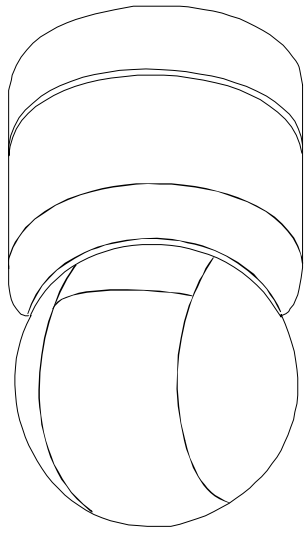
SpeedDome® Ultra VIIE Day/Night Camera Dome Configuration Utility

Operator's Manual Supplement



Contents

About this Supplement

This supplement provides detailed information about SpeedDome Ultra VIIE camera dome features that are not currently covered in your operator's manual. This supplement supports information found in the following manuals:

- Day/Night Camera Dome Configuration Utility Operator's Manual, 8200-0184-04

NOTE: Keep this supplement with your operator's manual for reference purposes.

If you need assistance...

Contact your Sales Representative.

New SpeedDome Ultra VIIE Features

SpeedDome Ultra VIIE provides the following features with firmware version 0710-0532-0100 and newer.

- DirectSet Menu for accessing commonly used dome settings.
- AD Up-the-Coax protocol (UTC) for compatible American Dynamics controllers.
- Motion Detection (available only on domes with the following part numbers: 0101-0120-01, 0101-0120-02, 0101-0120-03, 0101-0120-04, 0101-0120-05, 0101-0120-06).
- 16 Sequences.
- Up to 16 Patterns.
- Ability to change camera functions for each Preset.

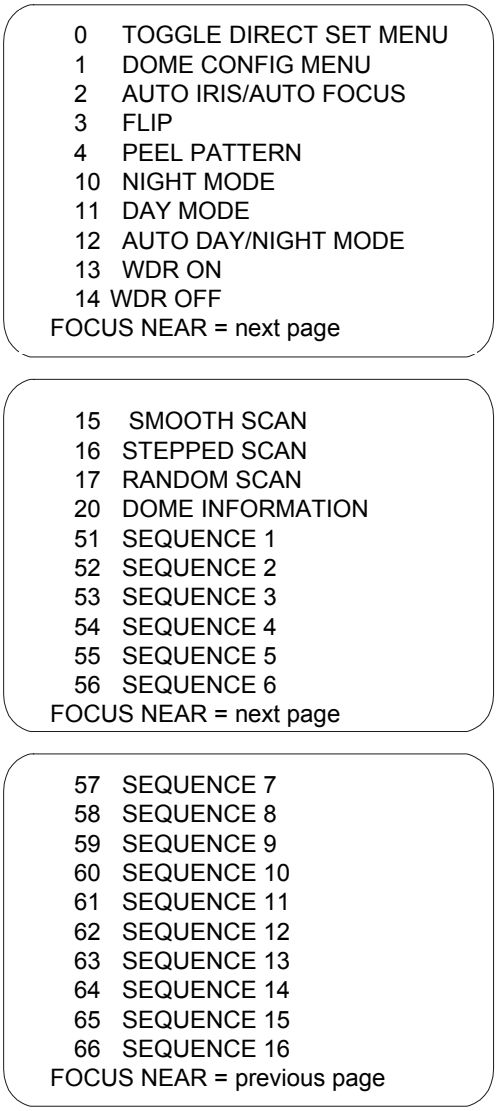
Updated information is also provided for the following:

- SensorNet, RS-422, Manchester, and UTC matrix switchers and controllers.

DirectSet Menu

The DirectSet Menu provides easy access to commonly used SpeedDome Ultra VIIE features when used with compatible controllers. This allows you to change or activate features without starting the dome configuration menu. See Figure 1 for examples of the Day/Night camera DirectSet menu.

Figure 1: Day/Night Camera Dome DirectSet Menu (3 screens)



To access a feature on the menu, enter the number and press the **DirectSet** button (varies by controller). Table 1 provides a description of the available options.

Table 1: DirectSet Menu Options

Command	Description
0+DirectSet	Toggle DirectSet Menu: Toggles between displaying and hiding the DirectSet menu.
1+DirectSet	Dome Config Menu: Displays the SpeedDome Ultra configuration menu.
2+DirectSet	Auto Iris/Auto Focus: Resumes Auto Focus/Auto Iris mode.
3+DirectSet	Flip: Rotates the SpeedDome 180° from its current pointing direction. This is the same as pressing the Flip button on compatible controllers.
4+DirectSet	Peel Pattern: Runs the default Apple Peel Pattern. This is the same as pressing the Peel button on compatible controllers.
10+DirectSet	Night Mode: Sets the dome IR mode setting to ON. The dome switches to full-time black-and-white (B/W) mode.
11+DirectSet	Day Mode: Sets the dome IR mode setting to OFF. The dome switches to full-time color mode.
12+DirectSet	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 ~ 0.5 lux
13+DirectSet	WDR On: Enables Wide Dynamic Range (WDR). Use this setting when both bright and low light areas need to be viewed simultaneously.
14+DirectSet	WDR Off: Disables Wide Dynamic Range (WDR). Use this setting when the light level is constant or when changes in lighting conditions are gradual.
15+DirectSet	Smooth Scan: Initiates a smooth 360° clockwise rotation around the dome axis using the current tilt, zoom and focus settings.

Command	Description
16+DirectSet	Stepped Scan: 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+DirectSet	Random Scan: 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+DirectSet	Dome Information: Displays the Dome Information screen available through the dome configuration menu.
51+DirectSet	Sequence: Runs Sequence 1
52+DirectSet	Sequence: Runs Sequence 2
53+DirectSet	Sequence: Runs Sequence 3
54+DirectSet	Sequence: Runs Sequence 4
55+DirectSet	Sequence: Runs Sequence 5
56+DirectSet	Sequence: Runs Sequence 6
57+DirectSet	Sequence: Runs Sequence 7
58+DirectSet	Sequence: Runs Sequence 8
59+DirectSet	Sequence: Runs Sequence 9
60+DirectSet	Sequence: Runs Sequence 10
61+DirectSet	Sequence: Runs Sequence 11
62+DirectSet	Sequence: Runs Sequence 12
63+DirectSet	Sequence: Runs Sequence 13
64+DirectSet	Sequence: Runs Sequence 14
65+DirectSet	Sequence: Runs Sequence 15
66+DirectSet	Sequence: Runs Sequence 16
255+DirectSet	Admin: Reset Dome (Baxall)

Menu Programming Navigation

The SpeedDome Ultra VIIE is programmed from on-screen menus that are accessible through your controller (keyboard, virtual keyboard, or Touch Tracker®).

The starting point for programming is the ***Configuration Menu***. To access the menu on most controllers press and hold the following buttons in sequence:

Iris Open > **Focus Far** > **Zoom Out**

(Consult your keyboard manual for instructions if unable to access menu programming.)

When programming dome functions, the primary buttons used for navigation, item selection, and value increases or decreases are:

Joystick. The joystick allows you to move the cursor—represented by highlighting—around the menus. You can select a field when it is highlighted.

Focus Far button. Pressing the **Focus Far** button selects or enables a choice on a highlighted field.

Zoom In/Out button. Pressing the **Zoom In/Out** button scrolls a pre-determined list of values either up or down in a highlighted field.

Changing Camera Functions within Presets

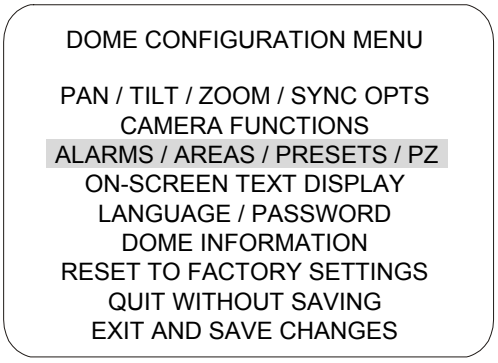
When Presets are created, they adopt the dome parameters defined in the ***Camera Functions*** screen. You can now customize camera functions for each Preset by accessing the ***Camera Functions*** screen from the ***Preset*** screen.

Note: If you change the parameters in the ***Camera Functions Menu*** for an existing Preset, you will need to reprogram the Preset to save the changes. Motion Detection Zones associated with the Preset will also require reprogramming.

Follow the steps below to change camera functions with Presets:

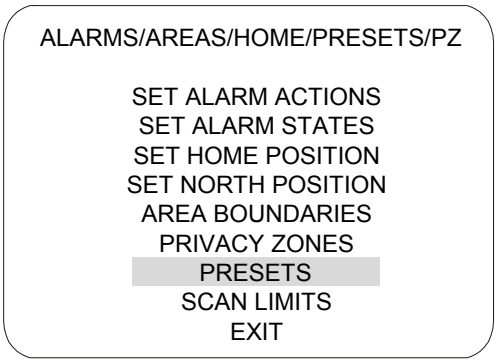
1. Access the ***Dome Configuration Menu*** (Figure 2) by pressing **Iris Open**, **Focus Far** and **Zoom Out** on your controller.

Figure 2.



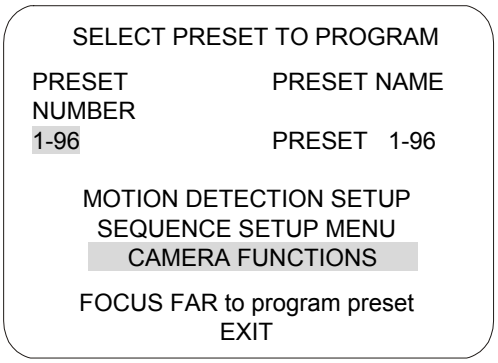
2. Use the joystick to highlight ***Alarms / Areas / Home / Presets / PZ*** and Press **Focus Far** to select. The ***Alarms / Areas / Home / Presets / PZ*** screen appears (Figure 3).

Figure 3.



3. Use the joystick to highlight ***Presets*** and press **Focus Far** to select. The ***Select Preset To Program*** screen appears (Figure 4).

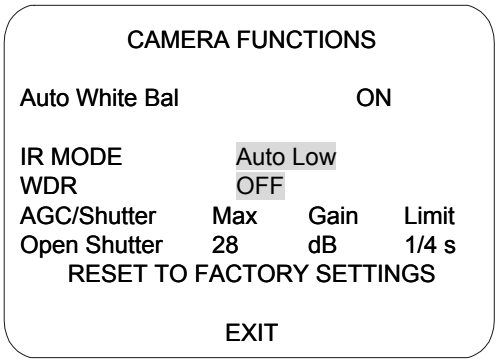
Figure 4.



4. Use the joystick to highlight the PRESET NUMBER field and press the **Zoom In/Out** button until your desired Preset number appears.

5. Use the joystick to highlight ***Camera Functions*** and press the **Focus Far** button. The ***Camera Functions*** screen appears (Figure 5).

Figure 5.



6. Make your desired changes. For details on the ***Camera Functions*** screen, consult Chapter 3 of the Day/Night Camera Dome Configuration Utility Operator's Manual, 8200-0184-04.

7. Use the joystick to highlight EXIT and press the **Focus Far** button to select. The ***Select Preset to Program*** screen appears.

8. Program (or reprogram) the Preset by selecting **FOCUS FAR to program preset** (see **Note** on page 3).

Programming Motion Detection

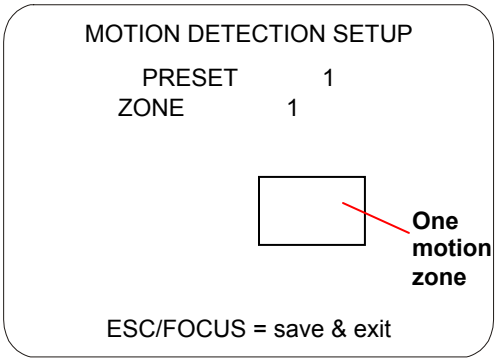
Applicable Day/Night SpeedDome cameras are capable of providing motion detection based on Preset camera views. Motion detection can be programmed for any of the 96 Presets defined in the dome. The motion detection feature is programmed from the ***Select Preset to Program*** screen.

Understanding Motion Zones

Motion Detection is programmed by positioning motion zones (represented by rectangular blocks) within a Preset scene. When motion occurs within any of the motion zones, the dome will respond by triggering the action you programmed for it—either an output, a Preset, a Pattern, or by taking no action.

You can create up to eight motion zones for every Preset scene. An example of a Preset scene with one motion zone is shown in Figure 6

Figure 6.



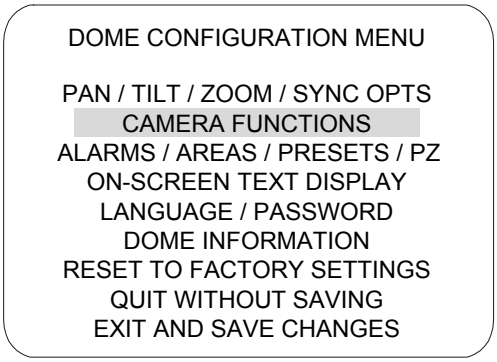
IMPORTANT NOTE: Motion Detection will not function under certain ***Camera Functions*** settings. Before programming, verify the following:

- IR Mode must not be set to ON.
- WDR must not be set to ON.

Follow the steps below to change the IR Mode and WDR settings:

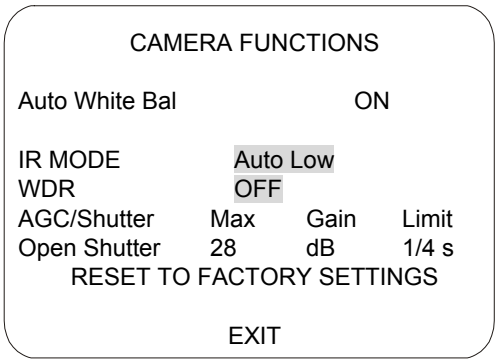
1. Access the ***Dome Configuration Menu*** (Figure 7) by pressing **Iris Open**, **Focus Far** and **Zoom Out** on your controller.

Figure 7.



2. Use the joystick to highlight ***Camera Functions*** and press **Focus Far** to select. The ***Camera Functions*** screen appears (Figure 8).

Figure 8.



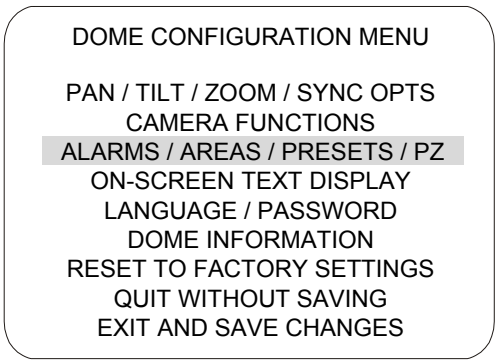
3. Use the joystick to highlight the IR MODE field and press the **Zoom In/Out** button to change settings. Options are OFF, ON, Auto Low, Auto Mid, Auto High.
4. Use the joystick to highlight the WDR field and press the **Zoom In/Out** button to change settings. Options are On, OFF.
5. Use the joystick to highlight EXIT and press **Focus Far** to select.
6. When the ***Dome Configuration Menu*** appears, use the joystick to highlight EXIT AND SAVE CHANGES and press **Focus Far**.

Steps to Programming Motion Detection

Follow the steps below to program motion detection.

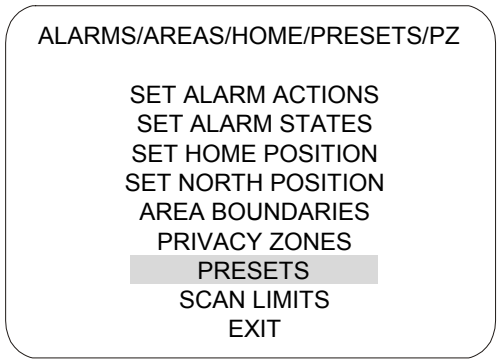
1. Access the ***Dome Configuration Menu*** (Figure 9) by pressing **Iris Open**, **Focus Far** and **Zoom Out** on your controller.

Figure 9.



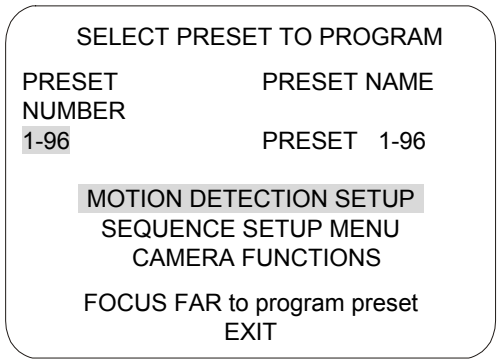
2. Use the joystick to highlight ***Alarms / Areas / Home / Presets / PZ*** and Press **Focus Far** to select. The ***Alarms / Areas / Home / Presets / PZ*** screen appears (Figure 10).

Figure 10.



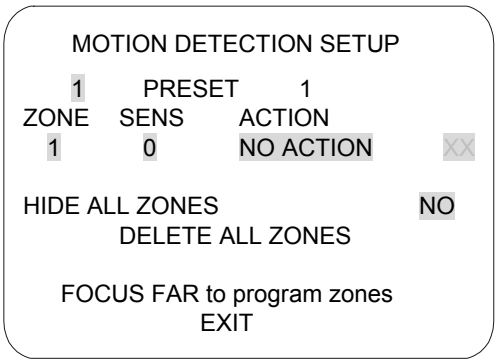
3. Use the joystick to highlight ***Presets*** and press **Focus Far** to select. The ***Select Preset To Program*** screen appears (Figure 11).

Figure 11.



4. Use the joystick to highlight ***Motion Detection Setup*** and press **Focus Far.** The ***Motion Detection Setup*** screen appears (Figure 12).

Figure 12.



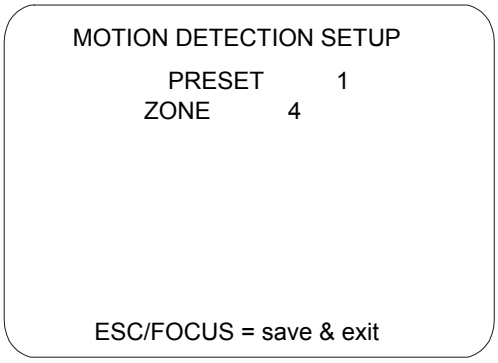
5. The PRESET number field is highlighted. Press the **Zoom In/Out** button until the Preset number you want to use for this motion detection setup (1-96) appears.
6. Use the joystick to highlight the ZONE field. Use the **Zoom In/Out** button until the zone number (1-8) you want to apply to the Preset appears.
7. Use the joystick to highlight the SENS field. Use the **Zoom In/Out** button until the sensitivity level you want to apply to your zone appears. Note: Zone sensitivity ranges from zero (no sensitivity) to five (high sensitivity). Zero is used to disable individual zones on a temporary basis.
8. Use the joystick to highlight the ACTION field. Use the **Zoom In/Out** button until the action you want appears. Action determines how the system will respond when motion is detected. Choices are:

   No Action* - no action occurs
   Preset (1-96) – calls a Preset
   Pattern (1-16) – runs a Pattern
   Output (1-4) – activates an output

*When No Action is programmed on the motion detection screen, the dome's return to a Home position is delayed *as long as motion occurs within the time specified on the return-to-home screen*.

9. Press the **Focus Far** button. The ***Motion Detection Setup*** screen appears (Figure 13).

Figure 13.



10. Using the joystick, move the rectangular zone indicator to a desired location and press **Focus Far** to save and exit. (Note: The rectangular zone indicator does not appear on-screen until the joystick is moved.)
11. Repeat steps 6-10 to create additional detection zones (1-8).
12. When the ***Motion Detection Setup*** screen appears, use the joystick to highlight EXIT and press **Focus In/Out** to save.

13. Continue to select EXIT on every screen until menu programming ends.

Note: Motion detection can be hidden without erasing the motion detection configuration (for example, during the day when motion is expected). To hide motion detection, select ***Yes*** on the Hide All Zones field on the ***Motion Detection Setup*** screen.

Activating Motion Detection

Motion detection works in conjunction with existing Presets. To begin monitoring motion detection, call the Preset to which motion detection has been applied.

Note: Motion detection is not guaranteed to capture 100% of all activity.

Programming Sequences

A Sequence is a sequential display of multiple camera Presets. Sequences provide a methodical and effective way to monitor multiple areas of interest by switching to different Presets automatically. Sequences are programmed from the ***Select Preset to Program*** screen.

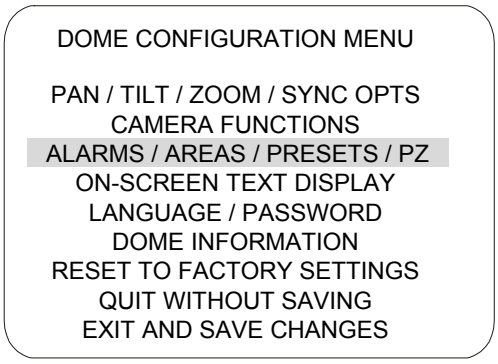
Sequences are created by identifying Preset views to include in the Sequence and specifying a dwell time that controls how long each Preset remains on screen before switching to another Preset. Up to 16 Sequences can be created, each with 16 steps (Presets).

Steps to Programming Sequences

Follow the steps below to program Sequences.

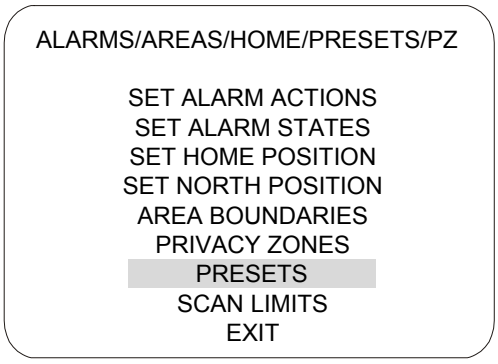
1. Access the ***Dome Configuration Menu*** (Figure 14) by pressing **Iris Open**, **Focus Far** and **Zoom Out** on your controller.

Figure 14.



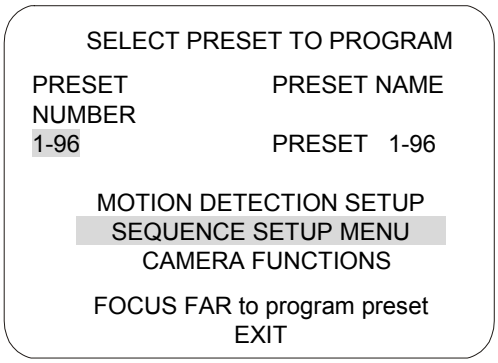
2. Use the joystick to highlight ***Alarms / Areas / Home / Presets/PZ*** and Press **Focus Far** to select. The ***Alarms / Areas / Home / Presets / PZ*** screen appears (Figure 15).

Figure 15.



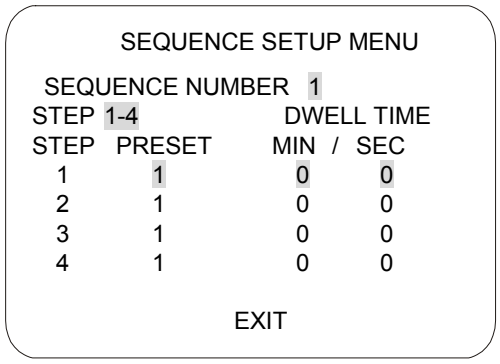
3. Use the joystick to highlight ***Presets*** and press **Focus Far** to select. The ***Select Preset to Program*** screen appears (Figure 16).

Figure 16.



4. Use the joystick to highlight ***Sequence Setup Menu*** and press **Focus Far** to select. The ***Sequence Setup Menu*** screen appears (Figure 17).

Figure 17.



5. Use the Joystick to highlight the SEQUENCE NUMBER field. Press **Zoom In/Out** to change values (1-16).
6. Use the joystick to highlight the STEP field. Press **Zoom In/Out** to scroll through available steps. Steps are displayed in groups of 1-4, 5-8, 6-12, and 13-16.
7. Use the joystick to highlight the PRESET field and press **Zoom In/Out** until the desired Preset number appears (1-96).
8. Use the joystick to highlight the DWELL TIME MIN field and press **Zoom In/Out** until the number of minutes you want the Preset to remain on screen appears (0-10 minutes).
9. Use the joystick to highlight the DWELL TIME SEC field and press **Zoom In/Out** until the number of seconds you want the Preset to remain on screen appears (0-60 seconds in 10-second increments).
10. Repeat steps 8 through 10 above until the first 4 presets have been programmed. If more Presets are desired, highlight to the STEP field and use **Zoom In/Out** to display steps 5-8.
11. When finished, use the joystick to highlight EXIT and press **Focus Far** to select.
12. At the ***Dome Configuration Menu*** screen, highlight EXIT AND SAVE CHANGES and press **Focus Far** to save.

Running Sequences 1-16

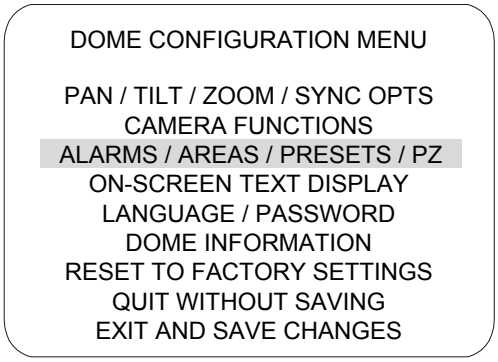
Two options are available for running Sequences:

- Option 1 – If your keyboard supports the ***DirectSet command,*** you can use it to run a Sequence immediately (see DirectSet Menu, page 2). Consult your keyboard manual for information on ***DirectSet*** functions.
- Option 2 - Use the ***Set Home Position*** method to schedule one Sequence to run when the dome returns to its home position (after a defined period of inactivity).

Follow the steps below to run Sequences from the ***Set Home Position*** screen:

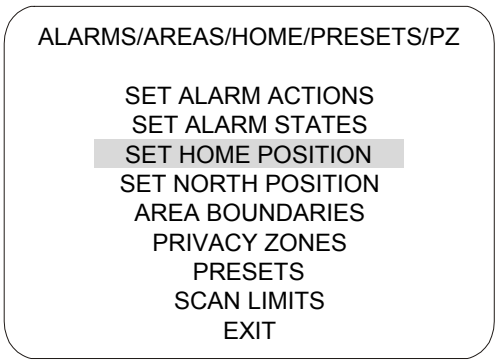
1. Access the ***Dome Configuration Menu*** (Figure 18) by pressing **Iris Open**, **Focus Far** and **Zoom Out** on your controller.

Figure 18.



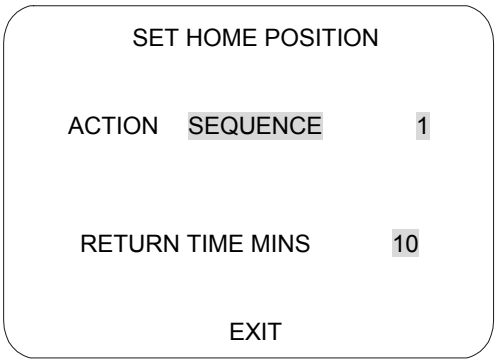
2. Use the joystick to highlight ***Alarms / Areas / Home / Presets / PZ*** and Press **Focus Far** to select. The ***Alarms / Areas / Home / Presets/PZ*** screen appears (Figure 19).

Figure 19.



3. Use the joystick to highlight ***Set Home Position*** and press **Focus Far** to select. The ***Set Home Position*** screen appears (Figure 20).

Figure 20.



4. On the highlighted ACTION field, press the **Zoom In/Out** button until Sequence appears.
5. Use the joystick to highlight the number field. Press the **Zoom In/Out** button until your desired Sequence number appears.
6. Use the joystick to highlight the RETURN TIME MINS field. Press the **Zoom In/Out** button to specify when the dome is to return to its home position after a period of inactivity (1-60 min.). This will trigger the Sequence to run.
7. Use the joystick to highlight the EXIT field and press **Focus Far** to select.
8. Continue to exit until the completely out of all programming menus.

Note: If a Preset or a Pattern is called by either an alarm or motion detection while a Sequence is running, the Sequence will be interrupted.

Pattern Options: Fixed or Variable Speed

A Pattern is a series of programmed pan/tilt/zoom dome movements. The SpeedDome Ultra VIIE allows you to create fixed speed or variable speed Patterns (variable speed Patterns are dependent on system capability).

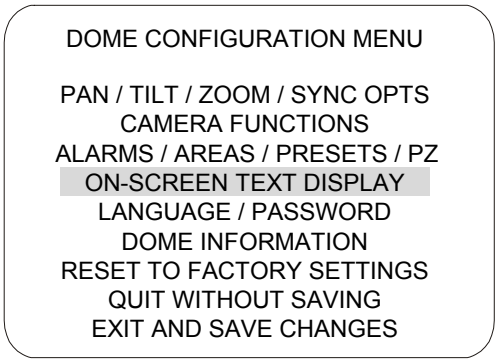
The SpeedDome Ultra VIIE provides three options when configuring the system for Patterns:

Setting	***Description***
Off	Allows programming of three *fixed* speed Patterns. The three Patterns are limited to a total of 99 pan/tilt/zoom movements (e.g., if one Pattern uses 50 movements, the remaining two Patterns are limited to a total of 49 movements). Note: The VM1 and VM96 systems only support the OFF setting.
3	Allows programming of three *variable* speed Patterns. Each Pattern can have up to 99 pan/tilt/zoom movements.
16	Allows programming of 16 *variable* speed Patterns. Each Pattern can have up to 99 pan/tilt/zoom movements.

Use the following steps to configure the dome for Patterns:

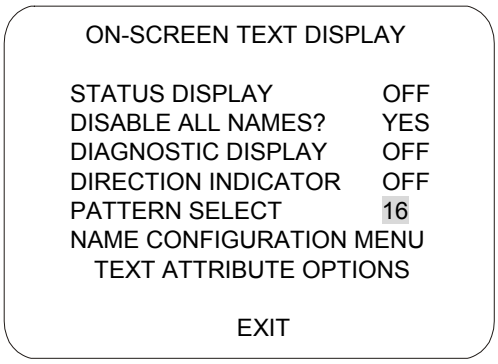
1. Enter the ***Dome Configuration Menu*** (Figure 21) by pressing **Iris Open**, **Focus Far** and **Zoom Out** on your controller.

Figure 21.



2. Use the joystick to highlight ***On-Screen Text Display*** and press **Focus Far** to select. The On-Screen Text Display screen appears (Figure 22).

Figure 22.



3. Use the joystick to highlight the PATTERN SELECT field and press **Zoom In/Out** to select ***Off***, ***3,*** or ***16***.
4. Use the joystick to highlight EXIT and press **Focus Far** to select. The ***Dome Configuration Menu*** appears.
5. Use the joystick to highlight EXIT AND SAVE CHANGES and press **Focus Far** to save.

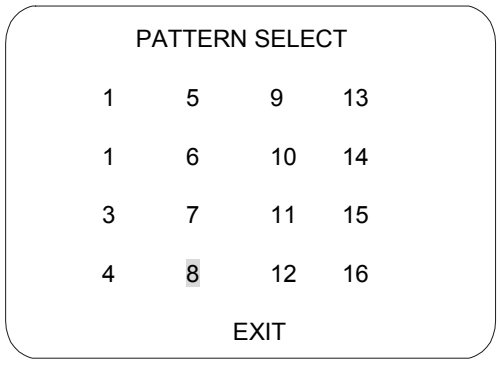
Recording Patterns When Configured for 16

Recording Patterns when the ***Pattern Select*** field is set for ***Off***, ***3***, or ***16*** is accomplished through keyboard commands (consult your keyboard user guide). However, additional steps are required when the Pattern Select field is set for ***16***.

Follow the steps below to record 16 variable speed Patterns:

1. Enter the appropriate keyboard commands to record a Pattern, using 1, 2, or 3 as your Pattern number (Consult your keyboard user guide for specific steps.). The ***Pattern Select*** screen appears (Figure 23)

Figure 23.



2. Use the joystick to highlight a desired Pattern number (1-16). Press **Focus Far** to continue.
3. Pan/tilt/zoom the dome as desired for the Pattern.
4. Execute the keyboard's Pattern save command to save the Pattern.

Running 16 Patterns

When a dome is configured for 16 Patterns, running a Pattern requires displaying the ***Pattern Select*** screen (Figure 23). Follow the steps below to run a Pattern.

1. Enter the appropriate keyboard command to run Patterns 1, 2, or 3. The ***Pattern Select*** screen appears.
2. Move the joystick to highlight the desired Pattern number (1-16) to run.
3. Press **Focus Far** to select. The ***Pattern Select*** screen disappears and the Pattern runs.

SensorNet, RS-422, Manchester, and UTC Controllers and Switchers

The following provides information about SensorNet, RS-422, Manchester, and UTC protocols on SpeedDome Ultra VIIE compatible controllers.

VM8

Supported Protocol	SensorNet
Maximum Presets	0
Maximum Patterns[1]	1
DirectSet Menu	Not supported
Address Range	1-8

Notes:
(1) Apple Peel only. Programmable Patterns are not available.

VM16/ADTT16 (White Touch Tracker)

Supported Protocol	SensorNet RS-422[1]
Maximum Presets	96 – SensorNet 4 – RS-422
Maximum Patterns[2]	16
DirectSet Menu	Not supported
Address Range	1-16

Notes:
(1) Requires RCSN422 code converter.
(2) Patterns are limited by time and the number of available dome commands.

VM16E/ADTT16E (Black Touch Tracker)

Supported Protocol	SensorNet RS-422[1]
Maximum Presets	96 – SensorNet 4 – RS-422
Maximum Patterns[2]	16
DirectSet Menu	Yes[3]
Address Range	1-16 or 1-64[3]

Notes:

(1) Requires RCSN422 code converter.

(2) Patterns are limited by time and the number of available dome commands.

(3) Requires firmware version 0701-2833-0103 (EEPROM) / 0701-2834-0201 (Flash PROM) or newer.

VM32/AD32

Supported Protocol	SensorNet RS-422[1]
Maximum Presets	96 – SensorNet 4 – RS-422
Maximum Patterns[2]	16
DirectSet Menu	Not supported
Address Range	1-32

Notes:

(1) Requires RCSN422 code converter.

(2) Patterns are limited by time and the number of available dome commands.

VM96[1]

Supported Protocol	SensorNet RS-422
Maximum Presets	9,999[2]
Maximum Patterns[3]	16
DirectSet Menu	Not supported
Address Range	1-32

Notes:

(1) Requires software version 5.2 or newer.

(2) Preset information is stored at the host, not the dome; therefore, divide 9,999 by the number of domes to determine number of available Presets per dome.

(3) Patterns are limited by time and the number of available dome commands.

AD2150/AD2350

Supported Protocol	RS-422[1]
Maximum Presets	16[2]
Maximum Patterns[3]	16
DirectSet Menu	Not supported
Address Range	1-32

Notes:

(1) Requires the AD2083-02 series code converter.

(2) Preset information is stored at the converter, not the dome.

(3) Patterns are limited by time and the number of available dome commands.

AD1650

Supported Protocol	RS-422[1]
Maximum Presets	16[2]
Maximum Patterns[3]	16
DirectSet Menu	Not supported
Address Range	1-128[4]

Notes:

(1) Requires the AD2083-02 series code converter.

(2) Preset information is stored at the converter, not the dome.

(3) Patterns are limited by time and the number of available dome commands.

(4) Requires additional equipment to achieve these numbers. A dome address within each group of 64 or 99 cameras is reserved as a global broadcast address.

AD168

Supported Protocol	SensorNet[1] RS-422[1 or 2]
Maximum Presets	16[1, 2], 64[1, 3]
Maximum Patterns[4]	16
DirectSet Menu	Not supported
Address Range	SensorNet: 1-180 RS-422: 1-99[1, 5] or 1-180[2, 5]

Notes:

(1) Requires the appropriate code control module.

(2) Requires the AD2083-02 series code converter.

(3) Presets information is stored at the converter or control module, not the dome.

(4) Patterns are limited by time and the number of available dome commands.

(5) Requires additional equipment to achieve these numbers. A dome address within each group of 64 or 99 cameras is reserved as a global broadcast address.

AD2050

Supported Protocol	RS-422[1]
Maximum Presets	16[2]
Maximum Patterns[3]	16
DirectSet Menu	Not supported
Address Range	1-1024[4]

Notes:

(1) Requires the AD2083-02 series code converter.

(2) Preset information is stored at the converter, not the dome.

(3) Patterns are limited by time and the number of available dome commands.

(4) Requires additional equipment to achieve these numbers. A dome address within each group of 64 or 99 cameras is reserved as a global broadcast address.

MegaPower LT

Supported Protocol	SensorNet	UTC
Maximum Presets	96	96
Maximum Patterns[1]	16	16
DirectSet Menu	Yes[2]	Yes[2]
Address Range	1-99	1-99

Notes:

(1) Patterns are limited by time and the number of available dome commands.

(2) Requires a compatible keyboard.

MegaPower 48

Supported Protocol	SensorNet RS-422	Manchester
Maximum Presets	96[1]	64
Maximum Patterns[2]	16	16
DirectSet Menu	Yes[3]	Yes[3]
Address Range	1-48	1-48

Notes:

(1) Preset information is stored at the host, not the dome.

(2) Patterns are limited by time and the number of available dome commands.

(3) Requires firmware 1.07 or newer and a compatible keyboard.

MegaPower 1024

Supported Protocol	RS-422[1]	Manchester
Maximum Presets	16[2] or 60[3]	64
Maximum Patterns[4]	16	16
DirectSet Menu	Not supported	Not supported
Address Range	1-1024[5]	1-1024[5]

Notes:

(1) Requires the AD2083-02 series code converter.

(2) Preset information is stored at the converter, not the dome.

(3) Requires AD2083-02 with firmware version 0701-11YB-156A or newer. Preset information is stored in the dome, not the converter.

(4) Patterns are limited by time and the number of available dome commands.

(5) Requires additional equipment to achieve these numbers. A dome address within each group of 64 or 99 cameras is reserved as a global broadcast address.

ADACSNET Control Module[1]

Supported Protocol	USB to RS-232
Maximum Presets	96
Maximum Patterns	16
DirectSet Menu	Yes[2]
Address Range	1-254

Notes:

(1) Compatible with PCs running Windows® 2000 or XP and with the Intellex system running version 3.2 or higher software.

(2) Requires USB Dome Control Utility software.

Specifications-Indoor Dome

Operational

Pan/Tilt:

Manual Pan Speed ..... 0.2°-100° per second (scaled to zoom position)

Manual Tilt Speed ..... 0.25°-100° per second (scaled to zoom position)

Preset Pan/Tilt Speed ..... 220° per second maximum

Pan Travel ..... 360° continuous rotation

Tilt Travel ..... >100°

Pan/Tilt Accuracy ..... ±0.5°

23x Day/Night Camera Zoom Functions:

Optical Zoom 23X

Digital Zoom 10X

Zoom Pause ..... 23X selectable or 35X default

Total Zoom 230X

Maximum Zoom Stop ..... 46X, 69X, 92X (default), 115X, 138X, 161X, 184X, 207X, 230X

Zoom/Focus Accuracy ..... ±0.5%

Auto Synchronization:

Line Locked ..... Remote V-phase adjustment

Internal ..... Built-in sync generator

Address Range 1-255

Number of Presets:

VM16 / ADTT16 ..... 96 with SensorNet 485

VM32 / AD32 ..... 96 with SensorNet 485

AD2150 ..... 64 with Manchester
16 with RS-422 (using AD2083-02A)

VM96 ..... Virtual with RS-422 or SensorNet 485

VM168 / AD168 ..... 64 with Manchester, RS-422 or SensorNet
16 with RS-422 (using AD2083-02A)

AD2050 ..... 64 with Manchester
16 with RS-422 (using AD2083-02A)

Direct View™ Access Time ..... <1 second to position. Full zoom in <4 seconds. Focus on VM16, VM32 and VideoManager systems is <1 second. Focus on VM96 and RV2715 systems is <7 seconds

Programmable Patterns

Number Patterns 16

Storage

Program Storage ..... 256 Kbytes of Flash memory

Data Storage ..... 128 Kbytes of SRAM

Configuration Menu

Languages ..... English, French, German, Spanish, Italian, and Portuguese

Electrical

Input Voltage ..... 18-30Vac, 50/60 Hz
UL Class 2 LPS

Design Tolerance ..... 16-36Vac, 50/60 Hz

Power Consumption ..... 16W max.

Current ..... 0.85A max.

Allowable Drop Out 100ms

Power On In-Rush Current 1.5A

Surge Protection:

Video Output ..... Low capacitance Zener suppressor 6.5V, 1500W

Power Line ..... TVS rated at 60V, 1.5 joules, 250A 8/20µs impulse

RS-422 ..... TVS rated at 9.8V/1A, 20V/25A, 500W, 8/20µs impulse

Manchester/
SensorNet 485 ..... Gas discharge tube rated at: 8/20µs impulse discharge current of 10kA, ten 8/20µs impulse discharge current of 5kA
Isolation transformer coupled 2000Vrms
PTC fuse protects transformer.
TVS rated at 9.8V/1A, 20V/25A, 500W, 8/20µs impulse

Alarm Input ..... TVS rated at 9.8V/1A, 20V/25A, 500W, 8/20µs impulse

Alarms Inputs/Control Outputs:

When no I/O board is used:

Inputs ..... 1 dry contact/3.5mA sink

Outputs ..... 1 open collector driver @ 12Vdc, 40mA

When I/O board is used:

Inputs ..... 4 dry contacts/3.5mA sink

Outputs ..... 4 open collector drivers @ 12Vdc, 40mA

Environmental

Operating Temperature ..... –10° to 50°C (14° to 122°F)

Relative Humidity ..... 0 to 95% non-condensing

Storage Temperature ..... –20°C to 65°C (–4°F to 149°F)

Mechanical

Height 20.8cm (8in)
Eyeball Diameter 12cm (4.7in)
Weight:
- Housing and Eyeball ..... 1.36kg (3 lbs)
- Base (standard) ..... 0.09kg (0.20 lbs)
- Base (with I/O board) ..... 0.16kg (0.35 lbs)

Lens and Bubble Densities

Eyeball Lens f0
Bubbles:
- RUCLR (Clear) f0
- RUSLV (Silver) f2.0
- RUSMK (Smoke) f1.0
- RUGLD (Gold) f2.0

Specifications– 23X Day/Night Camera

Type ..... Interline transfer 1/4in CCD array
Scanning Area ..... 3.2 (H) x 2.4 (V) mm
Scanning System ..... 2:1 interlace
Video Out ..... 1.0 Vp-p/75 ohms composite
Signal-to-Noise ..... 50 dB (typical)
Horizontal Resolution ..... 470 lines at center
Minimum Illumination ..... 0.5 lux (AGC On, 20 IRE)
0.03 lux with 1/4 s open shutter
0.01 lux in IR mode
0.009 lux in IR mode with 1/4 s open shutter
White Balance ..... Through-the-Lens (TTL)
Automatic Tracing
White balance (ATW)

NTSC:

Effective Pixels ..... 724 (H) x 494 (V) pixels
Scanning ..... 525 lines, 60 fields, 30 frames
Horizontal 15.734kHz
Vertical 59.9Hz

PAL:

Effective Pixels ..... 724 (H) x 582 (V) pixels
Scanning ..... 625 lines, 50 fields, 25 frames
Horizontal 15.625kHz
Vertical 50Hz

Lens Design

Type ..... Aspherical
Focal Length ..... 3.6 to 82.8mm
Aperture ..... f1.6 (wide angle)
f3.7 (telephoto)

Viewing Angle (equivalent to 8-80 mm on 1/2" CCD array, or 11-110 mm on 2/3" CCD array):

3.6mm ..... 54.0°(H) x 40.5°(V)
82.8mm ..... 2.5°(H) x 1.9°(V)

Field-of-View Formulas:

$$\frac{3.2\text{mm}^* \times \text{distance from camera (m)}}{\text{Focal length (mm)}} = \text{Horizontal view (m)}$$

$$\frac{2.4\text{mm}^{**} \times \text{distance from camera (m)}}{\text{Focal length (mm)}} = \text{Vertical view (m)}$$

* Horizontal scanning area of pickup device (mm) in camera.
** Vertical scanning area of pickup device (mm) in camera.

Example: Wide angle view with lens at 6mm and viewed object at 10m.

$$\frac{3.2\text{mm} \times 10\text{m}}{6\text{mm}} = 5.33\text{m Horizontal view (m)}$$

$$\frac{2.4\text{mm} \times 10\text{m}}{6\text{mm}} = 4.0\text{m Vertical view (m)}$$

Declarations

Regulatory Compliance

Emissions	47 CFR, Part 15, Class A
	ICES-003
	EN55022, Class B
	EN61000-3-2
	EN61000-3-3
	AS/NZ 3548, Class A
	CISPR 22
Immunity	EN50130-4
Safety	UL1950
	CSA C22.2 No. 950
	EN60950
	IEC 60950

FCC COMPLIANCE: This equipment complies with Part 15 of the FCC rules for intentional radiators and Class A digital devices when installed and used in accordance with the instruction manual. Following these rules provides reasonable protection against harmful interference from equipment operated in a commercial area. This equipment should not be installed in a residential area as it can radiate radio frequency energy that could interfere with radio communications, a situation the user would have to fix at their own expense.

EQUIPMENT MODIFICATION CAUTION: Equipment changes or modifications not expressly approved by Sensormatic Electronics Corporation, the party responsible for FCC compliance, could void the user's authority to operate the equipment and could create a hazardous condition.

Other Declarations

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RLJ 12/2004