

## INSTALLATION/OPERATION



### 200 Series Camclosure® Integrated Camera System



**C2406M-F (4/04)**

## IMPORTANT SAFEGUARDS AND WARNINGS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
6. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
7. Only use attachments/accessories specified by the manufacturer.
8. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
9. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
10. To reduce the risk of shock do not perform any servicing other than that contained on the operating instructions unless you are qualified to do so.
11. Installation should be done only by qualified personnel and conform to all local codes.
12. Unless the unit meets NEMA Type 3, 3R, 3S, 4, 4X, 6 or 6P standards, it is designed for indoor use only and must not be installed where exposed to rain and moisture.
13. Use only installation methods and materials capable of supporting four times the maximum specified load.
14. Use stainless steel hardware to fasten the enclosure to outdoor surfaces.
15. To prevent water leakage when installing an enclosure outdoors, apply sealant around the bolt holes between the enclosure and mounting surface. Use a non-acetic, acid-based sealant only.

## DESCRIPTION

The wedge style 200 Series Camclosure® integrated camera system is designed to mount directly to a wall or ceiling. It also can mount to a corner with the ICS200-CM corner mount. The system incorporates a camera and lens package into a small, medium security enclosure.

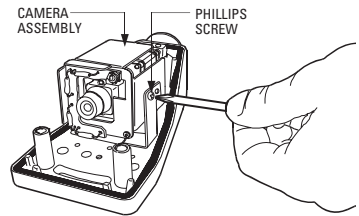
# INSTALLATION

The following parts are supplied:

- 1 Camclosure integrated camera system
- 1 Watertight mounting plate
- 1 1/8-inch pin-in-hex Allen wrench bit
- 3 10-32 x 0.5-inch Phillips screws
- 3 #10 internal tooth lock washers
- 1 Hole plug

## PREPARE MOUNTING SURFACE

1. Remove the cover of the ICS200. Use the screwdriver bit that is provided to loosen the three tamperproof screws, and then lift the cover from the base.
2. Remove the camera module from the base: remove the Phillips screw on each side of the camera assembly and unplug the electrical connectors. Refer to Figure 1.
3. **Outdoor Installation** – Refer to Figure 2 and select the mounting pattern: fixed or adjustable. Use the watertight mounting plate as a template and mark the fastener hole positions on the mounting surface. Prepare the holes for the fasteners.



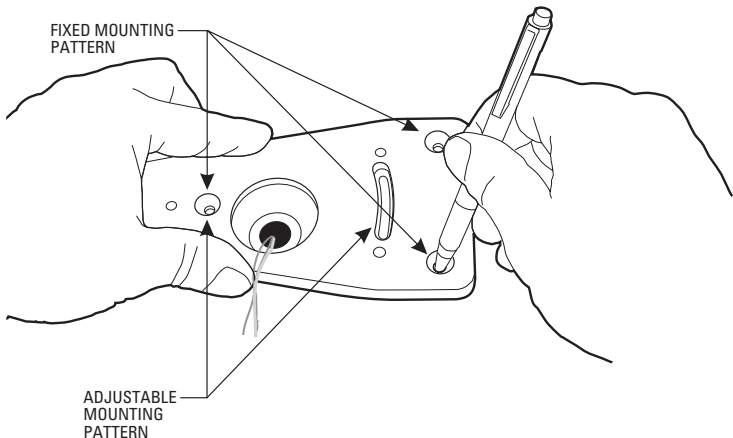
**Figure 1.** Removing Camera Module

**Indoor Installation** – Refer to Figure 2 and select the mounting pattern: fixed or adjustable. Use the base of the ICS200 as a template and mark the fastener hole positions on the mounting surface. Prepare the holes for the fasteners.

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**NOTE:** The watertight mounting plate is not required for indoor installations.

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**Figure 2.** Mounting Patterns (Watertight Mounting Plate Shown)

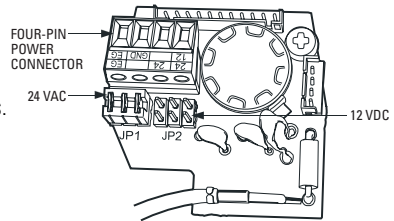
## INSTALL BASE WITHOUT CONDUIT

1. **Outdoor Installation Only** – Bring the power and video wiring for the camera through the wiring hole in the watertight mounting plate. Then fasten the mounting plate to the mounting surface with #8 stainless steel screws (not provided) of the appropriate length.
2. Connect power input wires to the wires in the base of the Camclosure.

**24 VAC** – Connect power to the red and blue wires.

**12 VDC** – a. Connect +12 VDC to the red wire and ground to the black wire.

- b. Reset the voltage jumper on the camera power board. Refer to Figure 3. Remove the jumper from JP1 (AC) and reinstall the jumper on JP2 (DC).



**Figure 3. Voltage Jumper Settings**

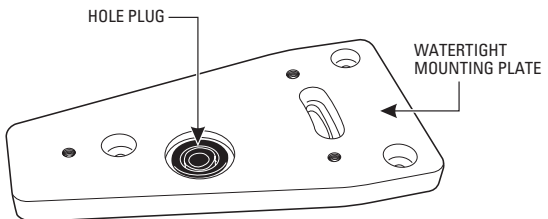
3. Connect the video cable. Make sure the boot covers the BNC connectors.
4. Push the power wires and video cable back through the mounting surface. Line up the mounting holes in the base with the mounting holes on the mounting surface, and attach the base as follows:

If you are attaching the base to the watertight mounting plate, use the three 10-32 x 0.625-inch screws and lock washers that are provided.

If you are fastening the base directly to a wall or ceiling, use appropriate hardware (not supplied). Use 1/4-20 hex head bolts with wall anchors in high-vandalism installations.

## WITH CONDUIT

1. **Outdoor Installation Only** – Insert the hole plug that is supplied into the large hole in the water-tight mounting plate (refer to Figure 4). Then fasten the mounting plate to the mounting surface with #10 stainless steel screws (not provided) of the appropriate length.



**Figure 4. Install Hole Plug**

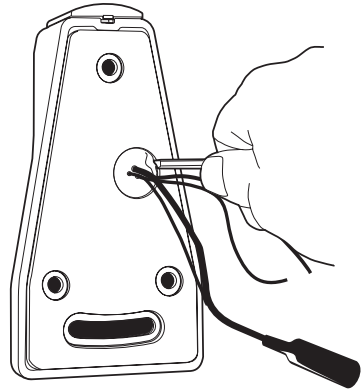
2. Using a blunt tool push out the wiring plug in the

bottom of the base (refer to Figure 5). Pull the wiring inside the base.



**WARNING:** Be careful not to damage the wiring or the connection where the video cable is fastened to the circuit board.

- Using the screwdriver bit that is provided, remove the conduit cover and plate by unscrewing the tamperproof screw. Refer to Figure 6.
- Install a 3/4-inch (1.91 cm) conduit connector in the conduit opening.
- Line up the mounting holes in the base with the mounting holes on the mounting surface, and attach the base as follows:



**Figure 5.** Wiring Plug Removal

If you are attaching the base to the watertight mounting plate, use the three 10-32 x 0.625-inch screws and lock washers that are provided.

If you are fastening the base directly to a wall or ceiling, use appropriate hardware (not supplied). Use 1/4-20 hex head bolts with wall anchors in high-vandalism installations.

- Attach the base to the conduit.
- Connect power input wires to the wires in the base of the Camclosure.

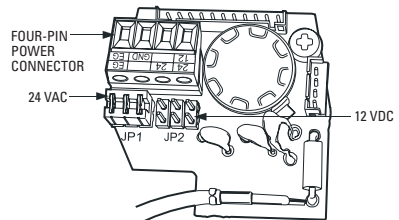
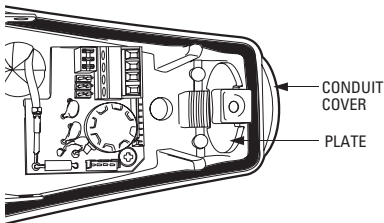
**24 VAC** – Connect power to the red and blue wires.

**12 VDC** – a. Connect +12 VDC to the blue wire and ground to the black wire.

b. Reset the voltage jumper on the camera power board. Refer to Figure 7. Remove the jumper from JP1 (AC) and reinstall the jumper on JP2 (DC).

- Connect the video cable. Make sure the boot covers the BNC connectors.
- Push the power wires and video cable back through the conduit fitting.

**Figure 6.** Base Installation with Conduit



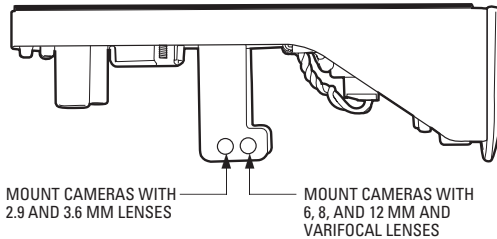
**Figure 7.** Voltage Jumper Settings

## REINSTALL CAMERA MODULE

1. Reinstall the camera module. Refer to Figure 8. Make sure the top of the camera is oriented properly. On the lens housing, look for the label that says TOP.



**WARNING:** To prevent damage to the camera or lens, the camera must be installed in the proper hole of the mounting bracket. If the camera is not installed in the correct hole, the window of the enclosure may be forced against the lens.



**Figure 8.** Camera Installation

2. Reconnect the electrical connections. If you do not need the heater, do not plug in the four-pin heater connector with red, orange, and black wires.

## ADJUST POSITION

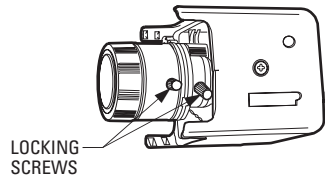
1. Turn on power to the camera and monitor.



**CAUTION:** Heater elements could be hot! When camera power is on, use caution when adjusting the camera. This applies to all models.

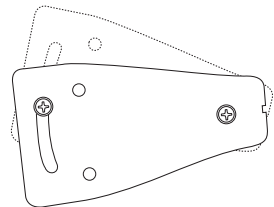
2. **Varifocal Lens Only** – Loosen the focal length and focus locking screws (refer to Figure 9). Adjust according to scene detail. Retighten the screws.

### VARIFOCAL LENS



**Figure 9.** Varifocal Lens Adjustment

3. Adjust the position of the camera.
4. **Adjustable Mounting Pattern Only** – Refer to Figure 10. Adjust the angle of the base and tighten mounting hardware. If the watertight mounting plate is installed, remove the base, adjust the mounting plate, and reinstall the base.



**Figure 10.** Adjustable Mounting Pattern

## REPLACE COVER

Place the cover of the ICS200 onto the base of the unit. Use the screwdriver bit (provided) and tighten the three tamperproof screws.

## ADJUSTMENTS (COLOR CAMERA ONLY)

If you have a color camera, it is set up at the factory and normally requires no adjustments. Sometimes, however, adjustments may be necessary.

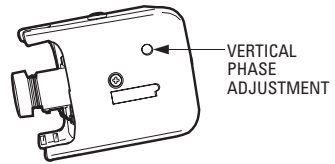
1. Remove the cover using the supplied 1/8-inch hollow screwdriver bit.
2. Adjust the vertical phase, iris level, focus, or switch settings (refer to procedures below).
3. Replace the cover.

### VERTICAL PHASE (24 VAC OPERATION ONLY)

Adjustment is required if there is vertical roll when switching between two cameras.

1. Reverse the 24 VAC connections on one camera. If both cameras are connected to the same transformer, this should solve the problem.
2. If reversing the connections does not solve the problem, or if cameras are connected to different transformers, turn the adjustment screw on one camera (while switching as rapidly as possible between the two camera views) until the switching is clean and there is no vertical roll. If more than two cameras are out of synchronization with each other, choose one camera and synchronize all others to it.

FIXED LENS



VARIFOCAL LENS

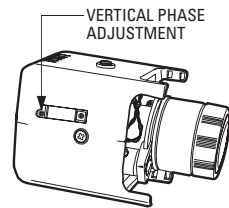
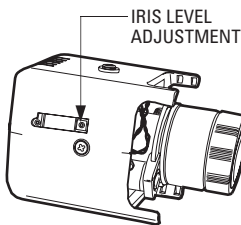


Figure 11. Vertical Phase Adjustment

### AUTO IRIS LEVEL ADJUSTMENT

If you have a varifocal lens or fixed focal length lens with an auto iris, you can adjust the iris level setting to increase or decrease brightness.

VARIFOCAL LENS



FIXED LENS

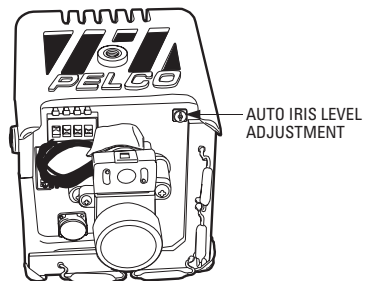


Figure 12. Iris Level Adjustment



## FOCUS ADJUSTMENT FOR FIXED FOCAL LENGTH LENS WITH AUTO IRIS

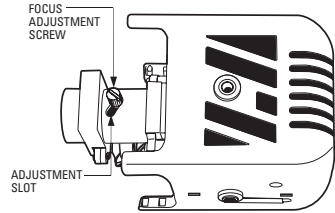
### CAUTION



Heater elements could be hot! When camera power is on, use caution when adjusting the camera.

To adjust the focus, do the following:

1. Loosen the locking screw on the bottom of the lens. To loosen the screw, it may be necessary to remove the heater board. Refer to Figure 14 and the accompanying steps.
2. Move the screw in the slot to bring the picture into focus.
3. Retighten the locking screw.
4. Replace the heater board if it was removed.
5. Reconnect the four-pin heater connector if you are using the heater.

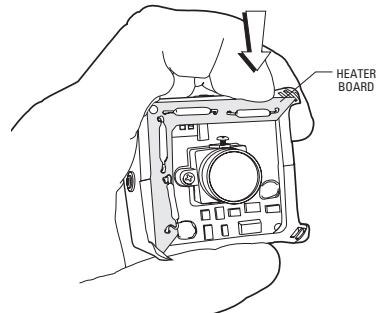


BOTTOM VIEW OF CAMERA WITH HEATER BOARD REMOVED

**Figure 13. Focus Adjustment**

To remove the heater board, do the following:

1. Disconnect the four-pin heater connector (red, orange, and black wires) if it is plugged in.
2. Wait for the heater elements to cool if they are hot.
3. Apply pressure and press on the corner of the board.

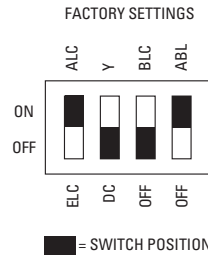


**Figure 14. Removing Heater Board**

## SWITCH SETTINGS FOR FIXED FOCAL LENGTH LENS WITH AUTO IRIS

Refer to Figure 15. The switch is located next to the lens. Automatic backlight compensation (factory setting) is used under varying lighting conditions (such as outdoors) or fixed lighting conditions where there are no bright spots that darken other picture details. Manual backlight compensation is used in fixed lighting conditions to optimize the picture detail when there are bright spots.

ALC/ELC switch:	Always ALC
Y/DC switch:	Always DC
Auto backlight compensation:	BLC switch OFF ABL switch ON
Manual backlight compensation:	BLC switch ON ABL switch OFF

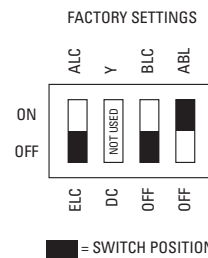


**Figure 15.** Switch Settings for Fixed Lens with Auto Iris

## SWITCH SETTINGS FOR FIXED FOCAL LENGTH LENS WITHOUT AUTO IRIS

Refer to Figure 16. The switch is located next to the lens. Automatic backlight compensation (factory setting) is used under varying lighting conditions (such as outdoors) or fixed lighting conditions where there are no bright spots that darken other picture details. Manual backlight compensation is used in fixed lighting conditions to optimize the picture detail when there are bright spots.

ALC/ELC switch:	Always ELC
Y/DC switch:	Not used
Auto backlight compensation:	BLC switch OFF ABL switch ON
Manual backlight compensation:	BLC switch ON ABL switch OFF

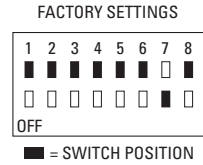


**Figure 16.** Switch Settings for Fixed Lens Without Auto Iris

## SWITCH SETTINGS FOR VARIFOCAL LENS

The high resolution camera with varifocal lens and auto iris is configured at the factory for optimal performance in lighting conditions where auto iris is required. It is also configured with the shutter speed set at 1/60 (NTSC) or 1/50 (PAL) and AGC set at 6 dB of gain.

- |              |   |          |                            |
|--------------|---|----------|----------------------------|
| AE Functions | 1 | AWB      | Automatic white balance    |
|              | 2 | GAM      | Gamma function             |
|              | 3 | AGC      | Automatic gain control     |
|              | 4 | ESC      | Electronic shutter control |
|              | 5 | BLC      | Backlight compensation     |
|              | 6 | FL       | Flickerless                |
|              | 7 | AE       | Automatic exposure         |
|              | 8 | Not used |                            |



**Figure 17.** Switch Settings for Varifocal Lens

### To enable automatic exposure

Turn on switch 7, and then turn on/off switch 4 for electronic shutter control, switch 5 for backlight compensation, and switch 6 for flickerless motion.

### To manually set and lock AWB

Place a white background in front of camera and turn off switch 1.

### For gamma correction

Switch to accurately reproduce scene brightness; when turned on,  $\gamma = 0.6$ , and when turned off,  $\gamma = 1.0$ .

### For gain control

Switch 3 On increases gain by 6 dB, and switch 3 Off increases gain by 18 dB.

### To enable auto iris and manually set shutter speed

Turn off switch 7; set switches 4, 5, and 6 for the desired shutter speed.

**CAUTION** Do not change the shutter speed unless you understand how changing the settings will affect the scene detail.

Shutter Speed	Switch Number and Position			
	7	6	5	4
1/60 (NTSC) 1/50 (PAL)	Off	On	On	On
1/100		Off	On	On
1/250		On	Off	On
1/500		Off	Off	On
1/1000		On	On	Off
1/2000		Off	On	Off
1/4000		On	Off	Off
1/10000		Off	Off	Off

**Figure 18.** Varifocal Lens Shutter Speed Settings

## SPECIFICATIONS

### **General**

Pan/Tilt Adjustment:	Manual; $\pm 10^\circ$ pan; $5^\circ$ above horizontal to $20^\circ$ below horizontal tilt; additional $24^\circ$ pan adjustment when installing using the adjustable mounting pattern in base
Rating:	Meets NEMA Type 4 and IP66 standards
Construction:	Aluminum base and cover, steel camera mounting bracket
Finish:	Gray polyester powder coat
Dimensions	
Without	
Watertight	
Mounting Plate:	3.29 (H) x 3.26 (W) x 6.20 (L) inches (8.36 x 8.28 x 15.70 cm)
With Watertight	
Mounting Plate:	3.69 (H) x 3.26 (W) x 6.20 (L) inches (9.37 x 8.28 x 15.70 cm)
Operating	
Temperature:	$-50^\circ$ to $122^\circ\text{F}$ ( $-46^\circ$ to $50^\circ\text{C}$ ) De-ices to $25^\circ\text{F}$ ( $-4^\circ\text{C}$ )
Heater:	Turns on at $50^\circ\text{F}$ ( $10^\circ\text{C}$ ) and off at $80^\circ\text{F}$ ( $27^\circ\text{C}$ )
Environment:	Low temperature, indoor/outdoor
Unit Weight:	1.25 lb (0.57 kg)

### **Electrical**

Input Voltage:	12 VDC or 24 VAC, $\pm 10\%$
Power Consumption:	13 watts or less
Video Connector:	BNC

*(Design and product specifications subject to change without notice.)*

## **REGULATORY NOTICES**

### **FCC Class A (monochrome, EIA cameras only)**

This equipment has been tested and found to comply with the limits of 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. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

### **FCC Class B (color, NTSC cameras only)**

This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## 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 Pelco manufactured cameras (CC3500/CC3600/CC3700 and MC3500/MC3600 Series); two years on all other cameras.
- Three years on Genex® Series (multiplexers, server, and keyboard) and 090 Series Camclosure® Camera System.
- Two years on 100/150, 200 and 300 Series Camclosure® Camera Systems.
- Two years on all standard motorized or fixed focal length lenses.
- Two years on Legacy®, CM6700/CM6800/CM8500/CM9500/CM9740/CM9760 Matrix, DF5 and DF8 Series Fixed Dome products.
- Two years on Spectra®, Esprit®, and PS20 Scanners, including when used in continuous motion applications.
- Two years on Esprit and WW5700 series window wiper (excluding wiper blades).
- Eighteen months on DX Series digital video recorders.
- 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:*

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

*If you are located outside the continental U.S., Alaska, Hawaii or Puerto Rico:*

**Intermediate Consignee**  
American Overseas Air Freight  
320 Beach Road  
Burlingame, CA 94010  
USA

**Ultimate Consignee**  
Pelco  
3500 Pelco Way  
Clovis, CA 93612-5699  
USA

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## REVISION HISTORY

<b>Manual #</b>	<b>Date</b>	<b>Comments</b>
C2406M	11/99	Original version.
	1/00	Revised installation instructions. Added FCC notices.
C2406M-A	2/00	Added varifocal lens. Changed format.
C2406M-B	11/00	New camera module design, revised installation instructions.
C2406M-C	1/01	Revised heater element caution.
C2406M-D	1/03	Revised manual for new mounting bracket for camera. Revised camera drawings to show new design.
C2408M-E	4/03	Added instructions for fixed lens with auto iris.
C2408M-F	4/04	Changed format. Revised installation instructions to include watertight mounting plate per ECO#03-9060.



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