

ACUIX™

Analog PTZ High Speed Dome

User Guide

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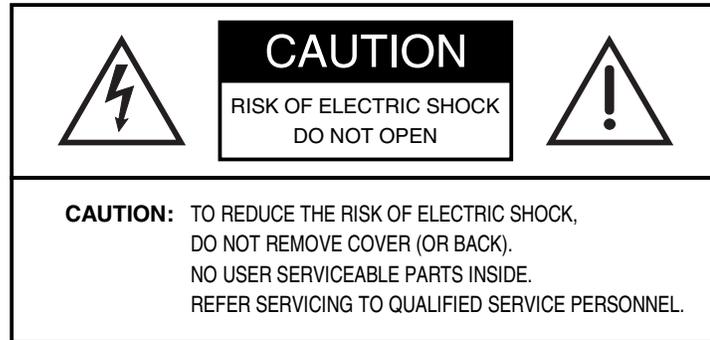
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Important Safety Information

Before installing or operating the unit, read and follow all instructions. After installation, retain the safety and operating instructions for future reference.

1. **HEED WARNINGS** - Adhere to all warnings on the unit and in the operating instructions.
2. **INSTALLATION**
 - Install in accordance with the manufacturer's instructions.
 - Installation and servicing should be performed only by qualified and experienced technicians to conform to all local codes and to maintain your warranty.
 - Do not install the unit in an extremely hot or humid location, or in a place subject to dust or mechanical vibration. The unit is not designed to be waterproof. Exposure to rain or water may damage the unit.
 - Any wall or ceiling mounting of the product should follow the manufacturer's instructions and use a mounting kit approved or recommended by the manufacturer.
3. **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 supplied to your facility, consult your product dealer or local power company.
4. **HEAT** - Situate away from items that produce heat or are heat sources such as radiators, heat registers, stoves, or other products (including amplifiers).
5. **WATER AND MOISTURE** - Do not use this unit near water or in an unprotected outdoor installation, or any area classified as a wet location.
6. **MOUNTING SYSTEM** - Use only with a mounting system recommended by the manufacturer, or sold with the product.
7. **ATTACHMENTS** - Do not use attachments not recommended by the product manufacturer as they may result in the risk of fire, electric shock, or injury to persons.
8. **ACCESSORIES** - Only use accessories specified by the manufacturer.
9. **CLEANING** - Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
10. **SERVICING** - Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
11. **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 substitutions may result in fire, electric shock or other hazards. Using replacement parts or accessories other than the original manufacturers may invalidate the warranty.

Warnings and Cautions



CAUTION To prevent damage to the static-sensitive receiver and power supply circuit boards, leave the scan assembly inside the antistatic bag it was shipped in until the time of installation.

CAUTION To prevent damage to the interface and scan assembly circuit boards, follow standard industry precautions for electrostatic discharge sensitive devices.

Regulatory Statements

All ACUIX PTZs meet, as a minimum, Class A emissions standards. For the latest product information, including information on ACUIX configuration certifications beyond Class A, visit www.honeywellvideo.com/products/cameras/pt/103879.html.

FCC Compliance Statement

Information to the User: 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 own expense.

Modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment under FCC rules.

Canadian Compliance Statement

This Class A digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Manufacturer's Declaration of Conformance

North America

The equipment supplied with this guide conforms to UL60065, CAN/CSA C22.2 No. 60065:03.

Europe

The manufacturer declares that the equipment supplied with this guide is compliant with the essential protection requirements of the EMC directive 2004/108/EC and the General Product Safety Directive 2001/95/EC, conforming to the requirements of standards EN 55022 for emissions, EN 50130-4 for immunity, and EN 60065 for Electrical Equipment safety.

Waste Electrical and Electronic Equipment (WEEE)



Correct Disposal of This Product (Applicable in the European Union and other European countries with separate collection systems)

This product should be disposed of at the end of its useful life as per applicable local laws, regulations, and procedures.

Warranty and Service

Subject to the terms and conditions listed on the Product Warranty Card, during the warranty period Honeywell will repair or replace, at its sole option, free of charge, any defective products returned prepaid.

In the event you have a problem with any Honeywell product, please call Customer Service for assistance or to request a **Return Merchandise Authorization (RMA)** number.

Be sure to have the model number, serial number, and the nature of the problem available for the technical service representative. In the U.S.A. and Canada, call 1.800.796.2288.

Prior authorization must be obtained for all returns, exchanges, or credits. **Items shipped to Honeywell without a clearly identified Return Merchandise Authorization (RMA) number may be refused.**

Note The manufacturer is not responsible for any damage caused by improper use of the product or failure to follow instructions for the product.

Users of the product are responsible for checking and complying with all federal, state, and local laws and statutes concerning the monitoring and recording of video and audio signals. Honeywell Systems shall not be held responsible for the use of this product in violation of current laws and statutes.

About This Document

This document provides detailed instructions for installing, configuring, and operating the ACUIX™ High-Speed PTZ Dome. These instructions are intended for system installers, administrators, and operators.

Overview of Contents

This document contains the following chapters and appendixes:

- [Chapter 1, Introduction](#), introduces dome features, terminology, and the steps required to set up and configure a complete ACUIX system.
- [Chapter 2, Installing the Scan Assembly](#), describes how to install the scan assembly and bubble.
- [Chapter 3, Preparing to Configure the Dome](#), describes how to access and navigate the on-screen display menus. It also lists special presets.
- [Chapter 4, Configuring the OSD](#), describes how to set up the on-screen display.
- [Chapter 5, Configuring PTZ Control](#), describes how to set up PTZ control.
- [Chapter 6, Configuring HDXA, HDXJ, and HDXF Camera Settings](#), describes how to set up the camera and picture quality settings for HDXA, HDXJ, and HDXF cameras.
- [Chapter 7, Configuring HDXG Camera Settings](#), describes how to set up the camera and picture quality settings for HDXG cameras.
- [Chapter 8, Configuring Alarms](#), describes how to program alarm functions.
- [Chapter 9, Configuring Presets, Tours, Privacy Zones, and Sectors](#), describes how to set up presets, preset tours, mimic tours, privacy zone masks, and sectors (labels).
- [Chapter 10, Installing Dome Firmware](#), describes how to install new firmware using the firmware downloader tool.
- [Chapter 11, System Administration and Equipment Handling](#), describes how to perform various dome administrative functions.
- [Appendix A, ACUIX Specifications](#), lists the specifications of the dome and provides information about related products.
- [Appendix B, Troubleshooting](#), provides a guide for resolving technical problems with the dome.
- [Appendix C, Understanding Automatic Exposure and NightShot](#), provides an overview of exposure settings to assist with dome setup.

Related Documents

The following documents provide information on topics related to this guide:

Document Title	Part Number
<i>ACUIX™ PTZ Dome Quick Installation Guide</i>	800-02219
<i>ACUIX™ Indoor and Outdoor Housings Installation Guide</i>	800-01760
<i>ACUIX™ Series Rugged Housing and Dome Installation Guide</i>	800-02026

ACUIX™ Terminology

This document uses the following terms to describe the main hardware components of the ACUIX PTZ dome:

Dome	The complete installed product including the housing, mount or adapter, scan assembly, and bubble.
Housing	The in-ceiling, pendant, or rugged outer enclosure that houses the scan assembly. It contains an interface board for connecting power, video, control data, and alarm wiring to the dome. The housing is a component of the dome.
Mount	The hardware used to support the housing. It may be included with the housing (as with in-ceiling and rugged housings) or available for purchase separately (as with indoor or outdoor pendant housings). The mount is a component of the dome.
Scan Assembly	A combination of mechanical, electrical, and software components, including the camera block and firmware. It is installed inside the housing and enclosed by the bubble. The scan assembly is a component of the dome.
Camera	The particular model of camera purchased. The camera is a component of the scan assembly.
Bubble	The optically transparent hemisphere that fits onto the bottom of the housing, enclosing the scan assembly. It is available in clear or colored versions. The bubble is a component of the dome.

Document Conventions

This document uses the following conventions:

Typeface	Meaning	Example
Bold	User input	Type 1234 .
	OSD menu title/command	Select 2 Control Options ▶ 1 PASS .
BOLD CAPS	Key name	Press and hold CTRL .
<i>Italic</i>	Placeholder	Type <i>user name</i> .
	Cross-reference	See <i>Chapter 1, Introduction</i> .
Typewriter	Text string displayed on the OSD menu	The message Unauthorized (object) entered appears.



DANGER Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.

CAUTION (*without safety alert symbol*) Indicates a potentially hazardous situation which, if not avoided, could result in damage to property.

Note Indicates important information that does not involve a significant risk of personal injury or property damage.

Introduction

This chapter contains the following sections:

- [About the ACUIX™ High-Speed PTZ Dome](#), page 1
- [Setup and Configuration](#), page 2
- [Additional Information](#), page 2

About the ACUIX™ High-Speed PTZ Dome

The ACUIX High-Speed PTZ Dome is a fully featured pan/tilt/zoom (PTZ) tracking system designed for detailed surveillance applications.

Dome features include:

- True Day/Night (TDN), Wide Dynamic Range (WDR), and Electronic Image Stabilization (EIS) options
- Indoor and outdoor housing options, available in in-ceiling (indoor), pendant (indoor/outdoor), and rugged (outdoor) styles. The outdoor pendant housing features a sunshroud and heater and blower.
- Ability to update firmware remotely without interrupting camera operation; multiple domes can be updated simultaneously
- Secure storage of all camera settings (such as labels, s, tours, and privacy zones)
- Active UTP video output
- Up to 150 user-defined presets
- Dynamic privacy zones that allow a user to mask up to 32 regions to ensure absolute privacy for sensitive areas
- Still Shot™ to freeze a scene and save storage space during tours
- Password protection to prevent unauthorized users from changing system settings
- Multilanguage on-screen display (OSD) configuration menus

Setup and Configuration

Setting up a complete ACUIX system typically includes the following steps:

1. Installing the mount, adapter, or bracket to which the housing will be attached.
2. Connecting the field wiring to the interface board inside the housing.
3. Installing the housing to the mounting surface.
4. Configuring the dome address, protocol, baud rate, and parity settings on the scan assembly interface board.
5. Installing the scan assembly in the housing.
6. Installing the bubble.
7. Configuring additional dome settings remotely using the OSD menu.

The protocol and address settings of the dome are configured using DIP switches located on the scan assembly. All other dome settings—such as presets, preset tours, mimic tours, and privacy zones—are programmed using OSD menus. A monitor and a controller are required to access the OSD.

Additional Information

For the latest product information and documentation, visit the ACUIX PTZ dome web page at www.honeywellvideo.com/products/cameras/pt/103879.html.

The product page contains downloadable PDF versions of data sheets, quick references, installation and user guides, A&E specifications, product notices, and other related documents.

Installing the Scan Assembly

This chapter contains the following sections:

- *Preparing to Install the Scan Assembly*, page 3
- *Installing the Scan Assembly*, page 8
- *Installing the Bubble*, page 9

Preparing to Install the Scan Assembly

The dome housing must be completely installed prior to installing the scan assembly and bubble. The *ACUIX™ Indoor and Outdoor Housings Installation Guide* (800-04558) provides instructions for installing the housing.

Note The instructions in this chapter assume that the housing has already been installed, as well as all of the power, video, and telemetry (data) connections.

Before you install the scan assembly in the housing, you must first set the dome address, protocol, baud rate, and parity using the DIP switches located on the circuit board on top of the scan assembly.

CAUTION To prevent damage to the housing and scan assembly circuit boards, follow standard industry precautions for electrostatic discharge sensitive devices.

Figure 2-1 shows the location of the DIP switches (SW1 to SW6) on the scan assembly circuit board.

Figure 2-1 **DIP Switch Locations**

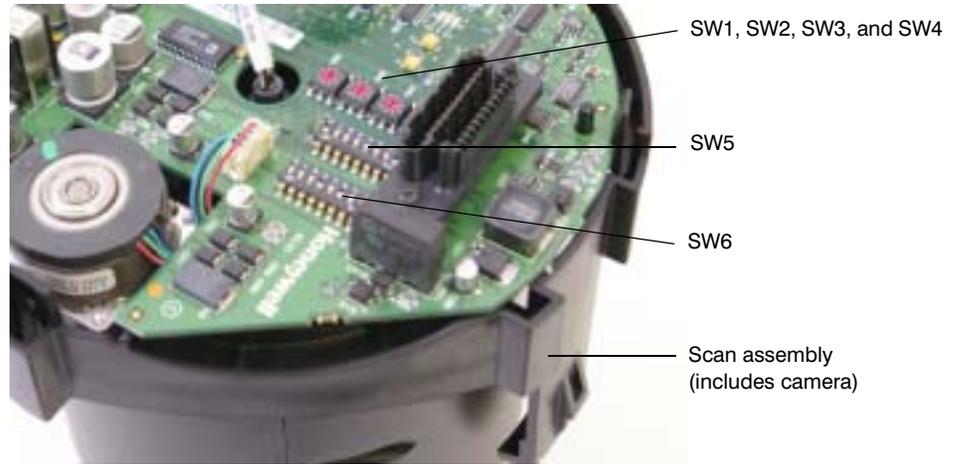


Table 2-1 lists the default DIP switch settings.

Table 2-1 **Default DIP Switch Settings**

Setting	Default	Switch
Address	1	SW1, SW2, SW3, and SW4
Protocol	MAXPRO-mode	SW5-1 to SW5-5
Baud rate	9600	SW6-1 to SW6-4
Parity	Even	SW6-5 SW6-6
Miscellaneous Defaults*		
Restore Factory Defaults	OFF	SW5-7
Overriding the Logical Address	ON	SW5-8
Debugging/boot control	OFF	SW6-7
Reserved	OFF	SW6-8

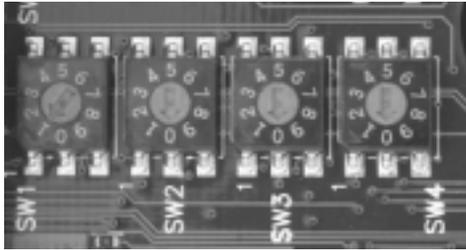
** These are advanced switch settings and it is not recommended to make changes to these defaults. See the [System Administration and Equipment Handling](#) for more information.*

Setting the Dome Address (SW1 to SW4)

Each dome requires a unique address. The range of acceptable addresses is determined by the type of controller you are using. Some controllers allow addresses between 1 and 128, while others allow addresses between 1 and 256.

The address is set using the rotary DIP switches SW1, SW2, SW3, and SW4 on the scan assembly circuit board (see [Figure 2-1](#) and [Figure 2-2](#)).

Figure 2-2 Switches SW1 to SW4



Each switch is assigned a place value (see [Table 2-2](#)).

Table 2-2 Address Switch Assignments

Address	Value
SW1	Units digit
SW2	Tens digit
SW3	Hundreds digit
SW4	Thousands digit

To set the dome address:

1. Remove the scan assembly from the pink antistatic bag it shipped in.
2. Using [Table 2-2](#) as a reference, turn the arrows on switches SW1, SW2, SW3 and SW4 to select the address you want.

For example:

- To set the dome address to 0001, set SW1=1, SW2=0, SW3=0, SW4=0.
- To set the dome address to 0125, set SW1=5, SW2=2, SW3=1, SW4=0.

Note If the address is set to 0000, the dome responds to control commands for any address. For example, if an operator sends control commands to address 0002, the dome that has the address 0000 performs the same commands.

Setting the Protocol (SW5)

The ACUIX PTZ dome supports the following protocols for communicating with other devices:

- IntelliBus™
- MAXPRO-mode
- VCL
- Diamond
- Pelco P, Pelco D, Pelco P_AD, Pelco D_AD

Select a protocol that is compatible with the controller or other device that you want to connect to.

The protocol is set using DIP switch SW5 on the circuit board (see [Table 2-3](#)). The factory default is MAXPRO-mode (a mode of using Diamond protocol which has special presets for functions beyond pan, tilt, zoom, focus, and preset).

Table 2-3 SW5 Protocol Settings

Protocol Name	Switch Position							
	1	2	3	4	5	6	7	8
IntelliBus™	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON
MAXPRO-mode (default)	OFF	ON	OFF	OFF	OFF	OFF	OFF	ON
VCL - RS485	ON	ON	OFF	OFF	OFF	OFF	OFF	ON
VCL UTC ("Up-the-Coax")	OFF	OFF	ON	OFF	OFF	OFF	OFF	ON
Diamond	ON	OFF	OFF	OFF	OFF	OFF	OFF	ON
Pelco P	ON	OFF	ON	OFF	OFF	OFF	OFF	ON
Pelco D	OFF	ON	ON	OFF	OFF	OFF	OFF	ON
Pelco P_AD	ON	OFF	ON	OFF	ON	OFF	OFF	ON
Pelco D_AD	OFF	ON	ON	OFF	ON	OFF	OFF	ON

To set the protocol:

- Using [Table 2-3](#) as a reference, position the pins on switch SW5 to correspond to the protocol that you have selected.

Note Normally, pin 8 should be set to the ON position. Setting the switch to OFF allows the address, protocol, baud rate, and parity settings to be changed from the OSD, which is not recommended for most installations.

Setting the Baud Rate and Parity (SW6)

The baud rate and parity settings are determined by the protocol that you have selected. [Table 2-4](#) lists the baud rate and parity settings that correspond to each protocol.

Table 2-4 Baud Rate and Parity Settings by Protocol

Protocol	Baud Rate and Parity
IntelliBus™	38400 baud, no parity
MAXPRO-mode (default)	9600 baud, even parity
VCL - RS485	9600 baud, no parity
VCL UTC	9600 baud, no parity
Diamond	9600 baud, even parity
Pelco P	4800 baud, no parity
Pelco D	2400 baud, no parity
Pelco P_AD	4800 baud, no parity
Pelco D_AD	2400 baud, no parity

The baud rate and parity are set using DIP switch SW6 (see [Table 2-5](#)). The factory default is 9600 baud, even parity.

Table 2-5 SW6 Baud Rate and Parity Settings

Values	Baud Rate Switch Position				Parity Switch Position		Other*	
	1	2	3	4	5	6	7	8
600	OFF	OFF	OFF	OFF				
1200	ON	OFF	OFF	OFF				
2400	OFF	ON	OFF	OFF				
4800	ON	ON	OFF	OFF				
9600	OFF	OFF	ON	OFF				
19200	ON	OFF	ON	OFF				
38400	OFF	ON	ON	OFF				
57600	ON	ON	ON	OFF				
115200	OFF	OFF	OFF	ON				
None					OFF	OFF	OFF	OFF
Even					ON	OFF	OFF	OFF
Odd					OFF	ON	OFF	OFF

* The default position for pins 7 and 8 is OFF (see [Table 2-1](#)).

To set the baud rate and parity:

- Using [Table 2-4](#) and [Table 2-5](#) as a reference, position the pins on switch SW6 to correspond to the baud rate and parity values of the protocol that you have selected.

If any of the settings on SW5 or SW6 are invalid, the system reverts to the factory default settings: MAXPRO-mode at 9600 baud, even parity.

Installing the Scan Assembly

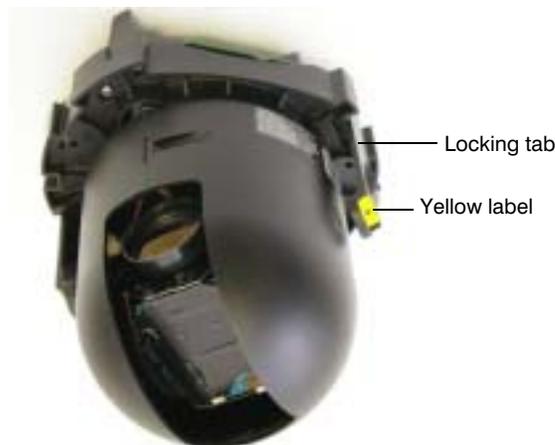
After you have set the dome address, protocol, baud rate, and parity on the scan assembly circuit board, you can install the scan assembly in the housing. The installation procedure is the same for all housing styles (in-ceiling, pendant, or rugged).

CAUTION Do not remove the camera from the scan assembly. Handle the camera lens with extreme care.

To install the scan assembly in the housing:

1. Remove the plastic lens cap and foam insert from the scan assembly. Do not touch the lens.
2. Rotate and line up the yellow label on the scan assembly with the yellow label on the housing.
3. Gently push the scan assembly into the housing until the two locking tabs on the scan assembly snap into the guides on the housing.
4. Ensure that the scan assembly is attached securely inside the housing.

Figure 2-3 ACUIX Scan Assembly



Installing the Bubble

After you have installed the scan assembly in the housing, and the camera lens cap has been removed, you can install the bubble.

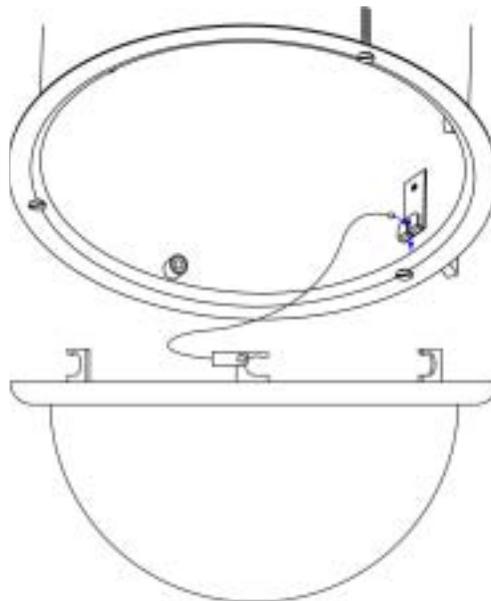
The installation procedure is slightly different for each type of housing.

Attaching the Bubble to an In-Ceiling Housing

To attach the bubble to the housing:

1. Attach the safety cable from the bubble to the bracket inside the housing.
2. Align the three hooks on the bubble with the three mounting posts on the housing.
3. Turn the bubble clockwise to lock it into the housing.

Figure 2-4 In-Ceiling Housing Bubble Installation

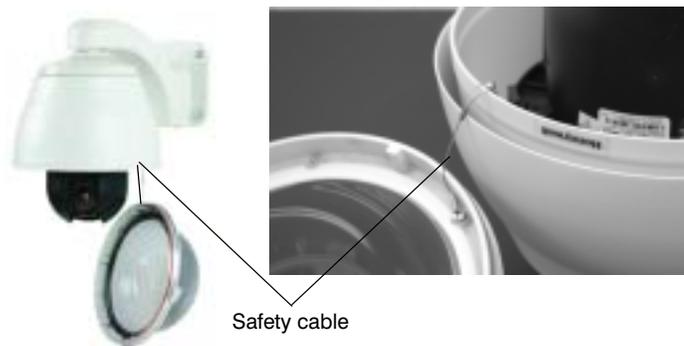


Attaching the Bubble to an Indoor or Outdoor Pendant Housing

To attach the bubble to the housing:

1. Clip the safety cable to the bracket on the housing.
2. Confirm that the o-ring is in place around the bubble and gently push the bubble against the housing
3. Install the two screws on the housing to secure the bubble in place.

Figure 2-5 Pendant Housing Bubble Installation



Attaching the Bubble to a Rugged Housing

To attach the bubble to the housing:

1. Clip the safety cable to the bracket on the housing.
2. Align the four screw holes on the bubble with the four holes on the housing.
3. Push the bubble against the housing and tighten the four captive security screws using the supplied 5/32-inch (4 mm) hex key.

Figure 2-6 Rugged Housing Bubble Installation



Preparing to Configure the Dome

This chapter contains the following sections:

- *Pre-Configuration Checklist*, page 11
- *Accessing the Main Menu*, page 12
- *Navigating OSD Menus*, page 13
- *Sending the Dome to a Preset*, page 13
- *Special Presets*, page 14
- *OSD Menu Tree*, page 15

Pre-Configuration Checklist

After you have installed the PTZ dome, you are ready to begin configuring the dome settings from the OSD menu. To do this, you will need a keyboard controller and a monitor.

The ACUIX High-Speed PTZ Dome is compatible with all Honeywell controllers, including the UltraKey Touch, UltraKey Lite, UltraKey Plus, HJZTP, HKJMMTP, and HEGS5300. It is also compatible with third-party controllers using Pelco P or Pelco D control protocols.

Before you begin configuring the dome, do the following:

1. Make sure the dome is assigned to the controller you are using. The dome address (for example, CAM 001) should appear on the controller LCD display.
2. Turn on the dome.
3. Confirm that video is displaying on the monitor. A startup screen should appear showing the protocol, baud rate, parity, data bits, camera type, and firmware version of the dome.
4. If the dome does not "find home" automatically, enter a control command (such as moving the joystick left or right). The message Finding Home... appears, followed by Home Found.

Accessing the Main Menu

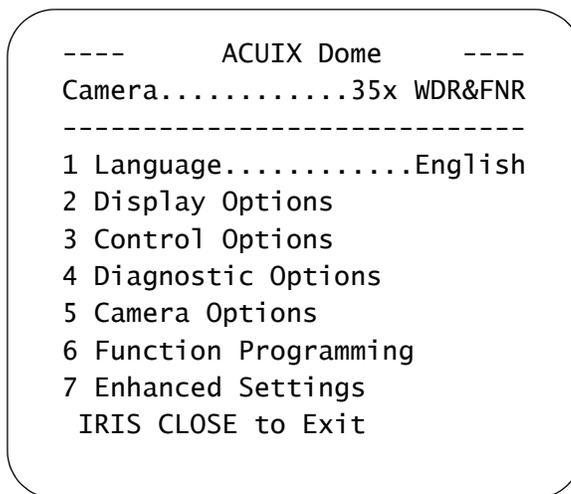
To begin configuring the dome settings, call up the main menu on your monitor screen using special preset 90.

Note Because the ACUIX High-Speed PTZ Dome is designed to work with a wide variety of devices and protocols, all possible ways to perform a task are not given here. The instructions in this guide are intended to supplement the instructions provided in your controller's user guide.

To access the main menu:

- Enter preset 90 on your controller.
On the UltraKey Touch controller, press View, type 90, and then press Enter.
On the HJZTP controller, type 90, and then press Preset.
The main menu (*Figure 3-1*) appears.

Figure 3-1 OSD Main Menu



Navigating OSD Menus

You can navigate through the menu options displayed on the monitor using the following controller commands:

- To navigate vertically through the menu options, move the controller joystick up or down.
- To select a menu option, or to toggle between settings, press Iris Open (Iris+).
- To exit a menu and return to the previous screen, press Iris Close (Iris -).

Sending the Dome to a Preset

A preset is a memorized dome function that can be recalled manually by the operator.

- To go to a preset using the UltraKey Touch controller, press View, type *preset number*, and then press Enter.
- To go to a preset using the HJZTP controller, type *preset number*, and then press Preset.

Special Presets

Special presets 72 to 99 are reserved for controlling and programming the dome.

Table 3-1 Special Presets

Preset	Function	Protocol
72	Recover encrypted user login	Diamond, IntelliBus™, MAXPRO-mode, VCL, VCL UTC, Pelco P, Pelco D, AD
73	Enable broadcast command receive mode	Diamond, MAXPRO-mode, VCL,
74	Disable broadcast command receive mode	VCL UTC, Pelco P, Pelco D, AD
75	Administrator/password/PIN settings: <ul style="list-style-type: none"> • User login PIN • Change PIN • System info • Change address, protocol 	Diamond, IntelliBus™, MAXPRO-mode, VCL, VCL UTC, Pelco P, Pelco D, AD
76	Run mimic tour 1–16	
77	Program mimic tour	MAXPRO-mode, VCL, VCL UTC, Pelco P, Pelco D, AD
78	Run preset tour 1–16	
79	User default setting preset	All
80, 81, 82	Run mimic tours 1, 2, and 3	MAXPRO-mode, VCL, VCL UTC, Pelco P, Pelco D, AD, Pelco P_AD, Pelco D_AD
83, 84, 85	Program mimic tours 1, 2, and 3	
86	End mimic tour programming mode	MAXPRO-mode, VCL, VCL UTC, Pelco P, Pelco D, AD
87, 88, 89	Start/run preset tours 1, 2 and 3	MAXPRO-mode, VCL, VCL UTC, Pelco P, Pelco D, AD, Pelco P_AD, Pelco D_AD
90	Setup menu (OSD)	MAXPRO-mode, VCL, VCL UTC, Pelco P, Pelco D, AD
91	Reserved	
92	Toggle auto exposure on or off	
93	Toggle backlight compensation on or off	
94	Toggle between day mode and night mode ^a	MAXPRO-mode, VCL, VCL UTC, Pelco P, Pelco D, AD
95	Toggle between freezing and unfreezing the current scene ^a	
96	Run flashback function (toggle between two saved positions)	
97	Advanced preset	All
98	Camera reset ^a	Diamond, IntelliBus, MAXPRO-mode, VCL, VCL UTC, Pelco P, Pelco D, AD
99	Toggle between day mode and night mode ^a	Diamond, IntelliBus

^a Camera model dependent

OSD Menu Tree

Table 3-2 Menu Tree - 18× Color (HDXA), 18× WDR/TDN (HDXJ), 26× WDR/TDN (HDXF)

1. Language											
English (default), Français (French), Deutsch (German), Italiano (Italian), Español (Spanish), Polski (Polish), Nederlands (Dutch), Čeština (Czech)											
2. Display Options		3. Control Options		4. Diagnostic Options		5. Camera Options		6. Function Programming		7. Enhanced Features	
1. Camera Msg		1. PASS		1. Coordinates		1. Zoom and Focus		1. PTZ Mimic Tour Menu^a		1. Video Gain/PWM Settings	
						(1) Max Digital Zoom Mag (2) Manual Zoom Speed (3) Min Focus Length(cm)		(1) Run a Mimic Tour (2) Program a Mimic Tour (3) Delete a Mimic Tour		(1) Video Gain (UTP) (2) Lift PWM Level 0-100 (3) Gain PWM Level 0-100 (4) Char White Level 0-100	
2. Sectors		2. Auto-Pivot		2. Total Run Time (PTZ, IR&Fo)		2. Exposure Control		2. Program a Preset Tour^b		2. NA	
						(1) NA (2) Exposure Level (3) NA (4) NA (5) NA (6) NA (7) Auto Slow Shutter (8) Backlight Comp					
3. Preset Names		3. Program Alarms		3. Clear The Memory		3. NightShot Control^c		3. Privacy Zone Options		3. NA	
		(1) Program Alarms (2) Set Alarm Condition (3) Enable Auto Ack (4) Enter Alarm Message (5) Alarm Overwrite (6) Overwrite Time (sec)				(1) NightShot Mode (2) NightShot (3) Activate (4) Deactivate		(1) Change PrivZone Priority (2) Enable/Disable PrivacyZone (3) Privacy Zone Color (4) Delete Privacy Zone			
4. Digital Zoom Mag		4. Set Pan and Tilt Options		4. Operational Diagnostics		4. White Balance		4. List PS/PT/Sectors		4. NA	
		(1) Manual Speed deg/s (2) Pan Reverse (3) Tilt Reverse (4) -5 deg Tilt Limit (5) Find Home on Startup (6) Pan Offset (7) Startup State Restore		(1) Display Error Logs (2) Clear Error Logs (3) Run Diagnostics (Find Home, Check Supply Voltage)		(1) High Light WB Mode (2) Low Light WB Mode (3) Enter High Lght 28dB (4) Enter Low Lght 28dB (5) Manual White Balance (6) Red Gain (7) Blue Gain		(1) Presets (2) Preset Tours (3) Sectors			
5. Start-up Screen Msg		5. Set Default Function		5. NA		5. Video Options^c		5. Program Sector^b		5. Time & Date Settings	
						(1) Still Preset (2) E-Flip (3) Mirror Image				(1) Display Time (2) Display Date (3) Time Format (4) Change Time (5) Change Date	
6. Change Camera Name Loc.		6. Auto Focus		6. Restore Default Settings		6. Vert Phase Edge		6. Program Privacy Zone^b		6. Display Supply Voltages	
7. Change Sector Name Loc.		7. Preset Tour Auto Foc		7. Scan and Camera Reset		7. Vert Phase 0-359.9		7. Delete PS/PT/MT/Sectors^b		7. Timed Functions	
8. Crosshairs		8. Preset Auto Focus				8. NA					
9. Dome Name Settings		9. Timed Auto Focus (sec)				9. WDR & Motion Detection^c					
(1) Set Dome Name (2) Display Dome Name (3) Change Dome Name Location						(1) Wide Dynamic Range (2) Motion Detection					

^a Diamond/IntelliBus™ protocol only

^b MAXPRO-mode/VCL/VCL UTC/Pelco P/Pelco D/AD/Pelco P_AD/Pelco D_AD protocol only

^c Not available with 18× Color (HDXA) cameras

Table 3-3 Menu Tree - 35x WDR/TDN (HDXG)

1. Language	English (default), Français (French), Deutsch (German), Italiano (Italian), Español (Spanish), Polski (Polish), Nederlands (Dutch), Čeština (Czech)				
2. Display Options	3. Control Options	4. Diagnostic Options	5. Camera Options	6. Function Programming	7. Enhanced Features
1. Camera Msg	1. PASS	1. Coordinates	1. Zoom and Focus (1) Max Digital Zoom Mag (2) Min Focus Length(cm)	1. PTZ Mimic Tour Menu^a (1) Run a Mimic Tour (2) Program a Mimic Tour (3) Delete a Mimic Tour	1. Video Gain/PWM Settings (1) Video Gain (UTP) (2) Lift PWM Level 0-100 (3) Gain PWM Level 0-100 (4) Char White Level 0-100
2. Sectors	2. Auto-Pivot	2. Total Run Time (PTZ, IR&Fo)	2. Exposure Control (1) Auto AE Mode (2) Manual AE Mode (3) Full Manual Settings (4) Slow AE Response	2. Program a Preset Tour^b	2. Display Temperature
3. Preset Names	3. Program Alarms (1) Program Alarms (2) Set Alarm Condition (3) Enable Auto Ack (4) Enter Alarm Message (5) Alarm Overwrite (6) Overwrite Time (sec)	3. Clear The Memory	3. Video Setup (1) Exposure Level (2) Max AGC Level 0-255 (3) Chroma Level 0-255 (4) Backlight Comp (5) Auto SlowShutter Lim (6) Wide Dynamic Range (7) Advanced WDR (8) High Sensitivity Mode (9) Field Noise Reduction	3. Privacy Zone Options (1) Change PrivZone Priority (2) Enable/Disable PrivacyZone (3) Privacy Zone Color (4) Delete Privacy Zones	3. Temp. format
4. Digital Zoom Mag	4. Set Pan and Tilt Options (1) Manual Speed deg/s (2) Pan Reverse (3) Tilt Reverse (4) -5 deg Tilt Limit (5) Find Home on Startup (6) Pan Offset (7) Startup State Restore	4. Operational Diagnostics (1) Display Error Logs (2) Clear Error Logs (3) Run Diagnostics (Find Home, Check Supply Voltage)	4. White Balance (1) Manual White Balance (2) Red Gain 0-511 (3) Blue Gain 0-511	4. List PS/PT/Sectors (1) Presets (2) Preset Tours (3) Sectors (4) Preset Types	4. NA
5. Start-up Screen Msg	5. Set Default Function	5. NA	5. Video Options (1) Still Preset (2) E-Flip (3) Mirror Image	5. Program Sector^b	5. Time & Date Settings (1) Display Time (2) Display Date (3) Time Format (4) Change Time (5) Change Date
6. Change Camera Name Loc.	6. Auto Focus	6. Restore Default Settings	6. Vert Phase Edge	6. Program Privacy Zone^b	6. Display Supply Voltages
7. Change Sector Name Loc.	7. Preset Tour Auto Foc	7. Scan and Camera Reset	7. Vert Phase 0-359.9	7. Delete PS/PT/MT/ Sectors^b	7. Timed Functions
8. Crosshairs	8. Preset Auto Focus		8. Image Stabilization		
9. Dome Name Settings (1) Set Dome Name (2) Display Dome Name (3) Change Dome Name Location	9. Timed Auto Focus (sec)		9. Motion Detection		

^a Diamond/IntelliBus™ protocol only

^b MAXPRO-mode/VCL/VCL UTC/Pelco P/Pelco D/AD/Pelco P_AD/Pelco D_AD protocol only

Configuring the OSD

This chapter contains the following sections:

- *Changing the OSD Language*, page 17
- *Displaying the Dome Address*, page 18
- *Displaying Sectors and Presets*, page 18
- *Displaying the Zoom Magnification*, page 19
- *Displaying the Startup Screen*, page 19
- *Displaying Crosshairs*, page 19
- *Displaying Dome Names*, page 20
- *Displaying the Pan, Tilt, and Zoom Coordinates*, page 20
- *Displaying the Time and Date*, page 21

Changing the OSD Language

By default, the on-screen display (OSD) menus are in English.

To change the OSD language:

1. Select **1 Language**.
2. Press Iris Open to navigate to the desired language: **Français** (French), **Deutsch** (German), **Italiano** (Italian), **Español** (Spanish), **Polski** (Polish), **Nederlands** (Dutch), or **Čeština** (Czech).

Displaying the Dome Address

Each dome on your network is assigned a unique identifier (for example, CAM 001). This is the dome address. You can show the dome address on the screen.

To show/hide the dome address:

- Select **2 Display Options ▶ 1 Camera Msg ▶ ON** or **OFF** (default)

To change the location of the dome address on the screen:

1. Select **2 Display Options ▶ 6 Change Camera Name Loc.**
2. Position the dome address on the screen by moving the controller joystick up or down.

Displaying Sectors and Presets

After you have programmed sectors and presets (see [Configuring Presets, Tours, Privacy Zones, and Sectors](#) on page 55), you can show the current sector and/or preset on the screen.

To show/hide the sector name:

- Select **2 Display Options ▶ 2 Sectors ▶ ON** or **OFF** (default)

Note If the dome has overlapping sectors displaying at the same time, the two sector names alternate on the screen at 1.5 second intervals.

To change the location of the sector name on the screen:

1. Select **2 Display Options ▶ 7 Change Sector Name Loc.**
2. Position the sector name on the screen by moving the controller joystick up or down.

To show/hide the preset name:

- Select **2 Display Options ▶ 3 Preset Names ▶ ON** or **OFF** (default)

Displaying the Zoom Magnification

You can show the camera's zoom magnification level on the screen.

To show/hide the zoom magnification:

- Select **2 Display Options ▶ 4 Digital Zoom Mag ▶ ON** or **OFF** (default).

Displaying the Startup Screen

A startup screen appears when you first power up the dome, displaying the protocol, baud rate, parity, data bits, camera type, and firmware version of the dome. You can turn off the startup screen so that it does not appear the next time you power up the dome.

To show/hide the startup screen message:

- Select **2 Display Options ▶ 5 Start-up Screen Msg ▶ ON** (default) or **OFF**.

Displaying Crosshairs

You can show crosshairs on the screen to aid in positioning the camera. This is helpful for setting up privacy zones and sectors.

To show/hide crosshairs:

- Select **2 Display Options ▶ 8 Crosshairs ▶ ON** or **OFF** (default).

Displaying Dome Names

You can create a dome name and manage its on-screen display settings.

To create a dome name:

1. Select **2 Display Options ▶ 9 Dome Name Settings ▶ 1 Set Dome Name**.
2. Enter a name for the dome (up to 24 alphanumeric characters) using the controller joystick.

To show/hide a dome name:

- Select **2 Display Options ▶ 9 Dome Name Settings ▶ 2 Display Dome Name ▶ ON or OFF** (default).

To change the location of the dome name on the screen:

1. Select **2 Display Options ▶ 9 Dome Name Settings ▶ 3 Change Dome Name Location**.
2. Position the dome name on the screen by moving the controller joystick up or down.

Displaying the Pan, Tilt, and Zoom Coordinates

You can show the dome's pan (azimuth), tilt (elevation/declination), and zoom coordinates on the screen.

To show/hide the pan and tilt coordinates:

- Select **4 Diagnostic Options ▶ 1 Coordinates ▶ ON or OFF** (default).

Displaying the Time and Date

You can show the current time and date on the screen. The time is displayed at the lower left center of the screen, the date at the lower right center of the screen.

To show/hide the current time:

- Select **7 Enhanced Settings** ► **5 Time & Date Settings** ► **1 Display Time** ► **ON** or **OFF** (default).

To change the time setting:

1. Select **7 Enhanced Settings** ► **5 Time & Date Settings** ► **4 Change Time**.
2. Enter the new time in HH:MM:SS (hours:minutes:seconds) format using the controller joystick.
3. Press Iris Open to accept the new time, or press Iris Close to cancel.

To change the time format:

- Select **7 Enhanced Settings** ► **5 Time & Date Settings** ► **3 Time Format** ► **24 Hours** (default) or **12 Hours**.

To show/hide the current date:

- Select **7 Enhanced Settings** ► **5 Time & Date Settings** ► **2 Display Date** ► **ON** or **OFF** (default).

To change the date:

1. Select **7 Enhanced Settings** ► **5 Time & Date Settings** ► **5 Change Date**.
2. Enter the new date in YYYY-MM-DD (year-month-day) format using the controller joystick.
3. Press Iris Open to accept the new time, or press Iris Close to cancel.

Configuring PTZ Control

This chapter contains the following sections:

- *Setting PASS*, page 23
- *Setting Auto Pivot*, page 24
- *Setting the Pan and Tilt Speed*, page 24
- *Setting Pan Reverse*, page 24
- *Setting Tilt Reverse*, page 25
- *Setting the Tilt Limit*, page 25
- *Finding Home on Startup*, page 25
- *Setting the Pan Offset*, page 26
- *Setting the Startup State Restore*, page 27
- *Setting Auto Focus*, page 27
- *Setting Timed Auto Focus*, page 28

Setting PASS

PASS adjusts the pan and tilt speed in proportion to the amount of zoom so that the image on the monitor appears to be moving at the same speed when zooming in and out. When PASS is enabled, the pan and tilt speed is slowed at telephoto zoom settings, making it easier to position the camera.

To enable/disable PASS:

- Select **3 Control Options** ► **1 PASS** ► **ON** (default) or **OFF**.

Setting Auto Pivot

Auto pivot lets you track subjects passing under the dome in a single continuous shot. When auto pivot is enabled and the controller joystick is held in the down position, the camera automatically turns 180 degrees when it reaches its lower limit and continues tracking up the other side.

To enable/disable auto pivot:

- Select **3 Control Options ▶ 2 Auto-Pivot ▶ ON or OFF** (default).

Setting the Pan and Tilt Speed

You can manually set the maximum pan and tilt speed settings of the camera. The following maximum pan speeds are available:

- 120 degrees per second
- 240 degrees per second
- 480 degrees per second

The maximum tilt speed is determined by the maximum pan speed, being half of the maximum pan speed: 60, 120, or 240 degrees per second.

To manually set the maximum pan and tilt speed:

- Select **3 Control Options ▶ 4 Set Pan and Tilt Options ▶ 1 Manual Speed deg/s ▶ 120, 240, or 480** (default).

Setting Pan Reverse

You can reverse the pan so that a left pan command from the controller will cause the camera to pan right and a right pan command will cause the camera to pan left.

To enable/disable pan reverse:

- Select **3 Control Options ▶ 4 Set Pan and Tilt Options ▶ 2 Pan Reverse ▶ ON or OFF** (default).

Setting Tilt Reverse

You can reverse the tilt so that a tilt up command from the controller will cause the camera to tilt down and a tilt down command will cause the camera to tilt up.

To enable/disable tilt reverse:

- Select **3 Control Options ▶ 4 Set Pan and Tilt Options ▶ 3 Tilt Reverse ▶ ON or OFF** (default).

Setting the Tilt Limit

You can allow the camera to tilt five degrees above the horizontal using the -5 degree tilt limit feature.

To enable/disable -5 degree tilt limit:

- Select **3 Control Options ▶ 4 Set Pan and Tilt Options ▶ 4 -5 deg Tilt Limit ▶ ON or OFF** (default).

Finding Home on Startup

By default, the dome automatically "finds home" on startup. You can disable this setting if you want the dome to wait for a control input from the operator before going to its "home" (index) position. To disable this setting, the Startup State Restore must be set to OFF.

Note When a privacy zone is enabled, no video is displayed during the finding home process. Privacy zones are not recognized until the dome reaches home. After home is found, video is displayed on the monitor unless a privacy zone overlaps with this home setting.

To enable/disable finding home on startup:

1. If necessary, disable Startup State Restore (see [Setting the Startup State Restore](#) on page 27).
2. Select **3 Control Options ▶ 4 Set Pan and Tilt Options ▶ 5 Find Home on Startup ▶ ON** (default) or **OFF**.
3. If **ON** is selected, the following message appears:

Extreme Caution: This will cause the scan to move immediately on startup. Are you sure that you want to do this? Y/N.

Select **Y** (yes) to continue, or select **N** (no) to cancel.

Setting the Pan Offset

The pan offset feature is useful when a new scan assembly is installed and the programming from the existing ACUIX is transferred to the new ACUIX using the upload/download feature.

The alignment of the new ACUIX may not be exactly the same as the old ACUIX, causing the programmed positions of the presets to be off. Preset 0 is used to define the location of the pan setting. To set the pan offset, you must know the original positioning of preset 0.

To set the pan offset:

1. Select **3 Control Options ▶ 4 Set Pan and Tilt Options ▶ 6 Pan Offset ▶ 1 Pan Offset ▶ ON**.
2. Exit the OSD menus until you have manual control of the dome.
3. Enter preset 0 on your controller. If the dome does not go to the previously known position for preset 0, the pan offset function cannot be used.
4. Using the controller, position the dome where preset 0 should be.
5. Select **3 Control Options ▶ 4 Set Pan and Tilt Options ▶ 6 Pan Offset ▶ 2 Set Pan Offset**.
6. Test the setting. Using the controller, reposition the dome and then enter preset 0. The dome should return to the programmed position.

Setting the Startup State Restore

By default, the dome automatically "finds home" on startup. When this function is enabled, the dome will find home on startup and then revert to the position it was at prior to the last shutdown, as well as the function it was executing prior to the last shutdown.

To enable/disable startup state restore:

1. Select **3 Control Options ▶ 4 Set Pan and Tilt Options ▶ 7 Startup State Restore ▶ ON** (default) or **OFF**.
2. If **ON** is selected, the following message appears:

Extreme Caution: This will move the dome to previous shutdown position on startup. Are you sure that you want to do this? Y/N.

Select **Y** (yes) to continue, or select **N** (no) to cancel.

Setting Auto Focus

Auto focus causes the lens to remain in focus when using zoom and/or pan and tilt functions. The following auto focus settings are available:

- **Z**: The camera focuses automatically when the zoom setting changes.
- **PTZ**: The camera focuses automatically when using PTZ functions.
- **OFF**: The focus is operated manually using the controller.

To set auto focus:

- Select **3 Control Options ▶ 6 Auto Focus ▶ Z** (default), **PTZ**, or **OFF**.

To set preset and preset tour auto focus, see [Setting Preset Auto Focus](#) on page 56 and [Setting Preset Tour Auto Focus](#) on page 60.

Setting Timed Auto Focus

You can set the camera to focus automatically at regular intervals of either 20, 30, 60, 120, 300, or 600 seconds.

To set timed auto focus:

- Select **3 Control Options** ► **9 Timed Auto Focus (sec)** ► **OFF** (default), **20, 30, 60, 120, 300, or 600**.

Configuring HDXA, HDXJ, and HDXF Camera Settings

This chapter contains the following sections:

- *Setting the Zoom*, page 29
- *Setting Exposure*, page 31
- *Setting NightShot (True Day/Night)*, page 32
- *Setting White Balance*, page 34
- *Setting E-Flip and Mirror Image*, page 35
- *Setting the Vertical Phase Edge*, page 36
- *Setting Wide Dynamic Range*, page 36
- *Setting Motion Detection*, page 37
- *Setting the Video Gain and Lift (UTP Video Output)*, page 38

Setting the Zoom

Setting the Maximum Digital Zoom

Digital zoom enlarges an image by expanding it both vertically and horizontally, resulting in an overall reduction in resolution. You can limit the amount of digital zoom available to the camera.

To set the maximum digital zoom:

- Select **5 Camera Options ► 1 Zoom and Focus ► 1 Max Digital Zoom Mag ► 1× (default), 12×, 4×, or 2×.**

Setting the Zoom Speed

You can set the speed at which the camera goes from full wide zoom to telephoto zoom. There are eight levels of zoom speed available.

To set the zoom speed:

1. Select **5 Camera Options ► 1 Zoom and Focus ► 2 Manual Zoom Speed**.
2. Select a value between 0 and 8 to set the zoom speed:
 - **6** (default)
 - **0** (slowest)
 - **7** (fastest)
 - **8** (zoom speed proportional to amount of joystick deflection)

Setting the Minimum Focus Distance

You can define the minimum focus distance to prevent the camera from focusing on dirt or rain drops on the surface of the bubble. The minimum focus distance is independent of the digital zoom.

To set the minimum focus distance:

1. Select **5 Camera Options ► 1 Zoom and Focus ► 3 Min Focus Length(cm)**.
2. Select the minimum focus distance you want to use (see [Table 6-1](#)).

Table 6-1 Minimum Focus Distances by Camera

	Wide End	Tele End
HDXA - 18× Color	29 cm	80 cm (default)
HDXJ - 18× WDR/TDN	29 cm	80 cm (default)
HDXF - 26× WDR/TDN	32 cm	150 cm (default)

Setting Exposure

Auto Exposure

You can toggle auto exposure on or off using special preset 92 when the dome is configured for MAXPRO-mode/VCL/VCL UTC/Pelco P/Pelco D protocol.

To enable/disable auto exposure:

1. Exit the OSD menus until you have manual control of the dome.
2. Enter preset 92 on your controller to toggle auto exposure on (default) or off.
3. Enter preset 90 on your controller to return to the OSD main menu.

Manual Exposure Control

You can manually control the exposure by selecting a value between 0 and 14, where 0 is for dark applications and 14 is for bright applications.

To learn more about manual exposure control, see [About ACUIX PTZ Dome Manual Exposure Control](#) on page 100.

To set the exposure:

1. Select **5 Camera Options ▶ 2 Exposure Control ▶ 2 Exposure Level**.
2. Select a value between **0** and **14** (default = 7).

Auto Slow Shutter

You can set the camera to automatically slow the shutter time when low light is detected. However, slow shutter times beyond 1/60 s (1/50 s) can cause motion blurring at low light levels.

To enable/disable auto slow shutter:

- Select **5 Camera Options ▶ 2 Exposure Control ▶ 7 Auto Slow Shutter ▶ ON or OFF** (default).

Note Wide dynamic range mode is disabled when the auto slow shutter limit is reached. It cannot be enabled while auto slow shutter is on.

Backlight Compensation

Backlight compensation (BLC) corrects for strong background lighting by enhancing subjects in the foreground, providing detail that would normally be silhouetted.

You can turn backlight compensation on or off by using special preset 93 when the dome is configured for MAXPRO-mode/VCL/VCL UTC/Pelco P/Pelco D protocol.

Note In most applications, wide dynamic range may be a better option than backlight compensation.

To enable/disable backlight compensation:

1. Ensure that auto exposure is on (preset 92).
2. Do one of the following:
 - Enter preset 93 on your controller.
 - Select **5 Camera Options ▶ 2 Exposure Control ▶ 8 Backlight Compensation ▶ ON** or **OFF** (default).

Setting NightShot (True Day/Night)

This feature is only available with HDXJ and HDXF cameras. It is not available with HDXA cameras.

When NightShot, or True Day/Night (TDN), is enabled, all available visible and IR light is allowed to reach the image sensor and be recorded, producing a black and white picture at the lowest possible light level.

You can configure the specific values at which the camera switches from day mode (color, insensitive to IR) to night mode (black and white, sensitive to IR) and from night mode to day mode. These are the activate and deactivate points. The full list of values from highest light level to lowest light level is shown in [Table C-1](#) on [page 103](#).

The deactivate point must always be at a higher light level (lower video gain and lower shutter time) than the activate point. To ensure the highest quality picture, the deactivate point should be set to **0 dB** and **1/60 s**, with the activate point set far enough below it that the camera does not oscillate between day and night modes. If the camera continually switches between day mode and night mode, move the deactivate and activate points farther apart.

To set the NightShot mode (manual or automatic):

1. Ensure that auto exposure is on (preset 92).
2. Select **5 Camera Options ▶ 3 NightShot Control ▶ 1 NightShot Mode ▶ MAN** (default) or **AUTO**.

To enable/disable NightShot:

1. Set NightShot mode to manual.
2. Select **5 Camera Options ▶ 3 NightShot Control ▶ 2 NightShot ▶ ON** or **OFF** (default).

Note Wide dynamic range mode is disabled when the camera enters NightShot mode. It cannot be enabled while NightShot is on.

To set the NightShot activate point:

1. Set the NightShot mode to automatic.
2. Select **5 Camera Options ▶ 3 NightShot Control ▶ 3 Activate**.
3. Select the desired activate setting by moving the controller joystick up or down to navigate through the available video gain and shutter speed values.

Video Gain Settings

- 0 dB, 2 dB, 4 dB, 6 dB, 8 dB, 10 dB, 12 dB, 14 dB, 16 dB, 18 dB, 20 dB (default), 22 dB, 24 dB, 26 dB, or 28 dB

Shutter Speed Settings

- NTSC = 1/4 s, 1/8 s, 1/15 s, 1/30 s, or 1/60 s (default)
- PAL = 1/3 s, 1/6 s, 1/12 s, 1/25 s, or 1/50 s (default)

To set the NightShot deactivate point:

1. If necessary, set the NightShot mode to automatic.
2. Select **5 Camera Options ► 3 NightShot Control ► 4 Deactivate**.
3. Select the desired deactivate setting by moving the controller joystick up or down to navigate through the available video gain and shutter speed values.

Video Gain Settings

- 0 dB (default), 2 dB, 4 dB, 6 dB, 8 dB, 10 dB, 12 dB, 14 dB, 16 dB, 18 dB, 20 dB, 22 dB, 24 dB, 26 dB, or 28 dB

Shutter Speed Settings

- NTSC = 1/4 s, 1/8 s, 1/15 s, 1/30 s, or 1/60 s (default)
- PAL = 1/3 s, 1/6 s, 1/12 s, 1/25 s, or 1/50 s (default)

Setting White Balance

The high light level mode cannot be set lower than the low light level mode. Conversely, the low light level mode cannot be set higher than the high light level mode.

To set the white balance for high light or low light:

1. Select **5 Camera Options ► 4 White Balance ► 1 High Light WB Mode or 2 Low Light WB Mode**
2. Select one of the following:
 - **AUTO** (default): Auto White Balance mode automatically adjusts the white balance using color information from the entire screen. It compensates for color temperature changes from 3200 K to 7500 K. Use this setting to control the white balance for a particular shooting environment.
 - **ATW**: Auto Tracing White Balance mode automatically adjusts the white balance every time a change is detected in lighting conditions. It compensates for color temperature changes from 2000 K to 10000 K. Use this setting to control the white balance when lighting conditions are variable.
 - **Indoor**: If the lighting condition is limited to fluorescent light, you can select the preset 3200 K base mode for more precise white balance adjustment.
 - **Outdoor**: If the lighting condition is limited to daylight, you can select the preset 5800 K base mode for more precise white balance adjustment.

To set the video gain and shutter speed for high light or low light:

1. Select **5 Camera Options ▶ 4 White Balance ▶ 3 Enter High Light 28 dB** or **4 Enter Low Light 28 dB**.
2. Select a **Video Gain Setting**:
 - 0 dB, 2 dB, 4 dB, 6 dB, 8 dB, 10 dB, 12 dB, 14 dB, 16 dB, 18 dB, 20 dB, 22 dB, 24 dB, 26 dB, or 28 dB
3. Select a **Shutter Speed**:
 - NTSC cameras (high light default is 1/60 s; low light default is 1/30 s):
1/4 s, 1/8 s, 1/15 s, 1/30 s, or 1/60 s
 - PAL cameras (high light default is 1/50 s; low light default is 1/25 s):
1/3 s, 1/6 s, 1/12 s, 1/25 s, or 1/50 s

To enable/disable manual white balance:

- Select **5 Camera Options ▶ 4 White Balance ▶ 5 Manual White Balance ▶ ON** or **OFF** (default).

To set red gain and blue gain:

1. Set manual white balance to **ON**.
2. Select **5 Camera Options ▶ 4 White Balance ▶ 6 Red Gain**.
3. Select a value between **0** and **255** (default = 200).
4. Select **5 Camera Options ▶ 4 White Balance ▶ 7 Blue Gain**.
5. Select a value between **0** and **255** (default = 200).

Setting E-Flip and Mirror Image

This feature is only available with HDXJ and HDXF cameras. It is not available with HDXA cameras.

E-Flip turns the image upside down. Mirror Image reverses the image horizontally.

To enable/disable E-Flip:

- Select **5 Camera Options ▶ 5 Video Options ▶ 2 E-Flip ▶ ON** or **OFF** (default).

To enable/disable Mirror Image:

- Select **5 Camera Options ▶ 5 Video Options ▶ 3 Mirror Image ▶ ON** or **OFF** (default)

Setting the Vertical Phase Edge

Vertical Phase Edge, or line lock, lets you synchronize all analog cameras connected to the same power line. This prevents the picture on the monitor from rolling vertically when switching from one camera to another.

Line lock can also help an analog VCR to remain in sync when switching between properly adjusted, line-locked cameras. Line lock is generally of no benefit with digital (LCD or flat screen) monitors and DVRs.

Note You need an AC power supply to use this feature.

To enable/disable vertical phase edge:

- Select **5 Camera Options ▶ 6 Vert Phase Edge ▶ Enabled or Disabled** (default).

To set the vertical phase edge:

1. Enable vertical phase edge.
2. Select **5 Camera Options ▶ 7 Vert Phase 0–359.9**.
3. Select a value between **0** (default) and **359.9**. The value expresses, in degrees, the adjustment required overcome the difference between connected AC supply phases.

Setting Wide Dynamic Range

This feature is only available with HDXJ and HDXF cameras. It is not available with HDXA cameras.

Wide dynamic range technology provides clear, balanced images in a variety of lighting conditions, such as entrances with varying levels of indoor/outdoor illumination and situations where backlighting makes it difficult to see a foreground subject clearly. Wide dynamic range improves detail in underexposed (dark) and overexposed (light) areas but can lead to unnatural looking video.

Note WDR is disabled when the auto slow shutter limit is reached or when the camera enters NightShot mode. It cannot be enabled while auto slow shutter and/or NightShot are on.

To enable/disable wide dynamic range:

- Select **5 Camera Options ▶ 9 WDR & Motion Detection ▶ 1 Wide Dynamic Range ▶ ON or OFF** (default).

Setting Motion Detection

This feature is only available with HDXJ and HDXF cameras. It is not available with HDXA cameras.

When motion detection is enabled, any detected motion causes the message Motion Detected to be displayed on the monitor. The message remains on the screen until the dome receives a pan, tilt, or zoom command.

Motion detection is automatically disabled as soon as motion is detected to avoid multiple triggers from the same event. It is turned on again after a one minute delay.

Pan, tilt, or zoom changes will disable motion detection.

Note If the dome is configured for IntelliBus protocol, for each motion detect event an IntelliBus motion detect message is sent to the IntelliBus master.

To enable/disable motion detection:

- Select **5 Camera Options ▶ 9 WDR & Motion Detection ▶ 2 Motion Detection ▶ ON or OFF** (default).

If **ON** is selected, the message Motion Detection Enabled appears.

Setting the Video Gain and Lift (UTP Video Output)

You can adjust the video gain and lift settings when running video signals over unshielded twisted pair (UTP) wiring.

The lift setting boosts the high frequency in the video to compensate for high frequency losses over long cable distances. The greater the UTP wiring distance, the higher the setting.

To enable/disable video gain:

- Select **7 Enhanced Features** ► **1 Video Gain (UTP)** ► **ON** or **OFF** (default).

To adjust the video lift and gain pulse width modulation (PWM) levels:

1. Enable video gain.
2. Select **7 Enhanced Features** ► **2 Lift PWM Level 0–100** or **3 Gain PWM Level 0–100**
3. Select a value between **0** and **100**. Use [Table 6-2](#) as a reference.

Table 6-2 Recommended Lift and Gain Settings by Cable Length

Cable Length	Lift Setting	Gain Setting
1200+ ft (365+ m)	100	55
900 ft (275 m)	80	42
600 ft (183 m)	40	35
300 ft (91 m)	25	25

To lighten or darken the characters on the monitor screen:

1. Select **7 Enhanced Features** ► **4 Char White Level 0–100**.
2. Select a value between **0** and **100** where:
 - 0 = darkest
 - 100 = brightest
 - 50 = default

CAUTION Selecting values greater than 50 can cause the phosphor in some monitors to burn the character images into the monitor.

Configuring HDXG Camera Settings

This chapter contains the following sections:

- *Setting the Zoom*, page 40
- *Setting Exposure*, page 41
- *Setting the Picture Brightness*, page 43
- *Setting the Maximum AGC Level*, page 43
- *Setting the Chroma Level*, page 44
- *Setting Backlight Compensation*, page 44
- *Setting Auto Slow Shutter*, page 45
- *Setting Wide Dynamic Range*, page 45
- *Setting Advanced Wide Dynamic Range*, page 45
- *Setting High Sensitivity Mode*, page 46
- *Setting Field Noise Reduction*, page 46
- *Setting White Balance*, page 46
- *Setting E-Flip and Mirror Image*, page 47
- *Setting the Vertical Phase Edge*, page 47
- *Setting Image Stabilization*, page 48
- *Setting Motion Detection*, page 48
- *Setting the Video Gain and Lift (UTP Video Output)*, page 49

Setting the Zoom

Setting the Maximum Digital Zoom

The 35× optical zoom (HDXG) camera offers up to 12× digital zoom for a maximum zoom factor of 420×. Digital zoom enlarges an image by expanding it both vertically and horizontally, resulting in an overall reduction in resolution. You can limit the amount of digital zoom available to the camera.

To set the maximum digital zoom:

- Select **5 Camera Options ▶ 1 Zoom and Focus ▶ 1 Max Digital Zoom Mag ▶ 1× (default), 12×, 4×, or 2×.**

Note If image stabilization is enabled, the digital zoom is restricted to 2×.

Setting the Minimum Focus Distance

You can define the minimum focus distance to prevent the camera from focusing on dirt or rain drops on the surface of the bubble. The minimum focus distance is independent of the digital zoom.

To set the minimum focus distance:

- Select **5 Camera Options ▶ 1 Zoom and Focus ▶ 3 Min Focus Length(cm) ▶ 30 or 150 (default).**

Setting Exposure

Auto Exposure (AE)

You can toggle auto exposure on or off by using special preset 92 when the dome is configured for MAXPRO-mode/VCL/VCL UTC/Pelco P/Pelco D protocol.

To enable/disable auto exposure:

1. Exit the OSD menus until you have manual control of the dome.
2. Enter preset 92 on your controller to toggle auto exposure on (default) or off.

Setting the Auto Exposure (AE) Mode

You can set the auto exposure to Auto AE mode or to Manual AE mode. You can also slow the AE response speed to minimize exposure changes caused by momentary bright spots in the image.

To set the Auto AE mode:

1. Ensure that auto exposure is enabled (preset 92).
2. Enter preset 90 on your controller to return to bring up the OSD main menu.
3. Select **5 Camera Options ▶ 2 Exposure Control ▶ 1 Auto AE Mode**.
4. Select the desired setting using [Table 7-1](#) as a reference. The features associated with each exposure mode are displayed below the menu options.

Table 7-1 Auto Exposure Control Mode Settings

Setting	NightShot Control	Auto NightShot Sensitivity	Digital Slow Shutter
Auto AE Mode	MAN	NA	OFF
Auto AER1 Mode	AUTO	HIGH	OFF
Auto AER2 Mode	AUTO	MID	OFF
Auto AE+ Mode	MAN	NA	AUTO
Auto AER+1 Mode (default)	AUTO	HIGH	AUTO
Auto AER+2 Mode	AUTO	MID	AUTO
Auto AER+3 Mode	AUTO	LOW	AUTO

To set the Manual AE mode:

1. Disable auto exposure (preset 92):
 - a. Exit the OSD menus until you have manual control of the dome.
 - b. Enter preset 92 on your controller to toggle auto exposure off.
2. Enter preset 90 on your controller to access the OSD main menu.
3. Select **5 Camera Options ▶ 2 Exposure Control ▶ 2 Manual AE Mode**.
4. Select one of the following options:
 - **Iris** (default): Provides manual iris control while the camera controls the gain and shutter automatically.
 - **Gain**: Provides manual gain control while the camera controls the iris and shutter automatically.
 - **Full**: Provides access to shutter speed, AGC level settings, and to manual iris control.
 - **Shutter**: Provides manual shutter control while the camera controls the iris and gain automatically.
5. If **Full** is selected, do the following:
 - a. Select **5 Camera Options ▶ 2 Exposure Control ▶ 3 Full Manual Settings**.

Select the desired **Shutter Speed**:

 - NTSC = 1/60 (default), 1/120, 1/180, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000, 1/30000
 - PAL = 1/50 (default), 1/100, 1/150, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000, 1/30000
 - b. Select the desired **AGC Level**. Choose a value between 0 (default) and 30 dB.
 - c. Manually control the iris using Iris Open and Iris Close on your controller.

To slow the AE response speed:

1. Select **5 Camera Options ▶ 2 Exposure Control ▶ 4 Slow AE Response**.
2. Select a value between **1** (default) and **254** times.

Setting the Picture Brightness

You can adjust the brightness of the image.

To set the picture brightness:

1. Select **5 Camera Options ▶ 3 Video Setup ▶ 1 Exposure Level**.
2. Select a value between **0** and **255** where:
 - 0 = darkest
 - 255 = brightest
 - 70 = default

Note Setting the exposure level to a value other than 70 may upset auto white balance (AWB) operation and auto exposure (AE) operation.

Setting the Maximum AGC Level

Automatic gain control (AGC) adjusts the video signal strength to compensate for changes in light levels.

To set the maximum AGC level:

1. Select **5 Camera Options ▶ 3 Video Setup ▶ 2 Max AGC Level 0–255**.
2. Select a value between **0** and **255** where:
 - 0 = picture is dim, with no noise
 - 255 = picture is bright, with noise
 - 216 = default

Setting the Chroma Level

The chroma level controls the color saturation of the image.

To set the chroma level:

1. Select **5 Camera Options ▶ 3 Video Setup ▶ 3 Chroma Level 0–255**.
2. Select a value between **0** and **255** where:
 - 0 = picture has no color
 - 255 = picture color is saturated
 - 127 = default

Note Setting the chroma level to a value other than 127 may upset auto white balance (AWB) operation.

Setting Backlight Compensation

Backlight compensation (BLC) corrects for strong background lighting by enhancing subjects in the foreground, providing detail that would normally be silhouetted.

You can turn backlight compensation on or off by using special preset 93 when the dome is configured for MAXPRO-mode/VCL/VCL UTC/Pelco P/Pelco D protocol.

Note In most applications, wide dynamic range may be a better option than backlight compensation.

To enable/disable backlight compensation:

1. Ensure that auto exposure is enabled (preset 92).
2. Enter preset 93 on your controller or go to the OSD main menu (preset 90) and select **5 Camera Options ▶ 3 Video Setup ▶ 4 Backlight Comp ▶ ON or OFF** (default).

Setting Auto Slow Shutter

Auto slow shutter permits the capture of bright, clear images in low light conditions by increasing exposure times. However, slow shutter limit times beyond 1/60 s can cause motion blurring at low light levels.

To set the auto slow shutter limit:

1. Select **5 Camera Options ▶ 3 Video Setup ▶ 5 Auto Slow Shutter Lim.**
2. Select one of the following:
 - NTSC = 1/4 (default), 1/2, 1/60, 1/30, 1/15, 1/8
 - PAL = 1/3 (default), 1/1.5, 1/50, 1/25, 1/12

Setting Wide Dynamic Range

Wide dynamic range (WDR) technology provides clear, balanced images in a variety of lighting conditions, such as entrances with varying levels of indoor/outdoor illumination and situations where backlighting makes it difficult to see a foreground subject clearly. Wide dynamic range improves detail in underexposed (dark) and overexposed (light) areas but can lead to unnatural looking video.

To enable/disable wide dynamic range:

- Select **5 Camera Options ▶ 3 Video Setup ▶ 6 Wide Dynamic Range ▶ ON or OFF** (default).

Setting Advanced Wide Dynamic Range

Advanced wide dynamic range operation is similar to wide dynamic range operation but with 10 dB more range.

To enable/disable advanced wide dynamic range:

- Select **5 Camera Options ▶ 3 Video Setup ▶ 7 Advanced WDR ▶ ON or OFF** (default).

Setting High Sensitivity Mode

High sensitivity mode provides higher sensitivity at the expense of less clearly defined lines and contours of objects in motion. Enabling high sensitivity mode selects interlaced scanning, while disabling high sensitivity mode selects progressive scanning.

To enable/disable high sensitivity mode:

- Select **5 Camera Options ▶ 3 Video Setup ▶ 8 High Sensitivity Mode ▶ ON** or **OFF** (default).

Setting Field Noise Reduction

Field noise reduction (FNR) technology minimizes random noise and after-images generated by moving subjects, producing clear, sharp images and improving motion detection performance. Field noise reduction can also reduce the bandwidth and storage volume required if the video is digitized and compressed. Auto and manual field noise reduction modes are available.

To set the field noise reduction mode:

- Select **5 Camera Options ▶ 3 Video Setup ▶ 9 Field Noise Reduction ▶ 1 FNR Mode ▶ Auto** (default) or **Manual**.
 - If **Auto** is selected, you can adjust the level of noise reduction by selecting **5 Camera Options ▶ 3 Video Setup ▶ 9 Field Noise Reduction ▶ 2 Auto FNR ▶ Slight** (default), **Weak**, **Medium**, or **Strong**.
 - If **Manual** is selected, you can adjust the level of noise reduction by selecting **5 Camera Options ▶ 3 Video Setup ▶ 9 Field Noise Reduction ▶ Manual FNR (0–16)**, and then selecting a value between **0** (weak) and **16** (strong).

Setting White Balance

If manual white balance is enabled, the red and blue gain settings can be changed. If manual white balance is disabled, the red and blue gain settings can be changed but the settings do not take effect until the manual white balance is enabled again.

To enable/disable manual white balance:

- Select **5 Camera Options ▶ 4 White Balance ▶ 1 Manual White Balance ▶ ON or OFF** (default).

To set red gain and blue gain:

1. Enable manual white balance.
2. Select **5 Camera Options ▶ 4 White Balance ▶ 2 Red Gain 0–511 or 3 Blue Gain 0–511**.
3. Select a value between **0** and **511** (default = 128).

Setting E-Flip and Mirror Image

E-Flip turns the image upside down. Mirror Image reverses the image horizontally.

To enable/disable E-Flip:

- Select **5 Camera Options ▶ 5 Video Options ▶ 2 E-Flip ▶ ON or OFF** (default).

To enable/disable Mirror Image:

- Select **5 Camera Options ▶ 5 Video Options ▶ 3 Mirror Image ▶ ON or OFF** (default)

Setting the Vertical Phase Edge

Vertical Phase Edge, or line lock, lets you synchronize all analog cameras connected to the same power line. This prevents the picture on the monitor from rolling vertically when switching from one camera to another.

Line lock can also help an analog VCR to remain in sync when switching between properly adjusted, line-locked cameras. Line lock is generally of no benefit with digital (LCD or flat screen) monitors and DVRs.

Note You need an AC power supply to use this feature.

To enable/disable vertical phase edge:

- Select **5 Camera Options ▶ 6 Vert Phase Edge ▶ Enabled or Disabled** (default).

To set the vertical phase edge:

1. Enable vertical phase edge.
2. Select **5 Camera Options ▶ 7 Vert Phase 0–359.9**.
3. Select a value between **0** (default) and **359.9**. The value expresses, in degrees, the adjustment required overcome the difference between connected AC supply phases.

Setting Image Stabilization

Electronic image stabilization (EIS) compensates for camera vibration, minimizing image blur.

To enable/disable image stabilization:

- Select **5 Camera Options ▶ 3 Video Setup ▶ 8 Image Stabilization ▶ 5 Hz, 10 Hz, or OFF** (default).

Note If image stabilization is enabled, the digital zoom is restricted to 2×.

Setting Motion Detection

When motion detection is enabled, any detected motion causes the message **Motion Detected** to be displayed on the monitor. The message remains on the screen until the dome receives a pan, tilt, or zoom command.

Motion detection is automatically disabled as soon as motion is detected to avoid multiple triggers from the same event. It is turned on again after a one minute delay.

Pan, tilt, or zoom changes will disable motion detection.

Note If the dome is configured for IntelliBus protocol, for each motion detect event an IntelliBus motion detect message is sent to the IntelliBus master.

To enable/disable motion detection:

1. Select **5 Camera Options ▶ 9 Motion Detection**.

The following message appears:

This will Disable Image Stabilization. Are you sure that you want to do this? Y/N

2. Select **Y** (yes) to continue, or select **N** (no) to cancel.

If **Y** is selected, the message Motion Detection Enabled appears.

Setting the Video Gain and Lift (UTP Video Output)

You can adjust the video gain and lift settings when running video signals over unshielded twisted pair (UTP) wiring.

The lift setting boosts the high frequency in the video to compensate for high frequency losses over long cable distances. The greater the UTP wiring distance, the higher the setting.

To enable/disable video gain:

- Select **7 Enhanced Features ▶ 1 Video Gain (UTP) ▶ ON** or **OFF** (default).

To adjust the video lift and gain pulse width modulation (PWM) levels:

1. Enable video gain.
2. Select **7 Enhanced Features ▶ 2 Lift PWM Level 0–100** or **3 Gain PWM Level 0–100**.
3. Select a value between **0** and **100**. Use [Table 7-2](#) as a reference.

Table 7-2 Recommended Lift and Gain Settings by Cable Length

Cable Length	Lift Setting	Gain Setting
1200+ ft (365+ m)	100	55
900 ft (275 m)	80	42
600 ft (183 m)	40	35
300 ft (91 m)	25	25

To lighten or darken the characters on the monitor screen:

1. Select **7 Enhanced Features ▶ 4 Char White Level 0-100**.
2. Select a value between **0** and **100** where:
 - 0 = darkest
 - 100 = brightest
 - 50 = default

CAUTION Selecting values greater than 50 can cause the phosphor in some monitors to burn the character images into the monitor.

Configuring Alarms

This chapter contains the following sections:

- *Programming Alarms*, page 51
- *Setting Alarm Conditions*, page 52
- *Setting Automatic Acknowledgment Properties*, page 52
- *Setting Alarm Messages*, page 53
- *Setting Alarm Overwrite and Overwrite Time*, page 53

Programming Alarms

You can program up to four alarm inputs. The input contacts are sampled 16 times per second. When an alarm is activated, the dome performs the function configured for the alarm (such as go to preset or run mimic tour).

To program an alarm input:

1. Select **3 Control Options ► 3 Program Alarms ► 1 Program Alarms**.
2. Select the alarm input you want to program (**1–4**).
3. In the Function (FUN) column, select one of the following:
 - **P** = preset (normal or advanced)
 - **V** = preset tour
 - **T** = mimic tour
 - **N** = night mode
 - **D** = day mode

Note If night mode (N) or day mode (D) is selected, the cursor moves directly to the Enabled column.

4. In the Number (NUM) column, enter the number of the preset (P), preset tour (V) or mimic tour (T) that you want to call up when the alarm input is activated. If the number is not valid, an error message is displayed.
5. In the Enabled (ENA) column, select **Y** (yes) to confirm the alarm setting, or select **N** (no) to cancel the alarm setting.

Setting Alarm Conditions

After you have programmed an alarm input, you need to specify whether the alarm condition is open or closed—that is, whether the alarm is triggered by a normally closed (NC) contact opening or by a normally open (NO) contact closing.

To set an alarm condition as open or closed:

1. Select **3 Control Options ► 3 Program Alarms ► 2 Set Alarm Condition**.
2. In the Alarm # column, select the alarm input you want to set (1–4).
3. In the Condition column, select **OPEN** to activate the alarm when the contact opens, or select **CLOSE** to activate the alarm when the contact closes.

Setting Automatic Acknowledgment Properties

The alarm remains active until it is acknowledged. You can set the alarm to be acknowledged manually or automatically. When auto acknowledgment is enabled, the alarm is acknowledged after a set number of seconds.

Example: Alarm 1 is programmed to run preset tour 3 and is set to Auto Ack enabled at 30 seconds. When the alarm is activated, preset tour 3 will run for 30 seconds. At the end of 30 seconds, the alarm is acknowledged and preset tour 3 stops running.

To enable/disable auto acknowledgment:

1. Select **3 Control Options ► 3 Program Alarms ► 3 Enable Auto Ack**.
2. In the Alarm # column, select the alarm input you want to set (1–4).
3. In the Auto Ack column, select **Enabled** or **Disabled**.
4. If auto acknowledgment is enabled, in the Time (Sec) column, select a value between **1** and **59**.

Setting Alarm Messages

You can define the text you want to appear on the monitor screen when an alarm is activated. The message remains on the screen as long as the alarm is active. After the alarm is acknowledged, the message is cleared.

To set an alarm message:

1. In the Alarm # column, select the alarm input you want to set.
2. In the Name column, enter the text you want to appear on the screen when the alarm is activated (for example, "Front Door") using the controller joystick. You can enter up to 24 alphanumeric characters.

Setting Alarm Overwrite and Overwrite Time

When alarm overwrite is enabled, alarms are acknowledged at the end of the overwrite time if other triggered alarms are detected. Alarms detected after the first alarm are processed in numerical order.

Example: Alarm 1 is programmed to execute preset tour 3, with auto ack enabled after 30 seconds and alarm overwrite enabled after 10 seconds. When alarm 1 is triggered, it runs preset tour 3 for a minimum of 30 seconds unless other triggered alarms are detected. If other alarms are detected, alarm 1 is acknowledged after preset tour 3 has run for a minimum of 10 seconds and the next alarm is processed. If other alarms are detected and alarm overwrite and auto ack are both disabled, the dome waits for manual acknowledgment of alarm 1 and no other triggered alarms are processed.

To enable/disable alarm overwrite:

1. Select **3 Control Options ▶ 3 Program Alarms ▶ 5 Alarm Overwrite ▶ ON** or **OFF** (default).
2. If alarm overwrite is enabled, select **3 Control Options ▶ 3 Program Alarms ▶ 6 Overwrite Time**, and enter the minimum number of seconds that you want the alarm to be active for before it is acknowledged and the next triggered alarm is processed.

Note If the dome is configured for IntelliBus protocol, an IntelliBus alarm status message is automatically sent to the IntelliBus whenever a change in alarm status is detected.

Configuring Presets, Tours, Privacy Zones, and Sectors

This chapter contains the following sections:

- *Configuring Presets*, page 55
- *Configuring Advanced Presets*, page 57
- *Configuring Preset Tours*, page 59
- *Configuring Mimic Tours*, page 62
- *Configuring Default Functions: Presets and Tours*, page 65
- *Configuring Privacy Zones*, page 67
- *Configuring Sectors*, page 70

Configuring Presets

A preset is a memorized dome function that can be recalled manually by the operator, recalled automatically by a programmed alarm, or set as a default function when the dome has been idle for a specified length of time.

The dome supports up to 150 user-definable presets when using Diamond or IntelliBus™ protocol; 132 when using MAXPRO-mode; or 99 when using VCL protocol.

Setting Preset Auto Focus

You can turn auto focus on or off for presets.

To enable/disable preset auto focus:

- Select **3 Control Options ▶ 8 Preset Auto Focus ▶ ON** or **OFF** (default).

Note Preset tour auto focus is turned on automatically when preset auto focus is turned on. Preset tour auto focus cannot be turned off while preset auto focus is on.

Viewing a List of Presets

You can view a list of all of the presets programmed for the dome. You can organize the list of presets by name or by type (normal or advanced).

To list presets by name:

- Select **6 Function Programming ▶ 4 List PS/PT/Sectors ▶ 1 Presets**.

To list presets by type:

- Select **6 Function Programming ▶ 4 List PS/PT/Sectors ▶ 4 Preset Type**.

Deleting a Preset

You can delete a preset that you have programmed.

Using MAXPRO-mode/VCL/VCL UTP/Pelco P/Pelco D protocol:

1. Select **6 Function Programming ▶ 7 Delete PS/PT/MT/ Sectors**.
2. Locate and select the preset you want to delete. If the deletion is successful, the message **Delete Success** appears.

Using Diamond/IntelliBus protocol:

- Go to the Program menu and delete the preset.

Configuring Advanced Presets

An advanced preset is a preset that can have multiple control and display settings associated with it. An advanced preset can be part of a preset tour and can be mapped to alarm and default functions. It can be defined with PTZ coordinates or without PTZ coordinates. It can also be defined as local or global.

If the advanced preset is defined with PTZ, when recalled it goes to the PTZ location mapped to it and enables the advanced preset parameters. If defined without PTZ, it enables the advanced preset parameters without changing the position of the camera.

If the advanced preset is defined as local, moving out of the preset returns the camera to its original OSD menu settings. If it is defined as global, the settings mapped to the advanced preset are copied to the OSD menu and remain in effect even after the advanced preset is no longer active.

Note The dome may take up to six seconds to go to an advanced preset depending on the number of parameters configured for that preset.

Defining an Advanced Preset

To define a preset as an advanced preset:

1. Enter preset 97 on your controller.
2. Enter the number of the preset you want to define as an advanced preset.
3. Press Focus Near to enable the advanced preset parameters (features).
4. Press Focus Far to set the advanced preset as **Local** or **Global**:
 - **Local**: The advanced preset parameters only apply to the preset itself. The settings remain in effect until the dome is controlled either manually or automatically.
 - **Global**: The advanced preset parameters are copied to the OSD menu settings and applied globally. The settings remain in effect even after the advanced preset is no longer active.
5. Press Iris Open.

The following message appears:
Want to configure PTZ? Y/N
6. Select **Y** (yes) to define (or redefine) PTZ coordinates for the preset, or select **N** (no) to continue to the Advanced Preset Parameters menu without defining PTZ settings.

7. If yes is selected, do one of the following:
 - Press Focus Near to go to PTZ mode.
 - Press Focus Far to go to the OSD menu.

Programming an Advanced Preset

After you have defined an advanced preset and configured PTZ settings (if required), you can program the parameters of the preset. By default, all of the parameters are set to **NA** (not applicable). When a parameter is set to NA, the global OSD menu setting is used.

Note The list of advanced preset parameters is camera model dependent.

To program the parameters of an advanced preset:

- From the Advanced Preset Parameters menu, select the parameters you want to program and set them to **ON** or **OFF** or **Enable** or **Disable**, or enter a numerical value.

Defining Preset 79 as the User Default Setting Preset

You can define special preset 79 as the user default setting preset by creating an advanced preset with default global settings. You can change these settings by using preset 97 (see [Defining an Advanced Preset](#) above).

Preset 79:

- will be an advanced preset with default global settings that cannot be deleted or changed to local settings.
- will not have any PTZ coordinates associated with it.
- can be restored only by clearing the memory or restoring the factory default settings. The restore default setting has no effect on it.

Viewing a List of Advanced Presets

See [Viewing a List of Presets](#) on page 56.

Deleting an Advanced Preset

See [Deleting a Preset](#) on page 56.

Configuring Preset Tours

A preset tour is a memorized series of presets that can be recalled manually by the operator, recalled automatically by a programmed alarm, or set as a default function when the dome has been idle for a specified length of time.

During a preset tour, the dome moves from preset to preset at a specified velocity (from 1 to 480 degrees per second), remaining at each preset for a specified dwell time (from 1 to 99 seconds).

Preset tours are useful for looking at specific locations like doors and windows or to scan each location for a few seconds. You can run a preset tour once or continuously. If an operator runs a tour continuously, the dome goes from the last preset to the first preset. The preset tour repeats continuously until you manually control the dome (pan, tilt, zoom, focus, or iris) or send a preset, preset tour, mimic tour, or find home command.

CAUTION Avoid continuous preset tour operation for extended periods of time (more than eight hours) as this will increase lens wear and maintenance expenses.

Note If you are using a True Day/Night (TDN) camera, the focus changes when the IR cut filter is removed. Therefore, a preset programmed in day mode may be out of focus in NightShot mode. To avoid this issue, program separate day presets and night presets.

Programming a Preset Tour

These instructions apply only to domes configured for MAXPRO-mode, VCL, VCL UTC, Pelco P, or Pelco D protocol.

You can program up to 16 preset tours of up to 64 presets each.

To program a preset tour:

1. Select **6 Function Programming ► 2 Program a Preset Tour**.
2. The Number (NUM) column shows the order in which the presets will be processed.
3. In the Preset column, enter the number of the preset you want to use.
4. In the Velocity column, select a value (in degrees) between **1** and **480** (default = 480 degrees per second).
5. In the Dwell column, select a value (in seconds) between **1** and **99**.

Note Press Focus Near to insert a new line above the current line.
Press Focus Far to delete the current line.

Setting Preset Tour Auto Focus

You can turn auto focus on or off for preset tours. When auto focus is disabled, the camera lens does not attempt to focus while moving between presets.

To enable/disable preset tour auto focus:

- Select **3 Control Options ► 7 Preset Tour Auto Focus ► ON** or **OFF** (default).

Note Preset tour auto focus is turned on automatically when preset auto focus is turned on. Preset tour auto focus cannot be turned off while preset auto focus is on.

Running a Preset Tour

These instructions apply only to domes configured for MAXPRO-mode, VCL, VCL UTC, Pelco P, or Pelco D protocol.

You can select a preset tour to run by entering a special preset shortcut on your controller.

To run a preset tour:

- Enter one of the following special presets on your controller:
 - Preset 87 to run preset tour 1
 - Preset 88 to run preset tour 2
 - Preset 89 to run preset tour 3
 - Preset 78 to run a preset tour other than 1, 2, or 3

If the dome is sent to an unprogrammed preset tour, the message DOES NOT EXIST appears.

Stopping a Preset Tour

You can stop any preset tour by manually controlling the dome or by sending the dome to a preset, a mimic tour, or another preset tour.

Viewing a List of Preset Tours

You can view the list of programmed preset tours on the screen.

To view the list of preset tours:

- Select **6 Function Programming ► 4 List PS/PT/Sectors ► 2 Preset Tours**.

Deleting a Preset Tour

You can delete a preset tour that you have programmed.

Using MAXPRO-mode/VCL/VCL UTC/Pelco P/Pelco D protocol:

1. Select **6 Function Programming ▶ 7 Delete PS/PT/MT/Sectors**.
2. Locate and select the preset tour you want to delete. If the deletion is successful, the message **Delete Success** appears.

Using Diamond/IntelliBus protocol:

- Go to the Program menu and delete the preset tour.

Enabling or Disabling Still Preset

You can enable still preset so that a freeze-frame of the last preset is displayed on the monitor screen while the dome moves to the next preset. The effect is similar to a video switcher switching between cameras. An asterisk is displayed on the screen when the dome is moving between presets.

You can temporarily disable the still preset function by manually controlling the dome. The still preset function is disabled until the dome is sent to another preset.

To enable/disable still preset:

- Select **5 Camera Options ▶ 5 Still Preset ▶ ON** or **OFF** (default).

Configuring Mimic Tours

A mimic tour is a memorized series of pan, tilt, zoom and focus commands that can be recalled manually by the operator or automatically by a programmed alarm. A mimic tour is useful when you want to scan a particular area on a regular basis.

CAUTION Avoid continuous mimic tour operation for extended periods of time (more than eight hours) as this will increase lens wear and maintenance expenses.

Programming a Mimic Tour

You can program up to 16 mimic tours at up to 120 seconds each.

Using MAXPRO-mode/VCL/VCL UTC/ Pelco P/Pelco D protocol:

1. Enter one of the following special presets on your controller:
 - Preset 77 to create a mimic tour number between 1 and 16
 - Preset 83 to create mimic tour 1
 - Preset 84 to create mimic tour 2
 - Preset 85 to create mimic tour 3
2. During the 120 second countdown, pan and tilt the dome and adjust the lens zoom setting as required.
3. To end the programming mode, wait for the countdown to reach 0 or enter preset 86.

Using Diamond/IntelliBus protocol:

1. Select **6 Function Programming ► 1 PTZ Mimic Tour Menu ► 2 Program a Tour**.
2. Enter the number of the mimic tour you want to program.
3. During the 120 second countdown, pan and tilt the dome and adjust the lens zoom setting as required.
4. To end the programming mode, wait for the countdown to reach 0 or press ESC (or your controller's equivalent).

Running a Mimic Tour

Using MAXPRO-mode/VCL/VCL UTC/Pelco P/Pelco D protocol:

- Enter one of the following special presets on your controller:
 - Preset 76 to run a mimic tour number between 1 and 16
 - Preset 80 to run mimic tour 1
 - Preset 81 to run mimic tour 2
 - Preset 82 to run mimic tour 3

Note If you are using a Pelco controller, mimic tours 1, 2, and 3 are mapped to patterns 0, 1, and 2 respectively.

Using Diamond/IntelliBus protocol:

1. Select **Preset ▶ 6 Function Programming ▶ 1 PTZ Mimic Tour Menu ▶ 1 Run a Tour.**
2. Enter the number of the mimic tour you want to run.

Stopping a Mimic Tour

You can stop any mimic tour by manually controlling the dome or by sending the dome to a preset, preset tour, or other mimic tour.

Deleting a Mimic Tour

Using MAXPRO-mode/VCL/VCL UTC/Pelco P/Pelco D protocol:

1. Select **6 Function Programming ▶ 7 Delete PS/PT/MT/ Sectors.**
2. Press Focus Near to scroll to Delete Mimic Tour #.
3. Enter the number of the mimic tour you want to delete. If the deletion is successful, the message Delete Success appears.

Using Diamond/IntelliBus protocol:

1. Select **Preset ▶ 6 Function Programming ▶ 1 PTZ Mimic Tour Menu ▶ 3 Delete Mimic Tour.**
2. Enter the number of the mimic tour you want to delete. If the deletion is successful, the message Delete Success appears.

Configuring Default Functions: Presets and Tours

You can set the dome to go to a preset or run a preset tour or mimic tour after being idle for a specified length of time.

To program a default function:

1. Select **3 Control Options ► 5 Set Default Function**.
2. In the Function (FUN) column, select one of the following:
 - **P** = preset (normal or advanced)
 - **V** = preset tour
 - **T** = mimic tour

The dome performs the selected function after being idle for the specified delay time. The function type (and name, if applicable) is displayed on the screen (for example, a preset might appear as PS = Entrance Door).
3. In the Number (NUM) column, enter the number of the preset, preset tour, or mimic tour that you want to set as the default function. If the number is not valid, an error message appears.
4. In the Delay (DLY) column, enter the time (in minutes and seconds) that dome must be idle before it performs the default function. The maximum delay time is 99 minutes and 59 seconds.
5. In the Enabled (ENA) column, select **Y** (yes) to enable the default function, or select **N** (no) to disable the default function.

Note If alarms are present, the dome processes these before performing the default function. If motion detection is enabled, then the default function is automatically disabled.

Configuring Timed Functions

Timed functions allow you to set the dome to perform a preset, preset tour, or mimic tour at the same time every day for a specified duration. The time reference is taken from the dome's Real Time Clock (RTC), which must be set in the Enhanced Settings menu (see [Displaying the Time and Date](#) on page 21).

Note No two timed functions can have the same start time.

To program a timed function:

1. Select **7 Enhanced Settings ► 7 Timed Functions**.
2. In the Function (FUN) column, select one of the following:
 - **P** = preset (normal or advanced)
 - **V** = preset tour
 - **T** = mimic tour
3. In the Number (NUM) column, enter the number of the preset, preset tour, or mimic tour that you want to set as a timed function. If the number is not valid, an error message appears.
4. In the Time (TIME) column, enter the time (in 24-hour format) when you want the dome to begin performing the function. The function will execute at the same time every day as long as it is enabled.
5. In the Duration (DUR) column, enter how long you want the dome to perform the function (in hours and minutes). If the duration is set to 0, the function will execute until the dome is manually controlled or another timed function is called. At the conclusion of the timed function, the dome resumes whatever operation it was performing when the timed function was initiated.
6. In the Enabled (ENA) column, select **Y** (yes) to enable the timed function, or select **N** (no) to disable the timed function.

Configuring Privacy Zones

Privacy zones allow you to prevent the viewing of sensitive areas (such as ATM screens). A mask is superimposed over the area on the monitor screen where a privacy zone is indicated, which moves with the dome's pan and tilt functions and automatically resizes relative to the lens zoom setting.

Note When a privacy zone is enabled, no video is displayed during the finding home process. Privacy zones are not recognized until the dome reaches home. After home is found, video is displayed on the monitor unless a privacy zone overlaps with this home setting.

Programming a Privacy Zone

These instructions apply only to domes configured for MAXPRO-mode, VCL, VCL UTC, Pelco P, or Pelco D protocol.

You can program up to 32 privacy zones.

To program a privacy zone:

1. Position the dome so that the area to be covered by the privacy zone is displayed on the screen.
2. Select **6 Function Programming** ► **6 Program Privacy Zone**.
3. Enter the 4-digit user login PIN or password (default = 1000).
4. Select a number between 1 and 32 to assign to the privacy zone. Privacy zones are assigned priority in the order programmed. To change the priority of a privacy zone, see [Changing Privacy Zone Priority](#) below.
5. Press Focus Far to switch to PTZ control and adjust the coordinates of the privacy zone as required using the joystick, moving it up or to the right to create the mask.

Note: The tilt cannot be greater than 70° and the zoom cannot be more than 1×.

6. Press Focus Near to switch to the OSD menu, and then press Iris Open to save the coordinates.
7. Program another privacy zone or exit.

Changing Privacy Zone Priority

When a privacy zone is enabled, it is assigned the highest unused priority available. If you want, you can change the priority sequence.

To change privacy zone priority:

1. Select **6 Function Programming ▶ 3 Privacy Zone Options ▶ 1 Change Priv Zone Priority**.
2. In the Zone ID column, select the number of the privacy zone you want to edit.
3. In the **From** field, enter the current priority number (for example, 4).
4. In the **To** field, enter the new priority number (for example, 1).

Changing the Color of a Privacy Zone Mask

You can set the color of a privacy zone mask to black or white, or you can blur the area.

To change the color of the privacy zone mask:

- Select **6 Function Programming ▶ 3 Privacy Zone Options ▶ 3 Privacy Zone Color ▶ Black** (default), **Blur**, or **White**.

Enabling or Disabling a Privacy Zone

When a privacy zone is enabled, it is assigned the highest unused priority available. When a privacy zone is disabled, the programming is saved but the defined area is no longer masked.

To enable/disable a privacy zone:

1. Select **6 Function Programming ▶ 3 Privacy Zone Options ▶ 2 Enable/Disable PrivacyZone**.
2. Locate and select the privacy zone you want to enable or disable.
3. In the Enabled column, select **Y** (yes) to enable the privacy zone, or select **N** (no) to disable the privacy zone.

Deleting a Privacy Zone

You can delete a privacy zone that you have programmed.

To delete a privacy zone:

1. Select **6 Function Programming ► 3 Privacy Zone Options ► 4 Delete PrivacyZones**.
2. Locate and select the privacy zone you want to delete. If the deletion is successful, the message **Delete Success** appears.

Setting the Security Level of a Privacy Zone

You can set the security level of a privacy zone to high or low.

To set the security level of a privacy zone:

1. Enter preset 75 on the controller.
2. Enter the 4-digit PIN (the default PIN is 1000).
3. Select **4 PrivZone Security Level ► High** (default) or **Low**.
 - If the security level is set to **High**, you cannot program the privacy zone at a zoom level of more than 10×. The mask is increased in size after programming and is temporarily increased in size when zooming in or out to prevent any portion of the privacy zone from being viewed.
 - If the security level is set to **Low**, you can program the privacy zone at any zoom level. The mask is increased in size after programming (but less than when the security level is set to **High**) and is not temporarily increased in size when zooming in or out.

Configuring Sectors

Sectors are labeled areas that are monitored by the dome. For example, you can set the dome to display the label "Exit Door" on the monitor screen whenever the dome is positioned to monitor an exit door.

Programming a Sector

These instructions apply only to domes configured for MAXPRO-mode, VCL, VCL UTC, Pelco P, or Pelco D protocol.

You can program up to 16 sectors. If you program overlapping sectors, the sector names will alternate on the screen at 1.5 second intervals.

To program a sector:

1. Select **2 Display Options ▶ 2 Sectors ▶ ON** to enable sector titles to display on the monitor screen.
2. Select **6 Function Programming ▶ 5 Program Sector**.
3. Enter a sector number to program, and then press Iris Open.
4. Enter a sector name (up to 24 alphanumeric characters), and then press Iris Open. The message Go to lower left corner and press Iris Open when done appears.
5. Press Focus Far to switch to PTZ control to locate the lower left corner of the sector.
6. Press Focus Near to switch to the OSD menu, and then press Iris Open. The message Go to upper right corner and press Iris Open when done appears.
7. Press Focus Far to switch to PTZ control to locate the upper right corner of the sector.
8. Press Focus Near to switch to the OSD menu, and then press Iris Open to save the sector.
9. Program another sector or exit.

Viewing a List of Sectors

You can view the list of programmed sectors on the screen.

To view a list of sectors:

- Select **6 Function Programming ▶ 4 List PS/PT/Sectors ▶ 3 Sectors**.

Deleting a Sector

You can delete a sector that you have programmed.

Using MAXPRO-mode/VCL/VCL UTC/Pelco P/Pelco D protocol:

1. Select **6 Function Programming ▶ 7 Delete PS/PT/MT/ Sectors**.
2. Locate and select the sector you want to delete. If the deletion is successful, the message Delete Success appears.

Using Diamond/IntelliBus protocol:

- Go to the Program menu and delete the sector.

Installing Dome Firmware

This chapter contains the following sections:

- [About the Firmware Downloader Tool](#), page 73
- [Before You Begin](#), page 74
- [Updating Firmware Using the Downloader](#), page 74

About the Firmware Downloader Tool

You can update your dome's firmware using the ACUIX™ Analog Firmware Downloader tool. The instructions in this section are intended to supplement the on-screen instructions provided with the Downloader.

The Downloader is designed to update both NetCore and NetCore 2 circuit boards:

Board Type	Scan Assembly (NTSC/PAL)		Camera Type
NetCore	HDCAN0000	HDCAP0000	18× Color (HDXA)
	HDCJN0000	HDCJP0000	18× WDR/TDN (HDXJ)
	HDCFN0000	HDCFP0000	26× WDR/TDN (HDXF)
	HDCGN0000	HDCGP0000	35× WDR/FNR (HDXG)
NetCore 2	HDCAN0000V2	HDCAP0000V2	18× Color (HDXA)
	HDCJN0000V2	HDCJP0000V2	18× WDR/TDN (HDXJ)
	HDCFN0000V2	HDCFP0000V2	26× WDR/TDN (HDXF)
	HDCGN0000V2	HDCGP0000V2	35× WDR/FNR (HDXG)

Before You Begin

To update the firmware of your ACUIX Analog High-Speed PTZ Dome, you will need the following:

- a computer running Windows XP Professional, Windows Server 2003, Windows Vista (32 or 64 bit), or Windows 7 (32 or 64 bit)
- an Ethernet crossover cable
- ACUIX Analog Firmware Downloader (version 1.3) installed on your computer*
- the firmware combo file (for example, *ACUIX_ScanFW_v3.7_v10.4.acu*) saved to your desktop*

* The firmware downloader wizard and firmware file are available for download from www.honeywellvideo.com

You may also need a No. 1 Phillips screwdriver (for use with pendant-type housings) or a 5/32-inch tamper-proof Allen key (for use with rugged-type housings).

Updating Firmware Using the Downloader

Configure the Dome for a Network Connection

1. Open the Downloader.

The following screen appears:



2. Click **Next**.

The following screen appears:



3. Turn off power to the dome.
4. Remove the bubble from the dome housing.
5. Remove the scan assembly. Push in the two locking tabs on either side of the scan assembly to release the scan assembly from the dome housing.
6. Click **Next**.

The following screen appears:



7. Locate DIP switch SW6 on the scan assembly circuit board. Set pin 7 to ON. Set pin 8 to OFF.
8. Connect one end of an Ethernet crossover cable to the Ethernet port on the dome housing circuit board.

Note: Ensure that you are using a crossover cable and not a straight-through cable.

9. Click **Next**.

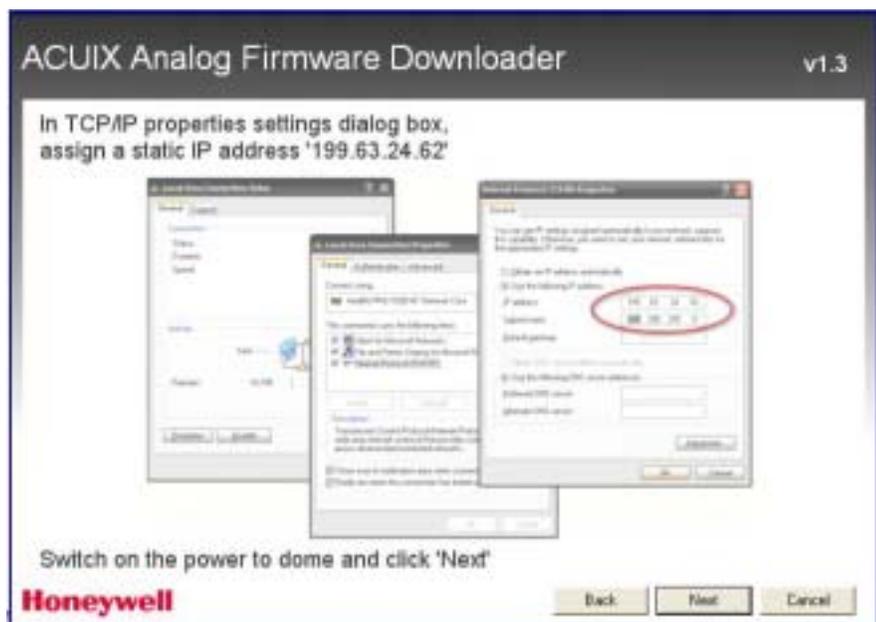
The following screen appears:



Configure the Network Connection

1. Connect the other end of the crossover cable to the Ethernet port on your computer.
2. Replace the scan assembly inside the dome housing.
3. Click **Next**.

The following screen appears:



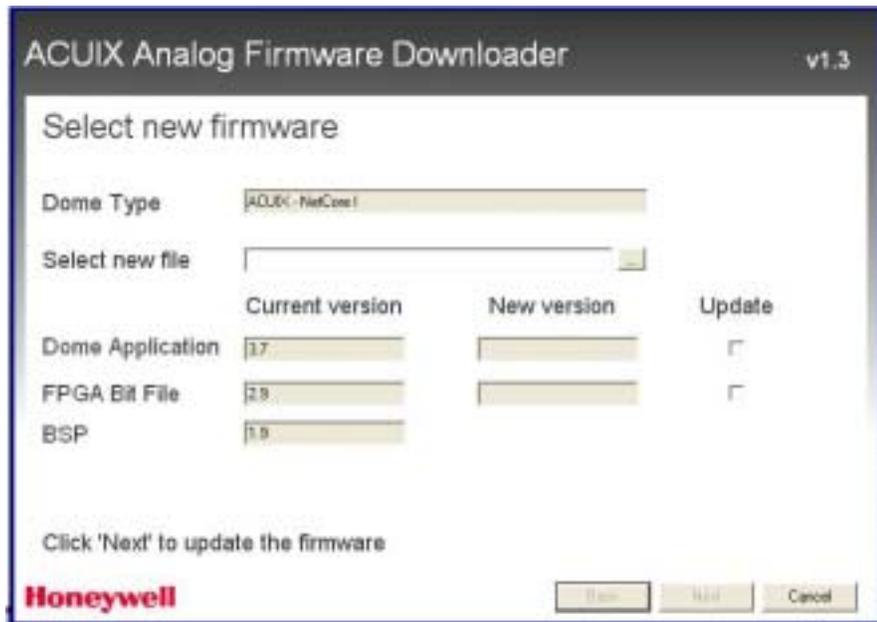
4. On your desktop, click **Start**, click **Control Panel**, and then double-click **Network Connections**.
5. Double-click the connection you want to configure, and then click **Properties**. The **Local Area Connection Properties** dialog box appears.
6. On the **General** tab, under **This connection uses the following items**, click **Internet Protocol (TCP/IP)**, and then click **Properties**. The **Internet Protocol (TCP/IP) Properties** dialog box appears.
7. Click **Use the following IP address**, and in **IP address**, type '199.63.24.62'. Press the TAB key to populate **Subnet mask** automatically ('255.255.255.0'), and then click **OK**.
8. Turn on power to the dome, and then click **Next**.

The following message appears:



Download the New Firmware

If the connection is successful, the following screen appears:



1. Click the  button to navigate to the ACUIX firmware combo file (*.acu) saved on your computer. The **Dome Application** and **FPGA Bit File** boxes should display the new version numbers under **New Version**.
2. Select the check boxes under **Update**, and then click **Next** to update the firmware.

If the firmware update is successful, the following message appears:



3. Turn off power to the dome.
4. Remove the bubble from the dome housing and remove the scan assembly. Push in the two locking tabs on either side of the scan assembly to release the scan assembly from the dome housing.
5. Set DIP switch SW6-7 to OFF.
6. Replace the scan assembly in the dome housing and reattach the bubble.
7. Turn on power to the dome.
8. Click **Finish** to exit the Downloader.

Troubleshooting

If the connection is unsuccessful, the following error message appears:



Follow the on-screen instructions, and then click **Retry** to attempt the connection again. You may need to reset the power to the dome several times before a connection is established.

If you exit the Downloader and want to go straight to the "Connecting..." state again, click **Skip Intro** on the welcome page.

You will be prompted to make sure that the dome and network settings are configured correctly and that power to the dome is turned on.

Click **OK** to continue.

System Administration and Equipment Handling

This chapter contains the following sections:

- *Configuring PINs and Passwords*, page 81
- *Resetting the Dome*, page 82
- *Restoring the Default Settings*, page 83
- *Changing the Dome Address, Protocol, Parity, and Baud Rate Settings*, page 83
- *Sending Commands to All Domes*, page 84
- *Maintaining the Dome*, page 85

Configuring PINs and Passwords

To enable/disable the user login PIN:

1. Enter preset 75 on your controller.
2. Enter the 4-digit PIN. The default PIN is 1000.
3. Select **1 User Login PIN ► Enabled** or **Disabled** (default).

To change the user login PIN:

1. Enter preset 75 on your controller.
2. Enter the 4-digit PIN. The default PIN is 1000.
3. Select **2 Change PIN**.
4. Enter a new 4-digit PIN.
5. Re-enter the PIN to verify. If both PINs match, the message PIN changed is displayed and the Password Settings menu opens.

To recover a lost user login PIN:

1. Enter preset 72 on your controller.
2. Write down the numbers that appear on the screen.
3. Contact Honeywell Technical Support to recover the PIN.

To change the privacy zone password (Diamond or IntelliBus™ protocol only):

1. Enter preset 75 on your controller.
2. Enter the current password.
3. Select **3 Reset Privacyzone Password**. The password is reset to the factory default password, which is blank. To enter a blank password, press Enter at the password prompt.

Resetting the Dome

Resetting the dome is the same as turning the dome off and then back on again. It restarts the dome, preserving all of the dome setup information.

Note After you select this menu option, there is no warning before the reset begins.

To reset the dome:

- Select **4 Diagnostics Options ► 7 Scan and Dome Reset**.

To reset the camera lens only:

- Enter preset 98 on your controller.

Restoring the Default Settings

There are two ways to restore the default settings of the dome:

- You can restore all of the default settings *except for* the programmed functions (presets, preset tours, mimic tours, privacy zones, sectors, default functions, timed functions) by using the OSD menus.
- You can restore all of the default settings *including* the programmed functions (presets, preset tours, mimic tours, privacy zones, and sectors) by resetting DIP switch SW5-7 on the scan assembly circuit board.

To restore the default settings using the OSD:

1. Select **4 Diagnostic Options** ► **6 Restore Default Settings**.

The following message appears:

Caution: This will restore all user defined settings to their default values. Are you sure that you want to do this? Y/N

2. Select: **Y** (yes) to continue, or select **N** (no) to cancel.

To restore the default settings using scan assembly DIP switches:

1. Locate DIP switch SW5-7 on the scan assembly circuit board (see [Figure 2-1](#) on [page 4](#)).
2. Move the switch to ON to restore the factory default settings. This will delete *all* user-programmed functions, including presets, preset tours, mimic tours, privacy zones, and sectors.
3. After the factory default settings have been restored, move the switch back to OFF to prevent unwanted deletion of user-programmed configurations.

Changing the Dome Address, Protocol, Parity, and Baud Rate Settings

If DIP switch SW5-8 on the scan assembly circuit board (see [Figure 2-1](#) on [page 4](#)) is set to OFF, you can change the dome address, protocol, parity and baud rate settings from the OSD menu. However, this is not recommended for most installations since changing these settings can cause a loss of communication between the controller and the dome.

To change the dome address, protocol, parity or baud rate using the OSD:

1. Enter preset 75 on your controller.
2. Select one of the following:
 - **1 Change Dome (Camera) address**
 - **2 Change Protocol**
 - **3 Change Baud Rate**
 - **4 Change Parity**
3. Do one of the following:
 - Enter a numerical dome address.
 - Select a protocol: **Diamond, MAXPRO-mode, VCL-485, VCL UTC, Pelco P, Pelco D, IntelliBus.**
 - Select a baud rate: **600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, or 115200.**
 - Select a parity: **Even, Odd, or None.**

Sending Commands to All Domes

Broadcast command receive mode cannot be used with domes configured for IntelliBus™ protocol.

You can enable or disable the broadcast command receive mode using special presets 73 and 74. When broadcast command mode is enabled, all domes receive the commands sent from the controller to any dome address. Only use the broadcast command mode to change common settings, such as to standardize the OSD language on all the monitors in the system.

To enable the broadcast command receive mode:

1. Enter preset 73 on your controller. The message BROADCAST RX MODE ON is displayed on the screen for a few seconds. Also, the letter B is displayed after the dome address.
2. Complete the required commands to all the enabled domes.
3. When the command is complete for all the domes, it is recommended that you disable the feature across the network for these same domes.

To disable the broadcast command receive mode:

- Enter preset 74 on your controller. The message BROADCAST RX MODE OFF is displayed on the screen for a few seconds. The letter B is no longer displayed after the dome address.

Maintaining the Dome

Following a preventive maintenance schedule allows minor faults to be detected and corrected before they become serious and cause equipment failure. Regular maintenance also helps to extend the life of the equipment.

You should do the following at regular intervals:

- Verify that all mounting hardware is secure.
- Inspect all connecting cables for deterioration or other damage.
- Wipe the housing with a clean, damp cloth.
- Clean the dome.

Cleaning the Dome

It is extremely important to treat the surface of all domes with the same care as you would a fine camera lens.

- Always handle the bubble from the outer surface. Both the inside and outside can be irreparably damaged if dropped or scratched.
- To prevent scratching, carefully remove particles by hand (such as sand or grit) prior to wiping or cleaning with a soft cloth.
- Use a damp cloth to wash the outside of the bubble.
- Remove dust from the camera lens. Brush with an oil-free soft brush or a blower-brush (for photography use).
- Remove water or oil from the camera lens. Wipe and dry the lens surface with a clean, soft cloth. Prepare a washed-out cotton cloth or lens cleaning paper with alcohol or lens cleaning liquid. Clean by moving spirally from the lens center towards its rim. Repeat until completely clean.

A

ACUIX Specifications

This appendix contains the following sections:

- [Factory Default Settings](#), page 87
- [Camera Specifications](#), page 89

Factory Default Settings

Address	1
Protocol	MAXPRO-mode
Baud rate	9600
Parity	Even
RS485 termination	Not terminated
Video selection	OFF

-5 degree tilt limit	OFF
Auto focus mode	Z
Auto pivot	OFF
Backlight compensation (BLC)	OFF
Camera message	OFF
Digital zoom mag	OFF
Display coordinates	OFF
Display crosshairs	OFF
Display date	OFF
Display dome name	OFF
Display preset name	OFF
Display sector name	OFF
Display temperature	OFF
Display temperature in Fahrenheit or Celsius	FAHRENHEIT
Display time	OFF

Display time format	24 hour
Exposure level	HDXA/HDXJ/HDXF: 7 HDXG: 70
Find mechanical home on startup	ON
Gain, red or blue	HDXA/HDXJ/HDXF: 200 HDXG: 128
Shutter speed for high light 28 db	HDXA/HDXJ/HDXF: 1/60 s (NTSC); 1/50 s (PAL) HDXG: Not available
Shutter speed for low light 28 db	HDXA/HDXJ/HDXF: 1/30 s (NTSC); 1/25 s (PAL) HDXG: Not available
HDXG Cameras Only	Manual AE mode: Iris Exposure level: 91 Max AGC level: 216 Chroma level: 127 Auto slow shutter limit: 1/4 (NTSC); 1/3 (PAL) Wide dynamic range (WDR): OFF Advanced WDR: OFF High sensitivity mode: OFF Field noise reduction mode: AUTO Image stabilization: OFF
High or low light WB mode	HDXA/HDXJ/HDXF: Auto HDXG: Not available
Language (OSD only)	English
Manual pan and tilt speed	480 degrees per second
Manual white balance	OFF
Manual zoom speed	HDXA/HDXJ/HDXF: 6 HDXG: Not available
Max digital zoom magnification level	1× HDXG: 2× when in EIS mode
Minimum focus length (cm)	HDXA/HDXJ: 80 HDXF/HDXG: 150
Motion detection	OFF
NightShot control	HDXJ/HDXF/HDXG: Manual HDXA: Not available
Pan offset	OFF
Pan reverse	OFF
PASS	ON
Password	Blank line, press enter
PIN (user login)	1000
Preset auto focus	OFF
Preset tour auto focus	OFF
Startup screen msg	ON
Startup state restore	ON
Still preset	OFF
Tilt reverse	OFF
Timed auto focus	OFF
Vertical phase edge	Disabled

Camera Specifications

	18× Color	18× WDR/TDN	26× WDR/TDN	35× WDR/FNR/EIS
Image sensor	1/4-type EXview HAD CCD™	1/4-type EXview HAD CCD™	1/4-type EX-view HAD CCD™	1/4-type Progressive Scan CCD
Lens	18× optical zoom, F=4.1 mm (wide) to 73.8 mm (tele), F1.4 to F3.0	18× optical zoom, F=4.1 mm (wide) to 73.8 mm (tele), F1.4 to F3.0	26× optical zoom, F=3.5 (wide) to 91 mm (tele), F1.6 to F3.8	35× optical zoom, F=3.4 (wide) to 119 mm (tele), F1.4 to F4.2
Horizontal resolution	470 TVL (NTSC) 460 TVL (PAL)	530 TVL (NTSC) 530 TVL (PAL)	530 TVL (NTSC) 530 TVL (PAL)	> 520 TVL (540 typical)
True Day/Night	No	Yes	Yes	Yes
Wide Dynamic Range (WDR)	No	128×	128×	128×
Digital zoom	12× (216× with optical zoom)	12× (216× with optical zoom)	12× (312× with optical zoom)	12× (420X with optical zoom) *Max. digital zoom is 2× when EIS is activated.
Angle of view	48.0° (wide end) to 2.8° (tele end)	48.0° (wide end) to 2.8° (tele end)	54.2° (wide end) to 2.2° (tele end)	58.2° (wide end) to 1.8° (tele end)
Sync system	Internal/External	Internal/External	Internal/External	Internal/External
Minimum illumination	0.7 lx	0.7 lx, 0.01 lx (IR cut filter removed)	1.0 lx, 0.01 lx (IR cut filter removed)	1.0 lx, 0.01 lx (IR cut filter removed)
S/N ratio	> 50 dB	> 50 dB	> 50 dB	> 50 dB
Electronic shutter speed	1/1 to 1/10,000 s	1/4 to 1/10,000 s (NTSC) 1/3 to 1/10,000 s (PAL)	1/4 to 1/10,000 s (NTSC) 1/3 to 1/10,000 s (PAL)	1/1 to 1/30,000 s (NTSC) 1/0.75 to 1/30,000 s (PAL)
White balance (WB)	Auto, ATW, Indoor, Outdoor, Manual	Auto, ATW, Indoor, Outdoor, Manual	Auto, ATW, Indoor, Outdoor, Manual	Auto, Indoor, Outdoor, Manual
Color gain	Auto/Manual. When in manual, can be set between 0 and 255	Auto/Manual. When in manual, can be set between 0 and 255	Auto/Manual. When in manual, can be set between 0 and 255	Auto/Manual. When in manual, can be set between 0 and 511
Backlight compensation (BLC)	On/Off/Auto	On/Off/Auto	On/Off/Auto	On/Off/Auto
Focusing system	Auto/Manual	Auto/Manual	Auto/Manual	Auto/Manual
Electronic Image Stabilization (EIS)	No	No	No	Yes, up to 12 dB suppression (Digital zoom limited to 2× when in EIS mode)
AE control	Auto, Manual, Exposure Level, Backlight Compensation	Auto, Manual, Exposure Level, Backlight Compensation	Auto, Manual, Wide Dynamic Range, Exposure Level, Backlight Compensation	Auto, Manual, Exposure Level, Backlight Compensation
Color encoding	NTSC or PAL models available	NTSC or PAL models available	NTSC or PAL models available	NTSC or PAL models available
Motion detection	No	Four default motion detection zones	Four default motion detection zones	Four default motion detection zones

Troubleshooting

This appendix contains the following sections:

- *General Troubleshooting*, page 91
- *Troubleshooting Using Diagnostic Options*, page 94

General Troubleshooting

If you experience any of the following issues, use this troubleshooting guide to resolve the problem. If the problem persists, call Technical Support at 1-800-323-4576 (ext. 2) or e-mail HVSsupport@honeywell.com.

Note Any equipment returned to Honeywell Systems Group for warranty or service repair must have a Return Material Authorization (RMA) number. The RMA number must be clearly marked on all return packages and internal paperwork.

No picture appears.

- Ensure that the lens cap has been removed.
- Check the video connections to the monitor or CCTV system and to the dome. Are the cables connected securely?
- Check the power supply voltage. Is it within the operating specifications for your camera model?
- Connect a video monitor directly to the dome video output cable to eliminate video problems that could be caused by other equipment such as video switches.

The picture is blurry.

- Check the video ground connections.
- Check for ground loops.
- Check camera focus.

The dome cannot find home or cannot go to a preset.

- Ensure that no wires are interfering with the pan and tilt movements of the scan assembly.
- Ensure that the pan and tilt belts are properly seated on their respective sprockets and are not loose.

The pan and tilt movements are jerky.

- Ensure that no wires are interfering with the pan and tilt movements of the scan assembly.
- Ensure that both control data lines are connected.
- Ensure that the wiring to the motor is intact.

The picture appears to zoom for no reason.

- On cameras equipped with electronic image stabilization (EIS), when EIS is enabled, the image on the monitor appears zoomed in. When a pan or tilt command is received, EIS is disabled while the dome moves to its new position. After the dome stops, EIS is re-enabled after a five second delay.

The lens is out of optical focus.

- Ensure that the lens cap has been removed.
- Send the dome to preset 98. This resets the camera lens.
- Clean the lens and dome, if needed (see [Cleaning the Dome](#) on page 85). Take care when cleaning the lens and dome that you do not scratch the optical surfaces.

The picture is inverted or of poor quality (UTP video only).

- Swap the video+ and video- wires of the UTP cabling at either the dome terminations or the monitor terminations.
- Adjust the video lift and gain settings using the OSD. The lift setting boosts the high frequency in the video to compensate for signal loss over the length of the cable. The gain setting amplifies the video to compensate for the resistance of the cable.

There is a picture, but no control of the dome.

1. Ensure that DIP switches SW5 and SW6 on the scan assembly circuit board are set for the correct protocol, baud rate, and parity. The dome must be set the same as the control equipment.
2. Ensure that the controller is set to the correct dome address.
3. Power down all system components for 15 seconds and then re-apply power to reset the dome. Manually control the dome and verify that the dome finds home.
4. Ensure that:
 - the data wiring is connected at the terminal strip in the housing.
 - any bare wires are not touching each other.
 - the wire insulation is stripped back far enough for a good connection.
5. If none of the above works, try switching scan assemblies. If there are multiple domes in the system, replace the scan assembly with a scan assembly from another housing. Set the address of the replacement scan assembly to the same address as the original scan assembly. Call up the dome at the controller. If control returns, then the original scan assembly is fault.

CAUTION If a camera model is physically changed in a dome, the configurations stored in the camera memory revert to the default settings. In order to load the previous configurations to the new dome requires two domes with the exact same camera model.

Troubleshooting Using Diagnostic Options

You can troubleshoot problems using the dome's on-screen display menus.

Displaying Voltages

You can view the actual voltages measured at the dome versus the supply voltages. The 15 V supply is used to operate the camera. The 3.3 V supply is used to operate the printed circuit boards in the scan assembly and housing.

To display voltages:

- Select **7 Enhanced Features** ► **6 Display Supply Voltages**.

Displaying the Total Run Time Counter

You can view the total run time for pan, tilt, zoom, auto iris, manual iris, auto focus, manual focus, and PreShot focus.

To display the total run time counter:

- Select **4 Diagnostic Options** ► **2 Total Run Time (PTZ, Ir&Fo)**.

Clearing the Memory

You can delete all of the alarms, presets, preset tours, and sectors stored in the dome's memory.

Clearing the memory does not affect the OSD language or privacy zones.

To clear the memory:

1. Select **4 Diagnostic Options** ► **3 Clear the Memory**.
2. Select **Y** (yes) to continue, or select **N** (no) to cancel.

If **Y** is selected, the following message appears:

EXTREME CAUTION: This will delete all of the Alarms, Presets, Preset Tours and Sectors that are stored in memory. Are you sure you want to do this? Y/N

Select **Y** (yes) to continue, or select **N** (no) to cancel.

Displaying Error Logs

You can view a count of errors and other anomalous events (resets, timeouts, overruns, and mismatches) logged by the dome.

To display the error logs:

- Select **4 Diagnostic Options ▶ 4 Operational Diagnostics ▶ 1 Display Error Logs**.

Clearing Error Logs

You can reset all counts in the error log table to zero.

To clear the error logs:

- Select **4 Diagnostic Options ▶ 4 Operational Diagnostics ▶ 2 Clear Error Logs**.

Running Diagnostics

You can find out if the dome can "find home" or whether there is a pan or tilt homing error. You can also find out if the power being supplied to the dome is adequate.

To find home:

- Select **4 Diagnostic Options ▶ 4 Operational Diagnostics ▶ 3 Run Diagnostics ▶ 1 Find Home**.

The dome will begin "finding home." Once the "home" (index) position is found, the message "Home Found . . ." appears.

To check the supply voltage:

- Select **4 Diagnostic Options ▶ 4 Operational Diagnostics ▶ 3 Run Diagnostics ▶ 2 Check Supply Voltage**.

The status of each power supply (3.3 V for the printed circuit boards, 15 V for the camera) will show as PASS or FAIL.

Displaying Firmware Details

You can view the details of the firmware currently installed on the dome.

To display the firmware information:

1. Enter preset 75 on your controller.
2. Enter the password (default = **1000**).
3. In the Administrator Setup menu, select **5 Firmware Info**.

Understanding Automatic Exposure and NightShot

This appendix contains the following sections:

- [About the Lens Iris or Aperture and the F-Number](#), page 97
- [About Video Gain, Shutter Speed, and Spectral Response](#), page 98
- [About ACUIX PTZ Dome Manual Exposure Control](#), page 100
- [Operating NightShot \(TDN\) on ACUIX PTZ Camera Blocks](#), page 101

This appendix provides additional information about automatic exposure (AE) to assist you in configuring the ACUIX High Speed PTZ dome to meet your specific requirements.

About the Lens Iris or Aperture and the F-Number

The lens iris, or aperture, determines how much light is transmitted through the lens to the sensor. This is measured as an f-number, which is the focal length of the lens divided by the equivalent diameter of the front lens element. Therefore, a large f-number transmits less light to the sensor. The standard f-numbers are integer powers of the square root of 2 (for example, 1, 1.4, 2, 2.8, 4, 5.6, 8, 11, 16, 22, 32, 45, 64, 90, 128, and so on). Each successive f-number transmits one half the amount of light as the previous f-number.

The f-number is the first factor changed in an auto exposure system. That is to say, the other factors are not changed until the lens aperture reaches its open or closed limit. The lens aperture also controls the depth of field of the lens. The depth of field is a measure of the distance that an image is in focus to an acceptable degree. The larger the f-number (a smaller aperture) the greater the depth of field.

About Video Gain, Shutter Speed, and Spectral Response

The terms auto iris, manual iris, and iris control are used to describe the general concept of exposure control. Exposure control includes both auto exposure (AE) and manual exposure control. Most modern camera blocks use video gain, shutter speed and spectral response controls, in addition to iris control, to accomplish exposure control.

Video Gain

Video gain is the amount that a video signal is amplified and is measured in decibels (dB). The video gain number usually specified is the amount of adjustable gain being used. The normal gain measurement is 0 dB. The equation in [Figure C-1](#) is used to determine the video gain value, where:

- V_i is the video voltage input to the amplifier
- V_o is the video voltage output of the amplifier
- G_{dB} is logarithmic video gain in dB

Figure C-1 Video Gain Equation

$$G_{dB} = 20 \log \frac{V_o}{V_i}$$

The video gain increases after the lens aperture reaches its maximum size (the smallest f-number) in order to maintain a video output level with a decreasing light level. Every 6 dB of gain change represents a doubling (or halving) of the output video level in relation to the input video level. *Increasing video gain increases video noise.*

Shutter Speed

The shutter speed (or shutter time) is a measure of the time that the video sensor integrates light. The normal shutter speed is 1/60 s for NTSC cameras and 1/50 s for PAL cameras. The shutter time decreases after the lens aperture reaches its minimum size (the largest f-number) in order to maintain a video output level with an increasing light level. If the slow shutter function is enabled, the shutter time increases after the lens aperture reaches its maximum size (the smallest f-number) and the video gain reaches its maximum value in order to maintain a video output level with a decreasing light level.

When shutter times are less than the normal shutter time, this *decreases* the blurring or smearing of moving objects. Conversely, when shutter times are greater than the normal shutter time, this *increases* the blurring or smearing of the image of moving objects.

Spectral Response and How it Relates to NightShot/TDN

The silicon video image sensors used in CCTV cameras are sensitive to visible light and near infrared (IR) light. *Figure C-2* shows that the typical spectral response of a CCD video image sensor extends from blue at 400 nm through red at 700 nm to the near IR at 1000 nm. The IR cut filter limits the spectral response of the CCD to the visible light range from 400 nm to 700 nm and gives the CCD response the approximate shape of the photopic spectral response of the human eye to well-lit scenes as shown in *Figure C-3*. This enables the camera to produce pictures with natural colors as seen by the human eye.

The apparent sensitivity of the CCD can be increased by allowing IR light to reach it, assuming that there is IR light coming from the scene. However, this IR light distorts the colors in the scene. Therefore, when the IR cut filter is removed the color information is also removed from the video signal, thus producing a monochrome or black and white video image, often referred to as *night mode*. Likewise, when the IR cut filter is in place and the color information is allowed to remain in the video signal it is usually referred to as *day mode*. The automatic control of the transition between *day mode* and *night mode* is called **auto NightShot** or **auto True Day/Night (TDN)** by most CCTV equipment manufacturers.

Figure C-2 Typical CCD Spectral Response with Magenta, Green, Cyan and Yellow Pixel Filters

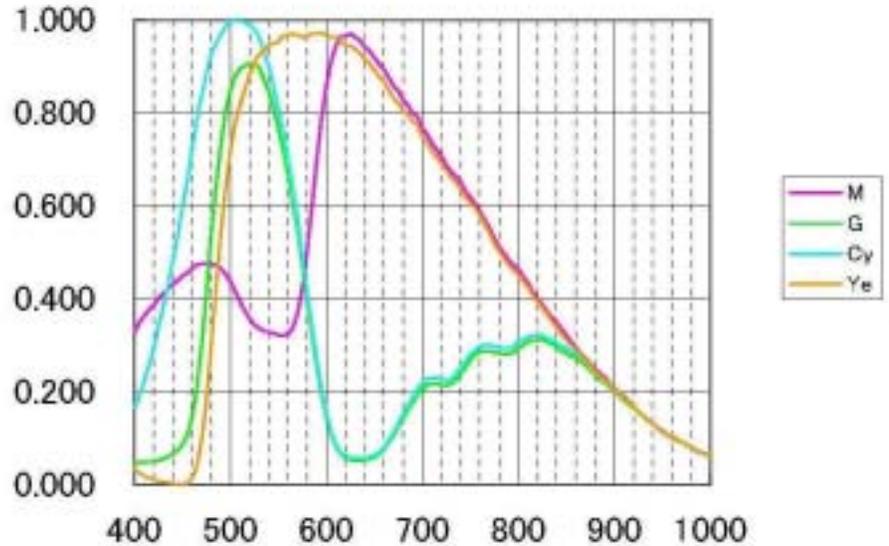
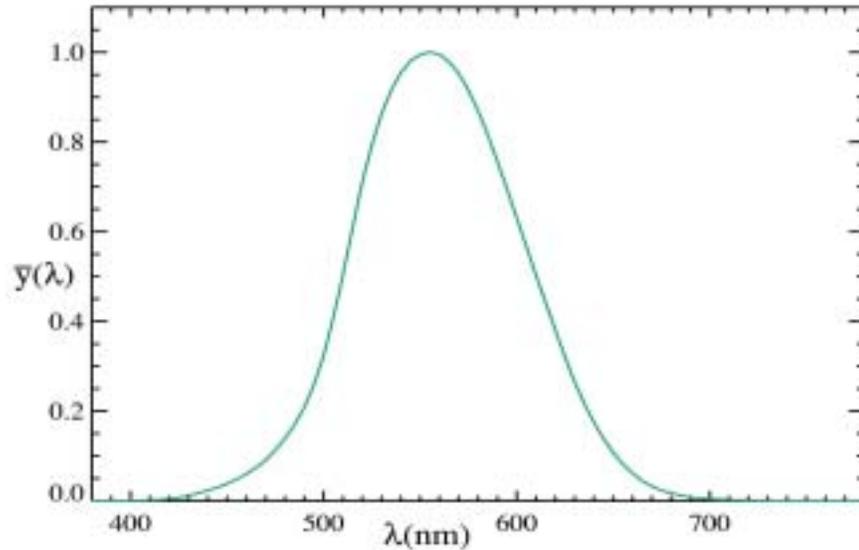


Figure C-3 CIE 1931 Luminosity Curve



About ACUIX PTZ Dome Manual Exposure Control

ACUIX PTZ Dome: 18× and 26× Camera Blocks

The manual exposure control for the ACUIX 18× and 26× cameras is a true manual exposure control.

For decreasing light conditions the manual exposure control operates in the following sequence:

1. Increase shutter time until it reaches 1/60 s for NTSC cameras OR 1/50 s for PAL cameras.
2. Open the lens iris until it reaches the maximum aperture size (minimum f-number).
3. Increase video gain until it reaches maximum gain.
4. Increase shutter time until it reaches 1.0 s.

For increasing light conditions the manual exposure control operates in the following sequence:

1. Decrease shutter time until it reaches 1/60 s for NTSC cameras OR 1/50 s for PAL cameras.
1. Decrease video gain until it reaches minimum gain.
2. Close the lens iris until it reaches the minimum aperture size (maximum f-number).

3. Decrease shutter time until it reaches the minimum shutter time.

ACUIX PTZ Dome: 35× Camera Blocks

It is not recommended you operate the 35× camera block in full manual mode. For this reason, the ACUIX has four manual exposure modes available with the 35× camera block:

Shutter Priority

In this mode the shutter time is manually controlled but the video gain and lens iris remain in auto mode. This mode controls the amount of blur due to the motion of moving objects.

Iris Priority

In this mode the lens iris is manually controlled but the shutter time and video gain remain in auto mode. This mode controls the focus depth of field—wider apertures (smaller f-numbers) result in a narrower depth of field.

Gain Priority

In this mode the video gain is manually controlled but the shutter time and lens iris remain in auto mode. This mode controls the amount of video noise in the picture—a higher gain results in higher video noise.

Full Manual

This mode operates the same as the manual exposure mode of the 18× and 26× cameras as described above.

Operating NightShot (TDN) on ACUIX PTZ Camera Blocks

Note The light level values below are only approximate numbers. The actual values in a specific application depend on the spectrum of the light reflected from or emitted by the scene. Light measurements in lux do not include the infrared (IR) content of the light.

The figures described in this section are based on typical incandescent light sources. The values vary considerably with the use of other light sources. For example, the light from a mercury vapor lamp contains very little IR light; therefore, the apparent sensitivity of the night mode with mercury vapor lighting is not as great as with incandescent lighting.

Operation of NightShot with ACUIX 18× and 26× Camera Blocks

The ACUIX PTZ dome application firmware controls the NightShot (TDN) function of the 18× and 26× camera blocks that are part of your ACUIX scan assembly. The firmware controls this by monitoring the video gain and shutter time. You can also configure the specific values at which the camera switches from *day mode* to *night mode* and from *night mode* to *day mode* using the on-screen display (OSD) menus [from the OSD, select **5 Camera Options** > **3 NightShot Control**]. See *Figure C-4*.

Figure C-4 ACUIX OSD NightShot Control Options Menu



Table C-1 TDN Video Gain and Shutter Time Values



Video Gain (dB)	Shutter Time (s)
0	
2	
4	
6	
8	
10	
12	
14	1/60 (1/50)
16	
18	
20	
22	
24	
26	
28	
28	1/30 (1/25)
28	1/15 (1/12)
28	1/8 (1/6)
28	1/4 (1/3)

Setting the Activation and Deactivation Levels

The NightShot (TDN) activate and deactivate points are identified by their video gain and shutter time values. The full list of values from highest light level to lowest are shown in [Table C-1](#).

The deactivate point must always be at a higher light level (lower gain and lower shutter time) than the activate point. **If the ACUIX continually switches between day mode and night mode try moving the deactivate and activate points farther apart.**

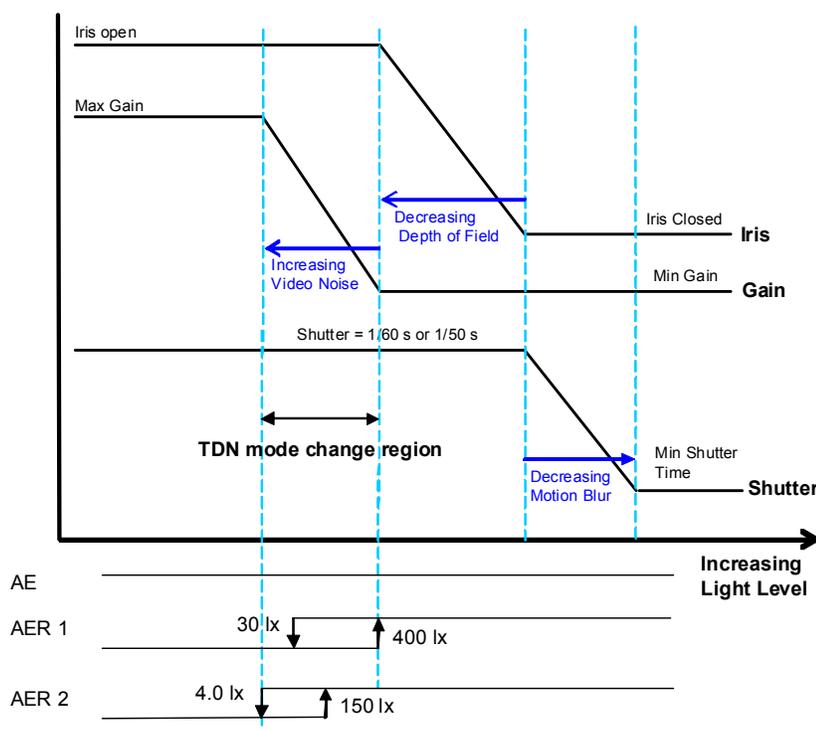
To ensure the highest quality of picture (lowest video noise) the deactivate point should be set to 0 dB and 1/60 s, with the activate point set far enough below that to ensure that the ACUIX does not oscillate between day and night modes at any point in the light level range found in the application. With this setting the ACUIX switches to night mode with a black and white picture at the highest possible light level.

If color information needs to be retained at lower light levels even with an increase in video noise, these settings can be moved to lower light levels (higher gain and longer shutter times).

Figure C-5 shows the approximate light level ranges for the points where the video gain and shutter times are changing due to light level changes in both the day mode (IR cut filter in) and in the night mode (IR cut filter out). The differences in the light levels between the day and night modes are due to the increased video sensor sensitivity to IR light in the night mode.

The exposure mode is toggled between auto and manual using preset 92 if the ACUIX is configured for MAXPRO-mode, Diamond protocol, VCL protocol, VCL UTC protocol, Pelco P protocol, or Pelco D protocol. If the camera is in manual exposure control mode preset 94 toggles between day and night NightShot (TDN) modes.

Figure C-5 NightShot Operation with ACUIX 18x and 26x TDN Camera Blocks



Operation of NightShot with ACUIX 35x Camera Blocks

The ACUIX firmware does not directly control the NightShot (TDN) function of the 35x camera. You can configure the seven automatic exposure modes (see Table C-2 and Figure C-6) using the OSD menus [from the OSD, select 5 Camera Options > 2 Exposure Control].

Figure C-6 AE Control Menu and Example Settings

```

PROGRAM AE CONTROL MENU
Auto Exp OFF for Manual AE
1 Auto AE Mode.....AE
2 NA
3 NA

AE Exp. Mode Features
NightShot Control.....MAN
Auto NS Sensitivity.....NA
Digital Slow Shutter.....OFF
    
```

Note the following about using NightShot with a 35× camera block.

- AER+1 mode is optimized for signal-to-noise (S/N) ratio priority.
- AER+3 mode is optimized for color priority.
- AER+2 mode is balanced between S/N ratio and color priorities.
- To see a depiction of the approximate light levels where the camera switches from day mode (IR cut filter in) to night mode (IR cut filter out) and then from night mode to day mode, see
 - [Figure C-7](#) for when the digital slow shutter function is **inactive**.
 - [Figure C-8](#) for when the digital slow shutter function is **active**.
- The conditions for the change from **day to night mode** must be continuously present for more than 5.0 s for the switch to take place.
- The conditions for the change from **night to day mode** must be continuously present for more than 8.0 s for the switch to take place.

The exposure mode is toggled between auto and manual using preset 92 if the ACUIX is configured for MAXPRO-mode, Diamond protocol, VCL protocol, VCL UTC protocol, Pelco P protocol, or Pelco D protocol. If the camera is in manual exposure control mode preset 94 toggles between day and night NightShot (TDN) modes.

Table C-2 Auto Exposure Control Mode Settings

Setting	NightShot Control	Auto NightShot Sensitivity	Digital Slow Shutter
Auto AE Mode	MAN	NA	OFF
Auto AER1 Mode	AUTO	HIGH	OFF
Auto AER2 Mode	AUTO	MID	OFF
Auto AE+ Mode	MAN	NA	AUTO
Auto AER+1 Mode	AUTO	HIGH	AUTO
Auto AER+2 Mode	AUTO	MID	AUTO
Auto AER+3 Mode	AUTO	LOW	AUTO

Figure C-7 35× TDN Camera with No Auto IR Cut Filter Operation

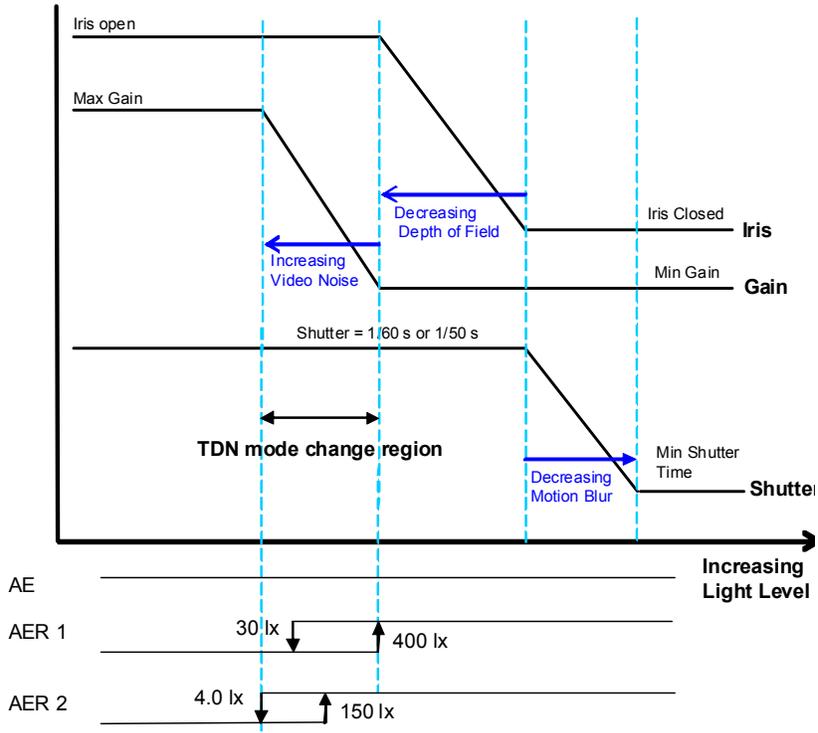
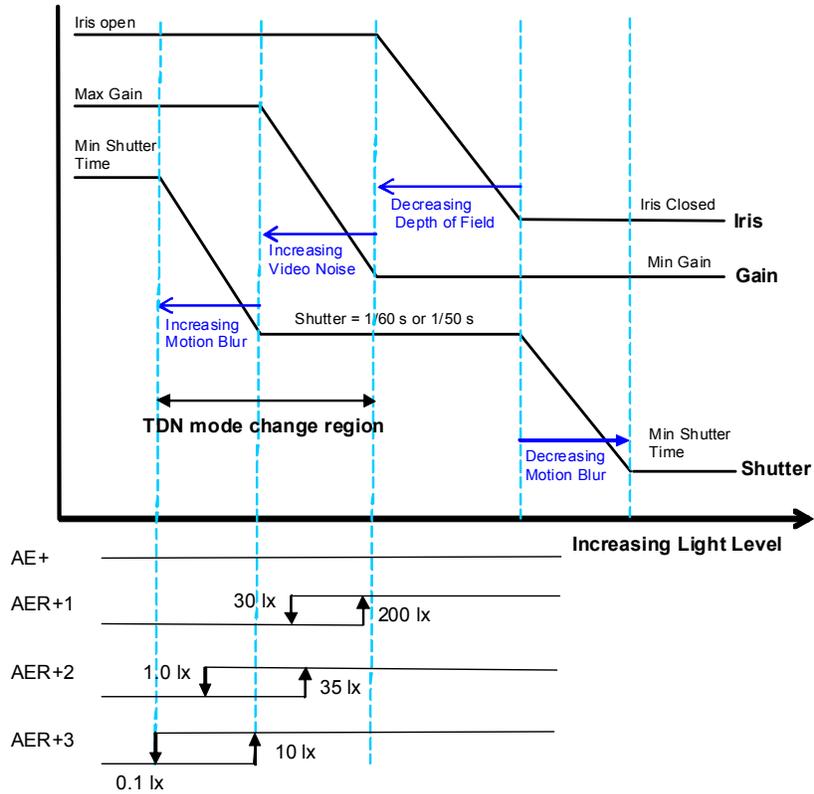


Figure C-8 35× TDN Camera with Auto IR Cut Filter Operation



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