

BRITE STAR opto-electronics

90° NEST BOX INSPECTION CAMERA

WITH

VIDEO & IMAGE RECORDING



Nest Box Inspection Camera www.starweb.com.au

OPERATING MANUAL

June 2018

email: sales@starweb.com.au Website: [http:// www.starweb.com.au](http://www.starweb.com.au)
Rev: 18H.

Section
1

SYSTEM DESCRIPTION

90° Nest Box Inspection System includes an extension pole mountable **Nest Box Camera** with built in high power **Cree LED illuminator** & a combination **Camera Control** with **Video Monitor** for viewing & recording images from the nest box. Compact camera fits into nest boxes with entry holes larger than 27mm diameter & can be rotated through 360° varying its viewing perspective.

Nest Box Inspection Camera



Camera Control & Video Monitor

90° Nest Box Inspection System includes the following:

- 90° Nest Box Inspection Camera with 5 metre cable
- Camera Control Unit
- Video Monitor with plug pack AC charger
- Micro SD Card with adapter
- Protective Field Carry Case

The Nest Box Camera is not waterproof - do not immerse or use in heavy rain

VIDEO MONITOR- charging

Charge the Video Monitor using the plug pack charger is supplied. To maximise run-time & battery life, charge before use & recharge after use. Do not store with flat battery.



- Insert charger lead plug into socket marked "**DC 5V**"
- Connect Plug Pack charger into power point & switch on
- Charge until the "**RED**" charge light on Monitor goes out
- Charge led located front left hand top corner on monitor
- Charge time approximately 3 hours

VIDEO MONITOR – micro SD card



Insert the micro SD Card into the slot on the side of the monitor.
Correct alignment is indicated by the diagram

VIDEO MONITOR- turn ON



ON/OFF Power button is located on the top of the monitor.

- Depress the button & release it when the LCD comes **ON**.
- To turn OFF, depress the button & release when the LCD goes **OFF** (about 3 seconds).

VIDEO MONITOR – real time screen



Screen Icons indicate systems status.

- *Battery Icon* - state of charge (4 bars max)
- *Camera Icon* = photo mode (*Camcorder* = video mode)
- *Date & time information*
- *SD Card Icon* – SD Card is installed
- *SD Card "F"* – SD Card is full

CAMERA CONTROL unit- installing the batteries

Camera Control unit requires 4 x AA batteries which power the Nest Box Camera & its illuminator. Always replace the four batteries as a complete set. We recommend **Extreme High Power Lithium AA 1.5 volt batteries** to maximise run time.



- Slide off the cap in the direction of the arrow
- Remove the black plastic battery carrier
- Battery polarity is marked on the carrier tray



- Load 4 AA lithium batteries into carrier
- Re-install battery carrier into handle
- Refit battery compartment cover

Connect Monitor to Camera Control unit



The video monitor locks onto the back of the control unit.

Position the raised mount connector (on the rear of the camera control) squarely into the widest point of the slot on the back of the video monitor.

Gently slide the monitor downward until it locks into place taking care not to damage the plastic locating lugs.

Connect Nest Box Camera to the Camera Control unit

The cable from the Nest Box Camera must be connected to the Camera Control unit. Inspect the connector socket & plug to ensure they are clear of dirt or debris.



- On the Camera Control, slide the knurled retainer rearward to expose the connector socket
- Align the keyed tongue on the camera cable plug with the slot in the connector socket



- Press the plug into the socket, do not force it
- Slide the knurled retainer forward
- Tighten the knurled retainer finger tight only

Switching the Camera ON or OFF



The black rotary switch on the Camera Control turns the camera **ON/ OFF**. Led illuminator comes ON automatically at full brightness with the camera (illuminator is not dimmable).

Rotate the switch rearward till it clicks **ON**, the red led on top of the hand control & the white led on the camera will be lit.

Rotate the switch forward till it clicks to turn camera **OFF**.

VIDEO MONITOR – switch ON

Depress the **Power** button on the top of the monitor, release when LCD screen comes ON.

Programming the Monitor

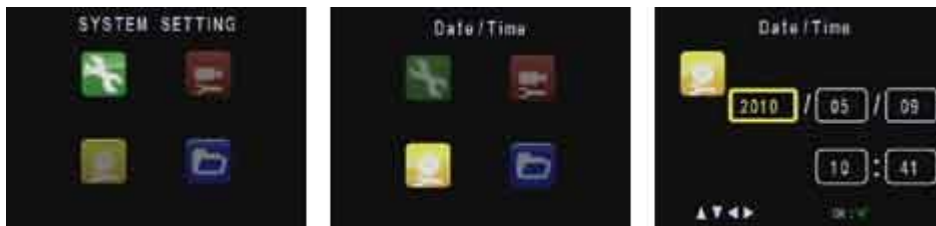


Four buttons are located on the side of the Monitor.

OK – UP – MENU & DOWN

Camera does not need to be connected

Setting the Date & Time



Depress **Menu** button release it when the **SYSTEM SETTING** screen opens.

Use **Down** button to highlight **Date/Time** option press **OK** button, the **Date/Time** screen will open

- Year will be highlighted; use **Up Down** buttons to alter the value
- Press **OK** to highlight the month option; use **Up Down** buttons to alter the value
- Repeat above procedure to edit Month – Day – Hour – Minutes options
- Press **Menu** button to return to the **SYSTEM SETTING** screen
- Press **Menu** button again to return to the Real Time screen
- Depress & hold down the **Power** button until monitor switches **OFF**

Changing the Record Mode

Default record mode is Photo; press the **UP** button to toggle between photo & video mode.

EXTENSION POLE

The 90° Nest Box Inspection Camera has a threaded port which screws onto most standard painters' type extension poles. An excellent light weight & robust pole is available from Bunnings for around \$40 [LINK](#). We do not supply extension poles.



Hold the Camera firmly, position pole into threaded port, rotate pole till the Nest Box Camera is well secured to the extension pole.

- On **Camera Control unit** - rotate switch to **ON**
- Press **Video Monitor** power switch, monitor will come **ON**

The red indicator located on the top of the camera control will be lit - the green indicator on the video monitor will be lit. Live video from the camera will be displayed on the LCD Video Monitor.

Capturing Photos or Video

In **Photo** mode: press the **OK** button to capture single photo.

In **Video** mode, press the **OK** button to start recording, the RED record icon & red hours, minutes, seconds counter indicating the duration of the current video recording.

Press the **OK** button again to stop recording.

To maximise field run time turn OFF both the Camera Control unit & Video Monitor when not in actual use to avoid discharging their batteries unnecessarily.

WARNINGS

- Do not use in areas where electrical shock may occur
- Do not immerse the camera head in fluid or mud
- Avoid using in rain monitor & hand control are not waterproof
- Avoid sharp impacts to the camera head

DISCONTINUING USE

Turn OFF procedure

- Depress & hold down the Monitor power button until it turns **OFF**
- Rotate the Camera Control power switch to **OFF** - the red led will go out
- Disconnect the Camera cable from the Camera Control unit
- Remove AA batteries during extended periods of storage

Pack the camera control, LCD monitor & camera, as shown, into the recesses provided in the carry case; coil up & pack the camera lead. Do not rest plug on the LCD Monitor.

Carefully close case ensuring that no cabling is jammed & secure the two catches.



Packing Procedure

Do not pack the components into the case if the case or the components are wet or damp. Moisture will be trapped inside the carry case which will lead to corrosion of the electronics when the case is closed and stored.

Transfer/ view photos & video on a Laptop or PC

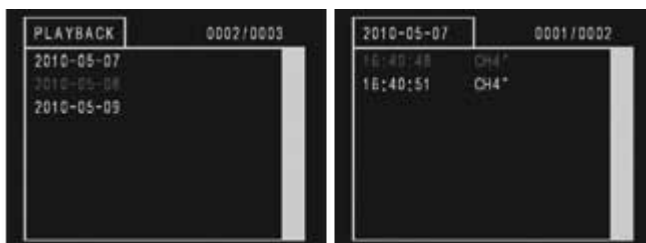
Images & videos are saved in folders on the micro SD card. Each folder is identified by the date of recording; (*format = year month date*). Folders contain multiple files; individual files are identified by the time of the recording.

Eject the micro SD card from the Monitor. Use an SD card reader to access the contents with your PC. Images and video files can be copied, drag & dropped directly from the micro SD card to folders on your PC.

Photos & video can also be played back on the Video Monitor but this will flatten the monitor's battery very quickly & **is not recommended**.

On the real-time screen press the **MENU** button; the PLAYBACK screen will open. A list of folders identified by date is displayed.

Use the **Up Down** buttons to highlight a folder, press **OK** to open the folder.



Images are identified by time stamp. Use the **Up Down** buttons to highlight an image press **OK** to display the image. Press **OK** to return to the image list & **Up Down** buttons to select other image.

To exit playback press **Menu** button twice to return REAL TIME display.

Avoid using the system if it is raining.

In the event that moisture does enter the case:

- Remove all components from the case
- Leave the case open in a warm dry environment allowing several days for it to fully dry

TROUBLE SHOOTING

MOST PROBLEMS ARE BATTERY RELATED

Ensure that the Video Monitor has been fully charged prior to & after use. Extreme High Power Lithium AA 1.5 volt batteries are recommended for the Camera Control unit.

If the unit does not operate normally when you follow the instructions indicated in this manual, please refer to the table below or contact Brite Star. Email sales@starweb.com.au

We take great care assembling our products. They are designed to be simple to operate and relatively “fool proof”.

This does not make them “idiot proof”.

PROBLEM	CHECKLIST
White Led illuminator on Camera head is dull	<ul style="list-style-type: none"> • Flat AA batteries Camera Control • Batteries installed incorrectly • Poor quality batteries in use
No image visible on the monitor from the camera	<ul style="list-style-type: none"> • Check camera switched ON • Check monitor switched ON • Flat Monitor battery pack - recharge
Poor Image quality	<ul style="list-style-type: none"> • Batteries flat or discharged
	<ul style="list-style-type: none"> • Localised electrical interference
	<ul style="list-style-type: none"> •
<p>Poor image quality may also be due to insufficient light. Nest boxes & tree hollows with dark interiors will absorb light dramatically reducing the effectiveness of the Led illuminator. Never paint the interior of nest boxes with black or dark paint.</p> <p>Supplementary light can be added by attaching a small white led torch to the camera head with rubber bands. It should be positioned on the opposite side to the existing led with its beam facing forward; it does not need to face in the same direction as the lens.</p>	
	<ul style="list-style-type: none"> •