

*User*  
***Manual***

KTC-510/515/540E B/W and  
KTC-810C/815C/840CE Color  
Cameras



***GE Interlogix***  
*Kalatel*

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**For technical support before and after installation, call 800-469-1676.**

*Technical support is available 24 hours a day, 7 days a week.*

|       |                                                                  |                                                          |
|-------|------------------------------------------------------------------|----------------------------------------------------------|
| Call: | <b>Tech Support</b>                                              | 800-469-1676 (6 A.M. – 5 P.M. PST Monday through Friday) |
|       | <b>Tech Support</b>                                              | 541-740-3589 (all other times)                           |
|       | <b>Main</b>                                                      | 800-343-3358 or 541-754-9133                             |
| Fax:  | <b>Tech Support</b>                                              | 541-752-9096 (available 24 hours a day)                  |
|       | <b>Main</b>                                                      | 541-754-7162                                             |
| Web:  | <a href="http://www.GE-Interlogix.com">www.GE-Interlogix.com</a> |                                                          |

1041080A / March 2003

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

You are cautioned that any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**TABLE OF CONTENTS**

**BEFORE YOU BEGIN.....4**

**1 SETUP.....5**

    1.1 SETTING THE DIP SWITCH .....8

        1.1.1 White Balance (ATW/AWB).....9

        1.1.2 Backlight Compensation (BLC ON).....9

        1.1.3 Gamma Correction ( $r = .45 / r = 1$ ).....9

        1.1.4 Synchronization (L-LOCK/INT).....10

**2 CONNECTIONS .....11**

**3 ADDITIONAL ADJUSTMENTS .....12**

    3.1 BACK FOCUS THUMBWHEEL .....12

    3.2 DD LEVEL (FOR DC-TYPE LENSES).....13

    3.3 MON OUT (BNC).....13

    3.4 EXTERNAL SYNC PHASE ADJUSTMENT BUTTONS .....13

**TROUBLESHOOTING.....14**

## BEFORE YOU BEGIN

Read these instructions before installing or operating this product.

**Note:** This installation should be made by a qualified service person and should conform to local codes.

This manual provides installation and operation information. To use this document, you must have the following minimum qualifications:

- A basic knowledge of CCTV systems and components
- A basic knowledge of electrical wiring and low-voltage electrical hookups

Use this product only for the purpose for which it was designed.

### Customer Support

For assistance in installing, operating, maintaining, and troubleshooting this product, refer to this document and any other documentation provided. If you still have questions, contact Kalatel Technical Support:

**GE Interlogix, Kalatel division**

Call: 800-469-1676

Fax: 541-752-9096

**Note:** You should be at the equipment, ready with details before calling Technical Support.

### Conventions Used in this Manual

**Boldface** or button icons highlight command entries. The following **WARNING**, **CAUTION**, and **Note** statements identify potential hazards:



**\* WARNING:**

Improper use of this equipment can cause severe bodily injury or equipment damage.

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**\*\* CAUTION:**

Improper use of this equipment can cause equipment damage.

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**Note:** Notes contain important information about a product or procedure.

\* This symbol indicates electrical warnings and cautions.

\*\* This symbol indicates general warnings and cautions.

# 1 SETUP

**WARNING:**

Do not expose the unit to moisture.

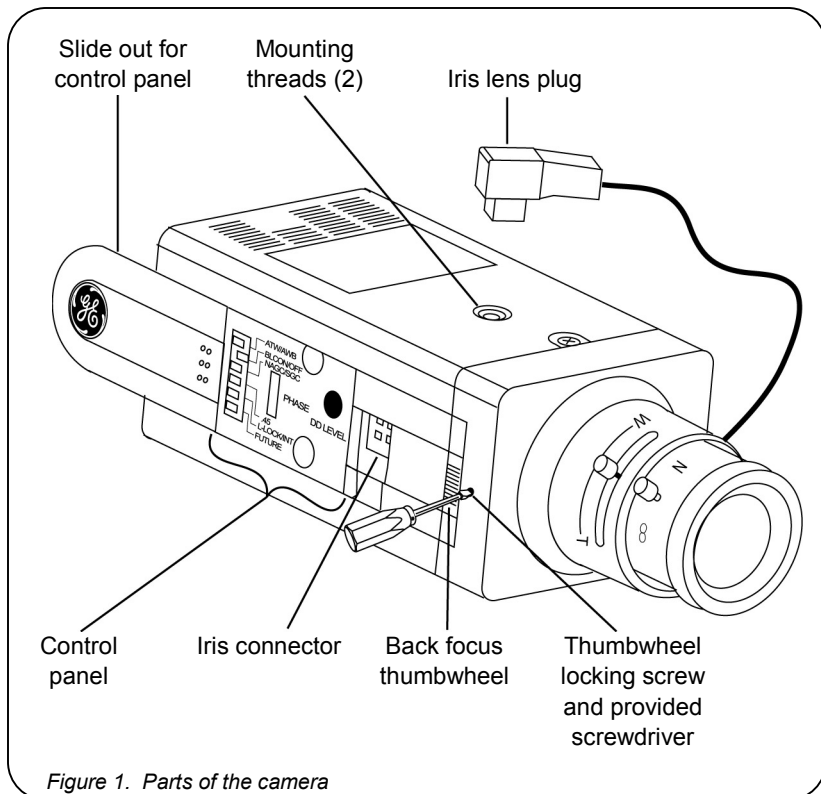


Figure 1. Parts of the camera

**Note:** Lens not included.

**Note:** The bracket used with the mounting threads is an option.

To set up the camera, see Figure 2 and perform the following:

**Note:** For back focus instructions, see section 3, Additional Adjustments.

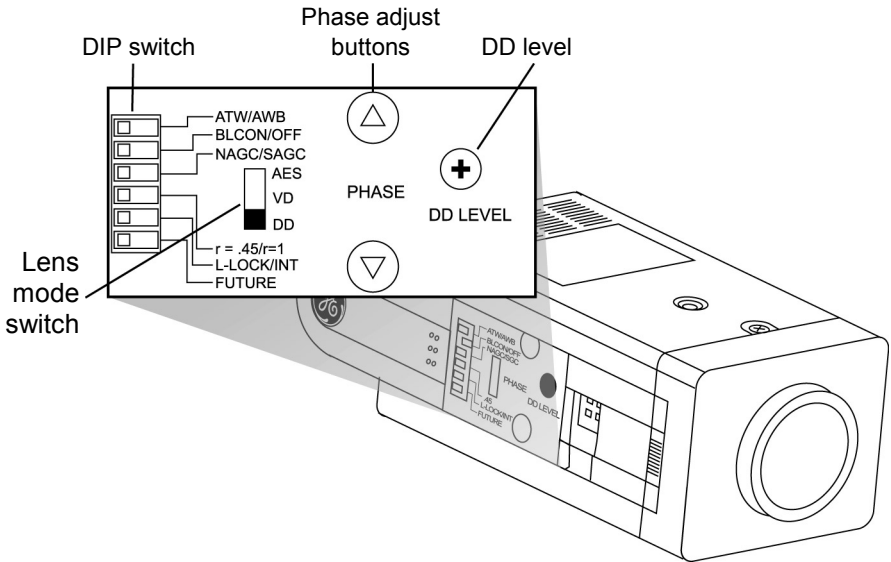


Figure 2. Camera controls

1) If you are using a C-mount lens, screw on the C-mount adapter.

2) Screw the appropriate lens to the camera.

3) Set the lens mode switch (Figure 3) to correspond with the lens:

- For an auto iris lens without amplifier (DC type), set the lens mode switch to DD.
- For an auto iris lens with built-in amplifier (VIDEO type), set the lens mode switch to VD.
- For a manual iris lens, set the lens mode switch to AES.

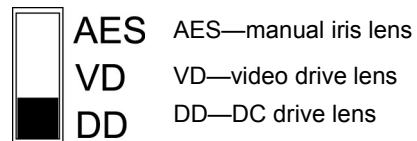
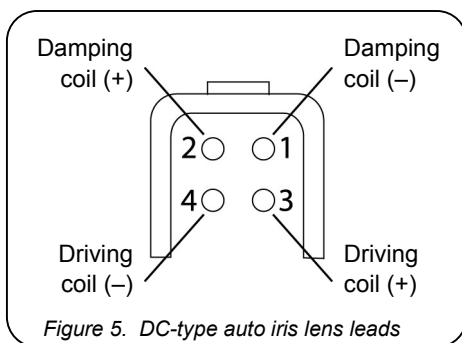
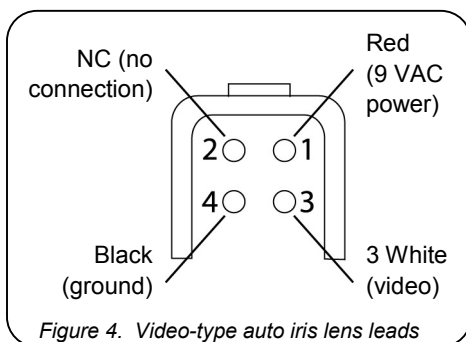


Figure 3. Lens mode switch settings

4) If you are using an auto iris lens, insert the iris lens plug into the auto iris lens connector. (See Figure 1.)

**Note:** Figure 4 and Figure 5 show connections for the pins on the solder side of the lens plug.

- For auto iris lens with built-in EE amp, follow the connections in Figure 4. (Refer to the lens instructions.)
- For auto iris lens without EE amp, follow the connections in Figure 5. (Refer to the lens instructions.)



## 1.1 SETTING THE DIP SWITCH

Set the DIP switch for your camera situation (see Figure 6 and Table 1).

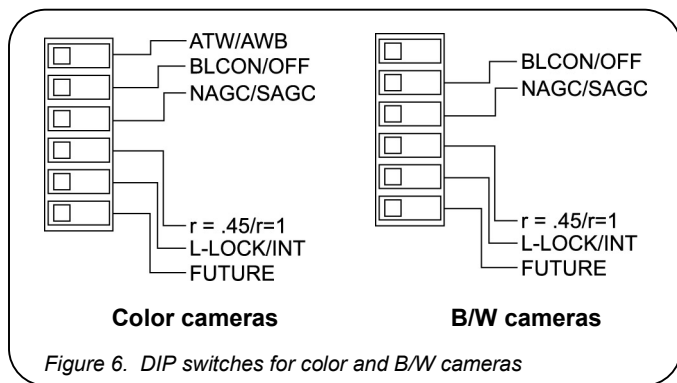


Table 1. DIP switch settings

|                                     |                                                                                                     |
|-------------------------------------|-----------------------------------------------------------------------------------------------------|
| <b>ATW/AWB</b>                      | Auto-tracking white balance / auto white balance<br><b>Note:</b> ATW/AWB is for color cameras only. |
| <b>BLC ON/OFF</b>                   | Automatic backlight on or off                                                                       |
| <b>NAGC/SAGC</b>                    | Automatic gain control normal (30 dB) or super (36 dB)                                              |
| <b><math>r = .45 / r = 1</math></b> | Gamma equals .45 or 1                                                                               |
| <b>L-LOCK/INT</b>                   | Line-lock or internal synchronization                                                               |
| <b>FUTURE</b>                       | For future use (no connection)                                                                      |

### 1.1.1 WHITE BALANCE (ATW/AWB)

#### **ATW mode (default)**

In the ATW mode, the color temperature is being monitored continuously, and the white balance is set automatically by an internal micro-controller. The operating color temperature range is from 2500 to 9500 K.

#### **AWB mode**

When the switch is set to AWB (conventional white balance), a camera using white as its reference automatically adjusts the content of blue and red in the picture, depending on the scene, to provide a picture with balanced color content. If the color temperature of the scene is continuously changing, the camera can lose its color reference; in this case, switch the camera to ATW.

### 1.1.2 BACKLIGHT COMPENSATION (BLC ON)

This auto BLC is a digital light-level control system. It is activated automatically by screen histogram (contrast) and 225-area window weighting integration. This controls iris gain and white balance simultaneously so that a clear object with adequate light level can be optimized.

#### **Central Window Weighted Average Backlight Compensation**

This method is ideal when the main subject is fixed within the screen.

#### **Histogram Backlight Compensation**

This method is ideal when the main subject moves within the screen. The combination of two types of backlighting makes it easier to arrange backlight compensation operation to match the imaging conditions and installation location.

**Note:** Compensation might be insufficient when the background is extremely bright.

### 1.1.3 GAMMA CORRECTION ( $r = .45 / r = 1$ )

Gamma correction is an electronic correction within the camera circuitry that matches the brightness level seen by the camera with the brightness level displayed on the monitor. This adjustment enables the monitor to display the correct level of contrast. The standard setting is .45 (default). The manual switch should be used only if the controls on the monitor are not giving sufficient adjustment.

### **1.1.4 SYNCHRONIZATION (L-LOCK/INT)**

#### **Line-Lock (external) (default)**

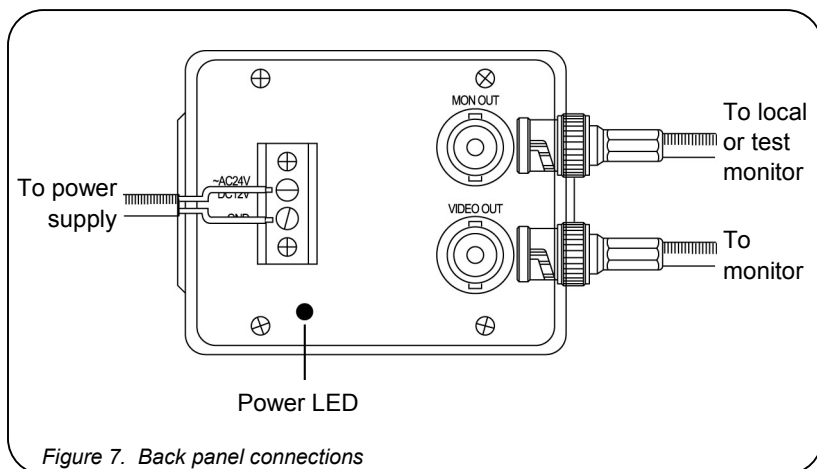
The sync pulses are referenced to the supply frequency. The phase adjust buttons are used to synchronize cameras even when they are connected to different phases of the mains supply, which results in roll-free pictures

#### **Internal**

An internal sync generator is used when the camera is being powered off of 12 VDC.

## 2 CONNECTIONS

See Figure 7 and perform the following:



- 1) Attach the monitor's video in BNC connector to the camera's VIDEO OUT connector.
- 2) With a screwdriver, loosen the  $\sim$ AC24V/DC12V and the GND terminal connectors on the terminal block.

- 3) Connect the power source to the terminal block.

**Note:** The terminal block is not polarity sensitive; therefore, either power lead can be connected to either terminal connector.

- 4) Retighten the terminal connector screws until snug, ensuring that the power leads are secure.

- 5) Supply power to the unit.

**Note:** Power is now being supplied to the camera, and the power LED illuminates. If the LED is not illuminated, check the terminal block connections and power source.

## 3 ADDITIONAL ADJUSTMENTS

### 3.1 BACK FOCUS THUMBWHEEL

Back focusing is used to match the lens' back focal length with the camera's imaging device. It enables the camera to be focused correctly during setup and ensures that the image remains sharp and crisp under various lighting conditions, taking into account changes in the lens' depth of field. To achieve correct back focus, adjustments should be made in low light—at night or in simulated low-light conditions. Back focusing should always be done when the depth of field is at its minimum. The lens' depth of field will be reduced when the iris is fully open. (Depth of field: The proportion of the field of view that is in correct focus. Depth of field will decrease when the focal length is long, the f-number is small (iris fully open), or the object distance is short.)

To adjust the back focus, perform the following:

- 1) Operate the camera and view an object approximately 75 feet (23 m) away.
- 2) If the lens has a focus ring, set it to infinity by turning it fully clockwise as viewed from the front of the camera.
- 3) If the lens has a manual iris, set the lens iris adjustment to the widest opening or lowest f-number.  
If the lens has an auto iris, place a filter in front of the lens to simulate low-light conditions and force the iris to open fully.
- 4) Using the included screwdriver, turn the back focus thumbwheel screw counterclockwise (unlock) so that the back focus thumbwheel turns. (See Figure 1.)
- 5) Adjust the lens' focal position (with the filter in place, if used) by turning the back focus thumbwheel to achieve the sharpest image.
- 6) Using the included screwdriver, lock the thumbwheel screw.
- 7) Position the camera for the required view and, if needed, adjust the focus using only the focus ring on the lens.
- 8) For optimum performance when using an auto iris lens, adjust the lens level according to the camera's position and environment. (See section 3.2.)

### 3.2 DD LEVEL (FOR DC-TYPE LENSES)

When the lens mode switch is set to DD, you can set the lens iris level adjustment to ensure the correct exposure depending on the camera's position and the lighting levels. (See Figure 2.)

### 3.3 MON OUT (BNC)

The monitor output BNC connector can accept the BNC connector of a local monitor or of a monitor used to test camera setup.

### 3.4 EXTERNAL SYNC PHASE ADJUSTMENT BUTTONS

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**CAUTION:**

The phase adjustment must be made by a qualified service person or installer.

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The vertical phase of the camera video signal can be synchronized to the phase of the AC power line by using a dual-trace oscilloscope to observe the video output signal (V-rate) of the camera and by adjusting the line-lock phase control buttons to line up the phases of both signals, or by using a KTS-56 V-Phase Adjustment Tool. In line-lock mode, this synchronization is automatic. 

## TROUBLESHOOTING

| Problem                   | Probable Cause                                  | Solution                                                                                                                                                                         |
|---------------------------|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No picture on the monitor | Lens cap is still in place                      | Remove the lens cap                                                                                                                                                              |
|                           | No power to the camera                          | Check that the power LED at the camera is lit<br><br>If the LED is not lit, check the camera power supply                                                                        |
|                           | Monitor is not functioning properly             | Connect a test monitor to the MON OUT connection to check for a local video signal                                                                                               |
|                           | Camera is not set up properly for the lens type | Set the lens selection switch for the type of lens being used (VD, DD, or AES) (Figure 3)<br><br>Ensure that the auto iris plug in is connected properly (Figure 4 and Figure 5) |

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|                         |                                                 |                                                                                                     |
|-------------------------|-------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| Picture quality is poor | Camera lens is dirty                            | Clean the camera lens                                                                               |
|                         | Monitor is not set up properly                  | Ensure that the monitor settings are correct                                                        |
|                         |                                                 | Ensure that termination at the monitor is correct                                                   |
|                         |                                                 | Confirm that the cable between the camera and the monitor is working properly                       |
|                         | Camera DIP switch is not set properly           | Ensure that the DIP switch is set correctly (section 1.1)                                           |
|                         | Camera is not focused properly                  | Focus the lens using the back focus thumbwheel and the lens thumbscrew, if applicable (section 3.1) |
|                         | Camera is not set up properly for the lens type | C-mount lens: attach the C-mount adapter between the lens and the camera                            |
|                         |                                                 | CS-mount lens: remove the C-mount adapter                                                           |
|                         |                                                 | Ensure that the lens level adjustment is correct (section 3.2)                                      |

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