

PELCO®

Addendum

IS90/IS110/IS150 Series Camclosure®



C3438M (5/07)

Introduction

This addendum updates the camera adjustment sections in the IS90, IS110, and IS150 Series Camclosure® Installation manuals.

- IS90 (C3425M)
 - DN/CH/C Series Adjustments (pages 18-20)
 - DW/CW Series Adjustments (pages 21-23)
- IS110 (C3426M)
 - DN/CH Series Adjustments (pages 18-20)
 - DW/CW Series Adjustments (pages 21-23)
- IS150 (C3427M)
 - DN/CH/C Series Adjustments (pages 15-17)
 - DW/CW Series Adjustments (pages 18-20)

For all DN/CH/C models, refer to *DN/CH/C Series Adjustments* on page 3.

For all DW/CW models, refer to *DW/CW Series (Wide Dynamic Range) Adjustments* on page 7.

DN/CH/C Series Adjustments

Refer to Figure 1 to adjust IS90-DN/CH/C models. Refer to Figure 2 to adjust IS110-DN/CH or IS150-DN/CH models.

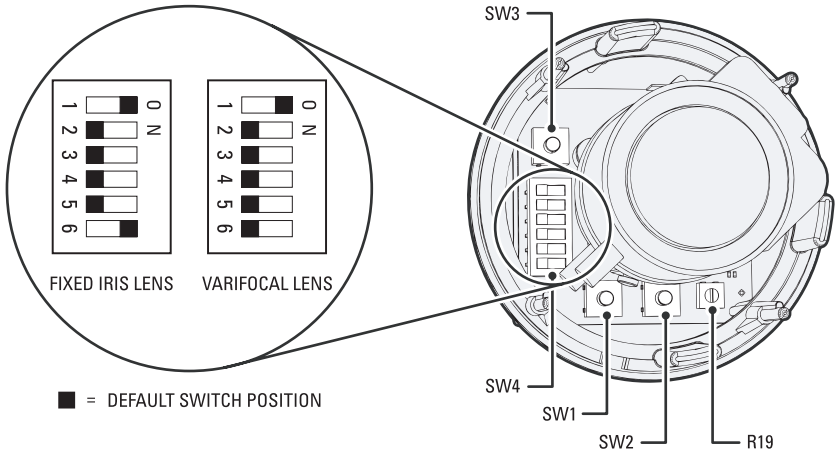


Figure 1. Adjusting an IS90-DN/CH/C Series Camclosure

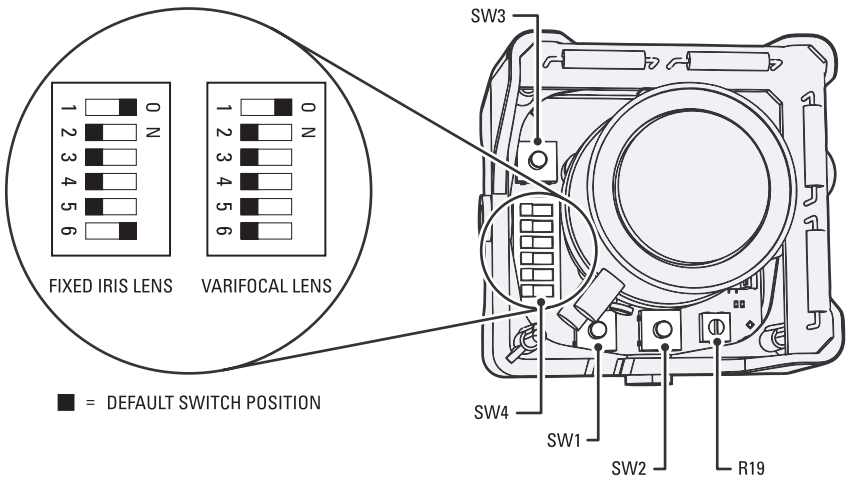


Figure 2. Adjusting an IS110-DN/CH or IS150-DN-CH Series Camclosure

SWITCH SETTINGS

Locate the DIP switch. Then set the switches for your installation.

SW4-1: AGC (Auto Gain Control)

The AGC (automatic gain control) adjusts the image automatically to compensate for changes in light levels.

Set to ON to enable AGC. Set to OFF to disable AGC. The default is ON.

SW4-2: BLC (Backlight Compensation)

The BLC (backlight compensation) feature compensates for backlit scenes by enhancing objects in the center of the scene.

Set to ON to enable BLC. Use this setting if a bright backlight is present and the subject in the center of the picture appears dark or as a silhouette.

Set to OFF to disable backlight compensation. This is the default.

SW4-3: Line Sync

When multiple cameras are connected to the same switching device, vertical roll may occur on the monitor. AC line lock eliminates vertical roll by locking the frame rate to the power supply frequency. Each camera output is synchronized to the power supply frequency. (Refer to *Vertical Phase Adjustment* on page 5 for more information.)

Internal line sync disables line lock and synchronizes cameras internally.

Set to OFF to use AC line lock. Set to ON to use internal line sync. The default is OFF.

SW4-4: Flickerless

In certain lighting conditions, a flicker in the light source may affect camera operation. Flickering can be caused by a number of conditions, including the quality of the source power and the age and type of fluorescent bulbs and ballasts.

Set to ON to enable flickerless operation. The camera will remove the effects of flickering when present. The shutter speed will be set to 1/120 (NTSC) or 1/100 (PAL).

Set to OFF to disable flickerless operation. This is the default.

NOTE: If you enable flickerless operation, you should use AC line lock for best results.

SW4-5: AWB (Auto White Balance)/MWB (Manual White Balance)

Auto white balance is enabled by default (OFF).

To manually set and lock the white balance:

1. Set SW4-5 to OFF.
2. Hold a white background in front of the lens until the video shows all white.
3. While holding the background in place, set SW4-5 to ON. A blue blinking block appears on the video image for a few seconds. When the block changes to solid green, the manual white balance process is complete.

SW4-6: Reserved

Do not change SW4-6 from its factory setting. SW4-6 must be set to OFF for Varifocal models; it must be set to ON for fixed-iris lenses.

AUTO IRIS LEVEL ADJUSTMENT

To adjust the auto iris DC-drive level (refer to Figure 1 or Figure 2 on page 3):

1. Tilt or rotate the camera module until you can access the auto iris level control (R19).
2. Turn the screw clockwise to increase the brightness level or counterclockwise to decrease the brightness level.

VERTICAL PHASE ADJUSTMENT

NOTE: Use this procedure for 24 VAC operation only.

When using more than one camera power supply, a brief vertical roll may occur on the monitor when switching from one camera to another.

To eliminate vertical roll, reverse the 24 VAC connections on one camera. If both cameras are connected to the same transformer, this should solve the problem. If the problem still exists, adjust the phase control by synchronizing, or line-locking, the cameras to one another.

NOTE: When adjusting vertical phase, line sync (SW4-3) must be set to OFF for AC line lock.

Adjusting Vertical Phase

You may need two people when synchronizing the cameras: one at the camera, the other at the monitor to observe the vertical roll and the effect of any camera adjustments.

To synchronize the cameras:

1. Choose a reference camera to which all other cameras will be phased.
2. Select the camera to synchronize. Use buttons SW1 and SW2 to synchronize the camera to the reference camera (refer to Figure 1 or Figure 2 on page 3). SW1 increases vertical phase; SW2 decreases vertical phase.
3. Each time an adjustment is made, switch back and forth between the camera you are adjusting and the reference camera. Repeat this process as many times as necessary until the roll between the cameras is no longer noticeable.
4. Adjust the phase of all other cameras by repeating steps 2 through 3. Always adjust to the reference camera selected in step 1.

NOTE: The preferred method for camera phase adjustment is to use a dual trace oscilloscope to align the vertical sync pulses of the reference camera to the selected camera(s).

BLEMISH DETECTION

If small white or color spots appear in the video image, one or more pixels on the camera imager may be defective. (This condition is common for both CCD and CMOS imagers.)

DN, CH, and C Series cameras with auto iris lenses automatically detect and correct defective pixels during startup. Video turns on, then off, and then on again. If white or color spots still appear, you can correct the defective pixels manually.

CH and C Series cameras with fixed iris lenses do not automatically detect and correct defective pixels. You can correct the defective pixels manually.

To manually correct defective pixels (refer to Figure 1 or Figure 2 on page 3):

1. Cover the lens completely. Make sure no light can enter the lens.
NOTE: The mechanical iris lens aperture does not completely block the light.
2. Press and hold button SW3 for one second. The camera will find and correct defective pixels.
NOTE: Any defective pixels that cannot be completely corrected may still appear.
3. Release button SW3.
4. Uncover the lens for normal camera operation.

DAY/NIGHT OPERATION

NOTE: This section only applies to DN model cameras.

DN model cameras regularly check the brightness level of the field of view to determine when to switch between day (color) and night (black-white) operation.

Actual brightness threshold levels are affected by camera angle, amount of zoom, field of view, lens, and type of lighting. The switching process lasts from seven to 10 seconds.

Figure 3 and Table A show how the camera switches between color and black-white operation.

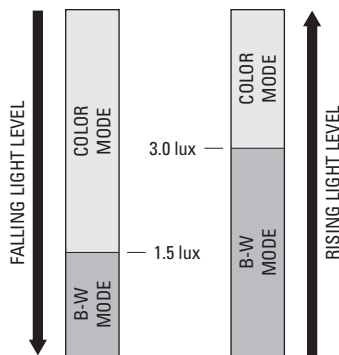


Figure 3. Threshold Switching Levels

Table A. Approximate Switching Thresholds

Color to B-W	1.5 lux \pm 1.0 lux
B-W to Color	3.0 lux \pm 1.0 lux

NOTE: These switching thresholds are approximate. Actual thresholds are affected by lens type and setting, field of view, scene, and other factors. Use the thresholds in Table A as a guide when installing the unit.

DW/CW Series (Wide Dynamic Range) Adjustments

Refer to Figure 4 to adjust IS90-DW/CW models. Refer to Figure 5 to adjust IS110-DW/CW or IS150-DW/CW models.

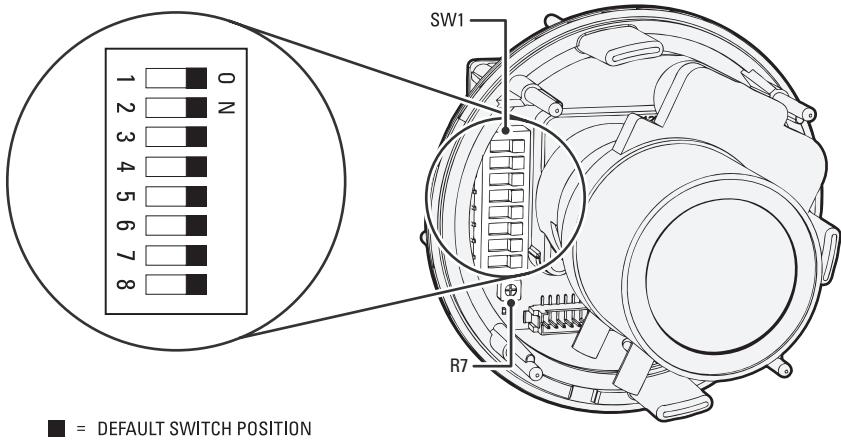


Figure 4. Adjusting an IS90-DW/CW Series Camclosure

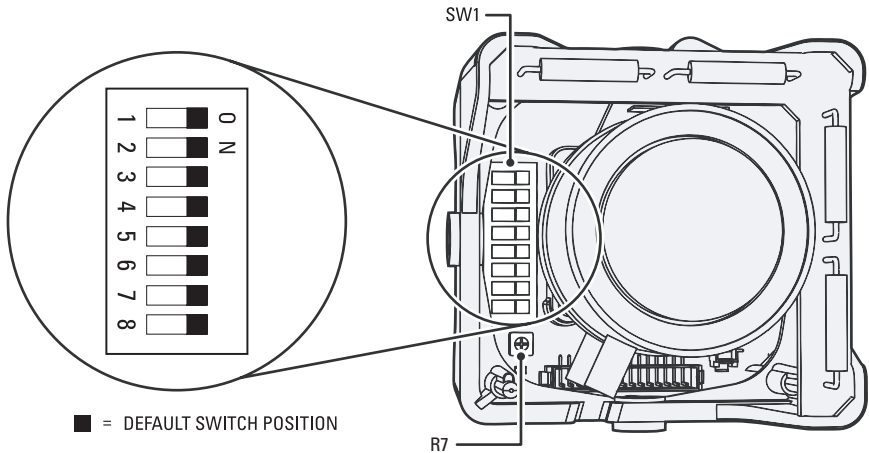


Figure 5. Adjusting an IS110-DW/CW or IS150-DW/CW Series Camclosure

SWITCH SETTINGS

Locate the DIP switch. Then set the switches for your installation.

SW1-1: Video Format

Set to ON for NTSC. Set to OFF for PAL. The default is ON.

SW1-2: Line Sync

When multiple cameras are connected to the same switching device, vertical roll may occur on the monitor. AC line lock eliminates vertical roll by locking the frame rate to the power supply frequency. Each camera output is synchronized to the power supply frequency. (Refer to *Vertical Phase Adjustment* on page 10 for more information.)

Internal line sync disables line lock and synchronizes cameras internally.

Set to ON to use AC line lock. Set to OFF to use internal line sync. The default is ON.

SW1-3: Interlaced Scanning/Progressive Scanning

Interlaced scanning is the standard for analog recording installations. Each frame contains one odd and one even field, each processed separately.

Progressive scanning is better for digital recording installations. Each frame is processed as a whole, which results in less blurring and cleaner digital conversion. It also saves storage space on digital video recorders.

Set to ON to select interlaced scanning. Set to OFF to select progressive scanning. The default is ON.

SW1-4: AWB (Auto White Balance)/MWB (Manual White Balance)

Auto white balance is enabled by default (ON).

To manually set and lock the white balance:

1. Set SW1-4 to ON.
2. Hold a white background in front of the lens until the video shows all white.
3. While holding the background in place, set SW1-4 to OFF. A green block and a white block alternate briefly on the video image until the manual white balance process is complete.

SW1-5: Fluorescent/General

Enable this option to adjust the camera for best operation under fluorescent lighting.

Set to OFF for fluorescent lighting. Set to ON for general lighting. The default is ON.

NOTE: If you use fluorescent operation, you should use AC line lock for best results.

SW1-6: General WDR/Maximum WDR

Maximum WDR supports about 36 dB of additional dynamic range over a standard camera. Use it for installations that require the maximum WDR.

General WDR supports about 20 dB of additional dynamic range over a standard camera. Use it for installations that do not require the maximum WDR.

Set to ON to select maximum WDR. Set to OFF to select general WDR. The default is ON.

SW1-7: DSS (Digital Slow Shutter)

The default shutter speed for NTSC is 30 frames per second (fps). It is 25 fps for PAL. This is also known as SENS 2X.

You can decrease the shutter speed to 7.5 fps (NTSC) or 6.25 fps (PAL). This is known as SENS 8X, which improves low light sensitivity.

Set to ON to select SENS 2X. Set to OFF to select SENS 8X. The default is ON.

SW1-8: Day/Night Operation (DW models only)

NOTE: On CW models, SW1-8 is unused and does not affect camera operation.

DW model cameras regularly check the brightness level of the field of view to determine when to switch between day (color) and night (black-white) operation. Use SW1-8 to set the general light levels at which the camera will automatically switch.

Set to ON (dark) to use standard thresholds to switch between color and black-white operation. This is the default.

Set to OFF (dusk) to use higher light thresholds to switch between color and black-white operation.

Actual brightness threshold levels are affected by camera angle, amount of zoom, field of view, lens, and type of lighting. The switching process lasts from seven to 10 seconds.

Figure 6 and Table B show how the camera switches between color and black-white operation for each setting.

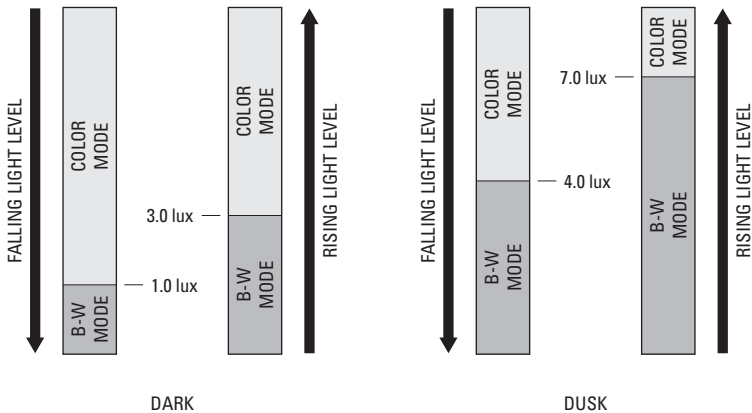


Figure 6. Threshold Switching Levels

Table B. Approximate Switching Thresholds

	Dark (ON)	Dusk (OFF)
Color to B-W	1.0 lux	4.0 lux
B-W to Color	3.0 lux	7.0 lux

NOTE: These switching thresholds are approximate and were measured using a 3.0 mm to 9.5 mm lens at F1.0. Actual thresholds are affected by lens type and setting, field of view, scene, and other factors. Use the thresholds in Table B as a guide when installing the unit.

AUTO IRIS LEVEL ADJUSTMENT

The electronics of the IS90-DW and IS90-CW Series Camclosures automatically adjust the camera to the auto iris. Auto iris level adjustments are not necessary.

VERTICAL PHASE ADJUSTMENT

NOTE: Use this procedure for 24 VAC operation only.

When using more than one camera power supply, a brief vertical roll may occur on the monitor when switching from one camera to another.

To eliminate vertical roll, reverse the 24 VAC connections on one camera. If both cameras are connected to the same transformer, this should solve the problem. If the problem still exists, adjust the phase control by synchronizing, or line-locking, the cameras to one another.

NOTE: When adjusting vertical phase, line sync (SW1-2) must be set to ON for AC line lock.

Adjusting Vertical Phase

You may need two people when synchronizing the cameras: one at the camera, the other at the monitor to observe the vertical roll and the effect of any camera adjustments.

To synchronize the cameras:

1. Choose a reference camera to which all other cameras will be phased.
2. Select the camera to synchronize. Use the phase adjustment control (R7) to synchronize the camera to the reference camera (refer to Figure 4 or Figure 5 on page 7). Turn R7 clockwise to increase vertical phase; turn R7 counterclockwise to decrease vertical phase.
3. Each time an adjustment is made, switch back and forth between the camera you are adjusting and the reference camera. Repeat this process as many times as necessary until the roll between the cameras is no longer noticeable.
4. Adjust the phase of all other cameras by repeating steps 2 through 3. Always adjust to the reference camera selected in step 1.

NOTE: The preferred method for camera phase adjustment is to use a dual trace oscilloscope to align the vertical sync pulses of the reference camera to the selected camera(s).

BLEMISH DETECTION

If small white or color spots appear in the video image, one or more pixels on the camera imager may be defective. (This condition is common for both CCD and CMOS imagers.)

DW and CW Series cameras have auto iris lenses and automatically detect and correct defective pixels during startup. Manual pixel correction is not available.

PRODUCT WARRANTY AND RETURN INFORMATION

WARRANTY

Pelco will repair or replace, without charge, any merchandise proved defective in material or workmanship **for a period of one year** after the date of shipment.

Exceptions to this warranty are as noted below:

- Five years on fiber optic products and TW3000 Series unshielded twisted pair transmission products.
- Three years on Spectra® IV products.
- Three years on Genex® Series products (multiplexers, server, and keyboard).
- Three years on Camclosure® and fixed camera models, except the CC3701H-2, CC3701H-2X, CC3751H-2, CC3651H-2X, MC3651H-2, and MC3651H-2X camera models, which have a five-year warranty.
- Three years on PMCL200/300/400 Series LCD monitors.
- Two years on standard motorized or fixed focal length lenses.
- Two years on Legacy®, CM6700/CM6800/CM9700 Series matrix, and DF5/DF8 Series fixed dome products.
- Two years on Spectra III™, Esprit®, ExSite®, and PS20 scanners, including when used in continuous motion applications.
- Two years on Esprit and WW5700 Series window wiper (excluding wiper blades).
- Two years (except lamp and color wheel) on Digital Light Processing (DLP®) displays. The lamp and color wheel will be covered for a period of 90 days. The air filter is not covered under warranty.
- Eighteen months on DX Series digital video recorders, NVR300 Series network video recorders, and Endura™ Series distributed network-based video products.
- One year (except video heads) on video cassette recorders (VCRs). Video heads will be covered for a period of six months.
- Six months on all pan and tilts, scanners or preset lenses used in continuous motion applications (that is, preset scan, tour and auto scan modes).

Pelco will warrant all replacement parts and repairs for 90 days from the date of Pelco shipment. All goods requiring warranty repair shall be sent freight prepaid to Pelco, Clovis, California. Repairs made necessary by reason of misuse, alteration, normal wear, or accident are not covered under this warranty.

Pelco assumes no risk and shall be subject to no liability for damages or loss resulting from the specific use or application made of the Products. Pelco's liability for any claim, whether based on breach of contract, negligence, infringement of any rights of any party or product liability, relating to the Products shall not exceed the price paid by the Dealer to Pelco for such Products. In no event will Pelco be liable for any special, incidental or consequential damages (including loss of use, loss of profit and claims of third parties) however caused, whether by the negligence of Pelco or otherwise.

The above warranty provides the Dealer with specific legal rights. The Dealer may also have additional rights, which are subject to variation from state to state.

If a warranty repair is required, the Dealer must contact Pelco at (800) 289-9100 or (559) 292-1981 to obtain a Repair Authorization number (RA), and provide the following information:

1. Model and serial number
2. Date of shipment, P.O. number, Sales Order number, or Pelco invoice number
3. Details of the defect or problem

If there is a dispute regarding the warranty of a product which does not fall under the warranty conditions stated above, please include a written explanation with the product when returned.

Method of return shipment shall be the same or equal to the method by which the item was received by Pelco.

RETURNS

In order to expedite parts returned to the factory for repair or credit, please call the factory at (800) 289-9100 or (559) 292-1981 to obtain an authorization number (CA number if returned for credit, and RA number if returned for repair).

All merchandise returned for credit may be subject to a 20% restocking and refurbishing charge.

Goods returned for repair or credit should be clearly identified with the assigned CA or RA number and freight should be prepaid. Ship to the appropriate address below.

If you are located within the continental U.S., Alaska, Hawaii or Puerto Rico, send goods to:

Service Department
Pelco
3500 Pelco Way
Clovis, CA 93612-5699

If you are located outside the continental U.S., Alaska, Hawaii or Puerto Rico and are instructed to return goods to the USA, you may do one of the following:

If the goods are to be sent by a COURIER SERVICE, send the goods to:

Pelco
3500 Pelco Way
Clovis, CA 93612-5699 USA

If the goods are to be sent by a FREIGHT FORWARDER, send the goods to:

Pelco c/o Expeditors
473 Eccles Avenue
South San Francisco, CA 94080 USA
Phone: 650-737-1700
Fax: 650-737-0933

REVISION HISTORY

Manual #	Date	Comments
C3438M	5/07	Original version.

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