ENFORCER®

EV-7605-NYWQ (NTSC)
EV-7605-PYWQ (PAL)
Mini PTZ Camera

Manual

24VAC

- 12x Optical zoom and 16x digital zoom
- Up to 192x zoom
- Up to 360°/sec pan/tilt motion
- Outdoor or indoor use
- Up to 256 preset target views, each with its own characteristics such as white balance and auto exposure
- Up to 90° tilt, up to 180° with auto-flip

SECO-LARM® SLI

FC C€ RoHS

Table of Contents:

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 90 degrees, or auto-flip 180 degrees. It also features an optical zoom of up to 12x and a digital zoom of up to 16x, providing a clear view of the entire protected premises. The $1/4$" Interline Transfer CCD provides high-resolution, 600 TV Line images in light as low as 0.2 Lux for color use and 0.04 Lux for black and white use. A small size and a wide range of mounting brackets make the ENFORCER Mini PTZ Camera ideal for almost any installation.

The Mini PTZ Camera is controlled with a keyboard controller or a DVR that uses RS-485 for communicating between the devices.

Features and Functions:

Powerful and Flexible: The ENFORCER Mini PTZ Camera is equipped with a $1/4$” CCD, a powerful Day and Night function with mechanical ICR, up to 192x zoom (max. 12x optical zoom and 16x digital zoom), multiple focus modes, and other fully programmable features.

Pan/Tilt Functionality: The camera features 360° endless pan motion and 90° tilt. It can be programmed to automatically flip the image if it tilts under the unit. The pan/tilt function uses vector drive technology to quickly move 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 256 preset target views, each with its own characteristics such as zoom and lens angle
- Up to four patterns for moving the camera as if it were controlled by a joystick
- Up to eight privacy masks which can be increased or decreased in size to cover certain areas to protect privacy
- Frame scan between two preset positions
- Preset cruise for scanning between the first twenty presets

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.

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 15 to 250 seconds), the camera automatically moves to a pre-determined preset position or any pre-programmed pattern, frame scan, or other scan function.

Smart Power-Up: The camera automatically moves to a pre-determined preset position or any pre-programmed pattern, frame scan, or other scan function on power-up.

Window Blanking: Up to eight 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.

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.

Parts List:

1x Camera
1x Wall-mount bracket
1x Manual
1x Wire harness extension cord

4x Short screws (for attaching camera to bracket)
4x Long screws (for attaching bracket to wall)
4x Screw anchors

Specifications:

		EV-7605-NYWQ	EV-7605-PYWQ
Type		Mini PTZ Camera	
CCD		¼" Interline transfer	
Resolution		600TVL	
Video output format		NTSC	PAL
Effective pixels		768x494 pixels	752x582 pixels
SSNR (Noise Reduction)		Low, middle, high, off	
SSDR (Dynamic Range)		Off, on	
Day/Night		Auto, Color, B/W (ICR)	
OSD Control		RS-485	
Protocols		Pelco-D, Pelco-P (automatic)	
Scanning system		2:1 Interlace	
Sync		Internal/Line-Lock	
Video output		1.0Vp-p Composite video, 75Ω	
Lens		3.94~46.05mm	
Zoom		12x Optical / 16x Digital	
Minimum illumination		Color: 0.2 Lux / B/W: 0.04 Lux	
Gamma correction		Default	
S/N Ratio		52dB (AGC Off)	
DSS (Digital Slow Shutter)		x2~x512	
Shutter control		1/60~1/120,000 s	
Gain control		Off, Low, Middle, High, Manual	
White balance		ATW, AWC, Indoor, Outdoor, Manual	
Operating voltage		24VAC	
Power Consumption	Camera only	9W	
	Camera w/ fan	10W	
	Camera w/ fan and heater	20W	
IP Rating		IP66	
Operating temperature		-4°F~131°F (-20°C~55°C)	
Dimensions		$4^{13}/_{16}$"x7"x$4^{13}/_{16}$" (122x180x122 mm)	
Cable length		31.5" (80cm)	
Weight		42.3-oz (1.2kg)	

Pan/Tilt Settings:

Range	Pan	360°
	Tilt	180°
Pan/Tilt Speed	Preset	Up to 360°/s
	Manual	0.05~360°/s (proportional to zoom)
	Swing	1~180°/s
Presets		Max. 256 presets (Label, camera image setting)
Patterns		Max. 4 patterns

Dimensions:

Camera

Side   Bottom

6"
(152mm)

7"
(180mm)

4$^{13}/_{16}$"
(122mm)

Wall-Mount Bracket

Side   Bottom

3$^{1}/_{8}$"
(80mm)

4$^{11}/_{16}$"
(119mm)

6$^{1}/_{2}$"
(166mm)
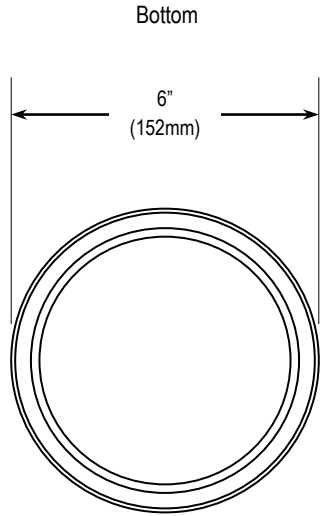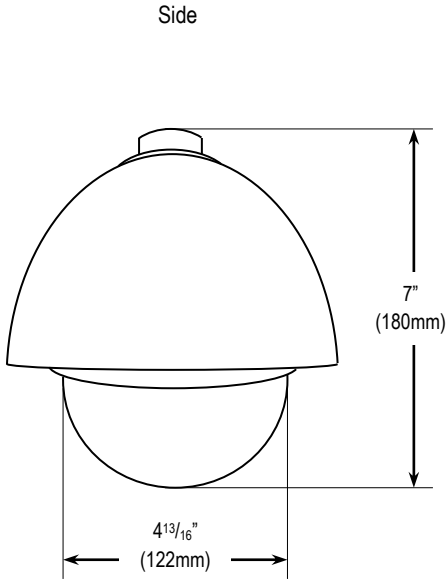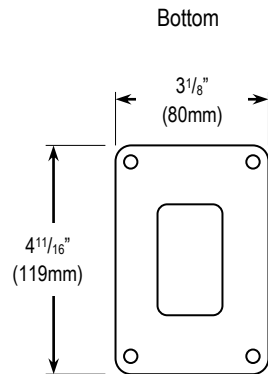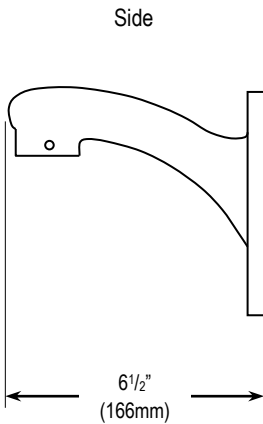
Safeguards and Precautions:

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 or the 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 damp (NOT WET) cloth. DO NOT USE chemical cleaners. DO NOT SCRATCH the dome, as this will affect the quality of the video image.

Overview:

Wall mount bracket

Camera

DIP Switches

Lens

Turn counterclockwise to remove

Dome
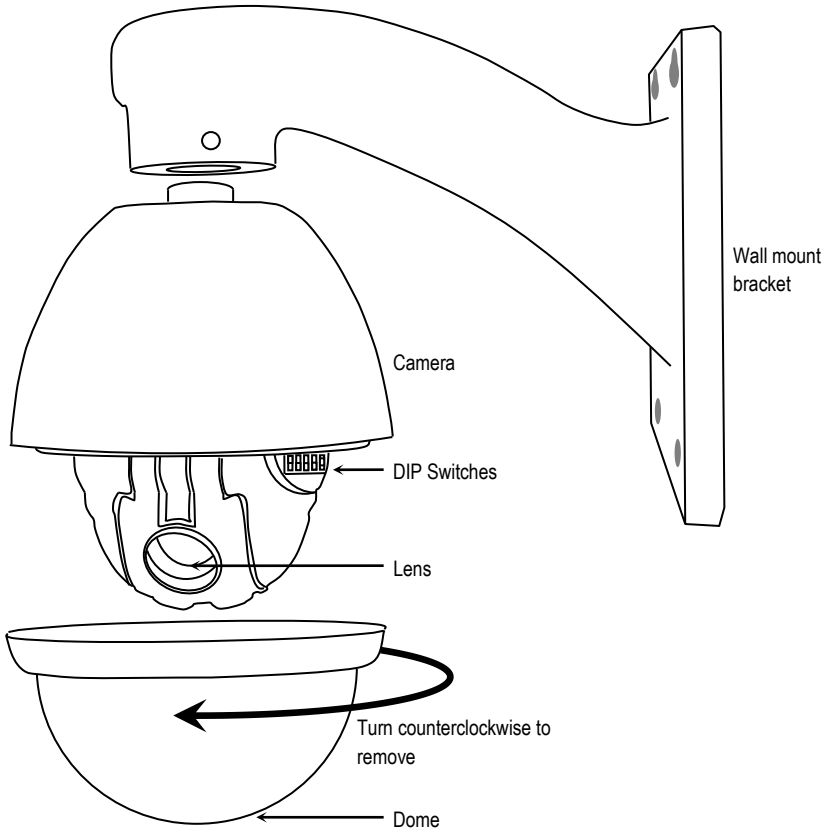
Camera Address DIP Switch and Communication Protocol Setup:

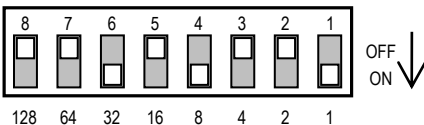Before the Mini PTZ Camera is installed, first set up the DIP switches to configure the camera address. The communication protocol is configured automatically by the camera.

1. Remove the clear dome of the Mini PTZ Camera by turning it counterclockwise by hand.
2. Look for the DIP switch block near the base of the black plastic dome that surrounds the camera. DO NOT REMOVE THE BLACK PLASTIC DOME.
3. Set the camera address (8-pin DIP switch):
   - The camera address is a number from 1 to 255. The factory default camera address is "1".
   - Do not use "0" as a camera address.
   - The address of a particular camera must match the address setting of the DVR or keyboard controller.
   - To get the camera address, add the total DIP switches that are in the ON position.
   - Example: If DIP switches 1, 4, and 6 are ON then the camera address is 1+8+32=41.

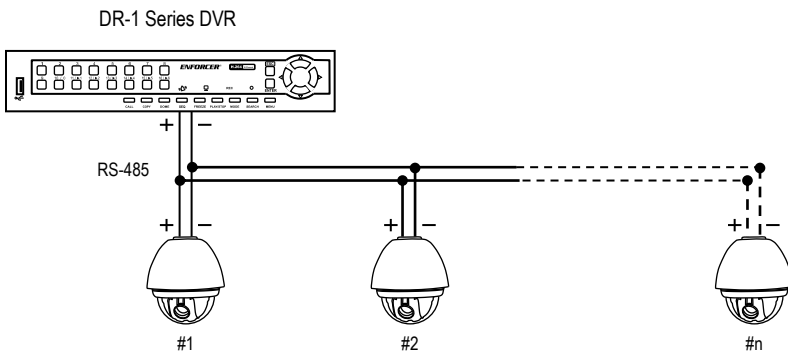|	8	7	6	5	4	3	2	1	
									OFF
									ON
Value	128	64	32	16	8	4	2	1	

Installation:

1. Connect the camera to either the included wall mount or another 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.
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 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 OSD (on-screen display) menus from the DVR or keyboard controller.
11. Do a final test of the video camera and monitor.

Basic Installation

24VAC Jack

Coaxial cable

RS-485 (+) (Purple)

RS-485 (-) (Yellow)
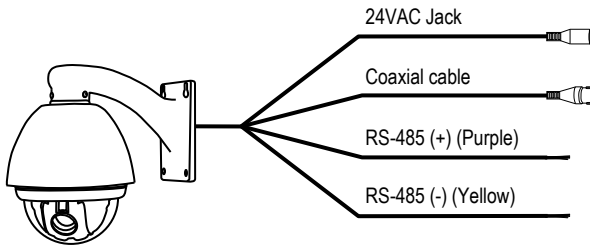
Multiple PTZ Camera Installation

DR-1 Series DVR

RS-485

#1   #2   #n

Pre-Operation Checklist:

Before operating the Mini 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 address on the controller is the same as the address of the target camera. The camera address can be found by looking at the camera address DIP switch settings (see page 7) or through the ADDR SETTING menu in the OSD (see page 17).
- ✓ The Pelco protocol setting of the controller and the camera must be identical. The Pelco protocol setting of the camera is automatically matched to the communication protocol of the controller or DVR.
- ✓ Make sure that the camera is rebooted after the camera address 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, frame scan, or preset cruise functions.
- Change certain configuration patterns.

Programming the patterns, frame scan, preset cruise, and a 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" button. 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" button to go to the DOME PRESET menu.
3. Use the UP, DOWN, LEFT, and RIGHT buttons to highlight your selection and press 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. Navigate to YES, and then press the ENTER button.

See page 12 for a list of preset functions.

Configuring Mini PTZ Camera with Enforcer DR-1 Series DVR:

Step 1
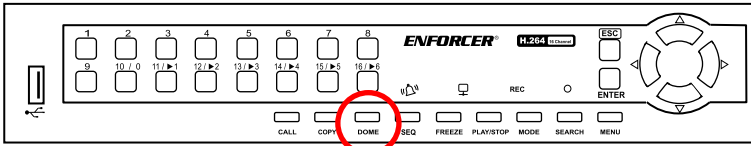
Press **Dome** on the DVR front panel to access DVR controls.

Step 2
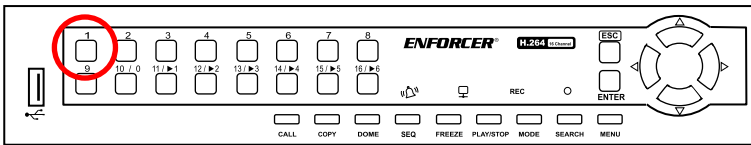
Press **1** to access the DVR preset menu.

Step 3
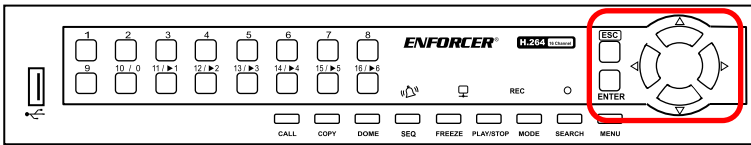
Use the **Up**, **Down**, **Left**, **Right**, and **Enter** buttons to make a selection.

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> [82]	Start Frame Scan function
<Go Preset> [83]	Clear all Presets
<Go Preset> [84~87]	Run Pattern function 1~4
<Go Preset> [88]	Run Preset 1~10 Cruise function
<Go Preset> [89]	Run Preset 11~20 Cruise function
<Go Preset> [90]	Run Preset 21~30 Cruise function
<Go Preset> [91]	Run Preset 31~40 Cruise function
<Go Preset> [92]	Run 360° Random Interval Scan function
<Go Preset> [95]	Enter into OSD menus
<Go Preset> [98]	Run 360° Continuous Scan function
<Go Preset> [99]	Run Preset Cruise function

Configuration Defaults:

Default Display Configuration		Default Camera Configuration	
Preset Label	ON	SSDR	ON
Zoom	ON	White Balance	ATW
P/T Deg	ON	Backlight	OFF
Camera Title	OFF	Motion Detect	OFF
Camera ID	OFF	Focus Mode	AUTO
Camera Info	OFF	Digital Zoom	OFF
Motion Alarm	OFF	Brightness	50
Zoom Mag	OFF	Iris	AUTO
Default Motion Configuration		AGC	HIGH
Power Up	NONE	SSNR3	ON
Park Time	15s	SENS-UP	AUTO
Park Action	NONE	Day/Night	AUTO
Dome Speed	4		
User Edit Data			
Preset 1~81, 100~256	UNDEFINED		
Frame Scan	UNDEFINED		
Pattern 1~4	UNDEFINED		

OSD Display:

Camera Title   Action Title

CAMERA TITLE   PRESET 1

0/42   x1

Pan/Tilt Information   Zoom Information
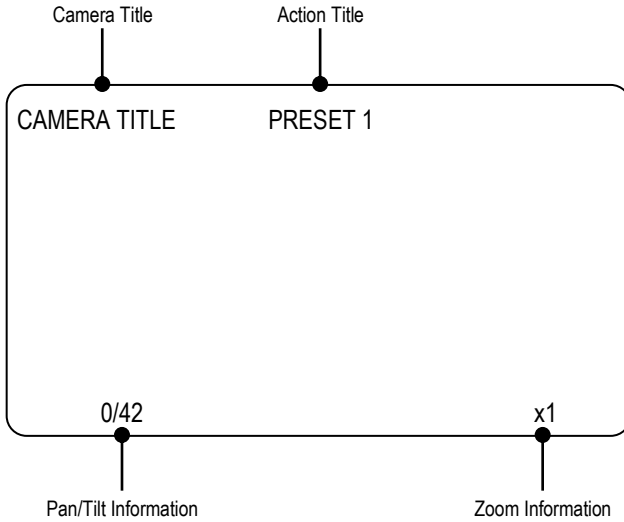
Operating the OSD Menus:

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 11, *Reserved Presets*.
- Most commands are done on PELCO-compatible DVRs using the front panel buttons, including up, down, right, and left arrows, or via a panel-mounted joystick. Such operations may also be possible using the DVR's remote control.
- For many menu operations, the user must press the MODE or PLAY/STOP buttons. For most DVRs, these are the buttons for iris open (MODE) and iris close (PLAY/STOP), but may be marked with other words.
- For ENFORCER DR-1 Series DVRs, the operations are done as follows:
  - To navigate the menus, press the UP/DOWN/LEFT/RIGHT buttons.
  - To enter a sub-menu (except for the CAMERA sub-menu), press the MODE or RIGHT buttons.
  - To enter a sub-menu in the CAMERA sub-menu, press the MODE button.
  - To exit all menus (except for the CAMERA sub-menu), press the PLAY/STOP button.
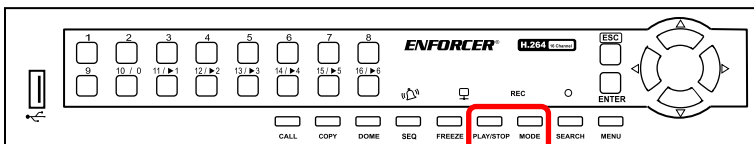
PLAY/STOP and MODE

Menu Diagram:

(see pg. 17)

SETUP MENU	SETTING	SETTING OPTIONS
SYSTEM INFORMATION (see pg. 18)	COM	
	ADDRESS	
	SOFTWARE VERSION	
ADDR SETTING (see pg. 18)	ADDR TYPE	HARD / SOFT
	ADDR SOFT	1~255
	ADDR HARD	
MOTION (see pg. 19~20)	FRAME SCAN	SET SCAN POSITION
		CLEAR FRAME SCAN
		FRAME SCAN SPEED: 1~32
	POWER UP	NONE / AUTO SCAN / RANDOM SCAN / FRAME SCAN / PRESET 1 / PRESET 8 / PATTERN 1 / PATTERN 2 / PATTERN 3 / PATTERN 4 / CRUISE
	PARK TIME	15~250S
	PARK ACTION	NONE / AUTO SCAN / RANDOM SCAN / FRAME SCAN / PRESET 1 / PRESET 8 / PATTERN 1 / PATTERN 2 / PATTERN 3 / PATTERN 4 / CRUISE / REPEAT LAST
	DOME SPEED	1~8
PATTERN (see pg. 20)	PATTERN NUMBER	1~4
	PROGRAM PATTERN	
	CLEAR CURRENT PATTERN	
	CLEAR ALL PATTERNS	
CAMERA	SSDR	ON: SSDR: 1~15 D-RANGE: NARROW / WIDE
		OFF
	WHITE BALANCE	ATW
		MANUAL: RED: 0~1023 BLUE: 0~1023
		AWC→SET
		OUTDOOR
		INDOOR
	BACKLIGHT	OFF

		BLC: LEVEL: LOW / MIDDLE / HIGH
		       TOP: 0~68
		       BOTTOM: 32~100
		       LEFT: 0~70
		       RIGHT: 30~100

		HLC: LEVEL: LOW / MIDDLE / HIGH MASK TONE: 0~15

Menu Diagram:

SETUP MENU	SETTING	SETTING OPTIONS
CAMERA – MOTION DETECT	OFF	
	ON	AREA SELECT: AREA1~AREA8
		AREA MODE:　ON:　TOP: 1~26 　　　　　　　　　　BOTTOM: 5~30 　　　　　　　　　　LEFT: 1~44 　　　　　　　　　　RIGHT: 5~48 　　　　　　　　OFF
		SENSITIVITY: LOW / HIGH
		SMART ZOOM:　OFF 　　　　　　　　ON: START ZOOM: x1~x12 　　　　　　　　　　TARGET ZOOM: x1~x12 　　　　　　　　　　DWELL TIME: 5~60 SEC
CAMERA – FOCUS	MODE	AUTO: TELE / WIDE
		ONE-PUSH: TELE / WIDE / NEAR / FAR
		MANUAL: TELE / WIDE / NEAR / FAR
	ZOOM TRACK	AUTO TRACK / TRACK / OFF
	ZOOM SPEED	SLOW / MEDIUM / FAST
	D-ZOOM	OFF
		ON: LIMIT: x2~x16
	ZOOM POS INIT	OFF
		AUTO
		MANUAL: POS INIT: x1~x12
	USER PRESET	OFF
		ON: PRESET NO: 1~128: TELE / WIDE / NEAR / FAR 　　PRESET SAVE 　　PRESET CLEAR
	LENS INIT	MANUAL
		AUTO: DAY: 1~7
CAMERA – EXPOSURE	BRIGHTNESS	1~100
	IRIS	AUTO
		MANUAL: IRIS F-NO: F1.6~F28, CLOSE
	SHUTTER	$---$
		MANUAL: MANUAL: 1/60~1/120,000, x512~x2
		A. FLK
		ESC
	AGC	OFF
		LOW
		MEDIUM
		HIGH
		MANUAL: AGC VAL: 5dB~41dB
	SSNR3	OFF
		ON: LEVEL: 1~32
		$---$
	SENS-UP	OFF
		AUTO: LIMIT: x2~x512
		$---$

Menu Diagram:

SETUP MENU	SETTING	SETTING OPTIONS
CAMERA – SPECIAL	DAY/NIGHT	AUTO: DWELL TIME: 5~60 SEC DURATION: SLOW / FAST
		EXT
		COLOR: BURST LEVEL: 0~100
		B/W: BURST MODE: ON / OFF
	DIS	OFF / ON
	SYNC	INT
	IMAGE ADJ	H-REV: OFF / ON
		V-REV: OFF / ON
		SHARPNESS: ON: LEVEL: 1~31 OFF
	MONITOR	CRT: PED LEVEL: 0~70 COLOR LEVEL: 1~100

		LCD: GAMMA: 0.20~1.0
		     PED LEVEL: 0~70
		     COLOR LEVEL: 1~100

		USER: GAMMA: 0.20~1.0
		      PED LEVEL: 0~70
		      COLOR LEVEL: 1~100

	DISPLAY	CAM TITLE: OFF ON: Select camera title
		CAM ID: OFF / ON
		CAM INFO: OFF / ON
		MOTION ALARM: OFF / ON
		ZOOM MAG: OFF / ON
		OSD COLOR: WHITE / YELLOW / GREEN / RED / BLUE
		LANGUAGE: ENGLISH / KOREAN / JAPENESE / SPANISH / FRENCH / PORTUGUESE
CRUISE SETTING	DWELL TIME	5~250 seconds
	PRESET (1~20)	ON / OFF
PASSWORD	ENABLE PASSWORD	OFF / ON
	EDIT PASSWORD	Modify password for OSD access
DISPLAY SETUP	PRESET LABEL	ON / OFF
	ZOOM	ON / OFF
	P/T DEG	ON / OFF
WINDOWS BLANKING	WINDOW NUMBER	1~8
	EDIT WINDOW LOCATION	Edit size and location of privacy window
	ENABLE WINDOW	OFF / ON
	CLEAR WINDOW	Clear selected privacy window
ALARMS SETTING	ALARM ACT (1~4)	Reserved for future use
PRESET LABEL	PRESET	1~79
	SET PRESET LABEL	Set selected preset label
	CLEAR PRESET LABEL	Clear selected preset label
RESTORE FACTORY DEFAULT	Restores factory defaults (except CAMERA section)	
REBOOT SYSTEM	Reboot and go through start-up features	
EXIT	Exit menu and save settings	

SYSTEM INFORMATION Menu:

From MAIN MENU

This menu shows the current configuration information of the Mini PTZ Camera. No information can be programmed using this OSD menu.

- COM: Displays current serial baud rate, parity, data bits, and stopped position of the camera.
- ADDRESS: Displays the currently set address.
- SOFTWARE VERSION: Displays the software version.
- BACK: Return to previous menu.
- EXIT: Exit OSD menus.

```
    SYSTEM INFORMATION
   COM       9600, N, 8, 1
   ADDRESS              6
   SOFTWARE VERSION V5.3.2
 → BACK
   EXIT
```

ADDR SETTING Menu:

From MAIN MENU

This menu allows for setting the address via the DIP switches or via the Mini PTZ software.

- ADDR TYPE: Set the address type.
  - HARD: Set via hardware DIP switches.
  - SOFT: Set via software.
- ADDR SOFT: Set the soft address.
  - 1~255
- ADDR TYPE: Display the current DIP switch address.
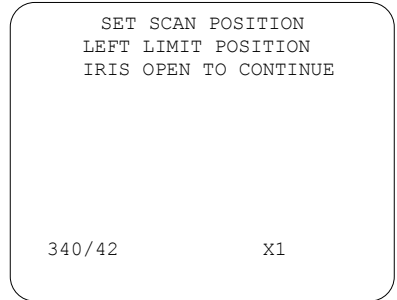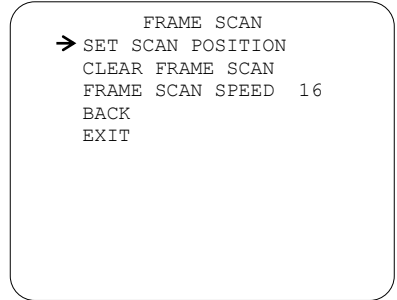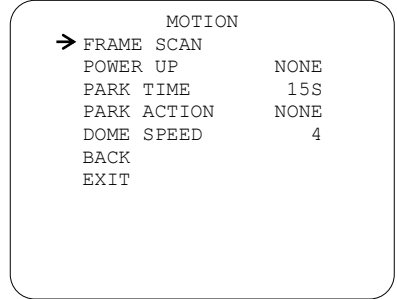- BACK: Return to previous menu.
- EXIT: Exit OSD menus.

```
     ADDR SETTING
 → ADDR TYPE       HARD
   ADDR SOFT          1
   ADDR HARD          1
   BACK
   EXIT
```

MOTION Menu:

From MAIN MENU

This menu allows for setting different Mini PTZ movement options such as frame scan, power up operation, and park action.

↵ FRAME SCAN: The camera will pan between two positions at a given angle.

   ↵ SET SCAN POSITION: Set left and right frame scan positions.

   ↵ CLEAR FRAME SCAN: Clear the frame scan positions.

   – FRAME SCAN SPEED: Set the frame scan speed.
     ▪ 1~32

   – BACK: Return to previous menu.

   – EXIT: Exit OSD menus.

• POWER UP: The camera will perform one of the below actions.

   – NONE: No action.

   – AUTO SCAN: Continuous clockwise scan at given tilt and zoom.

   – RANDOM SCAN: Intermittent clockwise scan at given tilt and zoom.

   – FRAME SCAN: Continuous scan between two positions.

   – PRESET 1: Move to the Preset 1 position.

   – PRESET 8: Move to the Preset 8 position.

   – PATTERN 1: Perform the Pattern 1 action.

   – PATTERN 2: Perform the Pattern 2 action.

   – PATTERN 3: Perform the Pattern 3 action.

   – PATTERN 4: Perform the Pattern 4 action.

   – CRUISE: Perform the Cruise action between Presets 1 through 20.

```
        MOTION
→ FRAME SCAN
  POWER UP        NONE
  PARK TIME        15S
  PARK ACTION     NONE
  DOME SPEED         4
  BACK
  EXIT
```

```
      FRAME SCAN
→ SET SCAN POSITION
  CLEAR FRAME SCAN
  FRAME SCAN SPEED  16
  BACK
  EXIT
```

```
   SET SCAN POSITION
  LEFT LIMIT POSITION
  IRIS OPEN TO CONTINUE




  340/42          X1
```

MOTION Menu, continued:

- PARK TIME: Idle time required before Park Action.
  - 15~250 seconds
- PARK ACTION: The camera will perform one of the below actions.
  - NONE: No action.
  - AUTO SCAN: Continuous clockwise scan at given tilt and zoom.
  - RANDOM SCAN: Intermittent clockwise scan at given tilt and zoom.
  - FRAME SCAN: Continuous scan between two positions.
  - PRESET 1: Move to the Preset 1 position.
  - PRESET 8: Move to the Preset 8 position.
  - PATTERN 1: Perform the Pattern 1 action.
  - PATTERN 2: Perform the Pattern 2 action.
  - PATTERN 3: Perform the Pattern 3 action.
  - PATTERN 4: Perform the Pattern 4 action.
  - CRUISE: Perform the Cruise action between Presets 1 through 20.
  - REPEAT LAST: Repeat the last action.
- DOME SPEED: Speed at which the Power Up Action and Park Action will move.
  - 1~8
- BACK: Return to previous menu.
- EXIT: Exit OSD menus.

PATTERN Menu:

From MAIN MENU

This menu allows for programming up to 4 unique patterns each with up to 100 actions including pan, tilt, and zoom actions.

- PATTERN NUMBER: Choose which pattern to set.
  - 1~4
- PROGRAM PATTERN: Program the chosen pattern with up to 100 actions including pan tilt and zoom.
- CLEAR CURRENT PATTERN: Clear the chosen pattern.
- CLEAR ALL PATTERNS: Clear all patterns.
- BACK: Return to previous menu.
- EXIT: Exit OSD menus.

```
            PATTERNS
➔ PATTERN NUMBER     1
  PROGRAM PATTERN
  CLEAR CURRENT PATTERN
  CLEAR ALL PATTERNS
  BACK
  EXIT
```

```
    PROGRAM PATTERN
  MOVE THE CAMERA TO THE
  STARTING POSITION
  IRIS OPEN TO CONTINUE




  340/42          X1
```
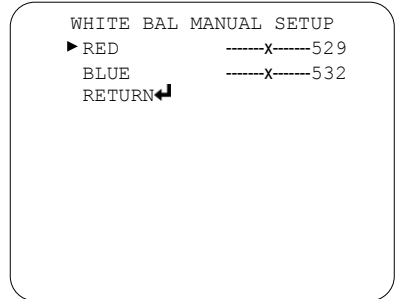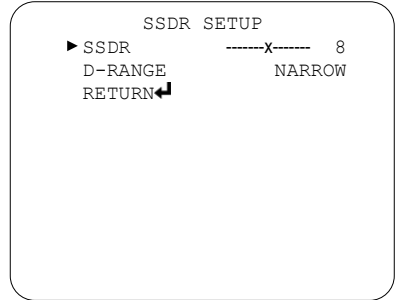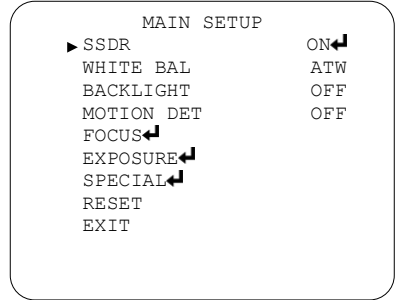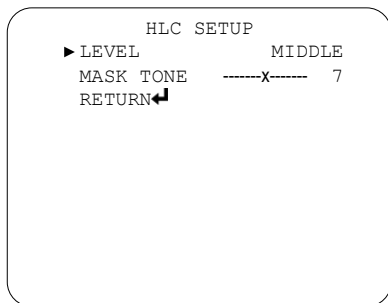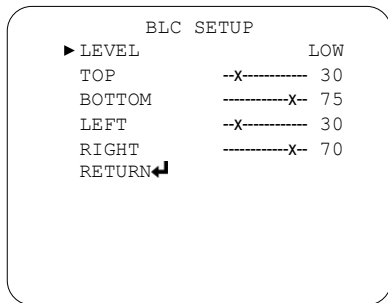
CAMERA Menu:

From MAIN MENU

This menu allows for setting different camera options such as SSDR, white balance, backlight, motion detection, and exposure settings. Use the MODE (IRIS OPEN) key to enter submenus in this menu.

- SSDR: Set dynamic range on or off.
  - ↵ ON: Turns SSDR on and enters SSDR sub-menu.
    - SSDR
      - o 1~15
    - D-RANGE
      - o NARROW: Set for low light level.
      - o WIDE: Set for high light level.
    - RETURN ↵: Return to the previous camera menu.
  - – OFF
- WHITE BAL: Adjust the color temperature and image color.
  - – ATW: Set Automatic Tracking White Balance on.
  - ↵ MANUAL: Manually set the white balance.
    - RED: Set the red gain.
      - o 0~1023
    - BLUE: Set the blue gain.
      - o 0~1023
    - RETURN ↵: Return to the previous camera menu.
  - – AWC→SET: Press Iris Open when the camera is focused on a plain white sheet of paper.
  - – OUTDOOR: Set the white balance for an outdoor environment.
  - – INDOOR: Set the white balance for an indoor environment.

```
        MAIN SETUP
 ► SSDR               ON↵
   WHITE BAL          ATW
   BACKLIGHT          OFF
   MOTION DET         OFF
   FOCUS↵
   EXPOSURE↵
   SPECIAL↵
   RESET
   EXIT
```

```
        SSDR SETUP
 ► SSDR        -------X-------  8
   D-RANGE           NARROW
   RETURN↵
```

```
 WHITE BAL MANUAL SETUP
 ► RED         -------X-------529
   BLUE        -------X-------532
   RETURN↵
```

CAMERA Menu, continued:

- BACKLIGHT: Choose either Back Light Compensation or High Light Compensation.
  - OFF: Turn BLC and HLC off.
  - BLC: Select an area to view clearly, even with a strong backlight.
    - LEVEL
      - o LOW
      - o MIDDLE
      - o HIGH
    - TOP
      - o 0~68
    - BOTTOM
      - o 32~100
    - LEFT
      - o 0~70
    - RIGHT
      - o 30~100
    - RETURN ↵: Return to the previous camera menu.
  - HLC: Improve the clarity of the picture by blocking a strong backlight.
    - LEVEL
      - o LOW
      - o MIDDLE
      - o HIGH
    - MASK TONE: Adjust the color tone.
      - o 0~15
    - RETURN ↵

```
          BLC SETUP
  ► LEVEL             LOW
    TOP      --X------------ 30
    BOTTOM   ------------X-- 75
    LEFT     --X------------ 30
    RIGHT    ------------X-- 70
    RETURN↵
```

```
          HLC SETUP
  ► LEVEL           MIDDLE
    MASK TONE  -------X-------  7
    RETURN↵
```

- MOTION DET: Set motion detection options such as Area, Sensitivity, and Smart Zoom. See page 22 for more information.
- FOCUS: Set focus options. See page 23 for more information.
- EXPOSURE: Set exposure options such as Brightness, Iris, Shutter, and AGC. See page 24 for more information.
- SPECIAL: Set special options such as Day/Night and Image Reverse. See page 25~26 for more information.
- RESET: Reset the Camera OSD settings to factory default.
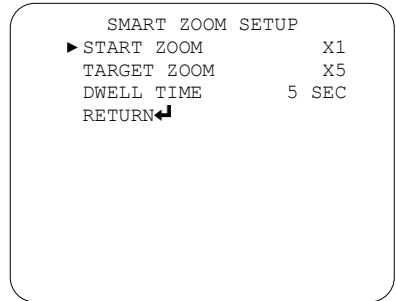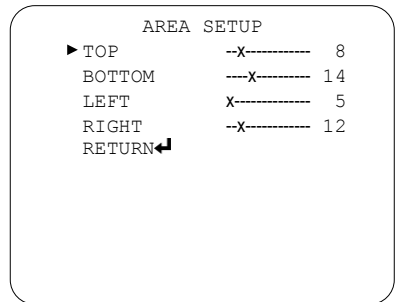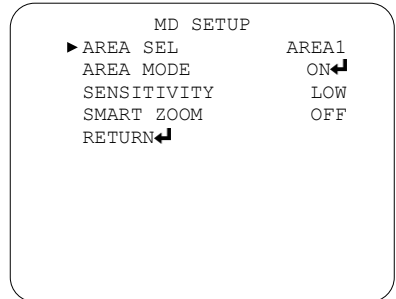- EXIT: Exit OSD menus.

MOTION DET Submenu:

From Camera Menu

This menu allows for setting motion detection options such as area, sensitivity, and smart zoom. Use the MODE (IRIS OPEN) key to enter submenus in this menu.

- AREA SEL: Select one of up to eight motion detection areas.
  - AREA1~AREA8
- AREA MODE: Turn on or off motion detection for each selected area.
  - ON
    - TOP
      - 1~26
    - BOTTOM
      - 5~30
    - LEFT
      - 1~44
    - RIGHT
      - 5~48
  - OFF
- SENSITIVITY: Set the motion detection sensitivity.
  - LOW
  - HIGH
- SMART ZOOM: Set if the Mini PTZ will zoom in to the selected area when motion is detected.
  - OFF
  - ON
    - START ZOOM
      - x1~x12
    - TARGET ZOOM
      - x1~x12
    - DWELL TIME
      - 5~60 SEC
- RETURN ↵: Return to the previous camera menu.

```
          MD SETUP
 ► AREA SEL        AREA1
   AREA MODE       ON↵
   SENSITIVITY     LOW
   SMART ZOOM      OFF
   RETURN↵
```

```
          AREA SETUP
 ► TOP        --x----------  8
   BOTTOM     ----x--------- 14
   LEFT       x-------------  5
   RIGHT      --x----------- 12
   RETURN↵
```

```
      SMART ZOOM SETUP
 ► START ZOOM        X1
   TARGET ZOOM       X5
   DWELL TIME     5 SEC
   RETURN↵
```
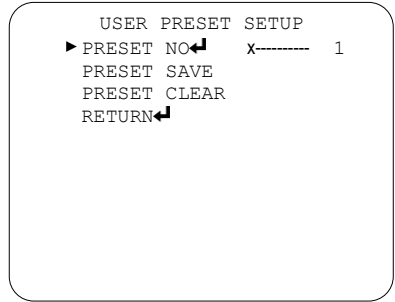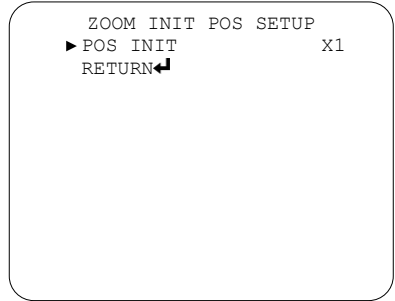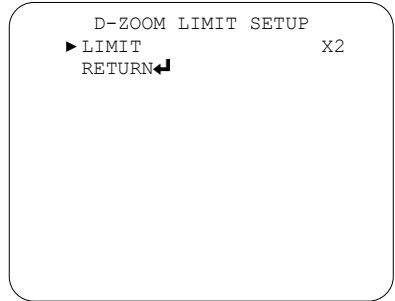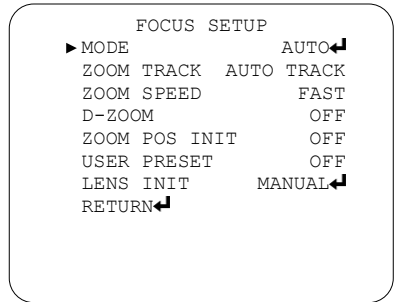
FOCUS Submenu:

From Camera Menu

This menu allows for setting focus options such as zoom speed, digital zoom, and user presets. Use the MODE (IRIS OPEN) key to enter submenus in this menu.

- MODE: Set the camera focus mode.
    - ↵ AUTO: Set the focus automatically.
        - TELE / WIDE
    - ↵ ONE-PUSH: Set the focus as the center of the image.
        - TELE / WIDE / NEAR / FAR
    - ↵ MANUAL: Set the focus manually.
        - TELE / WIDE / NEAR / FAR
- ZOOM TRACK: Set the focus to follow the zoom.
    - AUTO TRACK
    - TRACK
    - OFF
- ZOOM SPEED: Adjust the zoom speed.
    - SLOW
    - MEDIUM
    - FAST
- D-ZOOM: Set digital zoom on or off.
    - OFF
    - ↵ ON
        - LIMIT
            - x2~x16
- ZOOM POS INIT: Set the initial zoom position.
    - OFF
    - AUTO
    - ↵ MANUAL
        - POS INIT
            - x1~x12
- USER PRESET: Set the focus for individual presets.
    - OFF
    - ↵ ON
        - PRESET NO
            - 1~128
                - TELE / WIDE / NEAR / FAR
- LENS INIT: Set the lens to self-check on power-up.
    - MANUAL
    - ↵ AUTO
        - DAY
            - 1~7
- RETURN ↵: Return to the previous camera menu.

```
        FOCUS SETUP
 ▶ MODE             AUTO↵
   ZOOM TRACK  AUTO TRACK
   ZOOM SPEED       FAST
   D-ZOOM            OFF
   ZOOM POS INIT     OFF
   USER PRESET       OFF
   LENS INIT     MANUAL↵
   RETURN↵
```

```
    D-ZOOM LIMIT SETUP
 ▶ LIMIT              X2
   RETURN↵
```

```
   ZOOM INIT POS SETUP
 ▶ POS INIT           X1
   RETURN↵
```

```
    USER PRESET SETUP
 ▶ PRESET NO↵   x---------  1
   PRESET SAVE
   PRESET CLEAR
   RETURN↵
```

EXPOSURE Submenu:

From Camera Menu

This menu allows for setting exposure options such as brightness, auto iris, shutter speed, AGC, and sens-up. Use the MODE (IRIS OPEN) key to enter submenus in this menu.

- BRIGHTNESS: Adjust the brightness of the image.
  - 1~100
- IRIS: Set the iris control.
  - AUTO
  - MANUAL
    - IRIS F-NO
      - F1.6~F28, CLOSE
- SHUTTER[1]: Set the shutter control.
  - _ _ _
  - MANUAL
    - MANUAL
      - 1/60~1/120,000, x512~x2
  - A.FLK
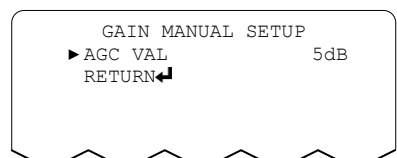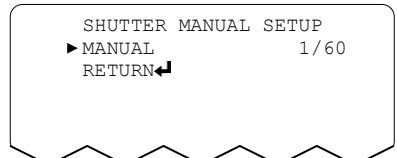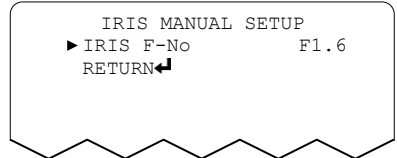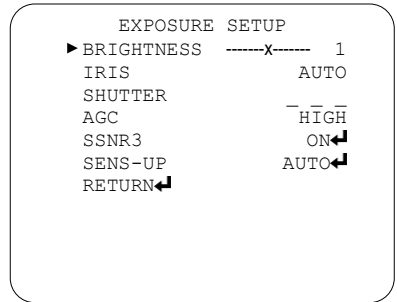- AGC[2]: Adjust the automatic gain control.
  - OFF
  - LOW
  - MEDIUM
  - HIGH
  - MANUAL
    - AGC VAL
      - 5dB~41dB
- SSNR3: Adjust the noise reduction level.
  - OFF
  - ON
    - LEVEL
      - 1~32
- SENS-UP: Adjust the digital slow shutter level.
  - OFF
  - AUTO
    - LIMIT
      - x2~x512
- RETURN ↵: Return to the previous camera menu.
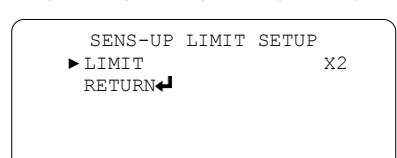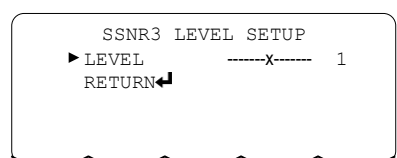
[1] If SHUTTER set to MANUAL or A.FLK then SENS-UP is preset to OFF.
[2] If AGC is set to OFF or MANUAL then SSNR3 and SENS-UP are preset at OFF.

```
        EXPOSURE SETUP
 ►BRIGHTNESS ------x-------  1
  IRIS                AUTO
  SHUTTER              _ _ _
  AGC                  HIGH
  SSNR3                  ON↵
  SENS-UP             AUTO↵
  RETURN↵
```

```
     IRIS MANUAL SETUP
 ►IRIS F-No       F1.6
  RETURN↵
```

```
   SHUTTER MANUAL SETUP
 ►MANUAL          1/60
  RETURN↵
```

```
    GAIN MANUAL SETUP
 ►AGC VAL           5dB
  RETURN↵
```

```
    SSNR3 LEVEL SETUP
 ►LEVEL       ------x-------  1
  RETURN↵
```

```
   SENS-UP LIMIT SETUP
 ►LIMIT             X2
  RETURN↵
```

SPECIAL Submenu:

From Camera Menu

This menu allows for setting options such as Day/Night, image reverse, and monitor settings. Use the MODE (IRIS OPEN) key to enter submenus in this menu.

- DAY/NIGHT: Set the Day/Night mode.
    - ↵ AUTO: The image will automatically switch from color to B/W mode when the ambient light is low.
        - ▪ DWELL TIME
            - o 5~60 SEC
        - ▪ DURATION
            - o SLOW
            - o FAST
    - – EXT: Not used.
    - ↵ COLOR: The image will always display in color.
        - ▪ BURST LEVEL
            - o 0~100
    - ↵ B/W: The image will always display in B/W.
        - ▪ BURST MODE
            - o ON
            - o OFF
- DIS: Set digital image stabilization on or off.
    - – OFF
    - – ON
- SYNC
    - – INT: Not adjustable.
- ↵ IMAGE ADJ: Set horizontal and vertical reverse, as well as image sharpness.
    - – H-REV: Reverse the image horizontally.
        - ▪ OFF
        - ▪ ON
    - – V-REV: Reverse the image vertically.
        - ▪ OFF
        - ▪ ON
    - ↵ SHARPNESS: Set the image sharpness level.
        - ▪ ON
            - o LEVEL
                - • 1~31
        - ▪ OFF

```
        SPECIAL SETUP
 ► DAY/NIGHT        AUTO↵
   DIS                OFF
   SYNC               INT
   IMAGE ADJ↵
   MONITOR           CRT↵
   DISPLAY↵
   RETURN↵
```

```
    DAY/NIGHT AUTO SETUP
 ► DWELL TIME      5 SEC
   DURATION         SLOW
   RETURN↵
```

```
    BURST LEVEL SETUP
 ► BURST LEVEL -------x------- 50
   RETURN↵
```

```
    BURST MODE SETUP
 ► BURST MODE         ON
   RETURN↵
```

```
      IMAGE SETUP
 ► H-REV              OFF
   V-REV              OFF
   SHARPNESS          ON↵
   RETURN↵
```

```
  SHARPNESS LEVEL SETUP
 ► LEVEL        -------x------ 16
   RETURN↵
```
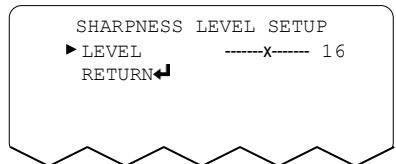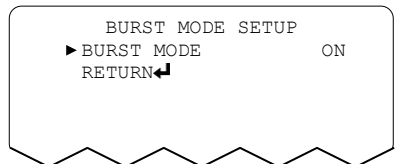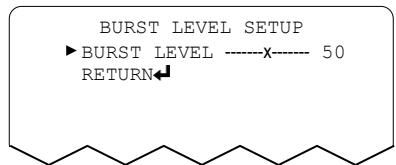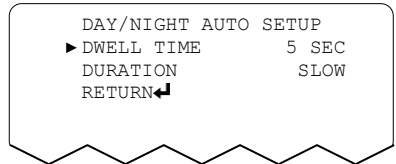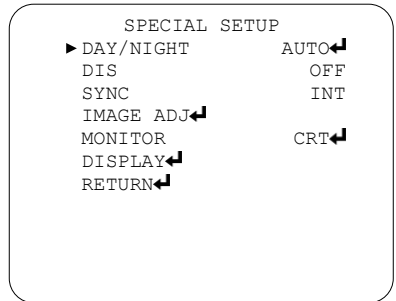
SPECIAL Menu, continued:

⤴ MONITOR: Set the image to perform better on specific monitor types.
  - ⤴ CRT: Choose for CRT monitors.
    - ▪ PED LEVEL: Adjust the brightness level.
      - ○ 0~70
    - ▪ COLOR LEVEL: Adjust the color level.
      - ○ 1~100
  - ⤴ LCD: Choose for LCD monitors.
    - ▪ GAMMA: Adjust the gray value level.
      - ○ 0.20~1.0
    - ▪ PED LEVEL: Adjust the brightness level.
      - ○ 0~70
    - ▪ COLOR LEVEL: Adjust the color level.
      - ○ 1~100
  - ⤴ USER
    - ▪ GAMMA: Adjust the gray value level.
      - ○ 0.20~1.0
    - ▪ PED LEVEL: Adjust the brightness level.
      - ○ 0~70
    - ▪ COLOR LEVEL: Adjust the color level.
      - ○ 1~100

⤴ DISPLAY: Set the camera OSD display options.
  - – CAM TITLE: Set the camera title.
    - ▪ OFF
    - ⤴ ON
  - – CAM ID: Not used.
    - ▪ OFF
    - ▪ ON
  - – CAM INFO: Not used.
    - ▪ OFF
    - ▪ ON
  - – MOTION ALARM: Set the motion detection info display.
    - ▪ OFF
    - ▪ ON
  - – ZOOM MAG: Set the zoom magnification level display.
    - ▪ OFF
    - ▪ ON
  - – OSD COLOR: Set the camera sub-menu OSD color.
    - ▪ WHITE / YELLOW / GREEN / RED / BLUE
  - – LANGUAGE: Set the camera sub-menu OSD language.
    - ▪ ENGLISH / KOREAN / JAPANESE / SPANISH / FRENCH / PORTUGUESE

• RETURN ↵: Return to the previous camera menu.

```
        CRT MONITOR SETUP
 ▶ PED LEVEL   ----X---------- 17
   COLOR LEVEL -------X------- 50
   RETURN↵
```

```
        LCD MONITOR SETUP
 ▶ GAMMA              0.45
   PED LEVEL   ----X---------- 17
   COLOR LEVEL -------X------- 50
   RETURN↵
```

```
       USER MONITOR SETUP
 ▶ GAMMA              0.55
   PED LEVEL   ----X---------- 17
   COLOR LEVEL -------X------- 50
   RETURN↵
```

```
         DISPLAY SETUP
 ▶ CAM TITLE          OFF
   CAM ID             OFF
   CAM INFO           OFF
   MOTION ALARM       OFF
   ZOOM MAG           OFF
   OSD COLOR        WHITE
   LANGUAGE       ENGLISH
   RETURN↵
```

CRUISE SETTING Menu:

From MAIN MENU

This menu allows for setting the dwell time and active presets for the Preset Cruise.

- DWELL TIME: Set the amount of time the camera will remain at each preset.
  - 5~250 SEC
- PRESET 1~20: Set presets to include in the preset cruise.
  - ON
  - OFF
- BACK: Return to previous menu.

```
       CRUISE SETTING
→ DWELL TIME (SECS)  8
  PRESET1          ON
  PRESET2          ON
  PRESET3          ON
  PRESET4          ON
  PRESET5          ON
  PRESET6          ON
  PRESET7          ON
  PRESET8          ON
  PRESET9          ON
  PRESET10         ON
```

```
       CRUISE SETTING
→ PRESET11         ON
  PRESET12         ON
  PRESET13         ON
  PRESET14         ON
  PRESET15         ON
  PRESET16         ON
  PRESET17         ON
  PRESET18         ON
  PRESET19         ON
  PRESET20         ON
  BACK
```

PASSWORD Menu:

From MAIN MENU

This menus allows for setting a password to limit access to the OSD.

- ENABLE PASSWORD: Enable OSD password.
  - OFF
  - ON
- EDIT PASSWORD: Set OSD password.
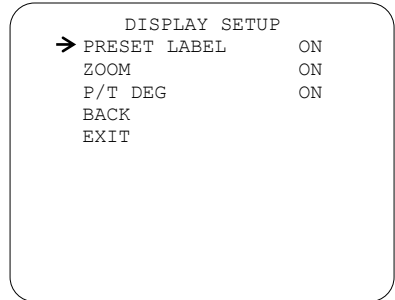- BACK: Return to previous menu.
- EXIT: Exit OSD menus.

```
        PASSWORD
→ ENABLE PASSWORD  OFF
  EDIT PASSWORD
  BACK
  EXIT
```

DISPLAY SETUP Menu:

From MAIN MENU

This menu allows for setting display options such as preset labels, zoom information, and pan/tilt information.

- PRESET LABEL: Set preset labels on or off.
    - ON
    - OFF
- ZOOM: Set zoom information on or off.
    - ON
    - OFF
- P/T DEG: Set pan/tilt information on or off.
    - ON
    - OFF
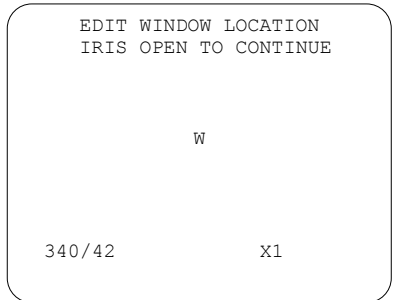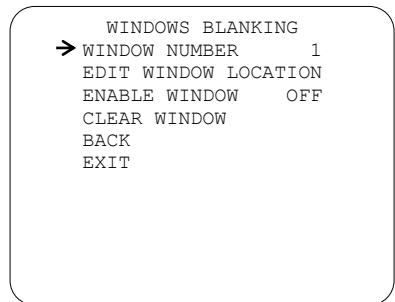- BACK: Return to previous menu.
- EXIT: Exit OSD menus.

```
       DISPLAY SETUP
→ PRESET LABEL      ON
  ZOOM              ON
  P/T DEG           ON
  BACK
  EXIT
```

WINDOWS BLANKING Menu:

From MAIN MENU

This menus allows for setting the windows blanking or privacy window options.

- WINDOW NUMBER: Select which privacy window to set.
    - 1~8
- EDIT WINDOW LOCATION: Center the cursor over the area to be blocked.
- ENABLE WINDOW: Enable the selected privacy window.
    - OFF
    - ON
- CLEAR WINDOW: Clear the selected privacy window.
- BACK: Return to previous menu.
- EXIT: Exit OSD menus.

```
    WINDOWS BLANKING
→ WINDOW NUMBER      1
  EDIT WINDOW LOCATION
  ENABLE WINDOW    OFF
  CLEAR WINDOW
  BACK
  EXIT
```

```
   EDIT WINDOW LOCATION
   IRIS OPEN TO CONTINUE




            W



  340/42           X1
```

ALARMS SETTING Menu:
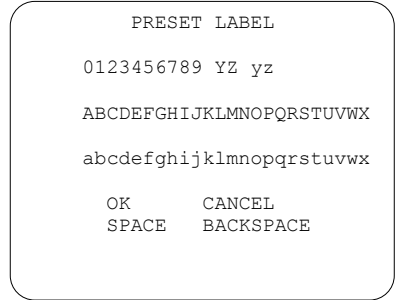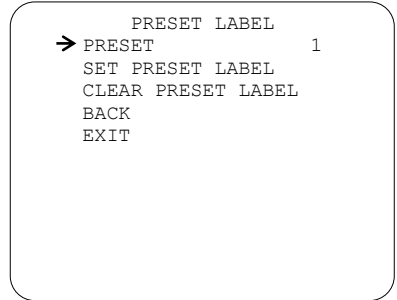
From MAIN MENU

This menu is reserved for future use.

PRESET LABEL Menu:

From MAIN MENU

This menu allows for setting preset labels to be displayed on the main screen.

- PRESET: Select which preset to name.
  - 1~79
- SET PRESET LABEL: Set the selected preset label.
- CLEAR PRESET LABEL: Clear the selected preset label.
- BACK: Return to previous menu.
- EXIT: Exit OSD menus.

```
         PRESET LABEL
➔ PRESET               1
   SET PRESET LABEL
   CLEAR PRESET LABEL
   BACK
   EXIT
```

```
         PRESET LABEL

   0123456789 YZ yz

   ABCDEFGHIJKLMNOPQRSTUVWX

   abcdefghijklmnopqrstuvwx

     OK      CANCEL
     SPACE   BACKSPACE
```

RESTORE FACTORY DEFAULT:

Restore all settings back to factory default (except for Camera sub-menu options).

REBOOT SYSTEM:

Reboot the camera and run through the start-up features.

EXIT:

Exit OSD menus.

Preset Worksheet:

Preset #	Preset Scene (pan/tilt zoom)
Example: 1	Main office (19/57 x1)

Installation Notes:

Also Available from SECO-LARM:

Ceiling Bracket	Pole-Mounting Bracket	Corner-Mounting Bracket	Flush-Mount Bracket	DR-1 Series Digital Video Recorder
EV-7100CEILM	EV-7100POLEM	EV-7100CORNM	EV-7100FLUSM	DR-116-1.0TQ

Data Distributor	RS-232 to RS-485 Converter	Passive Video Balun	Passive Video/Power/Data Balun	AC Power Supply
RD-304-D1Q	EVA-RS1	EB-P501-01Q	EB-P101-20VQ	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 COMPLAINCE 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 three (3) years 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.

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