu **(Figure 9)**.

You should now be connected to your Deep Space Video Camera and all the features will now become active.

Color Bars

Press the Color Bar button within the utility functions to test the connection with the camera **(Figure 10).**

If the camera is correctly connected to the software and the video output can be seen on screen then you should now see color bars on screen **(Figure 11)**. This is a useful feature for testing the connection and also tuning your viewing device.

Zoom

The zoom button **(Figure 10)** is a handy feature to aid in focusing. Select the zoom button to turn on the 2X digital zoom. Focus your image then turn the zoom back to off.

Mirror

Flip the image in Vertical and/or Horizontal planes **(Figure 10)**.

Luminance / Color

The luminance / color functions allow the user to tune the image exposure, gain and color according to the object being viewed by using the checkboxes, sliders and dropdowns **(Figure 12)**.
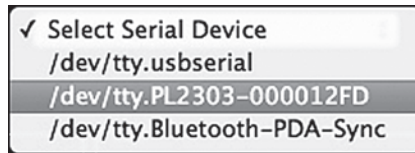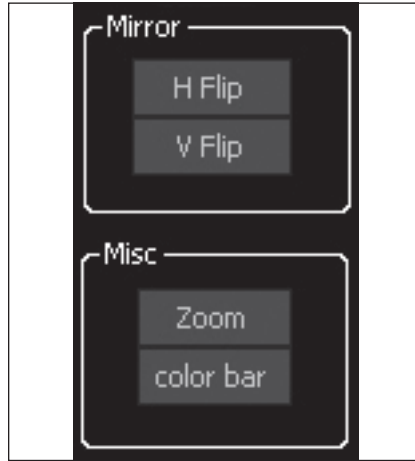

Figure 9. Mac OS X COM Setup.
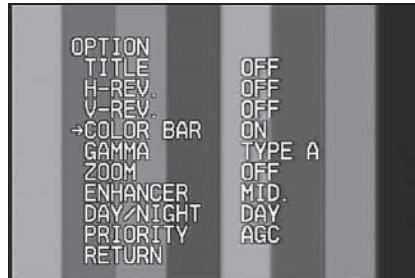

Figure 10. Utility functions.
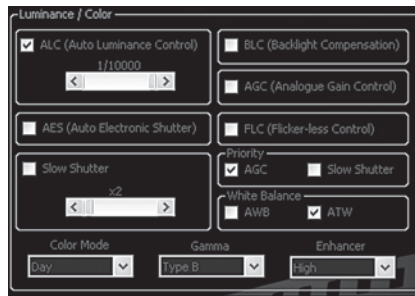

Figure 11. Color Bars.

Figure 12. Luminance / Color Functions.

Presets

There are five preset slots that give the user a one button shortcut that controls all of the Luminance / Color features **(Figure 13).**

Each preset has a default setup for the type of objects being viewed. For instance the Solar Preset default is a fast exposure whereas the Deep Space preset has the longest exposure setup.

The user can tune each element with the Luminance / Color menu and then save that setting to a particular preset button by pressing the save button underneath each preset button.

This gives the user the ability to tune the settings for each preset according to their particular telescope.

Cross Hairs

The crosshairs menu **(Figure 14)** gives the user the option to display 4 different types of built in cross hairs to aid in centering objects on screen. The Deep Space Video camera can be used as a video finder using this feature **(Figure 15)**.

Text

Click the Text Checkbox to turn on the on screen text display feature **(Figure 16)**.

Click in the "Enter Text" box and type in the text to display. Press update to send text to camera.

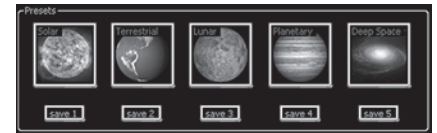Use the drop down menu to select position of text **(Figure 17)**.

Figure 13. Presets.

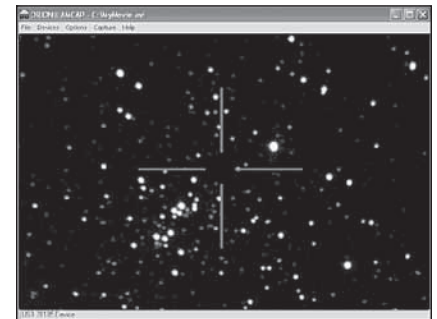**Figure 14.** Crosshairs.

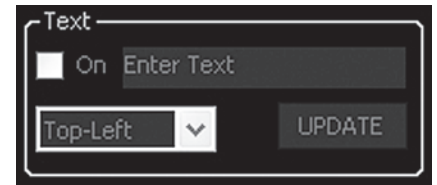**Figure 15.** Crosshairs used as Video Finder.

Figure 16. On Screen Text Display.

Figure 17. Text overlay on live video.

OSD (On Screen Display) Virtual Buttons

The OSD control gives the exact same button layout as the buttons on the back of the camera.

All of the camera features can be set using the sliders, checkboxes and dropdown menus with the exception of the Narrow ATW.

Narrow ATW

This setting is most useful for light pol-luted skies.

This special feature is accessed only through the OSD menu by selecting WHITE BAL = ATW and pressing the center button (either using the buttons on the back of the camera or the virtual buttons within the software) and using the left and right buttons to select the NARROW option.
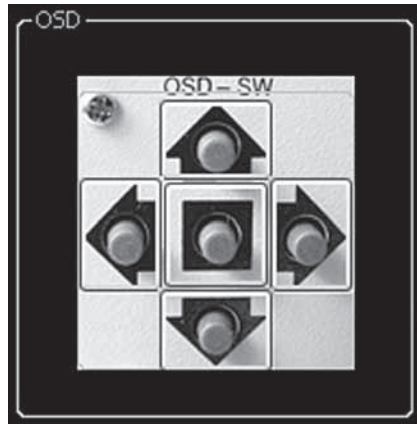

Figure 18. OSD Control.

AllSky II Computer Control

Selections are made within the computer control software interface using the sliders, dropdowns, buttons and checkboxes in the software interface. **(Figure 19)**.

Figure 19. AllSky II Computer Control Software Interface.

COM Port

To begin using your Computer control the software needs to know which COM port you are using in order to communicate with the camera **(Figure 8)**.

Windows

If using the USB to Serial adapter the COM port will be in the range of 1 to 10. If using a computer with COM ports available the COM port will normally be either 1 or 2.

You can use either the SetComm.exe tool to find out which COM port is the USB to RS-232 adapter or use the Port Check option in the Computer Control Software. To check for available ports enter a Port number into the entry box near Port Check and click on the "Test" button to be notified if that port is available.

To connect to the camera select the COM port number in the dropdown menu and select "Open COM Port". You should now be connected to your Deep Space Video Camera and all the features will now become active.

Color Bars

Press the Color Bar button within the utility functions to test the connection with the camera **(Figure 10).**

If the camera is correctly connected to the software and the video output can be seen on screen then you should now see color bars on screen. This is a useful feature for testing the connection and also tuning your viewing device **(Figure 11).**

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Mirror

Flip the image in Vertical and horizontal planes **(Figure 10).**

Luminance / Color

The luminance / color functions presented allow the user to tune the image exposure, gain and color according to the object being viewed by using the checkboxes, sliders and dropdowns **(Figure 12).**
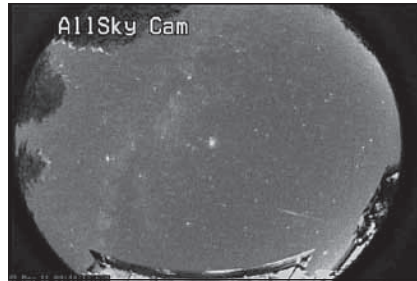

Figure 20. AllSky II Text overlay on live video.

Text

Click the Text Checkbox to turn on the on screen text display feature **(Figure 16)**.

Click in the "Enter Text" box and type in the text to display. Press update to send text to camera.

Use the drop down menu to select position of text **(Figure 20)**.

OSD (On Screen Display) Virtual Buttons

The OSD control gives the exact same button layout as the buttons on the back of the camera.

All of the camera features can be set using the sliders, checkboxes and drop-down menus with the exception of the Narrow ATW.

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Specifications

Software and drivers: XP, Vista, Win7, Mac OS X

USB to Serial Adapter: Prolific 2303 USB to Serial adapter

                                          USB 2

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