

ENFORCER®

EV-7105-NPEQ (NTSC) EV-7105-PPEQ (PAL)

Mini PTZ Camera

Manual



- 12x Optical zoom and 10x digital zoom
- Up to 120x zoom
- Up to 360°/sec pan/tilt motion
- Outdoor or indoor use
- Up to 127 preset target views, each with its own characteristics such as white balance and auto exposure
- Up to 95° tilt, up to 180° with auto-flip

SLI SECO-LARM

FC CE RoHS

Note: Model numbers that end with "Q" or products that have a round green "Q" sticker signify RoHS compliance.

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Introduction

The ENFORCER Mini PTZ Camera is a compact full-featured PTZ (pan/tilt/zoom) CCTV camera. In as little as one second, the camera can pan a full 360 degrees, tilt up to 95 degrees under normal operation, or auto-flip 180 degrees. It also features an optical zoom of up to 12x and a digital zoom of up to 10x, providing a clear view of the entire protected premises. The 1/4-inch Interline Transfer CCD provides high-resolution, 520 TV line images in as little as 0.7 Lux for color use and 0.02 Lux for black and white use. A wide range of mounting brackets and posts combined with a small size makes the ENFORCER Mini PTZ Camera ideal for almost any installation.

Controlling the mini PTZ camera is done using a keyboard controller or DVR that uses RS-485 for communicating between the devices.

ENFORCER Mini PTZ Camera Features and Functions

Powerful and Flexible: The ENFORCER Mini PTZ Camera is equipped with a 1/4-inch CCD, a powerful Day and Night function, up to 120x zoom (max. 12x optical zoom and 10x digital zoom), multiple focus modes, and other fully programmable features.

Pan/Tilt Functionality: The camera features 360° endless pan motion and 95° tilt. It can be programmed to automatically flip the image if it tilts under the unit. The pan/tilt function uses vector drive technology so that it quickly moves to the target while ensuring the view on the monitor flows smoothly.

On-Screen Display (OSD): The On-Screen Display shows camera status and settings together with the preset target views.

A Wide Range of Programmable Options:

- Up to 127 preset target views, each with its own characteristics such as white balance and auto exposure
- Up to eight swing actions between two preset positions
- Up to four patterns for moving the camera as if it were controlled by a joystick
- Up to eight group actions, each including up to a total of 20 presets, swing actions, and patterns
- Up to four privacy masks which can be increased or decreased in size to cover certain areas to protect privacy

Reserved Presets: Certain camera characteristics can be specified by using reserved preset configurations instead of individually configuring those characteristics.

Standard PTZ Control: Works with Pelco-D or Pelco-P compatible controllers via an RS-485 connection.

Smart Power-Up: Resumes the last action executed before power to the camera was cut, including most preset, pattern, swing, and group actions.

Auto-Flip: Vertically inverts the image if the camera tilts below its center.

Parking Action: Should no operator-activated or automated camera action occur during a specified time (programmable from 1 minute to 4 hours), the camera automatically moves to a pre-determined preset position or any pre-programmed pattern, swing, or automatic camera function.

Privacy Zone Mask: Up to four privacy masks can be created to cover certain areas or objects such as windows or private houses. The masks can be adjusted for size. When the camera moves past such areas or objects, the mask automatically covers them.

Global or Local Image Setup: Determines how white balance and auto exposure settings are applied. When programmed for "Global" setup, those settings are automatically applied to each preset location. Under "Local" setup, those settings are set separately for each preset location. The "Global" settings for white balance and auto exposure will be used during jog operations.

Semi/Auto Focus: The focus for each preset location is manually set, and the camera automatically uses that focus when it moves to a preset location. During jog operations, the camera uses auto focus. The shift between semi-auto and auto focus occurs automatically.

ENFORCER Mini PTZ Camera

Parts List:

1x Camera
1x Wall-mount bracket
1x Manual

4x Short screws (for attaching camera to bracket)
4x Long screws (for attaching bracket to wall)
1x Extension cord

Specifications:

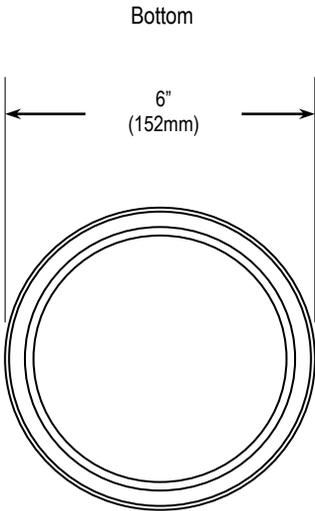
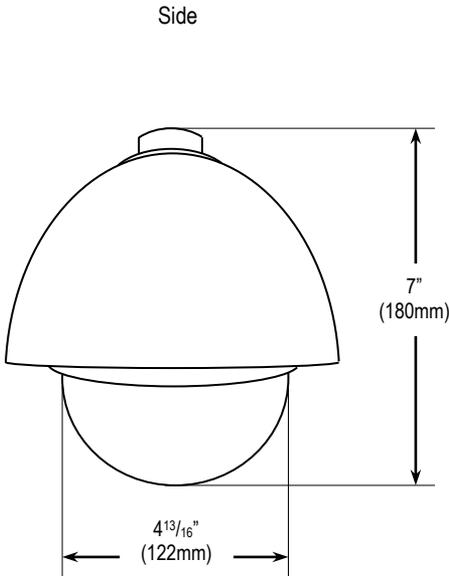
	EV-7105-NPEQ	EV-7105-PPEQ
Type	Mini PTZ Camera	
Video output format	NTSC	PAL
CCD	1/4" Interline Transfer	
Resolution	Color: 520 TV Lines / B/W: 570 TV Lines	
Pickup elements	768x494 pixels	752x582 pixels
Video output	1.0Vp-p composite video, 75Ω	
Lens	F1.8, f=3.8-45.6mm	
Minimum Illumination	Color: 0.7 Lux / B/W: 0.02 Lux	
S/N Ratio	50dB (AGC OFF)	
Zoom	12x Optical / 10x Digital	
Day and Night	Auto / Day / Night (ICR – removable IR cut filter)	
Focus	Auto / Manual / Semi-Auto	
Iris	Auto / Manual	
Shutter Speed	1/60~1/120,000 s	
AGC (Automatic Gain Control)	Normal / High / Off	
Sense-Up	x2~x128	
White Balance	Auto / Manual (Red, Blue, Gain Adjustable)	
BLC (Back Light Compensation)	Low / Middle / High / Off	
Flickerless	Selectable	
SSNR (Noise Reduction)	Low / Middle / High / Off	
Communication	RS-485	
Protocol	Pelco-D, Pelco-P selectable	
Privacy	4 Zones	
OSD	Menu / PTZ information, etc.	
Operating voltage	24VAC	
Power consumption	20W	
Operating temperature	Indoor: 32~104° F (0~40° C) / Outdoor: -4~122° F (-20~50° C)	
Dimensions	4 ^{13/16} " x 7" x 4 ^{13/16} " (122x180x122 mm)	
Weight	2-lb 10-oz (1.2kg)	

Pan/Tilt:

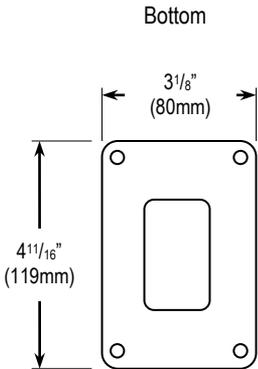
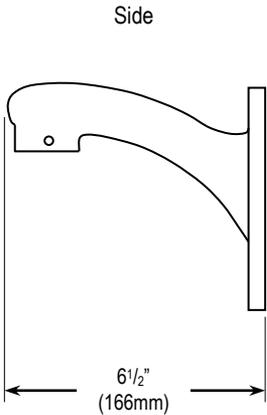
Range	Pan	360°
	Tilt	180°
Pan/Tilt Speed	Preset	Up to 360°/s (programmable)
	Manual	0.05~360°/s (proportional to zoom)
	Swing	1~180°/s
Presets	Max. 127 presets (Label, Camera Image Setting)	
Patterns	Max. 4 patterns	
Swings	Max. 8 swings	
Groups	Max. 8 groups (20 actions/group)	
Other functions	Auto-Flip, Auto-Parking, Power Up Action, etc.	

Dimensions:

Camera



Wall-Mount Bracket



Safeguards and Precautions

Before Starting:

1. Please read this manual carefully and keep it for future reference.
2. Use the camera within given temperature and electrical limits.
3. Do not point the camera at the sun. Heat could damage the camera, even when not in use.
4. Do not expose the camera to rain or moisture.
5. Do not install the camera in dusty or humid environments.
6. Do not mount the camera in areas exposed to radiation, strong magnetic fields, or strong electrical signals.
7. Do not open or disassemble the camera. There are no field-serviceable parts inside.
8. Do not drop the camera or subject it to strong vibrations.
9. This camera is VERY HEAVY. To prevent injury to the installer and client, do not mount it on an unstable or improperly supported surface. When mounting, only use brackets or other mounting devices that are recommended in this manual.

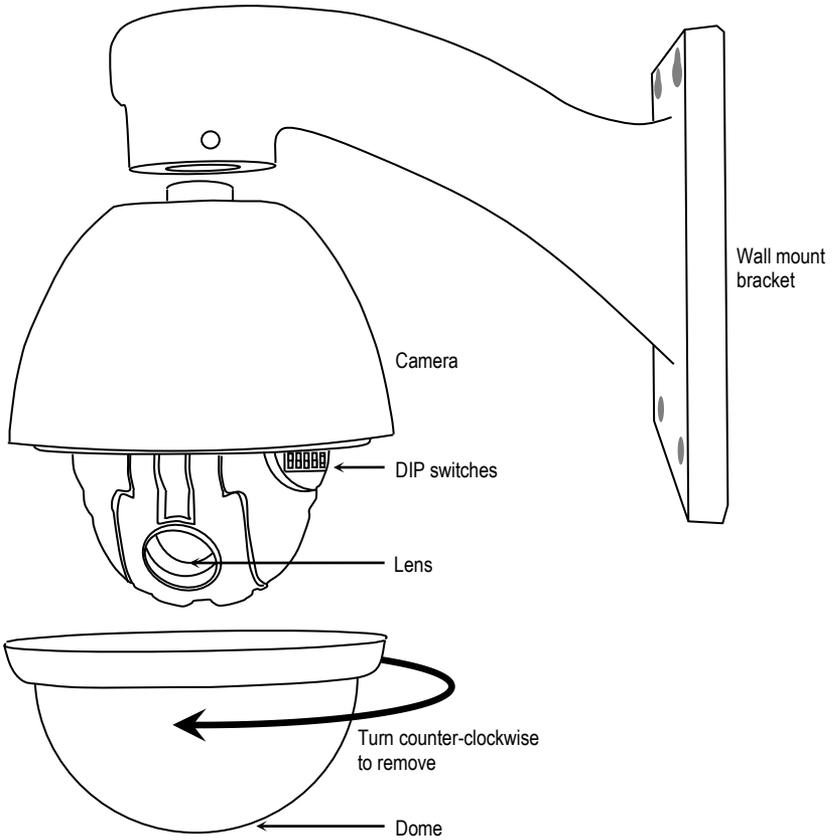
Operation Precautions:

1. Only use regulated power supplies with voltage and minimum current output per the specifications of this camera.
2. If the camera gets hot or starts smoking while in use, disconnect the power immediately and contact the professional installer or dealer.

Cleaning Precautions:

1. Periodically clean the dust off the entire camera with a slightly damp (NOT WET) cloth. DO NOT USE chemical cleaners.
2. Do not move the camera while cleaning, as this could change the angle of the view.
3. If the dome cover becomes dusty, carefully clean using a slightly slightly damp (NOT WET) cloth. DO NOT USE chemical cleaners. DO NOT SCRATCH the dome, as this will hurt the quality of the video image.

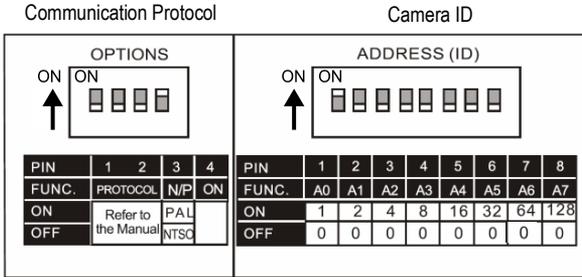
Overview



ENFORCER Mini PTZ Camera

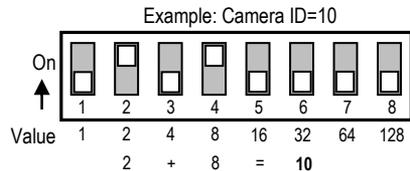
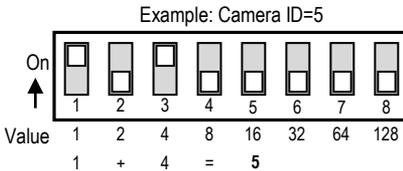
Communication Protocol and Camera ID DIP Switch Setup:

Before the Mini PTZ Camera is installed, first set up the DIP switches to configure the camera ID and the communications protocol.



- Remove the clear dome of the Mini PTZ Camera by turning it counterclockwise by hand.
- Look for the two DIP switch blocks near the base of the black plastic dome which surrounds the camera. DO NOT REMOVE THE BLACK PLASTIC DOME.
- Set the camera ID (8-pin DIP switch):
 - The camera ID is a binary number from 1 to 255. Factory default camera ID is "1."
 - Do not use "00000000" as a camera ID.
 - The ID number of a particular camera must match the Cam ID setting of the DVR or keyboard controller.

Pin	1	2	3	4	5	6	7	8
ID Value	1	2	4	8	16	32	64	128



- Set the communication protocol (4-pin DIP switch):
 - Set the proper protocol using Pin 1 and Pin 2 of the 4-pin DIP switch.
 - The protocol for the camera must be identical to the protocol used by the DVR or pan/tilt controller. If not, the camera cannot be controlled by the controller. See the DVR or pan/tilt controller manual for protocol information.
 - If the protocol of the camera is changed, the camera must be turned off and then turned back on for the change to take effect.
 - The factory default protocol is "Pelco-D, 2400 bps."
 - Pins 3 and 4 are set by the factory and must not be changed. If they are changed, the camera WILL NOT OPERATE PROPERLY.

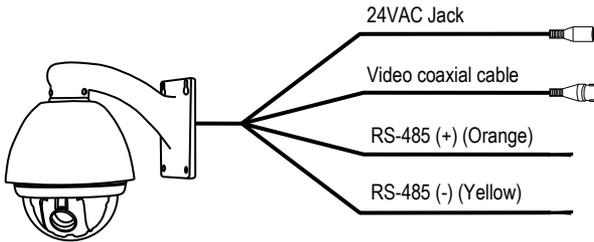
Switch State		Protocol
P0 (Pin 1)	P1 (Pin 2)	
OFF	OFF	PELCO-D,2400 bps
ON	OFF	PELCO-D,9600 bps
OFF	ON	PELCO-P,4800 bps
ON	ON	PELCO-P,9600 bps



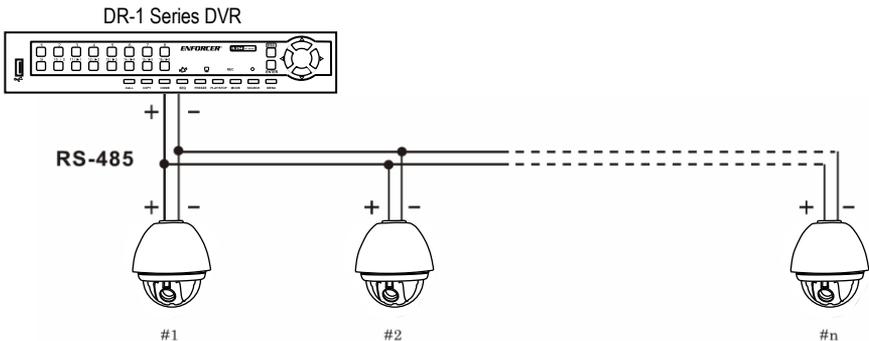
Installation

1. Connect the camera to either the included wall mount or other optional bracket.
2. Run a 24VAC power supply wire, a video cable with a male BNC connector, and a data wire through the wall to where the camera is to be mounted.
3. Connect the camera's video cable to the video cable coming from the wall. **Do not cut the female BNC connector of the camera's video cable as that will void the warranty.**
4. Connect the camera's RS-485 cable to the data wire cable coming from the wall.
Note: If necessary, use the included extension cable for more convenient wiring.
5. Temporarily connect the camera to the power supply. **Do not cut the AC power terminal of the camera's power cable as that will void the warranty.**
6. Hold the camera's bracket against the wall or ceiling where it is expected to be mounted, but do not mount yet. While watching the monitor, operate the camera's pan and tilt functions to ensure that this mounting location is correct. Use a pencil to mark the location of the screw holes in the mounting bracket.
7. Disconnect the power supply from the camera.
8. Mount the mounting bracket to the wall or ceiling using the included mounting screws. If the wall is made of drywall, brick, or similar material, it may be necessary to use the included screw anchors.
9. Reconnect the camera's power supply.
10. Program the camera via the on-screen display (OSD) menus from the DVR or keyboard controller.
11. Do a final test of the video camera and monitor.

Basic Installation



Connecting Multiple PTZ Cameras



Pre-operation Checklist

Before operating this PTZ camera, please note the following:

- ✓ Double-check that the cables are properly run between the controller and camera, and that all connections are correct.
- ✓ Double-check that the camera ID on the controller is the same as the ID of the target camera. The camera ID can be found by looking at the camera ID DIP switch settings (see page 8).
- ✓ The Pelco protocol setting of the controller and the camera must be identical. The Pelco protocol setting of the camera can be found by looking at the communication protocol setup DIP switch settings (see page 8).
- ✓ Make sure that the camera was rebooted after any of the camera ID or communication protocol setup DIP switches are changed.
- ✓ Refer to the controller or DVR manual for information on configuring or operating those devices.

Understanding and Operating Preset and Pattern Functions

Standard Pelco-compatible controllers allow the camera operator to do several functions without going through the full OSD menu, depending on the capabilities of the DVR to which the camera is connected.

The SECO-LARM series of DVRs allows operators to do the following via the "Dome Preset" menu:

- Set the camera to remember multiple specific preset locations.
- Tell the camera to go to a specific preset location.
- Run certain preset functions, including patterns, swings, or grouped functions.
- Change certain configuration patterns.

Programming the patterns, swings, or grouped functions, and detailed configuration of the PTZ camera, requires operators to use the OSD menu. See page 16 for more information.

This PTZ camera can be controlled by any DVR or keyboard controller which uses Pelco-compatible protocols. When using non-SECO-LARM DVRs, or when using keyboard controllers, the manuals for those devices may include information on how to operate or program the PTZ camera.

To set or go to a Preset location or use a preset function via a SECO-LARM DVR:

1. Press the "Dome" key. The lower left corner of the screen will change from "REC" to "DOME" to show the camera is in the Dome Control menu.
2. Press the "1" key to go to the DOME PRESET menu.
3. Use the UP, DOWN, LEFT, and RIGHT buttons to highlight your selection and push ENTER to confirm your selection.

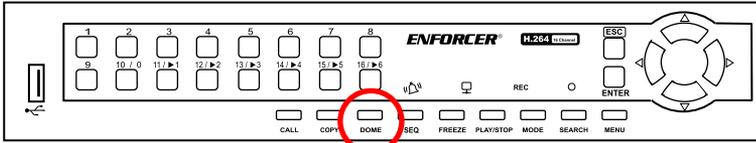
Note: In most cases, only the GO function will work. Only the preset locations can be programmed via the DOME PRESET menu. Other functions must be programmed using the OSD menu.

4. Use the UP and DOWN arrows to switch between YES and NO. Go to YES, and press the ENTER key.

See page 13 for a list of preset functions.

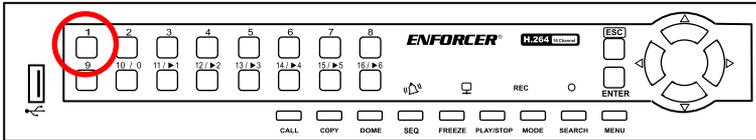
Configuring Mini PTZ Camera settings with an ENFORCER DR-1 Series DVR

Step 1



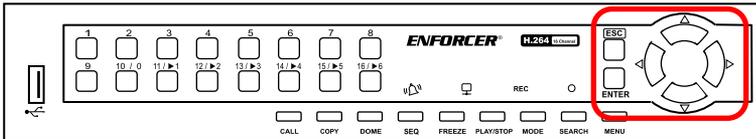
Press **Dome** on the DVR front panel to access DVR controls.

Step 2



Press **1** to access the DVR preset menu

Step 3



Use the **Up, Down, Left, Right, and Enter** buttons to make a selection.

Step 4

95			
1	2	3	BS
4	5	6	Set Preset
7	8	9	Go Preset
Exit	0	Clear	Run Tour

Go to **Preset 95** to access Mini PTZ OSD settings.
This will bring up the SPEED DOME CAMERA menu as shown on page 18.

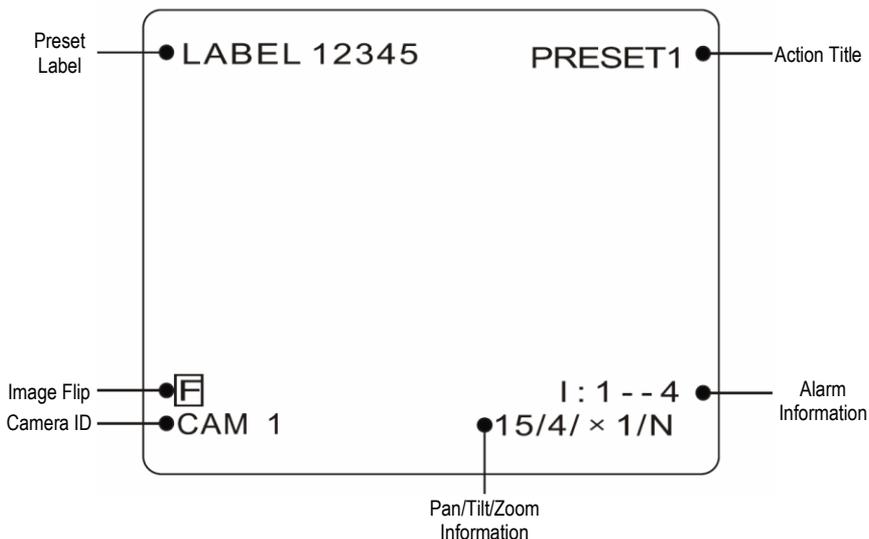
Reserved Presets

<Go Preset> [95]	:Enters into OSD menu
<Go Preset> [131~134]	:Runs Pattern Function 1~4
<Go Preset> [141~148]	:Runs Swing Function 1~8
<Go Preset> [151~158]	:Runs Group Function 1~8
<Go Preset> [170]	:Sets Camera BLC mode to OFF
<Go Preset> [171]	:Sets Camera BLC mode to ON
<Go Preset> [174]	:Sets Camera Focus mode to AUTO
<Go Preset> [175]	:Sets Camera Focus mode to MANUAL
<Go Preset> [176]	:Sets Camera Focus mode to SEMI-AUTO
<Go Preset> [177]	:Sets Day and Night mode to AUTO
<Go Preset> [178]	:Sets Day and Night mode to NIGHT
<Go Preset> [179]	:Sets Day and Night mode to DAY
<Go Preset> [190]	:Sets OSD Display mode to AUTO (Except Privacy Mask)
<Go Preset> [191]	:Sets OSD Display mode to OFF (Except Privacy Mask)
<Go Preset> [192]	:Sets OSD Display mode to ON (Except Privacy Mask)
<Go Preset> [193]	:Sets all Privacy Mask Display to OFF
<Go Preset> [194]	:Sets all Privacy Mask Display to ON

Configuration Defaults

Default Display Configuration		Default Camera Configuration	
Camera ID	ON	Focus Mode	SEMI-AUTO
PTZ Information	AUTO	Digital Zoom	ON
Action Title	AUTO	Line Lock	OFF
Preset Label	AUTO	White Balance	AUTO
Alarm Input	AUTO	Backlight	OFF
North Direction	Pan 0°	Day & Night	AUTO1
Privacy Zone	Undefined	Brightness	25
		Iris	AUTO
Default Motion Configuration		Shutter	ESC
Motion Lock	OFF	AGC	NORMAL
Power Up Action	ON	SSNR	MIDDLE
Auto Flip	ON	SENS-UP	AUTO (4 Frame)
Jog Max Speed	120° / sec	User Edit Data	
Jog Direction	INVERSE	Preset 1~94, 96~128	Undefined
Freeze In Preset	OFF	Swing 1~8	Undefined
Park Action	OFF	Pattern 1~4	Undefined
Alarm Action	OFF	Group 1~8	Undefined

OSD Display of Main Screen



OSD Main Screen

The OSD main screen shows information about the current situation of the camera while it is operating. This screen is NOT seen as part of the programming process.

Preset Label	The label of the specific preset.
Action Title	Will be one of the following: SET PRESET XXX When PRESET XXX is stored PRESET XXX When camera reaches PRESET XXX PATTERN X When PATTERN X is in action SWG X / PRESET XXX When SWING X is in action UNDEFINED When an undefined function is called
Image Flip	Shows that the image is currently flipped vertically by the Auto Flip function
Camera ID	Shows the current camera ID (address)
Alarm Information	<i>This function is reserved for future use</i>
P/T/Z Information	Current Pan/Tilt/Zoom information (4 information points): Pan angle in degrees Tilt angle in degrees Zoom level Compass direction Example: (15 / 4 / × 1 / N) means a Pan angle of 15 degrees, a Tilt angle of 4 degrees, Zoom (magnification) level of 1 (100%), and camera facing "North."

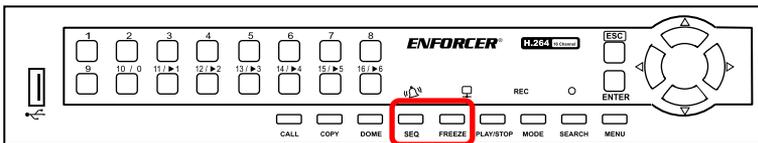
Operating the OSD Menu

For operating the OSD menus, please note the following:

- To access the OSD menu from your DVR, go to **Preset 95**. For more information on DVR presets and their functions for the ENFORCER Mini PTZ Camera, please see page 13, *Reserved Presets*.
- Most commands are done on PELCO-compatible DVRs using the front panel keys, including the up, down, right, and left arrows, or via a panel-mounted joystick. Such operations may also be possible using the DVR's remote control.
Note: For ENFORCER DR-1 DVRs, the operations are usually done using the DVR remote control.
- For many menu operations, the user must press the SEQ or FREEZE keys. For most DVRs, these are the keys for focus in (SEQ) and focus out (FREEZE), but may be marked with other words.

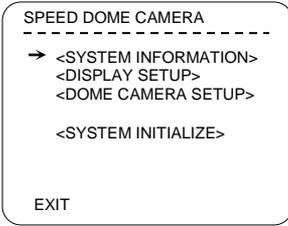
For ENFORCER DR-1 Series DVRs, the operations are done using:

- Menu items which have sub-menus are surrounded by "<" and ">" brackets (For example, <DISPLAY SETUP>).
- To enter a sub-menu, press the SEQ key.
- To go up one level, press the FREEZE key.
- To move from item to item in a menu, use the arrow keys or joystick to move up/down or left/right.
- To change the value of an item, use the arrow keys or joystick to move up/down or right/left.
- To save a value, press the SEQ key.
- To cancel a value or operation, press the FREEZE key.



SEQ and FREEZE keys

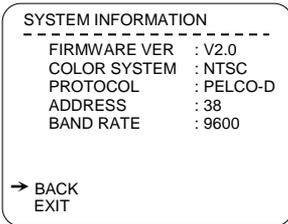
SPEED DOME CAMERA Menu



- <SYSTEM INFORMATION>: Displays system information and configuration (see menu on page 18).
- <DISPLAY SETUP>: Configures the display information shown on the OSD Main Screen as shown on page 16 (see menu on page 19).
- <DOME CAMERA SETUP>: Configures various functions of the camera (see menu on page 21).
- <SYSTEM INITIALIZE>: Initializes system configuration and sets all data to factory default configuration (see menu on page 31).

SYSTEM INFORMATION Menu

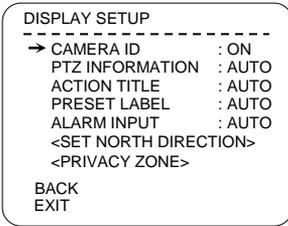
From SPEED DOME CAMERA



This menu shows the current configuration information as configured on page 8. No information can be programmed using this OSD menu.

DISPLAY SETUP Menu

From SPEED DOME CAMERA



This menu enables or disables the information shown on the OSD Main Screen (see page 14).

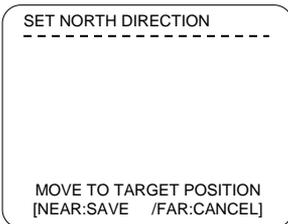
Note that setting an item to "AUTO" means that item will be displayed only when its value changes.

This menu accesses other OSD menus for configuring a specific pan direction of the camera as "NORTH" for certain functions, and for setting privacy zones.

CAMERA ID	[ON/OFF]
PTZ INFORMATION	[ON/OFF/AUTO]
ACTION TITLE	[ON/OFF/AUTO]
PRESET LABEL	[ON/OFF/AUTO]
ALARM INPUT	[AUTO] -- <i>This function is reserved for future use.</i>
<SET NORTH DIRECTION>	See OSD menu below.
<PRIVACY ZONE>	See OSD menu on page 20.

SET NORTH DIRECTION Menu

From DISPLAY SETUP

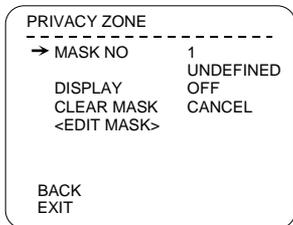


This menu sets a specific pan and tilt location as "compass north," or a certain location on which other functions are centered.

Using the arrow keys or joystick, point the camera towards the default location, and then select "NEAR" or "SAVE" to configure that location as "compass north."

PRIVACY ZONE Menu

From DISPLAY SETUP



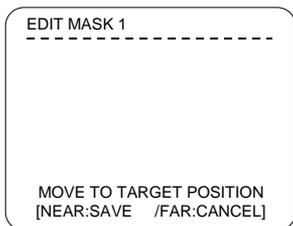
This menu configures an area of the camera's field of vision so that it is covered by a gray mask, hiding it. For instance, this would be used to cover a neighbor's window, or a sensitive window of the office.

Once configured, the gray mask automatically appears over that area every time the camera pans or tilts past it.

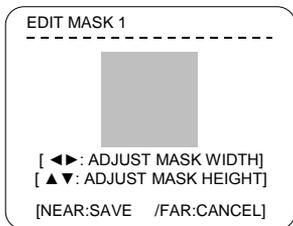
MASK NO	1~4. Select the mask number. If that mask was already configured, the camera will move to the where it was set. Otherwise, UNDEFINED will be displayed under MASK NO.
DISPLAY	[ON/OFF] Shows ON if the selected mask is active, shows OFF if that mask is not active.
CLEAR MASK	Deletes data in the selected mask.
<EDIT MASK>	See EDIT MASK menu below.

EDIT MASK Menu

From PRIVACY ZONE



Move the camera to the target area to be masked and choose NEAR or SAVE. The mask will be displayed as a gray square.

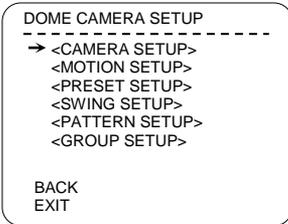


Once the mask is displayed:

- Center the camera on the object to be masked.
- Use the joystick or arrow keys to adjust the mask size.
- Select "NEAR" or "SAVE" to save the mask setting.

DOME CAMERA SETUP Menu

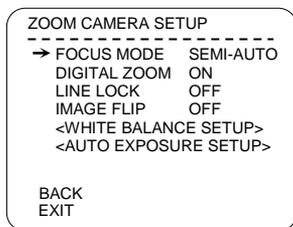
From SPEED DOME CAMERA



<CAMERA SETUP>	Goes to the ZOOM CAMERA SETUP menu for configuring many of the general functions of the zoom camera module. See page 22.
<MOTION SETUP>	Configures the general functions of the pan and tilt motions. See page 24
<PRESET SETUP>	Configures up to 127 different preset locations to which the camera can be instantly moved. See page 26.
<SWING SETUP>	Configures up to four different swing motions between two different preset locations. See page 28.
<PATTERN SETUP>	Configures up to four pan/tilt patterns, with each pattern consisting of a starting position, an ending position, and the complete pan/tilt/halt movement between those two points. See page 29.
<GROUP SETUP>	Configures up to eight groups of motions, with each group consisting of any combination of up to 20 presets, swings, patterns, and temporary halts in the action. See page 30.

ZOOM CAMERA SETUP Menu

From DOME CAMERA SETUP

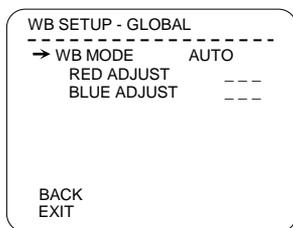


This menu configures many of the general functions of the zoom camera module.

FOCUS MODE	[AUTO / MANUAL / SEMI-AUTO] Sets the camera focus mode. "SEMI-AUTO" mode -- In this mode, the camera switches between the "manual focus mode" and "auto focus mode" depending on the current operation of the camera. When the camera moves to a PRESET location, the focus of the camera changes to the focus that was memorized when the PRESET was configured ("manual focus mode"). During jog operations, the camera switches to auto focus ("auto focus mode").
DIGITAL ZOOM	[ON / OFF] Sets the digital zoom function ON or OFF. If set to "OFF" the maximum zoom of the camera is the optical zoom. If set to "ON" the digital zoom operates when the optical zoom reaches its maximum setting.
LINE LOCK	[ON / OFF] If set to ON, the camera's line lock sync is synchronized with the AC power. This function might be used if multiple cameras attached to the same DVR interfere with each other.
IMAGE FLIP	[ON / OFF] When ON, the camera image flips up-side-down.
<WHITE BALANCE SETUP>	In the manual mode, the red and blue color levels can be configured manually. See below.
<AUTO EXPOSURE SETUP>	Configures a variety of lighting settings for the camera. See page 23.

WB SETUP Menu (White Balance)

From ZOOM CAMERA SETUP



This menu allows the red and blue color levels to be adjusted automatically or manually.

WB MODE	[AUTO / MANUAL] In the manual mode, the red and blue colors can be individually set.
RED ADJUST	[10-60]
BLUE ADJUST	[10-60]

AE SETUP Menu (Auto Exposure)

From ZOOM CAMERA SETUP

AE SETUP - GLOBAL	

→ BACKLIGHT	OFF
DAY/NIGHT	AUTO
BRIGHTNESS	25
IRIS	AUTO
SHUTTER	ESC
AGC	NORMAL
SSNR	MIDDLE
SENS-UP	AUTO
BACK	
EXIT	

BACKLIGHT	[ON / OFF] Sets the backlight compensation.
DAY/NIGHT	[AUTO1 / AUTO2DAY / NIGHT] AUTO1 flips between the day and night modes faster than AUTO2.
BRIGHTNESS	[0~100] Adjusts the brightness of the image. The IRIS, SHUTTER, and gain settings are all adjusted automatically as the BRIGHTNESS is adjusted.
IRIS	[AUTO / MANUAL (0~100)] If IRIS is set to AUTO, the IRIS of the camera is set automatically according to the SHUTTER, which should be manually set. If IRIS is set to MANUAL, the IRIS setting should be manually set while the SHUTTER is set to ESC or A.FLICKER.
SHUTTER	[ESC / A.FLICKER / MANUAL] (x1/60~1/120,000 sec.) If IRIS is set to MANUAL and SHUTTER is set to ESC (electronic shutter control), the SHUTTER is automatically set according to the IRIS setting. Set SHUTTER to A.FLICKER (flickerless) to automatically compensate for CFL light flicker. If interference from CFL light flicker persists, set the SHUTTER to 1/100-second for NTSC or 1/120-second for PAL systems. If SHUTTER is to be set manually, set IRIS to MANUAL.
AGC	[OFF / NORMAL / HIGH] AGC (auto gain control) enhances the camera image brightness automatically if the light level of the image is too low.
SSNR	[OFF / LOW / MIDDLE / HIGH] SSNR noise reduction enhances images by reducing signal noise when the gain level of the image is too high.
SENS-UP	[AUTO (2~128) / OFF] When set for AUTO, the SHUTTER is automatically adjusted so that multiple frames are combined into a single frame in low-light conditions. For instance, when set to "8" the images from eight frames are combined into one frame to increase the light level. However, this also creates "ghost" images.

MOTION SETUP Menu

From DOME CAMERA SETUP

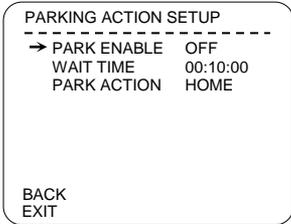
Configures the general functions of the pan and tilt motions.

MOTION SETUP	
→ MOTION LOCK	OFF
PWR UP ACTION	ON
AUTO FLIP	ON
JOG MAX SPEED	120/SEC
JOG DIRECTION	INVERSE
FRZ IN PRESET	OFF
<PARKING ACTION SETUP>	
<ALARM INPUT SETUP>	
BACK	
EXIT	

MOTION LOCK	[ON / OFF] If ON, the user is prevented from configuring or deleting PRESET, SWING, PATTERN, or GROUP settings. However, those settings can still be used during operations. If OFF, the user is allowed to configure or delete those settings using the OSD menu.
PWR UP ACTION	[ON / OFF] When ON, if power is unexpectedly cut to the camera and restored, the camera continues to operate the last action that was being performed before power was cut. This includes most PRESET, SWING, PATTERN, or GROUP actions.
AUTO FLIP	[ON / OFF] If ON, the image is automatically vertically flipped when the camera tilts below its center.
JOG MAX SPEED	(1°/sec.~360°/sec.) This sets the maximum jog speed, which is the pan and tilt speed of the camera when operated by the user. The jog speed is also automatically adjusted according to the camera's zoom. As the zoom level increases, the pan and tilt jog speed decrease.
JOG DIRECTION	[INVERSE / NORMAL] This determines whether the controls will be inverse or normal when operating the pan and tilt of the camera.
FRZ IN PRESET	[ON / OFF] If the Freeze in Preset function is turned ON, the on-screen camera image at the beginning of a PRESET action is frozen while the camera moves from the starting position to the ending position, as programmed by the user. If turned OFF, the on-screen camera image moves as the camera moves from the starting to ending position
<PARKING ACTION SETUP>	Determines what the camera will do if it receives no PTZ command during a preset time. See page 25.
<ALARM INPUT SETUP>	This is a reserved function, and is currently not available

PARKING ACTION SETUP Menu

From MOTION SETUP

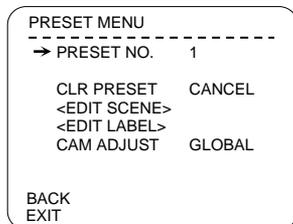


This menu sets what the camera will do if it receives no PTZ command during a preset time.

PARK ENABLE	[ON / OFF] If set to ON, the camera runs an assigned function automatically if there is no PTZ command during the configured "WAIT TIME."
WAIT TIME	[1 minute to 4 hours] The time the PTZ camera waits before running the assigned function can be set by the number of minutes. This time is displayed in the "hh:mm:ss" format
PARK ACTION	[HOME / PRESET / PATTERN / SWING / GROUP] <ul style="list-style-type: none"> • HOME — Camera moves to the "HOME" position • PRESET — Camera moves to the specified "PRESET" position • PATTERN — Camera performs the specified "PATTERN" action • GROUP — Camera performs the specified "GROUP" action <p>Note: The PRESET, PATTERN, or GROUP option requires the input of which position or action is to be done.</p>

PRESET MENU

From DOME CAMERA SETUP

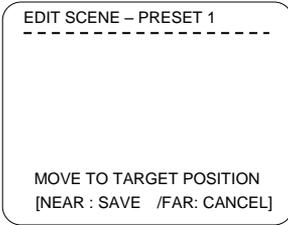


This menu configures up to 127 different preset locations to which the camera can be instantly moved.

PRESET NO.	[1-94, 96-128] If the PRESET number has already been defined, the camera immediately moves to the pre-set PRESET position and characteristics. If not, "UNDEFINED" is shown on the screen Note: If a PRESET position is already defined, the user can make changes by selecting that PRESET position number and then changing the SCENE, LABEL, and CAM ADJUST settings.
CLR PRESET	[CANCEL / ON] Choose "CANCEL" to delete the current PRESET data.
<EDIT SCENE>	Redefines the current PRESET scene position. See page 27
<EDIT LABEL>	Allows user to display a note about this preset position when the camera moves to the PRESET position, up to a maximum of 10 characters.
CAM ADJUST	[GLOBAL / LOCAL] This sets the WB (white balance) and AE (auto exposure) modes. "GLOBAL" mode means that the WB and AE settings for all PRESET positions are the same as configured in the WB SETUP menu under the ZOOM CAMERA SETUP menu (see page 22). "LOCAL" mode means that each PRESET position has its own WB and AE settings
NOTE: The <EDIT LABEL> and CAM ADJUST screens are not visible unless the <EDIT SCENE> function is selected.	

EDIT SCENE Menu

From PRESET MENU

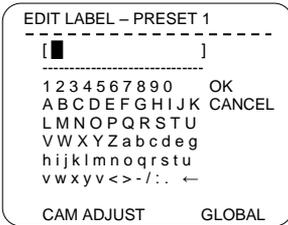


This menu redefines the current PRESET scene position.

1. Use the joystick or arrow keys to move the camera to the desired position.
2. Press the "NEAR" key to save the new camera position, or press the "FAR" key to cancel this position.

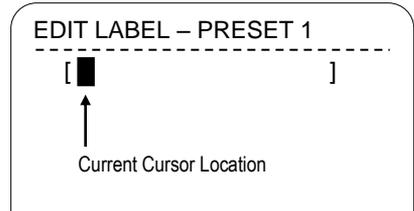
EDIT LABEL Menu

From PRESET MENU



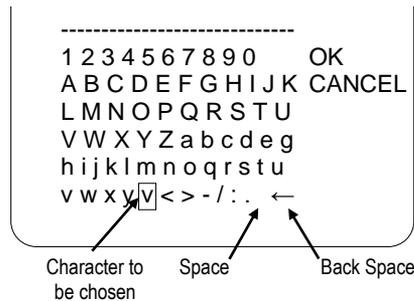
This menu allows the user to display a note about this PRESET position every time the camera moves to the position, up to a maximum of 10 characters.

1. The reverse-color rectangle serves as the cursor for the message, while a rectangle box shows the character to be chosen.



2. Using the joystick or the arrows, move the rectangular box to highlight the appropriate character. Press the "NEAR" key to add that character to the message.

Note: To delete a character, choose the back arrow.



3. Press the "NEAR" key to save the new label, or press the "FAR" key to cancel this label.

SWING SETUP Menu

From DOME CAMERA SETUP

```

SWING SETUP
-----
-> SWING NO.      1
   1ST POS.      NOT USED
   2ND POS.      NOT USED

   SWING SPEED   30/SEC
   CLEAR SWING   CANCEL

BACK
EXIT
    
```

This menu configures up to eight different swing motions back and forth between two different PRESET positions.

When the SWING function operates, the camera moves (pans and tilts) to the PRESET position that was set as the "1ST POS." and then moves clockwise to the PRESET position set as "2ND POS." At that point, the camera moves counterclockwise back to the "1ST POS." It then repeats that motion back and forth between the two PRESET positions until another command is inputted.

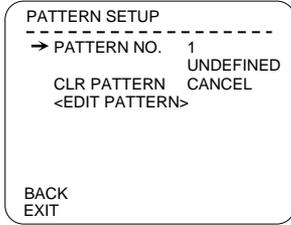
```

EDIT LABEL – PRESET 1
-----
SWING NO.      1
1ST POS.      PRESET 5
2ND POS.      NOT USED
               → UNDEFINED
    
```

SWING NO.	[1 ~ 8] Selects which SWING motion to edit. Choose 1 through 8. If a selected SWING motion has not been defined, "NOT USED" is displayed in the first and second positions for that motion
1ST POS.	[PRESET 1 ~ 94 or 96 ~ 128]
2ND POS.	[PRESET 1 ~ 94 or 96 ~ 128] Select the two PRESET positions between which the SWING motion will operate. NOTE -- If a selected PRESET was not previously defined via the OSD programming, "UNDEFINED" will be displayed.
SWING SPEED	Programs the speed at which the camera moves, between the two PRESET positions.
CLEAR SWING	[CANCEL / OK] Choose "OK" to delete the data in the selected SWING.

PATTERN SETUP Menu

From DOME CAMERA SETUP

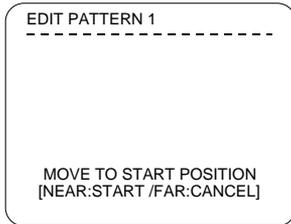


Configures up to four pan/tilt patterns, with each pattern consisting of a starting position, an ending position, and the complete pan/tilt/halt movement between those two points .

PATTERN NO	[1 ~ 4] Selects which PATTERN number to edit. If the selected PATTERN number has not yet been programmed, "UNDEFINED" will be displayed under the selected PATTERN number.
CLR PATTERN	[CANCEL / OK] Choose "OK" to delete the data in the selected PATTERN
<EDIT PATTERN>	Goes to the "EDIT PATTERN" menu. See below.

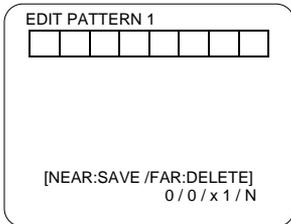
EDIT PATTERN Menu

From PATTERN SETUP



1. Use the joystick or arrow keys to move the camera view to the appropriate starting position for the pattern, and set the desired zoom.

To start the pattern recording, press the NEAR key. To exit this menu without saving the pattern, press the FAR key.



2. Use the joystick or arrow keys to move the camera along the desired path until the end. As the camera is moving, the path is being saved into its memory.

Note: While setting the PATTERN, any time the camera pauses will also be saved as part of the pattern.

The total memory size and available memory is displayed on the screen as a bar.

3. To save this pattern, press the NEAR key. To cancel the recording of the PRESET pattern, press the FAR key.

GROUP SETUP Menu

From DOME CAMERA SETUP

```

GROUP SETUP
-----
-> GROUP NO.      1  UNDEFINED
    CLEAR GROUP   CANCEL
    <EDIT GROUP>

BACK
EXIT
    
```

Configures up to eight groups of motions, with each group consisting of any combination of up to 20 actions, including PRESETS, SWINGS, PATTERNS, and temporary halts in the action.

GROUP NO	[1 ~ 4] Selects which GROUP number to edit. If the selected GROUP number has not yet been programmed, "UNDEFINED" will be displayed under the selected GROUP number
CLR GROUP	[CANCEL / OK] Choose "OK" to delete the data in the selected GROUP
<EDIT GROUP>	Goes to the "EDIT GROUP" menu. See below

1. Press the NEAR key on the "NO" line to start the GROUP setup.

```

EDIT GROUP 1
-----
-> NO ACTION  ### DWELL OPT
  1  NONE
  2  NONE
  3  NONE
  4  NONE
  5  NONE
-----
SAVE          [NEAR:EDIT]
CANCEL
    
```

2. Use the joystick or arrow keys to move up and down to select the number of the ACTION to configure. There are a maximum of 20 ACTIONS which can be done in each GROUP.

```

EDIT GROUP 1
-----
-> NO ACTION  ### DWELL OPT
  1  NONE
  2  NONE
  3  NONE
  4  NONE
  5  NONE
-----
SAVE          [NEAR:EDIT ACT]
CANCEL        [FAR : EDIT :END]
    
```

3. Set the ACTION, DWELL time, and OPT (option) for each action. The item ready for configuring is displayed in reverse text. Move the joystick/arrow cursor right and left to select items to configure, and then move the joystick/arrow cursor up and down to change the value of the ACTION.

```

EDIT GROUP 1
-----
-> NO ACTION  ### DWELL OPT
  1  NONE
  2  NONE
  3  NONE
  4  NONE
  5  NONE
-----
SAVE          [◀▶:MOVE CURSOR]
CANCEL        [▲▼:CHANGE VAL.]
    
```

ACTION ###	[NONE / PRESET / SWING / PATTERN]
DWELL	[0 seconds ~ 4 minutes] NOTE — DWELL configures how long the camera waits between each ACTION.
OPT	Option. If PRESET is selected as the ACTION, this will be the PRESET speed. If PATTERN or SWING is selected as the ACTION, set OPT for the number of times the PATTERN or SWING is repeated.

- Configure each ACTION, ###, DWELL, and OPT.

In the sample screen on the left, ACTION #1 is the command for the PTZ camera to go to PRESET #1 using the PRESET speed of 360 as programmed in the PRESET SETUP menu (see page 26), and stay at that position for 3 seconds before moving to the next action.

- After setting up an ACTION, use the NEAR key to move the cursor to the NO column, and then move the cursor up and down to select another ACTION to configure or modify.

- After setting up all the ACTIONS for this GROUP, press the FAR key to exit. At this point, the cursor will move to SAVE. Press the NEAR key to save the data.

```

EDIT GROUP 1
-----
NO ACTION  ### DWELL OPT
--  1  PRESET  1 00 : 03 : 360
   2  NONE
   3  NONE
   4  NONE
   5  NONE
-----
SAVE      [◀▶:MOVE CURSOR]
CANCEL   [▲▼:CHANGE VAL.]
    
```

```

EDIT GROUP 1
-----
NO ACTION  ### DWELL OPT
->  1  PRESET  1 00 : 03 : 360
   2  NONE
   3  NONE
   4  NONE
   5  NONE
-----
SAVE      [NEAR:EDIT ACT]
CANCEL   [FAR : EDIT :END]
    
```

```

EDIT GROUP 1
-----
NO ACTION  ### DWELL OPT
->  1  PRESET  1 00 : 03 : 360
   2  NONE
   3  NONE
   4  NONE
   5  NONE
-----
->SAVE
CANCEL
    
```

SYSTEM INITIALIZE Menu

From SPEED DOME CAMERA

This menu lets the user clear selected programmed data, clear all programmed data, or reboot the entire camera or system.

```

SYSTEM INITIALIZE
-----
-> CLEAR ALL DATA  NO
   CLR DISPLAY SET NO
   CLR CAMERA SET  NO
   CLR MOTION SET  NO
   CLR EDIT DATA  NO
   REBOOT CAMERA   NO
   REBOOT SYSTEM   NO
-----
SAVE
EXIT
    
```

CLEAR ALL DATA	Deletes all user-programmed data including DISPLAY SETUP, CAMERA SETUP, and MOTION SETUP.
• CLR DISPLAY SET	Clears the DISPLAY SETUP data and initializes the configuration of that data.
• CLR CAMERA SET	Clears the CAMERA SETUP data and initializes the configuration of that data.
• CLR MOTION SET	Clears the MOTION SETUP data and initializes the configuration of that data.
• CLR EDIT DATA	Deletes all PRESET SETUP data, SWING SETUP data, PATTERN SETUP data, and GROUP SETUP data.
REBOOT CAMERA	Reboots the zoom camera module.
REBOOT SYSTEM	Reboots the entire PTZ camera.

ENFORCER Mini PTZ Camera

Also Available from SECO-LARM:

**Ceiling
Bracket**



EV-7100CEILM

**Pole-Mounting
Bracket**



EV-7100POLEM

**Corner-Mounting
Bracket**



EV-7100CORNM

**Flush-Mount
Bracket**



EV-7100FLUSM

**DR-1 Series
Digital Video Recorder**



DR-116-1.0TQ

**Data
Distributor**



RD-304-D1Q

**RS-232 to RS-485
Converter**



EVA-RS1

**Passive
Video Balun**



EVT-PB1Q

**Passive
Video/Power/Data Balun**



EVT-PB1-31RQ

**AC Power
Supply**



EVP-1SA8P16UL

IMPORTANT

Users and installers of this product are responsible for ensuring that use of this product complies with all national, state, and local laws and statutes related to monitoring and recording audio and video signals. SECO-LARM will not be held responsible for the use of this product in violation of any current laws or statutes.

WARNING

Stop using the camera if you see a malfunction such as smoke or unusual heat, as it could cause fire or electric shock. Do not open the case of this device, as there are no user-serviceable components inside.

FCC COMPLIANCE STATEMENT

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

WARRANTY: This SECO-LARM product is warranted against defects in material and workmanship while used in normal service for a period of one (1) year from the date of sale to the original consumer customer. SECO-LARM's obligation is limited to the repair or replacement of any defective part if the unit is returned, transportation prepaid, to SECO-LARM. This Warranty is void if damage is caused by or attributed to acts of God, physical or electrical misuse or abuse, neglect, repair or alteration, improper or abnormal usage, or faulty installation, or if for any other reason SECO-LARM determines that such equipment is not operating properly as a result of causes other than defects in material and workmanship. The sole obligation of SECO-LARM, and the purchaser's exclusive remedy, shall be limited to replacement or repair only, at SECO-LARM's option. In no event shall SECO-LARM be liable for any special, collateral, incidental, or consequential personal or property damages of any kind to the purchaser or anyone else.

NOTICE

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