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SensorVision® Systems

# ***SpeedDome***

## ***Quick Reference Guide***

*Part of SpeedDome Installation and Service Manual,  
8000-0518-01, REV. C.*

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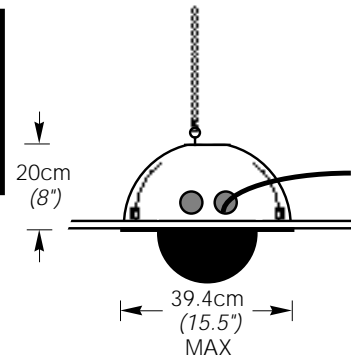
• Pin-to-Pin Wiring .....	Q-46
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# Hard Mount Installation

## Required Parts

Hard Mount  
0351-0393-01

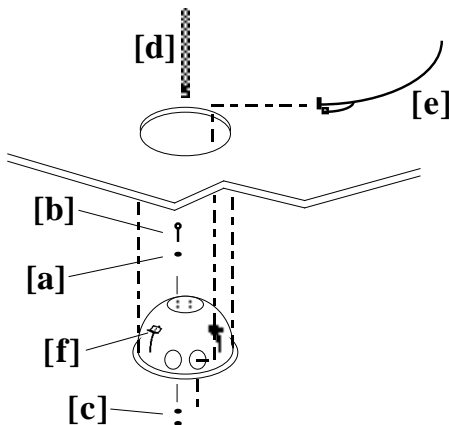
Description	Qty.	Part No.
"S" hook, open	2	2897-0004
Chain, Navy link	6	2898-0002
Eye bolt, 10-24 w/nut	1	2882-0112
Washer, flat, SS #10	2	2848-8100-17
Nut, locking, 10x24	1	2838-9154-05
Aluminum tape	4 FT	3200-0115-01



## Procedure

**IMPORTANT:** Shipping box contains a template—do not throw the template out.

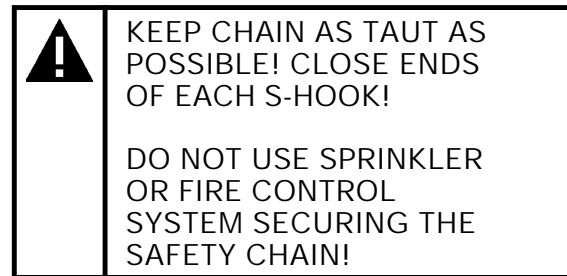
**1.** Using the template, scribe a 35.6cm (14")\* hole in the ceiling or tile. Cut out the hole.



**2.** Place a washer [a] over the eyebolt supplied [b]. Insert the eyebolt into a hole in the top of the housing and secure using a washer and nut [c].

\*U.S. Customary Measurements in italics are rounded off.

**3.** Using an S-hook, hang safety chain [d] from a strong ceiling member and, using a second S-hook, attach other end of the chain to the eyebolt. Keep the chain as taut as possible. Tighten both ends of each S-hook.



**4.** Feed video and multiconductor cables [e] through one of the two holes in the side of the housing. Then cover all openings in the housing with the aluminum tape supplied.

**5.** With the three mounting tabs [f] of the housing in the up position, insert the housing into the ceiling hole, then from inside the housing bring the tabs down and tighten their screws to secure. The housing is now ready for chassis installation (page Q-8).

# Hard Mount w/Adj. Bracket Installation

## Required Parts

### Hard Mount Kit

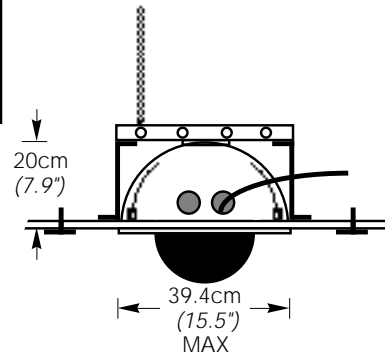
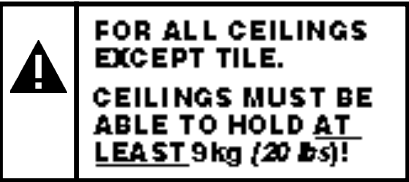
0351-0393-01

Description	Qty.	Part No.
"S" hook, open	2	2897-0004
Chain, Navy link	6	2898-0002
Eye bolt, 10-24 w/nut	1	2882-0112
Washer, flat, SS #10	2	2848-8100-17
Nut, locking, 10x24	1	2838-9154-05
Aluminum tape	4 FT	3200-0115-01

### Adj. Ceiling Mount Kit

0351-0394-01

Support, L-shape	2	0500-3439-01
Support, Z-shape	2	0500-3440-01
Washer, flat #10	8	2848-6301-23
Nut, wing 10-32	8	2834-0007-01
Screw, 10-32x3/4	2	2804-7931-05
Spacer, Nylon	16	3110-0016
Adapter plate	1	0500-3982-01
Screw, mach. M6x12	4	5801-4074-311

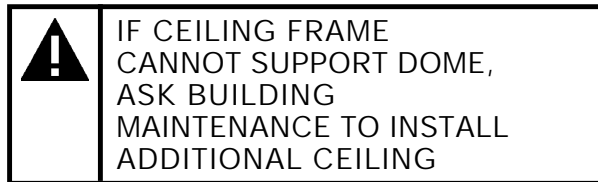


## Procedure

**IMPORTANT:** Shipping box contains a template—do not throw the template out.

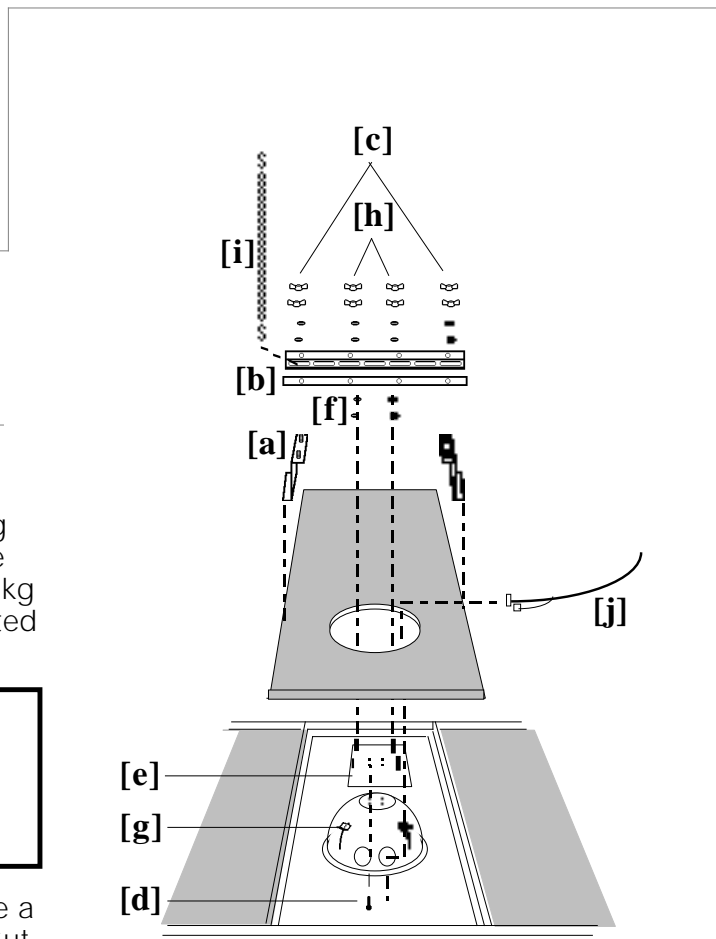
### 1.

**Tile ceilings only.** Remove the ceiling tile(s) and inspect the ceiling frame. The frame must be capable of withstanding 9kg (20 lbs)\* of weight and the forces generated as the dome pans and tilts.



**All ceilings.** Using the template, scribe a 35.6cm (14") hole in the ceiling or tile. Cut out the hole.

\*U.S. Customary Measurements in italics are rounded off.



**Hard Mount w/Adj. Bracket Installation, continued****2.**

Place "Z" supports [a] on the ceiling's top surface. For tile ceilings, make sure the edge of the supports rests flush with edges of tile. Refer to diagram on page Q-4.

**3.**

Place the two "L" supports [b]—cut to length, if necessary—over the threaded studs of the "Z" supports and fasten together using four washers and wing nuts provided [c].

**4.**

From inside the housing, insert the four screws [d] provided through the holes in the top of the housing and into the adapter plate [e].

**5.**

Place enough spacers [f] over each stud in the adapter plate to compensate for the thickness of the ceiling.

**6.**


With its three mounting tabs [g] in the up position, insert the housing into the ceiling hole until the studs in the plate fit through the slots in the "L" supports.

**7.**

Bring the three mounting tabs of the housing down and tighten their screws to secure. Then secure the plate to the "L" supports using washers and wing nuts [h].

**8.**

Using an S-hook, hang safety chain [i] from a strong ceiling member and, using a second S-hook, connect the other end of the chain to one of the "L" supports. Keep the chain taut. Tighten both ends of each S-hook.

	<b>KEEP CHAIN AS TAUT AS POSSIBLE! CLOSE ENDS OF EACH S-HOOK!</b>
	<b>DO NOT USE SPRINKLER OR FIRE CONTROL SYSTEM SECURING THE SAFETY CHAIN!</b>

**9.**

Feed video and multiconductor cables [j] through one of the two holes in the side of the housing. Then cover all openings in the housing with the aluminum tape supplied. The housing is now ready for chassis installation (page Q-8).

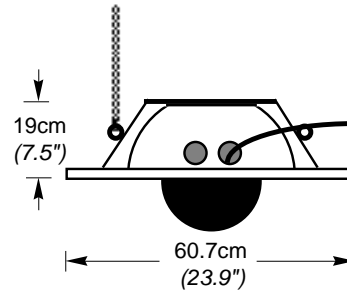
## 2x2 Tile Mount Installation

### Required Parts

#### Standard Ceiling Mount

0351-0376-01

Description	Qty.	Part No.
Bar, ceiling tee	1	0500-0263-01
S-hook, open	2	2897-0004
Chain, Navy link	6 FT	2898-0002
Tab	2	0500-0264-04
Clip, T-bar	4	1400-0033-01



### Procedure

#### 1.

Remove the ceiling tile(s) and inspect the ceiling frame. The frame must be capable of withstanding 9kg (20 lbs)\* of weight and the forces generated as the dome pans and tilts.



**IF CEILING FRAME CANNOT SUPPORT DOME, ASK BUILDING MAINTENANCE TO INSTALL ADDITIONAL CEILING SUPPORTS.**

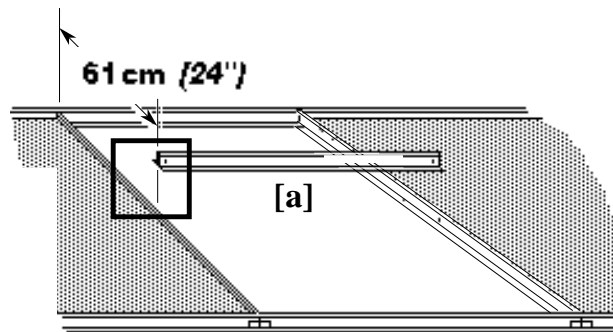
For 2x2 openings, skip steps 2 and 3.

#### 2.

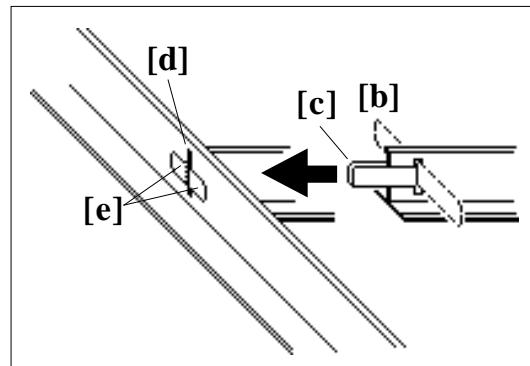
Cut the 2x4 ceiling tile to 60.3cm (23.75") using the length of the T-bar supplied [a] as a guide. Then, attach this T-bar (see detail) by centering steel tab [b] through the slot at end of the T-bar. Bend the tab as shown [c].

#### 3.

Slide the tab through the slot in the existing frame [d] 61cm (24") from the T-bar opposite. Bend the ends of the tab outward [e] to secure. Repeat for the other end of bar.



#### AREA OF DETAIL



\*U.S. Customary Measurements in italics are rounded off.

**2x2 Tile Mount Installation, continued**

4.


Set the housing [f] into the ceiling opening. For slightly larger openings, see box below. If installing in a 2x2 ceiling, remove an adjacent ceiling tile to aid installation.

5.

Clamp the housing to the T-bars by snapping a T-bar clip [g] over the raised edge of the housing and the T-bar. Center this clip along the edge. Repeat for each side of housing.

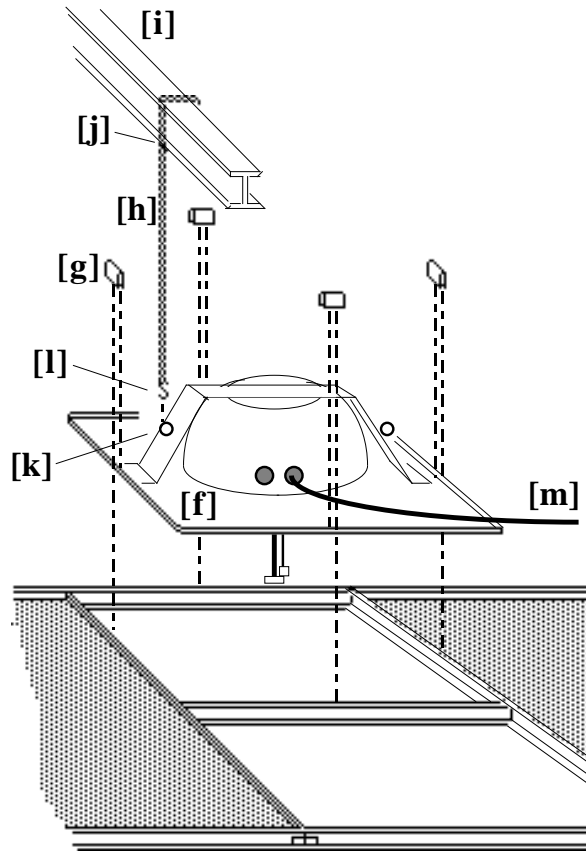
6.

Wrap safety chain [h] around a strong ceiling member [i]; attaching it to itself using an S-hook [j]. Attach the other end of the chain to one of two eyelets [k] on the housing using a second S-hook [l]. Keep the chain as taut as possible. Close both ends of each hook.

	<p><b>KEEP CHAIN AS TAUT AS POSSIBLE! CLOSE ENDS OF EACH S-HOOK!</b></p> <p><b>DO NOT USE SPRINKLER OR FIRE CONTROL SYSTEM SECURING THE SAFETY CHAIN!</b></p>
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7.

Feed video and multiconductor cables [m] through one of the two holes in side of the housing and reinstall the adjacent ceiling tile. See chassis installation on page Q-8.

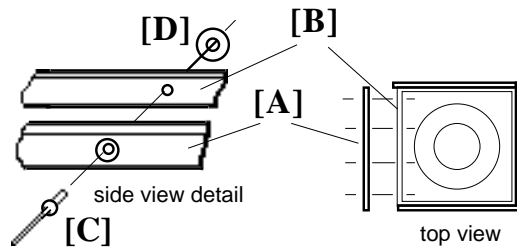


Add extension bars to the housing for ceiling openings slightly larger than 2x2 or 2x4.

**Extension Bar**

0351-0243-01

Description	Qty.	Part No.
Bar, extension	4	0500-3326-01
Rivet, pop .125x.390	16	2873-0004-05
Washer, flat No. 5	16	2848-1408-01
Bar, ceiling tee	1	0500-0648-01
Tab	2	0500-0264-04
Clip, T-bar	4	1400-0033-01



Extension bars [A] mount to the edge of the housing [B] to provide a proper fit. Buttjoint as many bars as required using pop rivets [C] and washers [D], four per bar, as shown above. Do not use clips.

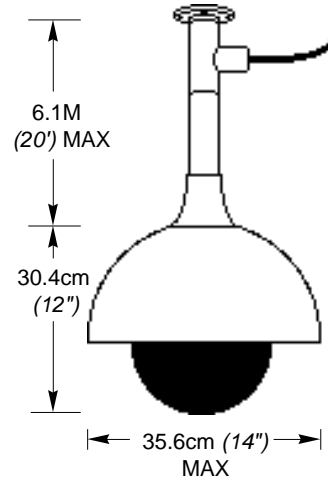
# Pendant Mount (Standard) Installation

## Required Parts

### Pendent Mount Kit

0351-0392-01

Description	Qty.	Part No.
Flange, 1-1/4" dia.	1	1400-0069-01
Fitting, pipe tee	1	1417-0040-01
Nipple, short 1-1/4	1	1417-0041-01
Anchor bolt, 1/4x2-1/4 w/hardware	4	2880-0011
Pipe, 1-1/4", straight, 6m max, threaded both ends	1	CE supplied
Cap	1	0500-3964-01



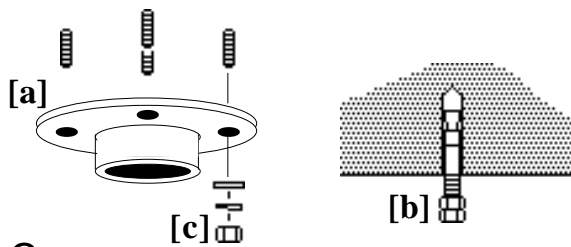
## Procedure

### 1.

Using the flange [a] as a template, mark hole locations on ceiling for four bolts. Remove the flange and drill four .64cm (1/4") holes to required depth.

For each hole, screw two nuts onto the anchor bolt provided, with two threads of the second nut extending over end of the bolt to protect the bolt threads from damage [b].

Hammer the bolt into ceiling leaving only its threads exposed. Remove the nuts and bolt the flange to the ceiling using the flat washers, lock washers and nuts supplied [c].



### 2.

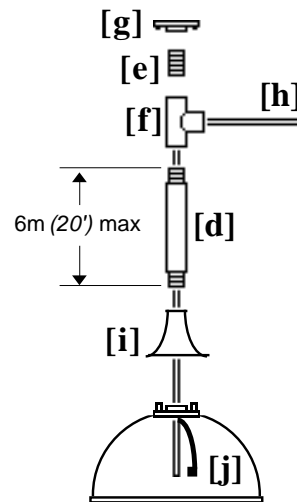
Thread the straight pipe [d] (not supplied) and nipple [e] into pipe tee [f]. Thread the nipple of the entire assembly into flange [g].

\* U.S. Customary Measurements in italics are rounded off.

### 3.

Feed video and multiconductor cables [h] through center hole of pipe tee and down through the pipe. Note: Remove the Cinch-Jones connector, if used, to enter pipe.

Slip the cap [i] onto the pipe, then thread housing [j] onto the pipe. See chassis installation on page Q-8.

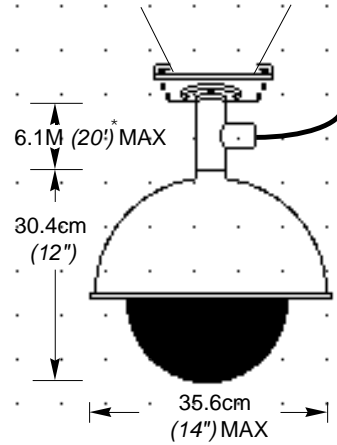


# Pendant Mount (I-Beam) Installation

## Required Parts

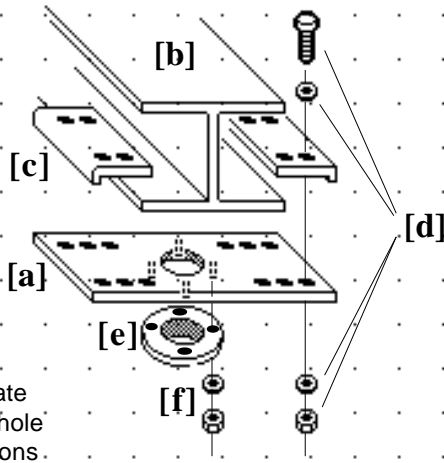
Adjustable I-Beam Clamp Install Kit  
0351-0391-01

Description	Qty.	Part No.
Base plate	1	0500-3975-01
Clamp plate	2	0500-3976-01
Screw, mach. M6x70	4	5801-4194-311
Washer, flat	12	5840-0500-020
Nut, locking	8	5826-0500-020
Fitting, pipe nipple	1	1417-0041-01
Fitting, pipe tee	1	1417-0040-01
Flange, 1-1/4"	1	1400-0069-01

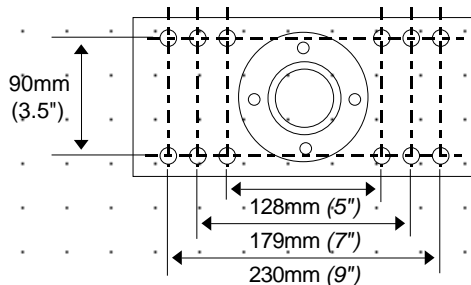


## Procedure

**I-beam attachment** Set the base plate [a] against a suitable ceiling member [b]. Secure the plate using clamps [c] and hardware supplied [d]—see base plate hole-to-hole dimensions, below. Attach the flange [e] using hardware supplied [f].



Base plate hole-to-hole dimensions.



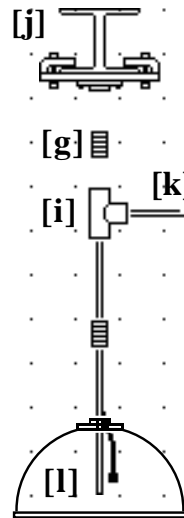
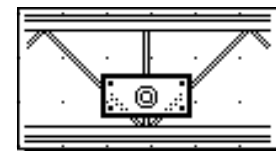
\* U.S. Customary Measurements in italics are rounded off.

**Vertical/Horizontal mounting.** Thread nipples [g] and [h] into the pipe tee [i], and screw the entire assembly into the base [j].

Next, feed video and multiconductor cables [k] through center hole of pipe tee. **Note:** Remove the Cinch-Jones connector, if used, to enter pipe.

Finally, thread the housing [l] onto the pipe. See chassis installation on page Q-8.

### Horizontal Mounting



**Note:** If replacing pipe tee with pipe, cable exiting pipe tee must be no farther than 15.2cm (6") from I-beam clamp.

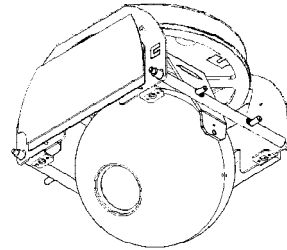
# Chassis Installation

## Required Parts

SpeedDome Install Kit

0351-0377-01

Description	Qty.	Part No.
Connector, BNC	1	2111-0035-01
BNC jack	1	2111-0034-01
Nylon Cable Tie	1	6009-0006



## Procedure

1.

Snap the ball [a] of the lanyard hanging from the chassis into the bracket [b] at the top of the housing.

2.

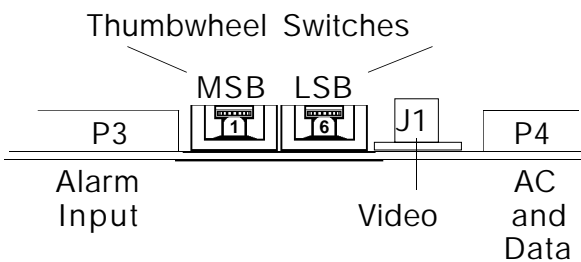
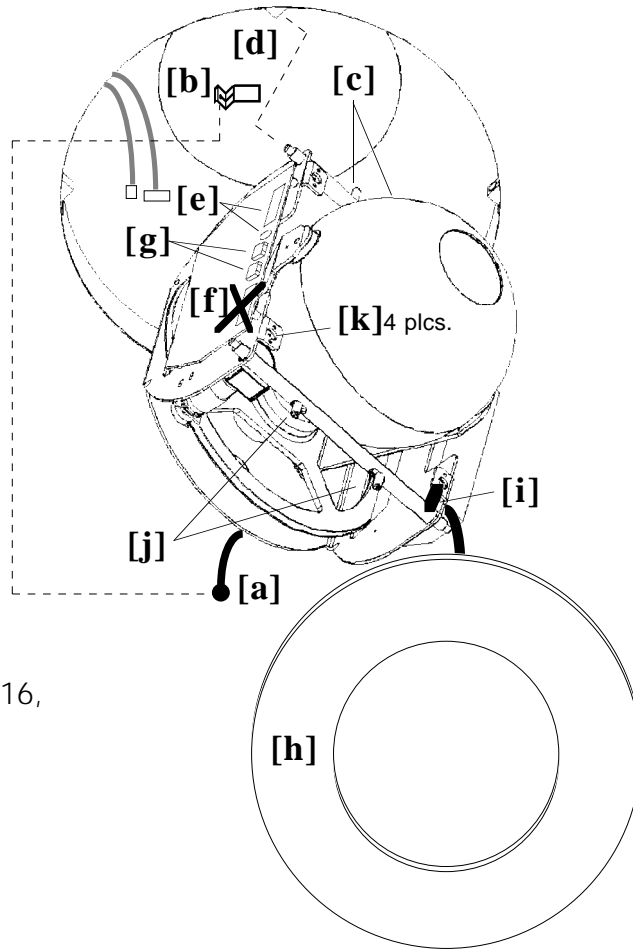
Squeeze the spring-loaded ejector pins [c] together to seat the chassis in the corner receptacles [d]. The PC board must face the cables exiting the access holes in the housing.

3.

With the chassis hanging down, connect the video and multiconductor cables to their receptacles [e]—refer to instructions on page Q-19. Do not use the alarm input connector [f] unless connecting alarms to domes.

4.

Set the thumbwheel switches [g] to the appropriate address. Example: for address 16,



(continued on page Q-9)

## Chassis Installation, continued

5.

Attach the skirt assembly or optional bubble assembly [h] to the chassis by inserting its T-lanyard into a slot [i] on the chassis until both ends catch securely.

6.

To lock the chassis in the housing, squeeze ejector pins [j] and swing the chassis all the way up, while easing the cables up through the access holes. Release these pins into the remaining corner receptacles.



7.

Snap the four pins of the skirt (or bubble) assembly into the four chassis receptacles [k].

8.

To compensate for accidental jarring during assembly, recalibrate the dome as follows:

- a. At the console, call up the dome address number.
- b. Press and hold the FAST key. Then—in order—press and hold the ZOOM OUT, FOCUS FAR, and IRIS OPEN keys.

When the dome begins to pan and tilt, release the keys.

Once calibrated, which takes about a minute, the dome is ready for use. Installation is complete.

# Over Roof Mount Installation

## Required Parts

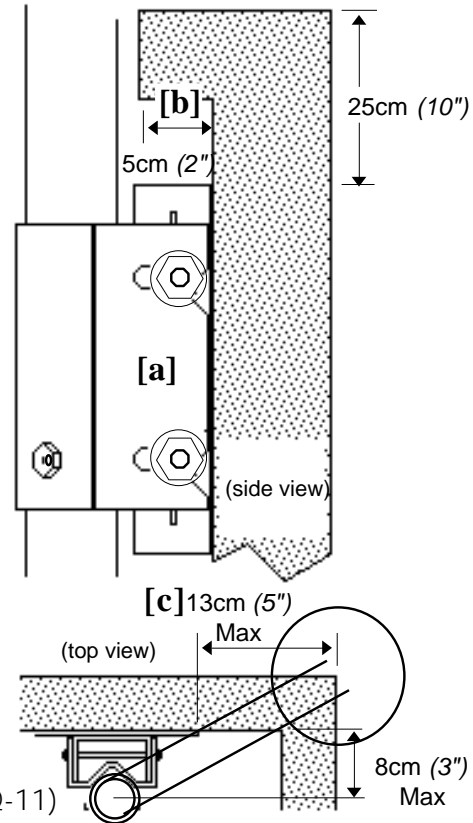
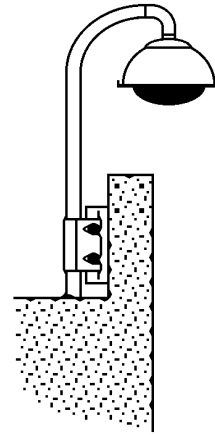
### Over Roof Install Kit

0351-0279-01

Description	Qty.	Part No.
Fitting, 90° pipe	1	0500-3499-01
Anchor bolt, 1/2x5 1/2"	4	2880-0049
Anchor, hollow wall, w/ P	3	2880-0074-01
Bolt, hex 1/2-13x4"	1	2880-8917-01
Washer, lock1/2"	4	2847-0300
Cable tie, Nylon, 7.5"	10	6009-0005
Rod, thread 1/2-13x18"	1	0500-2734-01
Nut, Hex 1/2-13"	2	2838-9117-04
Washer, flat, SS, P, .531ID X 1.25OD	2	2848-8101-11
Washer, flat, ST, Z, .812ID X 2.0OD	1	2848-1409-16
RTV compound	1	1600-0001
Pipe sealant	1	1600-0095-01
Washer, flat 5/16"	8	2848-6301-02
Nut, hex 5/16-18"	8	2838-9116-01
Bolt, hex 3/8-16x3/4"	2	2880-0082-01
Adaptor, BNC, male to female	1	2113-0004
Nut, hex, 1.5" pipe w/seal	1	1417-0042-01

### Other Parts/Assys

Plate, mounting	1	0500-3637-01
Bracket, mounting	1	0500-3638-01
Base wall/pole mount	1	0500-3463-01
Arm, mounting outdoor	1	0200-0173-01
Cover, base (optional)	1	0500-3668-01



## Procedure

**Mounting to a solid wall:** Mount bracket assembly [a] to a solid wall or poured concrete cap, where possible.

**Mounting to a parapet:** Mounting to the inside of a parapet is preferred. Typically, for the bubble to clear, mount the base within:

- 25cm (10")\* of the top of the parapet.  
A parapet with a 5cm (2") lip is shown [b].
- 13cm (5") from the corner of the building [c].

**Mounting area (including clearance):**

Minimum 33cm (13") x 48cm (19").

(continued on page Q-11)

**Note:** If the above requirements cannot be met, mount the dome to the outside of the wall (a decorative cover can be purchased to enhance the look of the base). Alternately,

a 10-inch extender can be screwed into the end of the pipe, but tell the customer that increased vibration from wind gusts may result.

\* U.S. Customary Measurements in italics are rounded off.

## Over Roof Mount Installation, continued

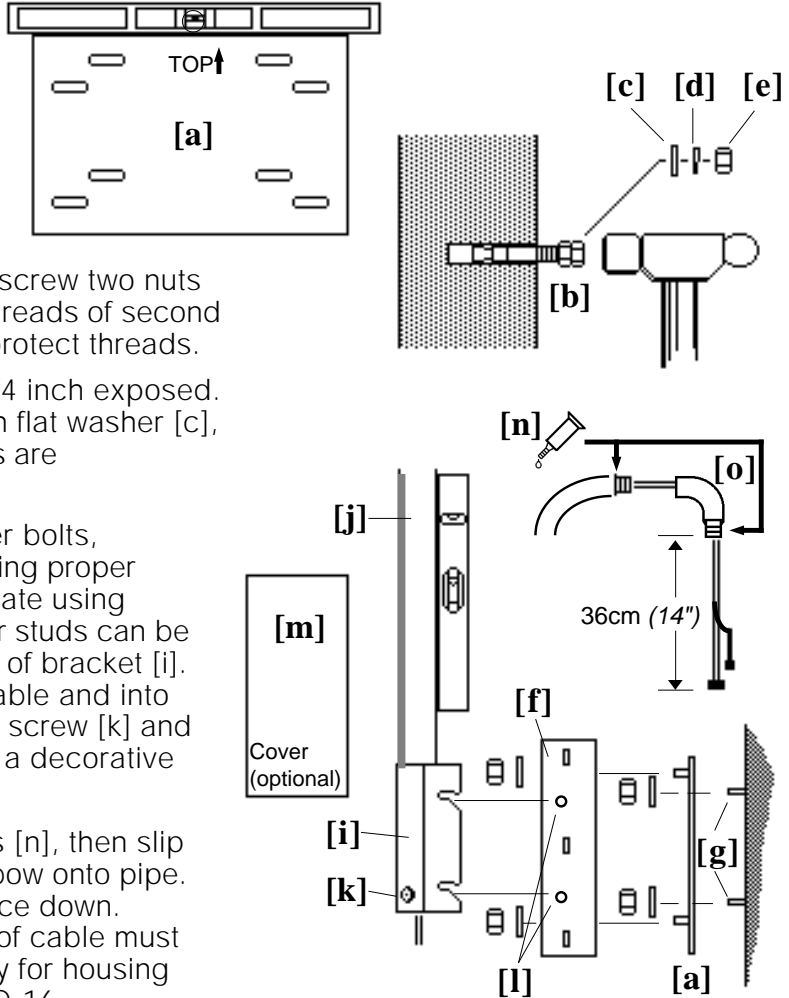
Place plate [a] in desired location, level, and mark slots. Plate **MUST BE LEVEL**. Remove template, then drill four 1/2-inch holes to the required depth for type of wall and hardware used.

For each hole into solid concrete, screw two nuts [b] onto an anchor bolt, with two threads of second nut extending over end of bolt to protect threads.

Hammer bolt into wall leaving 1-1/4 inch exposed. Remove nuts and attach a 1/2-inch flat washer [c], lock washer [d] and nut [e].

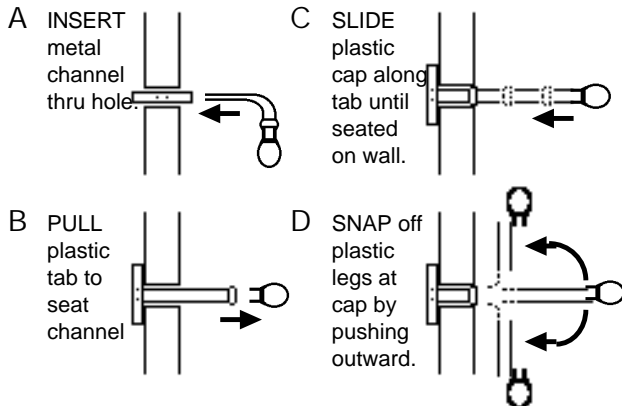
Slip slots of mounting plate [f] over bolts, togglers, or rods [g] and secure using proper hardware. Mount base [h] to the plate using hardware provided—any set of four studs can be used. Feed cables through bottom of bracket [i]. Slip smooth-end of pipe [j] over cable and into bracket. Secure pipe by tightening screw [k] and level by adjusting nuts [l]. If using a decorative cover [m], slide it over pipe.

Apply pipe sealant to pipe threads [n], then slip elbow [o] over cable and screw elbow onto pipe. Once on, elbow opening should face down. Note: Approximately 36cm (14") of cable must exit elbow. The mount is now ready for housing and chassis installation on page Q-16.

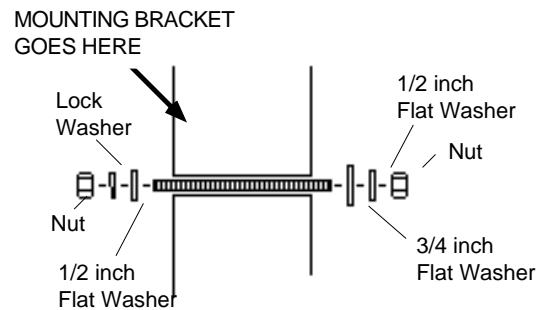


### NOTE: Voids encountered while drilling...

One void only: Insert toggler (provided) through hole where void occurred. Insert associated bolt.



Two or more voids: For each void, drill hole through wall. Then, insert threaded rod (provided) through hole and attach hardware shown. Purchase additional rods/hardware as required.



# Wall Mount-Corner Bracket Installation

## Required Parts

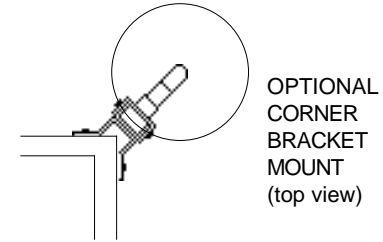
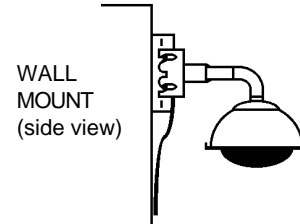
### Wall Mount Install Kit

0351-0283-01

Description	Qty.	Part No.
Washer, flat ST, Z, .344IDX.875OD	4	2848-6301-02
Nut, hex Nylon-LK CAD 5/16-18	4	2838-9116-01
Anchor, wedge, bolt, 1/4 X 2.2	4	2880-0011
Pipe sealant	1	1600-0095-01
Plug, 1-7/8 x 1"	1	0649-0685-01
RTV compound	1	1600-0001
Adaptor, BNC, male to female	1	2113-0004
Nut, hex, 1.5" pipe with seal	1	1417-0042-01

### Other Parts/Assys

Pipe, 12 in. long	1	0500-3465-01
Base, wall/pole	1	0500-3463-01
Support, wall/pole	1	0500-3464-01
Fitting, 90° pipe	1	0500-3499-01
<i>Corner Bracket Mount only:</i>		
Corner Brkt, mounting (optional)	1	0500-3636-01



## Procedure

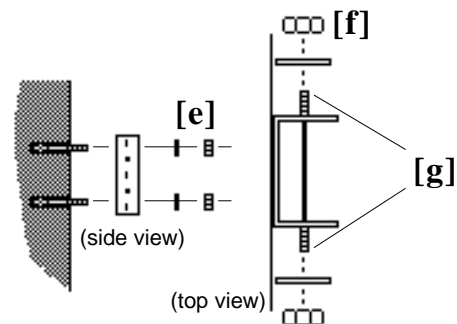
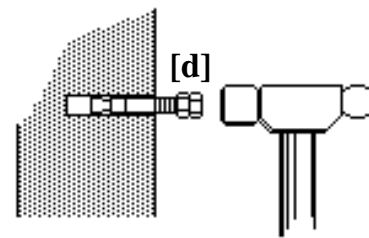
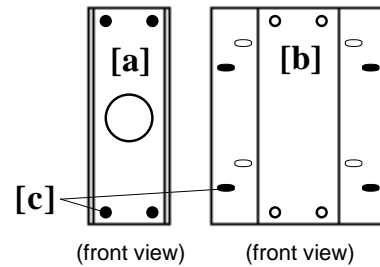
Place wall-mount base [a] or corner bracket [b] in desired location, level, and mark mounting holes [c].

Drill four 1/4-inch holes to the required depth. For each hole:

- Screw two nuts onto anchor bolt, with two threads of second nut extending over end of bolt to protect threads [d].
- Hammer bolt into wall leaving 1-1/4 inch of bolt exposed. Then, remove nuts.

Slip base shown or corner bracket over bolts and secure using hardware [e]. Secure base to studs of corner bracket, if used. Then loosely thread a washer and nut [f] onto the four threaded studs of the base [g].

(continued on page Q-13)



## Wall Mount–Corner Bracket Installation, *continued*

Feed camera dome cables [h] through mounting bracket (i).

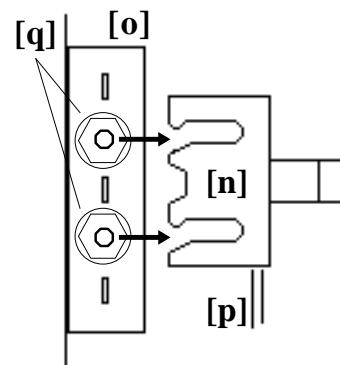
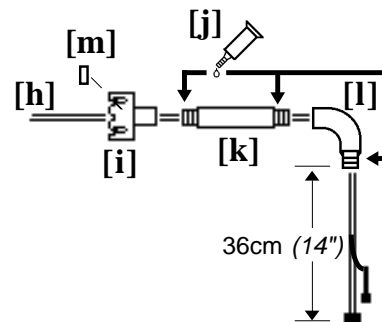
Apply sealant [j] to threads of straight pipe [k], then slip pipe over cable and screw pipe into bracket.

Slip elbow [l] over cable and screw elbow onto pipe. Once on, elbow opening should face down. Note: Approximately 36cm (14")\* of cable must exit elbow. If so, insert plug [m] and seal with RTV.

Hook bracket [n] on threaded stud between washer and base [o] while feeding excess cable [p] back through hole in bracket. Level, and tighten nuts [q] on both sides of base to secure.

The mount is now ready for housing and chassis installation. See page Q-16.

\*U.S. Customary Measurements in italics are rounded off.



# Pole Mount Installation

## Required Parts

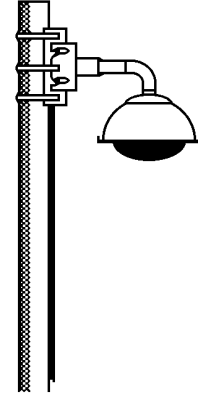
Pole Install Kit  
0351-0282-01

Description	Qty.	Part No.
Washer, flat 5/16"	4	2848-6301-02
Nut, hex 5/16-18	4	2838-9116-01
Screw, M, HXHD, SS, 1/4 - 20 X 1"	2	2802-8401-72
RTV compound	1	1600-0001
Pipe sealant	1	1600-0095-01
Plug, 1-7/8 dia. 1" thick	1	0649-0685-01
Adaptor, BNC, jack to plug	1	2113-0004
Nut, hex 1.5" pipe w/seal	1	1417-0042-01

### Other Parts/Assys

Pipe, 12 in. Long	1	0500-3465-01
Base, Wall/Pole	1	0500-3463-01
Support, Wall/Pole	1	0500-3464-01
Clamp package (see note)	2	6010-0043-01
Fitting, 90° pipe	1	0500-3499-01

Note: Two clamp packages are provided: one for the dome, one for the J-box. Straps in each package are sufficient for 10cm (4") to 30.5cm (12") wide poles. For larger widths, order an additional package.



Loosely thread washer and nut [i] onto the four threaded studs of base [j]. Next, insert two 1/4-20 leveling screws [k] into bracket [l]. Then, hook bracket on threaded stud between washer and base while feeding excess cable [m] back through hole in base.

Use leveling screws to level. Tighten nuts on both sides of base to secure. The mount is now ready for housing and chassis installation. See page Q-16.

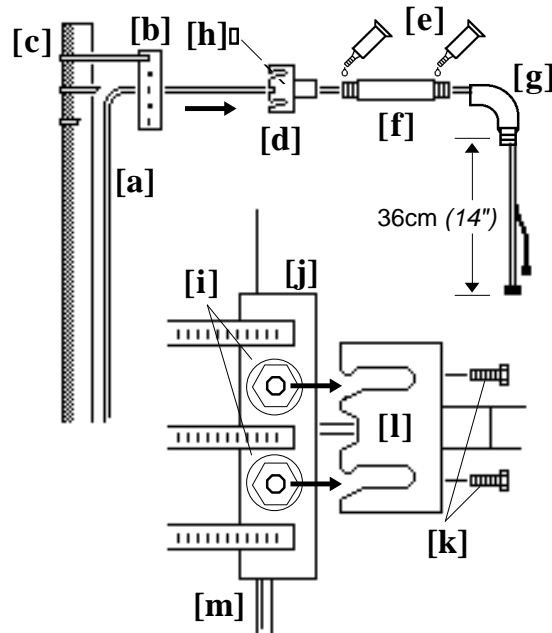
## Procedure

Feed camera dome cables [a] through the large hole in mounting base [b].

Following the directions on back of the clamp package (see NOTE above), strap the mounting base securely to the pole [c]. Feed cables exiting base through the hole in the mounting bracket [d].

Apply sealant [e] to threads of straight pipe [f], then slip pipe over cable and screw into bracket.

Slip elbow [g] over cable and screw elbow onto pipe. Once on, elbow opening should face down. Note: Approximately 36cm (14")\* of cable must exit elbow. If so, insert plug [h] into bracket and seal with RTV.



\*U.S. Customary Measurements in italics are rounded off.

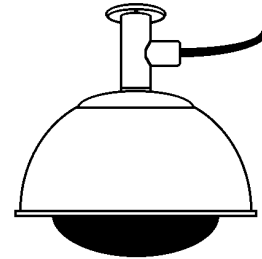
# Ceiling Mount Installation

## Required Parts

### Ceiling Mount Install Kit

0200-0163-01

Description	Qty.	Part No.
Flange	1	1400-0058-01
Fitting, pipe tee	1	1417-0036-01
Nipple, short 1-1/2x 2	2	1417-0037-01
Anchor bolt, 1/4x2-1/4 w/hardware	4	2880-0011
Pipe sealant	1	1600-0095-01
Plug, 1-7/8 dia., 1" thick	1	0649-0685-01
RTV compound	1	1600-0001
Label, blank, paper, thermal	1	2450-0008-01
Adaptor, BNC, male to female	1	2113-0004
Nut, hex, 1.5" pipe w/seal	1	1417-0042-01



## Procedure

Place the mounting flange [a] on the ceiling in the desired location. Then, using the flange as a template, mark locations for four bolt holes. Remove the flange.

Drill four 1/4-inch holes to the required depth. For each hole, screw two nuts onto an anchor bolt, with two threads of second nut extending over end of bolt to protect threads [b].

Hammer the bolt into the ceiling leaving 1-1/4 inch of bolt exposed. Remove nuts.

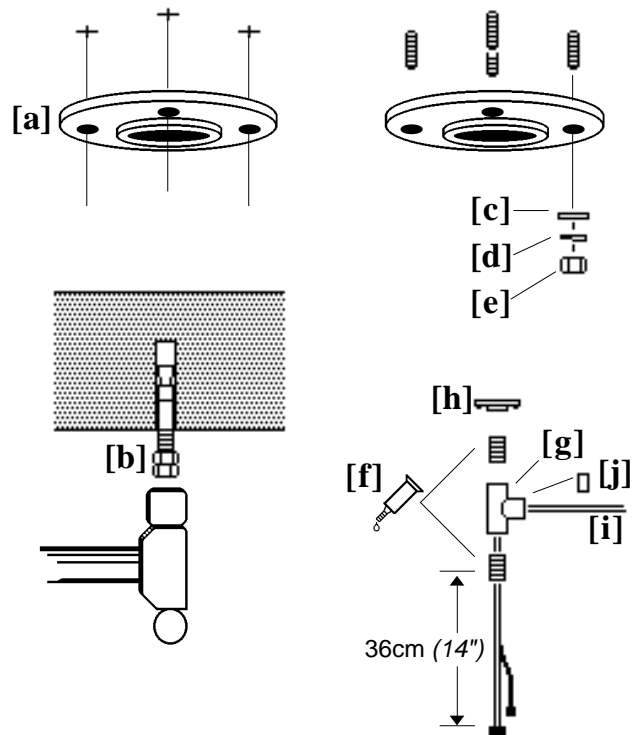
Bolt the mounting flange to the ceiling using a 1/2-inch flat washer [c], lock washer [d], and nut [e].

Apply pipe sealant to nipples [f], then screw nipples into the pipe tee [g].

Screw the entire assembly into the flange [h]. Then, feed the camera dome cables [i] through the center hole of the pipe tee.

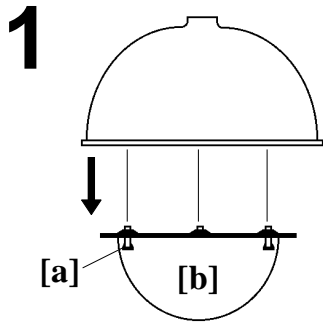
Note: Approximately 36cm (14")\* of cable must exit the nipple. If so, insert plug [j] and seal with RTV.

The mount is now ready for housing and chassis installation. See page Q-16.

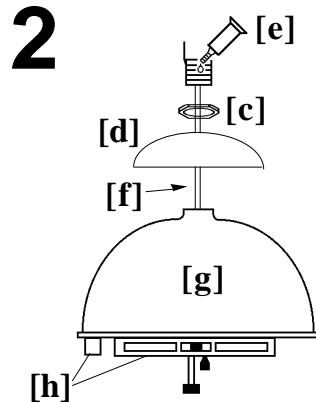


\*U.S. Customary Measurements in italics are rounded

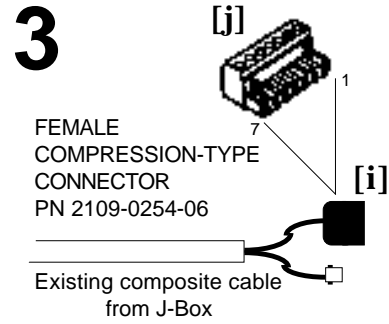
# Housing and Chassis Installation



Using tamper-proof tool (T-20), remove captive bubble attachment screws [a] from housing, then remove bubble [b].



Screw 1.5" hex nut [c], with its white (or yellow) seal facing the cap [d], onto the pipe. Next, apply pipe sealant [e] to threads of elbow (or nipple, if this is a ceiling mount). Then feed the composite cable (f) through the SpeedDome cap [d] and through the housing [g]. Thread the dome housing onto the elbow (or nipple), compressing the cap against the housing until tight. Level as shown [h]. Apply RTV around the hex nut.



FEMALE  
COMPRESSION-TYPE  
CONNECTOR  
PN 2109-0254-06

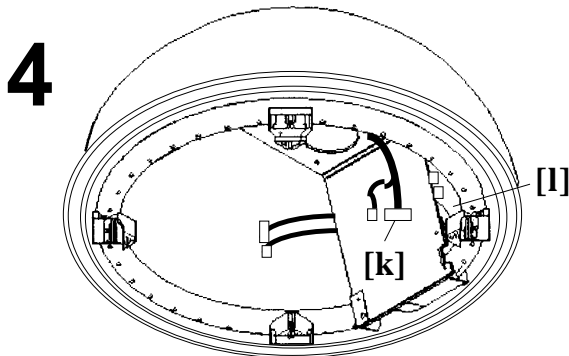
Existing composite cable  
from J-Box

Referring to the chart below, replace the Cinch-Jones connector [i] with female compression connector [j] (located at P4 on the SpeedDome chassis).

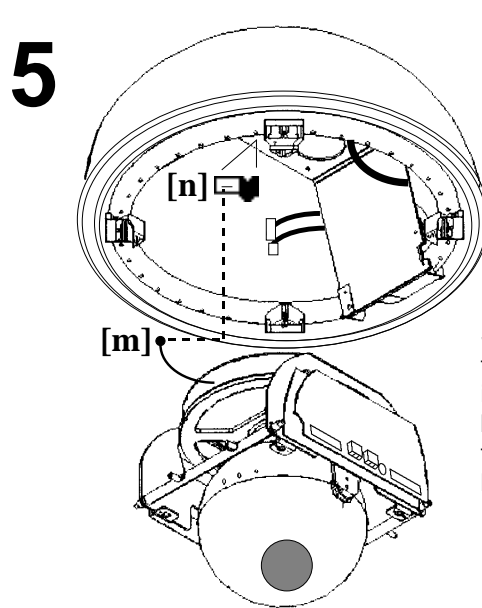
Female Compression-Type  
Connector

PIN CONNECTIONS

PI	DESCRIPTION
1 brown	data out (Lo)
2 yellow	data out (Hi)
3 black	ac
4 red	Gnd.
5 white	ac
6 green	data in (Lo)
7 orange	data in (Hi)



Next, connect the composite cable compression connector [k] to J2, and the video connector to J1, on the Outdoor Interface Board [l], mounted on the outside of the bracket. Make sure when connecting to this board, that the screws of the compression connector are turned toward the inner black assembly. Tie wrap the composite cable to the bracket assembly to make way for chassis installation.



Snap the ball of the lanyard [m] in- to the bracket [n] at the top of the housing.

(continued on page Q-17)



# Fixed Camera Installation

## Required Parts

### Parts/Assys

Description	Qty.	Part No.
Chassis, Fixed/Drone	1	0400-0529-01
Shroud, Fixed	1	0500-4218-01
Bubble Kit, Smoked, 9-Inch	1	0351-0386-03
Clamp Kit, Adjust. I-Beam	1	0351-0391-01
2x2 Indoor Housing	1	0200-0176-01
Pendant Indoor Housing	1	0200-0177-01
Hard Mount Indoor Housing	1	0200-0178-01

## Procedure

1.

Snap the ball of the lanyard [a] into the bracket at the top of the housing. Then flex the chassis [b] to insert its mounting studs into the four corner mounts of the dome housing to be used: Hard Mount (page Q-1), 2x2 (page Q-4), or I-Beam (page Q-7).

2.

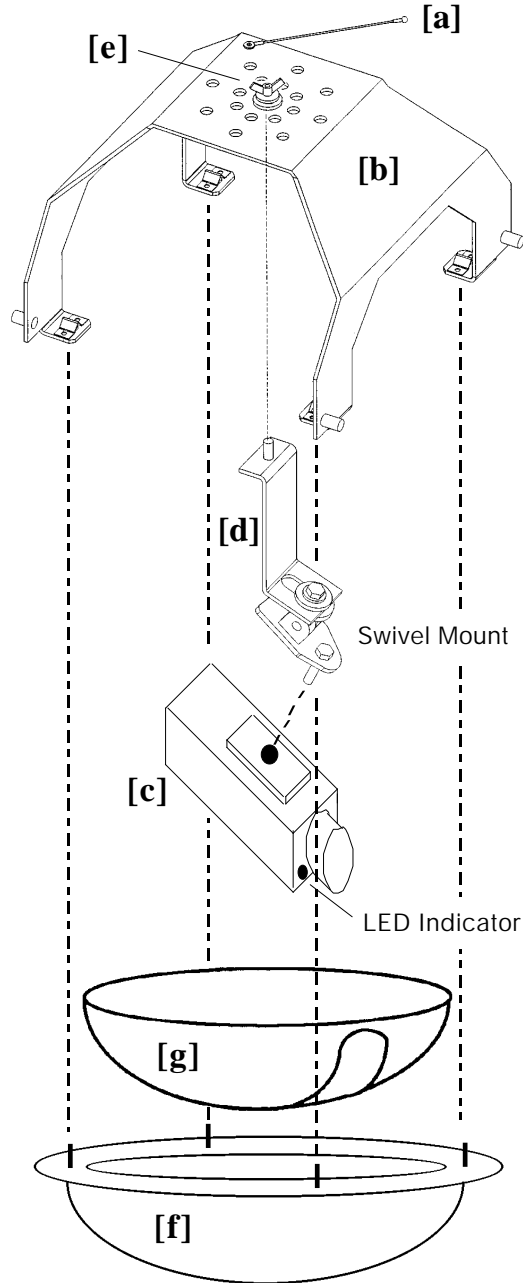
Attach the fixed camera [c] to the swivel mount. If necessary, move bracket [d] to turn the camera horizontally (it is not necessary to loosen the wing nut [e]).  
Note: Cover the camera's LED "on" indicator with electrical tape.

3.

Using a video test cable and portable monitor, adjust the camera's focus and iris using information provided with the camera. Then, connect camera video to the console room.

4.

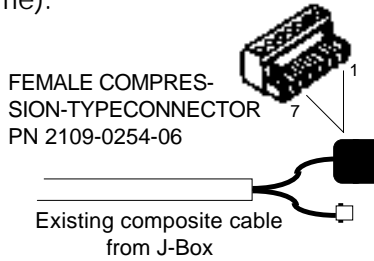
With the studs of the bubble [f] aligned with the holes in the chassis, nest the shroud [g] in the bubble and turn its viewing slot so that the camera lens can see out. Then fasten the shroud and bubble assembly to the chassis by placing its studs against the chassis holes and pressing firmly on the bubble.



# Cable Conversions

## Adapting a Composite Cable for SpeedDome

Replace Cinch-Jones with female compression-type connector (supplied with dome).

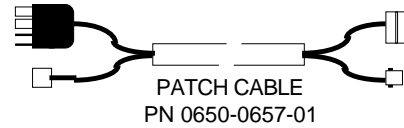


### Female Compression-Type Connector PIN CONNECTIONS

PI	DESCRIPTION
1 brown	data out (Lo)
2 yellow	data out (Hi)
3 black	ac
4 red	Gnd.
5 white	ac
6 green	data in (Lo)
7 orange	data in (Hi)

**WARNING:**  
Disconnect cable from power source when performing cable conversions.

...or add Patch

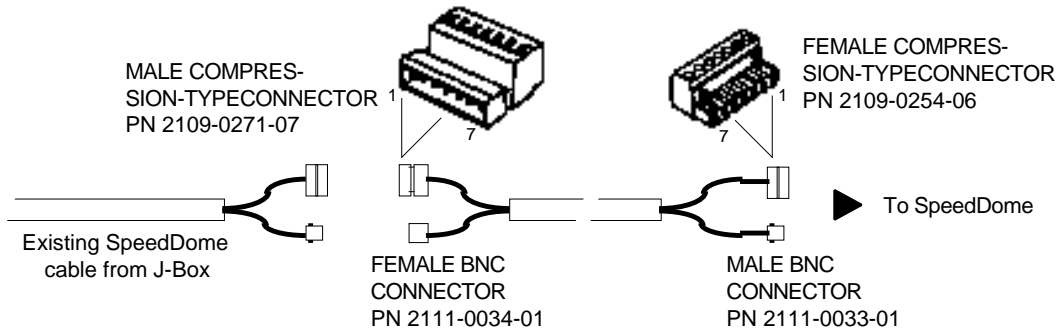


## Extending a SpeedDome Cable

Add to a length of bulk composite cable, male and female compression-type connectors and male and female BNCs from SpeedDome Cable Conversion Kit, 0351-0403-01.

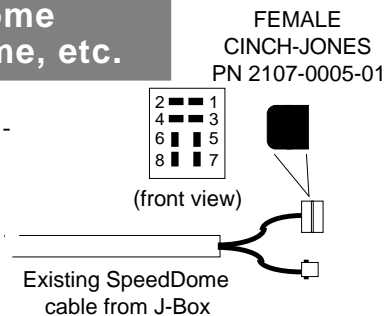
### Male and Female Compression-Type Connectors PIN CONNECTIONS

PI	DESCRIPTION
1 brown	data out (Lo)
2 yellow	data out (Hi)
3 black	ac
4 red	Gnd.
5 white	ac
6 green	data in (Lo)
7 orange	data in (Hi)



## Adapting a SpeedDome Cable for a Mini-Dome, etc.

Replace female compression-type connector with Cinch-Jones connector.



### Female Cinch-Jones PIN CONNECTIONS

PI	DESCRIPTION
1 orange	data in (Hi)
2 green	data in (Lo)
3 black	ac
4 red	Gnd.
5 white	ac
6 drain	N.C.
7 brown	data out (Lo)
8 yellow	data out (Hi)



# 4.0

## Service

Fault Isolation Checklists, Replacement Parts, Adjustments, and Component Interconnections in this section:

- Fault Isolation Checklists ..... Q-21
  - Video But No Dome Response / Control..... Q-21
  - Video / Dome Control But Status Incorrect ..... Q-22
  - Loss of Lens Function ..... Q-23
  - Loss of All Lens Functions ..... Q-24
  - No Tilt Function ..... Q-25
  - No Pan Function / Continuous Pan ..... Q-26
  - No Video But All Functions Work ..... Q-27
  - Poor Video But All Functions Work ..... Q-28
  - Picture Too Light or Too Dark ..... Q-29
  - Dome Targeting Incorrect ..... Q-30
  - Dead Dome ..... Q-31
- Replacement Parts ..... Q-33
  - Dome CPU Board ..... Q-33
  - RS422 Interface Board ..... Q-34
  - Camera/Lens Board ..... Q-35
  - Monochrome Camera ..... Q-36
  - Color Camera ..... Q-37
  - Pan, Tilt, Zoom, Iris, and Focus Motors ..... Q-38
  - Clock-Spring Cable ..... Q-39
  - Slip-Ring ..... Q-40
  - Power Supply ..... Q-41
- Adjustments ..... Q-43
  - Back Focus ..... Q-43
  - Imager Head Cable Reinsertion ..... Q-44
- Component Interconnections ..... Q-45
- Pin-to-Pin Wiring ..... Q-46



# Fault Isolation Checklists

## Video But No Dome Response / Control

<u>What to check.</u>	<u>What to do.</u>
1. Dome status.	<p>Check the dome # in question for the correct dome type and condition. If the dome # is incorrect, reset the dome.</p> <p>For a new installation, check data wiring at P4 on the RS422 board on the dome.</p>
2. Data at J-Box.	<p>Use a data tester to test the data line out of the J-Box. Ensure that the LED status indicators show good data at each data port. If an LED indicates bad data, check the data path back to the control box for improper wiring.</p>
3. Inside dome. <ul style="list-style-type: none"> <li>a. boards and cables.</li> <li>b. address.</li> </ul>	<p>Make a visual inspection of the inside of the dome. Ensure that the power and data cables are properly connected and the boards are properly seated.</p> <p>Ensure that the dome is correctly addressed.</p>
4. Data into dome.	<p>Use a data tester to test the data at pins 6 (data Lo) and 7 (data Hi). If data is not present going into the dome, check the data path back to the J-Box for improper wiring.</p> <p>If data is present, replace the RS422 interface board. If that does not solve the problem, replace the CPU board. If replacing both boards does not solve the problem, unplug the slip-ring connector at JP4 from the CPU board to ensure that the eyeball connection is not loading down the system. If this does not solve the problem, replace the chassis.</p> <p>NOTE: Testing a chassis at a known working location will isolate a bad chassis or a bad connector/cable/J-Box. If a working dome fails in the bad dome location, the problem is with the connector/cable/J-Box.</p>
5. Pan, tilt.	See Q-25 and Q-26.

## Fault Isolation Checklists, *continued*

### Video / Dome Control But Status Incorrect

#### What to check.

1. Dome status.
2. Data at J-Box.
3. Data from dome to J-Box.

#### What to do.

Check the dome # in question for the correct dome type and condition. If the dome # is incorrect, reset the dome.

Disconnect all domes from the J-Box except the problem dome. Use a data tester to test the data line out of the J-Box. Ensure that the LED status indicator shows good data. If the data tester indicates bad data, check the wiring path back to the control box for improper connections.

Use a data tester to test the data at pins 1 (data Lo) and 2 (data Hi) of P4 on the RS422 interface board. If data is not present, replace the board.

If that does not solve the problem, replace the CPU board. If replacing both boards does not solve the problem, unplug the slip-ring connector at JP4 from the CPU board to ensure that the eyeball connection is not loading down the system. If this does not solve the problem, replace the chassis.

NOTE: Testing a chassis at a known working location will isolate a bad chassis or a bad connector/cable/J-Box. If a working dome fails in the bad dome location, the problem is with the connector/cable/J-Box.

**Fault Isolation Checklists, continued****Loss of Lens Function**What to check.

1. Connection to camera/lens board.

What to do.

Verify that the failed operation is isolated to the suspect dome.

Ensure that the clock spring ribbon cable is properly connected to the camera/lens board plug J5.

If the dome does not zoom, focus, iris, or tilt, replace the camera/lens board with a known working camera/lens board. Retest.

If some but not all motors are working, replace the motor in question with a known working motor. If this solves the problem, replace the motor.

NOTE: Only zoom/focus/iris motors are interchangeable.

If the lens functions do not have a full range of motion, then re-align the motor(s).

2. RS422 interface board.

On the S1 switch pack of the RS422 interface board, switch position 3 to ON.

If the lens rotation is not smooth with voltage applied and the lens motor disabled, then replace the camera lens.

3. Voltage on camera/lens board.

If the dome does not have power, check the input voltage to the RS422 board. Also check the DC voltage coming from the dome power supply to the CPU board. If 12Vdc and 5Vdc are not present out of the dome power supply, replace it. If 12Vdc and 5Vdc are present out of the dome power supply, replace the camera/lens board.

4. Camera focus.

If the camera does not focus properly while zooming in and out, adjust the back focus. See page Q-43.

## Fault Isolation Checklists, *continued*

### Loss of All Lens Functions

#### What to check.

1. Dome switches.

2. Camera/lens board.

3. Sprockets.

#### What to do.

Ensure that the position of SW3 on S1 of the RS422 interface board is set to OFF for enabling lens functions.

Ensure that all connectors to and from the camera/lens board are properly seated. If that does not solve the problem, replace the camera/lens board.

Check to see if the sprockets are hung up and adjust them accordingly. If the motor gears are too tight, adjust the gaps of the sprockets and gears with a 1/4 watt resistor lead. See page Q-37.

**Fault Isolation Checklists, continued****No Tilt Function**

<u>What to check.</u>	<u>What to do.</u>
1. Connection to P1.	Reset the dome and observe the orientation (tilt). Verify that the motor is connected to P1 on the camera/lens board.
2. Sprocket.	Check to see if the sprocket moves freely and adjust it accordingly. If the motor gear is too tight, adjust the gap distance of the sprocket and gear with a 1/4 watt resistor lead. See page Q-38.
3. Tilt motor when the tilt function is commanded.	Plug a known working tilt motor into P1. If the motor works with the tilt command, replace the tilt motor. If the tilt motor does not work, replace the camera/lens board.
4. Data when the tilt function is commanded.	<p>If no data is present, check the data path for improper wiring.</p> <p>NOTE: Tilt motors are not interchangeable with other motors.</p>

## Fault Isolation Checklists, *continued*

### No Pan Function / Continuous Pan

<u>What to check.</u>	<u>What to do.</u>
1. Connection to P3.	Reset the dome and observe the orientation (pan). Verify that the motor is connected to P3 on the CPU board.
2. Sprocket.	Check to see if the sprocket moves freely and adjust it accordingly. If the motor gear is too tight, adjust the gap distance with a 1/4 watt resistor lead. Ensure that it rotates smoothly without power applied to the dome.
3. Pan motor when the pan function is commanded.	Plug a known working pan motor into P3. If the motor works with the pan command, replace the pan motor. If the pan motor does not work, replace the dome CPU board.
4. Data when the pan function is commanded.	If no data is present, check the data path for improper wiring.
5. Slip-ring assembly.	<p>If the camera continuously pans when the stop or reset command is issued, replace the slip-ring assembly.</p> <p>NOTE: Pan motors are not interchangeable with other motors.</p>

**Fault Isolation Checklists, continued****No Video But All Functions Work**

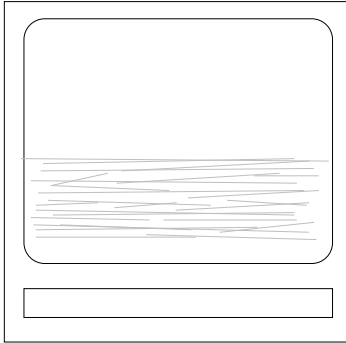
<u>What to check.</u>	<u>What to do.</u>
1. Iris adjustment from controller.	Open the iris and verify that video is present.
2. RS422 board.	<p>Check for the presence of video out of the RS422 board. If video is coming out of the RS422 board, check the J-Box, composite/ video cable and monitors for the problem.</p> <p>If video is not coming from the RS422 board, check for visual damage to the ribbon cables and verify that the iris is operating.</p>
3. Clock spring ribbon cable.	Ensure that the clock spring ribbon cable is correctly connected to the camera lens board.
4. Voltages/zoom, focus, and iris functions.	<p>If voltages are not present and/or the zoom, focus, and iris functions are not working, replace the camera/lens board.</p> <p>If replacing the camera/lens board does not solve the problem, replace the camera.</p>

## Fault Isolation Checklists, *continued*

### Poor Video But All Functions Work

#### What to check.

1. Video, gray "Humbar."



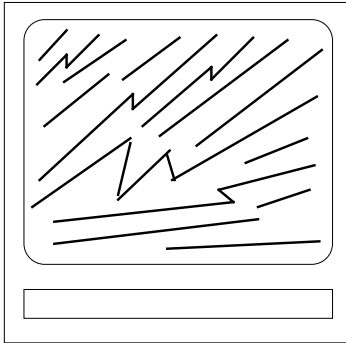
Monitor

#### What to do.

If the monitor is a dedicated (full time) monitor, remove the looping video and set the termination switch to 75 ohms.

If that does not correct the problem, isolate the ground lug on the monitor power cord using a 2-cond extension cord. **DO NOT** cut or damage the line cord. If isolation of the ground lug corrects the problem, order and install a ground loop transformer (isolation transformer).

2. Video, no sync.



Monitor

If the video coming in directly from the dome is poor, set the switches on the RS422 interface board to LL, SW5 on S1.

If the video coming in directly from the dome is good, but the customer monitor video is poor, check monitor, cabling, and connectors for improper connections.

NOTE: Keep at least 1.5m (5') from high voltage lines, fluorescent lights, neon lights, etc. when installing video and data cables. If you must cross a 110Vac line, do so at right angles to the cable.

NOTE: Use a quality coaxial cable (Beldon 8241 or equivalent).

**Fault Isolation Checklists, continued****Picture Too Light or Too Dark**

<u>What to check.</u>	<u>What to do.</u>
1. Iris adjustment at controller.	Open or close the iris at the controller to suit or reset the iris to auto function by holding the iris open and close buttons at the same time.
2. S1 switch pack.	Ensure that the settings of the S1 switch pack on the RS422 board are 3 and 4 (off).
3. Iris control.	<p>Verify that the iris control is working properly. If the motor sprocket is jammed, make the appropriate adjustments to the sprocket. See page Q-38.</p> <p>Plug the focus motor into the iris motor jack. If the camera focuses when you use the iris control, replace the iris motor. If the camera does not focus when you use the iris control, replace the camera/lens board.</p>
4. Video cable.	<p>If the video cable has been spliced too many times, it could adversely effect the video signal.</p> <p>The dome loses approximately 3db of video signal for each splice.</p> <p>The maximum allowable distance for video cable between a dome and monitor is 305m (1000').</p>
5. Terminations.	Ensure that the video lines are properly terminated.



## *Fault Isolation Checklists, continued*

### Dome Targeting Incorrect

#### What to check.

1. Dome service history.

#### What to do.

Check the service history of the dome to see if it has been replaced recently. Re-download the software from the console to the dome.

The dome may have been put back into the housing in reverse. Also check to see if the dome is shifting in the ceiling. If it is shifting, install the necessary clips. If it is a pendant mount, you may need to secure it with wires to keep it from swinging or swaying.



**Fault Isolation Checklists, continued****Dead Dome**

<u>What to check.</u>	<u>What to do.</u>
1. Composite cable at J-Box.	<p>Make a visual inspection of the J-Box to ensure that the composite cable is connected properly. Unplug the cable and wait 45 sec. Plug the cable back in and test dome operation.</p>
2. Voltage on RS422 interface board.	<p>Check the voltage (22Vac min.) at pins 3 and 5 of P4 on the RS422 interface board. If voltage is not present, check the J-Box for improper wiring and the dome power supply.</p> <p>If that does not solve the problem, check voltage (22Vac min.) at pins 1 and 3 of P5 on the RS422 interface board. If voltage is not present, replace the board.</p>
3. Voltage on CPU board.	<p>Check pins 2 and 3 of P2 on the CPU board for 12Vdc and pins 1 and 2 for 5Vdc. If voltage is not present, replace the fuse on the dome power supply. If that does not solve the problem, replace the dome power supply assembly.</p> <p>If that does not solve the problem, disconnect JP4 from the CPU board. Check the dome for pan control. If it does not have pan control, replace the CPU board.</p>
4. Camera/lens board.	<p>Disconnect J5 on the camera/lens board. Check the dome for pan control. If it does not have pan control, replace the clock spring assembly and/or the slip-ring assembly.</p> <p>If that does not solve the problem, replace the camera/lens board. If that does not solve the problem, replace the chassis.</p>



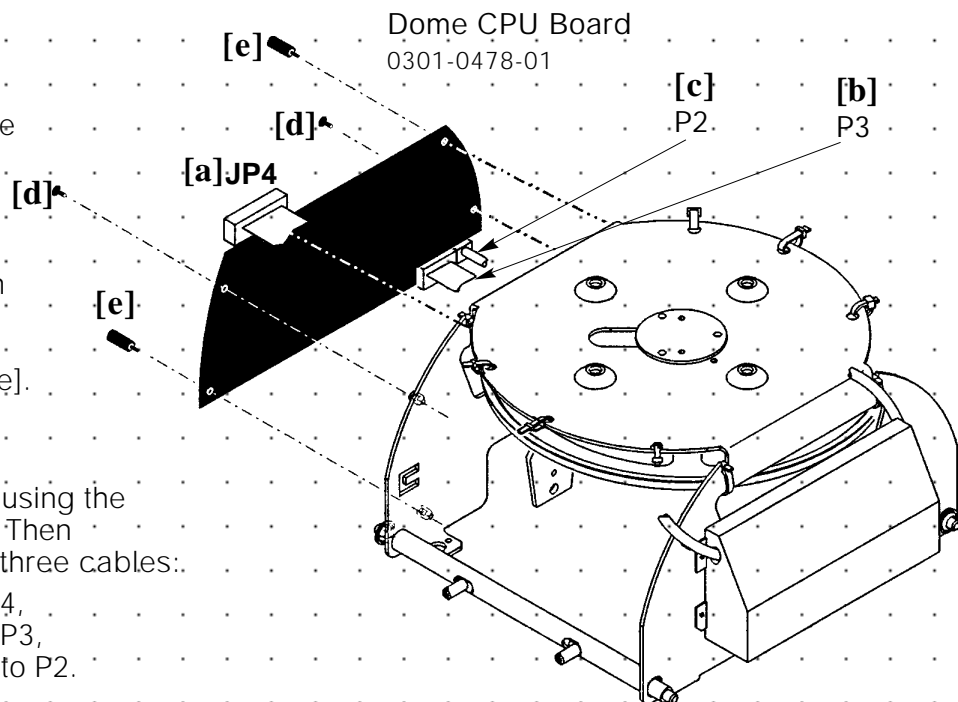
# Dome CPU Board



**WARNING:** Unexpected pan and tilt can cause injury or damage the dome during servicing. To prevent such movement, always disconnect power/data connector P4 from the RS422 interface board.

1.

Remove the RS422 interface board (page Q-34). Then remove the CPU board by first disconnecting the slip ring [a], pan motor [b], and power supply cables [c], then removing two M3x10 screws [d] and two standoffs [e].



2.

Secure the new board using the screws and standoffs. Then connect the following three cables:

- Slip ring cable to JP4,
- Pan motor cable to P3,
- Power supply cable to P2.

DOM E CPU BOARD REPLACEMENT IS COMPLETE.

3.

Reinstall the RS422 interface board (go to page Q-34).

# RS422 Interface Board

**! WARNING:** Unexpected pan and tilt can cause injury or damage the dome during servicing. To prevent such movement, always disconnect power/data connector P4 from the RS422 interface board

1. Disconnect all cables from the RS422 interface board.
2. On the new board, set S1 DIP switches to the same settings (if different) as the board to be replaced.

Note: S1 factory settings are listed on a label affixed to the chassis.

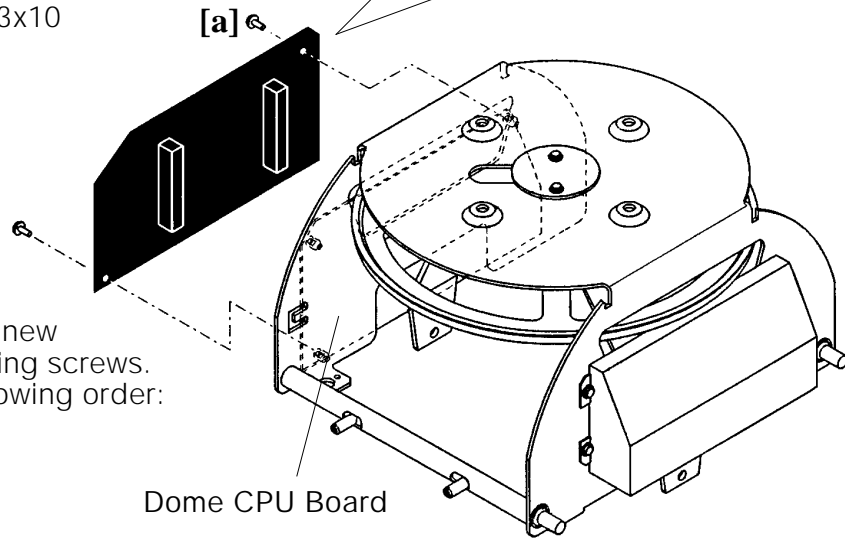
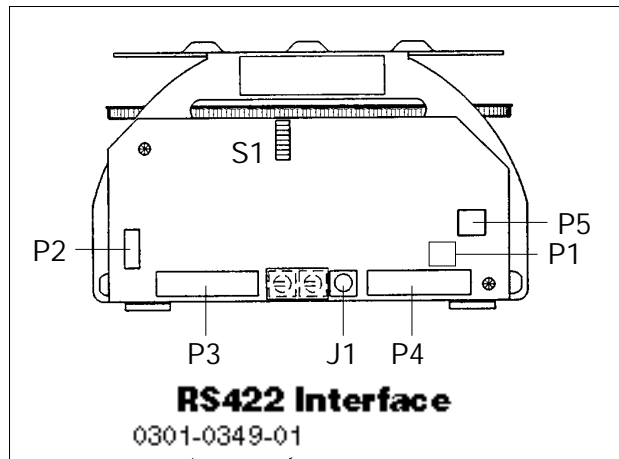
3. Disconnect this board from the dome CPU board by removing its two M3x10 mounting screws [a].

Note: If removing the RS422 interface board in order to replace the dome CPU board, go to page Q-33, then return to this page and complete step 4.

4. Noting its orientation, plug in the new board and reinstall the two mounting screws. Then reconnect cables in the following order:

- Video cable to J1,
- AC power out cable to P5,
- External sync, if used, to P1,
- Alarm out cable, if used, to P2,
- Alarm in cable, if used, to P3, and last
- AC power/data cable to P4 (see WARNING).

**! WARNING:** Connecting the AC power/data cable will cause the dome to immediately pan and tilt.



5. Reassemble the SpeedDome chassis and recalibrate.

## Camera/Lens Board



**WARNING:** Unexpected pan and tilt can cause injury or damage the dome during servicing. To prevent such movement, always disconnect power/data connector P4 from the RS422 interface board

1.

Remove the lens and camera shrouds (four screws each). Then disconnect all six cables from the old camera/lens board [a]. Next, remove the three M3x10 screws [b] from the board and the M3x10 screw and nut [c] connecting the voltage regulator to the eyeball casting.

2.

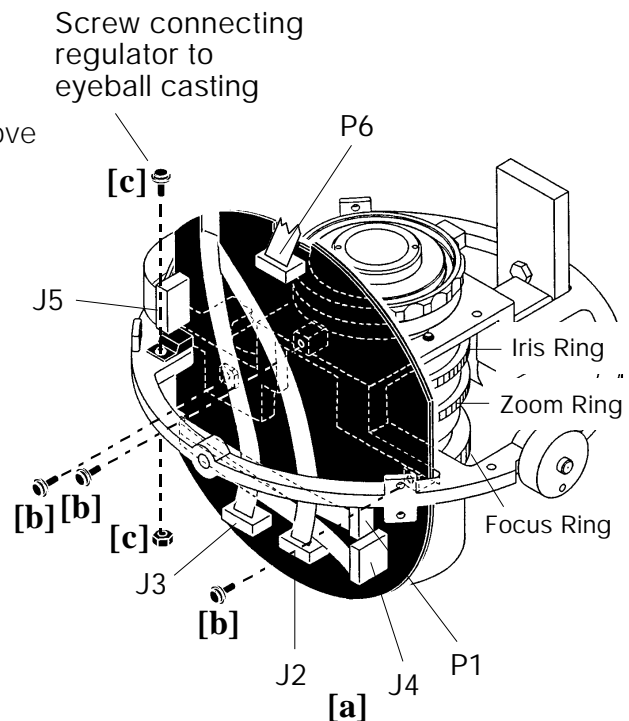
To avoid pulling the voltage regulator out of the board, first secure the new board to the eyeball casting using three screws [b]. Then reattach the regulator to the eyeball casting using the M3x10 screw and nut. Finally, reconnect the following six cables (dressing them as shown):

- Tilt motor cable to P1.
- Zoom motor cable to J2.
- Focus motor cable to J3.
- Iris motor cable to J4.
- Camera cable to P6.
- Clock spring cable to J5.

Reassemble the lens and camera shrouds using the eight screws. CAMERA/LENS BOARD REPLACEMENT IS COMPLETE.

3.

Reassemble the SpeedDome chassis and recalibrate.



Camera/Lens Board  
0301-0204-01

# Monochrome Camera



**WARNING:** Unexpected pan and tilt can cause injury or damage the dome during servicing. To prevent such movement, always disconnect power/data connector P4 from the RS422 interface board

**WARNING:** The camera is sensitive to ESD. Use a ground strap when installing.

1.

Remove the lens and camera shrouds (four screws each). Then remove two M3x8 screws [a] from the back of the camera [b] and unplug its connector from P6 on the camera/lens board [c].

2.

Lift the camera off the back of the lens and replace it with a new one. Reinstall the two screws and reconnect its cable to P6 on the camera/lens board.

3.

Restore power by plugging connector P4 into the dome. The dome will return to its home position.

4.

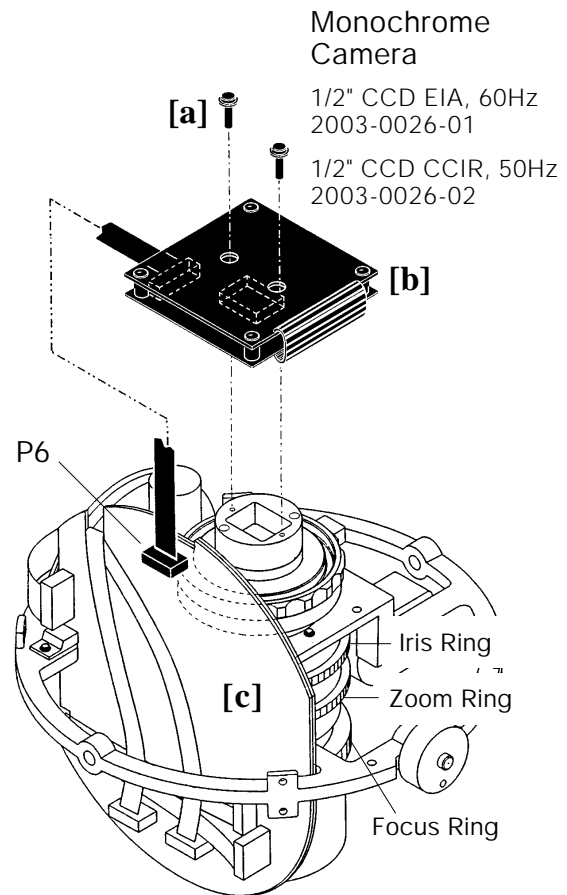
Check backfocus by zooming in on a distant object and focusing as clearly as possible, then zooming out. If the picture is out of focus, see *Back Focus Adjustment*, page Q-43. If OK, continue.

5.

Reassemble the lens and camera shrouds using the eight screws. CAMERA REPLACEMENT IS COMPLETE.

6.

Reassemble the SpeedDome chassis and recalibrate.



## Color Camera



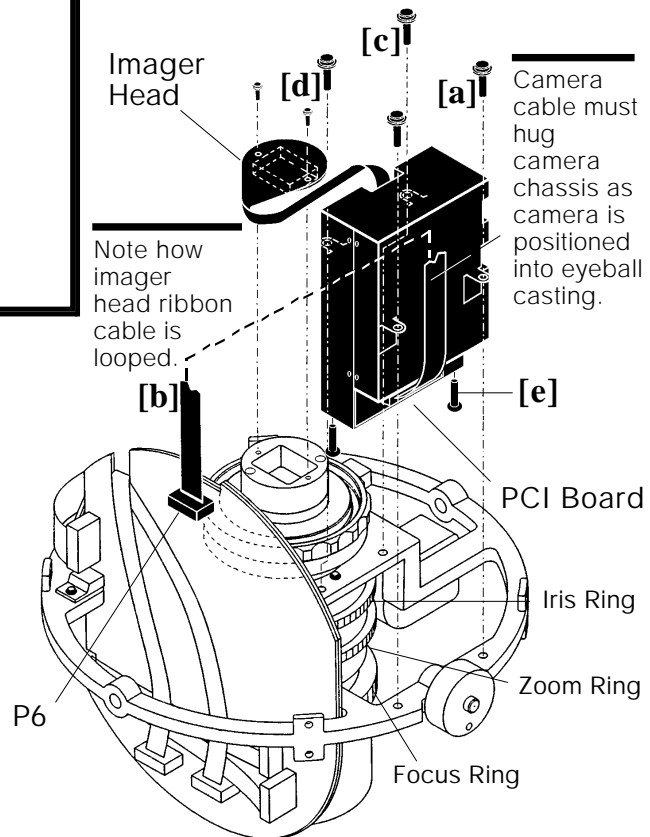
**WARNING:** Unexpected pan and tilt can cause injury or damage the dome during servicing. To prevent such movement, always disconnect power/data connector P4 from the RS422 interface board

**WARNING:** The color camera imager head is both delicate and sensitive to ESD. Use a ground strap when installing. Be careful not to dislodge its ribbon cable from the camera.

### Color Cameras

1/2" CCD NTSC, 60Hz  
2003-0027-01

1/2" CCD PAL, 50Hz  
2003-0027-02



1.

Remove the lens and camera shrouds (four screws each). Then remove the old camera [a] by first unplugging its grey ribbon cable [b] from P6 on the camera/ lens board, by removing four M3x10 screws [c], and finally, removing the two M2x6 screws [d] securing the imager head to the lens. Gently lift the camera away from the casting.

2.

Detach the PCI board from the old camera by removing two M3x10 screws [e], and unplug the J3 cable. Reassemble this board into the new camera using the same two screws.

3.

With the grey ribbon cable hugging its chassis, gently position the new camera into the eyeball casting. Secure the camera using the four previously removed screws. Connect the grey ribbon cable to P6 on the camera/lens board.

4.

Noting how the imager head cable is looped, plug the imager head onto the back of the lens. Then, using the two previously removed screws to secure the imager head.

5.

Restore power by plugging connector P4 into the dome. The dome will return to its home position.

6.

Check backfocus by zooming in on a distant object and focusing as clearly as possible, then zooming out. If the picture is out of focus, see *Back Focus Adjustment*, page Q-43. If OK, continue.

7.

Reassemble the camera and lens shrouds using the eight screws. CAMERA REPLACEMENT IS COMPLETE.

8.

Reassemble the SpeedDome chassis and recalibrate.

# Pan, Tilt, Zoom, Iris, and Focus Motors



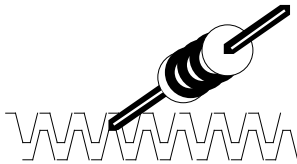
**WARNING:** Unexpected pan and tilt can cause injury or damage the dome during servicing. To prevent such movement, always disconnect power/data connector P4 from the RS422 interface board

Remove the lens and camera shrouds (four screws each). Then remove the motor suspected of being defective. Tilt, zoom, focus and iris motors secure to the eyeball casting using two M3x10 screws each. The pan motor secures to the carriage assembly. Refer to the notes and diagrams for exact motor placement.

Note: Outline the bracket of the old motor with a pencil before removing to simplify the alignment of the new motor.

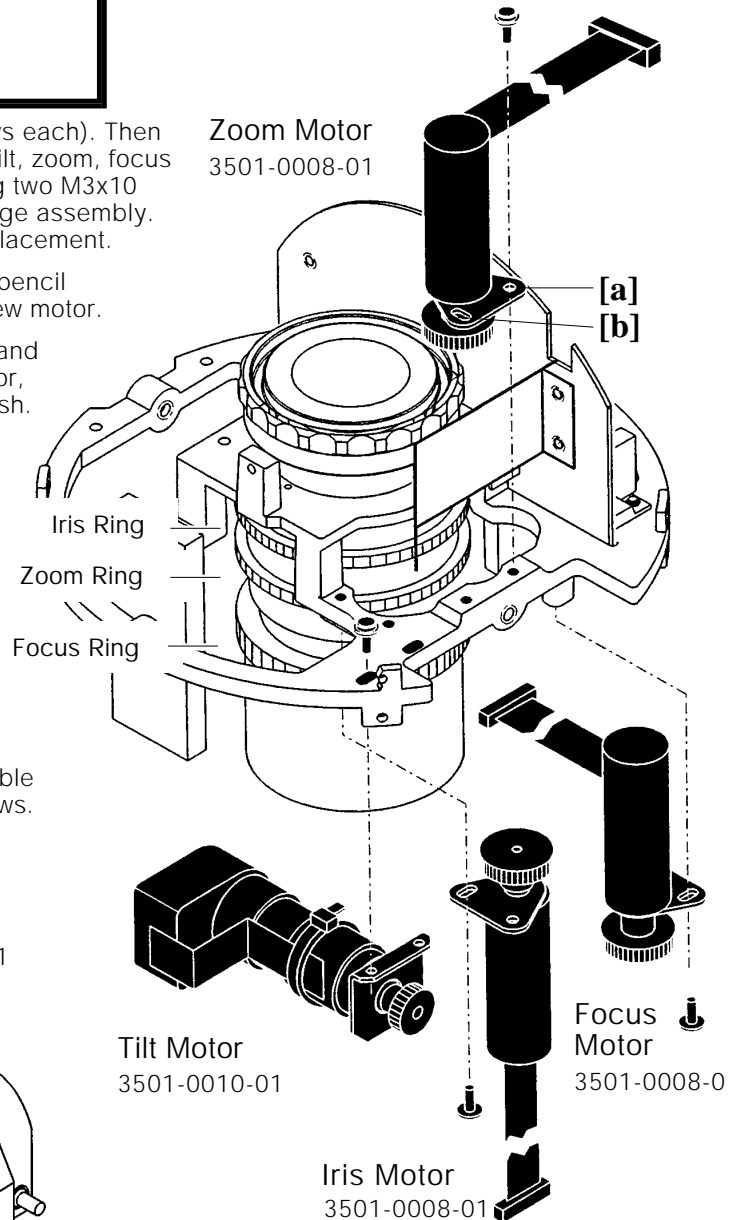
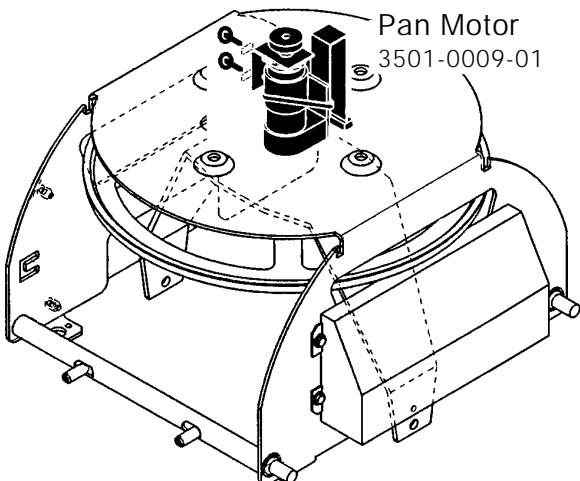
Note: When installing screws in the zoom, focus and iris motors, use the round hole [a] to align the motor, then use the oblong hole [b] to adjust the gear mesh.

Note: Calibrate gear mesh using a 1/4-watt resistor or .05mm (.02") dia. drill rod.



Note: Zoom, focus and iris motors are identical and can be exchanged when troubleshooting.

Unless only the pan motor was replaced, reassemble the lens and camera shrouds using the eight screws. Then reassemble the SpeedDome chassis and recalibrate.

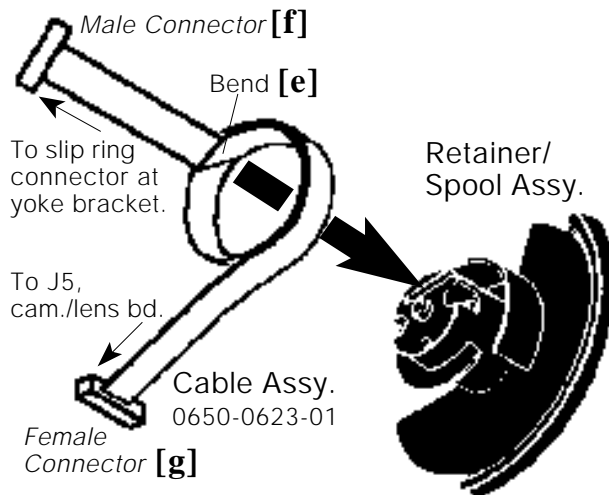


# Clock-Spring Cable



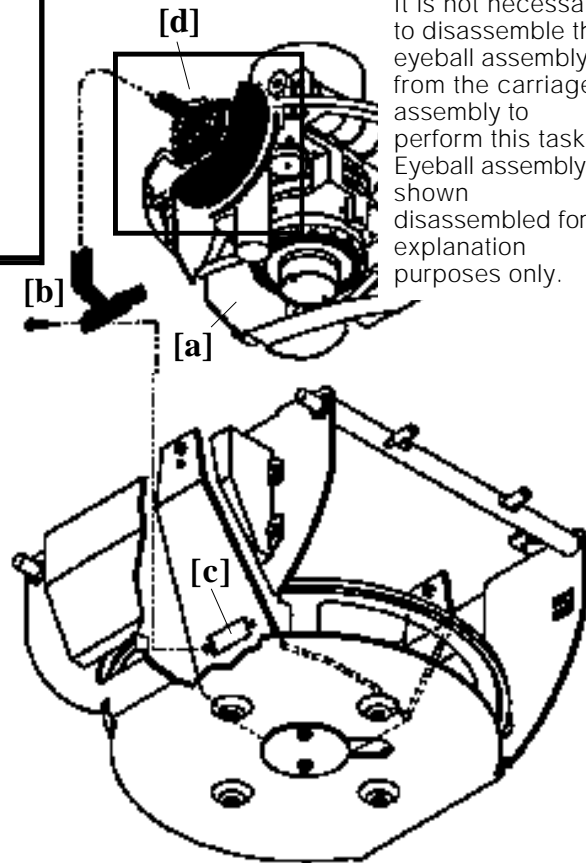
**WARNING:** Unexpected pan and tilt can cause injury or damage the dome during servicing. To prevent such movement, always disconnect power/data connector P4 from the RS422 interface board before servicing.

## AREA OF DETAIL



## IMPORTANT:

It is not necessary to disassemble the eyeball assembly from the carriage assembly to perform this task. Eyeball assembly is shown disassembled for explanation purposes only.



1.

Remove the lens and camera shrouds (four screws each). Next, detach the old clock-spring cable by unplugging it from the J5 connector on the camera/ lens board [a] and by removing two M3x10 screws [b] securing it to the base of the yoke bracket. Then unplug the cable from the slip ring connector [c], unwind it, and slip it out of the retainer/spool assembly [d].

2.

The new cable has an inked marking [e] on it. Crease the cable along this marking to form a 90° bend. Holding the cable's male connector [f] in your hand, insert the bend into the retainer as shown in the detail.

3.

Connect the cable's male connector to the slip ring connector at the base of the yoke bracket and secure it using the previously removed screws. Dress the cable's female end [g] clockwise around the spool approximately 1-1/2 times and connect its connector to J5 on the camera/lens board.

4.

Reassemble the lens and camera shrouds using the eight screws. CABLE REPLACEMENT IS COMPLETE.

5.

Reassemble the SpeedDome chassis and recalibrate.

## Slip-Ring



**WARNING:** Unexpected pan and tilt can cause injury or damage the dome during servicing. To prevent such movement, always disconnect power/data connector P4 from the RS422 interface board

1.

Ready the old slip-ring assembly for removal by unplugging its female connector [a] from the clock-spring cable connector at the yoke bracket, unplugging its ribbon cable [b] from JP4 of the dome CPU board, and by removing its two M3x8 screws [c] from at the base of the carriage assembly.

2.

Cut the tie wrap [d] and remove the old slip ring [e] and washer [f] while carefully feeding its female connector down through the slip-ring receptacle [g].

3.

Insert the new slip ring by carefully inserting its female cable connector through the receptacle (making sure the washer [f] stays at the end of the slip ring as it enters the receptacle). Then position the slip-ring ribbon cable in the slot of the receptacle and slowly turn the slip ring clockwise approx. 3/4-turn until its flange [e] firmly seats against the carriage assembly. Secure the slip ring using the two screws.

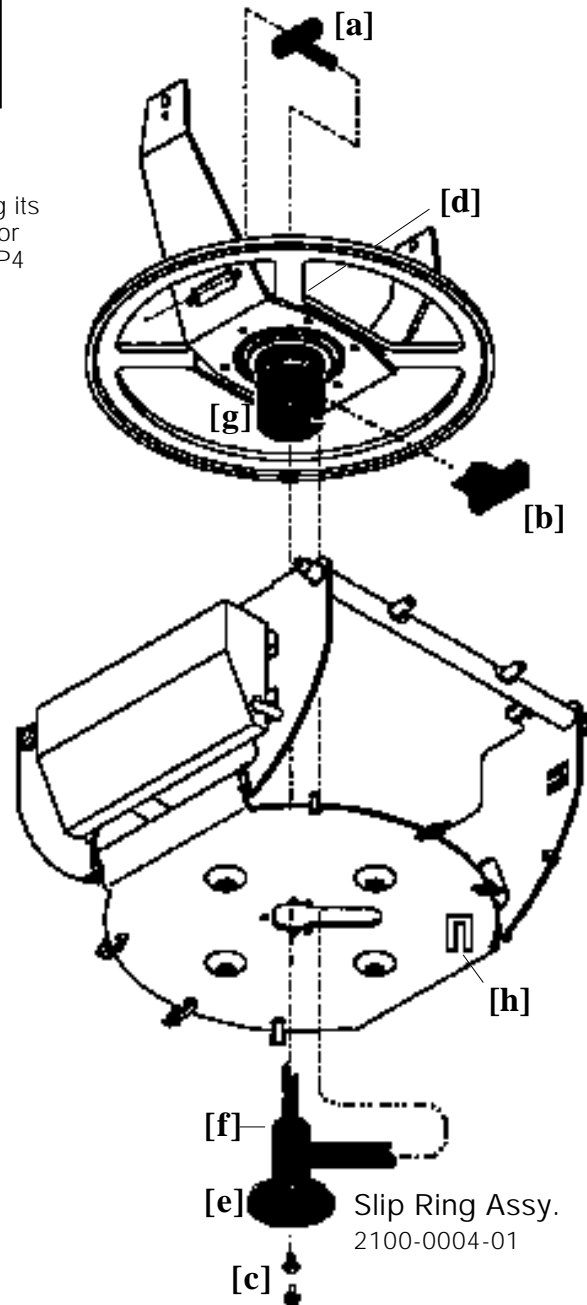
4.

Connect the cable exiting the end of the receptacle to the clock-spring cable connector and tie wrap it [d] to the chassis. Then slip the ribbon cable into its retaining notch [h] and connect it to JP4 of the dome CPU board.

SLIP-RING ASSY. REPLACEMENT IS COMPLETE.

5.

Reassemble the SpeedDome chassis and recalibrate.



## Power Supply



**WARNING:** Unexpected pan and tilt can cause injury or damage the dome during servicing. To prevent such movement, always disconnect power/data connector P4 from the RS422 interface board

1.

Disconnect power supply cables from P5 [a] on the RS422 interface board and from P2 [b] on the dome CPU board.

2.

Cut the tie wraps [c] to release the cables from the chassis.

3.

Detach the supply by removing four M3x10 screws [d] from the corner tabs.

4.

Attach the new supply to the chassis using the four screws previously removed. Then secure its cables along the chassis, as shown, using six new tie wraps.

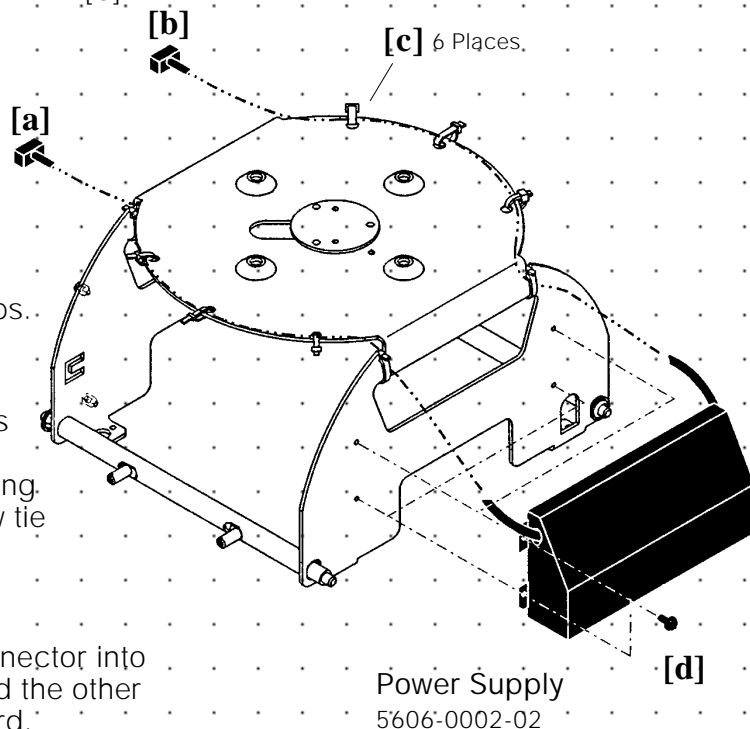
5.

Plug the cable having the large connector into P5 on the RS422 interface board and the other cable into P2 on the dome CPU board.

POWER SUPPLY REPLACEMENT IS COMPLETE.

6.

Reassemble the SpeedDome chassis and recalibrate.



Power Supply  
5606-0002-02



## Back Focus



**WARNING:** Unexpected pan and tilt can cause injury or damage the dome during servicing. To prevent such movement, always disconnect power/data connector P4 from the RS422 interface board

**WARNING:** If servicing a color camera, be careful not to disturb the copper-colored imager cable exiting the imager

### Before you begin:

Does the dome use a bubble? If so, remove the contact eye (if used) and adjust the back focus of the camera through the bubble. If not, adjust back focus of the camera through the contact eye.

Please note: Cameras should not require adjustment in the field. However, if a camera image that is focused when zooming in does not stay in focus when zooming out, perform the following mechanical adjustment.

1.

Remove the lens and camera shrouds (four screws each). Then, using the appropriate tool\*, loosen the back focus setscrew (just beneath the back focus wheel). This screw keeps the wheel stationary.

2.

Restore power by plugging connector P4 into the dome. The dome will return to its home position.

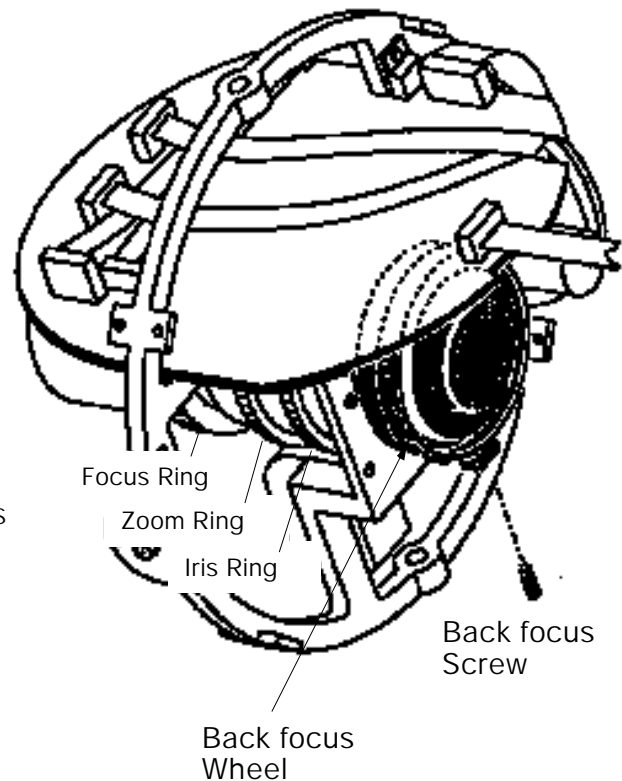
3.

Disable the lens motors for manual adjustment by flipping S1, switch 3 on the RS422 board to ON (disable).

4.

Connect a monitor to the video out BNC (J1 on RS422 interface board) and manually open the iris completely.

\* .035 Allen Wrench for set screw (old version) or screwdriver for Phillips Head screw (new version).



5.

Manually zoom in on a distant object, focus as clearly as possible, then zoom out. Next, focus the picture by turning the back focus wheel clockwise or counterclockwise for best picture. Repeat this procedure until the camera stays in focus through the entire zoom range.

6.

Turn S1, switch 3 on the RS422 interface board to OFF (enable).

7.

Reassemble the lens and camera shrouds using the eight screws. BACK FOCUS ADJUSTMENT IS COMPLETE.

8.

Reassemble the SpeedDome chassis and recalibrate.

# Imager Head Cable Reinsertion

COLOR CAMERAS ONLY!

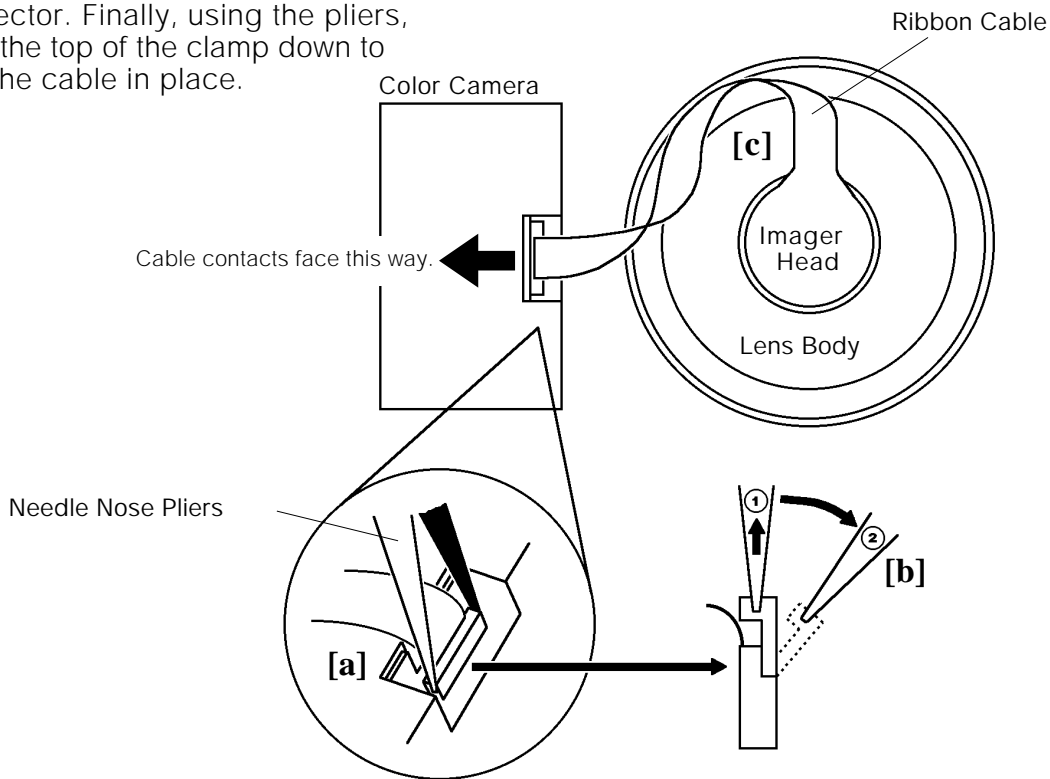


**WARNING:** Perform this procedure **ONLY** if the imager head cable was dislodged from the camera while performing the back focus adjustment procedure or while replacing the color camera.

**IMPORTANT:** Note the orientation of the ribbon cable as it is seated in the camera. The exposed contacts of the cable provide the connection between the camera and the imager head.

## Procedure

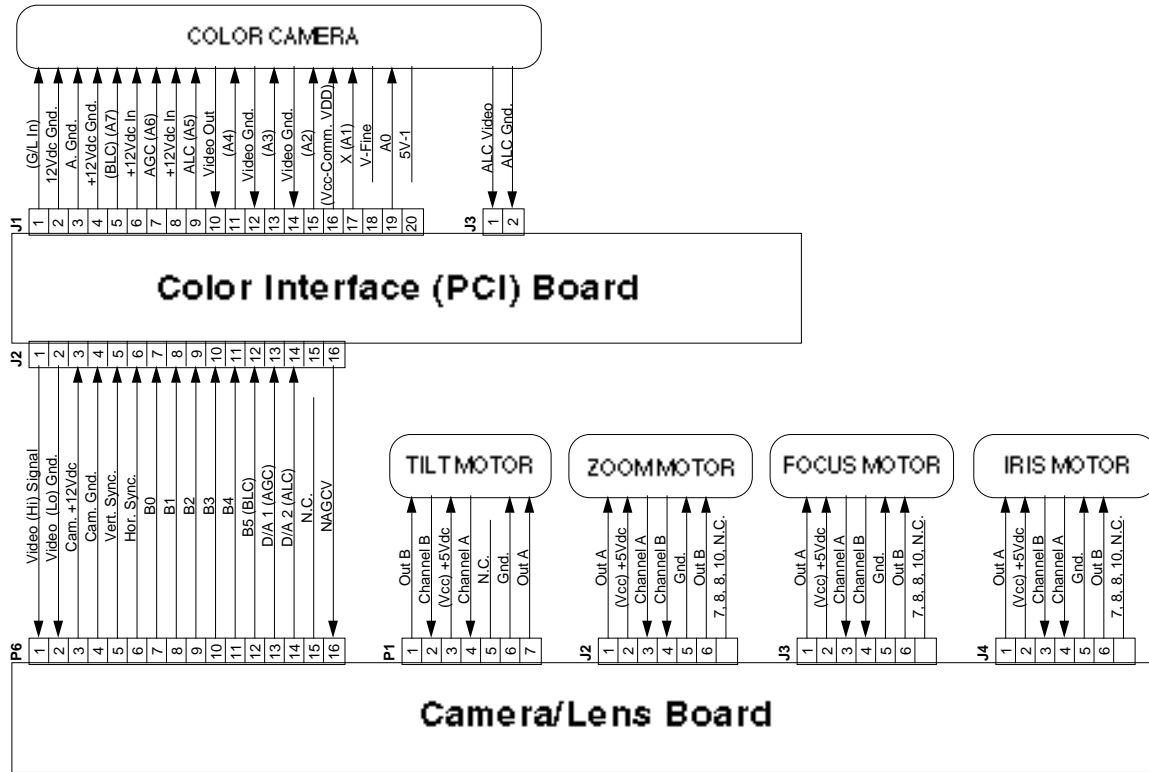
Using a pair of needle nose pliers, grab the ends of the camera cable clamp [a] and gently pull it up until it swings to one side [b]. Next, noting how the ribbon cable is looped [c], reseat the cable into the connector. Finally, using the pliers, push the top of the clamp down to lock the cable in place.



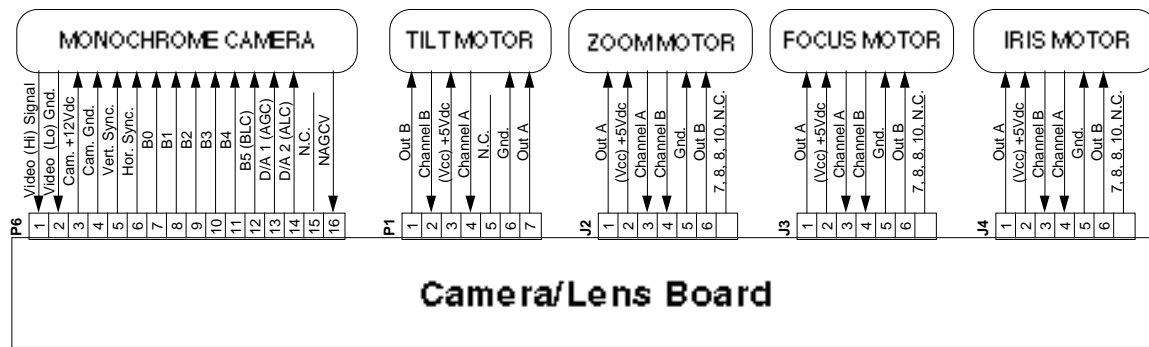


# Pin-to-Pin Wiring

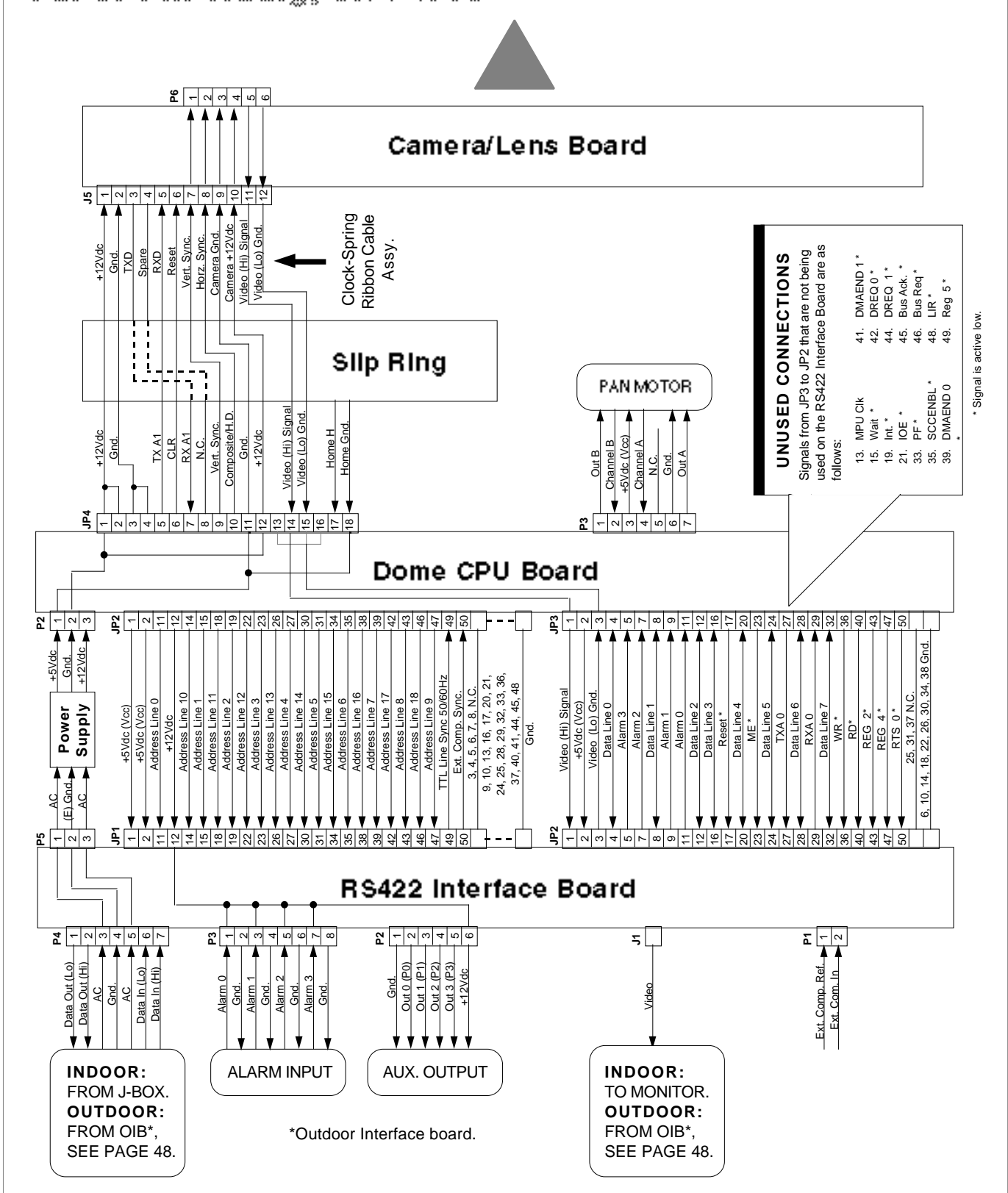
## Color Camera



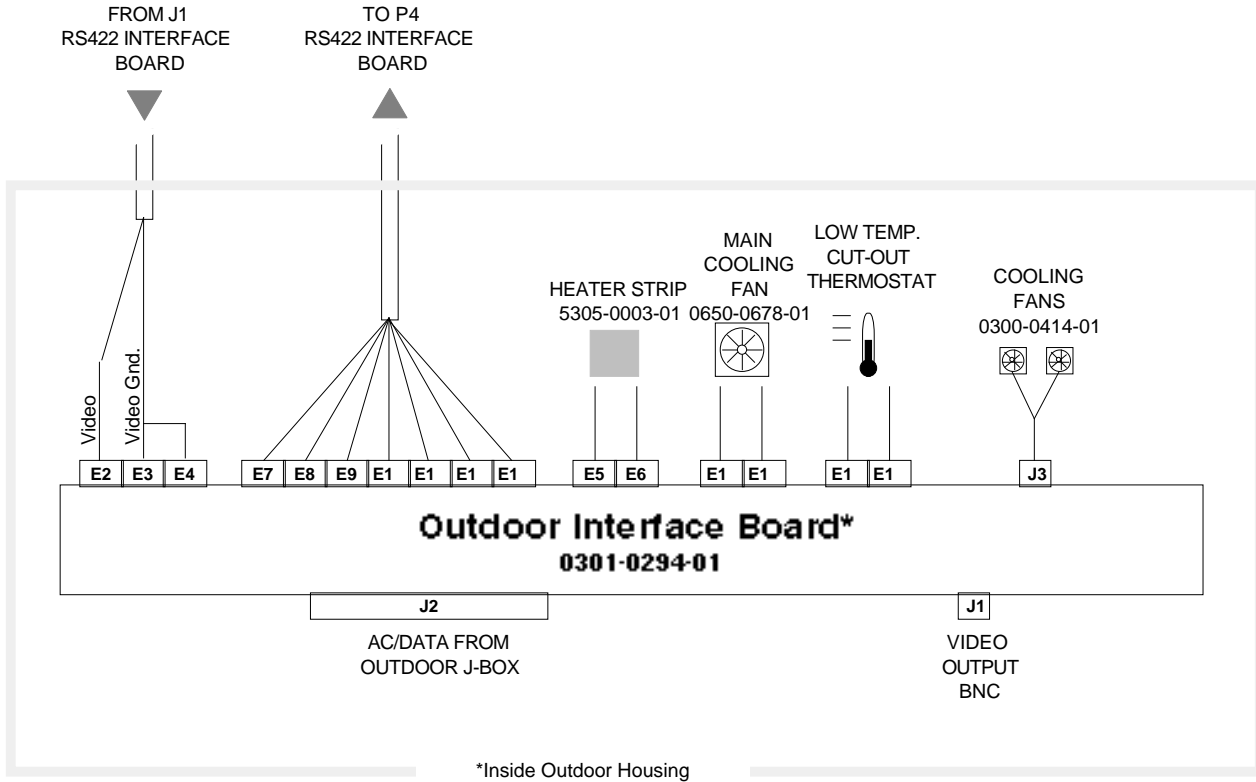
## Monochrome Camera



Pin-to-Pin Wiring, continued



*Pin-to-Pin Wiring, continued*



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