

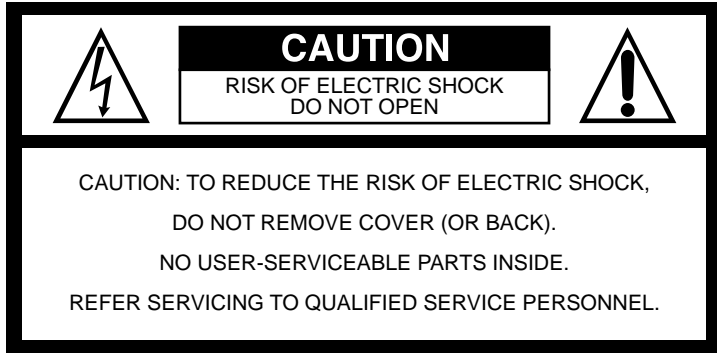
DATAATCH

Digital DataCatch™ Installer's Guide

Document ML0004-01

Version 1.0

Released October 4, 1999 8:53 pm



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of significant magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

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Important safety information

For your safety and protection, read this entire manual before you install or operate the Digital Data-Catch™ system. In particular, read this safety section carefully. Keep this information where you can refer to it if necessary. For best results, do the following:

Certifications and caution

This device complies with Part 15 of the Federal Communication Commission (FCC) Rules. Operation is subject to the following conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may result in undesired operation.

Components in this manual have been approved by the Underwriters laboratory.

Notes, cautions, and warnings, defined as follows, are used throughout this manual to help you become familiar with possible safety or equipment hazards.

Caution

Any changes or modifications to this equipment not expressly approved by the manufacturer could void the user's authority to operate this equipment.

General

The Digital DataCatatch equipment is listed and should be installed in accordance with the following: This equipment is to be installed only in restricted access areas and business and customer premises applications in accordance with articles 110–16, 110–17, and 110–18 of the National Electric Code ANSI/NFPA No.70. Other installations exempt from the enforcement of the National Electric Code may be engineered according to the access practices of the local telecommunications industry.

WARNING

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Radio Frequency (RF) Interference

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his or her own expense.

Types of warnings used in this document

This section introduces various types of warnings used in this manual to alert you to possible safety hazards.



Electric shock hazard: Where you see this symbol and WARNING heading, strictly follow the instructions to avoid electric shock injury.



Where you see this alert symbol and WARNING heading, strictly follow the instructions to avoid personal injury.

Warnings for the Digital DataCatch system

This manual includes the following warning.



Do not use liquid cleaners or aerosol cleaners when cleaning the Digital DataCatch equipment exteriors. Instead, use a dampened cloth for cleaning. Failure to comply with this warning could result in personal injury caused by electric shock.



WARNING

When using electric products, basic precautions and instructions should always be followed, including:

- proper polarity—see section “Polarity.”
 - use grounding-type power outlets—see section “Grounding-type power outlets.”
 - power source information—see section “Power sources.”
 - outlet capacity—see section “Overloading.”
 - electrical connections—see section “Power cord protection.”
 - airflow requirements—see section “Ventilation.”
 - support equipment—see section “Accessories.”
 - water hazards—see section “Water and moisture.”
 - auxiliary equipment—see section “Attachments.”
 - object and other liquid hazards—see section “Object and liquid entry.”
 - equipment malfunction information—see section “Service.”
-

Instructions

- Please read all safety and operating instructions carefully before you install and operate this equipment.
- Please keep these safety and operating instructions in a safe place for future reference.
- Please observe and adhere to all warnings on the equipment and in the operating instructions.
- Please follow all operating and use instructions.

Polarity

Some Digital DataCatch components are equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

Grounding-type power outlets

Some Digital DataCatch components are equipped with a three-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.

Power sources

This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your business, consult your product dealer or local power company.

Overloading

Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.

Power cord protection

Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.

Ventilation

Slots and openings in the DataCatch workstation cabinet components are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked or covered:

- Do not store this Guide on top of the equipment, or otherwise cover the equipment with a cloth or other material
- Do not place the equipment on a bed, sofa, rug, or other similar surface.
- Never place the DataCatch equipment near or over a radiator, heat register, stove, or other product (including amplifiers) that produce heat, or where it is exposed to direct sunlight.
- Never place the equipment in a confined space, such as a bookcase or built-in cabinet, unless proper ventilation is provided or the product manufacturer's instructions have been followed.

Accessories

Do not place the Digital DataCatch components on an unstable cart, stand, tripod, bracket, or table. The components may fall, causing serious injury to a child or adult, and serious damage to the equipment. Use only with the workstation cabinet recommended by the manufacturer or sold with the Digital DataCatch system. Any mounting of the cameras should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

Water and moisture

Do not use the Digital DataCatch components near water—for example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool; and the like.

Attachments

Do not use attachments not recommended by the product manufacturer as they may cause hazards.

Object and liquid entry

Never push objects of any kind into the DataCatch components through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the DataCatch components.

Service

Do not attempt to remove DataCatch equipment covers for servicing because you may expose yourself to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

When service is required

Unplug the malfunctioning component from the outlet and refer servicing to qualified service personnel under the following conditions:

- When the power-supply cord or plug is damaged or frayed,
- If liquid has been spilled, or objects have fallen into the product,
- If the product has been exposed to rain or water,
- If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation,
- If the product has been dropped or damaged in any way, and
- When the product exhibits a distinct change in performance—this indicates a need for service.

Replacement parts

When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitution may result in fire, electric shock, or other hazards.

Safety check

Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

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About this guide

This Digital DataCatch™ Installer's Guide provides step-by-step instructions for installing the DataCatch system.

Audience

This manual is written for installers who have been trained to install the Digital DataCatch system. The Digital DataCatch equipment is complex and precludes installation by untrained personnel.

Structure

This guide serves as a complete guide for learning how to install the Digital DataCatch system, it is organized into the following chapters:

- Chapter 1 describes the Digital DataCatch system
- Chapter 2 describes installing the NTSC video cameras
- Chapter 3 describes installing the video compression units (VCUs)
- Chapter 4 describes installing the Ethernet hub
- Chapter 5 describes installing the system workstation
- Chapter 6 describes configuring the Digital DataCatch system
- Chapter 7 describes how to activate and shutdown the Digital DataCatch equipment
- Chapter 8 helps you to troubleshoot problems with the Digital DataCatch system and to maintain the Digital DataCatch equipment

Before installing the Digital DataCatch system, take a few minutes to review the contents of this guide. By doing so, you will become familiar with the basic components that make up the system and how they are to be installed.

Conventions used in this document

Notes, cautions, and warnings, defined as follows, are used throughout this manual to help you become familiar with possible safety or equipment hazards.

Note

Presents additional information or interesting sidelights.



Caution

Indicates a procedure that may result in equipment damage if not strictly observed.



WARNING

Electric shock hazard: Where you see this symbol and WARNING heading, strictly follow the instructions to avoid electric shock injury.



WARNING

Where you see this alert symbol and WARNING heading, strictly follow the instructions to avoid personal injury.

Version record

| Version | Date | Description |
|---------|----------|--------------------------------|
| 0.1 | 04/22/99 | 1st draft released for review |
| 0.2 | 05/11/99 | 2nd draft released for review |
| 0.3 | 05/28/99 | 3rd draft released for review |
| 0.4 | 06/15/99 | 4th draft released for review |
| 0.5 | 06/20/99 | 5th draft released for review |
| 0.6 | 07/05/99 | 6th draft released for review |
| 0.7 | 07/18/99 | 7th draft released for review |
| 0.8 | 08/15/99 | 8th draft released for review |
| 0.9 | 08/22/99 | 9th draft released for review |
| 1.0 | 09/05/99 | 10th draft released for review |

Introduction

The Digital DataCatch system enables store managers to maintain database records of cash, credit, and other transactions, and to quickly search the database for specific transactions using such criteria as time-of-day, date, credit card type, employee identification (ID) number, and so on.

As shown in figure 1 on page 14, the Digital DataCatch security system consists of the following major components:

- Up to 128 color NTSC cameras. Available as standard cameras (see figure 2 on page 15) or dome cameras (see figure 3 on page 15), these cameras monitor transactions at store point-of-sale (POS) terminals. The video signal of each camera is output to a video compression unit (VCU) for processing.
- Up to 8 VCUs (see figure 4 on page 16). Each VCU compresses the NTSC video signals from as many as 16 color cameras and outputs the processed signals to the system workstation via a 100-Mbyte Ethernet link.
- Ethernet hub (see figure 5 on page 16). The 8-port Ethernet hub routes data at rates up to 100 Mbytes per second between the system workstation and the VCUs.
- POS terminal data (see figure 1). Each POS terminal sends transaction data to the store computer.
- The store computer. The computer takes transaction data from the POS terminals and sends that information to the system workstation via data interface cables (see figure 1).
- System workstation (see figure 6 on page 17). The workstation is a high-performance computer comprising a CPU, monitor, keyboard, mouse, and uninterruptible power supply (UPS). The workstation receives the video data from the VCUs and corresponding data from the store computer, multiplexes the video/data signals onto a single line that is then output to the 100-Mbyte mass storage disk drives.
- An alarm relay closure alarm (see figure 1). The external alarm sounds if input power to a VCU is lost or if the video input signal from a camera is interrupted.

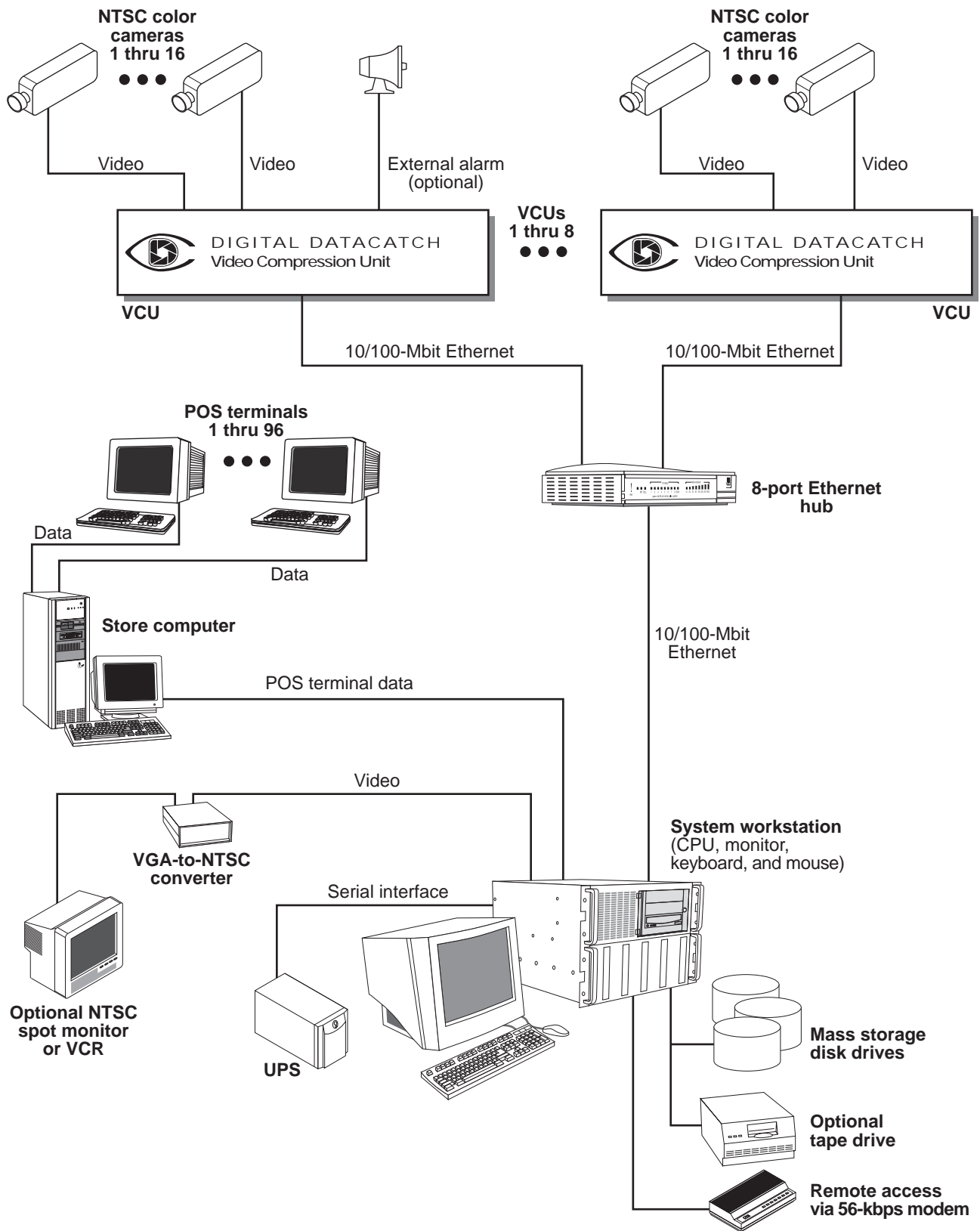


Figure 1. Digital DataCatch system diagram

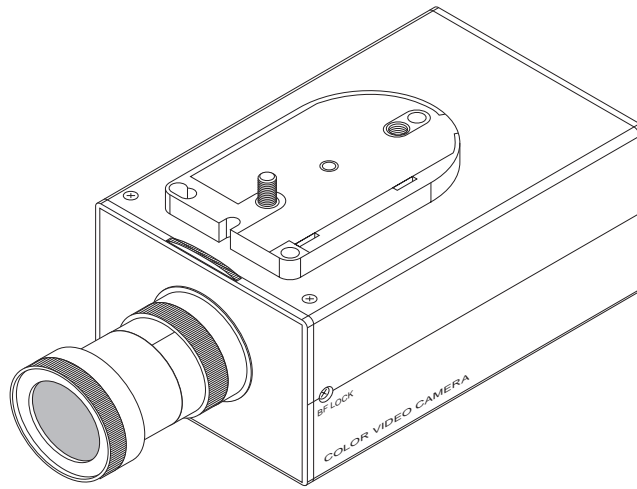


Figure 2. Standard color NTSC camera

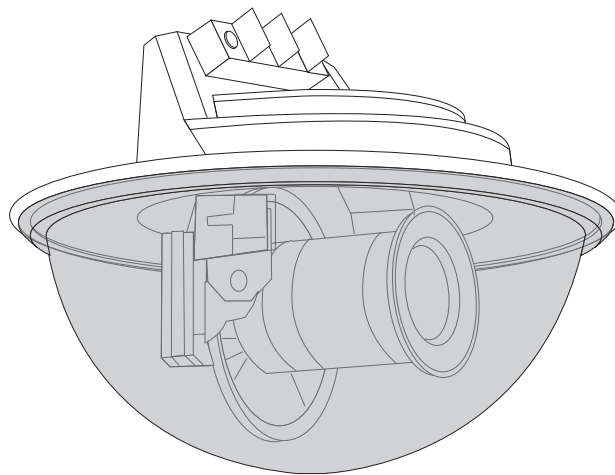


Figure 3. Dome camera

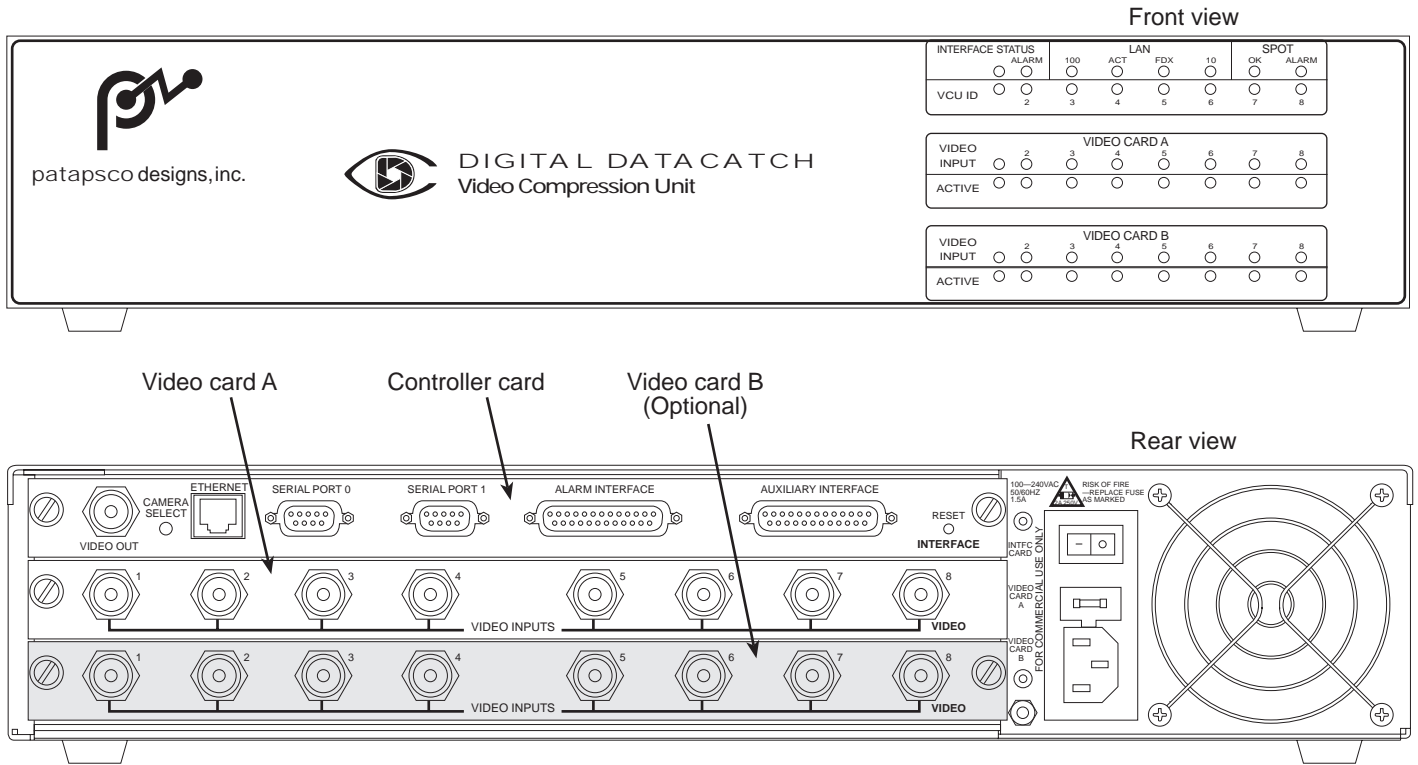


Figure 4. Video compression unit

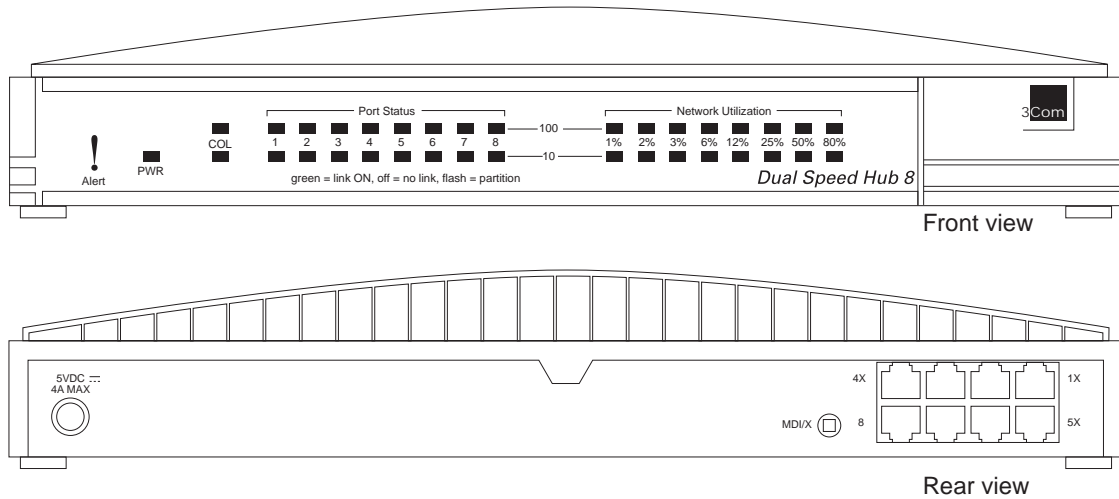


Figure 5. Ethernet hub

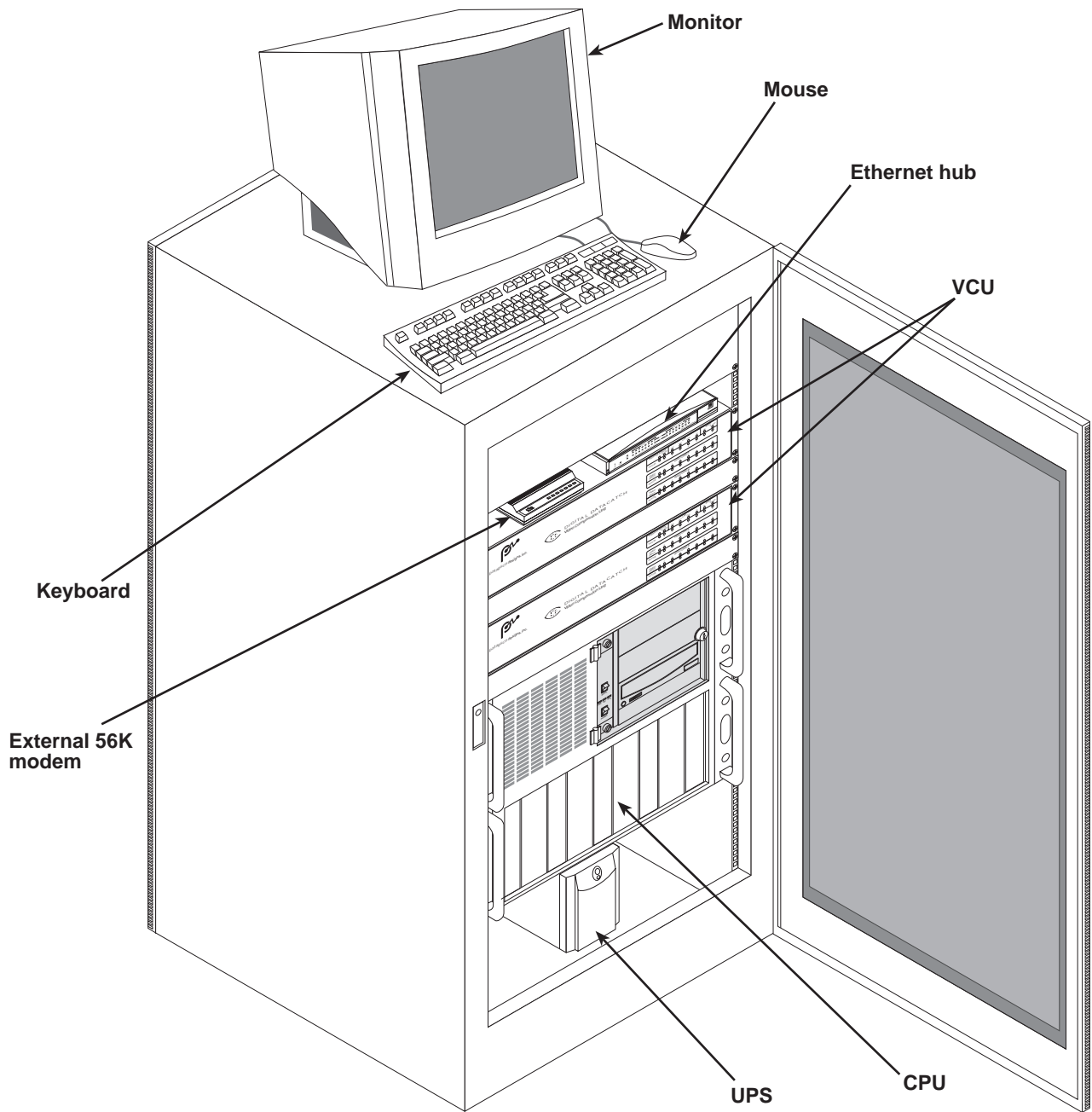


Figure 6. System workstation cabinet

1.1 Installation prerequisites

Before installing the Digital DataCatch system, make sure the following have been prepared or are available:

- A 4-foot by 7-foot area (see figure 7) where the cabinet will be installed in a room with a door that can be locked
- A listing of camera names that also includes the locations where those cameras will be installed
- A list containing point-of-sale terminal names and their ID codes
- At least 2 phone lines located near where the cabinet will be installed
- A 120-VAC power feed (an electrician must install the AC conduit, AC junction boxes, and quad AC receptacle box needed to connect AC power to the Digital DataCatch cabinet as shown in figure 8 on page 19)

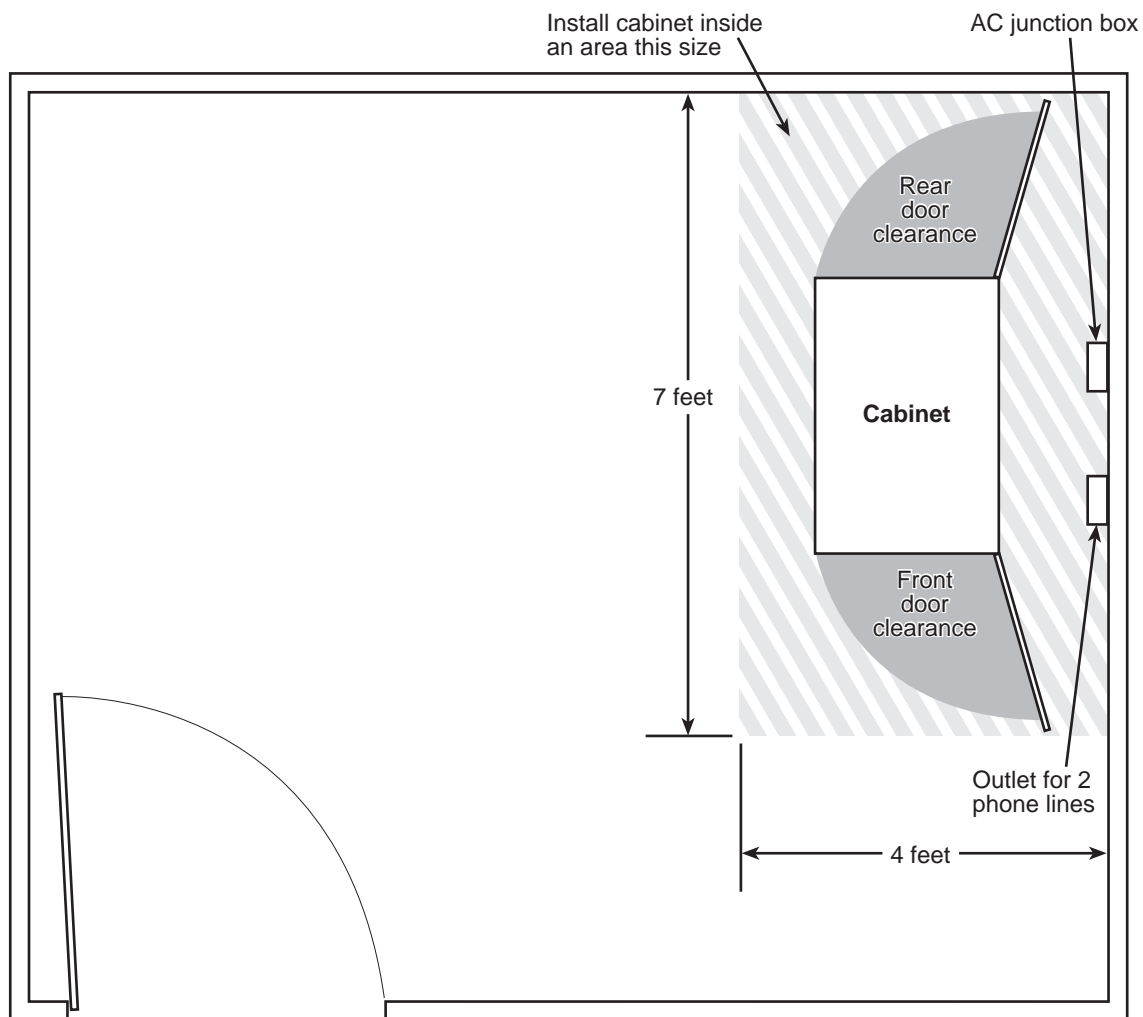


Figure 7. Typical Digital DataCatch site configuration

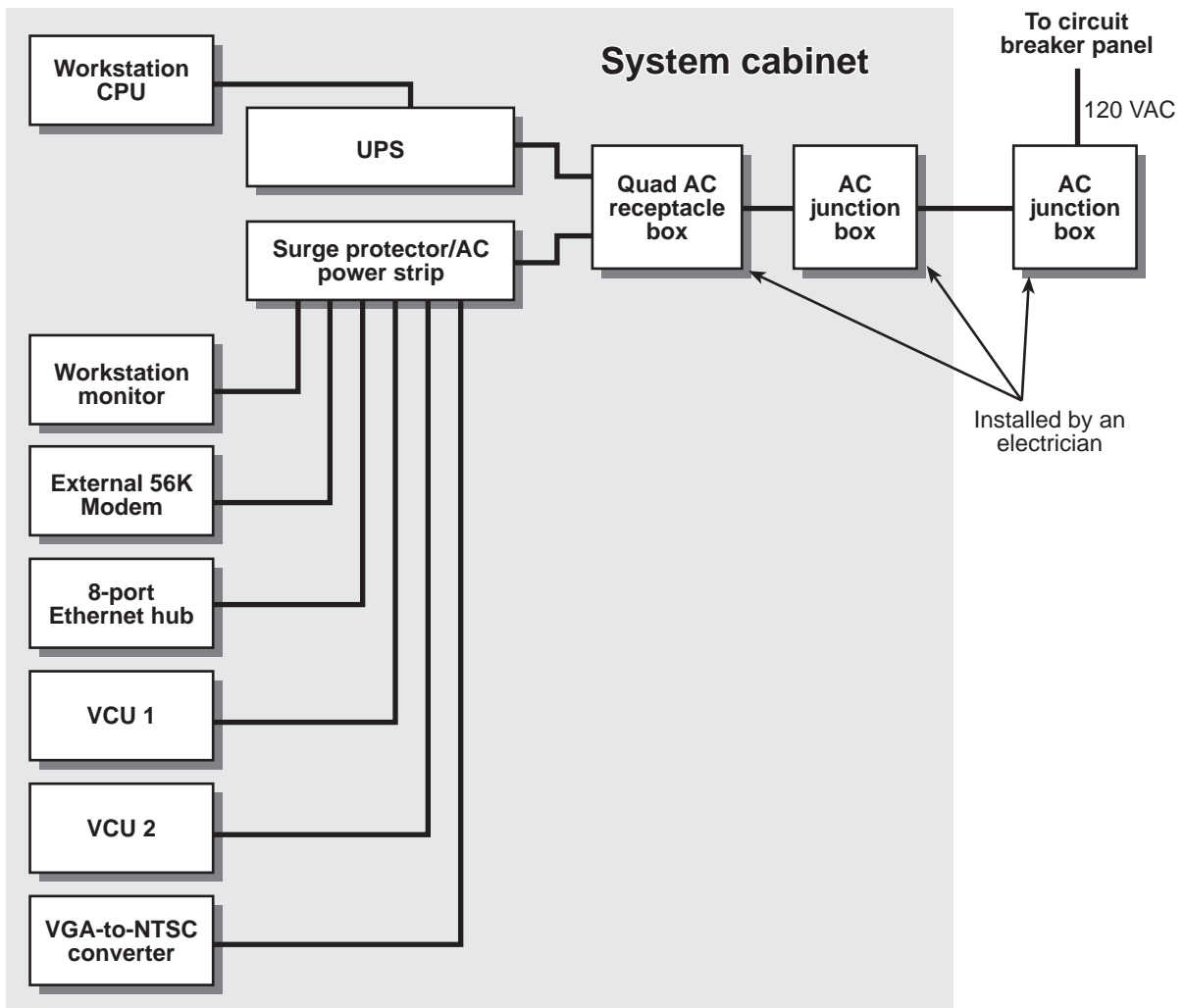


Figure 8. System cabinet AC wiring diagram

CHAPTER 2

Installing the NTSC cameras

There are several types of NTSC video format cameras that can be installed at your site. Typically, the cameras used are either standard or dome cameras (see figure 9).

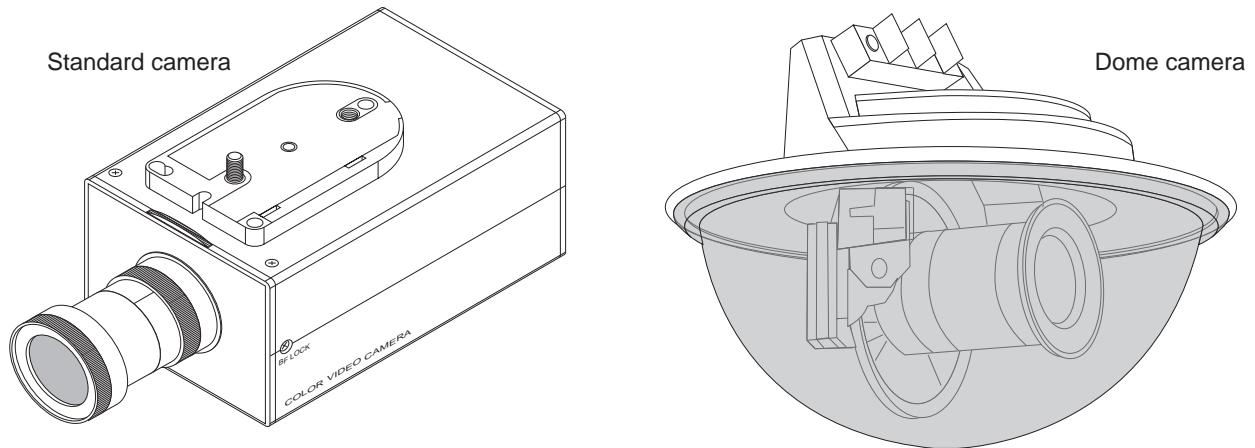


Figure 9. Standard camera and dome camera

The standard NTSC camera must be mounted on a suitable wall bracket. The dome camera can be mounted on a wall bracket or ceiling bracket. The following procedures describe installing the different configurations.

2.1 Installing a standard NTSC camera

This procedure describes installing a color NTSC camera. If you are installing a different model camera, use the following as guidelines only while referring to the vendor documentation that came with your camera for specific installation information.

1. Route the power and video cables to the location where the camera will be installed.
2. Install the mounting bracket.
3. Install the camera onto the bracket.

4. Install the AC power wires onto the camera terminals shown in figure 10.
5. Install the video cable BNC connector onto the *VIDEO OUT* connector on the camera (see figure 10).

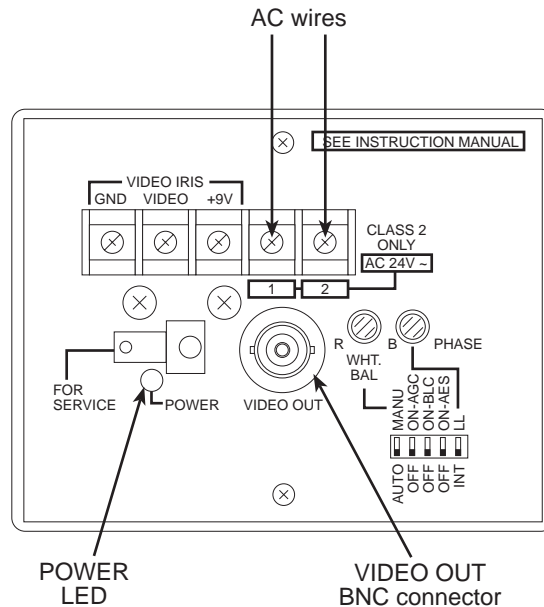


Figure 10. Installing the AC power wires

6. Install the AC power transformer into a wall receptacle or power strip. Verify that the green *POWER LED* (see figure 10) is lit.
7. Temporarily, route the video cable from the camera to a nearby spot monitor. Connect the cable to the spot monitor's video input connector.
8. While you view the camera's output on the spot monitor, have a second person use the vendor documentation that came with the camera to aim the camera and adjust its focus.
9. Disconnect the video cable from the spot monitor and route the cable to the location where the VCU is being installed.
10. Repeat steps 1 through 9 to install the remaining standard NTSC cameras.

2.2 Installing a wall-mounted dome camera

This procedure describes installing a dome camera. If you are installing a different model camera, use the following as guidelines only while referring to the vendor documentation that came with your camera for specific installation information.

Note

You will need to have the site-specific documentation on-hand in order to label the cameras. If you do not have the documentation, contact your supervisor before proceeding.

1. Assemble and install a wall mount using figure 11 as a reference. The top pendant dome (see figure 12) requires a 3/4-inch NPT or straight pipe thread connection.

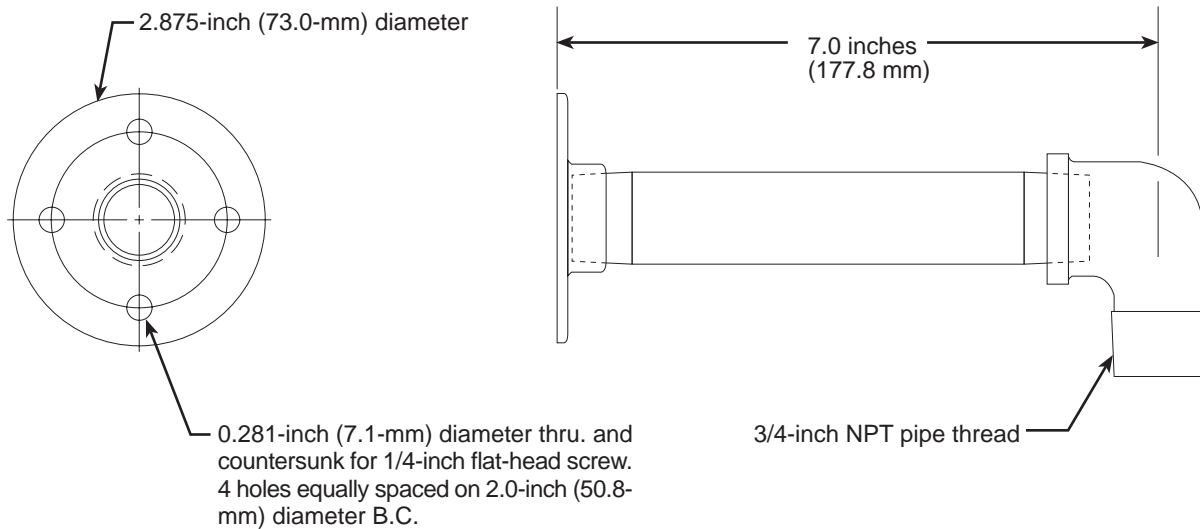


Figure 11. Wall mount diagram

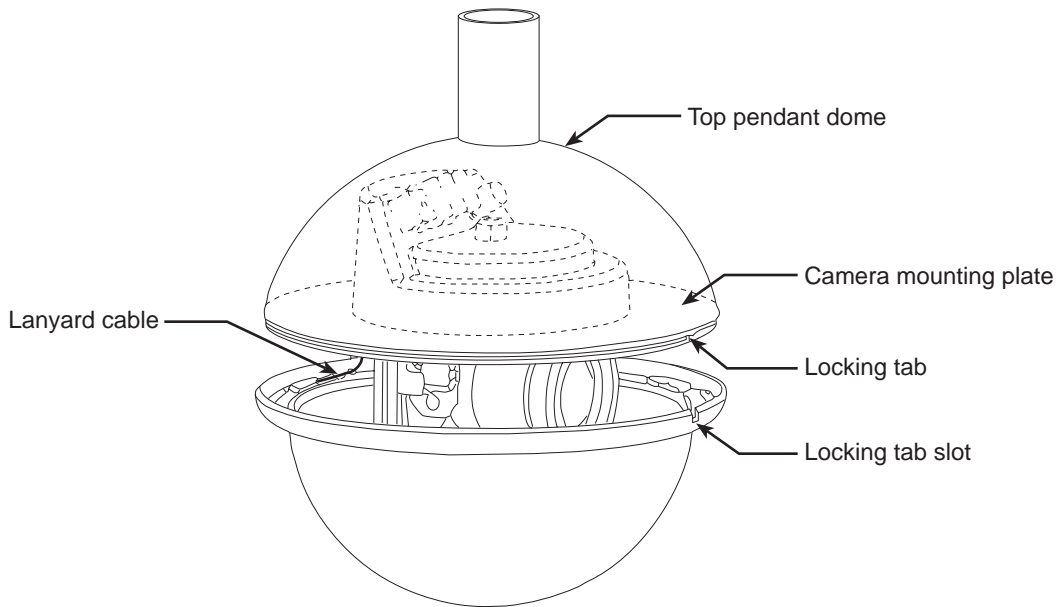


Figure 12. Dome camera (wall-mounting configuration)

2. The pendant top dome and bottom dome are shipped assembled. The camera/lens assembly is shipped separately.

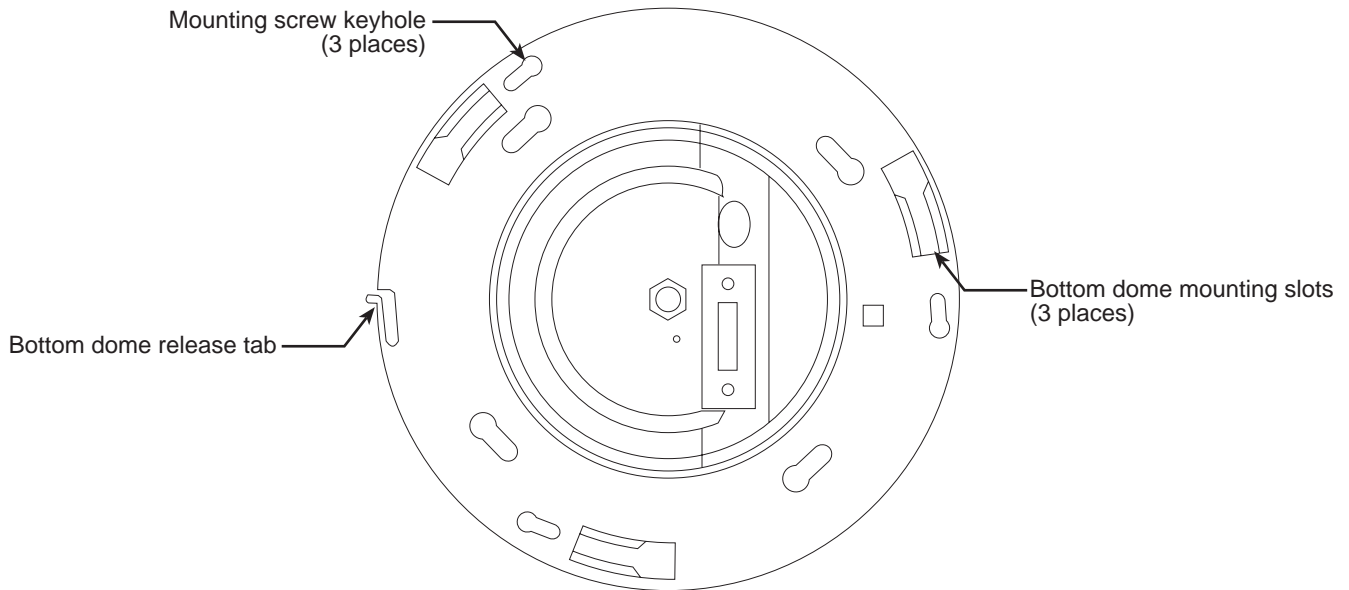


Figure 13. Top view of mounting plate

3. Remove the bottom dome by pressing in on the release tab (see figure 13) until you can rotate the bottom dome counterclockwise. (A lanyard safety cable connects the top dome and the bottom dome, so you do not need to worry about dropping the bottom dome.)

Caution

Always handle the bottom dome from the outside of its circular flange. Never touch the coated inside surface. Clean the outside surface with a non-abrasive glass cleaner.

4. Remove the camera mounting plate from the top dome by loosening the 3 phillips head screws. Do not remove the screws.
5. Rotate the mounting plate so the screw heads are positioned at the large end of the key slots (see figure 13). When that happens, slide the mounting plate over the screw heads.
6. Route the video and power wiring through the fitting in the top dome.
7. Secure the top dome to the wall mount.
8. Connect the +12 Vdc and 12 V common wires to the terminal strips on the camera mounting plate shown in figure 14.

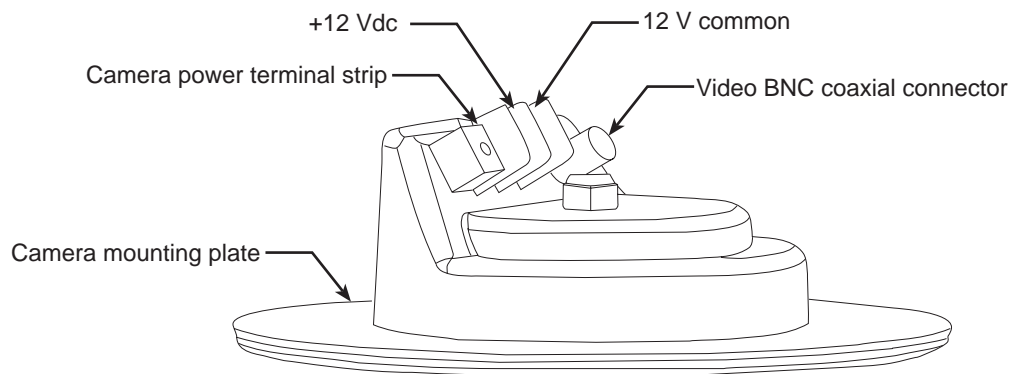


Figure 14. Camera mounting plate and power strip locations

9. Install the video cable BNC connector onto the video BNC coaxial connector on the camera mounting plate (see figure 14).
10. Secure the camera mounting plate in the top dome by fitting the mounting plate over the 3 phillips head screws and rotating the mounting plate until the screw heads slide into the small end of the key slots (see figure 13).
11. Tighten the 3 phillips head screws.
12. Steps 13 through 18 describe installing the camera and lens assembly in the top dome.
13. Remove the tie-wraps from around the camera wiring in the top dome.
14. Plug the camera connector into its mating connector in the top dome.
15. Make sure the camera lens mounting bracket is perpendicular to the top dome. Insert the lens through the bracket and snap the camera lens assembly into the mounting bracket.
16. Make sure all three snaps click into place to secure the camera lens assembly.

17. The camera wiring connector in the top dome has double-sided adhesive tape on it. Remove the paper cover off the tape. Secure the connector to a suitable surface inside the top dome. The camera wiring and connectors may also be "tucked-up" inside the top dome above the camera mounting bracket.
18. Position the camera as desired by rotating the camera mounting bracket.
19. Install the bottom dome. Line up the bottom dome mounting tabs with the top dome mounting slots. Rotate the bottom dome clockwise to lock into place. Note: the locking tab on the top dome and the slot on the bottom dome must be aligned such that the tab is to the right of the slot. When you rotate the bottom dome, the locking tab will fall into place in the slot.
20. Temporarily, route the video cable from the camera to a nearby spot monitor. Connect the cable to the spot monitor's video input connector.
21. While you view the camera's output on the spot monitor, have a second person use the vendor documentation that came with the camera to aim the camera and adjust its focus.
22. Disconnect the video cable from the spot monitor and route the cable to the location where the VCU is being installed.
23. Refer to the site-specific documentation and label the camera with the appropriate number.
24. Repeat steps 1 through 23 to install the remaining cameras.

2.3 Installing a ceiling-mounted dome camera

This procedure describes installing a dome camera. If you are installing a different model camera, use the following as guidelines only while referring to the vendor documentation that came with your camera for specific installation information.

Note

You will need to have the site-specific documentation on-hand in order to label the cameras. If you do not have the documentation, contact your supervisor before proceeding.

1. If the back box is already installed, go to step 5. Otherwise, cut a 4 1/4-inch x 4 1/4-inch hole in the ceiling (see figure 15).

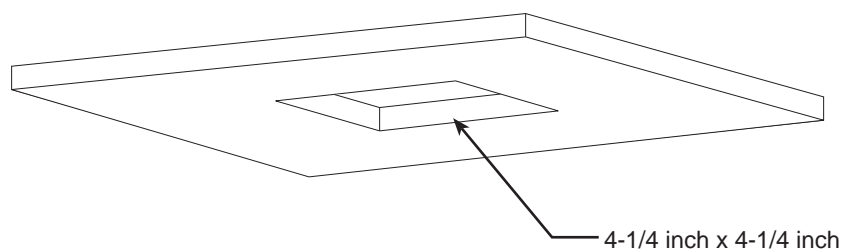


Figure 15. Ceiling cutout diagram

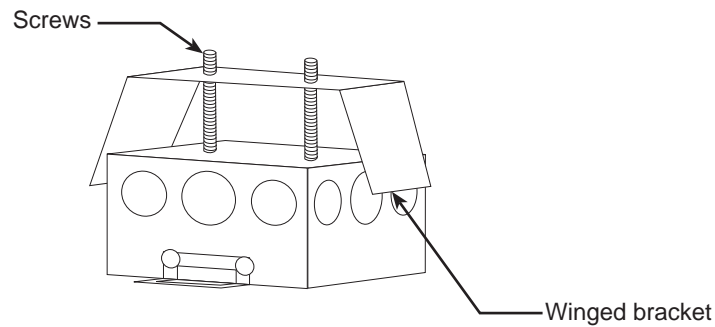


Figure 16. Installing wing bracket

2. If it has not been done already, attach the winged bracket to the back box as shown in figure 16 using the 2 screws provided.

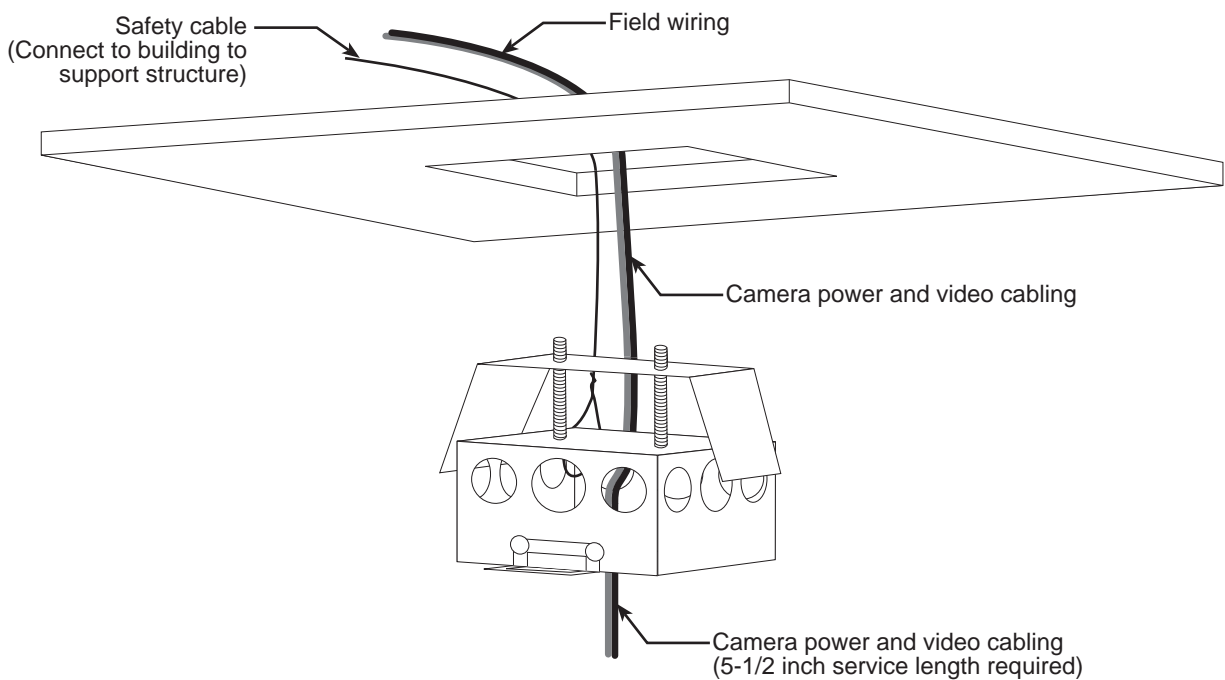


Figure 17. Installing safety cable and routing power and video cables into back box

3. Route the power and video coaxial cables through one of the knockouts in the back box. A 5 1/2-inch service length from the back box is required for cabling. Connect a safety cable from a building support structure to the back box. See figure 17.
4. Push the back box with winged bracket through the hole. Push the 2 screw heads flush with the box to ensure the winged bracket goes all the way through the ceiling hole and springs out the top of the ceiling hole. Tighten the 2 #10 screws until the box is secure and the back box is flush with the ceiling.

5. The top hat and bottom dome are shipped assembled. The camera/lens assembly is shipped separately. To remove the bottom dome, depress the locking tab and rotate the bottom window counterclockwise. A safety cable is connected between the top hat and the bottom dome.



Caution

Always handle the bottom dome from the outside of its circular flange. Never touch the coated inside surface. Clean the outside surface with a non-abrasive glass cleaner.

6. Steps 7 through 10 describe installing the camera and lens assembly in the top dome.
7. Remove the tie-wraps from around the camera wiring in the top hat.
8. Plug the camera connector into its mating connector in the top hat.
9. Insert the lens through the bracket and snap the camera lens assembly into the mounting bracket. Verify that the 3 snaps click into place to secure the camera lens assembly.
10. The camera wiring connector in the top hat has double-sided adhesive tape on it. Remove the paper cover off the tape. Secure the connector to a suitable surface inside the top hat. The camera wiring and connectors may also be “tucked-up” inside the top hat above the camera mounting bracket.
11. Connect the +12 Vdc and 12 V common wires to the terminal strips on the camera mounting plate shown in figure 14).
12. Install the video cable BNC connector onto the video BNC coaxial connector on the camera mounting plate (see figure 14).

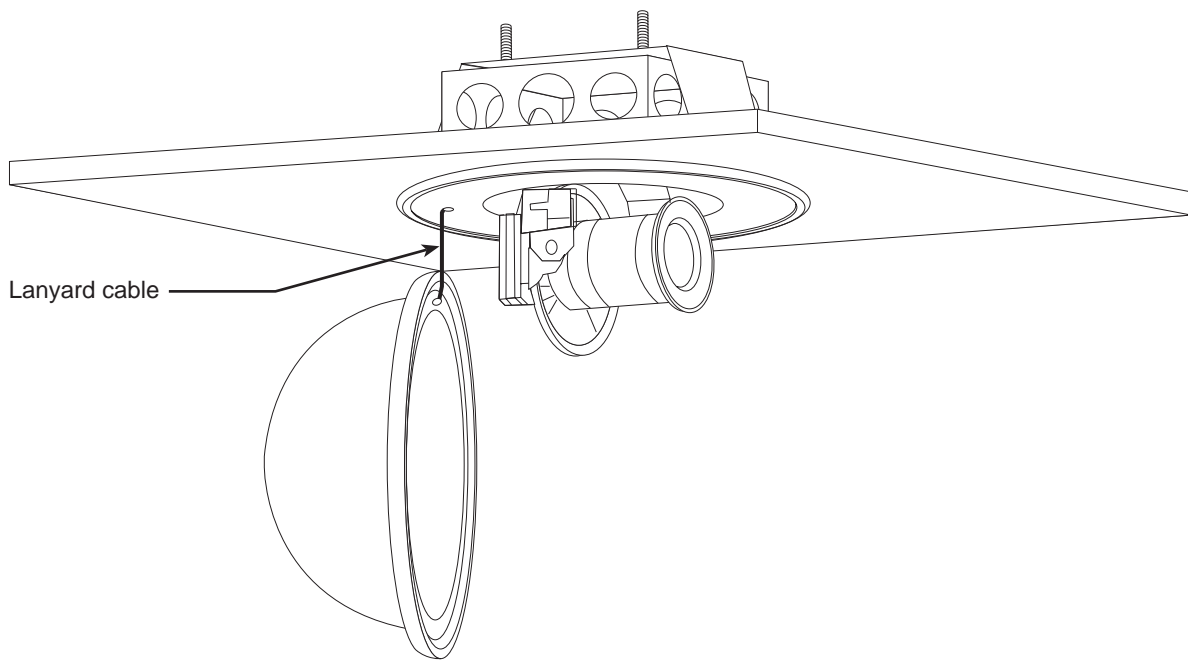


Figure 18. The dome camera installed in the back box

13. Steps 14 and 15 describe installing the top hat in the back box (see figure 18).
14. Wind the camera power and video cabling clockwise while inserting the top hat in the back box to take up any slack.
15. Align the mounting holes on the top hat with the two screws on opposite corners of the back box. Slide the top hat mounting holes over the back box screws and rotate into place. Tighten the mounting screws until the top hat is secure.



Caution

Avoid over-tightening. Otherwise, you may cause misalignment between the top hat and bottom dome.

16. Position the camera. The camera can be rotated $\pm 180^\circ$ as required. If necessary, the top hat can be reinstalled in 90° increments as limited by the power and video cable routing.
17. Steps 18 through 21 describe installing the lower dome.
18. Rotate the bottom dome counterclockwise until the lanyard safety cable between the top hat and the bottom dome is tight.
19. Align the locking tabs on the bottom dome with the mounting holes on the top hat.
20. Push the bottom dome over the top hat until the bottom dome is flush with the ceiling.
21. Rotate the bottom dome clockwise until the locking tab clicks into place.

- 22.** Temporarily, route the video cable from the camera to a nearby spot monitor. Connect the cable to the spot monitor's video input connector.
- 23.** While you view the camera's output on the spot monitor, have a second person use the vendor documentation that came with the camera to aim the camera and adjust its focus.
- 24.** Disconnect the video cable from the spot monitor and route the cable to the location where the VCU is being installed.
- 25.** Refer to the site-specific documentation and label the camera with the appropriate number.
- 26.** Repeat steps 1 through 25 to install remaining cameras.

Installing the workstation cabinet and a VCU

3.1 Materials inspection and inventory

Inspect the shipping containers for external damage. Any damage should be noted before opening the container. Report damaged equipment to the shipping carrier immediately for claim purposes. Save all packing materials until installation has been completed.

3.2 Installing the workstation cabinet

Install the workstation cabinet in a room that is at least 4-feet by 7-feet in area with a door that can be locked. An electrician must install the AC conduit, AC junction boxes, and quad AC receptacle box needed to connect AC power to the Digital DataCatch cabinet as shown in figure 19 on page 32.



Caution

Use care when moving the workstation cabinet. Quick stops, excessive force, and uneven surfaces may cause the cabinet to overturn.

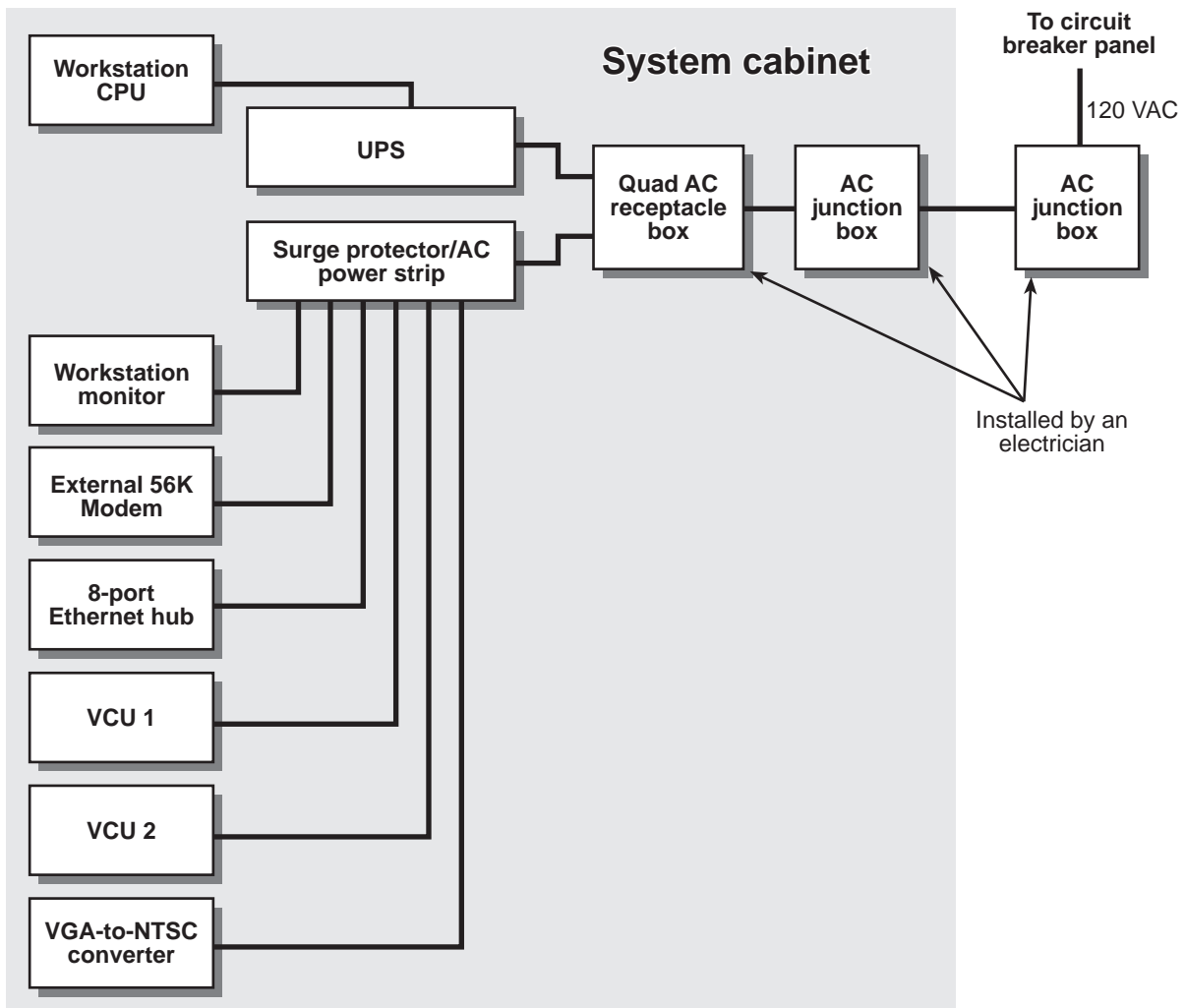


Figure 19. System cabinet AC wiring diagram

3.3 Installing the VCU

Before installing the video compression unit, verify that the following have been completed:

- All cameras have been installed and the cables routed to where the VCU will be installed
- If an optional alarm will be connected to the VCU, the alarm must have already been installed at the desired location and its wiring harness routed to workstation cabinet where the VCU will be installed.
- An electrician has installed the AC junction boxes and quad AC receptacle to connect AC power to the workstation cabinet.

1. Remove the VCU from its shipping container.

- Using the rack mounting hardware, install VCU 1 in the cabinet at the location shown in figure 20.

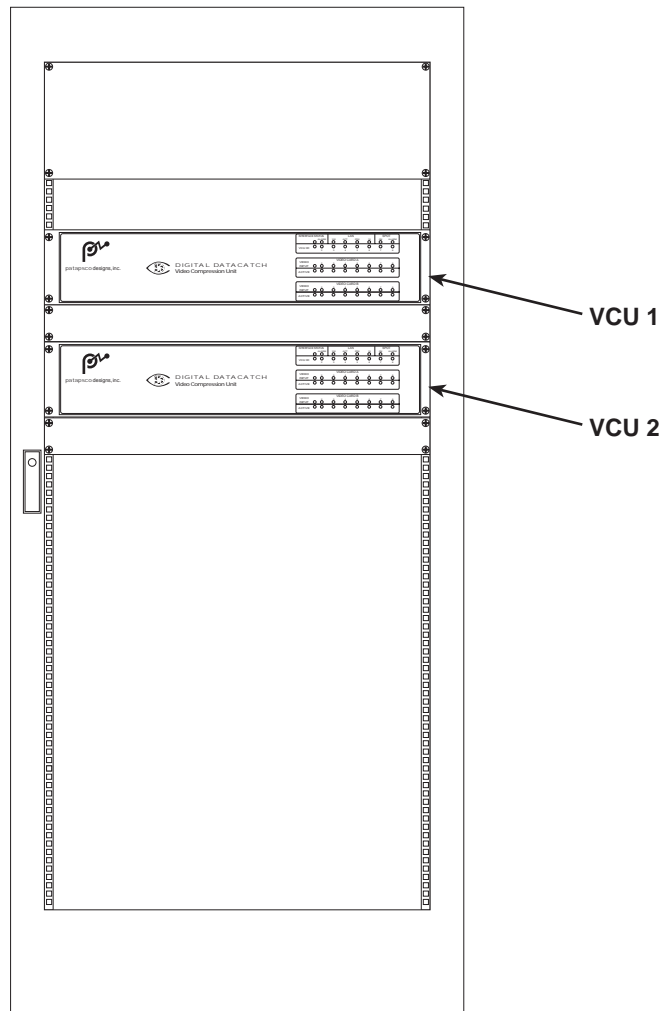


Figure 20. VCU installation locations

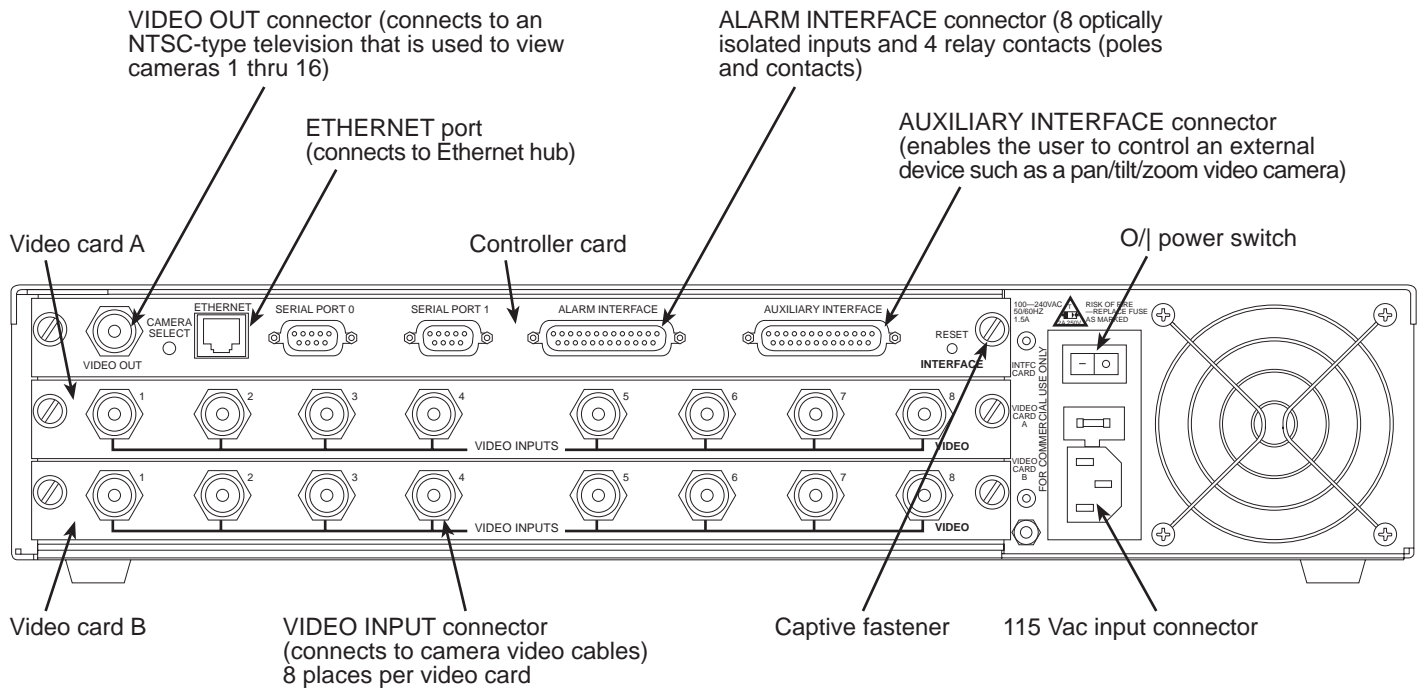


Figure 21. VCU rear panel

3. Steps 4 through 6 describe setting the VCU ID address.
4. Using a flat-tip screwdriver, loosen the two captive fasteners on the controller card (see figure 21). Remove the controller card from the chassis.

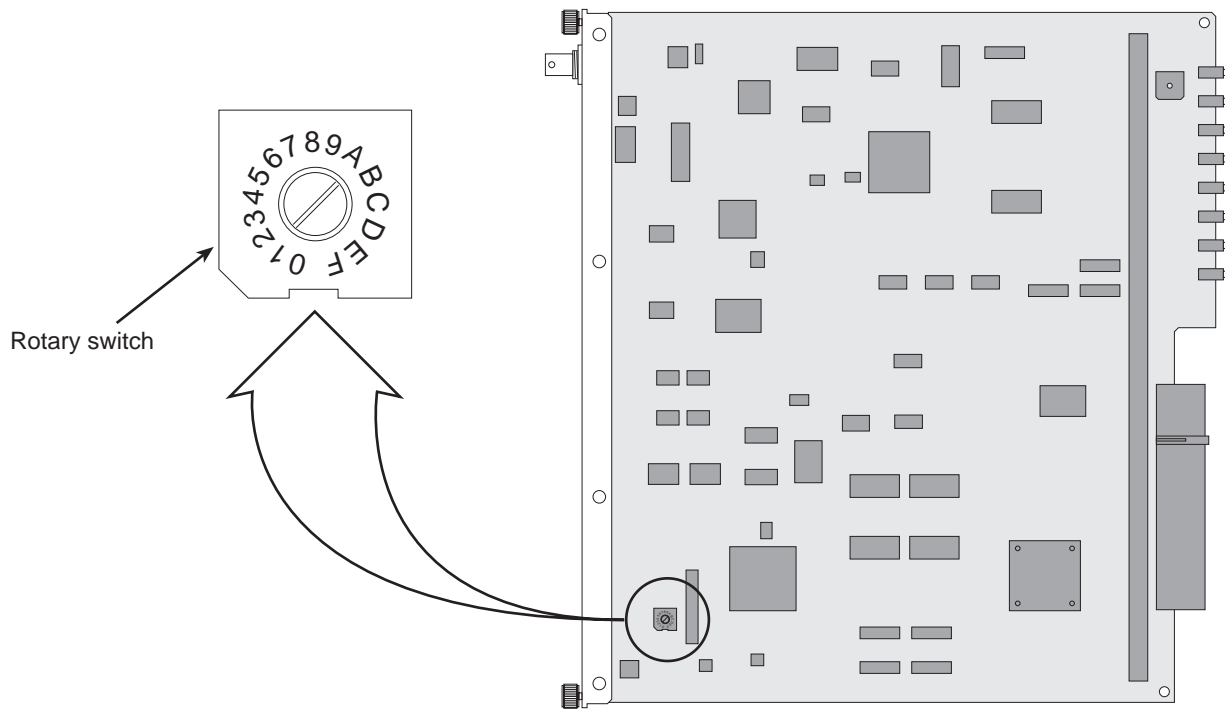


Figure 22. Controller card rotary switch location

5. Adjust the rotary switch (see figure 22 for switch location) to the desired address (the switch can be adjusted for an address of 0 to 7).
6. Insert the controller card into the VCU chassis until it is fully seated in the chassis. When that happens, tighten the captive fasteners.
7. Install the video cable from camera 1 onto the *VIDEO INPUTS—1* connector of video card A (see figure 21 on page 34 for connector location).
8. Repeat step 7 to install video cables from remaining cameras onto the appropriate *VIDEO INPUTS* connectors.
9. Install a cable between the *VIDEO OUT* connector (see figure 21 on page 34) and the *VIDEO IN* connector on an optional NTSC-type television monitor.
10. Install an RJ-45 cable connector into the *ETHERNET* port. Route the other end of the cable to the location where the Ethernet hub will be installed.

Note

Use Category 5 type standard 100-Mbit Ethernet compatible cable.

11. Plug the female end of the AC power cord into the 115 VAC input connector (see figure 21); plug the other end into a wall outlet or power strip.

12. If you are not connecting an alarm interface cable to the *ALARM INTERFACE* connector, go to step 13. Otherwise, refer to table 1 for the wiring information needed to assemble the cable.

Table 1. Alarm interface connector wiring diagram

| Pin | Signal | Description |
|-----|---------|--|
| 1 | ALM0P0 | Alarm 0 Relay Pole 0 (COM) |
| 2 | ALM0NC0 | Alarm 0 Normally Closed Contact 0 (N.C.) |
| 3 | ALM0NO0 | Alarm 0 Normally Open Contact 0 (N.O.) |
| 4 | ALM0P1 | Alarm 0 Relay Pole 1 (COM) |
| 5 | ALM0NC1 | Alarm 0 Normally Closed Contact 1 (N.C.) |
| 6 | ALM0NO1 | Alarm 0 Normally Open Contact 1 (N.O.) |
| 7 | ALM1P0 | Alarm 1 Relay Pole 0 (COM) |
| 8 | ALM1NC0 | Alarm 1 Normally Closed Contact 0 (N.C.) |
| 9 | ALM1NO0 | Alarm 1 Normally Open Contact 0 (N.O.) |
| 10 | ALM1P1 | Alarm 1 Relay Pole 1 (COM) |
| 11 | ALM1NC1 | Alarm 1 Normally Closed Contact 1 (N.C.) |
| 12 | ALM1NO1 | Alarm 0 Normally Open Contact 1 (N.O.) |
| 13 | N/C | Not connected |
| 14 | N/C | Not connected |
| 15 | N/C | Not connected |
| 16 | N/C | Not connected |
| 17 | N/C | Not connected |
| 18 | ALMIN0 | Alarm Input 0 |
| 19 | ALMIN1 | Alarm Input 1 |
| 20 | ALMIN2 | Alarm Input 2 |
| 21 | ALMIN3 | Alarm Input 3 |
| 22 | ALMIN4 | Alarm Input 4 |
| 23 | ALMIN5 | Alarm Input 5 |
| 24 | ALMIN6 | Alarm Input 6 |
| 25 | ALMIN7 | Alarm Input 7 |

13. If you are not connecting the auxiliary interface cable to the *AUXILIARY INTERFACE* connector, go to step 14. Otherwise, refer to table 2 for the wiring information needed to assemble the cable.

Table 2. Auxiliary interface connector wiring diagram

| Pin | Signal | Description |
|-----|--------|---------------------|
| 1 | SPIO7 | Spare I/O Bit 7 |
| 2 | SPIO5 | Spare I/O Bit 5 |
| 3 | SPIO3 | Spare I/O Bit 3 |
| 4 | SPIO1 | Spare I/O Bit 1 |
| 5 | N/C | Not connected |
| 6 | N/C | Not connected |
| 7 | N/C | Not connected |
| 8 | PTZ5 | Pan/Tilt/Zoom Bit 5 |
| 9 | PTZ4 | Pan/Tilt/Zoom Bit 4 |
| 10 | PTZ3 | Pan/Tilt/Zoom Bit 3 |
| 11 | PTZ2 | Pan/Tilt/Zoom Bit 2 |
| 12 | PTZ1 | Pan/Tilt/Zoom Bit 1 |
| 13 | PTZ0 | Pan/Tilt/Zoom Bit 0 |
| 14 | SPIO6 | Spare I/O Bit 6 |
| 15 | SPIO4 | Spare I/O Bit 4 |
| 16 | SPIO2 | Spare I/O Bit 2 |
| 17 | SPIO0 | Spare I/O Bit 0 |
| 18 | N/C | Not connected |
| 19 | N/C | Not connected |
| 20 | N/C | Not connected |
| 21 | N/C | Not connected |
| 22 | N/C | Not connected |
| 23 | N/C | Not connected |
| 24 | N/C | Not connected |
| 25 | N/C | Not connected |

14. Repeat steps 1 through 13 to install VCU 2. When you reach step 5, set the switch to a different address than you used previously.