

# INSTRUCTION MANUAL

## Orion® Starshoot™ iPhone Control for Deep Space Video Camera II

#52195



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**OrionTelescopes.com**

Customer Support (800) 676-1343

E-mail: [support@telescope.com](mailto:support@telescope.com)

Corporate Offices (831) 763-7000

89 Hangar Way, Watsonville, CA 95076

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**Figure 1.** Included items.

The iPhone Control provides a simple and fast means to control your Deep Space Video Camera (DSVC II) without the need for a computer.

**Effortlessly control your DSVC II with your iPhone, iPod Touch or iPad.**

**No more pressing buttons on the back of the camera!**

**Perfect for astro-photographers using the Deep Space Video Camera II connected to a TV or projector for community outreach events.**



**Figure 2.** The Free DSVCII App Icon.

**Features:**

- 5x one click preset buttons custom tailored to user’s setup saving valuable observing time
- Easy to use touch screen switches, sliders and buttons to modify camera settings
- Choice of 4 built in cross hairs to turn the DSVC II into a Video Finder
- Quickly add text with your device’s touch screen keyboard rather than using character by character entry with video camera buttons

Please read this instruction manual before attempting to use the cables and software.

**Included Items** (Figure 1)

- 50ft Custom Serial Aux Cable (50ft Serial Cable)
- Orion Starseek Telescope control cable (StarSeek Cable)

**Non-Included Items** (Figure 2)

- Free App “DSVCII” must be downloaded from the Apple App Store

**Set Up**

- Download and install the Free Orion App “DSVCII” from the Apple App Store
- Connect the 50ft Serial cable to the serial input on the DSVC II camera (camera not included)
- Connect the Starseek cable to the 50ft Serial cable
- Connect the Starseek cable to the iPhone/iPad
- Run the App “DSVC II”
- The main screen will display if the Starseek cable is connect correctly to the iPhone/iPad. Check connections if App displays “Cable Unplugged” message
- Power on the DSVC II camera and view the output on screen

The device is now ready for operation.

**Menus**

All the features of the iPad version are contained on one menu screen. The same exact features exist in the iPhone version but across multiple menu screens.

*NOTE: iPhone users must swipe to the left to access additional screens.*

**Test Operation**

To test operation press the “Color Bar” button to ON position to see color bars displayed on screen.

This feature is a handy way to check that all cables are connected and communication is working from iPhone/iPad to camera.

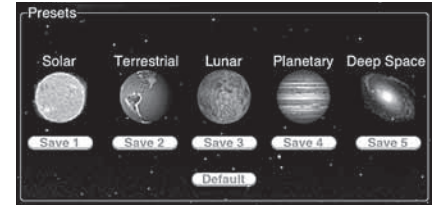
If you do not see the color bars on screen check all cable connections before pressing Color Bar button to OFF then ON again.

The color bars feature also helps when tuning your display device.

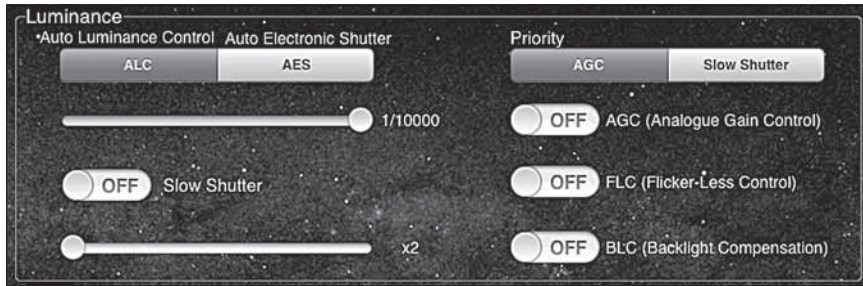
**Presets**

5 presets are available that allow a quick one press button to change multiple camera features to pre defined values. Press the icon to select the settings for each type of target (Solar, Terrestrial, Lunar, Planetary and Deep Space).

Each preset can be specifically tuned to user settings to better match their telescope by first modifying Luminance and Color features within the menus and then pressing the save button below each preset icon to save settings to that particular preset slot.



**Figure 3.** Presets.



**Figure 4.** Luminance.

Every time that particular button icon is now pressed, the Luminance and Color settings will change to the saved values.

The DSVCI App stores this information for future use.

Pressing the default button will return all presets to their default settings.

## Luminance

### ALC/AES

Choose between ALC (Auto Luminance Control) or AES (Auto Electronic Shutter)

### ALC

Automatic Luminance Control (ALC) indicates the image sensor's ability to automatically adjust in diverse lighting conditions to yield the most vivid video image possible.

Move the slider bar to change shutter speeds from OFF to 1/10000 of a second.

### AES

AES is used when a manual or fixed iris lens is fitted and the shutter speed will respond to the amount of light to keep the signal output at optimum level. AES allows changing the iris level automatically without using the auto iris lens.

### Slow Shutter

When Slow Shutter switch is on the slider defines the integration time of exposure up to a maximum of 4 seconds (NTSC camera) and 5 seconds (PAL Camera).

For low light deep space objects SHUTTER should be turned OFF.

### Priority

Choose between AGC or Slow Shutter

Set to AGC for low light deep space objects.



**Figure 5.** Color.

## AGC – Automatic Gain Control

The AGC function provides a clear image in low light condition. This controls an amplifier that is used to boost the video signal when the light dims so as to increase the camera's sensitivity.

Normally AGC will be turned OFF for Lunar, Planetary, Solar (with full-aperture solar filter) and Terrestrial imaging and turned ON for low light deep space objects.

## FLC – Flickerless mode

Flickerless mode is used for suppressing the flicker of light (illuminating the captured scene) produced depending upon the frequency of the power source. In 50Hz area, the CCD exposure time is 1/50sec and if NTSC camera is used with working frequency of 60Hz, there will be flicker on the screen. Same will happen in using PAL camera in a 60Hz area.

The shutter speed is fixed to 1/100 sec for the 50 Hz area and 1/120 sec for the 60 Hz area to reduce the flicker of the fluorescent light.

*Note: FLC is not normally used for astronomy.*

## BLC – Background Light Compensation

Background Light Compensation is used when there is a very bright background with very dim front image.

*Note: BACK LIGHT is not normally used for astronomy.*

## Color

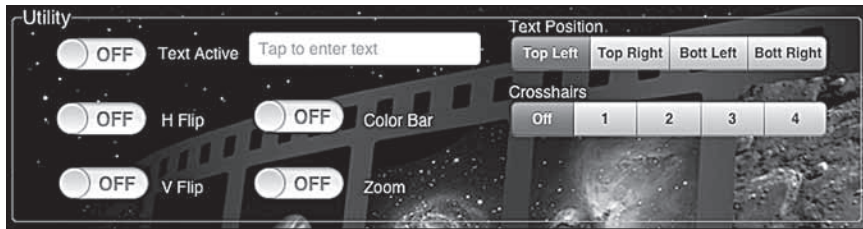
### White Balance

CCD security cameras feature this adjustment to compensate for ambient light color. Since there's a color difference between standard light bulb light and sunlight, white balance adjusts to ensure a more realistic picture.

There are two white balance control modes, namely Auto tracking white balance (ATW) and Auto White Balance (AWB).

### AWB – Auto White Balance

AWB is a preset type function whereby white color in the scene is detected and white balance is automatically adjusted, then the setting status is stored. It automatically memorizes the adjusted white balance value every time the AWB



**Figure 6.** Utility.

button is turned on. ATB is most suitable for environment with little change in light source.

**ATW – Auto Tracking Balance**

ATW functions by detecting white color in the scene at a color temperature from 3200 to 10000 Kelvin. The color temperature is being monitored continuously and the white balance is set automatically by internal controller.

ATW is most suitable for viewing objects with changing color temperature and which can make the picture color look more natural.

This mode is also helpful in light polluted skies using NARROW mode. (To select between NARROW and WIDE modes of ATW enter the OSD menu via the OSD buttons, select ATW and select between NARROW and WIDE modes)

**Gamma**

Choose between:

- Type A - 0.45 Gamma (Lighter)
- Type B - 1.0 Gamma (Darker)

**Enhancer**

Choose between:

- MID Sharpness
- HIGH Sharpness

**Color Mode**

AUTO – Automatically switches to COLOR for bright objects and BLACK & WHITE for low light object

DAY/EXT – COLOR mode always

NIGHT – BLACK & WHITE mode always.

**Utility**

**TEXT**

Turn switch to ON position to display on screen text.

Tap in text box to edit text to be displayed via the touch screen keyboard  
Select between 4 text positions.

**H FLIP / V FLIP (Mirror)**

Flip image horizontally or vertically to match eyepiece views and charts/ maps

**COLOR BAR**

Tune your viewing device using this handy option.

**ZOOM**

Use this feature to aid in focusing or as a digital Barlow lens. First turn the zoom switch to the ON position, then focus, turn OFF zoom switch once focused.

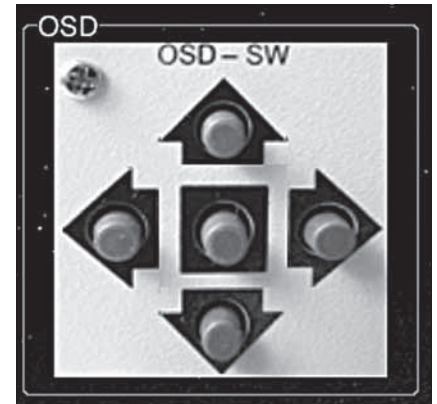
**Cross Hairs**

Choose between 4 Built in Cross hairs to turn the DSVC II into a Video Finder

**OSD (On Screen Display)**

The OSD buttons mimic the exact same buttons as found on the back of the camera.

While these buttons are not generally used since the majority of features can be controlled without having to enter the On Screen Display Menu (OSD) the buttons are still used for selecting between WIDE and NARROW ATW White Balance modes.



**Figure 7.** OSD (On Screen Display).

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## **One-Year Limited Warranty**

This Orion StarShoot iPhone Control for Deep Space Video Camera II is warranted against defects in materials or workmanship for a period of one year from the date of purchase. This warranty is for the benefit of the original retail purchaser only. During this warranty period Orion Telescopes & Binoculars will repair or replace, at Orion's option, any warranted instrument that proves to be defective, provided it is returned postage paid to: Orion Warranty Repair, 89 Hangar Way, Watsonville, CA 95076. If the product is not registered, proof of purchase (such as a copy of the original invoice) is required.

This warranty does not apply if, in Orion's judgment, the instrument has been abused, mishandled, or modified, nor does it apply to normal wear and tear. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state. For further warranty service information, contact: Customer Service Department, Orion Telescopes & Binoculars, 89 Hangar Way, Watsonville, CA 95076; (800) 676-1343.



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89 Hangar Way, Watsonville, CA 95076  
**Customer Support Help Line (800) 676-1343**

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