CyberDome Series

Installation Manual

Document number/revision: **1033921C** (May 2006).

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PREFACE

This document includes an overview of the product and detailed instructions explaining how to install and operate the unit. There is also information describing how to contact technical support if you have questions or concerns.

To use this document effectively, you should have the following minimum qualifications:

- a basic knowledge of CCTV systems and components; and
- a basic knowledge of electrical wiring and low-voltage electrical hookups.

Read these instructions and all ancillary documentation entirely before installing or operating this product. The most current versions of this and related documentation may be found on our website.

NOTE: A qualified service person, complying with all applicable codes, should perform all required hardware installation.

These terms may appear in this manual:

WARNING:

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

CAUTION:

Improper use of this equipment can cause equipment damage.

NOTE: Notes contain important information about a product or procedure.

* This symbol indicates electrical warnings and cautions.

** This symbol indicates general warnings and cautions.

INTRODUCTION

This manual provides step-by-step installation instructions for all CyberDome™ cameras, housings and accessories.

NOTE: This manual does not include procedures for installing any other components of the Digiplex system, nor does it include cable routing procedures. Refer to individual component manuals.

Description

A CyberDome is a variable speed PTZ (pan/tilt/zoom) dome camera used in CCTV systems for discreet surveillance of a remote area. A CyberDome's operational features are customized and stored within its own on-board programmable nonvolatile memory. CyberDomes are programmed using GE Security KTD-404/KTD-304 or KTD-400/KTD-300 controller keypads.

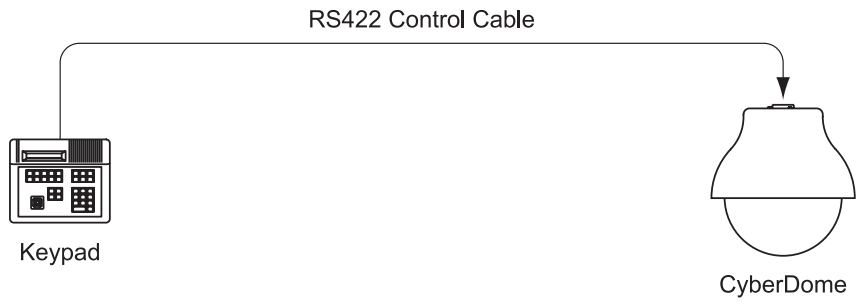
The CyberDome integrates a variety of camera and housing options. Available cameras include: the CyberDome Select color 12X optical zoom lens with 2X digital zoom; the CyberDome Classic color or black-and-white 16X optical zoom lens with 2X-8X digital zoom; and the CyberDome Day-Nite color/monochrome 18X optical zoom lens with 4X digital zoom. Available housings include: a 6-inch flush-mount housing, the new 7-inch integrated pendant-mount housing (which replaces the 8-inch pendant-mount housing), and an 8-inch heavy-duty tamper-resistant housing (CyberDome HD).

NOTE: This manual will continue to provide instructions supporting the 8-inch pendant-mount housing until no longer necessary.

Operation Requirements

The CyberDome contains a built-in receiver that decodes commands originating from a KTD-404/KTD-304 or KTD-400/KTD-300 controller keypad. *A minimum of one keypad is required for operation.* See *Figure 1*. From the keypad, an operator can pan the CyberDome 360°, tilt it 90°, control its motorized lens, find preset positions, and initiate predefined camera tours.

Figure 1: Basic Application



Cable Requirements

For operation, CyberDomes require video, power and data cables as described below:

1) The video cable carries the video signal to the remote viewing site. If sending video via coaxial cable, a 75-ohm coaxial cable is typically used. If sending video via twisted-pair cable, an unshielded, 22 gauge (0.64 mm) twisted-pair cable is needed.
2) The 24VAC cable powers the CyberDome and the camera. To determine cable size, refer to the *Power Cable Size and Length* subsection of the *Introduction*.
3) The RS422 control cable carries commands from the Digiplex keypad to the CyberDome. An unshielded, two-conductor, twisted-pair cable is required. Recommended cable size is 22 gauge (0.64 mm).

NOTE: When using the UTP interface modules, the unshielded twisted-pair video and RS422 control wires can share the same wire jacket, but must remain as separate twisted pairs.

Power Requirements

CAUTION!

For optimal video performance, all CyberDomes must be powered from an **isolated** 24 VAC power source—fused outputs are *not* adequate. Allowable voltage range is 20 to 28 volts.

All domes require a 24VAC power supply that provides isolated outputs to operate the domes' pan/tilt drive, camera, and optional heater/fan (E Option). The total power requirement varies depending on the model of the CyberDome.

Dome power requirements (at 24 VAC):

- All domes without a heater/fan require 16 VA
- 7-inch domes with heater/fan require 51 VA
- Heavy-duty domes with heater/fan require 68 VA.

Power Cable Size and Length

It is important to choose the proper gauge of the cable that supplies 24 volts to the CyberDome. An inadequate gauge will cause a voltage drop resulting in improper operation.

Table 1 gives the recommended cable lengths of varying wire gauges for a CyberDome with a color camera. Note that the heater and fan (E Option) reduces maximum cable length substantially.

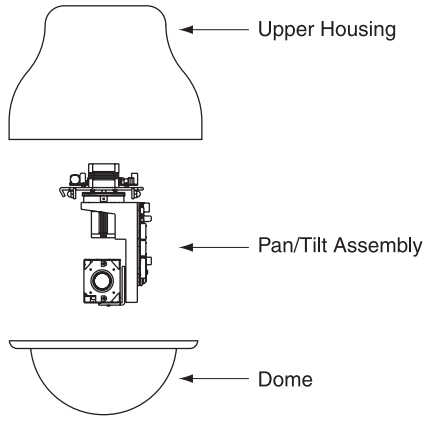
Table 1. Recommended maximum cable lengths.

Maximum Cable Length							
Wire Gauge		**All Domes without Heater/Fan (16VA)**		**7-inch Domes with Heater/Fan (51VA)**		**Heavy-duty Domes with Heater/Fan (91VA)**	
(awg)	(mm^2)	Feet	Meters	Feet	Meters	Feet	Meters
10	2.60	3000	915	900	274	630	192
12	2.05	1900	580	570	174	400	122
14	1.62	1200	365	360	110	250	76
16	1.29	750	230	230	70	160	49
18	1.02	465	142	145	44	100	30
20	0.81	290	90	90	27	62	19
22	0.64	185	56	60	18	40	12

HOUSING INSTALLATION

A complete CyberDome consists of an upper housing, a pan/tilt assembly with a built-in receiver and camera, and an acrylic dome. See *Figure 2*.

Figure 2: A Complete CyberDome



In General

The method of installation depends on which upper housing is being used. Installation involves securing the upper housing, making cable connections, mounting the pan/tilt assembly, and fastening the acrylic dome.

The Interface Module

All CyberDome cable connections (video, RS422, and 24VAC) are made to one of several interface modules. When sending video via coaxial cable, connections are made to a coaxial interface module. When sending video via unshielded twisted-pair wire, connections are made to a UTP interface module.

There are two CyberMount interface modules—one for coaxial video transmission and one for UTP video transmission. These are integrated into the CyberMount. There are also two CyberDome interface modules. Again, one for coaxial and one for UTP video transmission. These are used for all other installations, except for the heavy-duty dome. Which has its own integrated coaxial/UTP interface module.

CAUTION!

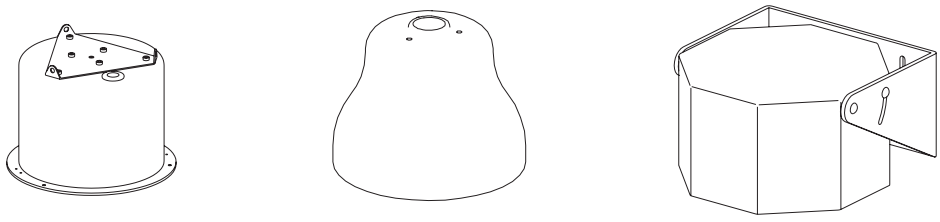
Even though a complete CyberDome assembly weighs less than 5 lb (HD less than 15 lb), for safety reasons GE Security recommends that all mechanical components used to support the CyberDome assembly be able to support a 35 lb (15.88 kg) load. The heavy-duty dome assembly must be able to support a 75 lb (35.02 kg) load.

Installation procedures are listed in separate sections for each housing style. Determine which style is being used and proceed directly to the appropriate section.

The upper housing is available in three styles (see *Figure 3*):

- The flush-mount housing is designed for false ceiling applications. Refer to page 8.
- The 7-inch (formally 8-inch) pendant-mount housing is designed to suspend from the end of a 1.25 in. NPT pipe or a variety of arm brackets. Refer to page 17.
- The heavy-duty housing is designed for areas where the CyberDome might be susceptible to vandalism—it contains its own reinforced mounting bracket. Refer to page 28.

Figure 3: CyberDome Housing Styles



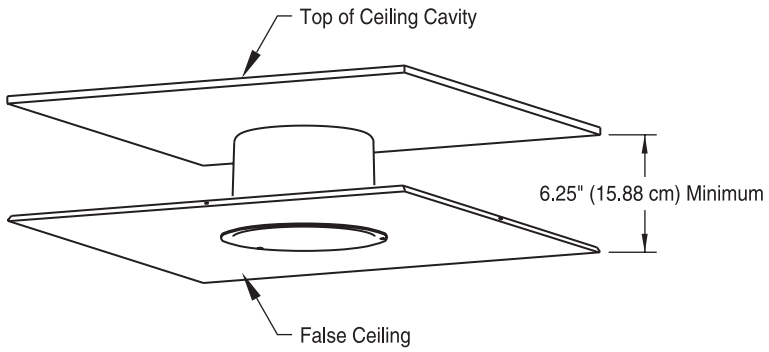
6-inch Flush-mount Housing | 7-inch Pendant-mount Housing | Heavy-duty Housing

6-inch Flush-mount Housing Installation

The indoor flush-mount housing can be installed into most types of ceilings, provided there is sufficient clearance for the unit. See *Figure 4*. The method of installation depends on the type of ceiling into which the CyberDome is being mounted. Methods are:

- Method 1 – Into T-bar ceilings (page 8)
- Method 2 – Into non-removable false ceilings (page 11)
- Method 3 – With superstructure attachment (page 15)

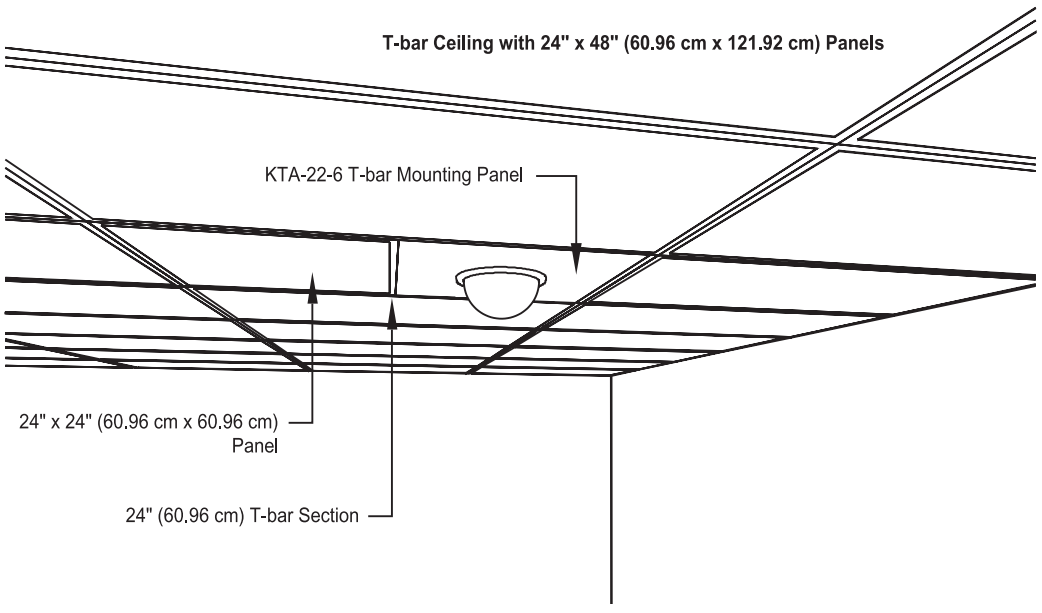
Figure 4: False Ceiling Clearance



Method 1: Installation Into T-Bar Ceilings

A T-bar type ceiling consists of a metal grid, which is used to suspend removable panels. See *Figure 5*. The panels will be either 24 in. x 24 in. (60.96 cm x 60.96 cm) or 24 in. x 48 in. (60.96 cm x 121.92 cm). Installation into this type of ceiling requires a KTA-22-6 T-bar Mounting Panel (24 in. x 24 in., i.e., 60.96 cm x 60.96 cm) or a KTA-24-6 T-Bar Support Kit (refer to *Appendix A*). *The KTA-22-6 was formerly the KTA-00-6, and the KTA-24-6 the KTA-10-6.*

Figure 5: T-Bar Ceiling with Mounting Panel



For installation, proceed as follows:

CAUTION!

DO NOT provide power to the housing until all installation steps are complete.

Step 1) Determine where the CyberDome is to be located and remove the ceiling panel at that location.

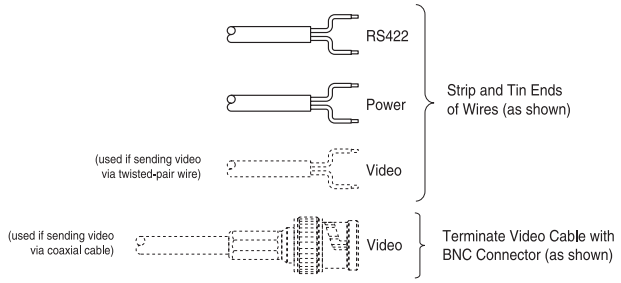
Step 2) If the removed ceiling panel is the smaller 24 in. x 24 in. (60.96 cm x 60.96 cm) size, continue with step 3.

If the panel is the larger 24 in. x 48 in. (60.96 cm x 121.92 cm) size, cut the panel into two 24 in. x 24 in. (60.96 cm x 60.96 cm) sections and install a 24 in. (60.96 cm) T-bar across the center of the ceiling opening. Refer to *Appendix A: KTA-24-6 and KTA-24-8/KTA-10-8 T-Bar Support Kits*. See *Figure* 5.

Step 3) Feed the video, 24VAC, and RS422 control cables through the ceiling to the vacated panel location.

Step 4) Prepare the cables as shown in *Figure 6.*

Figure 6: Preparing the Cables



Step 5) Attach the CyberDome housing to the KTA-22-6 panel using the three 10-32 flathead screws provided.

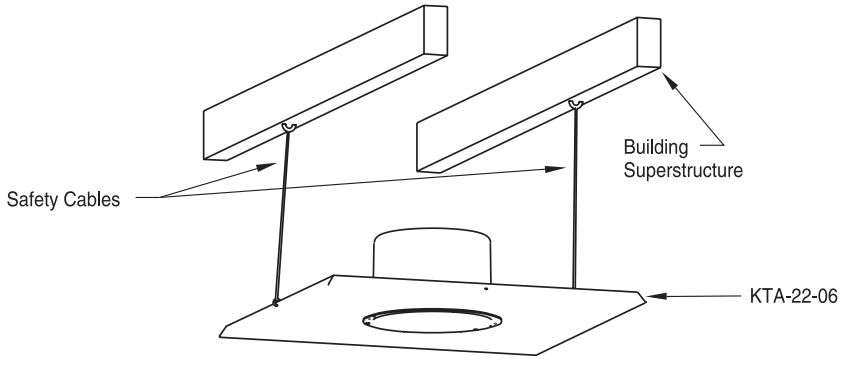
Step 6) Place the housing/panel assembly in the ceiling.

CAUTION!

Each safety cable in step 7 (below) must be able to support a 35 lb (15.88 kg) load.

Step 7) Attach two metal safety cables between the KTA-22-6 and the ceiling's super-structure to insure that the mounting panel cannot fall. See *Figure 7*. Holes are located in each side of the panel for this purpose.

Figure 7: Attaching the Safety Cables



CAUTION!

DO NOT connect the 24VAC power cable to the video or RS422 connection in step 8 (below), or the CyberDome will be damaged.

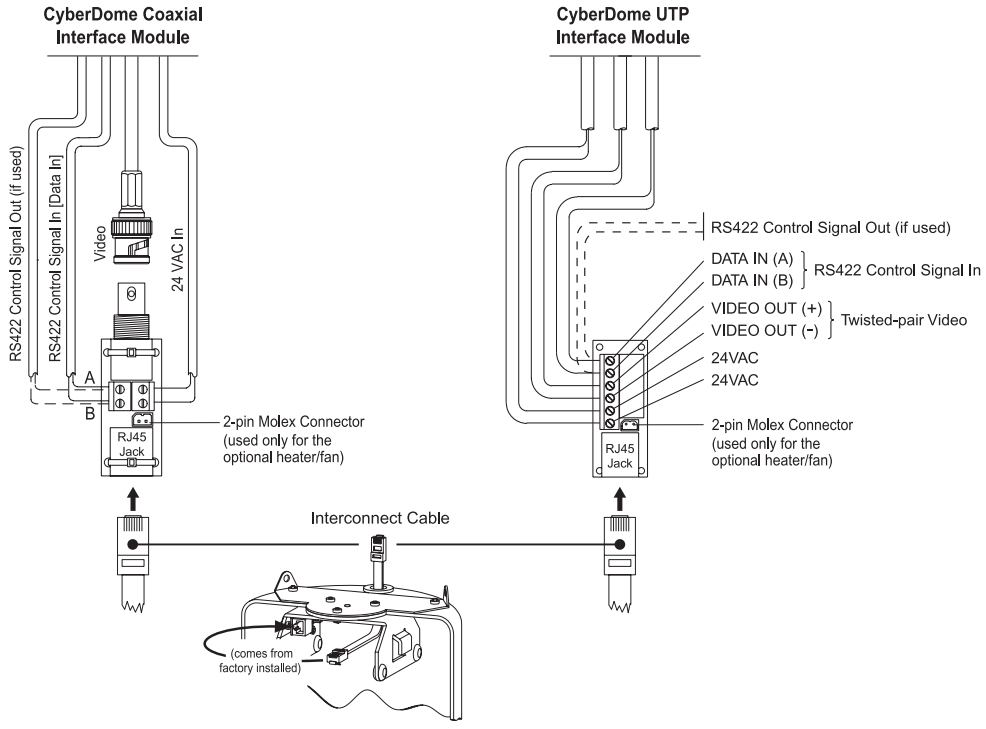
Step 8) Connect the prepared cables to the interface module. See *Figure 8*.

There are two versions of the CyberDome interface module depending on whether video is being sent via coaxial cable (CyberDome Coaxial Interface Module) or unshielded twisted-pair wire (CyberDome UTP Interface Module).

NOTE: When using the CyberDome UTP Interface Module, the unshielded twisted-pair video and RS422 control wires can share the same wire jacket, but must remain as separate twisted pairs.

Step 9) Insert the interconnect cable from the CyberDome into the RJ45 jack in the interface module. See *Figure 8*.

Figure 8: Connecting the Cables to Either CyberDome Interface Module



Step 10) Reinstall any removed ceiling panels.

Step 11) Proceed to *RS422 Termination* on page 31.

Method 2: Installation Into A Non-Removable False Ceiling

Note:

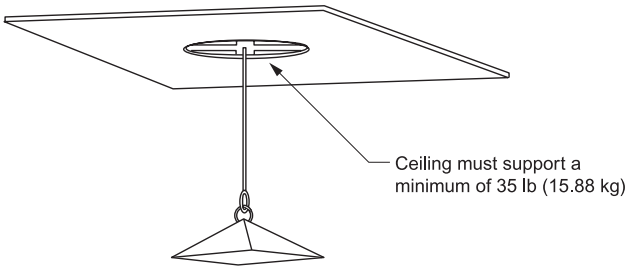
This method of installation should be used only when the false ceiling is sturdy enough to support the weight of a complete CyberDome assembly.

The KTA-23-6 Ceiling Ring (formerly the KTA-01-6) is used to install the flush-mount housing in a non-removable type false ceiling. The ring allows installation by a single person and does not require that the person enter the ceiling cavity (except for cable routing).

CAUTION!

The KTA-23-6 distributes the weight of the CyberDome around the perimeter of the ceiling cutout. The ceiling must be strong enough to support a minimum of 35 lb (15.88 kg), as illustrated in *Figure 9*.

Figure 9: Minimum Ceiling Strength



To install the upper housing using the KTA-23-6 Ceiling Ring, proceed with the following steps:

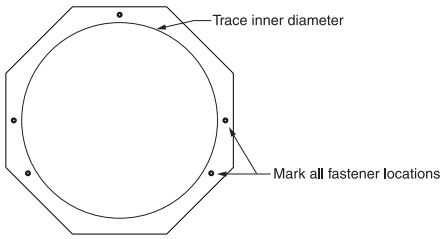
CAUTION!

DO NOT provide power to the housing until all installation steps are complete.

Step 1) Hold the ceiling ring in the desired location on the ceiling with the flat surface facing away from the ceiling.

Step 2) Use a pencil to trace the inside of the ceiling ring and to mark all five fastener hole locations (as shown in *Figure 10*).

Figure 10: Fastener Hole Locations



CAUTION!

Before drilling or cutting holes, be certain there is a minimum of 6.25 in. (15.88 cm) of clearance above all installation holes and that no electrical cables, pipes, or other obstacles are present.

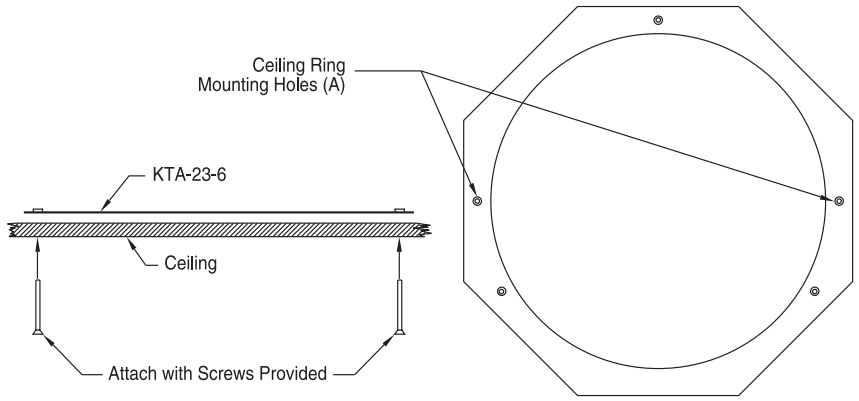
Step 3) Using a 3⁄16 in. drill bit, drill all five fastener holes. Be certain that all holes are drilled perpendicular to the ceiling.

Step 4) Cut a hole in the ceiling using the penciled outline as a guide.

Step 5) Bend the ceiling ring just enough to clear the hole. Bend it flat again and place it in the ceiling with its smooth side down and its mounting holes aligned with the drilled holes in the ceiling.

Step 6) Using the mounting holes (A in *Figure 11*), secure the ceiling ring in place with two of the 6-32 x 2 in. flathead screws provided. Tighten the screws enough to draw them flush with the ceiling surface.

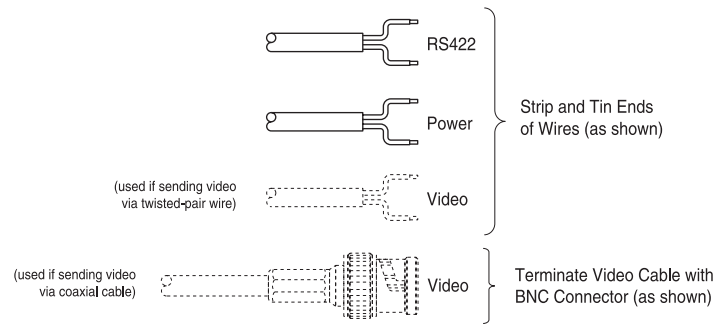
Figure 11: Mounting the Ceiling Ring



Step 7) Feed the video, 24VAC, and RS422 control cables from the ceiling through the hole.

Step 8) Prepare the cables as shown in Figure 12.

Figure 12: Preparing the Cables

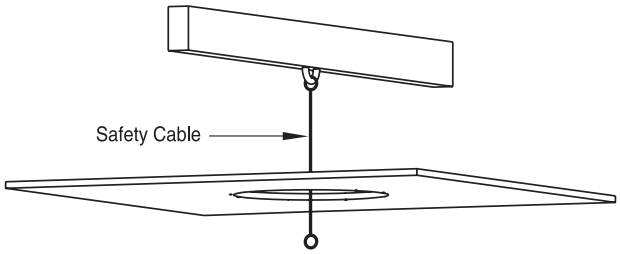


CAUTION!

The safety cable in step 9 (below) must be able to support a 35 lb (15.88 kg) load.

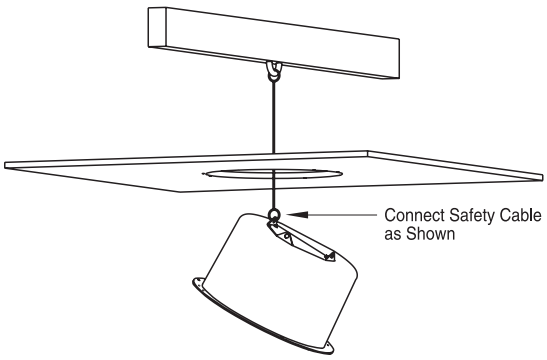
Step 9) Attach a 35 lb (15.88 kg) test metal safety cable to the ceiling's superstructure and feed it through the hole. See *Figure 13*.

Figure 13: Attaching the Safety Cable to the Superstructure



Step 10) Bring the housing to just below the hole opening and attach the safety cable. See *Figure 14.*

Figure 14: Connecting the Safety Cable to the Housing



CAUTION!

DO NOT connect the 24VAC power cable to the video or RS422 connection in step 11 (below), or the CyberDome will be damaged.

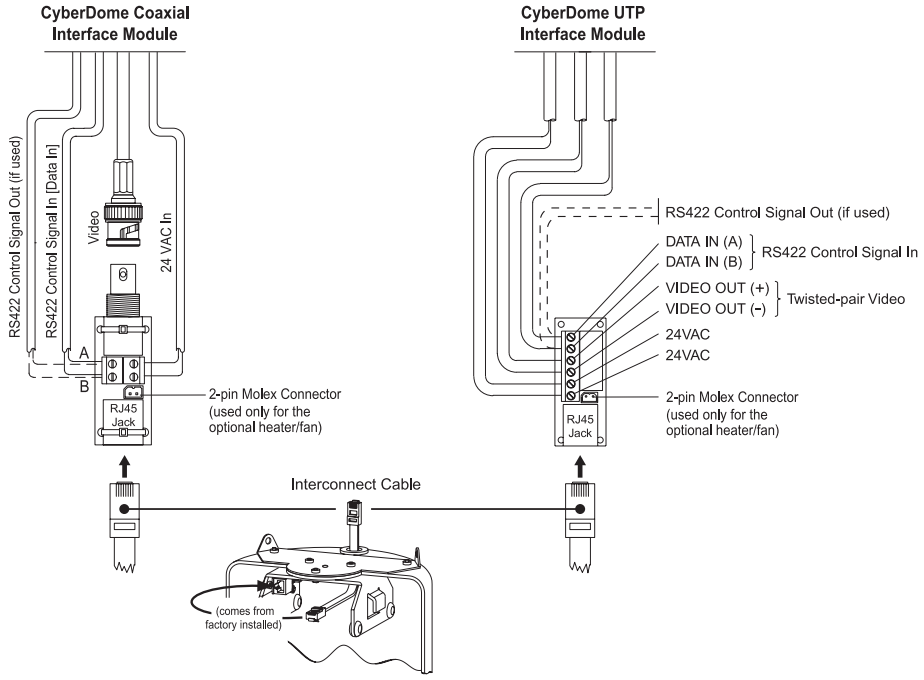
Step 11) Connect the prepared cables to the interface module. See *Figure 15*.

There are two versions of the CyberDome interface module depending on whether video is being sent via coaxial cable (CyberDome Coaxial Interface Module) or unshielded twisted-pair wire (CyberDome UTP Interface Module).

NOTE: When using the CyberDome UTP Interface Module, the unshielded twisted-pair video and RS422 control wires can share the same wire jacket, but must remain as separate twisted pairs.

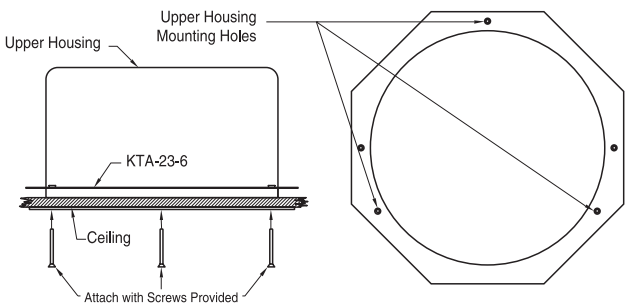
Step 12) Insert the interconnect cable from the CyberDome into the RJ45 jack in the interface module. See *Figure 15*.

Figure 15: Connecting the Cables to Either CyberDome Interface Module



Step 13) Push the CyberDome upper housing through the hole and position the housing's three mounting holes to match those in the ceiling. Use the remaining three screws to secure the housing to the ring.

Figure 16: Securing the Upper Housing



Step 14) Proceed to *RS422 Termination* on page 31.

Method 3: Installation By Attaching The Housing To The Superstructure

When a non-removable false ceiling is not sturdy enough to support the weight of the CyberDome, the housing must be suspended from the ceiling superstructure with metal cables. This normally requires two installers, one to hold the upper housing in place while the second attaches and tightens the cables in the ceiling cavity. Proceed as follows:

CAUTION!

DO NOT provide power to the housing until all installation steps are complete.

Step 1) Determine the desired location on the ceiling for mounting the CyberDome and use a pencil to trace a 6 ⅜ in. (16.19 cm) diameter hole outline.

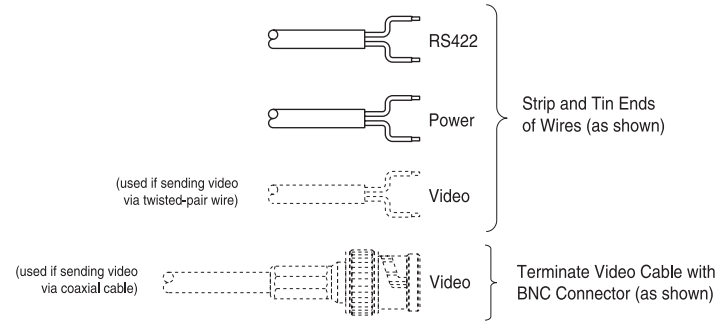
CAUTION!

Before drilling or cutting holes, be certain there is a minimum of 6.5 in. (16.51 cm) of clearance above all installation holes and that no electrical cables, pipes, or other obstacles are present.

Step 2) Cut the hole in the ceiling.

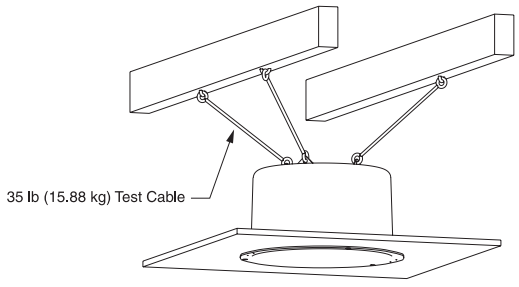
Step 3) Feed the video, 24VAC, and RS422 control cables to the hole location and prepare them for connection. See *Figure 17*.

Figure 17: Preparing the Cables



Step 4) Push the upper housing through the hole and attach securely to the ceiling's superstructure with 35 lb (15.88 kg) test cables, as shown in *Figure 18*.

Figure 18: Attaching the Test Cables



CAUTION!

DO NOT connect the 24VAC power cable to the video or RS422 connection in step 5 (below), or the CyberDome will be damaged.

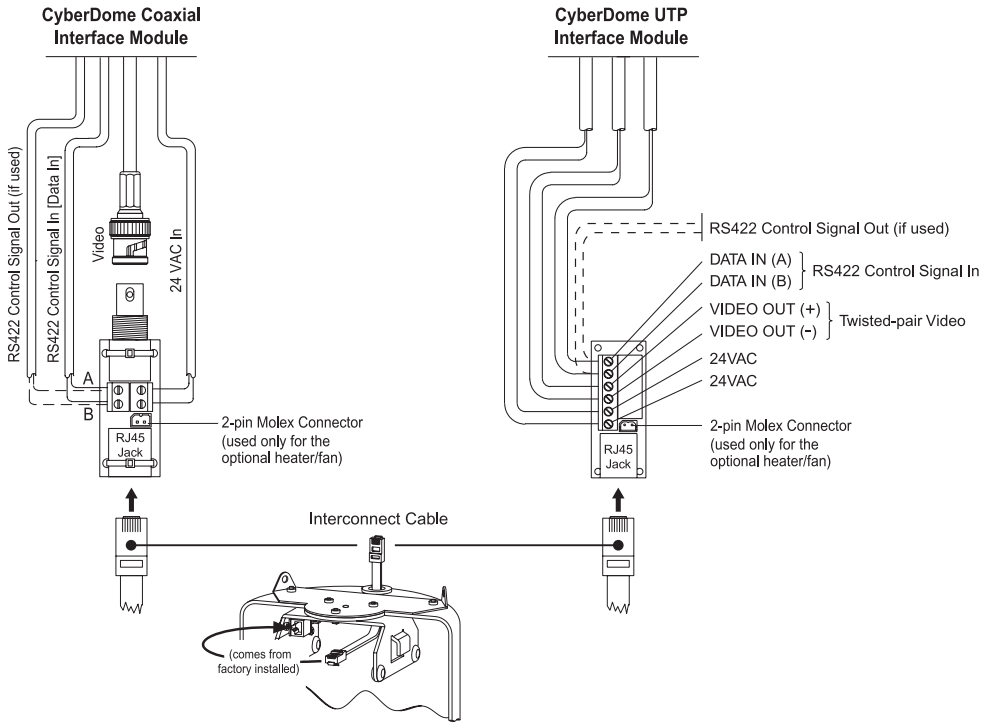
Step 5) Connect the prepared cables to the interface module. See *Figure 19*.

There are two versions of the CyberDome interface module depending on whether video is being sent via coaxial cable (CyberDome Coaxial Interface Module) or unshielded twisted-pair wire (CyberDome UTP Interface Module).

NOTE: When using the CyberDome UTP Interface Module, the unshielded twisted-pair video and RS422 control wires can share the same wire jacket, but must remain as separate twisted pairs.

Step 6) Insert the interconnect cable from the CyberDome into the RJ45 jack in the interface module. See *Figure 19*.

Figure 19: Connecting the Cables to Either CyberDome Interface Module



Step 7) Proceed to *RS422 Termination* on page 31.

7-inch Pendant-mount Housing Installation

The 7-inch pendant housing can be mounted using one of three methods:

- Method 1 – Suspended from the KTA-20/KTA-20T CyberMount (page 17)
- Method 2 – Suspended from the KTA-21/KTA-21W Swing Mount (page 21)
- Method 3 – Suspended from a 1.25 in. pipe (page 25)

Method 1: CyberMount Installation

The KTA-20/KTA-20T CyberMount suspends the CyberDome from a vertical surface. It can be attached directly to the vertical surface or mated with a KTA-25/KTA-25W Corner-mount Bracket, a KTA-26/KTA-26W Pole-mount Bracket, or a KTA-27/KTA-27W Roof-mount Bracket. It provides the path for the video, 24VAC, and RS422 data control cables. For instructions on installing the corner-, pole- or roof-mount brackets, refer to *Appendix A: Accessory Installation*.

To install the 7-inch pendant housing with the CyberMount, proceed as follows.

CAUTION!

DO NOT provide power to the housing until all installation steps are complete.

First, mount the CyberMount to a vertical surface:

Step 1) If a 1/2 in. (1.27 cm) conduit needs to enter the side of the CyberMount, complete the steps in the *KTA-20/KTA-20T CyberMount (Side Conduit Entry*) section of *Appendix A: Accessory Installation*.

Step 2) Loosen the two CyberMount cover screws enough to remove the cover (removing the screws is not necessary). See *Figure 20*.

Step 3) Remove the CyberMount cover and interface module. See *Figure 20*.

Step 4) Place the CyberMount against the vertical mounting surface, *ensure that it is level*, and then mark the location of the four mounting holes and the center cable-entry opening. See *Figure 21*.

Figure 20. Removing the Cover and Interface Module of the CyberMount

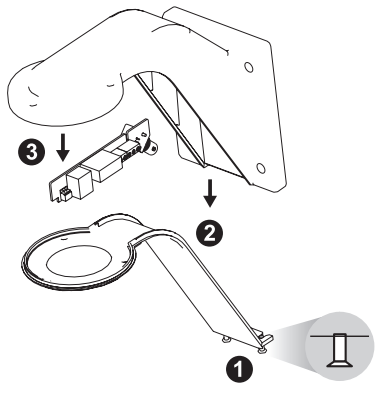
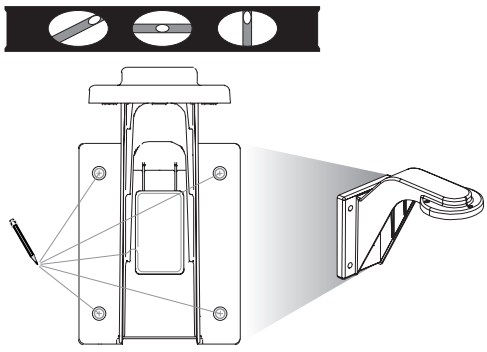


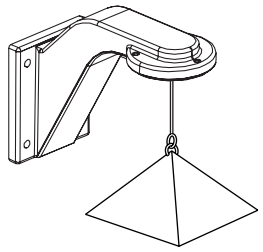
Figure 21. Marking the Mounting Holes



CAUTION!

For safety, the hardware and procedure used for securing the CyberMount must allow it to support a minimum of a 35 lb (15.88 kg) load.

Figure 22. Minimum Load Requirement for the CyberMount



Step 5) Prepare the mounting holes in accordance with the type of surface (concrete, wood, etc.) and fasteners used. See *Figure 22*.

NOTE: Mounting fasteners are not included.

Step 6) Drill a pass-through hole in the wall for cable entry, if one does not already exist.

Step 7) Pull the video, 24VAC, and RS422 cables from inside the wall through the CyberMount cable-entry hole. Cut the cables to a length of no shorter than 7 in. (17.78 cm).

Step 8) Securely mount the CyberMount to the wall with the appropriate fasteners. See *Figure 22*.

Step 9) Properly seal all mounting holes that could cause leaks into the mounting surface.

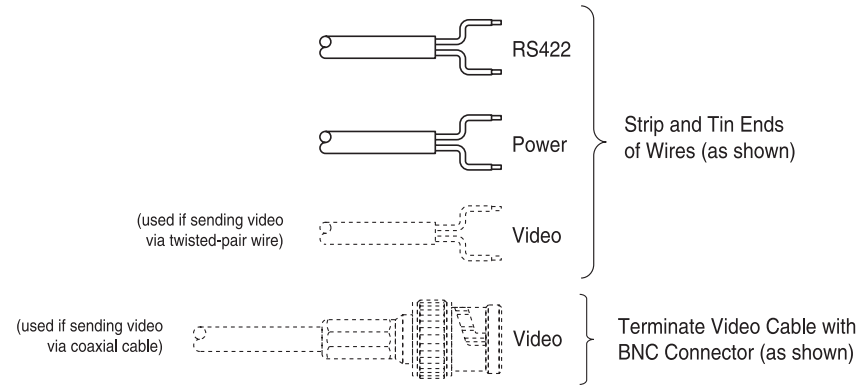
Next, wire and mount the interface module.

There are two versions of the CyberMount interface module depending on whether video is being sent via coaxial cable (CyberMount Coaxial Interface Module) or unshielded twisted-pair wire (CyberMount UTP Interface Module).

NOTE: When using the CyberMount UTP Interface Module, the unshielded twisted-pair video and RS422 control wires can share the same wire jacket, but must remain as separate twisted pairs.

Step 10) Prepare the cables as shown in *Figure 23*.

Figure 23: Preparing the Cables



CAUTION!

DO NOT connect the 24VAC power wires to the video or RS422 connections, or the CyberDome will be damaged.

Step 11) Wire the interface module (see *Figure 24*):

a) For power:

Connect the 24VAC wires to the 24VAC terminals on either module.

b) For data:

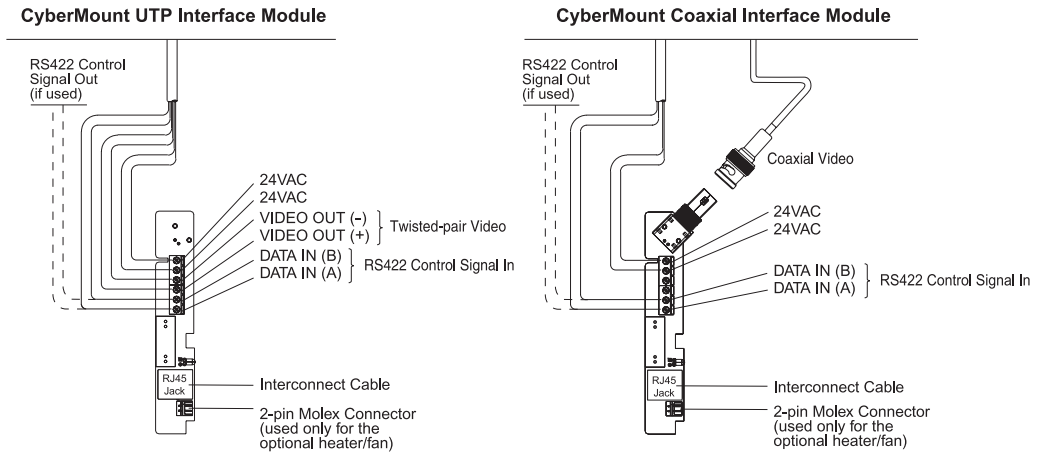
While observing polarity, connect the RS422 control signal twisted-pair wires to the DATA IN terminals on either module.

c) For video:

If sending video via UTP, observe polarity and connect the video twisted-pair wires to the VIDEO OUT terminals on the UTP module.

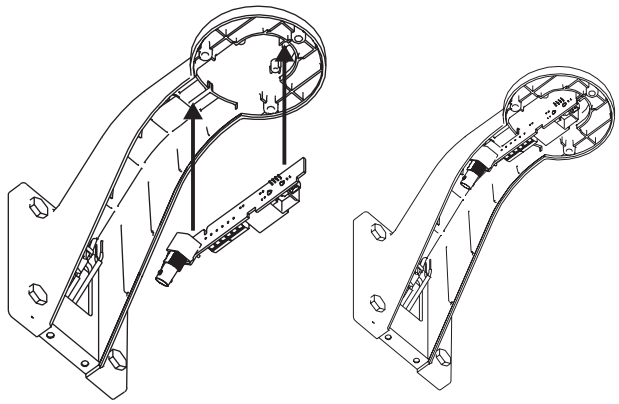
If sending video via coaxial, connect the BNC to the coaxial module.

Figure 24. Connections to Either CyberMount Interface Module



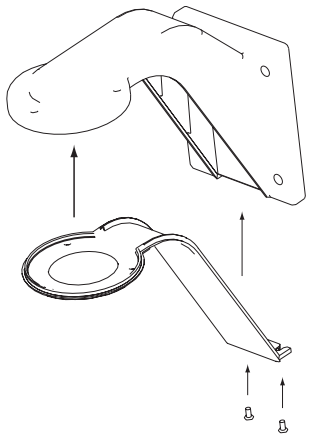
Step 12) Insert the interface module into its mounting slot up in the CyberMount. See *Figure 25*.

Figure 25. Fitting the Interface Module into the CyberMount



Step 13) Attach the CyberMount cover with the hardware provided. See *Figure 26*.

Figure 26. Attaching the CyberMount Cover



Finally, attach the housing to the CyberMount:

Step 14) Bring the CyberDome housing near the end of the CyberMount collar (**DO NOT let go of the housing until after it is secured in step 16**) and insert the CyberDome interconnect cable into the RJ45 jack on the interface module. See *Figure 27*.

Step 15) If installing the optional heater/fan (E option), also connect the heater's power cable to the 2-pin Molex connector on the module. **DO NOT let go of the housing until after it is secured in step 16.** See *Figure 27*.

The fan assembly is attached separately inside the housing to the PTZ assembly. Refer to *E Option (Heater/Fan)* in *Appendix A*.

Step 16) Guide the flange of the housing into the collar of the CyberMount (matching up the mating holes) and fasten the housing to the CyberMount using the three 10-32x1 screws provided. See *Figure 28*.

Tighten the screws securely.

Figure 27. Connecting the CyberDome to the Interface Module

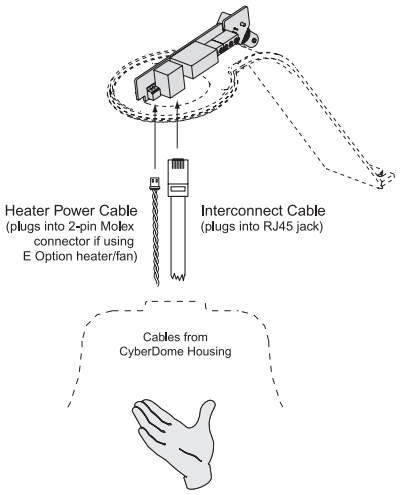
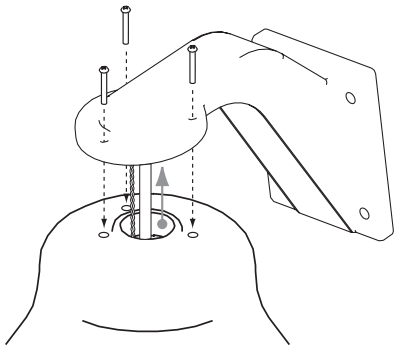


Figure 28. Fastening the Housing to the CyberMount



Step 17) Proceed to *RS422 Termination* on page 31.

Method 2: Swing Mount Installation

The KTA-21/KTA-21W Swing Mount suspends a CyberDome from its swinging reach arm, which is mounted to a rooftop parapet by a mounting bracket. It allows the CyberDome to swing out from a building for increased and versatile coverage, and swing in for easy servicing. It provides the path for the video, 24VAC, and RS422 data control cables.

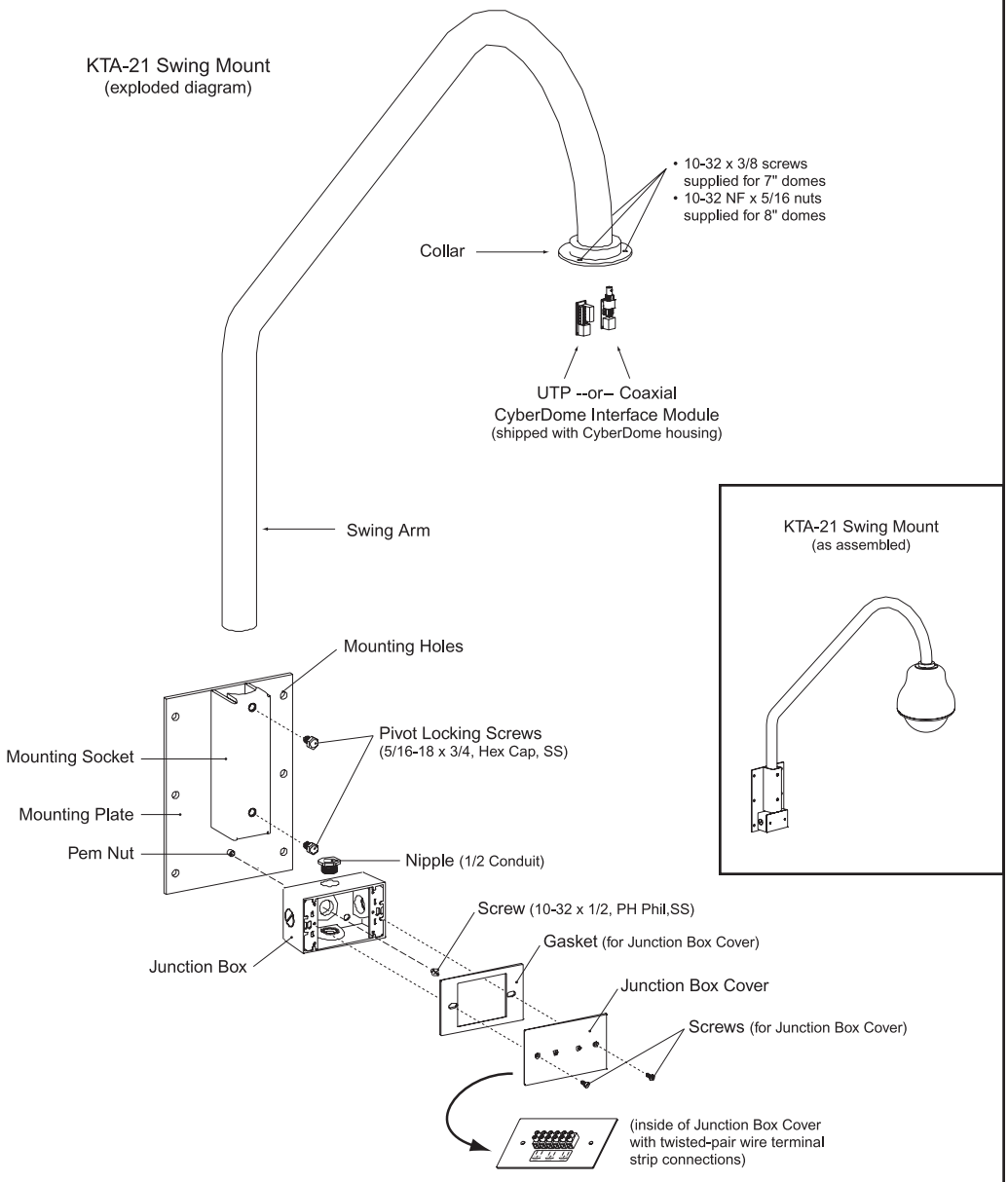
To install the 7-inch pendant housing with the Swing Mount, proceed with the following steps.

CAUTION!

DO NOT provide power to the housing until all installation steps are complete.

Step 1) Remove the junction box from the mounting plate. See *Figure 29* below.

Figure 29. KTA-21 Assembly Hardware

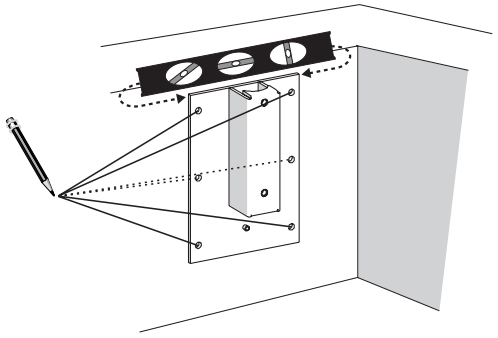


Step 2) Place the mounting plate against the vertical mounting surface, *level the plate*, and then mark the location of the four corner mounting holes. (Use all six mounting holes for extra support, as needed.) See *Figure 30*.

Step 3) Prepare the mounting holes in accordance with the type of surface (concrete, wood, etc.) and fasteners used.

NOTE: Mounting fasteners are not included.

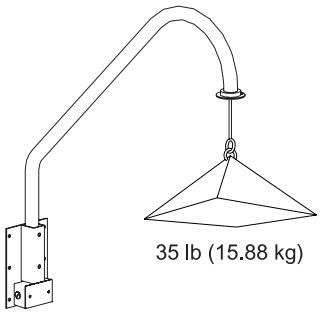
Figure 30. Marking Mounting Holes



CAUTION!

For safety, the hardware and procedure used for securing the top plate must allow it to support a minimum of a 35 lb (15.88 kg) load.

Figure 31. Minimum Load Requirement of Swing Mount



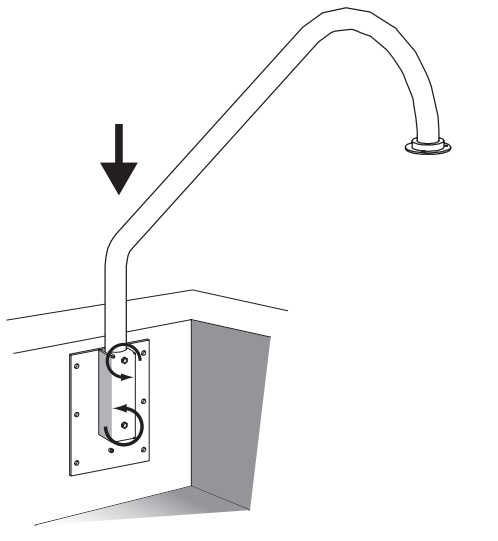
Step 4) Attach the mounting plate to the vertical mounting surface with the appropriate fasteners. Make sure the plate is oriented such that the socket is up and the junction box is down. See *Figure 31*.

Step 5) Properly seal all mounting holes that could cause leaks into the mounting surface.

Step 6) Slide the swing arm into the mounting socket and securely tighten the pivot locking screws. See *Figure 32*. Position the arm such that the collar is accessible from the rooftop for mounting the dome.

The swing arm comes with the cable assembly installed and tacked down at both ends of the arm. You may have to untack the end going through the mounting socket.

Figure 32. Placing the Swing Arm in the Mounting Socket



Step 7) Feed the end of the cable assembly coming out of the mounting socket through the nipple on the top of the junction box. See *Figure 33*.

Feed the video cable BNC connector through the nipple first, and then the twisted-pair bundle.

Step 8) Remount the junction box onto the mounting plate using the hardware provided. See *Figure 34*.

Figure 33. Cable Assembly into the Chase Nipple

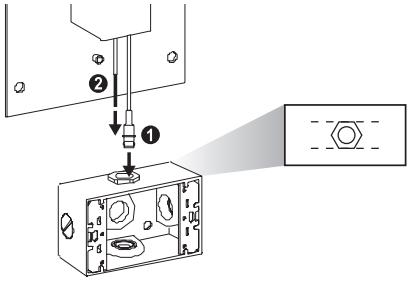
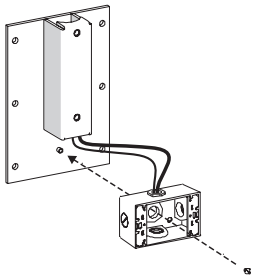
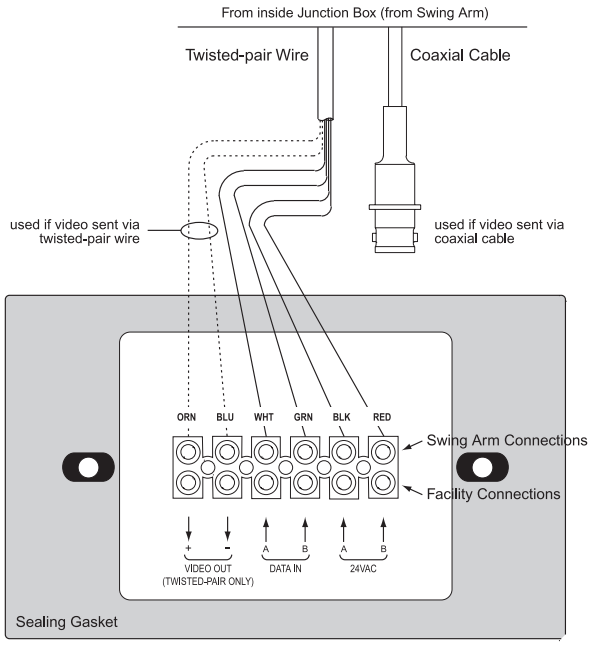


Figure 34. Remounting the Junction Box



Step 9) Place the sealing gasket on the inside of the junction box cover, and then make the cable assembly connections to the terminal strip. See *Figure 35*.

Figure 35. Cable Assembly Connections in the Junction Box



Step 10) WITH POWER OFF, make the facilities connections to the terminal strip on the inside of the junction box cover. See *Figure 35*.

Step 11) Install the junction box cover. Ensure that the sealing gasket is properly positioned.

CAUTION!

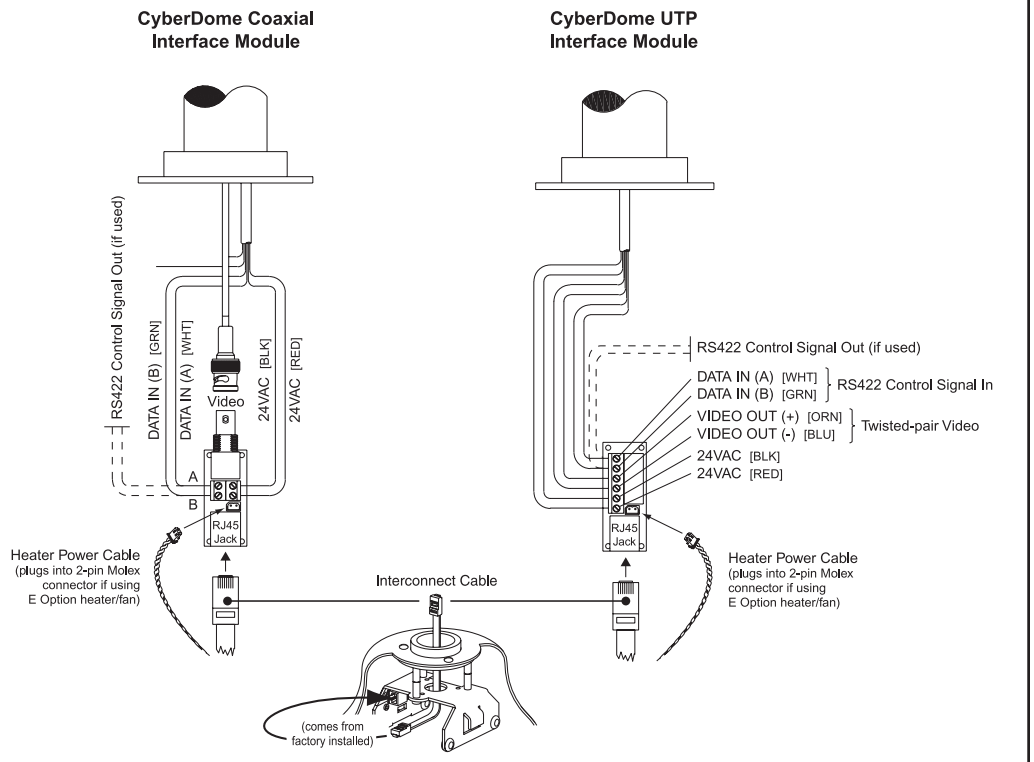
DO NOT connect the 24VAC power cable to the video or RS422 connection in step 12 (below), or the CyberDome will be damaged.

Step 12) Attach the interface connector card (provided with the CyberDome) to the cable assembly. See *Figure 36*.

There are two versions of the CyberDome interface module depending on whether video is being sent via coaxial cable (CyberDome Coaxial Interface Module) or unshielded twisted-pair wire (CyberDome UTP Interface Module).

NOTE: When using the CyberDome UTP Interface Module, the unshielded twisted-pair video and RS422 control wires can share the same wire jacket, but must remain as separate twisted pairs.

Figure 36. Swing Mount Connections to Either CyberDome Interface Module



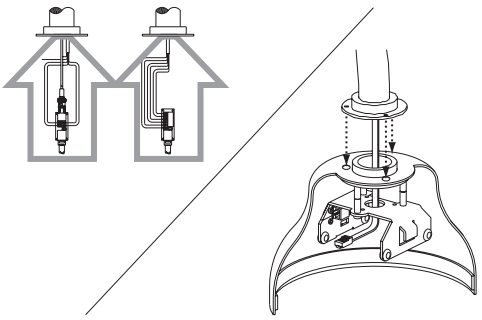
Step 13) Bring the housing near the end of the swing arm and insert the CyberDome's interconnect cable into the RJ45 jack on the interface module. See *Figure 36*.

Step 14) If installing the optional heater/fan (E Option), also connect the heater's power cable to the 2-pin Molex connector on the module. See *Figure 36*.

The fan assembly is attached separately inside the housing to the PTZ assembly. Refer to *E Option (Heater/Fan)* in *Appendix A*.

Step 15) Push the cables and interface module back into the swing arm, guide the flange of the housing into the collar of the swing arm (matching up the mating holes), and fasten the housing to the swing arm using the three 10-32x3/8 screws provided. See *Figure 37*.

Figure 37. Connecting the Housing to the Swing Arm



Step 16) Proceed to *RS422 Termination* on page 31.

After the PTZ assembly and acrylic dome are installed, which starts with the RS422 termination on page 31, you'll want to loosen the pivot locking screws on the mounting socket and swing the swing arm (with CyberDome attached) out to the desired position, and again securely tighten the pivot locking screws.

Method 3: Pipe Installation

The 7-inch pendant housing contains a 1.25 in. NPT pipe flange for pipe mounting.

Adhere to the following pipe requirements:

- Use only Schedule 40 pipe.
- The pipe must be at least 5 in. (12.7 cm) in length to allow for wire connections.
- The pipe must be reamed inside at the CyberDome end.
- The pipe must be able to support a 35 lb (15.88 kg) load.
- For outdoor applications, Teflon tape must be applied to the pipe to assure that no water enters the housing.

To install the 7-inch pendant housing onto a threaded pipe, proceed with the following steps:

CAUTION!

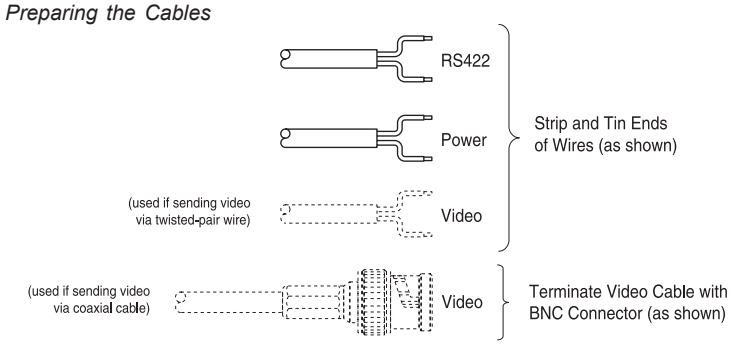
DO NOT provide power to the housing until all installation steps are complete.

Step 1) Securely mount the pipe from which the pendant housing will be suspended. Remember that the pipe must be able to support a 35 lb (15.88 kg) load.

Step 2) Feed the video, 24 VAC, and RS422 control cables through the pipe.

Step 3) Prepare the cables as shown in *Figure 38*.

Figure 38: Preparing the Cables



CAUTION!

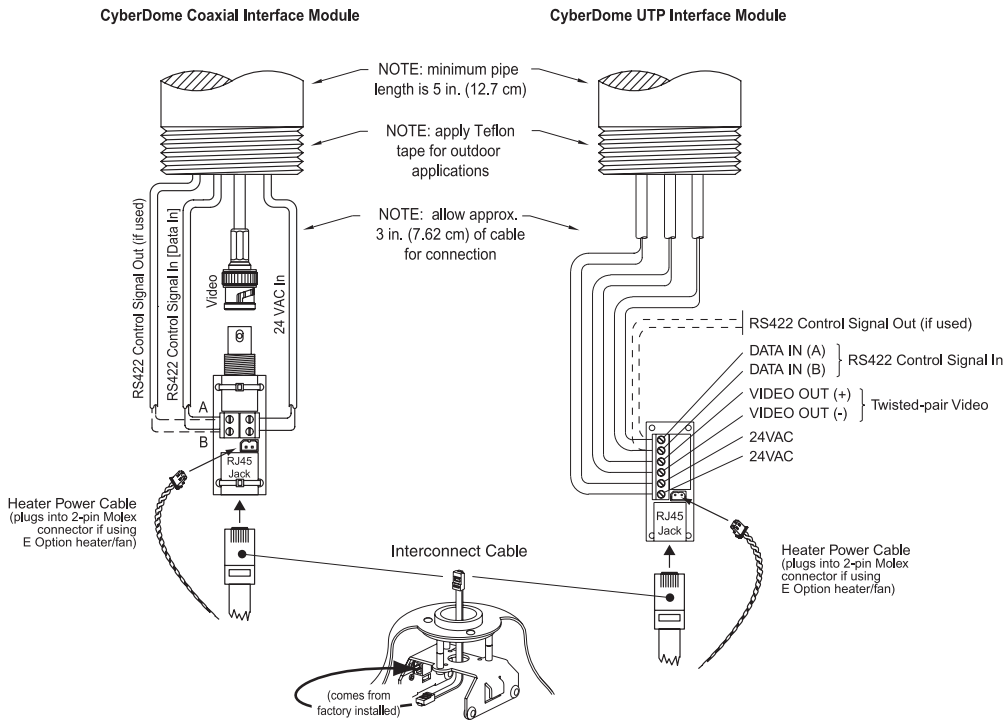
DO NOT connect the 24VAC power cable to the video or RS422 connection in step 4 (below), or the CyberDome will be damaged.

Step 4) Make the cable connections to the interface module. See *Figure 39*. Allow approximately 3 inches (7.62 cm) of cable for connections.

There are two versions of the CyberDome interface module depending on whether video is being sent via coaxial cable (CyberDome Coaxial Interface Module) or unshielded twisted-pair wire (CyberDome UTP Interface Module).

NOTE: When using the CyberDome UTP Interface Module, the unshielded twisted-pair video and RS422 control wires can share the same wire jacket, but must remain as separate twisted pairs.

Figure 39: Pipe Connections to Either CyberDome Interface Module



Step 5) If the housing is being installed outdoors, install the water-sealing rubber boot (*Figure 40*):

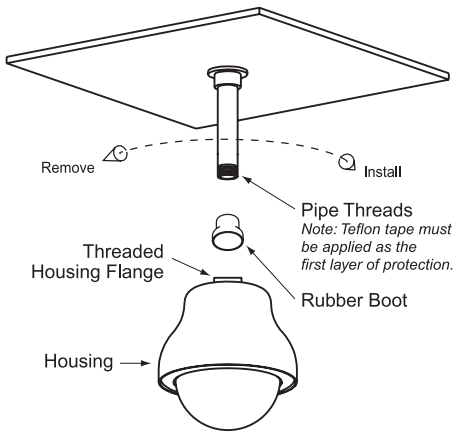
a) Spray soapy water onto the pipe.

b) Slide the rubber boot up the pipe.

c) Apply Teflon tape to the pipe threads.

NOTE: Teflon tape must be applied as the first layer of protection.

Figure 40: Water-sealing Rubber Boot



Step 6) Bring the housing near the end of the pipe and insert the CyberDome's interconnect cable into the RJ45 jack on the interface module. See *Figure 39*.

Step 7) If installing the optional heater/fan (E option), also connect the heater's power cable to the 2-pin Molex connector on the module. See *Figure 39*.

The fan assembly is attached separately inside the housing to the PTZ assembly. Refer to *E Option (Heater/Fan)* in *Appendix A*.

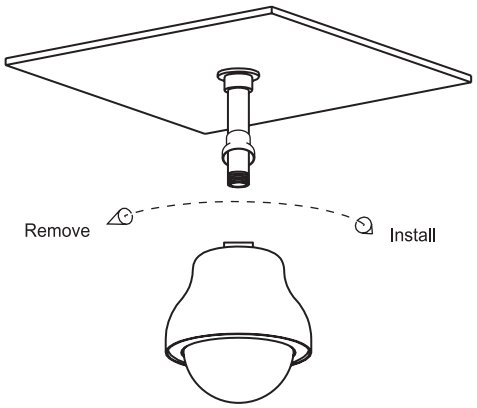
Step 8) Push the cables and interface module back into the pipe.

Step 9) Before threading the housing onto the pipe, rotate it five turns in the counterclockwise direction (as viewed from below) to allow for cable twist. Turn the housing onto the pipe in a clockwise direction until it is tightened securely. See *Figure 41*. Check to be certain that it is not cross threaded.

Step 10) Slide the rubber boot down the pipe and fit it securely over the housing's flange.

Step 11) Proceed to *RS422 Termination* on page 31.

Figure 41: Threading the Housing



Heavy-duty Housing (CyberDome HD) Installation

The CyberDome HD is enclosed in a tamper-resistant aluminum housing with an impact-resistant acrylic dome. Attached to the housing is a reinforced swivel-mount bracket. It is designed to mount against a hard surface, but will also mate with a KTA-25/KTA-25W Corner-mount Bracket or a KTA-26/KTA-26W Pole-mount Bracket. For instructions on using the corner- or pole-mount brackets, refer to *Appendix A: Accessory Installation*.

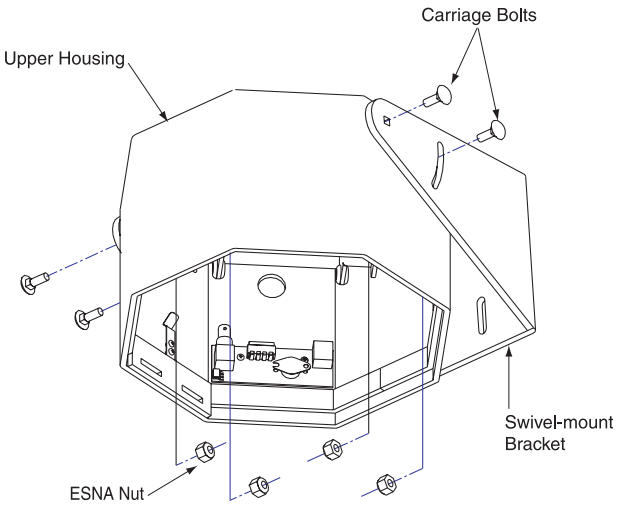
CAUTION!

DO NOT provide power to the housing until all installation steps are complete.

To install and mount the CyberDome HD directly to a hard surface (such as concrete), proceed with the following steps:

Step 1) Locate the carriage bolts that secure the upper housing to the swivel-mount bracket. See *Figure 42*. Loosen and remove the ESNA nuts (inside the upper housing), remove the carriage bolts, and detach the upper housing.

Figure 42: Removing the Carriage Bolts



CAUTION!

DO NOT mount the heavy-duty CyberDome HD via the small mounting holes alone. They are for additional security where needed.

Step 2) Using the swivel-mount bracket as a template, mark the mounting surface where the CyberDome HD is to be installed. See *Figure 43*. Mark the four large mounting slots. For additional security, also mark the four small mounting holes.

Step 3) Drill the four (or eight) holes into the mounting surface.

CAUTION!

For safety, use the appropriate fasteners for the surface that the bracket is being mounted to that will support a 75 lb (35.02 kg) load.

Step 4) Secure the swivel mount bracket to the mounting surface (*Figures 43 and 44*).

Figure 43: Mounting the Bracket

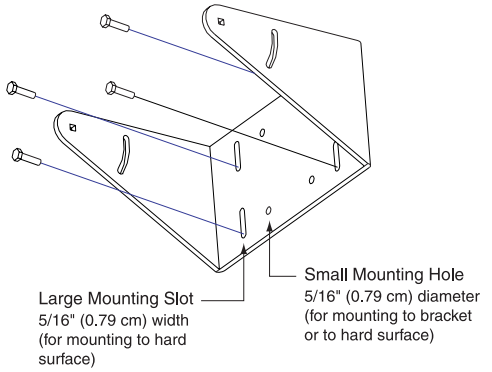
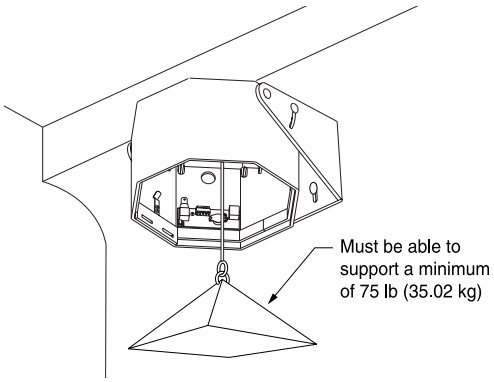


Figure 44: CyberDome HD Minimum Load Requirement

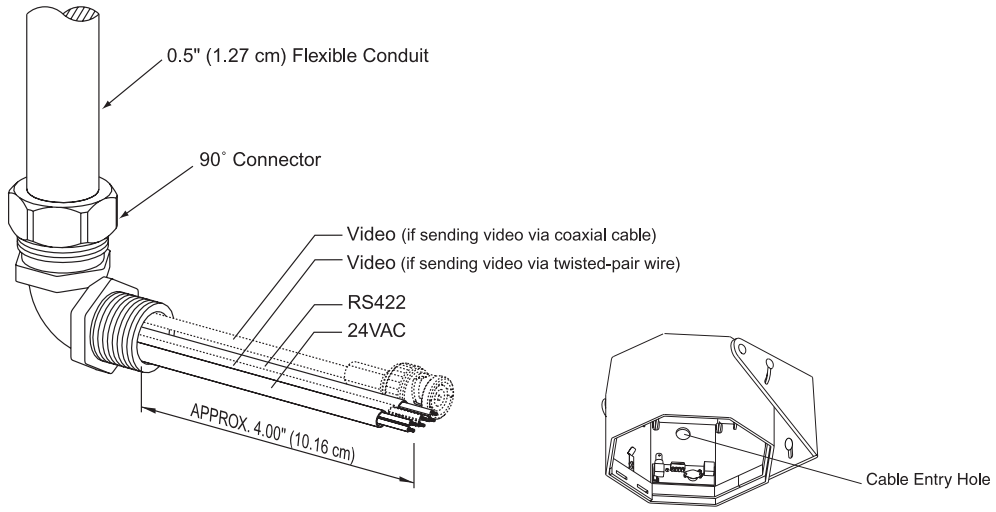


Step 5) Reattach the upper housing to the swivel-mount bracket. Position the angle of the housing so that its top surface is level. Reinstall the carriage bolts and tighten the ESNA nuts.

Step 6) Assemble an appropriate external 1/2 in. (1.27 cm) flexible conduit to enter the housing and carry in the RS422, 24VAC and video cables through the cable entry hole. See *Figure 45*.

- Use a 90° connector to allow the housing to swivel while attached.
- Use a watertight flexible conduit for installations where the CyberDome HD may be exposed to moisture or precipitation.

Figure 45: Flexible Cable Conduit



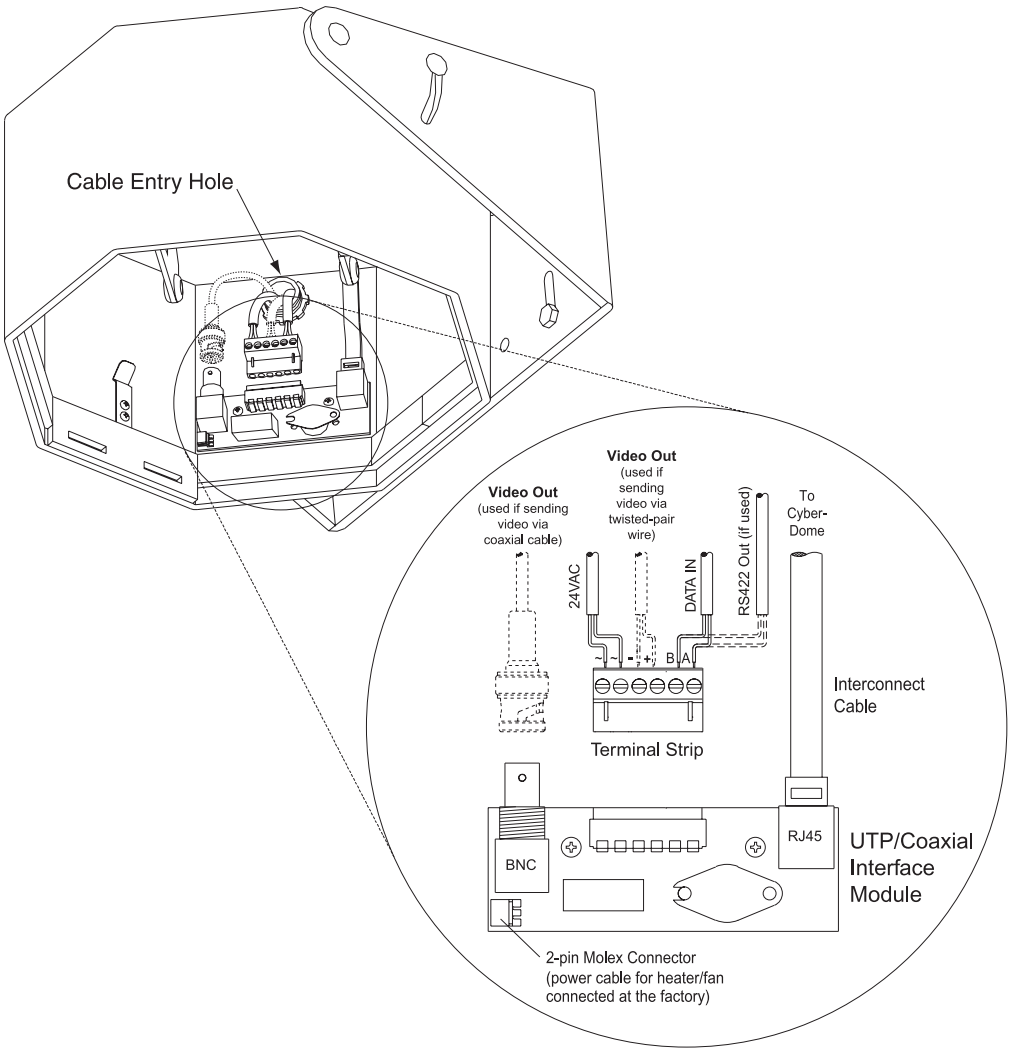
Step 7) Thread the RS422, 24VAC, and video cable through the flexible conduit, and prepare them as shown in *Figure 45*. Feed the cables into the upper housing, leaving approximately 4 in. (10.16 cm) of slack, and attach the conduit to the housing with a locking nut.

CAUTION!

If the power and RS422 cables are reversed in step 8 (below), the CyberDome will be damaged.

Step 8) Locate the interface module mounted in the upper housing. See *Figure 46*. Connect the 24VAC, RS422, and video cables to the interface module as shown.

Figure 46: Heavy-Duty Housing Cable Connections



Step 9) Proceed to *RS422 Termination* on page 31.

PTZ AND DOME INSTALLATION

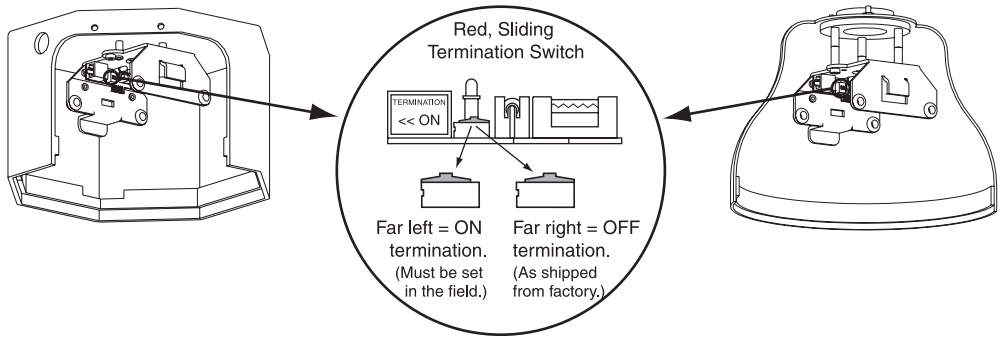
RS422 Termination

Step 1) Locate the red, sliding termination switch on the PC card at the top of the housing. See *Figure 47*.

Step 2) If the RS422 control cable connected to the CyberDome does not loop out to another unit (i.e., it is the final receiver location), place the switch in the ON position (as shown in *Figure 47*).

Step 3) Apply 24 VAC power to the housing. The housing's red LED power indicator lamp should illuminate. It is located on the underside of the PTZ bracket.

Figure 47: Line Termination Switch on PC Card



Installing the Pan/Tilt Assembly

This section gives detailed procedures for installing the CyberDome's motorized pan/tilt assembly. Installation involves securing the pan/tilt assembly to the upper housing and setting the receiver's DIP switch.

NOTE: The pan/tilt assembly may be installed while power is applied to the housing.

Proceed as follows:

Step 1) Insert the safety catch (A) though the channel in the retaining bracket (B) attached to the upper housing. See *Figure 48*.

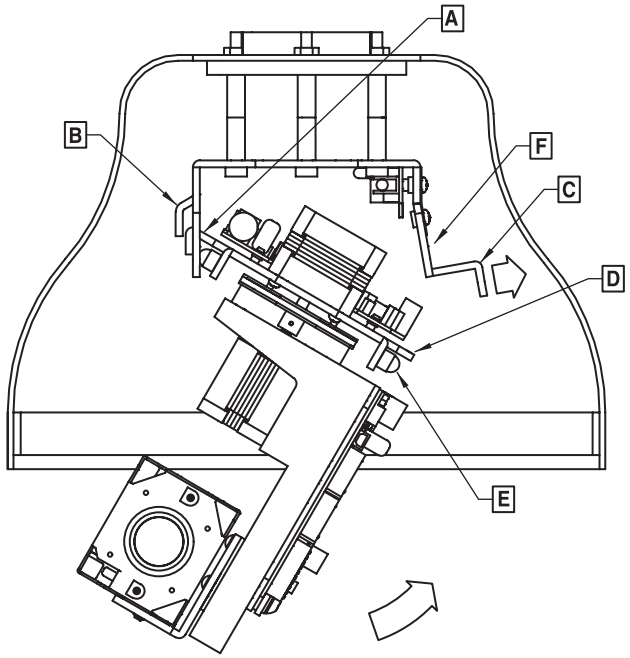
Note:

When completing the next step, the CyberDome will move (become active) momentarily in both the pan and tilt directions, as part of its orientation protocol.

Step 2) Push the spring latch handle (C) outward, while pivoting the pan/tilt assembly up until it is vertical. Secure the pan/tilt assembly by releasing the latch handle and engaging the catch tab (D). See *Figure 48*.

Step 3) Check to ensure that the four mounting nuts (E) are mated with the four alignment holes (F). See *Figure 48*.

Figure 48: Installing the Pan/Tilt Assembly

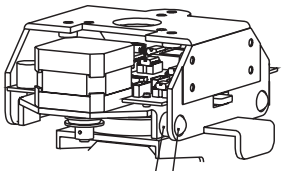


Note the following change to the PTZ assembly:

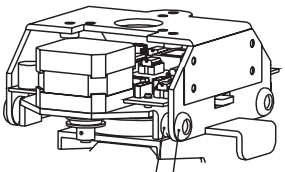
CyberDomes are now fitted with plastic mounting nuts (E in *Figure 48*), instead of metal acorn nuts.

Rubber grommets are *not* used with the plastic nuts. See *Figure 49*. Use rubber grommets *only* when metal acorn nuts are present on the PTZ assembly.

Figure 49: Improved Alignment Connection



Plastic mounting nuts (two per side; four per assembly) **Alignment hole** (without rubber grommet)

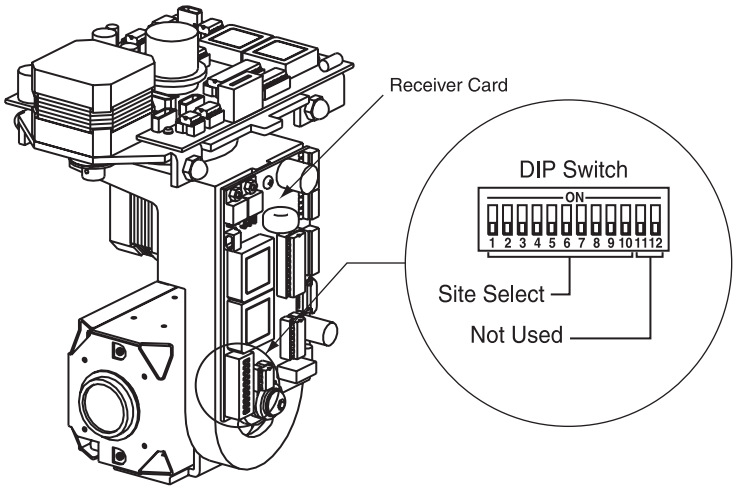


Metal acorn mounting nuts (attached to PTZ assembly) Rubber grommets (attached to PTZ bracket)

Setting the Site Address DIP Switch

The receiver card mounted on the CyberDome's pan/tilt assembly contains a multi-position DIP switch. See *Figure 50*. The switch is used to assign the CyberDome a site number in the Digiplex system.

Figure 50: Location of Site Address DIP Switch



To enter the receiver's site number on the DIP switch:

Step 1) Determine which position values must be added together to equal the site number. See *Table 2* and *Figure 51*.

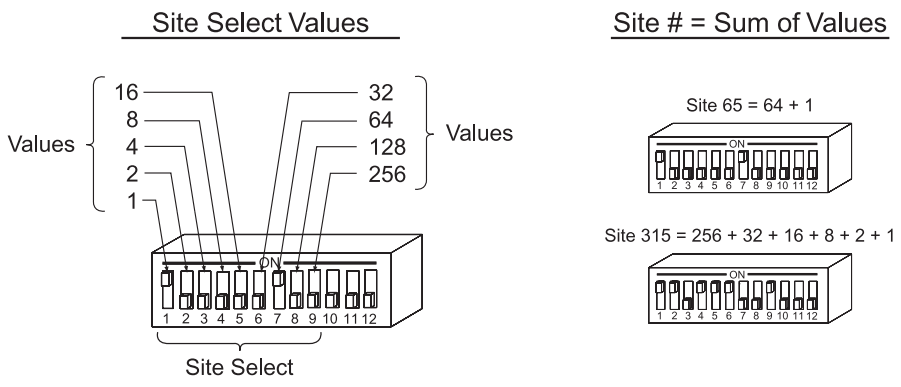
Step 2) Place the switches that correspond to those values in the ON position.

Table 2. DIP Switch Positions and Equivalent Values

DIP Switch Position Number	1	2	3	4	5	6	7	8	9	10	11	12
Equivalent Value	1	2	4	8	16	32	64	128	256	512	X	X

X = Not Used

Figure 51: Building Site Addresses



Installing the Dome Assembly

The CyberDome comes with one of four acrylic dome assembly options: clear, tinted, smoked, chrome mirrored and gold mirrored domes. Each dome assembly attaches to the upper housing with interlocking clips and a dome safety cable.

CAUTION!

DO NOT touch the acrylic when handling the dome assembly. Use a scratch-resistant cloth.

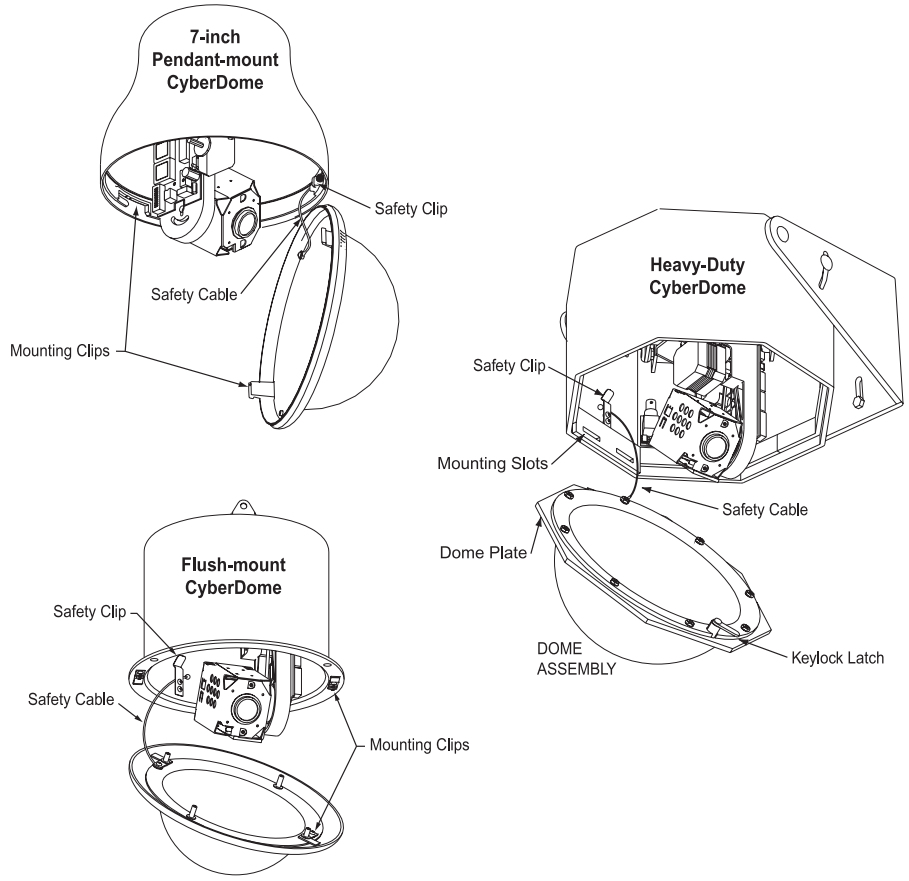
To attach the dome assembly to flush- and pendant-mount housings:

Step 1) Fasten the dome safety cable to the upper housing with the safety clip. See *Figure 52*.

Step 2) Position the dome such that the angled ends of its mounting clips face the angled ends of the clips attached to the upper housing.

Step 3) Turn the acrylic dome clockwise, so that the ends of the mounting clips engage and lock into place.

Figure 52: Attaching the Dome Assembly to the Upper Housing



To attach the dome assembly to the heavy-duty CyberDome housing:

Step 1) Fasten the dome safety cable to the upper housing with the safety clip. See *Figure 52*.

Step 2) Locate the mounting tabs on the dome plate and insert them into the mounting slots on the upper housing.

Step 3) Lock the dome in place with the keylock latch.

Installation is now complete.

Programming and Operating the CyberDome

Note:

To ensure that unit(s) are operating properly, test the pan, tilt and lens functions once each week.

CyberDomes come equipped with a variety of camera options and each camera's programming varies depending on available functions. Refer to the *CyberDome Programming Instructions* manual for programming instructions for any CyberDome.

CyberDomes are controlled from either of GE Security's KTD-404/304 or KTD-400/300 controller keypads. Refer to the corresponding keypad manual for instructions on operating all CyberDomes.

APPENDIX A: ACCESSORY INSTALLATION

KTA-25/KTA-25W Corner Adapter

The KTA-25/KTA-25W Corner-mount Bracket (formerly KTA-06-12) is used to mount a KTA-02-12W Wall-mount Bracket or KTA-20/KTA-20T CyberMount to the corner of a building. See *Figure 53*.

CAUTION!

For safety, the hardware and procedure used for securing the KTA-25/25W must allow it to support a minimum of a 35 lb (15.88 kg) load.

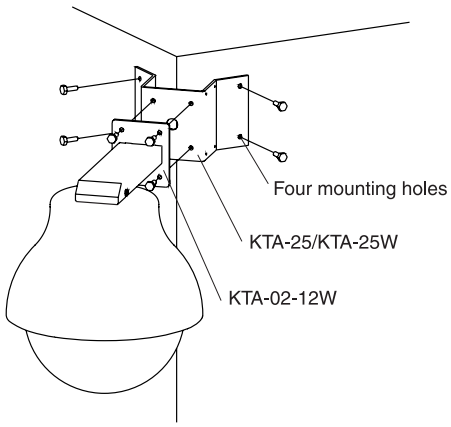
Step 1) Place the adapter on the corner of the building and mark the location of the four mounting holes. See *Figure 53*.

Step 2) Prepare the four mounting holes in accordance with the type of wall (e.g., concrete, wood) and fasteners used.

Step 3) Secure the adapter to the wall with the appropriate fasteners.

Step 4) Attach the KTA-02-12W Wall Bracket to the adapter using the hardware provided.

Figure 53: Corner Adapter Installation



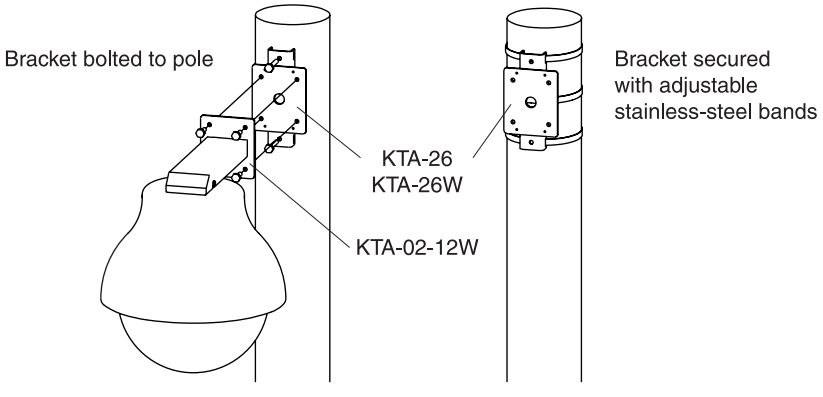
KTA-26/KTA-26W Pole Adapter

The KTA-26/KTA-26W Pole-mount Bracket (formerly KTA-07-12) is used to adapt a KTA-02-12W Wall-mount Bracket or KTA-20/KTA-20T CyberMount to a pole. The bracket can be bolted to the pole or secured with adjustable stainless-steel bands. See *Figure 54*.

CAUTION!

For safety, the hardware and procedure used for securing the KTA-26/26W must allow it to support a minimum of a 35 lb (15.88 kg) load.

Figure 54: Pole Adapter Installation



KTP-24 Power Supply

The KTP-24 (formerly KTA-04-12) is a 24VAC outdoor power supply designed for use with a pendant-mount weatherproof CyberDome. It provides enough power (100VA) to operate the dome's pan/tilt drive, camera, and heater/fan. The KTP-24 can be attached directly to a wall, or it can be mounted on to either the KTA-25/KTA-25W Corner-mount Bracket or the KTA-26/KTA-26W Pole-mount Bracket. Fasteners are provided for all applications.

Step 1) Loosen the unit's four watertight screws and remove the cover.

Step 2) When attaching the KTP-24 to a KTA-25/KTA-25W or KTA-26/KTA-26W, proceed to step 4. When attaching it directly to a wall, mark the location of the four mounting holes using the dimensions shown in *Figure 55*.

Step 3) Prepare the four mounting holes in accordance with the type of wall (e.g., concrete, wood) and fasteners.

Step 4) Mount the KTP-24 with the appropriate fasteners directly to the wall, or to the KTA-25/KTA-25W or KTA-26/KTA-26W brackets (as shown in *Figure 56*).

Figure 55: KTP-24 Cover and Mounting Holes

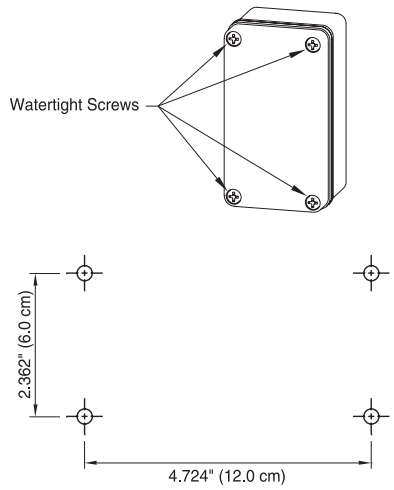
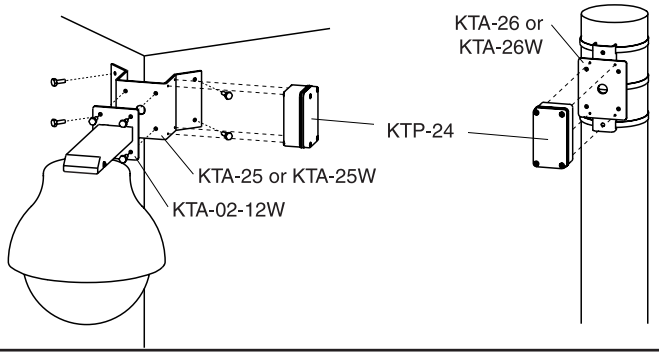
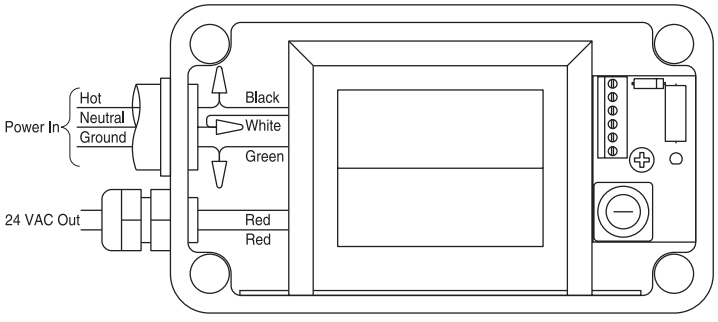


Figure 56: Mounting the KTP-24 to the Corner- and Pole-mount Brackets



Step 5) Make the cable connections as shown in *Figure 57.*

Figure 57: KTP-24 Cable Connections



Step 6) Replace the cover and tighten the screws securely to ensure a watertight seal.

KTP-24-8 Multiple Output Power Supply

The KTP-24-8 is a compact and durable power supply that provides eight isolated 24VAC outputs for indoor applications. Each output can power devices requiring 1 amp or less. The unit is equipped with automatic resettable fuses for each output and is powered from a standard 115 or 230VAC source.

CAUTION!

The KTP-24-8 was designed for indoor applications only. For outdoor units with a heater/fan, use the KTP-24 Outdoor Power Supply.

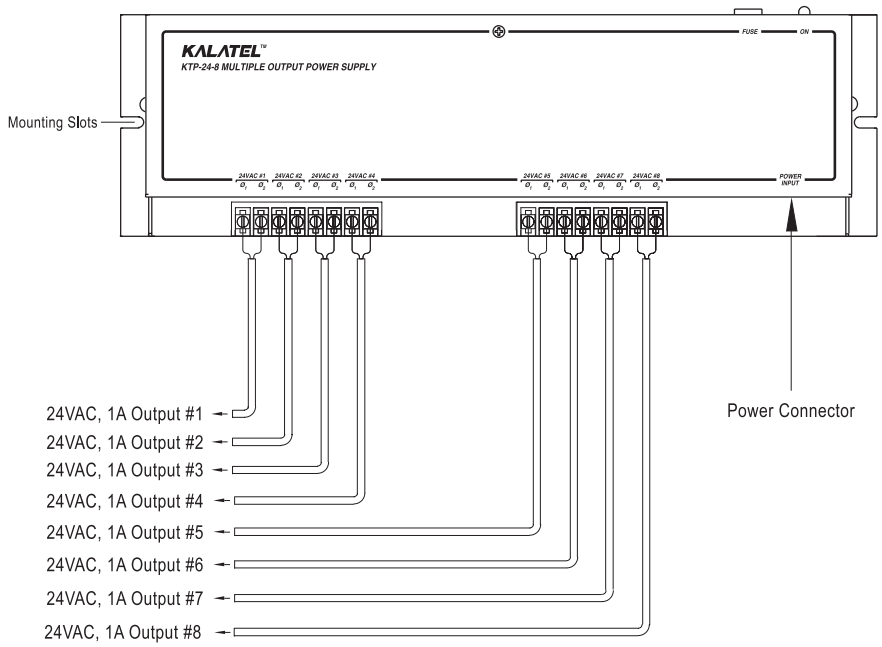
Note:

The KTP-24-8 can also be mounted in a rack using the KTP-24-00 Rack Mount Kit accessory.

Step 1) Mount the unit using the slots provided.

Step 2) Make cable connections to the KTP-24-8 as shown in *Figure 58*. Refer to *Table 1* (page 6) for suitable cable gauge sizes when connecting the output cables.

Figure 58: KTP-24-8 Cable Connections



Operation

Each 24VAC output of the power supply has a resettable fuse that will trip if the current draw exceeds one amp. In this event, the device on that output may operate intermittently, or not at all. The fuse will automatically reset itself when the load is removed from the output.

CAUTION!

DO NOT reconnect any device that caused an output fuse to trip, until the device has been inspected and determined to be in proper working condition.

KTA-27/KTA-27W Roof-mount Adapter

The KTA-27/KTA-27W Roof-mount Adapter (formerly KTA-09-12) is designed to combine with the KTA-02-12W Wall-mount Bracket or KTA-20/KTA-20T CyberMount on the roof or parapet of a building. The Roof-mount Adapter is hinged to allow the CyberDome to pivot over the roof for safe servicing.

Step 1) Remove the cover screw from the top of the KTA-27/KTA-27W and open the bracket. See *Figure 59*.

Step 2) Locate the six mounting slots on the base of the bracket. See *Figures 59* and *60*.

Step 3) Place the Roof-mount Adapter on the edge of the roof or parapet, and mark the location of the mounting slots. See *Figures 59* and *60*.

Step 4) Prepare the mounting slots in accordance with the type of wall (e.g., concrete, wood) and fasteners used.

CAUTION!

For safety, the hardware and procedure used for securing the KTA-27/27W must allow it to support a minimum of a 35 lb (15.88 kg) load.

Step 5) Secure the adapter to the roof or parapet with the appropriate fasteners.

Step 6) Properly seal all mounting holes that could cause leaks into the roof structure.

Figure 59. Roof-mount Adapter Installation

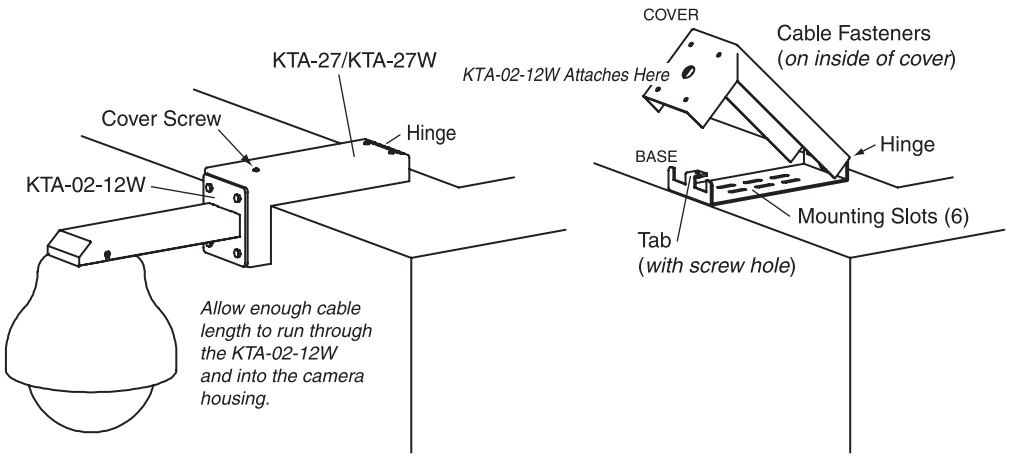
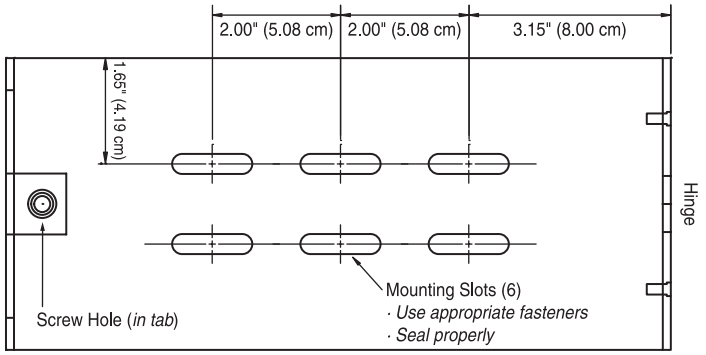


Figure 60. Base of Roof-mount Adapter



KTA-27/KTA-27W (top view of base)

Step 7) Route the power, RS422, and video cables through the KTA-09-12, leaving enough cable to attach the cables to the inside of the roof-mount adapter and continue them through the KTA-02-12W and into the camera housing.

Step 8) Attach the KTA-02-12W Wall-mount Bracket to the roof-mount adapter. See *Figure 59*.

Step 9) Attach the pendant-mount housing to the KTA-02-12W according to the instructions given on page 49.

Step 10) Close the KTA-09-12 and secure it with the cover screw.

KTA-24-6 and KTA-10-8 T-bar Support Kits

The KTA-24-6 and KTA-10-8 are T-bar support kits for mounting one KTA-series flush-mount dome in an existing ceiling panel. KTA-24-6 is for 6-inch flush-mount housings and KTA-10-8 is for 8-inch flush-mount housings. The T-bar support kit distributes the weight of the dome to the panel braces via support brackets. Each kit comes with one ceiling ring and mounting hardware.

Step 1) Remove the T-bar ceiling panel.

Step 2) Hold the ceiling ring in the desired location on the tile with the flat surface facing away from the panel.

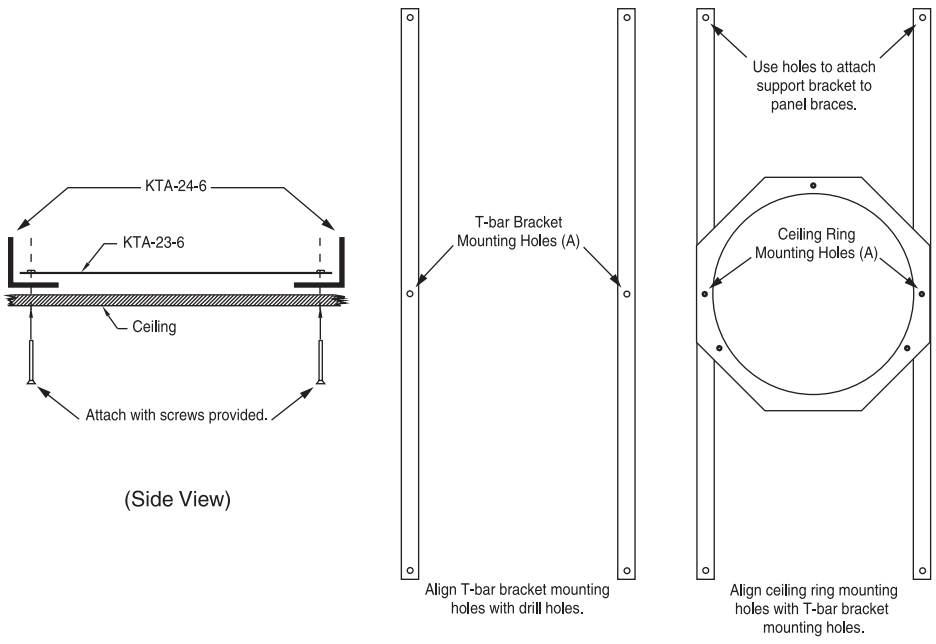
Step 3) Use a pencil to trace the inside of the ceiling ring and to mark all five fastener hole locations (as shown in *Figure 11* on page 11).

Step 4) Using a 3⁄16” drill bit, drill all five fastener holes. Be certain that all holes are drilled perpendicular to the panel.

Step 5) Cut a hole in the panel using the penciled outline as a guide.

Step 6) Place the T-bar support brackets flush against the inside of the panel, with the long sides flat and the short sides vertical. Align the mounting holes with the drilled holes in the panel. See *Figure 61*.

Figure 61: Installing the T-bar Support Kit with Ceiling Ring



Step 7) Place the ceiling ring on the T-bar brackets with its smooth side down and its mounting holes aligned with the mounting holes on the brackets. See *Figure 61*.

Step 8) Using the mounting holes (A), secure the ceiling ring in place with two of the 6-32x2 in. flathead screws provided. Tighten the screws enough to draw them flush with the panel surface.

Step 9) Replace the T-bar ceiling panel with the attached T-bar support kit in its original location. Attach the T-bar support to the panel braces using the holes provided (see *Figure 61*).

Step 10) To install the housing, proceed as described on page 8.

E Option (Heater/Fan)

The E Option heater/fan is available for the 7-inch weatherproof outdoor pendant-mount dome and the 8-inch tamper-resistant, heavy-duty aluminum dome. The fan for the CyberDome is packaged separately for shipment. The heater pad comes attached to the ceiling of the housing and its power cable was connected during housing installation.

CAUTION!

One power input is used for both the CyberDome and the heater/fan. The size and length of the power cable must be carefully determined as directed on page 6 of this manual. If the cable used is too small, the voltage drop across the power line may be excessive and affect the operation of the CyberDome. The total power draw for the CyberDome and heater/fan is 51VA for the 7-inch weatherproof housing, and 91VA for the 8-inch heavy-duty housing.

To install the fan onto the CyberDome pan/tilt mechanism:

Step 1) Remove the CyberDome pan/tilt mechanism and fan assembly from their packaging.

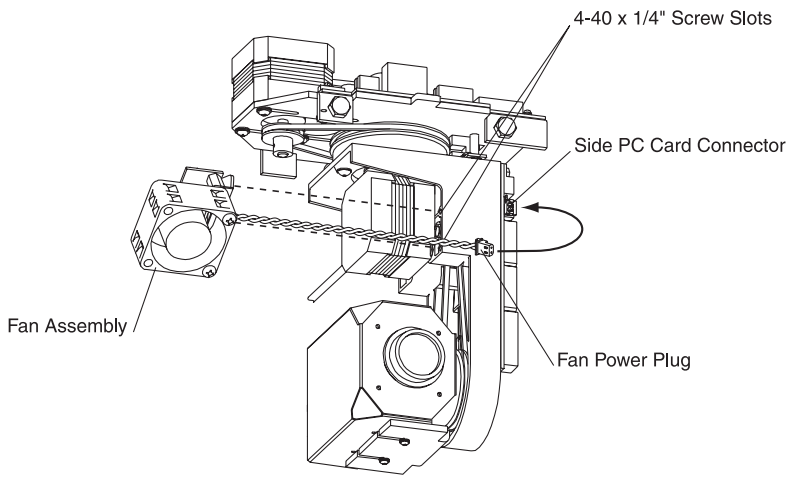
Step 2) Locate the two 4-40 x 1/4” screws shipped with the fan assembly.

Step 3) Position the fan assembly (as shown in *Figure 62*) and fasten it to the pan/tilt mechanism using the two 4-40 x 1/4” screws.

Step 4) Plug the fan motor into the side PC card. See *Figure 62*.

Step 5) Before installing the unit into the weatherproof or tamper-resistant housing, determine the appropriate size and length of the power cable by referring to Table 1 (*Maximum Cable Length*) on page 6.

Figure 62: Installing the E Option Heater/Fan



KTA-20/KTA-20T CyberMount (Side Conduit Entry)

Cabling will usually come out of the mounting surface and enter the CyberMount through the rear opening in the base. For those applications where cabling is running along the mounting surface and needs to enter the CyberMount through the side, these instructions are provided for punching a hole that will accommodate a 1/2" conduit.

Step 1) Loosen the two CyberMount cover screws enough to remove the cover (removing the screws is not necessary). See *Figure 63*.

Step 2) Remove the CyberMount cover and interface module. See *Figure 63*.

Step 3) Align the template with the side of the CyberMount. See *Figure 64*.

Step 4) Mark the center of the template's drill hole. See *Figure 64*.

Figure 63: Removing the Cover and Interface Module of the CyberMount

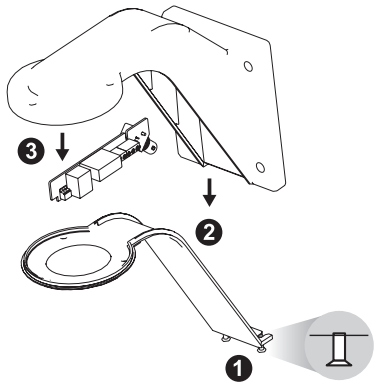
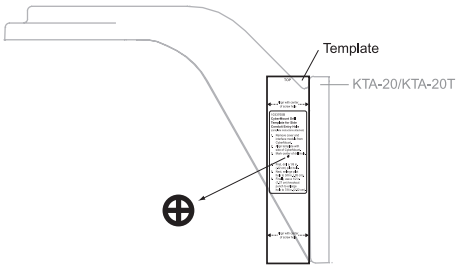


Figure 64: Aligning the Template and Marking the Drill Hole



CAUTION!

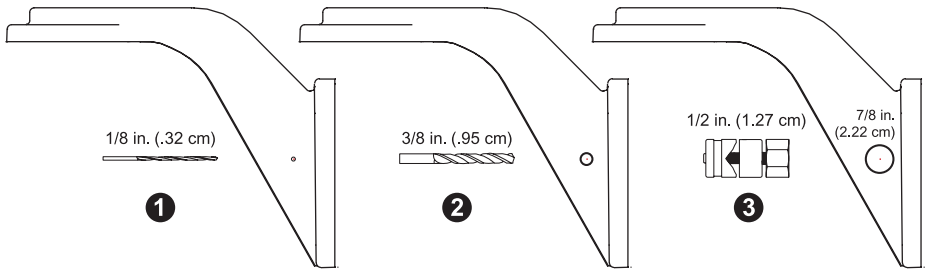
To maintain material integrity, DO NOT drill the conduit hole. Start with a pilot hole and enlarge it until a knockout punch can be used to achieve the final hole size. (Hole sizes are given below.)

Step 5) First, drill a 1/8 in. (.32 cm) pilot hole. See *Figure 65*.

Step 6) Next, enlarge the pilot hole to 3/8 in. (.95 cm).

Step 7) Finally, use a 1/2 in. (1.27 cm) conduit knockout punch to enlarge the hole to 7/8 in. (2.22 cm).

Figure 65: Drilling and Punching the Conduit Hole



APPENDIX B: MIRRORED DOME HANDLING

CAUTION!

For warranty protection, read and adhere to the following dome handling instructions carefully.

The inside surface of a chrome or gold dome is easily scratched. Please use the following precautions to maintain the dome's surface.

A) **Never touch the inside surface of a mirrored dome with bare hands**. The acid from your fingers will etch the mirrored coating. Wear cotton gloves while handling the dome. If fingerprints accidentally get on the dome's interior surface, immediately and carefully remove them according to the recommended cleaning procedure outlined in step E below.

B) Always handle the dome from the outside of its circular flange.

C) To remove dust and other surface contaminants from the dome's interior:

Use clean dry pressurized air to gently blow off loose contaminants.

D) To remove heavier contaminants that cannot be removed with pressurized air:

Rinse the dome with water and immediately dry it with clean dry pressurized air (to prevent water spots). Avoid wiping the coated surface—it is easily abraded. **Once scratched, the dome cannot be recoated.**

E) To clean residue that requires internal wiping:

DO NOT rub the inside of the dome by hand. Instead, make and use a "wick" as follows:

- Only use "Microwave Bounty" or an equivalent soft brand of paper towel.
- Roll a section of paper towel into a tightly wound tube; tear the tube in half; and wet the fuzzy end of this wick with 75% standard rubbing or isopropyl alcohol.
- Holding the dome with its opening facing downward, wipe the interior of the dome with the wick (held at its dry end) using a circular motion starting from the outside and spiraling into the center.
- Use a new wick for each two passes over the dome.

F) To clean the exterior of the dome:

Use any nonabrasive cleaning cloth and cleaning agent that is safe for use on acrylic plastic. Either liquid or spray cleaner/wax suitable for fine furniture is acceptable.

APPENDIX C: 8-INCH PENDANT HOUSING INSTALLATION

The pendant housing can be mounted using one of two methods:

- Method 1 – Suspended from a 1.25 in. pipe (page 47)
- Method 2 – Attached to a KTA-02-12 Wall Bracket (page 49)

Method 1: Pipe Installation

The pendant housing contains a 1.25 in. NPT pipe flange for pipe mounting.

Adhere to the following pipe requirements:

- Use only Schedule 40 pipe.
- The pipe must be at least 5 in. (12.7 cm) in length to allow for wire connections.
- The pipe must be reamed inside at the CyberDome end.
- The pipe must be able to support a 35 lb (15.88 kg) load.
- For outdoor applications (W option), thread sealer must be applied to the pipe to assure that no water enters the housing.

To install the pendant housing, proceed with the following steps:

CAUTION!

DO NOT provide power to the housing until all installation steps are complete.

Step 1) Securely mount the pipe from which the pendant housing will be suspended. Remember that the pipe must be able to support a 35 lb (15.88 kg) load.

Step 2) Feed the video, 24VAC, and RS422 control cables through the pipe.

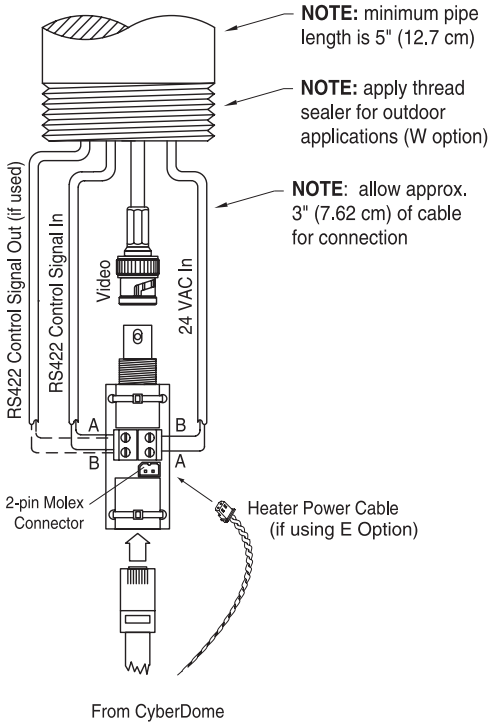
CAUTION!

If the power and RS422 cables are reversed in step 3 (below), the CyberDome will be damaged.

Step 3) Make the cable connections to the interface module (see *Figure 23).* Allow approximately 3” (7.62 cm) of cable for connection.

If installing a weatherproof housing with a heater/fan E Option, also connect the heater’s power cable to the 2-pin Molex connector on the interface connector card.

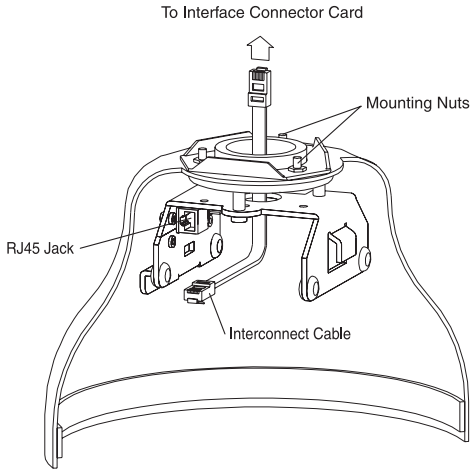
Figure 66: Preliminary Cable Connections



Step 4) If the housing is being installed outside (W option only), apply thread sealer to the pipe to assure that no water enters the housing.

Step 5) Bring the housing near the end of the pipe and insert the interconnect cable from the interface connector card into the RJ45 jack (as shown in *Figure 67*).

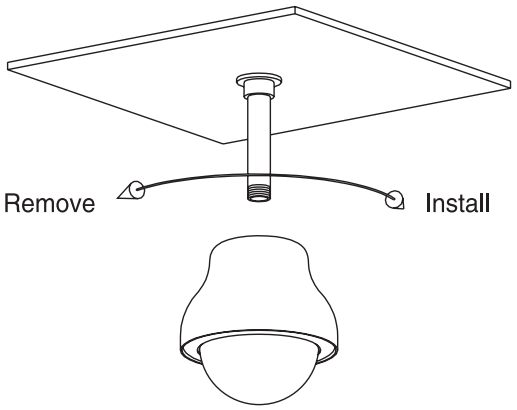
Figure 67: Inserting the Interconnect Cable



Step 6) While pushing the cables and interface connector card back into the pipe, position the housing where it can be threaded onto the pipe.

Step 7) Before threading the housing onto the pipe, rotate it five turns in the counterclockwise direction (as viewed from below) to allow for cable twist. Turn the housing onto the pipe in a clockwise direction until it is tightened securely. See *Figure 68*. Check to be certain that it is not cross threaded.

Figure 68: Threading the Housing



CAUTION!

DO NOT undertighten or overtighten the top housing nuts. Leakage or stripped material will result.

Step 8) Using a 3/8-inch nut driver or socket wrench, securely tighten the three mounting nuts on top of the housing to a torque of 3 to 5 ft-lb. See *Figure 67* (above).

Step 9) Proceed to *RS422 Termination* on page 31.

Method 2: Wall Bracket Installation

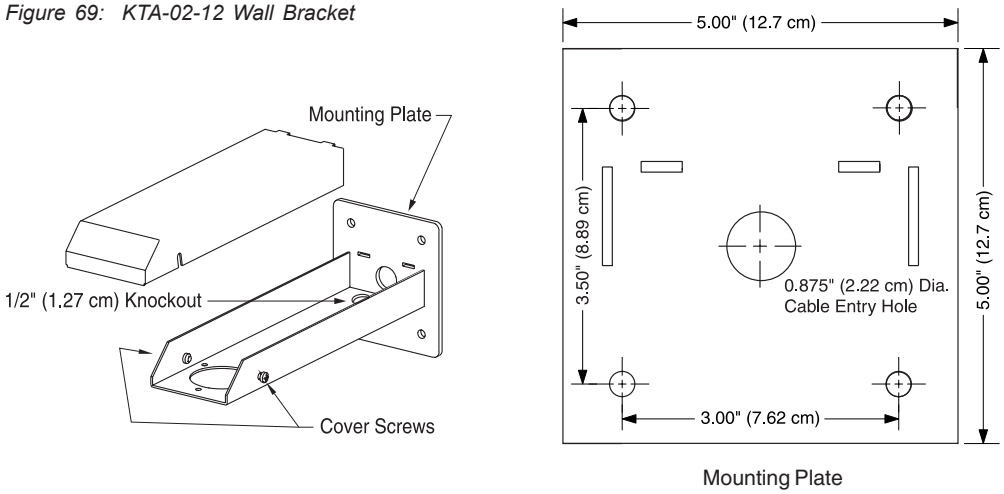
The CyberDome can be mounted using the KTA-02-12 Wall Bracket, which supports the dome and provides a path for the video, 24VAC, and RS422 control cables. The wall bracket is designed to mount against a hard surface, but will also mate with a KTA-25/KTA-25W Corner-mount Bracket, a KTA-26/KTA-26W Pole-mount Bracket, or a KTA-27/KTA-27W Roof-mount Bracket. For instructions on installing the corner-, pole- or roof-mount brackets, refer to *Appendix A: Accessory Installation*. A ⅜ in. nut driver and Phillips screw driver are required for installation. Proceed with the following steps.

CAUTION!

DO NOT provide power to the housing until all installation steps are complete.

Step 1) Loosen the two screws that hold the bracket's cover, lift the cover and remove. See *Figure 69*.

Figure 69: KTA-02-12 Wall Bracket



Step 2) Place the bracket's mounting plate against the wall and mark the location of the four mounting holes and the cable entry hole.

Step 3) Prepare the four mounting holes in accordance with the type of wall (e.g., concrete, wood) and fasteners used.

Step 4) Drill a ¾ in. (1.91 cm) hole in the wall for cable entry. For installations that do not allow cable entry from the wall, a ½ in. (1.27 cm) hole knockout is provided on the bottom of the bracket (see *Figure 69*).

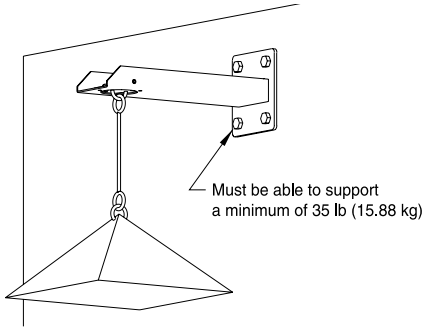
Step 5) Feed the video, 24VAC, and RS422 control cables through the cable entry hole.

CAUTION!

For safety, use the appropriate fasteners for the surface that the bracket is being mounted to that will support a 35 lb (15.88 kg) load.

Step 6) Securely mount the bracket to the wall. See *Figure 70*.

Figure 70: KTA-02-12 Minimum Load Requirement



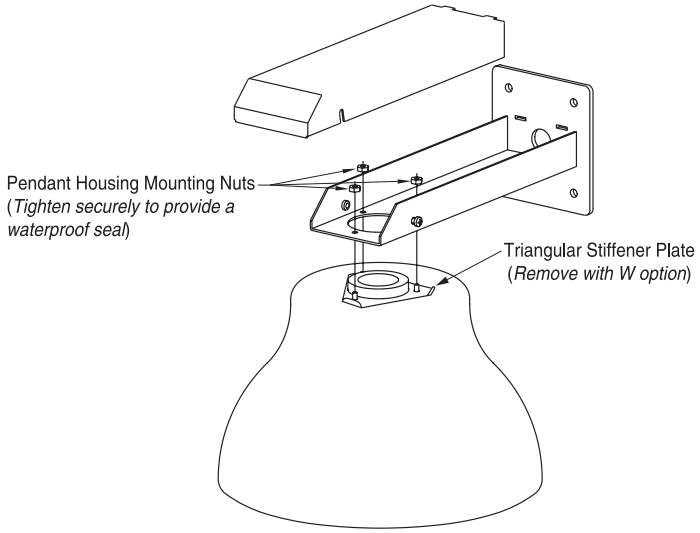
Step 7) Remove the three hex nuts that hold the pendant housing to the mounting flange. When installing the pendant housing with the W option, remove the triangular stiffener plate (see *Figure 71*).

Step 8) Guide the housing and flange assembly through the mating holes in the wall bracket and reinstall the three hex nuts on the studs (refer to *Figure 71*). Using a 3/8-inch nut driver or socket wrench, securely tighten the three mounting nuts on top of the housing to a torque of 3 to 5 ft-lb.

CAUTION!

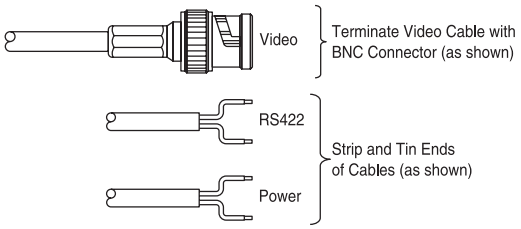
The KTA-02-12 Wall-mount Bracket is not waterproof, but allows water to drain away before it reaches the housing lip. DO NOT seal the wall bracket—this will prevent proper drainage.

Figure 71: Attaching the Housing to the Wall Bracket



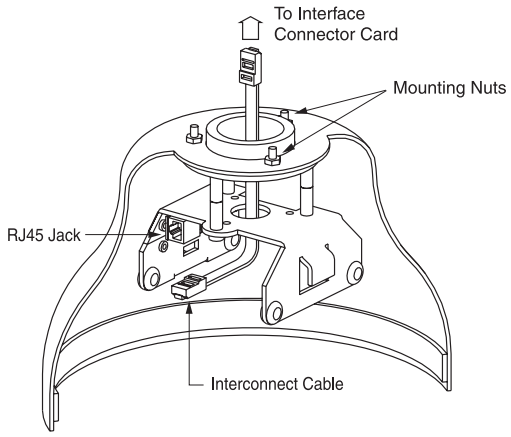
Step 9) Prepare the cables as shown in *Figure 72*.

Figure 72: Preparing the Cables



Step 10) Insert the interconnect cable into the RJ45 jack in the upper housing (as shown in *Figure 73*).

Figure 73: Inserting the Interconnect Cable

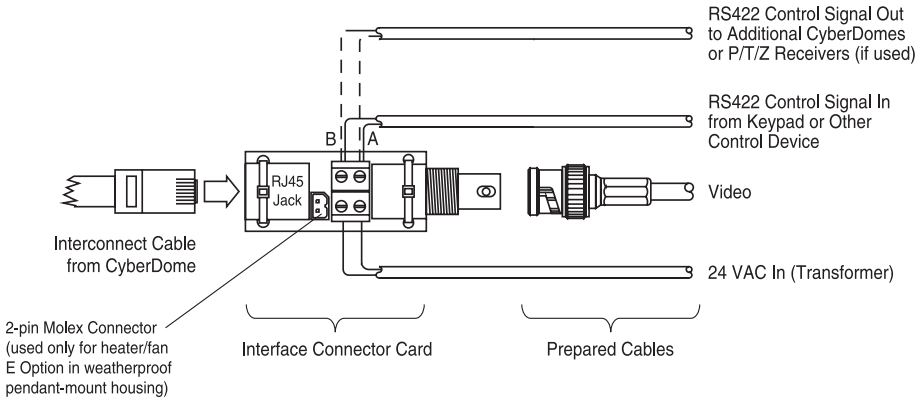


CAUTION!

If the power and RS422 cables are reversed in step 11 (below), the CyberDome will be damaged.

Step 11) Connect the prepared cables to the interface module, and then insert the interconnect cable from the CyberDome into the RJ45 jack in the interface module (as shown in *Figure 74*).

Figure 74: Connecting the Cables to the Interface Module



Step 12) Reinstall the bracket's cover.

Step 13) Proceed to *RS422 Termination* on page 31.

Contacting technical support

For assistance installing, operating, maintaining, and troubleshooting this product, refer to this document and any other documentation provided. If you still have questions, you may contact technical support during normal business hours (Monday through Friday, excluding holidays, between 5 a.m. and 5 p.m. Pacific Time).

Table 1. Sales and support contact information

	Sales	Technical support
Phone:	**Toll-free:** 888.GESECURity (888.437.3287) in the US, including Alaska and Hawaii; Puerto Rico; Canada. Outside the toll-free area: 503.885.5700.	
E-mail	info@gesecurity.com	generaltech@ge.com
Fax	800.483.2495	**541.752.9096** (available 24 hours a day)

Note: Be ready at the equipment before calling for technical support.

Online publication library

Another great resource for assistance with your GE Security products is our online publication library, available to all of our customers on our website. To access our publication library, go to our website at the following location:

http://www.gesecurity.com

In the **Tools** area at the top, click the *Publication Library* link. After you register and log on, you may search through our online library for the documentation you need.[1]

1. Many GE Security documents are provided as PDFs (portable document format). To read these documents, you will need Adobe Acrobat Reader, which can be downloaded free from Adobe's website at www.adobe.com.