AMERICAN DYNAMICS™

Advanced Dome Controller

ADTT16E

Operator's Manual

8200-0306-02 A1

ADTT16E Advanced Dome Controller

Operator's Manual

Version

0701-2833-0103 (EEPROM)
0701-2834-0201 (Flash PROM)

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PN- 8200-0306-02, Rev. A1 (BSL 03/2004)

TABLE OF CONTENTS

N O T E S :

PREFACE

Before You Begin

This operator's manual provides information about the ADTT16E advanced dome controller features and operation. It explains how to use the controller (Touch Tracker) to program and operate the CCTV system. It is designed to be a continuing source of information and reference while using the controller.

In This Chapter

Using This Manual

This manual covers the following topics:

Chapter 1	*Getting Started with the ADTT16E Advanced Dome Controller:* Provides an overview of the ADTT16E controller. It explains the different operating modes that may be experienced when using the controller. In addition, it explains how to access and use the controller menus to configure and program your controller.
Chapter 2	*Changing Configuration Settings:* Describes the various settings that should be configured before performing other operating tasks.
Chapter 3	*Operating the ADTT16E Advanced Dome Controller:* Explains how to control the devices used with your system. It explains how start Quick Views, Patterns, and the Controller Sequence to automate surveillance activities. In addition, it explains how to the clear dome alarms configured for your system.
Chapter 4	*Programming Controller Functions:* Provides instructions for programming Quick Views, Patterns, the Controller Sequence, and dome alarms used to automate surveillance.
Chapter 5	*Quest Multiplexer Support:* Describes how to use the controller to access the advanced features offered by the Quest triplex multiplexer.
Chapter 6	*Using System Utilities and Solving Problems:* Describes the dome and controller utilities that are started from the menu. In addition, troubleshooting procedures are provided should problems be encountered with the system or its components.
Appendix A	*Software License Agreement:* Explains the terms and conditions for using this product

Text Conventions

This book uses text in various ways to identify different kinds of information.

Italics	Used for terms specific to the *Advanced Dome Controller* and other text requiring emphasis.
`Monospace`	Used for LCD messages and prompts. For example, **`Select Language`**.
Bold	Used for names of buttons on the keypad. For example, **View**.

Notes Special notes appear inside a box similar to this one. The icon represents the information type presented.

 Special operating notes

 Tips for operating the system

 Shortcuts for programming tasks

 Important system operating information

Related Documents

Other sources provide supplemental information about using the ADTT16E.These sources serve to enhance your understanding of the system and its applications.

- The ***Quick Reference Guide*** (document number 8200-0306-03) provides information about the most commonly used features of the advanced dome controller. This document should be used as a supplement to—not in place of—the information covered in this manual.
- The ***Programming Worksheets*** (document number 8200-0306-04) provides worksheets to simplify the task of programming your system. Worksheets for Quick Views, Patterns, Controller Sequence, Inputs/Outputs and Alarm Programming are included.
- Some ADTT16E systems are installed with a quad processor. The quad processor's features can supplement the functionality of your system. Refer to the quad processor instructions for more information.
- Some ADTT16E systems are installed with a multiplexer. The multiplexer's features can supplement the functionality of your system. Refer to the multiplexer instructions for more information.
- Some ADTT16E systems are connected to a video recorder. Refer to the video recorder instructions for more information.

Contact your sales representative if you need additional copies of the Operator's Manual or any other support documentation. The part number for this manual is 8200-0306-02; use this number when ordering additional copies.

Support Services

Various support services are available to help you get the most from your ADTT16E advanced dome controller.

- If you have a question about controller operation and cannot find the answer in this manual, consult with your supervisor.
- Visit the American Dynamics web site for the latest product documentation and information. The web site address is **www.americandynamics.net**.
- If you experience a problem with the ADTT16E advanced dome controller, contact the dealer through whom you originally purchased this product for service or support.

CHAPTER 1

Getting Started with the ADTT16E Advanced Dome Controller

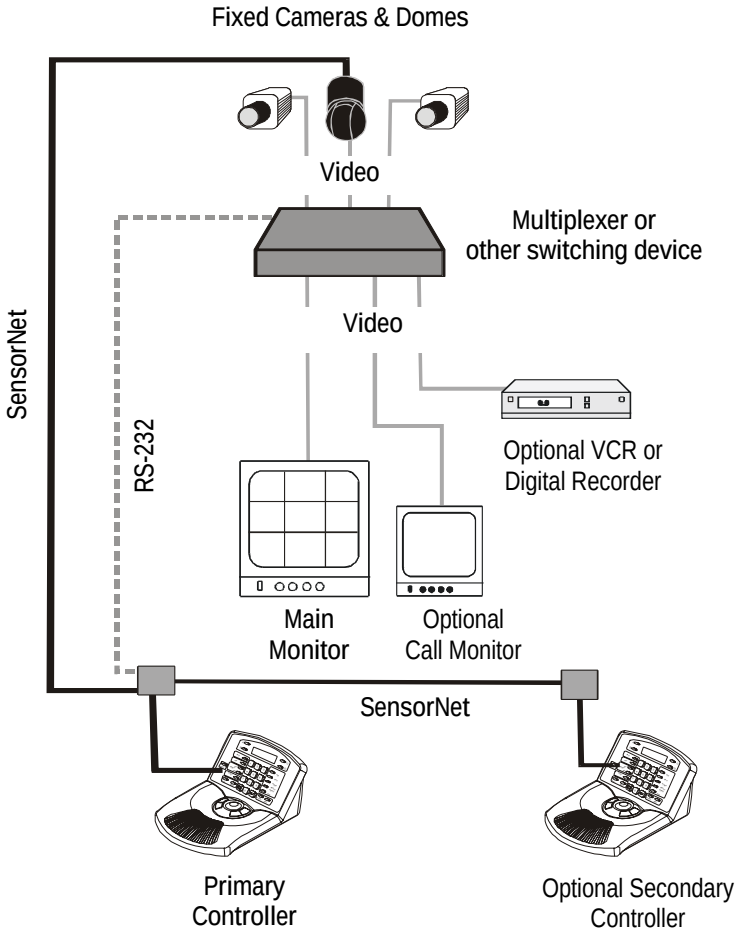
This chapter provides an overview of the ADTT16E advanced dome controller. It describes the controller features and explains the different operating modes that may be experienced when using the controller. In addition, it explains where to find additional information for using your system.

In This Chapter

What is the ADTT16E Advanced Dome Controller?

The ADTT16E advanced dome controller is a video security system that supports the programming and recall of automated system functions, such as Quick Views, Patterns, and the Controller Sequence. The standard configuration consists of one or two controllers (Touch Trackers), a multiplexer or other video-switching device, monitors, a recording device, and up to 64 domes and fixed cameras. Figure 1-1 illustrates a typical configuration.

Figure 1-1: Typical ADTT16E system configuration



Equipment Overview

The ADTT16E system consists of controllers, cameras and domes, monitors, a switching device, such as a multiplexer or quad splitter, and recording devices. This equipment is illustrated in Figure 1-1 on page 1-2. Descriptions of the components follow.

Advanced Dome Controllers

Controllers—also called *Touch Trackers*— are the system control keyboards used to select the cameras, perform programming and configuration tasks, acknowledge alarms, and run automated system tasks. By installing two controllers—a Primary Controller and a Secondary Controller— two operators can perform system surveillance functions simultaneously.

The ***Primary Controller*** is used as the main system keyboard. It interfaces with the multiplexer or other video-switching unit and provides system administration and programming functions.

The ***Secondary Controller*** is the alternate system keyboard. When installed, this allows two users to operate the system simultaneously. It provides limited system programming functions.

Cameras and Domes

Cameras and domes enable you to monitor activity throughout the facility from a single location. The system is compatible with programmable and non-programmable domes, Viewer 360° imaging systems, and fixed cameras.

Monitors

Monitors are used to display video from the cameras and domes. You may have monitors for each camera installed, or you may have monitors connected to the switching unit.

The ***main monitor*** is used to display video in multi-window 4-, 9-, or 16-camera format, or display the currently selected camera in full-screen format. The Primary Controller operates the main monitor. The ***call monitor*** is used to display video from the currently selected camera in full-screen format only. The Secondary Controller operates the call monitor.

Switching Device

Video-switching units, such as ***quad processors*** and ***multiplexers*** allow you to connect multiple cameras and domes to a single unit and view video on a connected monitor. Depending on the device, 4, 9, or 16 cameras can be connected.

If a Multivision Quest ***triplex*** multiplexer is used, the system provides access the multiplexer features using the controller for improved system functionality.

Recording Device

VCRs or digital recorders keep a video record of surveillance activities. Depending on your surveillance requirements, you may have a single recorder, or dedicated recorder for each installed camera.

System Features

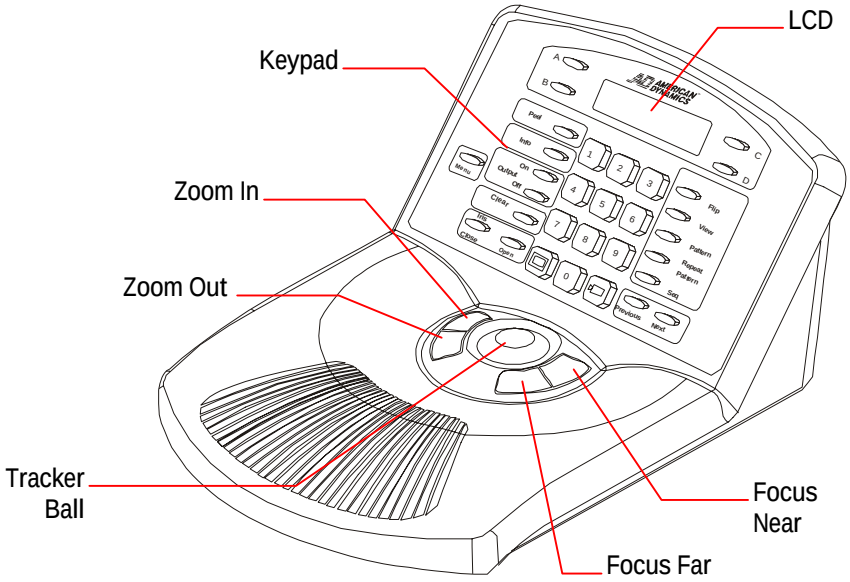
The ADTT16E advanced dome controller provides the following features:

- Support for up to 64 domes.
- Call up video from individual cameras or multiple cameras using a compatible quad splitter or multiplexer.
- Control a camera's pan and tilt movements, as well as its zoom, focus, and iris settings.
- Run the default SpeedDome pattern, called an ***Apple Peel***, that provides you with complete video coverage of an area.
- Initiate a SpeedDome ***flip*** that rotates the dome 180° from its current pointing direction.
- Define and display ***Quick Views***, which are immediate camera call-ups of pre-defined views, with automatic zoom and focus.
- Define and run ***Patterns***, which comprise a series of pan, tilt, zoom, and focus movements from a single camera.
- Program a ***Controller Sequence*** incorporating up to 16 pre-defined Quick Views and Patterns to automatically display one after the other on the main monitor.
- Control the state of dome outputs via the controller. These outputs allow you to control lights, door locks, or other devices when connected through relays.
- The ability to define up to 64 dome alarms triggered by dome inputs. The alarm response automatically calls a pre-defined Quick View, Pattern, or fixed shot and may be configured to initiate a dome output.
- Clear system alarms via the Primary Controller. Up to four alarms may be queued.
- Use controller utilities to configure system settings, test communications, reset domes, and display system information.

Controller Features

The ADTT16E controller, shown in Figure 1-2, is a video control station that provides easy access to a variety of video control features—from basic camera control to advanced automated functions.

Figure 1-2: Controller features



The ***Tracker Ball*** provides variable speed control of a camera's pan and tilt.

The ***zoom*** and ***focus buttons*** enable you to control a camera's zoom and focus. When used with the controller menu, the zoom and focus buttons allow you to select the menu items displayed on the LCD.

The ***keypad*** contains buttons that call up video from individual cameras and control the pre-programmed movement of those cameras. It also contains the buttons for camera iris control, dome output control, and monitor display formats. It also allows you to clear dome alarms from the controller keypad.

The ***LCD*** (liquid crystal display), located at the top of the keypad, displays the currently selected camera number, Pattern Number, or Quick View number. It enables you to see the numbers you enter from the keypad as you enter them. The LCD also displays the controller menu, system prompts, and messages.

Controller Operating Modes

The ADTT16E controller functions differently depending upon the current operating mode. Five operating modes are available:

- Camera control mode
- Menu/programming mode
- Sequence mode
- Alarm mode
- Quest multiplexer control mode

Camera Control Mode

Camera control mode is the normal operating mode for the controller. In camera control mode, the currently selected camera number and any running Pattern or Quick View appears on the LCD. The Tracker Ball functions as the camera pan/tilt controller, and the zoom and focus buttons control the zoom and focus of the currently selected camera. The following tasks can be performed in camera control mode:

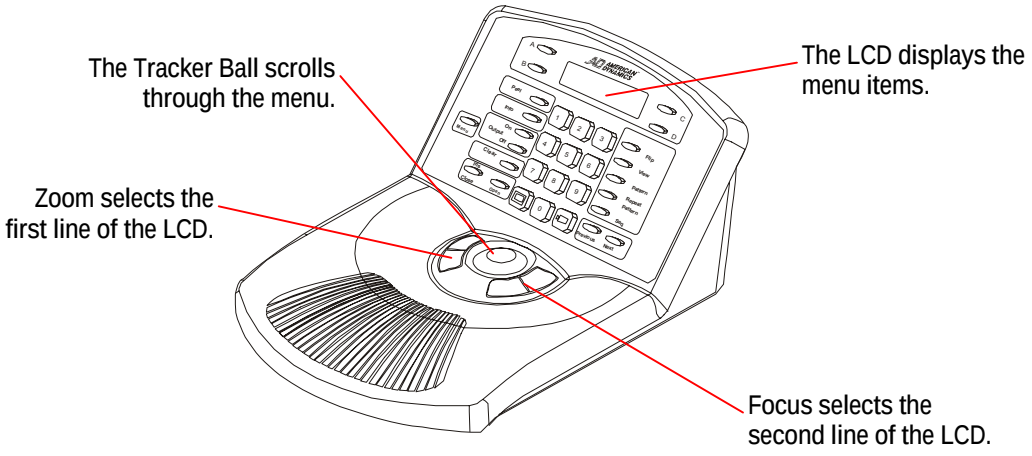
- Change the display format for viewing video on the main monitor
- Select individual cameras and display their video on the call monitor
- Manually control cameras
- Initiate automatic system functions

Menu/Programming Mode

Pressing the **Menu** button on the keypad activates ***menu/programming mode***. In this mode, the LCD displays the available menu items, and the **Tracker Ball** scrolls through the items. There are always two menu items visible at one time on the LCD

The zoom and focus buttons are used to select the menu items. The **zoom** buttons (left of **Tracker Ball**) selects the first line of the LCD. The **focus** buttons (right of **Tracker Ball**) selects the second line of the LCD.

Figure 1-3: Operating in menu/programming mode



Tip: The **A**, **B**, **C**, and **D** buttons may also be used in menu/programming mode. The **A** or **B** buttons select menu items. **C** and **D** buttons scroll through the menu.

- **A** selects the first line on the LCD
- **B** selects the second line item on the LCD
- **C** scrolls to the previous menu item
- **D** scrolls to the next menu item.

The following tasks can be performed in menu/programming mode:

- ***Configure system settings:*** external device, LCD display language, and Primary or Secondary controller.
- ***Program automatic functions:*** Quick Views, Patterns, and Controller Sequence
- ***Program dome alarm actions:*** inputs triggering alarms with associated camera actions, and output activated whenever an alarm is triggered.
- ***System maintenance functions:*** test device communications (ping), reset domes, display version information, adjust LCD backlighting, and adjust key click sound.

Sequence Mode

Pressing the **Seq** button on the keypad activates the ***sequence mode***. This runs the Controller Sequence programmed using menu/programming mode. The Controller Sequence consists 16 previously defined Quick Views and Patterns (called ***events***). These events run one after the other on the monitor. The sequence mode provides you with an unattended surveillance of your facility. The Controller Sequence runs continuously until you stop it manually.

When the controller is in the sequence mode, the LCD displays the following information:

- Camera number whose video appears on the monitor
- The event number (1 through 16) that the Sequence is currently displaying
- The remaining seconds that until the next event occurs

For more information about the Controller Sequence, see chapters 3 and 4.

Alarm Mode

The controller automatically goes into ***alarm mode*** whenever an alarm is triggered, regardless of the operating mode. When the alarm mode is active, the controller beeps intermittently until the alarm is cleared (either automatically or manually by pressing the **Clear** button).

Alarms are configured using menu/programming mode. When configuring the alarm, you determine what triggers the alarm and what actions occur in response to the alarm. The following illustration shows an example of the controller LCD during alarm mode.

```
Cam 3    Alarm2
Src:Cam 5  Inp3
```

In the previous example, there are currently two alarms active. The alarm whose information appears on the LCD was triggered by input 3 of camera 5. The video from camera 3 appears on the Main monitor.

For more information about alarms, see Chapters 3 and 4.

Quest Multiplexer Control Mode

If the controller is configured to interface with the Quest triplex multiplexer, many advanced features of the multiplexer can be accessed. When the controller is Quest Multiplexer control mode, the controller can be used to access the multiplexer display formats, digital zoom, freeze frame, and sequence features. The following controls are used:

A	Displays the multiplexer sequence screens.
B	Toggles between multiplexer digital zoom and zoom area adjustment.
C	Toggles between freeze frame and freeze field mode.
D	Exits the current multiplexer mode.
Tracker Ball	Adjusts the position of highlighted window or zoom area.
 (**Display**)	Changes display format between the available multiplexer window formats.
 (**Camera**)	Assigns specific cameras to windows in multiplexer display format.
Zoom or **Focus**	Selects the page to program for the selected multiplexer sequence.

For more information about the Quest triplex multiplexer functions, see Chapter 5.

What To Do Next

Now that you have a basic understanding of the ADTT16E advanced dome controller, you can begin using the system. The following table lists where to find additional information about using the system features:

Chapter	Features Covered
Chapter 2: Changing Configuration Settings	• Changing the language setting • Configuring Primary and Secondary controllers • Configuring the external system • Setting the controller passwords
Chapter 3: Operating the ADTT16E Advanced Dome Controller	• Logging on and off the controller • Selecting the display format for the monitor • Selecting and controlling cameras • Running Quick Views, Patterns, and the Sequence • Controlling dome outputs • Responding to alarms
Chapter 4: Programming System Functions	• Programming Quick Views • Programming Patterns • Programming the 16-event Controller Sequence • Programming actions for dome alarms
Chapter 5: Quest Multiplexer Control	• Accessing the Quest multiplexer sequences • Controlling multiplexer digital zoom • Switching between freeze frame and freeze field modes • Programming multiplexer sequences
Chapter 6: Using System Utilities and Solving Problems	• Accessing dome utilities • Accessing controller utilities • Troubleshooting system problems
Appendix A: Software License Agreement	• Terms and conditions for using the product

N O T E S :

CHAPTER 2

Changing Configuration Settings

Before performing other tasks, verify that your ADTT16E advanced dome controller configuration settings are correct. Follow the instructions in this chapter to set the language, configure primary or secondary controller settings, configure the external system, and enable or disable passwords.

In This Chapter

IMPORTANT

If passwords have been programmed for the controller, you must first log on before performing the tasks in this chapter. See ***Chapter 3*** for log on instructions.

Setting the Language for Prompts and Messages

English is the initial setting for controller prompts and messages. Change the language setting if you need to display the prompts and messages in another language. The following languages are supported:

- English (default)
- French
- Spanish
- German
- Dutch
- Italian
- Japanese
- Portuguese
- Swedish
- Hungarian

To change the language setting:

1. Press **Menu**.
2. Scroll through the menu items until `Select Language` appears on the LCD. Press **Zoom** to select the first line of the LCD, or press **Focus** to select the second line.

   The list of supported languages appears on the LCD, two languages at a time.

   ```
   English
   Français
   ```

3. Scroll through the list until the preferred language setting appears. Press **Zoom** or **Focus** to select the language setting.

   The controller automatically restarts to activate the new setting.

IMPORTANT

Extra controller appliqués are available for each supported language. Contact your American Dynamics representative for replacement appliqués. To replace the appliqué:

1. Disconnect power from the controller.
2. Use a Philips-head screwdriver to remove the screws holding the controller's top cover in place.
3. Remove the old appliqué.
4. Insert the new appliqué.
5. Replace the top cover. Insert the screws removed in step 2 and tighten.
6. Reconnect power to the controller.

Setting Up Primary versus Secondary Controllers

If two controllers are installed, one must be configured as the Primary Controller, and one must be configured as the Secondary Controller. The ***Primary Controller*** interfaces with the multiplexer or other video switching unit. In addition, the Primary Controller can change the display format of the Main Monitor and supports all system programming features.

The ***Secondary Controller*** controls the video information displayed on the Call monitor only and provides limited programming functions.

Table 2-1: Primary and Secondary Controllers supported functions.

Controller Functions	Primary Controller	Secondary Controller
Designate which external unit the system is connected to (quad splitter, multiplexer, PC, no unit)	✓	*
Select display mode (2x2, 3x3, 4x4, or full-screen format	✓	
Select a camera	✓	✓
Manually control a camera (pan, tilt, zoom, focus, iris)	✓	✓
Flip a SpeedDome	✓	✓
Initiate automatic system functions (Quick Views, Patterns, outputs)	✓	✓
Program and run the Sequence	✓	*
Program and clear alarms	✓	*
Define automatic system functions (Quick Views, Patterns)	✓	✓
Reset a SpeedDome	✓	✓
Select language for Controller LCD text	✓	✓
Designate Primary vs. Secondary Controller	✓	✓
Adjust LCD brightness, speaker volume, and turn key click on / off	✓	✓
Lock the multiplexer	✓	*

* *Menu options related to these items display on the secondary controller. However, when attempting to select the controller beeps to indicate that the function is not available.*

If passwords are enabled, certain functions may not be available depending upon the password level in currently use. See ***Using Passwords to Restrict System Access*** on page 2-6.

Changing the Primary/Secondary Controller Setting

IMPORTANT

If only one controller is installed, it must be configured as the Primary Unit.

1. Press **Menu**.
2. Scroll through the menu items until `Tog Primary/2nd` appears on the LCD. Press **Zoom** or **Focus** to select.

Tip: **Zoom** selects the first line of the LCD; **Focus** selects the second line.

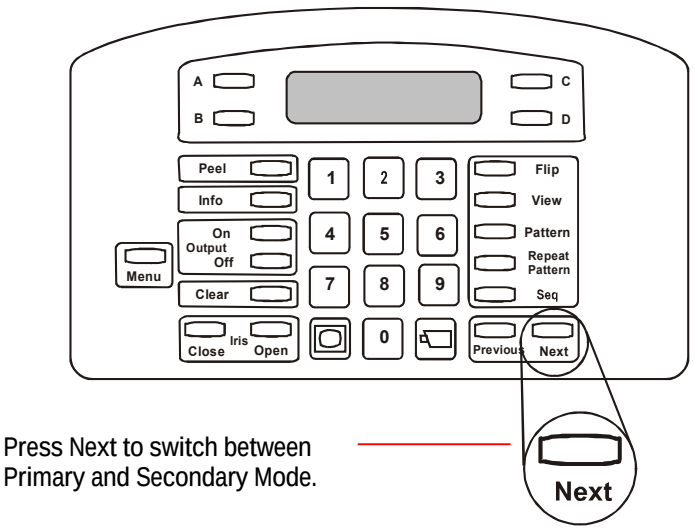
3. If configured as the Primary Controller, the LCD displays:

```
Primary Unit
Change w <Next>
```

   If configured as the Secondary Controller, the LCD displays:

```
Secondary Unit
Change w <Next>
```

4. Press **Next** to change the controller setting. Each time **Next** is pressed, the display toggles between `Primary Unit` and `Secondary Unit`.



5. Press **Menu** to save the setting. If the setting changed, the controller restarts to activate the new setting.

Configuring the External System

The controllers are capable of interfacing with a number of different external devices. The Primary Controller must be configured to communicate with the correct device for the system to operate correctly. Table 2-2 lists the available settings.

Table 2-2: List of Configure Device settings

Device Setting	*Description*
`Device=Quad =POSEM`	Quad processor
`Device=Mux 4 =POSEM`	Standard 4-channel multiplexer
`Device=Mux 9 =POSEM`	Standard 9-channel multiplexer
`Device=Mux 16 =POSEM`	Standard 16-channel multiplexer
`Device=Mux 4 =Duplex`	4-channel Quest Duplex multiplexer
`Device=Mux 9 =Duplex`	9-channel Quest Duplex multiplexer
`Device=Mux 16 =Duplex`	16-channel Quest Duplex multiplexer.
`Device=Mux 10 =Triplex`	10-channel Quest Triplex multiplexer
`Device=Mux 16 =Triplex`	16-channel Quest Triplex multiplexer.
`PC`	Reserved for service use.
`Remote`	Use this option if the controller is installed at a remote location and communicates at 1200 baud.
`None`	No external device is connected.

IMPORTANT

Only the Primary Controller can be used to perform this task.

1. Press **Menu**.
2. Scroll through the menu items until `Config Devices` appears on the LCD. Press **Zoom** to select the first line of the LCD, or **Focus** to select the second line.
3. The LCD displays the current setting. Press **Next** to display the device types.
4. When the correct device appears on the top line of the LCD, press **Menu** to save the device setting.

Using Passwords to Restrict System Access

When initially installed, the ADTT16E system provides full system programming authority to anyone with access to the Primary Controller. This configuration is suitable if you are not concerned about users changing system features, such as Quick Views, Patterns, or Sequences. If this is the case, continue with programming other system features.

However, if you do not want all users to have the ability to program system features, implement password protection. This allows you set three system access levels: *Administrator level*, *Programmer level*, and *User (Operator) level*. In order to use the system, the appropriate 4-digit code must be entered on the controller when the `Enter Password` prompt appears on the LCD.

Note: Passwords are separate for each controller. If two controllers are installed, you may choose to implement passwords on one controller but not the other. If you forget the password, contact your American Dynamics representative for instructions.

To implement password protection, program the Administrator password first. After the Administrator password is set, program the Programmer and Operator passwords.

Password Programming Guidelines

1. Do not create passwords that can be easily guessed. Avoid using repeating numbers, such as 1111 or 2222, or sequential numbers, such as 1234 or 9876.
2. Passwords for each privilege level should be distinct. For example, if you set the Administrator password to be 6528, you would not want the Programmer or Operator passwords to be 6527 or 6529.
3. Keep the list of passwords in a secure place. Only permit authorized personnel to access the password list.

Setting the Administrator Password

IMPORTANT

You must set the administrator password before programming any other password.

Administrators are authorized to perform all tasks documented in this book, including assigning, changing, or disabling passwords.

1. Press **Menu**.
2. Scroll through the menu items until `Admin Password` appears on the LCD. Press **Zoom** to select the first line of the LCD or **Focus** to select the second line.
3. `Enter New Pswd` appears on the LCD. Use the number buttons to enter the 4-digit Administrator password. Press **Zoom** or **Focus** to save.

   Note: Asterisks (*) appear on the LCD as the numbers are entered.
4. `ReEnter New Pswd` appears on the LCD. Enter the 4-digit Administrator password used in step 3. Press **Zoom** or **Focus** to save.

IMPORTANT

If the same password is not entered, the controller beeps, and you must start programming again at step 3.

5. Once the password is set, the controller menu displays. Press **Menu** to return to normal controller operation.

Make note of the Administrator password, and keep it in a secure place. Provide this password only to users requiring the authority to set, change, or disable passwords on the controller. A password must be entered anytime the controller is used.

You can now program the Programmer and Operator passwords.

Setting the Programmer Password

Once the Administrator password is set, assign Programmer and User (Operator) passwords. ***Programmers*** can perform all programming tasks documented in this book except setting, changing, or disabling passwords.

IMPORTANT

You must be logged on as the Administrator to set the Programmer password.

---

1. Press **Menu**.
2. Scroll through the menu items until `Program Password` appears on the LCD. Press **Zoom** to select the first line of the LCD or **Focus** to select the second line.
3. `Enter New Pswd` appears on the LCD. Use the number buttons to enter the 4-digit Programmer password. Press **Zoom** or **Focus** to save.

   Note: Asterisks (*) appear on the LCD as the numbers are entered.
4. `ReEnter New Pswd` appears on the LCD. Enter the 4-digit Programmer password used in step 3. Press **Zoom** or **Focus** to save.

IMPORTANT

If the same password is not entered, the controller beeps, and you must start again at step 3.

---

5. Once the password is set, the controller menu displays. Press **Menu** to return to normal controller operation.

Make note of the Programmer password and keep it in a secure place. Provide this password to those users who require the authority to program system features, such as Quick Views, Patterns, and sequences. A password must be entered anytime the controller is used.

Setting the User Password

Users (operators) are restricted from performing any programming tasks. Users can only operate the ADTT16E system, log on or log off the controller, and change the LCD language setting.

IMPORTANT

You must be logged on as the Administrator to set the User (Operator) password.

---

1. Press **Menu**.
2. Scroll through the menu items until `User Password` appears on the LCD. Press **Zoom** to select the first line of the LCD or **Focus** to select the second line.
3. `Enter New Pswd` appears on the LCD. Use the number buttons to enter the 4-digit User password. Press **Zoom** or **Focus** to save.

   Note: Asterisks (*) appear on the LCD as the numbers are entered.
4. `ReEnter New Pswd` appears on the LCD. Enter the 4-digit User password used in step 3. Press **Zoom** or **Focus** to save.

IMPORTANT

If the same password is not entered, the controller beeps, and you must start again at step 3.

---

5. Once the password is set, the controller menu displays. Press **Menu** to return to normal controller operation.

Make note of the User password and keep it in a secure place. Provide this password to those users who require the authority to perform basic system operations. A password must be entered anytime the controller is used.

Disabling Passwords

Disable passwords by setting the Administrator password to "**0000**" (four zeros). Perform this task on each controller where passwords have been set.

1. Enter the current Administrator password at the `Enter Password` prompt on the controller.
2. Press **Menu**.
3. Scroll through the menu items until `Admin Password` appears on the LCD. Press **Zoom** to select the first line of the LCD or **Focus** to select the second line.
4. `Enter New Pswd` appears on the LCD. Use the number buttons to enter **0000**. Press **Zoom** or **Focus** to save.

   Note: Asterisks (*****) appear on the LCD as the numbers are entered.
5. `ReEnter New Pswd` appears on the LCD. Enter the **0000** again. Press **Zoom** or **Focus** to save.

IMPORTANT

If the same password is not entered, the controller beeps. You must start again at step 4.

---

6. Press **Menu** to return to normal controller operation.

Once the Administrator password is set to **0000**, all passwords are disabled. A password is no longer required to use the controller.

Tip: If you experience problems disabling the password, program all password levels first, and then follow the procedure for password removal.

CHAPTER 3

Operating the ADTT16E Advanced Dome Controller

This chapter explains how to operate the ADTT16E advanced dome controller. It explains how to log on and off the controller if passwords are enabled. It describes how to change the monitor display format, select and control cameras, run automated system functions, and how to activate flip and peel functions for SpeedDome series camera domes. In addition, it explains how to control dome outputs and clear system alarms.

In This Chapter

Logging On / Off the ADTT16E Controller

If passwords have been programmed for the advanced dome controller, you must log on before attempting to use the system. Passwords are 4-digit codes that restrict access to system functions. Three password levels are available: Administrator, Programmer, and User. The functions available are based upon the password level assigned.

- Administrators have full system privileges. Administrators may set, change or disable passwords, program all system functions, and perform all system operations.
- Programmers may perform all system programming and operations. Programmers cannot set, change or disable passwords.
- Users may perform all operations and change the controller language setting. Users cannot perform system programming or set, change or disable passwords.

See ***Chapter 2*** for password programming instructions.

Logging On the Controller

Note

If `Enter Password` does not appear on the LCD, passwords may not be enabled, or another operator may be logged on to the controller.

1. `Enter Password` appears on the LCD.
2. Enter the 4-digit password.
   - If the code is recognized, camera information appears on the LCD.
   - If the code is not recognized the controller beeps and `Enter Password` remains on the LCD. Try entering the password again.
3. Once the password is entered, you can begin performing the other tasks described in this manual.

Logging Off the Controller

When finished using the controller, log off to prevent unauthorized use.

1. Press **Menu**. `Logoff` appears on the first line of the LCD.
2. Press **Zoom** to select the first line of the LCD.

   Note: The zoom buttons are located to the left of the **Tracker Ball**.
3. `Enter Password` appears on the LCD indicating that the logoff was successful.

Note: If `Logoff` is selected when passwords have not been enabled, the controller beeps.

Monitor Display Formats

Tip: Only the Primary Controller can be used to perform this task.

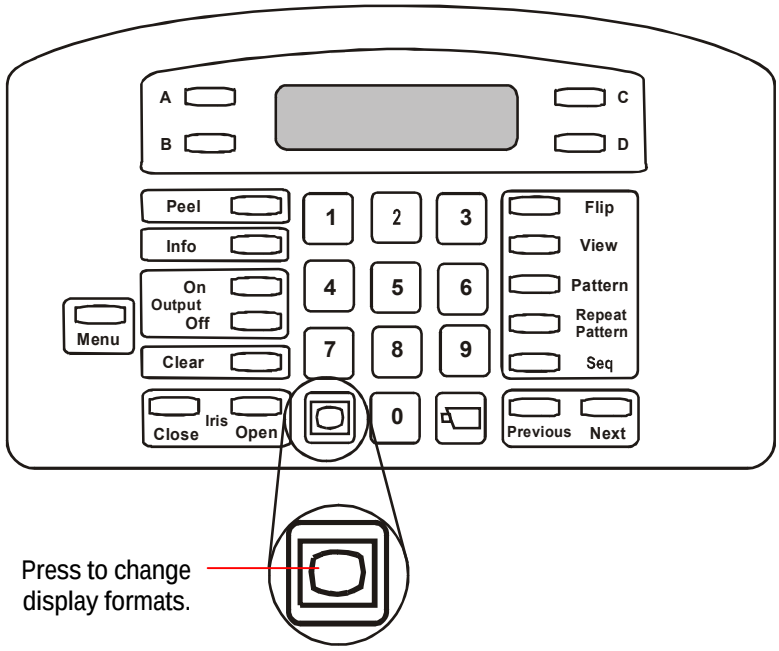
Depending upon the installed switching device, video may be displayed in 2X2 (4 cameras), 3X3 (9 cameras), or 4X4 (16 cameras) format. Video from the selected camera may also be displayed in full-screen format.

Note

If a Multivision Quest multiplexer is installed, other display formats are available. Refer to ***Chapter 5*** for more information.

Pressing (**Display** button) on the Primary Controller switches between the available display formats. This button serves no function on the Secondary Controller. Figure 3-1 illustrates the location of the **Display** button.

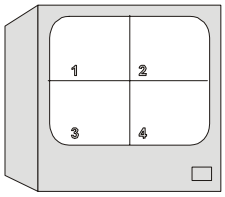
Figure 3-1: Display button



Displaying Video with Quad Processors

Quad processors provide the ability to see video from up to eight cameras. The video can be viewed from each camera individually, or it can be displayed in *quad* mode.

QUAD DISPLAY MODE



Quad display mode allows video from 4 cameras to be displayed at once on the monitor. The camera number appears in the bottom of its respective quadrant on the monitor.

Depending upon the model, as many as eight cameras may be connected to your system. However, only video from four cameras can be displayed at one time. If a dual page quad processor is being used, the camera display is divided into two "pages." Page 1 displays Cameras 1 through 4; page 2 displays cameras 5 through 8.

To switch back and forth between pages, press  (**Display** button) on the Primary Controller. By pressing  , the monitor display changes from page 1, to page 2, to full-screen display. Regardless of which display format is active, you will always have control over the camera indicated on the controller LCD.

Tip: If your system includes only one monitor, press  (**Display** button) to put the monitor in the quad display format. Press the number associated with an individual camera to call that camera to the full-screen mode (or select the full-screen display mode via the **Display** button).

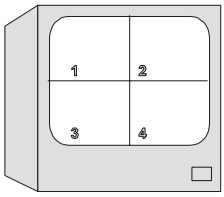
If your system includes two monitors, the *Main* monitor is dedicated to quad display, and the *Call* monitor is dedicated to full-screen display.

Displaying Video with Multiplexers

Multiplexers allow viewing of up to 16 cameras simultaneously. Cameras may be called up individually or the cameras may be displayed in one of the multiplexed modes. Three types of multiplexers are available. ***Triplex multiplexers*** allow simultaneous viewing of live video *and* playing back recorded video while recording video from up to 16 cameras. ***Duplex multiplexers*** allow viewing live video *or* playing back recorded video while also recording video from up to 16 cameras. ***Simplex multiplexers*** allow viewing cameras full-screen mode while recording of up to 16 cameras *or* displaying the cameras in a multiplexed mode when recording is off.

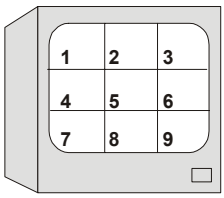
Standard simplex and duplex multiplexers are available in 4-camera, 9-camera, and 16-camera models. When cameras are displayed in the multiplexed mode, they can be displayed in 2x2, 3x3, or 4x4 format, depending upon the installed multiplexer. See ***Chapter 5*** for information about Quest multiplexers and the display formats available.

2x2 DISPLAY FORMAT



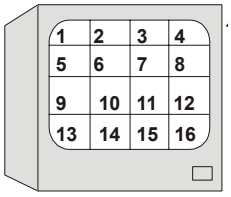
Video displays from 4 cameras when ***2x2*** format is active. 4-, 9-, and 16-camera multiplexers support this display format.

3x3 DISPLAY FORMAT



Video displays from 9 cameras when ***3x3*** format is active. 9- and 16-camera multiplexers support this display format.

4x4 DISPLAY FORMAT



Video displays from 16 cameras when ***4x4*** format is active. 16-camera multiplexers support this display format.

Press  (**Display** button) on the Primary Controller to choose from the available display formats. Each time you press  , the monitor changes from 2x2, 3x3, 4x4, or full-screen format. Regardless of which display format is active, you will always have control over the camera indicated on the controller LCD.

Tip: If the system includes only one monitor, press  (the **Display** button) to put the monitor in the multi-camera display format. Press the number associated with an individual camera to call that camera to the full-screen mode (or select the full-screen display mode by pressing ).

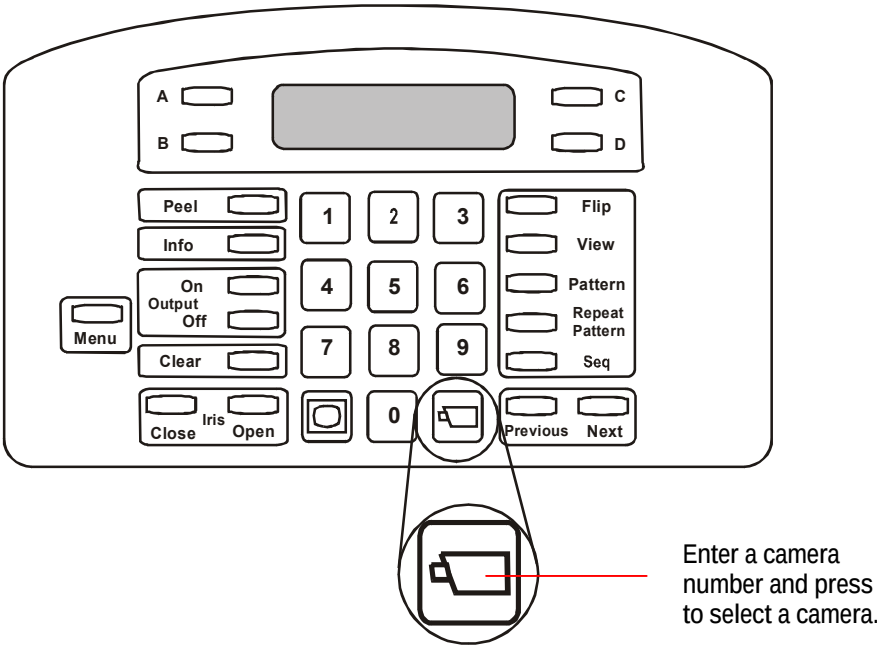
If your system includes two monitors, the *Main* monitor is dedicated to multi-camera display and the *Call* monitor is dedicated to full-screen display.

If your system includes one controller with two monitors, the controller may be used to control either Main or the Call monitor. To switch control to the Call monitor, press the **Sel** button on the multiplexer twice. To return control to the Main monitor, press the **Sel** button again.

Selecting and Controlling Cameras

Each camera has been assigned a unique number. To select a camera, enter the camera number and press  (**Camera** button). Figure 3-2 illustrates the location of the **Camera** button.

Figure 3-2: Camera button



Full-screen video from the selected camera appears on the monitor. The associated camera number appears in the bottom left corner of the monitor. If the camera is selected via the Primary Controller, video appears on the Main monitor. If the camera is selected via the Secondary Controller, video appears on the Call monitor.

How the System Resolves Conflicts in Camera Control

If the configuration includes two controllers, the Primary Controller will always have camera control priority over the Secondary Controller. The Primary Controller "locks" the selected camera, and the Secondary Controller will only be able to display its video on the Call monitor. The following situations may occur:

Situation	Message on Secondary Controller
The Secondary Controller attempts to control a camera that is currently selected by the Primary Controller.	`Camera In Use`
The Primary Controller selects a camera currently controlled by the Secondary Controller. The Primary Controller secures control of the camera.	`Camera Override`

The Primary Controller operator maintains control over the camera until one of the following events occurs:

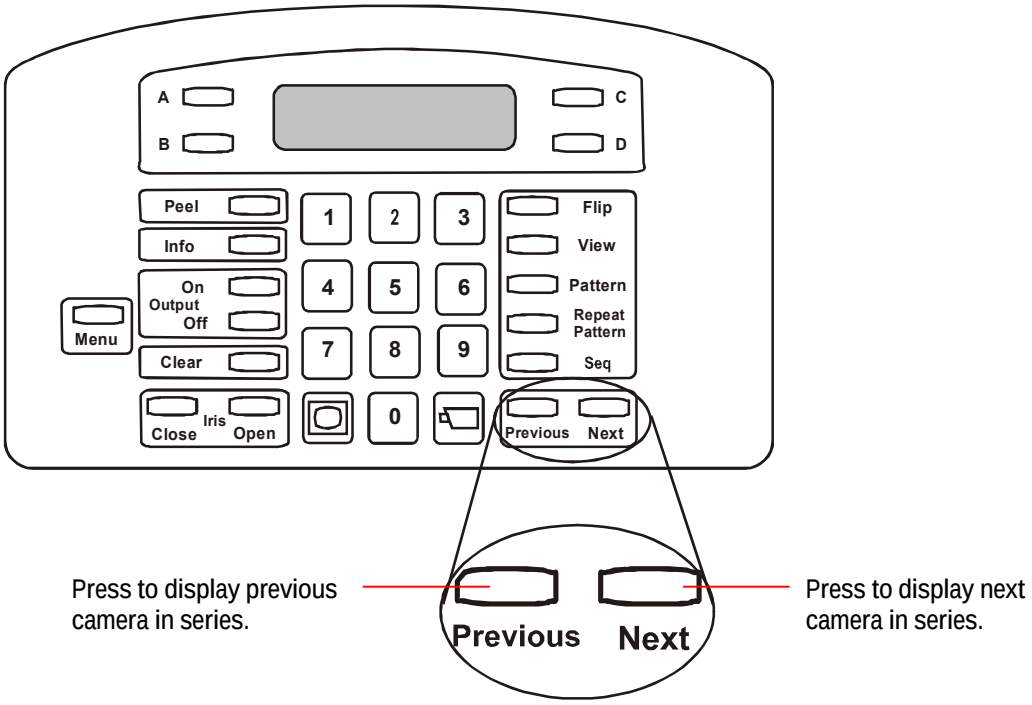
- A different camera is selected
- Menu/programming mode is started
- The Controller Sequence is initiated
- An alarm comes into the system
- The selected camera remains idle for 3 minutes

Once the Primary Controller operator relinquishes control of a camera, the message, `Camera Free` appears on the Secondary Controller (if the Call operator has that camera selected).

Stepping Through the Cameras

Press the **Previous** and **Next** buttons to step backward and forward through all of the cameras configured for your system. The video displays full-screen on the Main or Call monitor depending upon the controller currently being used. Figure 3-3 illustrates the locations of the **Previous** and **Next** buttons.

Figure 3-3: Previous and Next buttons



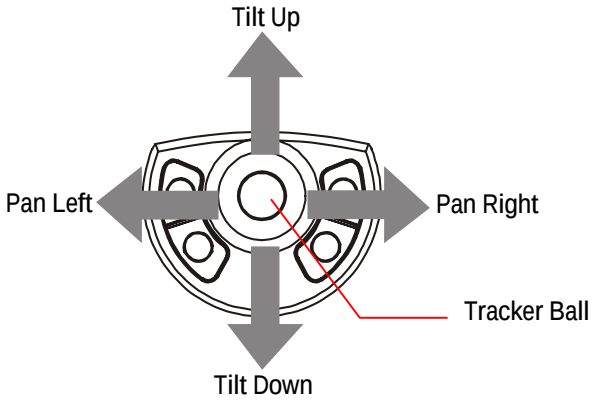
Note: Previous and **Next** step through the first 16 cameras. If more than 16 cameras are installed, the camera number must be manually entered.

Controlling a Camera's Pan and Tilt

Camera movement can be manually controlled once a camera is selected. ***Pan*** is the side-to-side camera movement. ***Tilt*** is the up and down camera movement.

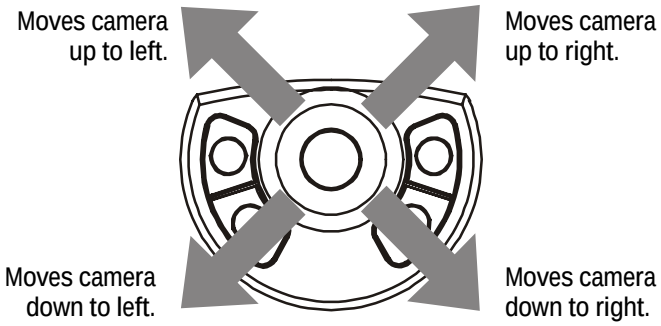
The **Tracker Ball** controls the pan and tilt movements. Move the **Tracker Ball** left and right to pan the camera. Move the **Tracker Ball** towards you or away from you to tilt the camera. Figure 3-4 illustrates how to control the pan and tilt movements.

Figure 3-4: Pan and tilt movement using the Tracker Ball



You can simultaneously pan and tilt the camera for diagonal movement. Moving the **Tracker Ball** diagonally up and to the right moves the pointing direction of the camera up and to the right. Figure 3-5 illustrates diagonal camera movement.

Figure 3-5: Diagonal camera movement using the Tracker Ball



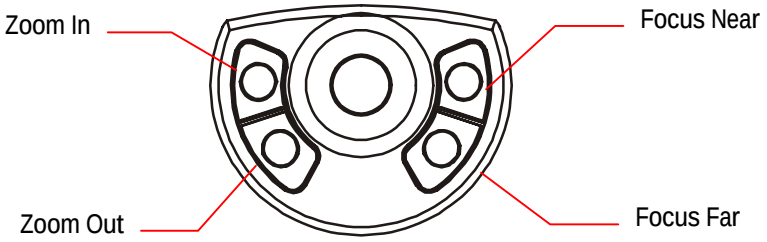
Camera movement speed is directly proportional to the distance the **Tracker Ball** moves from its center position. For example if the **Tracker Ball** moves slightly to the right, the camera pans slowly to the right. As the **Tracker Ball** moves farther to the right, the panning speed increases until maximum speed is reached.

Note: This variable speed operation applies to programmable domes only. Non-programmable domes provide two speeds: normal and fast.

Controlling Zoom and Focus

Control the zoom and focus settings of the selected camera by pressing the **Zoom** and **Focus** buttons. Figure 3-6 illustrates the locations of these buttons.

Figure 3-6: Zoom and Focus buttons



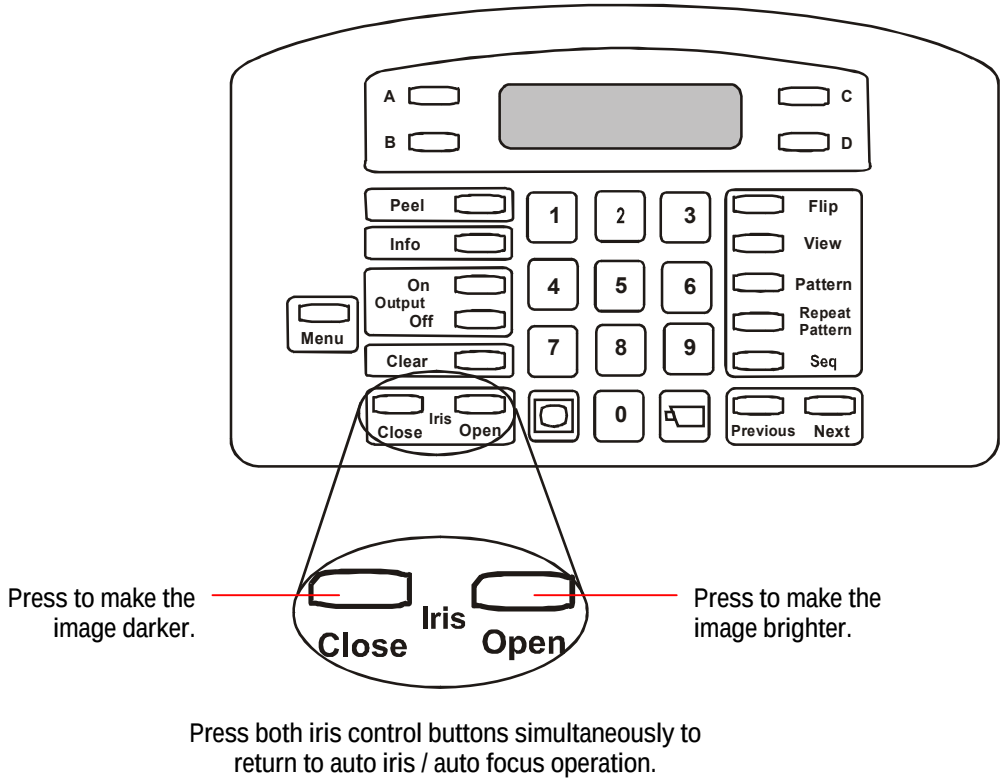
Zoom refers to adjusting the magnification of the camera lens to make an object appear closer (larger) or more distant (smaller). To make objects appear closer to the camera, press **Zoom In**. To make objects appear more distant from the camera, press **Zoom Out**. Quickly pressing and releasing a zoom button displays only a slight visible change on the monitor. The longer a zoom button is pressed, the more noticeable is the response.

Focus refers to the process of adjusting the clarity of a scene or an object, as seen through the camera lens. To adjust the focus setting for the object or scene displayed, press a focus button. Press **Focus Near** if the object is closer than the current focus setting. Press **Focus Far** if the object is more distant than the current focus setting. The scene on the monitor becomes either sharper and clearer or fuzzier and less clear. Like the zoom buttons, the focus buttons react based on the length of time the button is pressed; the longer a focus button is pressed, the more noticeable is the response.

Controlling the Iris

Normally the camera's automatic gain function and the auto/manual iris function control the brightness of the image. However, there may be times when the scene on the monitor could be even darker or brighter. The iris control buttons—**Iris Close** and **Iris Open**—regulate the image brightness. Figure 3-7 illustrates the location of the iris control buttons.

Figure 3-7: Iris control buttons



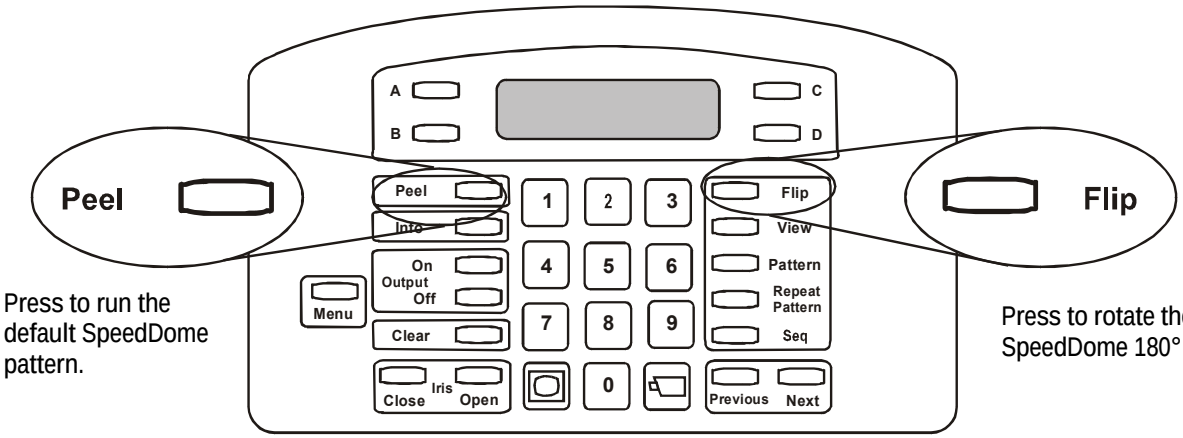
Press both iris control buttons simultaneously to return to auto iris / auto focus operation.

Press **Iris Close** to make the picture darker. Press **Iris Open** to make the picture brighter. To return to auto iris/auto focus mode, press both iris control buttons simultaneously.

SpeedDome Peel and Flip Features

The SpeedDome series camera domes support two special features called ***Apple Peel*** and ***Flip***. Pressing the appropriate buttons on the controller automatically activate these features. Figure 3-8 illustrates the location of the **Peel** and **Flip** buttons.

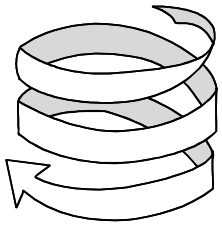
Figure 3-8: Peel and Flip buttons



Running the "Apple Peel" Pattern

The *Apple Peel pattern* consists of three revolutions of camera panning (with tilt) starting at the ceiling line. Each revolution tilts down approximately 30°. The Apple Peel pattern provides you with a complete view of the area. Figure 3-9 illustrates the Apple Peel pattern movement.

Figure 3-9: Apple Peel Pattern



Select the camera and press **Peel** to run the Apple Peel pattern. The Apple Peel pattern repeats indefinitely until a camera command (pan, tilt, zoom, focus, or iris) is issued to the camera. The following message displays on the LCD while the Apple Peel pattern is running:

```
Cam 16            +
  Apple Peel Patn
```

Note: If the ADTT16E controller is used with a Sensornet-to-RS-422 Code Converter *and* Pattern 3 has been programmed, pressing **Peel** runs Pattern 3.

"Flipping" the SpeedDome

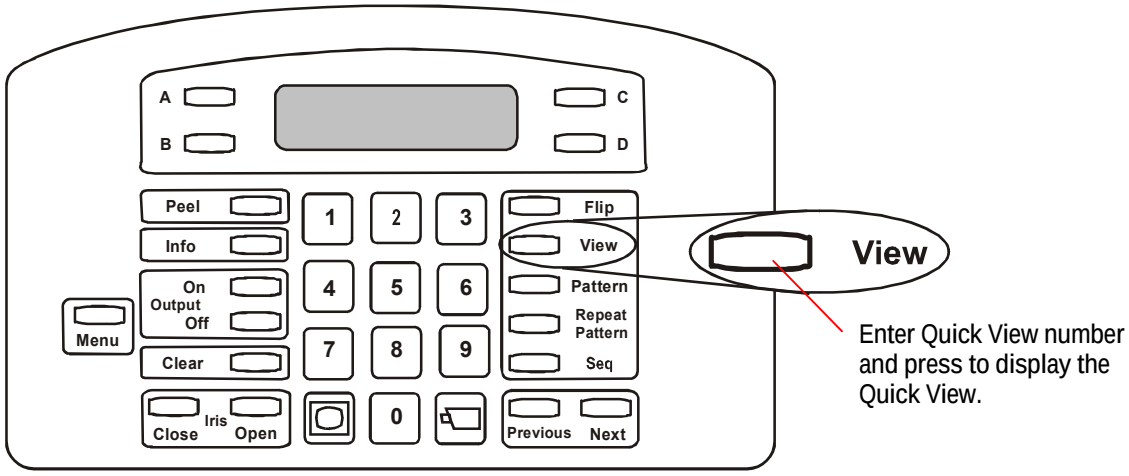
A SpeedDome camera dome can rotate 180° from its current pointing direction by pressing the **Flip** button. This feature is useful when tracking someone who walks directly under the SpeedDome and continues walking on the other side. The message `Flip Dome` appears on the second line of the LCD when the **Flip** button is pressed.

```
Cam 16              +
   Flip Dome
```

Displaying Quick Views

Use ***Quick Views*** to call up specific scenes from programmable domes, regardless of the current pointing direction. This feature is useful when you want to look at a particular item or area quickly without manually adjusting pan, tilt and zoom. Depending on the dome type, either 4 or 96 Quick Views may be defined for the selected dome. Figure 3-10 illustrates the location of the **View** button.

Figure 3-10: View button



Chapter 4 provides Quick View programming instructions. If a list has been compiled for your facility, refer to the **Programming Worksheets** (8200-0306-04) to determine which Quick Views are available.

To display a Quick View:

1. Select the camera where the Quick View is saved.
2. Enter the Quick View number (1-96) and press **View**.

   The camera immediately points to the programmed position, and then adjusts the zoom and focus. The Quick View information appears on the second line of the LCD.

```
Cam 1               +
   View 96
```

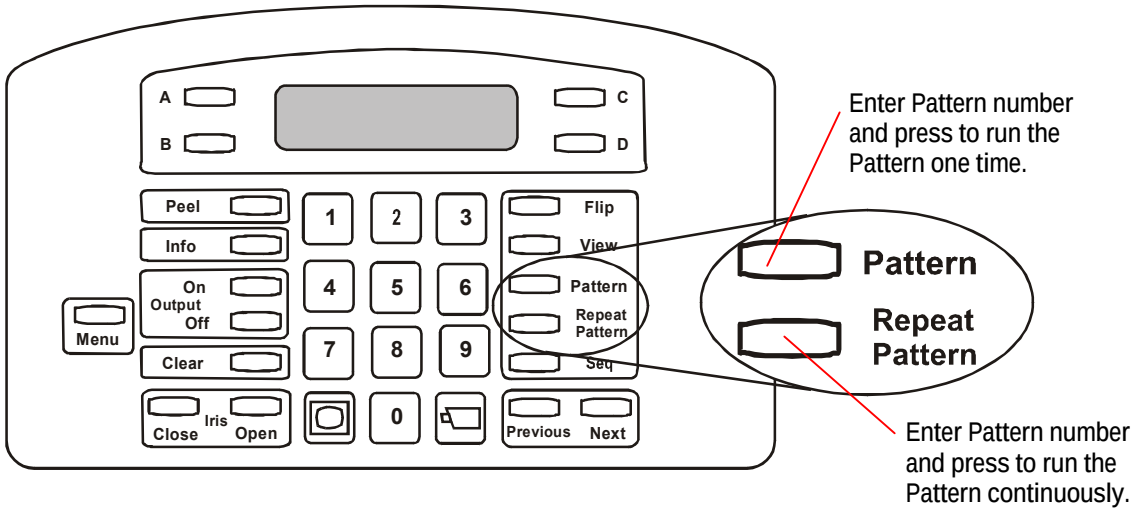
Note: The controller beeps if an invalid Quick View number is entered.

IMPORTANT

The SpeedDome LT supports a feature called "Auto Pan" that allows you to program a smooth side-to-side camera movement for an area. See ***Chapter 4*** for additional information.

A ***Pattern*** is a sequential series of pan, tilt, zoom, and focus movements from a single camera. You "teach" the camera a combination of these movements. Whenever the Pattern is run, the camera automatically recalls the movements it was taught. Patterns can be run once or run repeatedly until manually stopped. Most programmable domes support up to three Patterns defined for it. The SpeedDome LT will support programming the Auto Pan feature for Pattern 1; it does not support programming any additional patterns. Figure 3-11 illustrates the locations of the **Pattern** and **Repeat Pattern** buttons.

Figure 3-11: Pattern and Repeat Pattern buttons



Chapter 4 provides Pattern programming instructions. If a list has been compiled for your facility, refer to the **Programming Worksheets** (8200-0306-04) to determine which Patterns are available for the installed domes.

To run a pattern:

1. Select the camera where the Pattern is saved.
2. Enter the Pattern number, and press a pattern button.

Action	LCD Information
Press **Pattern** to run the Pattern once. Pattern finished.	Cam 8 + Run Pattern Cam 8 + Pattern Done
Press **Repeat Pattern** runs the Pattern indefinitely until manually stopped.	Cam 8 + Repeat Pattern

Notes

If the selected Pattern has been programmed, the Pattern automatically runs. If the Pattern has not been programmed, the default Apple Peel pattern runs. See ***Running the "Apple Peel" Pattern*** on page 3-11 for a description.

The controller beeps if a Pattern for a non-programmable dome or if an invalid Pattern number (any number greater than 3) is entered.

Running the Controller Sequence

Tip: Only the Primary Controller can be used to perform this task.

The ***Controller Sequence*** consists of a collection of 16 events (Quick Views, Patterns, and fixed shots) from the system cameras. When the Sequence is running, these events are automatically displayed one after the other on the Main monitor. Each event remains on the monitor for a specified duration (from 1 to 90 seconds); each event may have a different duration.

Chapter 4 provides instructions for programming the Controller Sequence. Use to the **Programming Worksheets** (8200-0306-04) to list Quick Views and Patterns to include in the Controller Sequence.

Press the **Seq** button on the Primary Controller to run the Controller Sequence. Figure 3-12 illustrates the location of the Sequence button. Figure 3-13 illustrates the information appearing on the LCD when the Controller Sequence is running.

Figure 3-12: Sequence button

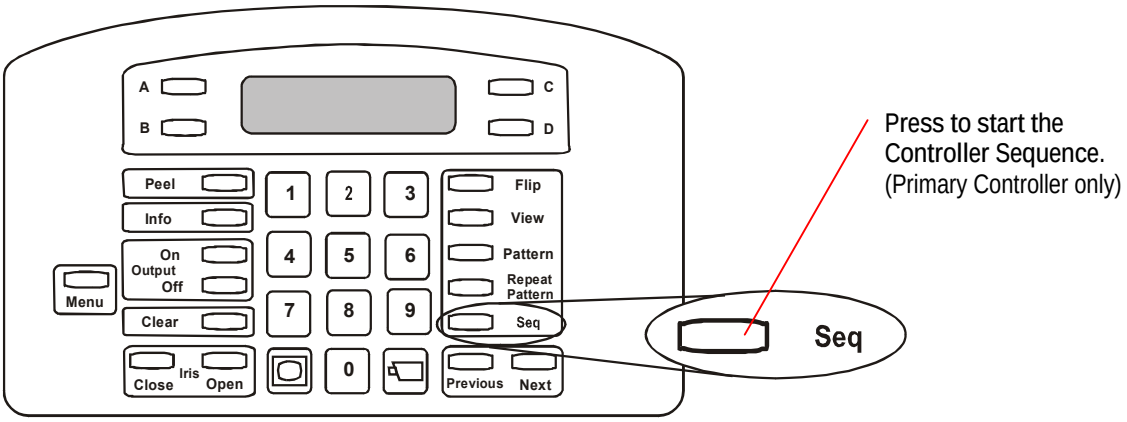
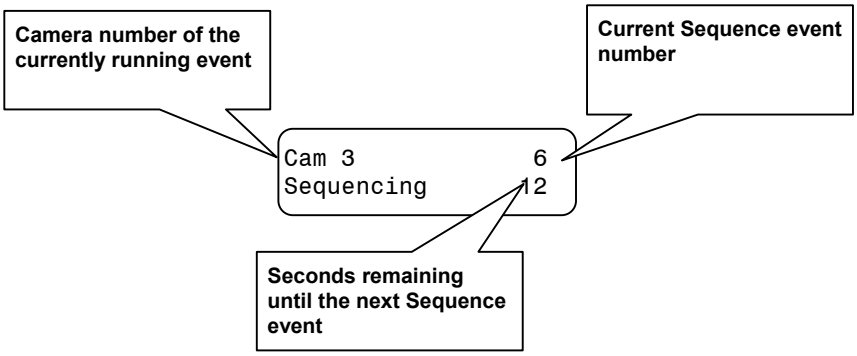


Figure 3-13: Sequence LCD display information

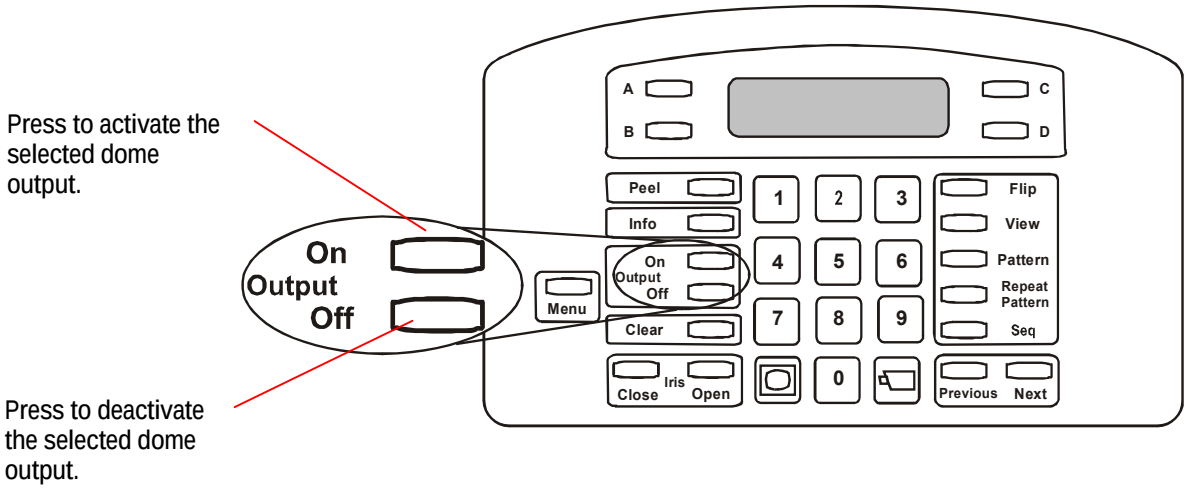


The Sequence repeats indefinitely until **Seq** or **Clear** is pressed on the Primary Controller.

Controlling Dome Outputs

Output devices are hardware components connected to dome outputs that can be operated by the controller. Typical output devices include gates, door strikes, and lights. Depending upon the dome type, as many as four output devices may be connected. The **output control buttons** on the controller activate or deactivate the output devices connected to the currently selected dome. Figure 3-14 illustrates the location of these buttons.

Figure 3-14: Output control buttons



The following procedure describes how to activate or deactivate a dome output. You must know the dome number and the output number before performing this procedure.

1. Select the camera whose output state you want to control.
2. Enter the output number, and press an **output control** button.

Action	LCD Information
Press **Output On** to activate	Cam 13 + Output On
Press **Output Off** to deactivate	Cam 13 + Output Off

The controller beeps if an invalid output number or non-existent output number is entered.

Tip: Up to 64 output devices can be configured at a single facility. Post a copy of the Inputs / Outputs Worksheet found in the ***Programming Worksheets*** (8200-0306-04) next to the controllers to help operators determine which outputs are available.

Clearing System Alarms

Tip: Only the Primary Controller can be used to perform this task.

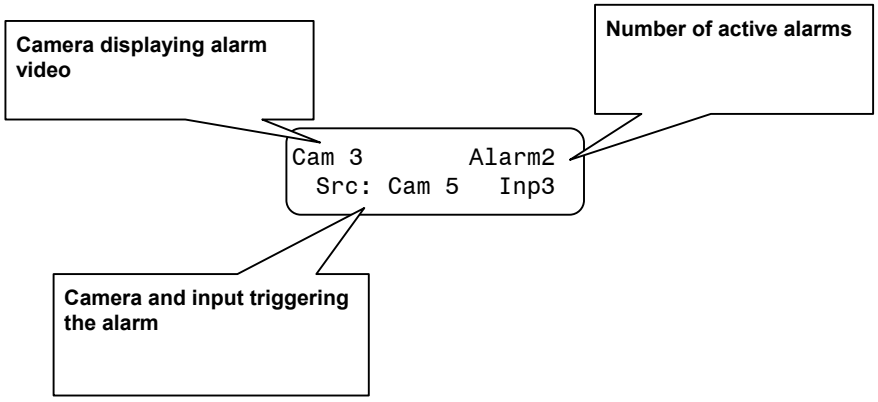
The ADTT16E advanced dome controller can be configured to handle up to 64 alarms. When an alarm is triggered, it takes precedence over the activity currently being performed on the Main monitor and Primary Controller. For example, if the controller is in programming mode, the alarm information replaces the programming information. If the Controller Sequence is running, the alarm information replaces the sequence information, and alarm video replaces the sequence video on the Main monitor. The Call monitor and Secondary Controller remain unaffected by incoming alarms.

Each alarm can be configured to automatically call up video and initiate an output. For example, when an alarm is triggered, it can automatically run a specific Pattern and set off an audible alarm. In addition, whenever an alarm is triggered, the controller beeps, signaling an active alarm. The controller continues to beep intermittently until the alarm is cleared.

Only four alarms may be active at once. If a fifth alarm becomes active, the oldest alarm is removed from the queue.

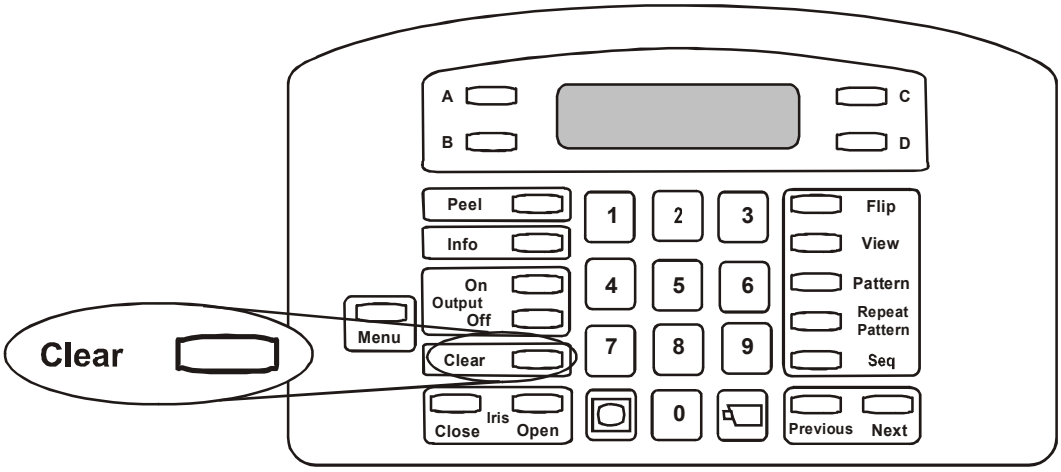
The following illustrates an example of the LCD when two alarms are active.

Figure 3-15: Alarm information appearing on the LCD



The default system setting automatically clears alarms after 60 seconds. No action is required by the operator to clear alarms as long as automatic alarm acknowledgment is enabled. However, alarms can manually cleared by pressing the **Clear** button on the Primary Controller. Figure 3-16 illustrates the location of the **Clear** button.

Figure 3-16: Clear button



When you clear an alarm, its associated output returns to its original state, and the alarm information is removed from the LCD. Continue to press **Clear** until all active alarms have been acknowledged.

The controller stops beeping after all active alarms are cleared. If the Controller Sequence was running the before the alarm occurred, the sequence restarts from the beginning. If system programming was in process when the alarm occurred, you resume programming from the beginning.

CHAPTER 4

Programming Controller Functions

This chapter explains how to program the automatic functions for the ADTT16E advanced dome controller. Programming instructions for Quick Views, Patterns, and the Controller Sequence are provided. In addition, system alarm set up is explained.

In This Chapter

Programming Quick Views

A ***Quick View*** is a programmed video scene based on specific pan, tilt, zoom, and focus settings for a programmable dome. Program Quick Views if you need to frequently observe specific locations, such as entrances, lobbies, or loading docks. *Presets* and *Targets* are other names used for Quick Views.

When accessed, the Quick View automatically calls up the scene for the selected dome, regardless of where the dome is currently pointing. Either four or 96 Quick Views may be programmed, depending on the programmable dome type.

Quick View Programming Instructions

1. Select the camera where the Quick View will be saved.
2. Adjust the pan, tilt, zoom and focus settings for the camera until the scene you want to save appears on the monitor.
3. Press **Menu**.
4. Scroll through the menu until `Setup View` is displayed on the LCD. Press **Zoom** or **Focus** to select.

Tip: **Zoom** selects the first line; **Focus** selects the second line.

5. `Enter View#?` appears on the LCD. Enter the view number (1-96), then press **Zoom**, **Focus** or **View** to save. `View Saved` appears briefly on the LCD.

Note: The controller beeps if an invalid Quick Viewer number is entered. If this happens, enter a valid number, and the Quick View will be saved.

The controller automatically returns to the camera control mode after saving the Quick View. Make a record of the Quick View, including the camera number and a brief description in the **Programming Worksheets** (8200-0306-04).

Programming Time Saver

To quickly program a Quick View, first adjust the camera to the desired scene. Press **Menu**, and then press **View**. You will be prompted to assign a View number. Enter the Quick View number (1-96), and press **Zoom, Focus**, or **View** to save.

Programming Patterns

A ***Pattern*** is a series of pan, tilt, zoom and focus movements from a single programmable dome. Program Patterns if you need to observe large areas at your facility, such as parking lots, warehouses, or long hallways. *Tour* is another name used for Pattern. Depending on dome type, up to three patterns may be programmed.

IMPORTANT

If you have SpeedDome LT domes installed, a special pattern called the ***Auto Pan*** is available. The Auto Pan is a smooth side-to-side motion that can be programmed for Pattern 1. No other patterns may be programmed for the SpeedDome LT. See ***SpeedDome LT Auto Pan Programming*** on page 4-11 for more information.

Pattern Programming Limitations

Two variables restrict pattern length and complexity:

- Number of available camera commands
- Time

Camera commands are issued each time the camera moves or the zoom and focus is adjusted. The three Patterns for a dome can collectively use 98 camera commands. As you program a Pattern, the number of remaining camera commands appears on the LCD. Depending on the dome type, the number of available commands may also be displayed on the monitor.

Patterns also have time constraints. The maximum duration for each Pattern is 6 minutes and 50 seconds. Even if the Pattern has only two camera commands in it, the Pattern will stop recording once the maximum duration has elapsed.

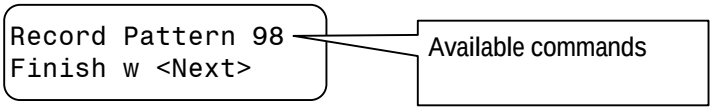
Patterns are programmed in *real-time*. This means that the camera is recording every programming command made at the speed the commands are issued. For example, if the camera sits motionless for 20 seconds during programming, the camera pauses for 20 seconds each time that Pattern runs. The 20 seconds of motionless time is part of the Pattern.

Tip: If you make a mistake during programming or you no longer want to program the Pattern, press the **Menu** or the **Clear** button at any time to cancel programming. The controller returns to the camera control mode.

Pattern Programming Instructions

1. Select the camera for the Pattern you want to program.
2. Adjust the pan, tilt, zoom and focus settings for the camera until the starting point for the Pattern appears on the monitor.
3. Press **Menu**.
4. Scroll through the menu until `Record Pattern` appears on the LCD. Press **Zoom** or **Focus** to select.
5. `Enter Patrn#?` appears on the LCD. Enter the Pattern number (1-3).

   The following information appears on the LCD:



6. Move the camera around and create the Pattern. The LCD displays the number of remaining commands while the Pattern in programmed.
7. Press **Next** when finished programming. `Pattern Saved` appears briefly on the LCD.

The controller automatically returns to camera control mode after saving the Pattern. Make a record of the Pattern, including the camera number and a brief description in the **Programming Worksheets** (8200-0306-04).

Programming Time Saver

To quickly program a Pattern, first adjust the camera to the starting point of the Pattern. Press **Menu**, and then press **Pattern**. Enter the Pattern number (1-3) to start programming. Move the camera in the desired pattern. When finished programming, press **Next** to save the Pattern.

Programming the Controller Sequence

Program the ***Controller Sequence*** if different locations require regular monitoring. The Sequence is of a collection of 16 *events* that have been defined for your system's cameras initiated by the Primary Controller. Each event can be a Quick View, Pattern, or fixed shot that displays for a designated period (1 to 90 seconds).

When the Sequence is running, the Main monitor displays these events in the programmed order. If suspicious activity is observed, pressing **Seq** or **Clear** stops the Controller Sequence on the displayed camera.

Use the **Programming Worksheets** (8200-0306-04) to identify the events to include in the Controller Sequence. List all of the events to be programmed —including the camera number, Quick View or Pattern number, and duration. Refer to this worksheet while programming.

Sequence Programming Display

Before programming the sequence, you should understand what information is displayed, and how the controller is used for programming. Figure 4-1 illustrates the fields appearing on the LCD; Table 4-1 describes the fields.

Figure 4-1: Sequence programming LCD display.

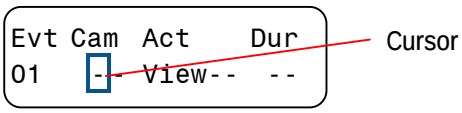


Table 4-1: Sequence programming fields

Field	*Description*
`Evt`	*Event*: 16 slots used to run the actions in the sequence. The event number determines when the assigned action runs.
`Cam`	*Camera number*: Any of the 16 cameras installed with the system.
`Act`	*Action*: Quick Views, Patterns, or Fixed Shots for the cameras that run when the assigned event occurs. If `View--` appears in the field, a Fixed Shot is assigned to the event.
`Dur`	*Duration*: The amount of time (1 to 90 seconds) that the event is assigned to run.

The blinking square on the LCD represents the cursor's location. Move the **Tracker Ball** left and right to move the cursor between the fields for the event. Move the **Tracker Ball** up and down to move between events.

Note: When the fields in an event have dashes in them instead of values, the event is not defined. The Controller Sequence skips the event whenever it runs.

The controller keypad is also used during sequence programming. Figure 4-2 illustrates the controller keypad; Table 4-2 describes which keys are used.

Figure 4-2: Controller keys used with Sequence programming

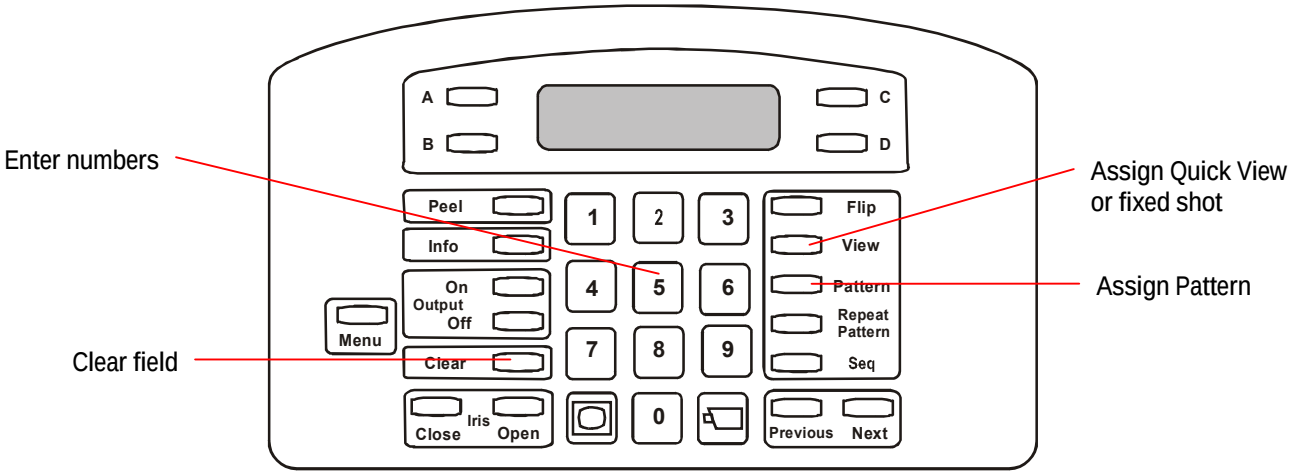


Table 4-2: Keys used with Sequence programming

Keys Used	Description
Numeric keypad	Enters the camera numbers, Quick View or Pattern numbers, and the event duration.
Pattern	Changes the assigned action to a pattern.
View	Changes the assigned action to a Quick View or fixed shot. Leave the View number blank for fixed shots.
Clear	Erases the information for the selected field. This allows the event to be reprogrammed or skipped.

Sequence Programming Instructions

1. Press **Menu**.
2. Scroll through the menu until `Define Sequence` appears on the LCD. Press **Zoom** or **Focus** to select. Information for the first event displays on the LCD. Continue with step 4 to program this event. Otherwise, continue with step 3.
3. Move the **Tracker Ball** up or down to scroll to the event you want to define. If necessary, press **Clear** to remove any previously programmed information.
4. Enter the camera number in the `Cam` field.
5. Move the cursor right to the `Act` field. Do one of the following:
   - Press **View** and enter the view number (1-96) to display a Quick View.
   - Press **View** and leave the number field blank to display a fixed shot.
   - Press **Pattern** and enter the pattern number (1-3) to run a Pattern.
6. Move the cursor right to the `Dur` field. Enter the event duration time (1 to 90 seconds).
7. Repeat steps 3 through 6 to program more events. When you complete defining the Sequence, press the **Menu** button. This returns the controller to the camera control mode.

Programming Time Saver

To quickly start Controller Sequence programming, press **Menu**, and then press **Seq**. Follow steps 3 through 7.

Configuring System Alarms

Alarms are events that occur automatically in response to external conditions. Input devices, such as smoke detectors or motion sensors, connect to the domes at your facility. Alarms occur whenever input devices change to its abnormal state. This situation places the alarm in a queue, waiting for acknowledgement. Programming alarms helps to provide notification of urgent situations arising at your facility.

64 dome alarms can be configured for the ADTT16E system. When triggered, an alarm can automatically display a video action (Quick View, a Pattern, or a fixed shot) and initiate an output. The output must be connected to the same dome that displays the video action.

The **Programming Worksheets** (8200-0306-04) provide a number of resources to use when programming alarms. The *Inputs / Outputs Worksheet* identifies the inputs that can trigger alarms and the outputs that can be initiated in response. The *Quick Views Worksheet* and *Patterns Worksheet* identifies which Quick Views and Patterns can be used for video actions. In addition, the *Setup Alarms Worksheet* can be used to list all of the programming information for each alarm to be programmed.

Alarm Programming Display

Before programming system alarms, you should understand what information is displayed, and how the controller is used for programming. Figure 4-3 illustrates the fields on the LCD; Table 4-3 describes the fields.

Figure 4-3: Alarm programming LCD display.

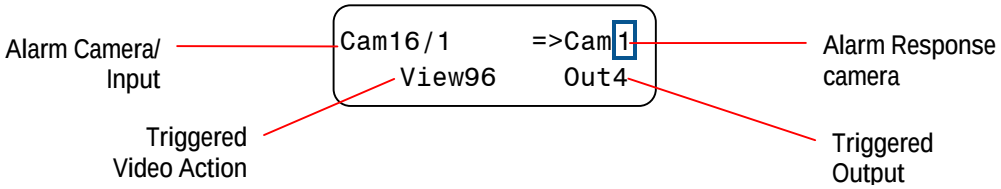


Table 4-3: Alarm programming fields

Field	Description
Alarm Camera/Input	The selected camera and input number whose alarm information is being configured. In the example, input 1 of camera 16 is being configured.
Alarm Response Camera	The camera whose video is displayed in response to the alarm. In the example, camera 1 is displayed in response to the alarm.
Triggered Video Action	Quick View, Pattern, or Fixed Shot from the alarm response camera. In the example, View 96 from camera 1 is displayed in response to the alarm.
Triggered Output	The output that activates in response to the alarm. In the example, output 4 of camera 1 is activated in response to the alarm.

The blinking square on the LCD represents the cursor's location. Move the **Tracker Ball** up and down to move between inputs for the selected camera. Move the **Tracker Ball** left and right to move the cursor between the fields.

The controller keypad is also used during alarm programming. Figure 4-4 illustrates the controller keypad; Table 4-4 describes which keys are used.

Figure 4-4: Controller keys used with alarm programming

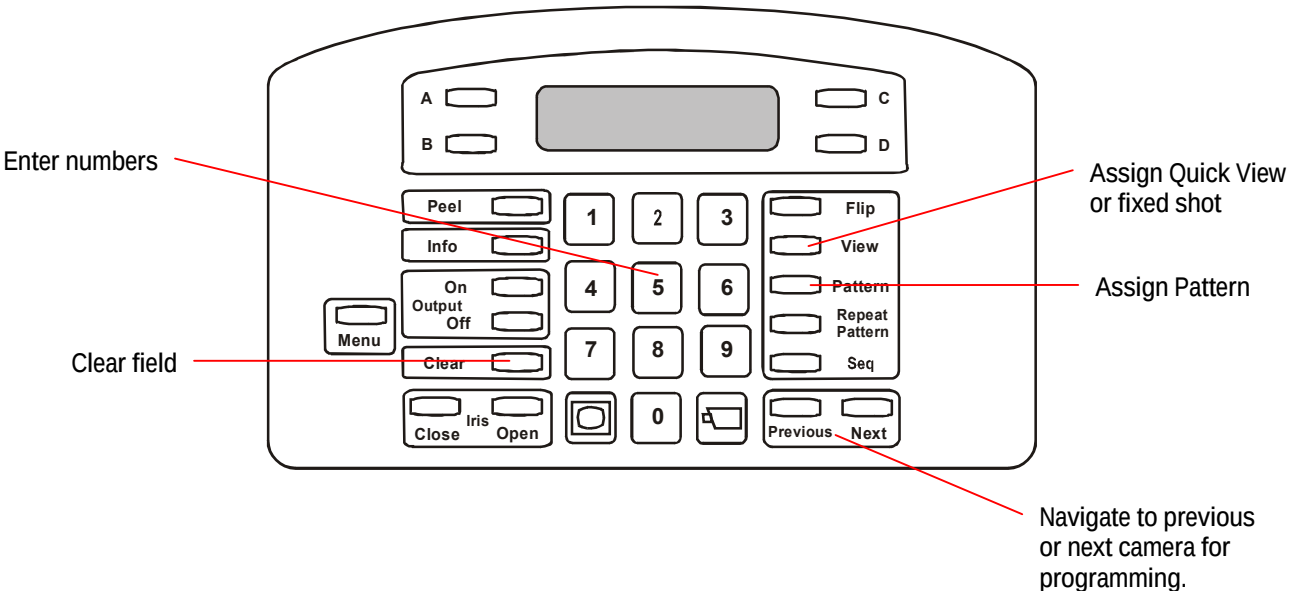


Table 4-4: Keys used with alarm programming

Keys Used	Description
Numeric keypad	Enters the alarm response camera, Quick View or Pattern, and the triggered output numbers.
Pattern	Changes the assigned action to a pattern.
View	Changes the assigned action to a Quick View or fixed shot. Leave the View number blank for fixed shots.
Previous	Displays previous alarm camera in series for additional programming.
Next	Displays next alarm camera in series for additional programming.
Clear	Erases the information for the selected field. This allows the event to be reprogrammed or skipped.

Tip: Only the Primary Controller can be used to perform this task.

1. Select the camera requiring alarm programming.
2. Press **Menu**.
3. Scroll through the menu selections until `Alarm Actions` is displayed on the LCD. Press **Zoom** or **Focus** to select.
4. The information for input 1 appears on the LCD. If this is not the correct input number, use the **Tracker Ball** to scroll until the correct input number appears. Continue with step 5.

Note: Press **Clear** to remove any previously programmed alarm information.

5. Enter response camera number in the `Cam` field (top right of LCD).
6. Move the **Tracker Ball** right to the *Video Action* field (second line of LCD). Do one of the following:
   - Press **View** and enter the view number (1-96) to display a Quick View.
   - Press **View** and leave the number field blank to display a fixed shot.
   - Press **Pattern** and enter the pattern number (1-3) to run a Pattern.
7. Move the **Tracker Ball** right to the *Triggered Output* field (lower right of LCD). Enter the output number. This output must be connected to the camera you picked in step 5.

Note: Leave this field blank if you do not want an output to initiate.

8. Do one of the following:
   - ***To configure a different alarm input for the same camera:*** Use the **Tracker Ball** to scroll to another input. Repeat Steps 5 through 7.
   - ***To configure alarm inputs for a different camera:*** Press **Previous** or **Next** until the correct camera number appears in the Alarm Camera field (upper left of LCD). Repeat Steps 4 through 7.
   - ***To complete alarm programming:*** Press **Menu** to save programming and return to camera control mode.

SpeedDome LT Auto Pan Programming

The Auto Pan is a special feature supported by SpeedDome LT only. It allows you program a smooth side-to-side camera pan of an area. The SpeedDome LT does not allow you to program the same types of Patterns that other domes support. Instead, use Pattern programming to set the Auto Pan function.

Auto Pan Programming Limitations

Keep the following limitations in mind when programming the SpeedDome LT Auto Pan feature:

- Although it appears to have three Patterns available to program, you can only program the Auto Pan feature for Pattern 1.
- Any extraneous movements made during the Auto Pan programming will be ignored when the programming is complete. Once the ending point of the Auto Pan is set, the result will be a smooth pan between the start and end of the Auto Pan.
- Do not attempt to create an Auto Pan that is greater than one revolution (360º) of the SpeedDome LT. The dome will accept this pattern during programming; however, it will not work when you attempt to run the pattern. The starting point and the ending point must be less than one revolution of the SpeedDome for the Auto Pan to work properly.
- If you attempt to program Pattern 2 or 3 for the dome, the system will take you through the motions of the programming. However, the new Auto Pan will not be saved. Do not attempt to program more than one Auto Pan per SpeedDome LT.
- If you need to re-program the Auto Pan for the dome, you must select Pattern 1. Selecting another available Pattern number will not change the previously programmed Auto Pan.

Auto Pan Programming Instructions

1. Select the camera requiring alarm programming.
2. Adjust the pan, tilt, zoom and focus settings for the camera until the starting point for the Pattern appears on the monitor.
3. Press **Menu**.
4. Scroll through the menu until `Record Pattern` appears on the LCD. Press **Zoom** or **Focus** to select.
5. `Enter Patrn#?` appears on the LCD. Press number **1**.
6. Move the camera until you see ending point for the Auto Pan you are programming.

IMPORTANT!

This ending point must be less than one full revolution of the dome.

---

7. Press **Next** when finished programming. `Pattern Saved` appears briefly on the LCD.

The controller automatically returns to camera control mode after saving the Pattern. Make a record of the Pattern, including the camera number and a brief description in the **Programming Worksheets** (8200-0306-04).

CHAPTER 5

Quest Multiplexer Support

The ADTT16E advanced dome controller provides support for the MultiVision Quest triplex multiplexer. This chapter describes how to use the controller to access the advanced features offered by the Quest triplex multiplexer. These features are not supported with the Quest duplex multiplexer.

In This Chapter

What is the MultiVision Quest Triplex Multiplexer?

The MultiVision Quest triplex multiplexer is a 10- or 16-channel multiplexer that allows viewing of multiple cameras using a single monitor. In addition, the video signals from all camera inputs may be recorded using a single VCR. By connecting two VCRs, you can take advantage of the multiplexer's triplex features. Triplex operation allows video recording while simultaneously viewing live video (from cameras) and video playback (from the second VCR). In other words, tape playback on the second VCR does not affect the recording of the cameras by the first VCR.

The multiplexer offers complete control over the system setup, including:

- Layout of windows on the monitor screen
- On-screen display including date/time and camera titles
- Programmable sequential switching on the main monitor
- Advanced alarm handling with history log
- Intelligent motion detection
- Special support for time-lapse VCRs

The ADTT16E Primary Controller can be used to access the multiplexer display formats, digital zoom, freeze frame, and sequence features.

I M P O R T A N T !

! All procedures documented in this chapter can also be performed using the front panel of the multiplexer. In addition, many multiplexer functions cannot be accessed using the controller. For complete multiplexer instructions, refer to the ***Triplex Digital Video Multiplexer User's Guide*** included with the multiplexer.

Using the Controller to Access Multiplexer Functions

Specific controller keys permit access to the Quest multiplexer functions. Figure 5-1 illustrates the locations of the keys that can be used. Table 5-1 describes the various Controller features used to access the Quest multiplexer functions.

Figure 5-1: Controller keys used with multiplexer features.

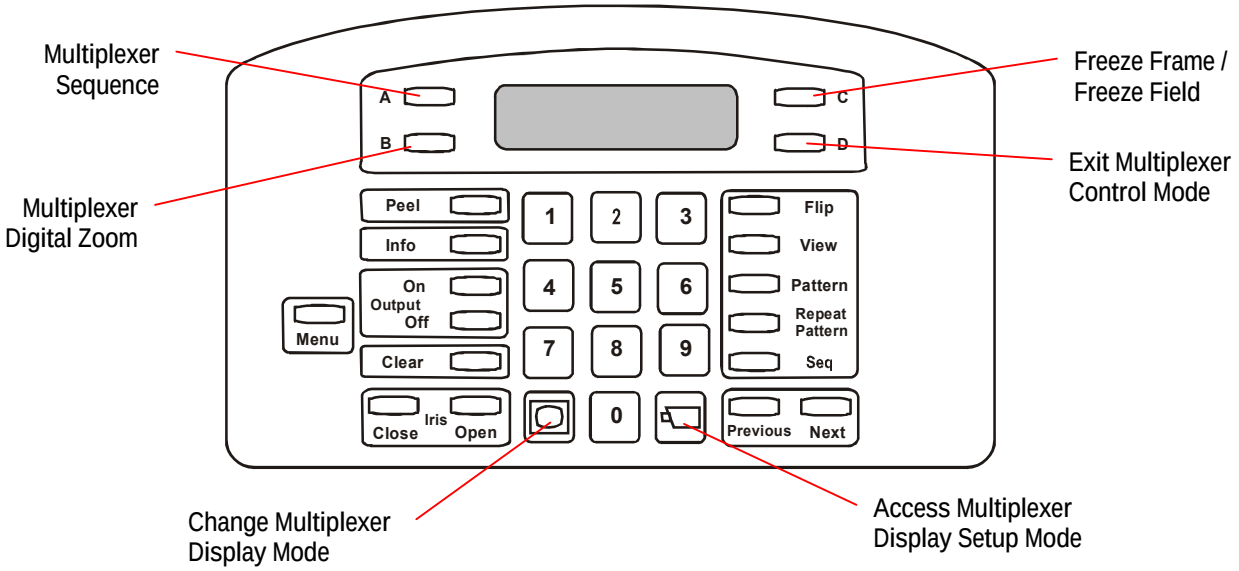


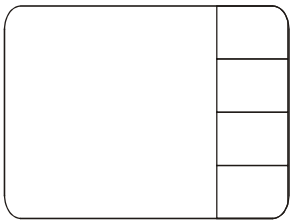
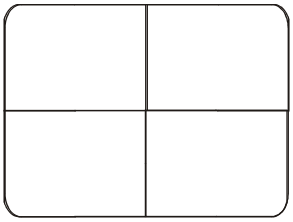
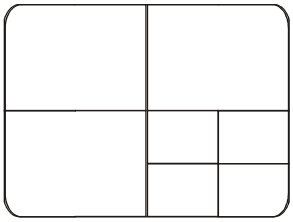
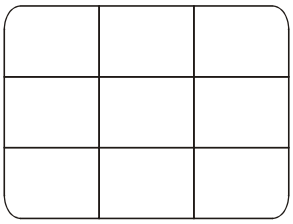
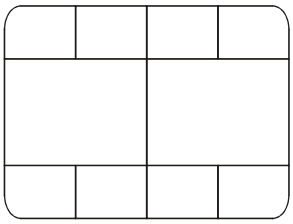
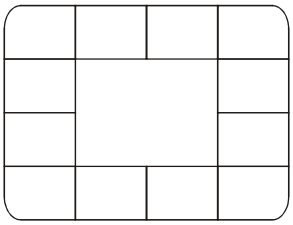
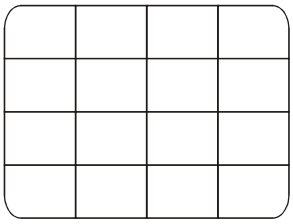
Table 5-1: Description of Controller controls used with multiplexer features

Control	Description
A	Displays the three multiplexer sequence screens.
B	Toggle between multiplexer digital zoom and zoom area adjustment.
C	Toggle between freeze frame and freeze field mode.
D	Exit current multiplexer mode.
Tracker Ball	Adjust position of highlighted window or zoom area.
(Display)	Change display format between available multiplexer window formats.
(Camera)	Assign cameras to windows in multiplexer display format.
Zoom/Focus	Select page to program for selected multiplexer sequence.

Changing the Multiplexer Display Format

The Quest Multiple offers a variety of display formats not available with other American Dynamics multiplexers. In addition, the order of cameras displayed in the different formats can be manually assigned to suit your surveillance purposes. Press  to change the display format.

Figure 5-2: Quest Multiplexer display formats

Full-Screen 	**Picture-in-Picture (PIP)**** 
2X2 (4 Cameras) 	**7 Cameras **** 
3X3 (9 Cameras) 	**10 Cameras**** 
13 Cameras*,** 	**4X4 (16 Cameras)*** 

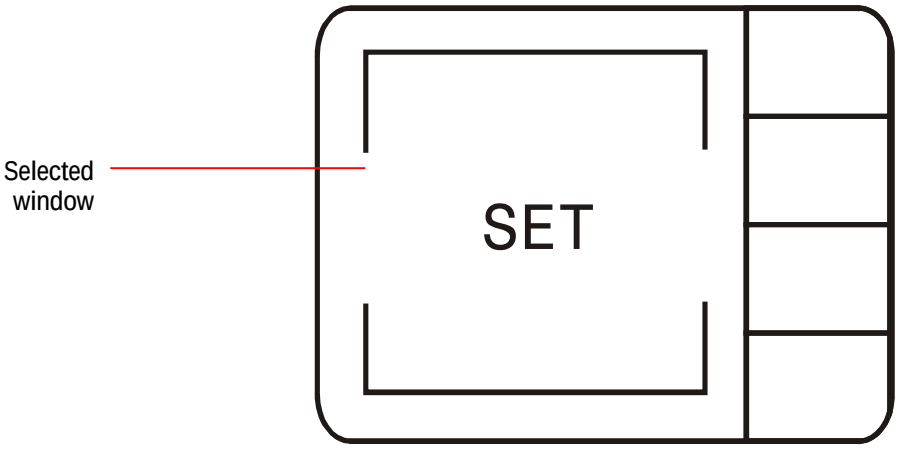
* Not available on 10-camera multiplexers.

** Not available on duplex multiplexers.

Assigning Cameras to Multiplexer Display Windows

1. Press  until the display format you want to change appears on the monitor.
2. Press  to start setup mode. The word **Set** and a highlight box appears on the screen.

Figure 5-3: Example multiplexer display programming screen.

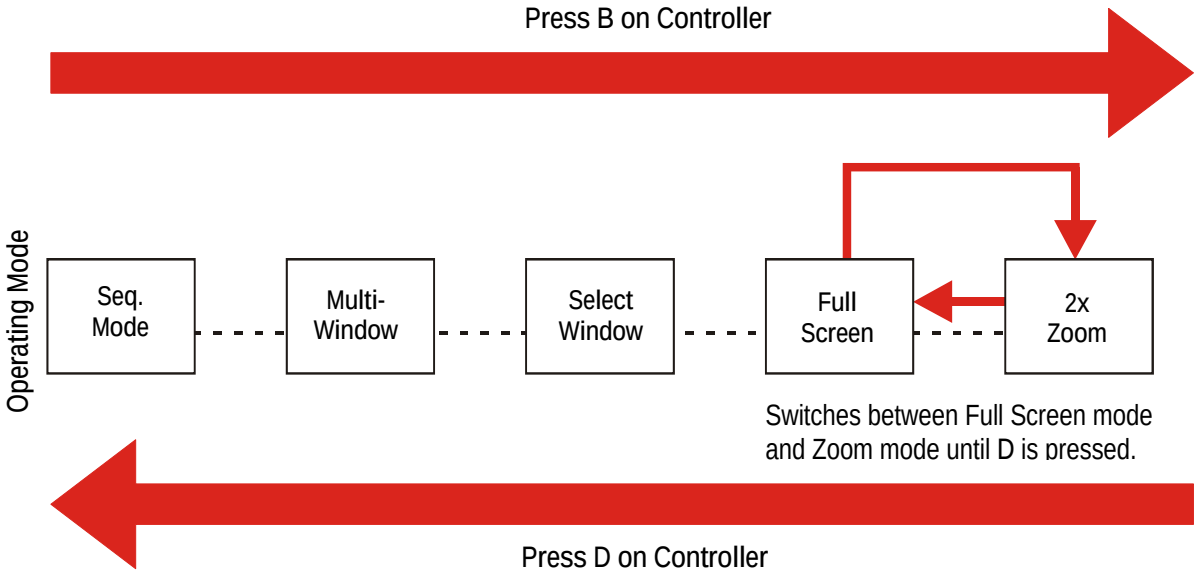


3. Use the **Tracker Ball** to move the highlight box to the window you want to set.
4. Enter the camera number and press  to assign the camera to the highlighted window.
5. Repeat steps 3 and 4 for each window you want to setup. When finished press **D** (to right of LCD display) to exit setup mode.

Using the Multiplexer Digital Zoom

The Quest Multiplexer supports 2x digital zoom for the currently selected camera. This feature is useful if you have fixed cameras installed and cannot otherwise adjust the zoom. If you are currently running the multiplexer sequence, the **B** (zoom) and **D** (escape) keys act in the following manner. See Figure 5-4 for details.

Figure 5-4: Multiplexer Zoom and Escape function behavior



1. Select a camera. The image appears in full-screen mode on the display.
2. Press **B** (left of LCD display) to activate digital zoom. The image automatically zooms 2x to the center of the screen (*digital zoom display mode*).
3. Press **B** again to switch to area selection mode. A box appears on-screen indicating the location of the current zoom area (*digital zoom selection mode*).
4. Use the **Tracker Ball** to adjust the position of the zoom area.
5. Press **B** to activate digital zoom display mode for the selected area.

Note:

Each time **B** is pressed, the multiplexer toggles between digital zoom display and digital zoom selection mode.

6. When finished using digital zoom, press **D** (right of LCD display) to exit digital zoom mode.

Working with Freeze Frame and Freeze Field Modes

The Quest multiplexer supports the ability to freeze the current image on-screen. This is useful if you need to briefly stop the live image to write pertinent information about a situation or zoom into the image. For example, you may want to log license plate numbers for vehicles entering a parking garage.

Two freeze modes are available: Freeze Frame and Freeze Field. ***Freeze Frame*** is useful for static images with little motion. ***Freeze Field*** is useful for images with motion. Press **C** on the controller to switch between Freeze Frame and Freeze Field modes.

Working with the Multiplexer Sequence

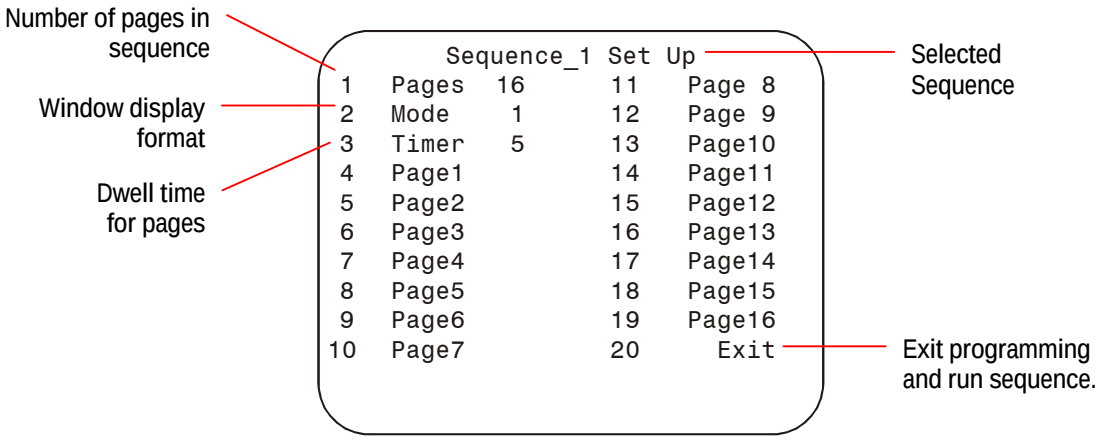
The Quest multiplexer supports three sequences. The number of "pages" displayed, the dwell time between pages, and the screen display format can be programmed using the controller.

- Press **A** (left of LCD display) to activate multiplexer sequence mode. Each time you press **A**, you switch to the next available sequence.
- Press  to start sequence programming for the currently displayed sequence. Follow the instruction in ***Multiplexer Sequence Programming*** to program the selected multiplexer sequence.
- If no button is pressed, the displayed sequence begins. To exit from multiplexer sequence mode, press **D**.

Multiplexer Sequence Programming

1. Press **A** until the sequence you want to program appears on screen. `Seq1`, `Seq2`, or `Seq3` appears in the upper left corner of the screen.
2. Press  to start programming mode. The sequence setup screen appears.

Figure 5-5: Sequence Setup Screen



3. The highlight appears on the `1 Pages` setting. Move the **Tracker Ball** left or right to change the number of pages displayed (1-16).
   - Left decreases the number of pages.
   - Right increases the number of pages.
4. Move the highlight to the `2 Mode` setting. Move the **Tracker Ball** left or right to change the mode. Table 5-2 describes the different modes; Figure 5-2 on page 5-4 illustrates the formats.

Table 5-2: Display modes

Mode	Setting
0	Full-Screen
1	Picture-in-Picture (PIP)
2	2x2 (4 windows)
3	7 windows
4	9 windows
5	10 windows
6*	13 windows
7*	4x4 (16 windows)

* Not available on 10-channel multiplexers.

5. Move the highlight to the `3 Timer` setting. Move the **Tracker Ball** left or right to change the dwell time (1-255 seconds).
   - Left decreases the dwell time.
   - Right increases the dwell time.
6. Move the highlight to the page that you want to configure. Press **Zoom** or **Focus** to select. This page displays in the mode (format) selected in step 4.
7. `Set` and a window selection box appear on-screen (see Figure 5-3 on page 5-5).
   a. Use the **Tracker Ball** to select a window.
   b. Enter the camera number and press  to add the camera to the window.
   c. Repeat steps 7a and b until all windows are programmed. Press **D** to return to the Sequence programming menu.
8. Repeat steps 6 and 7 for each page that you need to program.

Note:

You can only program the number of pages displayed on the `1 Pages` setting. For example if you select 5 in step 3, the highlight bar moves to `8 Page5` and skips to `20 Exit` when the **Tracker Ball** moves down.

9. When finished programming, press **D** (or move the highlight to `20 Exit` and press **Zoom** or **Focus**) to run the programmed sequence.

CHAPTER 6

Using System Utilities and Solving Problems

This chapter provides information about performing utility tasks for the ADTT16E advanced dome controller. It also provides troubleshooting information for problem diagnosis.

In This Chapter

What are System Utilities?

If you need to perform maintenance on the ADTT16E controller, use the *system utilities*. System utilities assist you with self-help diagnostics and provide convenience features for system operation. There are two types of utilities available: dome utilities and controller utilities.

Dome utilities allow you to perform maintenance functions on the domes installed at your facility. Use these utilities to view dome firmware versions, test the communication between the domes and the controller, reset domes, perform vertical phase adjustments on cameras, and display the dome DirectSet menu. See ***Working with Dome Utilities*** for more information.

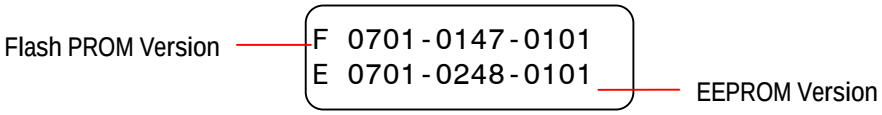
Controller utilities allow you perform maintenance functions relating to the controller performance. Use these utilities to change controller settings such LCD brightness, key click volume, enable or disable key click sound, and automatic alarm acknowledgement. In addition, you may view system information and lock or unlock the multiplexer front panel. See ***Working with Controller Utilities*** on page 6-7 for more information.

Working with Dome Utilities

The following topics cover the different dome utilities.

Displaying Dome Identification Information

1. Select the dome whose information you need to display.
2. Press **Menu**.
3. Scroll through the menu items until `Show Dome Info` appears on the LCD. Press **Zoom** or **Focus** to select.
4. The dome's Flash PROM and EEPROM information appear on the LCD:



5. When finished viewing the dome information, press **Menu** to resume camera control mode.

Resetting a Dome

Reset the dome if it stops responding to controller commands.

1. Select the dome that has stopped responding to commands.
2. Press **Menu**.
3. Scroll through the menu items until `Reset Dome` appears on the LCD. Press **Zoom** or **Focus** to select.
4. The LCD displays the selected camera number and `Reset In Process`.

Note: The dome cannot be operated while resetting. Once the reset completes, the controller returns to the camera control mode.

Adjusting Camera V-Phase

IMPORTANT

Using the V-Phase utility on off-line domes or fixed cameras generates a warning beep and disallows use of the utility. For additional information on adjusting the V-Phase, see the service manual.

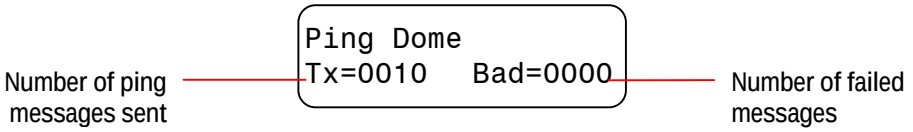
Only authorized service personnel should perform this function!

To adjust the V-phase of a selected camera:

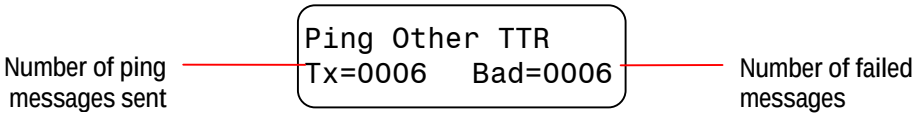
1. Press **Menu**.
2. Scroll through the menu items until `Adjust V-Phase` appears on the LCD. Press **Zoom** or **Focus** to select.
3. Press **Next** or **Previous** to observe the V-Phase through the oscilloscope or Fluke scope.
4. When the V-Phase setting is acceptable, press **Menu** to exit.

Testing Dome/Controller Communications

1. Press **Menu**.
2. Scroll through the menu items until Ping Dome / TTR appears on the LCD. Press **Zoom** or **Focus** to select.
3. The LCD displays the dome communication (ping) test information.



4. Press **Next** to display the controller ping test information.



5. Make note if any of the tests fail. Press **Menu** to exit.

I M P O R T A N T !

The number of failed messages should be equal to zero. If a number appears in this field, contact your service representative for instructions.

Displaying the Dome DirectSet Menu

SpeedDome Ultra VII and other suitably equipped domes provide a ***DirectSet*** menu to access commonly used features. Depending upon the dome type, different DirectSet menu options will be available.

The **Info** button on the ADTT16E controller is used to display this menu.

Figure 6-1: Displaying SpeedDome Ultra VII (or other suitably equipped dome) DirectSet Menu

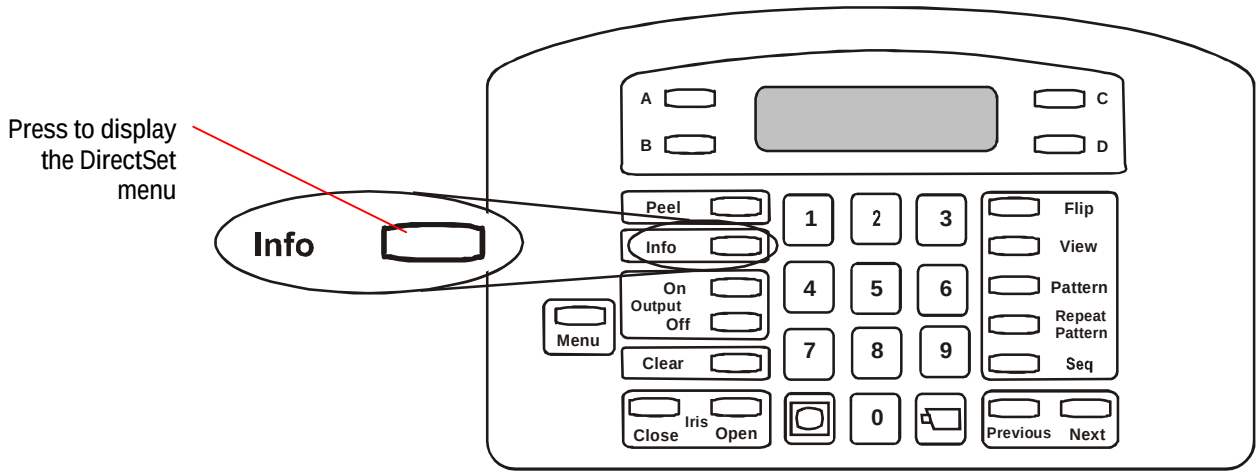


Figure 6-2: SpeedDome Ultra VII 22x DirectSet Menu

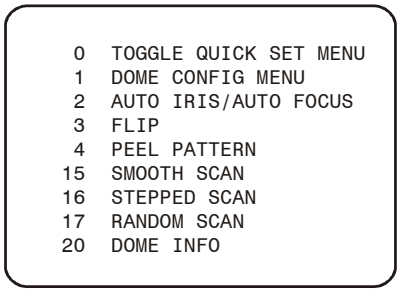


Figure 6-3: SpeedDome Ultra VII Day/Night DirectSet Menu - Page 1

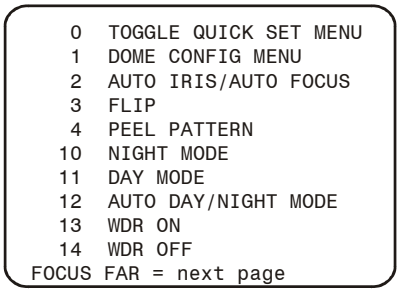


Figure 6-4: SpeedDome Ultra VII Day/Night DirectSet Menu - Page 2

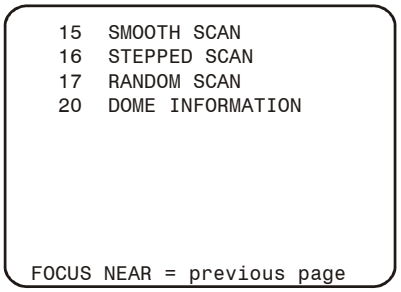


Table 6-1 provides a description of the different DirectSet menu options.

* Options 10-14 apply to SpeedDome Ultra VII Day/Night domes only.

Table 6-1: DirectSet menu options

DirectSet Command /Menu Item	Description
0+Info: Toggle Quick Set Menu	Toggles between displaying and hiding the DirectSet menu.
1+Info: Dome Config Menu	Displays the SpeedDome Ultra configuration menu. Refer to the dome manual for information about the available settings.
2+Info: Auto Iris/Auto Focus	Resumes Auto Focus/Auto Iris mode.
3+Info: Flip	Rotates the SpeedDome 180° from its current pointing direction. This is the same as pressing the **Flip** button.
4+Info: Peel Pattern	Runs the default Apple Peel Pattern. This is the same as pressing the Peel button.
*** 10+Info:** Night Mode	Sets the dome IR mode setting to ON. The dome switches to full-time black-and-white (B/W) mode.
*** 11+Info:** Day Mode	Sets the dome IR mode setting to OFF. The dome switches to full-time color mode.
*** 12+Info:** Auto Day / Night Mode	Resumes the most recently selected automatic IR mode setting. • Auto High: B/W mode activates ~30 lux. • Auto Mid: B/W mode activates ~3 lux. • Auto Low: B/W mode activates ~ .5 lux
*** 13+Info:** WDR ON	Enables Wide Dynamic Range (WDR). Use this setting when both bright and low light areas need to be viewed simultaneously.

DirectSet Command /Menu Item	Description
* **14+Info:** `WDR OFF`	Disables Wide Dynamic Range (WDR). Use this setting when the light level is constant or changes in lighting conditions are gradual.
15+Info: `Smooth Scan`	Initiates a smooth scan between the left and right scan limits, starting at the left scan limit. If no scan limits have been set, initiates a smooth 360° clockwise rotation around the dome axis using the current tilt, zoom and focus settings.
16+Info: `Stepped Scan`	Initiates a scan between the left and right scan limits pausing briefly every 10° (at 1x zoom), starting at the left scan limit. When the right scan limit is reached, the scan is reversed. If no scan limits have been set, initiates a clockwise rotation around the dome axis pausing briefly every 10° (at 1x zoom) for 3 seconds using the current tilt, zoom and focus settings.
17+Info: `Random Scan`	Initiates a scan between the left and right scan limits pausing randomly between the limits. If no scan limits have been set, initiates a clockwise or counter-clockwise rotation around the dome axis using the current tilt, zoom and focus settings. The dome pauses randomly as it rotates around the axis.
20+Info: `Dome Information`	Displays the Dome Information screen available through the dome configuration menu.

Working with the DirectSet Menu

1. Select the dome whose DirectSet menu you want to display.
2. Press **Info**. The Dome DirectSet menu displays. If necessary, press **Focus Far** or **Focus Near** to scroll between pages of the menu.
3. Enter a number and press **Info** to use a DirectSet function. See Table 6-1 for a description of the options.
4. When a selection is made, the DirectSet menu automatically closes. To close the menu without making a selection, press **Info**.

Programming Time Saver

DirectSet features can be accessed at any time by entering the menu number and pressing Info.

Working with Controller Utilities

The following topics cover the different controller utilities.

Note: You may also change the language setting, designate Primary or Secondary controller, configure the external device, and set the password. These topics are covered in **Chapter 2**.

Adjusting LCD Brightness

If you find it difficult to see items displayed on the controller LCD, you may want to adjust its brightness setting.

1. Press **Menu**.
2. Scroll through the menu items until `Adj Backlighting` appears on the LCD. Press **Zoom** or **Focus** to select.
3. Press **Previous** and **Next** to change the setting.
   - **Previous** makes the backlighting dimmer.
   - **Next** makes the backlighting brighter.
4. When finished making changes, press **Menu** to resume camera control mode.

Turning Key Click Sound On / Off

1. Press **Menu**.
2. Scroll through the menu items until `Key Click On/Off` appears on the LCD. Press **Zoom** or **Focus** to select. The current key click setting appears on the LCD.

```
Keyclick ON
Change w <Next>
```

```
Keyclick OFF
Change w <Next>
```

3. Press **Next** to change the setting.
   - `Keyclick ON` indicates that key click sound is enabled.
   - `Keyclick OFF` indicates that key click sound is disabled.
4. When finished making changes, press **Menu** to resume camera control mode.

Adjusting Key Click Volume

1. Press **Menu**.
2. Scroll through the menu items until `Adj Keyclick Vol` appears on the LCD. Press **Zoom** or **Focus** to select.
3. Press **Previous** or **Next** to change the setting.
   - Press **Previous** to make the volume softer.
   - Press **Next** to make the volume louder.
4. When finished making changes, press **Menu** to resume camera control mode.

Locking or Unlocking the Multiplexer Front Panel

Tip: Only the Primary Controller can be used to perform this task.

To prevent or allow access to the front panel functions on the multiplexer, use the lock/unlock function.

1. Press **Menu**.
2. Scroll through the menu items until `Tog MUX Lock` appears on the LCD. Pressing **Zoom** or **Focus** toggles the setting.
   - If lock is enabled, `Lock_key` momentarily displays on-screen.
   - If lock is disabled, `Unlock_key` momentarily displays on-screen.
3. Press **Menu** to resume camera control mode.

Note: When locked, the Quest multiplexer front panel lock button  illuminates.

Changing the Alarm Acknowledgement Setting

Tip: Only the Primary Controller can be used to perform this task.

The controller is initially set to acknowledge alarms automatically after a 60-second delay. The setting can be changed to manual alarm acknowledgement.

1. Press **Menu**.
2. Scroll through the menu items until `Tog Alarm ACK` appears on the LCD. Press **Zoom** or **Focus** to select.

   The current alarm acknowledgement setting appears on the LCD.

   ```
   Auto-Ack Alarm
   Change w <Next>
   ```

   ```
   Manual-Ack Alarm
   Change w <Next>
   ```

3. Press **Next** to change the setting.
   - `Auto-Ack Alarm` appears on the LCD if automatic acknowledgement is enabled.
   - `Manual-Ack Alarm` appears on the LCD if automatic acknowledgement is disabled.
4. Press **Menu** to save the changes and return to camera control mode.

IMPORTANT

Alarms can be manually acknowledged when automatic alarm acknowledgement is enabled. Press **Clear** whenever alarms occur.

Displaying System Information

This procedure allows you to display system information about the ADTT16E advanced dome controller.

1. Press **Menu**.
2. Scroll through the menu items until `Show System Info` appears on the LCD. Press **Zoom** or **Focus**. The current controller setting appears on the LCD.

   The following system information is available:
   - Controller Type: Primary or Secondary Unit
   - ROM Checksum Values
   - Calibration information (display should read all 0)
   - Product Code Flash Version
   - Product Code EEPROM Version
3. Press **Previous** or **Next** to display the information.
4. When finished reviewing the information, press **Menu** to return to camera control mode.

Solving Problems

If you experience problems with your ADTT16E advanced dome controller, use this section to identify possible solutions. If these procedures do not solve the problem— or the problem is not listed here—contact your American Dynamics representative for assistance.

Monitor and VCR Problems

Problem Description	Possible Solution
No video on monitor.	• Verify that the monitor is connected to an electrical outlet and is turned on and properly adjusted. • Check input camera/dome power and lens (iris) adjustments. • Check video camera connections to video-switching unit and dedicated monitors. • Check video connections from multiplexer/video-switching unit to monitors.
All live pictures too bright, too dark, or incorrect color.	• Check monitor adjustments.
Some live pictures too dark.	• Check camera iris for proper adjustment.
Poor or unstable VCR pictures.	• The VCR might be faulty or require maintenance. Perform periodic maintenance and test VCR performance.
VCR not recording.	• Make sure the VCR is connected to an electrical outlet and is turned on. • Make sure a tape cartridge is inserted into the VCR.

Monochrome Video-Switching Unit Problems

Problem Description	Possible Solution
No video on monitor.	• Check that the monitor is powered on and adjusted. • Check the camera lens adjustments (iris). • Check video connections from camera(s) to the video-switching unit. • Check video connections from video-switching unit to the monitor.
Cannot access menu displays.	• Verify that the video-switching unit is not in VCR playback mode. • Verify that Call output is connected to the monitor.
Quad display not shown in automatic sequences.	• Verify that Quad is included in RUN sequence.
Quad display is frozen and will not unfreeze.	• Verify that alarm inputs are not active/closed.
No alarm callup.	• Verify the alarm input connections. • Verify that the ALARMS button is illuminated.

Color Video-Switching Unit Problems

Problem Description	Possible Solution
No video on monitor.	• Check that the monitor is powered on and adjusted. • Check the camera lens adjustments (iris). • Check video connections from camera(s) to the video-switching unit. • Check video connections from video-switching unit to the monitor.
Cannot access menu displays.	• Verify that the video-switching unit is not in VCR playback mode. • Verify that the Main output is connected to the monitor. • Verify that camera input 1 has video present.
Quad display not shown in automatic sequences.	• Verify that Quad is included in the CALL sequence.
Quad display is frozen and will not unfreeze.	• Verify that alarm inputs are not active/closed.
No alarm callup.	• Verify the alarm input connections. • Verify that the ALARMS button is illuminated.

Multiplexer Live Mode Problems

Problem Description	Possible Solution
All LIVE pictures too bright, too dark, or incorrect color.	• The monitor may not be properly adjusted. Adjust the multiplexer gray bars.
Some LIVE pictures too dark.	• The camera iris may not be correctly adjusted. Adjust the camera iris using a calibrated monitor

Multiplexer Tape Mode Problems

Problem Description	Possible Solution
Poor or unstable pictures.	• The VCR may be faulty or require maintenance. Perform periodic maintenance and test VCR performance.
VCR not recording.	• Make sure the VCR is connected to an electrical receptacle and is turned on. • Make sure a tape cartridge is inserted into the VCR.

Multiplexer Motion Detection Problems

Refer to the Multiplexer Operator's Manual for information about changing these settings.

Problem Description	Possible Solution
Important camera motion not detected.	• Required camera motion targets may be turned off. Perform the motion detection setup and turn on the required motion targets. • Motion detection sensitivity may be too low. Adjust the motion sensitivity setting. • Delay setting is too long. Adjust the delay setting.
Unimportant camera motion detected.	• Unnecessary camera motion targets may be turned on. Perform the motion detection setup and turn off the undesired motion targets. • Motion detection sensitivity may be too high. Adjust the motion sensitivity setting. • Delay setting is too short. Adjust the delay setting.

Controller Camera Control Problems

Problem Description	Possible Solution
Tracker Ball does not move smoothly or binds or sticks.	• Check for dust and debris around the Tracker Ball. Remove any foreign matter.
Erratic or no camera control with controllers.	• Verify that only one controller is configured as “Primary.” • Perform a ping test on the controller and the camera to determine if either is faulty. Replace the faulty unit. • Ensure that the correct camera address has been selected and that it corresponds to the correct video input number. • Check connections between controller and External Interconnect Module (EIM).
Unable to switch video.	• Verify that controller is correctly connected to the multiplexer/video-switching unit. • Check the wiring between controller, EIM, and multiplexer/video-switching unit.

Alarm Processing Problems

Problem Description	Possible Solution
No response to a contact alarm input.	• The alarm device contact may be set for normally closed (NC). Configure the alarm device for normally open (NO) contact.
No response to a TTL/CMOS alarm input.	• The alarm device logic may be set for active high. Configure the alarm device logic as active low.
Continuous alarm when alarm input is connected.	• The alarm device polarity and multiplexer alarm input polarity might not match. Change the alarm device polarity or multiplexer alarm input polarity.

N O T E S :

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N O T E S :

GLOSSARY

2x2 format	Display format available on the Main monitor when using a quad splitter or multiplexer. Video from 4 cameras appears on the monitor at once—2 across and 2 down.
3x3 format	Display format available on the Main monitor when using a 9 or 16-channel multiplexer. Video from 9 cameras appears on the monitor at once—3 across and 3 down.
4x4 format	Display format available on the Main monitor when using a 16-channel multiplexer. Video from 16 cameras appears on the monitor at once—4 across and 4 down
abnormal state	Describes an unexpected state of an input device or unexpected result of a function. For example, if a user sets the normal state of a door to be closed, it would be in an abnormal state when it is open. An alarm may be triggered when the abnormal state is detected.
alarm	The system's response when an input device changes from its normal state to its abnormal state. When an alarm is triggered, the controller (i.e., Touch Tracker) beeps until it is acknowledged.
alarm mode	The condition of the controller when an alarm is active. In the alarm mode, the controller beeps and the associated alarm information is displayed on the LCD.
Apple Peel pattern	A default pattern that a SpeedDome camera dome runs by pressing the **Peel** button on the controller. The dome makes three complete revolutions starting at the ceiling line and tilting down 30° each revolution.
automatic system function	A system operation that, once you program it, can be initiated automatically via the controller. Quick Views, Patterns, and the Sequence are automatic system functions
Call monitor	The monitor that displays the video that is being controlled by the secondary controller. This monitor displays video in the full-screen format only.
camera command	A directive—such as pan, tilt, zoom, focus near/far, or iris open/close— issued to the camera using the controller.
camera control mode	The active operating mode when an operator is manually selecting or controlling cameras, selecting a monitor display format, running automatic system functions, or toggling the state of a dome output.
Controller	The video control station that provides you with easy access to various video control features. *Also called "Touch Tracker".*
cursor	The blinking square appearing on the LCD when the controller is in the menu/programming mode. This cursor indicates the currently active field on the LCD.

DirectSet menu — A special menu available on SpeedDome Ultra VII and other suitably equipped domes, providing easy access commonly used features. The **Info** button on the ADTT16E controller is used to display this menu.

dome — A camera housed inside a plastic dome. The ADTT16E system can be used to control programmable SpeedDome series, SpeedDome Ultra series, and SpeedDome Optima series camera domes. *See also SpeedDome, SpeedDome LT, SpeedDome Optima, SpeedDome Optima LT, and SpeedDome Ultra series camera dome.*

duration — The amount of time, in seconds, that an event within the Sequence will remain on the monitor before the next event starts.

event — A Quick View, Pattern, or fixed shot included in the Sequence.

fixed shot — A camera switch. The view of whatever a camera happens to be "looking at" when it is called up on the monitor

flip — To instantaneously flip the SpeedDome 180° in the opposite direction of where it is currently pointing.

focus — The process of adjusting the clarity of a scene or an object, as seen through the camera lens.

full-screen — A camera display format whereby video from a single camera is displayed on the monitor and it takes up the entire monitor display.

ID code — A way of identifying the type of dome that is currently selected. This code is helpful if you need to explain to technical support the type of domes installed at your facility.

input — A connection point on a system component that enables the system to monitor input devices.

input device — A hardware component that provides an electrical signal to indicate the state of a device. Typical input devices include door contacts, motion detectors and smoke detectors.

iris — The camera component that determines how much light enters the camera. By adjusting the iris, you can adjust the brightness and darkness of the video on the monitor.

keypad — The portion of the controller containing the buttons that enables you to call up an individual camera and control the selected camera. The keypad provides iris control, flipping a SpeedDome, running the Apple Peel pattern, displaying Quick Views, running Patterns, toggling the state of a dome output, designating a monitor display format, and initiating the Sequence.

LCD — Liquid Crystal Display enables you to view which camera is currently selected, and indicates when a Quick View or Pattern is running. It also displays system messages and prompts, and the menu.

main monitor	The monitor that displays the video that is being controlled by the primary controller.
menu programming mode	The controller state that allows you to display and select from the menu, program the automatic system functions, indicate which external device your system is connected to, and perform utilities.
mode of operation	The current operating condition of the controller. There are five operating modes: camera control mode, menu/programming mode, sequencing mode, alarm mode and Quest multiplexer control mode. The controller functions differently depending on its current mode of operation. *See also "operational mode."*
monitor	The screen where camera video is displayed. Some configurations include one monitor; others include two monitors: a Main monitor and a Call monitor.
multiplexer	The unit that some ADTT16E systems are connected to. It enables you to see video from up to 16 cameras simultaneously and select the monitor's display format—full-screen, 2x2, 3x3, or 4x4 display. If the Quest multiplexer is installed, additional display formats are available.
Mux	The LCD's abbreviation for "multiplexer."
non-programmable camera	A camera or dome, e.g., the SpeedDome NP, which does not have any programmable features.
normal state	Describes the expected state of a device or expected result of a function. For example, if a user sets the normal state of a door to be "closed", the door would be in a "normal state" when it is closed and an "abnormal state" when it is open.
operational mode	The current condition of the controller. There are four operational modes: camera control mode, menu/programming mode, sequencing mode, and alarm mode. The controller functions differently depending on its current operational mode. *See also "mode of operation."*
output	A connection point on a hardware component that enables the system to control output devices.
Output device	An auxiliary. A hardware component that can be controlled by the system. Typical output devices include gates, door strikes, and lights.
pan	Side to side camera movement.
pattern	A sequential series of pan, tilt, zoom, and focus movements from a single programmable dome. You "teach" the dome a combination of these movements that can be replayed automatically.
Peel	The TOUCH TRACKER button that enables you to initiate the SpeedDome Apple Peel pattern.

Primary Controller	The controller that employs all of he functionality described in this manual. It can perform system programming, initiate automatic functions, clear alarms, and execute all of the utilities. Also called the Main Touch Tracker.
primary user	The person who is currently using the primary controller.
programmable camera	A dome, such as the SpeedDome, that can be programmed to perform automatic functions.
quad	The LCD's abbreviation for “quad processor.”
quad processor	The unit that some ADTT16E systems are connected to. It enables you to see video from up to 4 cameras simultaneously.
quadrant	One of the areas on a monitor that camera video can be displayed in when that monitor is in the multiplexed mode.
Quick View	A preset. The selected camera automatically and instantaneously calls up a view from a programmable dome, regardless of where that dome is currently pointing.
reset	The process whereby a SpeedDome re-initializes, re-calibrates, homes up, and then comes back on-line. The reset process takes approximately 30 seconds and the SpeedDome is inoperable during that time.
Secondary Controller	The controller whose feature set is somewhat limited. It cannot perform any system programming, initiate the Sequence, select monitor display formats, or clear alarms. Also called the Call Touch Tracker.
secondary user	The person who is currently using the secondary controller.
select	1. To choose a camera for displaying video in full-screen format on the monitor. 2. To choose a menu item appearing on the LCD when the controller is in menu/programming mode.
Sequence	A collection of up to 16 Quick Views, Patterns, and fixed shots, that plays one after the other on the Main monitor. It provides a broad surveillance of a facility. This feature is similar to a monitor tour.
Sequence mode	The condition of the primary controller when the Sequence is running.
SpeedDome LT series camera dome	A programmable camera that enables security personnel to track a target or survey an area. This camera supports programmable features (presets and Auto Pan), 360° continuous rotation, and has a 12x optical zoom lens. This type of camera does not support pattern programming or alarm inputs and outputs.
SpeedDome Optima LT series camera dome	A programmable camera that enables security personnel to track a target or survey an area. This camera supports programmable features (presets and patterns), 360° continuous rotation, and has a 16x or 22x optical zoom lens. This dome does not support inputs or outputs.

SpeedDome Optima series camera dome	A programmable camera that enables security personnel to track a target or survey an area. This camera supports programmable features (presets and patterns), 360° continuous rotation, and has a 16x or 22x optical zoom lens. This dome provides one input and one output.
SpeedDome series camera dome	Programmable camera dome that enables security personnel to track a target or survey an area. This camera supports programmable features (presets and patterns), 360° continuous rotation, alarm inputs and outputs, and has 10x fast zoom lens.
SpeedDome Ultra series camera dome	A programmable camera that enables security personnel to track a target or survey an area. It is compact in size compared other SpeedDomes. This camera supports programmable features (presets and patterns), 360° continuous rotation, alarm inputs and outputs. SpeedDome Ultra II and newer models support configuration via on-screen menus. Refer to the dome documentation for additional information about supported features.
tilt	Up and down camera movement.
toggle	To alternate the current state of a dome output. If the output is currently off, toggling it will turn it on, and vice-versa.
Touch Tracker	Another name for controller. *See Controller for a definition.*
Tracker Ball	The portion of the controller that enables you to pan and tilt the camera and scroll through the selections on the menu.
utility	A menu selection that either assists you in self-help system diagnostics, or provides you with a convenience feature for system operation. The utilities are accessed via the menu.
zoom	To adjust the magnification of the camera lens to make an object appear closer (larger) or farther away (smaller).

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