

WIREFATH

SURVEILLANCE



WPS-765-BUL-AH

BULLET CAMERA

INSTALLATION MANUAL
*Review manual thoroughly before installation.
Retain for future reference.*



Safety Instructions

This information is provided to ensure your safety and to prevent physical or financial loss. Please read this document carefully before installing and operating the camera.

1. Handle with care.

Use caution when handling to avoid damage to sensitive internal components.

2. Do not install camera under extreme temperatures.

This camera only operates under temperature conditions between -40°F and 140°F.

3. Do not mount the camera directly facing bright light sources.

Exposing the camera to strong light over long periods of time will damage the camera's sensor.

4. Do not supply voltage other than 12V DC or 24V AC.

This camera regulates power within this range. Higher voltages will damage the camera's electronic components.

5. Do not install camera in environments with extreme humidity.

Installing camera in environments with extreme humidity may cause moisture to condense on the surface of the lens or dome cover, which can affect picture quality.

CE FC RoHS ISO 9001



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1. Features

1/3" 960H Sony Super-HAD II CCD

The Sony Super-HAD II CCD is ideal for low lux illumination, resulting in a clear and crisp image.

Varifocal Auto-Iris Lens

This camera features a varifocal lens with a focal length of 2.8-12 mm. The auto-iris function intuitively manages the amount of light passing through the lens for consistent image brightness.

TWDR (True Wide Dynamic Range)

True Wide Dynamic Range is ideal for high contrast environments, improving the contrast between very dark and very bright areas in a scene, and producing a more balanced image.

Low Temperature Operation

A heater is included that automatically turns on and off to ensure the camera operates within an optimum temperature range, and helps to minimize condensation inside the housing at low temperatures. The heater automatically activates at 50°F and deactivates at 60°F.

3D Digital Noise Reduction

Digital noise reduction produces clear images in low light conditions. Not only does it help to reduce image noise, but it also minimizes blurring of objects in motion, producing extremely clear picture quality — even under low-light conditions.

RS-485 Connection and OSD

This camera features an OSD (on-screen display) for initial setup and settings adjustment. Remote control is possible using a compatible DVR or PTZ controller connected to the camera's RS485 wire leads.

Weatherproof Housing

The IP66-rated weatherproof housing makes this camera ideal for outdoor surveillance.

External Zoom and Focus Adjustments

Adjust the camera without the need to remove the lens cap for quick adjustments.

Video Test Port

Adjust angle, zoom, and focus without opening the camera for fast and easy installation.



2. Package Contents

- (1) WPS-765-BUL-AH camera
- (1) WPS-ACC-PWR-M AC/DC power plug
- (1) OSD Joystick / BNC test adapter
- (4) Surface mounting screws (includes 1 spare)
- (4) Wall anchors (includes 1 spare)
- (1) 3mm Allen key
- (1) Installation manual
- (1) Spare silica packet in vacuum sealed bag

NOTE: A POWER SUPPLY IS NOT INCLUDED WITH THIS CAMERA.

The PS-12DC-1A or WPS-PS multiple output power supplies are recommended.

NOTE 2: A SILICA DESICCANT PACK IS MOUNTED INSIDE THE HOUSING.

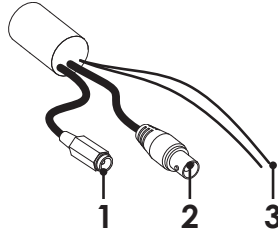
This package should remain inside the housing after installation, even when adding additional desiccant packs.



3. Wiring Recommendations

Wiring should be installed, terminated, and tested for connectivity before the camera is installed. Specifications for each connection are detailed below.

3.1. Wiring Connections



1. Power (Required)

It is recommended to install the camera power supply near the recording location and run a remote power wire to the camera. Use the included WPS-ACC-PWR-M to adapt the power wire to the camera.

Use the voltage drop calculator at www.SnapAV.com to find the correct gauge for a given wire length.

Pinout	Wire Size (AWG)	Power Requirements
	Minimum 18 AWG <i>Calculate based on voltage & wire length</i>	12V DC or 24V AC (1A minimum)

Included WPS-ACC-PWR-M is illustrated to demonstrate the correct polarity for power.

2. BNC Video Output (Required)

Install coaxial cable for transmitting video to a DVR or display monitor.

Recommended Cable	Connector Type
RG-59 or RG-6	75-ohm rated BNC connectors <i>Use a BNC-RCA adapter for composite input</i>

3. RS485 Communication +/- Wires (Optional)

Connect the RS485 wires to a controller or a Wirepath DVR for remote access to the OSD setup menu.

Pinout		Wire Size (AWG)
Camera	Controller	Minimum 24 AWG <i>2 Cat5e/6 conductors or 2-conductor alarm wire is recommended</i>
+(White)	+(Positive)	
-(Green)	-(Negative)	

Important! Separate and insulate the ends of the RS485 wires if they will not be connected. **DO NOT** connect the + and - wires together.



4. Installation Instructions

Wiring should be installed, terminated, and tested for connectivity before the camera is installed. See the previous page for connections and wiring recommendations.

Step 1. Prepare for Installation

- A. Unpack the camera and locate the included hardware, silica packet, and 3mm Allen wrench.
- B. Depending on the the mounting location, it may be easier to position the correct field-of-view before installation. See step 3, "Position the Camera" on the next page for adjustment instructions.

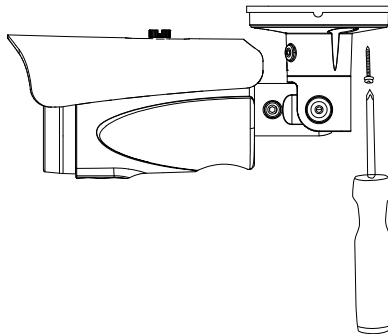
Step 2. Mount the Camera

Using Mounting Accessories

- A. Mount the accessory according to its instructions.
- B. Make wiring connections, and mount the camera.
- C. Continue these instructions at Step 3 on the next page to complete camera installation.

Surface Mounting

- A. Use the camera mounting base as a template to mark the location of the 3 screws on the mounting surface.
- B. Connect the camera to the wiring and move it into position. Avoid pinching the wires between the camera and the mounting surface.
- C. Use 3 of the included screws to secure the camera and hand-tighten them evenly.

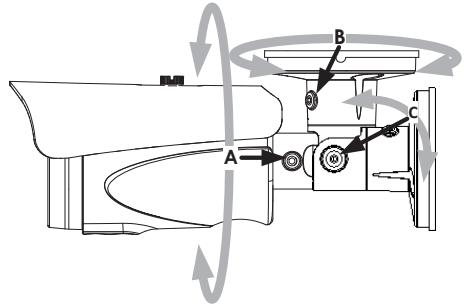




Step 3. Position the Camera

Use the 3mm Allen wrench to loosen and tighten each adjustment screw:

- A. Horizontal rotation
- B. Swivel left or right
- C. Tilt viewing angle

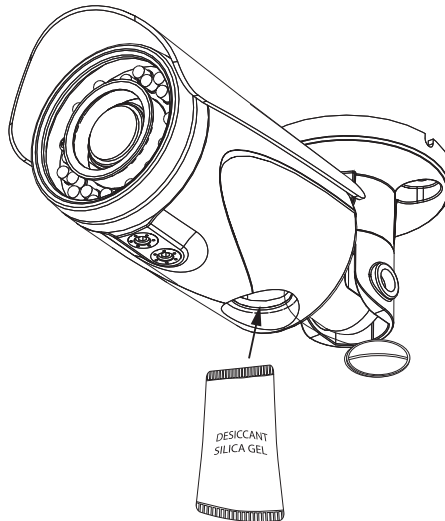


Step 4. Adjust Focus, Zoom, and Menu Settings

See “Camera Operation Setup” beginning on the next page for instructions. Set the focus and zoom adjustments, and adjust the OSD Setup Menu options as needed. Disconnect the test adapter after completing adjustments.

Step 5. Close the Camera

Remove the spare silica packet from its sealed foil package (taking care not to rip the inner packet) and place it inside the test adapter opening.

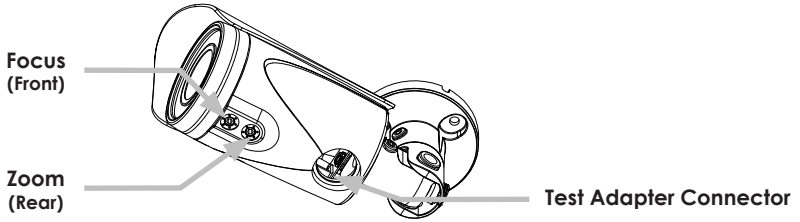




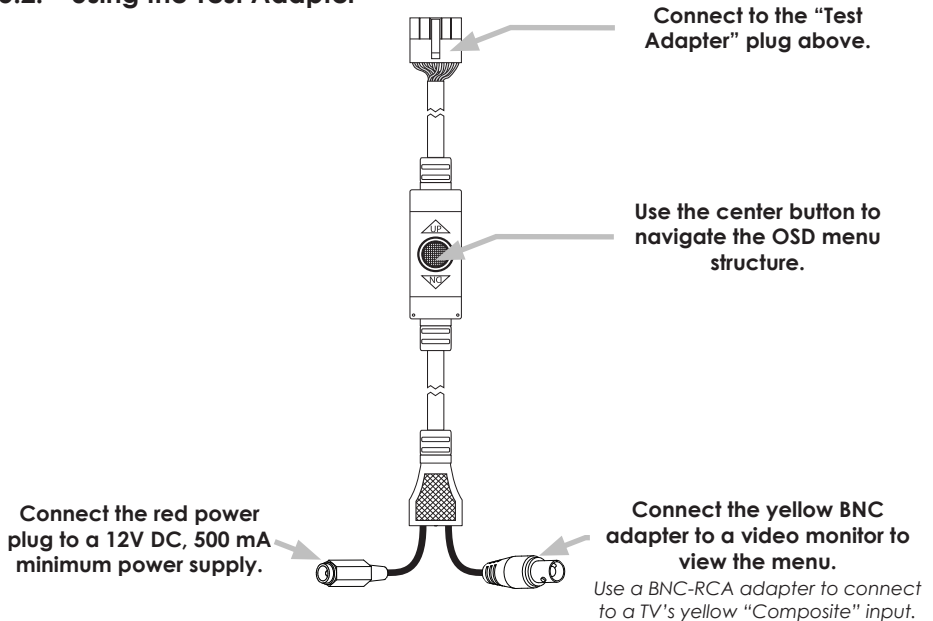
5. Camera Operation Setup

5.1. Focus, Zoom, and Position

The lens of the camera has manual focus and zooms knobs for setting the correct field-of-view. Connect the test adapter from the camera to a monitor as shown below for viewing adjustments. Use the included 3mm Allen key to adjust focus and zoom.



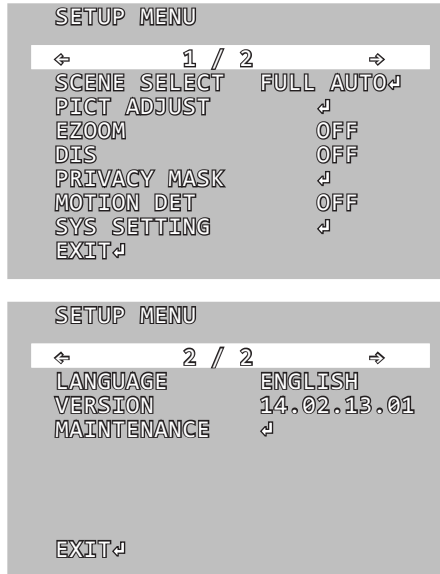
5.2. Using the Test Adapter





6. OSD Setup Menu

WPS-765 series cameras use an on-screen (OSD) menu system for setup of advanced image and control settings.



Default OSD menu view and settings

Use the OSD Setup Menu to:

- **Improve image quality** — change settings to suit any environment;
- **Advanced image features** — parking lane, dead pixel compensation, motion detection, privacy masking, and more;
- **Display custom text options** — choose whether or not to display options like camera ID and where to position overlaid text;
- **Configure RS485** — communicate between cameras and DVRs or other security and automation systems.

6.1. Default Settings Description

Default settings for each SETUP menu section are written in **bold** type in the menu overview to follow. Defaults are optimized for the best balance of performance in typical conditions:

Daytime light should evenly illuminate the field of view. Setting changes can be made to accommodate for moderate brightness and contrast issues. Too much direct sunlight or glare from reflective and white surfaces should be avoided.

- Night-time conditions should allow for the IR LEDs to reflect on surfaces within range, or for artificial lighting to illuminate areas beyond IR range.



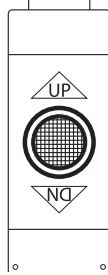
6.2. How to Navigate the OSD Setup Menu

The OSD menu is displayed as an overlay of the camera field-of-view. It will remain visible as long as the menu is active. Use the test adapter for initial setup. RS485 setup is detailed in section "3.1. Wiring Connections" on page 7. Enter RS485 command, "Set Preset 95" to turn on the OSD menu.

6.2.1. OSD Joystick (Test Adapter)

Menu Navigation

Pivot the joystick up, down, left and right to move the menu cursor to the desired option.



Sub-menus

Selections with a "⏏" to the far right have a sub-menu. Press the center joystick button to access the menus.

6.2.2. How to Reset or Save Settings

See section "6.4.3. EXIT MENU" on page 27



6.3. OSD Menu Structure Outline

SCENE SELECT	FULL AUTO INDOOR OUTDOOR BACKLIGHT ITS CUSTOM (Select mode to enter ADVANCED menu)	SHUTTER/AGC	FIX	SHUTTER INDOOR	
			OUTDOOR	AE LEVEL BACKLIGHT ITS	
			CUSTOM	SHUTTER AGC MAX	
		WHITE BAL	ATW	SPEED DELAY CNT ATW FRAME ENVIRONMENT	
			PUSH	N/A	
			USER1	B-GAIN R-GAIN	
			USER2	B-GAIN R-GAIN	
			MANUAL	LEVEL	
			PUSH LOCK	N/A	
			HLC/BLC	OFF	N/A
		HLC		CLIP LEVEL	
		BLC		N/A	
		WDR/ATR-EX	OFF	N/A	
			ATR-EX	CONTRACT CLEAR FACE	
			WDR	CONTRACT CLEAR FACE	
		DNR	LEVEL		
		DAY/NIGHT	DAY	N/A	
			NIGHT	BURST BURST	
			AUTO	CNTL SIGNAL DELAY CNT DAY > NIGHT NIGHT > DAY	
		IR OPTIMIZER	OFF	N/A	
			ON		
			MODE	AUTO CENTER	
			IR AREA	TOP	
				BOTTOM	
				LEFT	
				RIGHT	
				WEIGHT	
			LEVEL	N/A	
			IR LED		
			OFF	N/A	
			FIX	LEVEL LEVEL MIN LEVEL MAX	
			COLOR NIGHT		
			OFF	N/A	
			ON	COLOR GAIN	
			IR SHADE COMP		
			OFF	N/A	
			ON	PATTERN	
		POSH			
		POSV			
			LEVEL		

(Menu structure continued on next page)



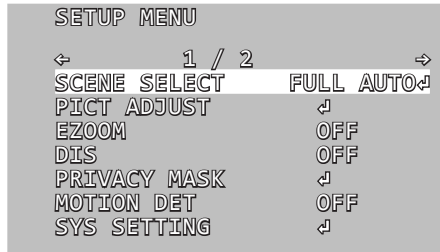
SCENE SELECT	FULL AUTO INDOOR OUTDOOR BACKLIGHT ITS CUSTOM (Select mode to enter ADVANCED menu)	LENS SHD COMP	OFF	N/A
			ON	PATTERN POSH POSV
		DEFOG	OFF	N/A
			ON	LEVEL
		FLK LESS	OFF	N/A
ON				
MODE	SHUTTER FIX GAIN CNTL			
ANTI CR	OFF/ON/AUTO			
PICT ADJUST	BRIGHTNESS			
	CONTRAST			
	SHARPNESS			
	HUE			
	COLOR GAIN			
EZOOM	OFF			
	ON	MAG PAN TILT		
DIS	OFF			
	ON			
PRIVACY MASK	AREA SEL			
	DISPLAY			
	POSITION			
	COLOR			
	TRANSP			
	MOSAIC			
MOTION DET	OFF			
	ON	DETECT SENSE		
		INTERVAL		
		BLOCK DISP		
		MASK AREA		
	MOTION AREA	AREA SEL		
		AREA MODE		
TOP				
BOTTOM				
LEFT				
RIGHT				
SYS SETTING	SYNC MODE	INT		
	LENS	MANUAL		
		AUTO	TYPE	
			MODE	
	ADJUST			
	FLIP	OFF/V/H/HV		
	LCD/CRT	LCD/CRT		
	COMMUNICATION	PROTOCOL		
		ADDRESS		
		BAUDRATE		
DATABIT				
PARITY				
STOPBIT				
CAMERA ID	OFF	N/A		
	ON	POS		
LANGUAGE	English/Spanish/Russian/Portuguese/German/French/Japanese			
VERSION				
MAINTENANCE	W.PIX MASK	MANUAL		
		AUTO		
		DATA CLEAR		
CAMERA RESET				



6.4. OSD Setup Menu Settings

6.4.1. SCENE SELECT

Use this menu to select a preset mode for the scene. Each mode loads a different set of base settings into the ADVANCED menu, which can be adjusted further for the best setup. Select the SCENE SELECT mode to enter the ADVANCED MENU and make changes to the default selections.



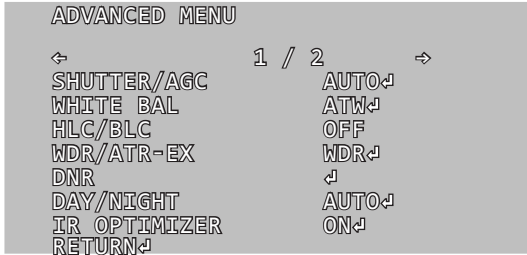
Preset Modes

- **FULL AUTO** (default) — This mode is useful for applications where lighting conditions may change often or rapidly. This is the recommended setting for most applications.
- **INDOOR** — This mode is useful for indoor applications with artificial light sources.
- **OUTDOOR** — This mode is set up for very bright or high contrast applications.
- **BACKLIGHT** — This mode is useful for applications that have a darker foreground scene with a bright doorway or window in the background.
- **ITS** — This mode is specialized to scenes with high-motion. It allows high-resolution shooting of moving subjects with low blur.
- **CUSTOM** — This mode is fully adjustable to any preference for all settings.



6.4.2. ADVANCED MENU (SUB-SETTINGS FOR SCENE SELECT)

The ADVANCED MENU makes changes to the default settings within the preset mode selected from the SCENE SELECT menu (see the previous section).



6.4.2.1. SHUTTER/AGC Menu

Electronic shutter speed controls how much light gets to the camera sensor with each frame of video to match various lighting conditions and control flicker.

AGC automatically amplifies the video signal during low light conditions. Use this setting to increase contrast in dimly lit parts of the scene.

Select from FIX, MANUAL, or AUTO and enter the sub-menu for advanced settings.

Shutter/AGC Menu Sub-Settings

- AE LEVEL — (FIX, MANUAL, & AUTO) Use AE level to control shutter speed for balancing brightness.
- AGC MAX — (FIX, MANUAL, & AUTO) Maximum gain allowed with Auto Gain Control in use. Set lower to minimize image noise in night scenes.

Note: Use AGC MAX in conjunction with DNR.

- SENS UP — (AUTO ONLY) Set to AUTO by default for color night images. This setting automatically slows the shutter up to 512x to allow for more light to enter, illuminating the scene with a color image. Turn OFF if a color night-time scene is not desired.



6.4.2.2. WHITE BALANCE Menu

White balance adjusts the image color according to the lighting conditions of the scene to correct for different lighting color ranges.

Menu Structure and Settings

- ATW — Auto White Balance mode. Enter the sub-menu to access these advanced settings:
 - SPEED — How Quickly the camera changes the ATW setting.
 - DELAY CNT — How fast ATW reacts to changes in the scene.
 - ATW FRAME — Set the frame magnification for the camera to identify the color settings.
 - ENVIRONMENT — Select from AUTO, INDOOR, SUNNY, or SHADE to match the conditions of the scene.
- PUSH — Adjusts white balance value dynamically for deeply colored objects and contrasting images based on how fast the image changes. Increase the PUSH setting to accommodate darker-colored moving objects, but avoid setting it so high that the image becomes too bright.
 - USER1/USER2 — Sets two separate profiles for red or blue gain depending on the user. Each profile may be set uniquely.
 - B-GAIN — Set the blue color saturation level.
 - R-GAIN — Set the red color saturation level.
- MANUAL
 - LEVEL — Set the white balance rate to an exact level.
- PUSH LOCK - Locks in the white balance values set by the PUSH function, so that they are not affected by color changes in the scene.



6.4.2.3. HLC/BLC (High/Back Light Compensation)

Use this menu to set up light compensation. Select HLC, BLC, or off.

Menu Structure and Settings

- OFF — Deactivate light compensation.
- HLC — High Light Compensation (HLC) blocks bright light from causing white-out. For example, with HLC, car headlights will appear to be blacked out and surrounding light levels will be balanced enough to reveal details that would normally be washed out. HLC is ideal for a wide field of view focused far from the camera. Enter the HLC sub-menu to change advanced settings:
 - CLIP LEVEL — Change the highlighting to light or darker values, the lower the value, the darker the highlights become.
- BLC — Back Light Compensation (BLC) clarifies objects in front of bright light. For example, in a scene with lighting facing the camera, if a person walks toward a normal camera, they will appear as a silhouette, but BLC will adjust contrast for more detail. BLC is ideal where the field of view is focused close to the camera.

6.4.2.4. WDR/ATR-EX

Wide Dynamic Range/Adaptive Tone Reproduction (Extended) improves contrast between very dark and very bright areas for a more balanced image.

Menu Structure and Settings

- OFF — Deactivate WDR/ATR-EX.
- ATR-EX — Adjusts for dark spots in the scene by compensating to the optimal gradation based on luminance.
 - CONTRAST — Increases the overall brightness in dark scenes.
 - CLEAR FACE — Enhances face recognition by brightening the darker areas of the face, the higher the setting, the clearer the image may become.
- WDR — Adjusts the luminance of the camera scene by utilizing the double scan CCD to record two images. These images are combined.
 - CONTRAST — Increases the overall brightness in dark scenes.
 - CLEAR FACE — Enhances face recognition by brightening the darker areas of the face.

6.4.2.5. DNR

Use the Digital Noise Reduction feature to increase the clarity of nighttime scenes. Enter the sub-menu and set the LEVEL lower or higher as needed.



6.4.2.6. DAY/NIGHT Menu

The camera sensor has DAY (color) and NIGHT (black and white) mode. Use this menu to set the mode and how it is switched.

By default (**AUTO**), the color mode is set based on a light sensor on the front of the camera, which is recommended for most applications.

Menu Structure and Settings

- DAY— Lock the camera in COLOR (daylight) mode. IR will NOT activate in this mode, so the ambient lighting level must be sufficient for viewing.
- NIGHT — Lock the camera in B/W (nighttime) mode. Enter the sub-menu to change advanced settings:
 - BURST — Turn ON to provide color video during night-time scenes. It is recommended in most cases to leave the setting OFF since the amount of grain and noise in the picture can be too high to see details.
 - AUTO — This mode utilizes a sensor on the camera to determine the level of light hitting the sensor.
 - BURST — When On, video signal maintains the color burst signal when switching to B/W mode. This boosts video signal during times of low light, though it is recommended in most cases to leave off in order to improve signal syncing noise problems.
 - CNTL SGNL — Select the source for controlling the light mode:
 - EXT1 — Use the light sensor to determine the correct light setting.
 - EXT2 — Not applicable to this model.
 - INT — Use the camera video sensor to determine the correct light setting.
 - DELAY CNT — Set the delay time for Day/Night (IR on/off) in seconds.
- DAY→NIGHT— Set delay for switching day (COLOR) to night (B/W) mode. Set from 0 to 30 seconds. Increase if night mode switches on too quickly.
- NIGHT→DAY— Set delay from Night to Day mode (opposite of above). Set from 0 to 30 seconds. Increase if day mode switches on too quickly.



6.4.2.7. IR OPTIMIZER

This feature allows IR lighting to be set correctly for any install. Light from outside the IR range may be blended to optimize lighting around the outer edges of the screen or turn off IR when the lighting is not consistent enough to reliably switch between Day & Night mode. Settings in this menu only affect night mode operation with IR enabled.

Menu Structure and Settings

- OFF — Deactivate IR optimization.
- ON — Enter the sub-menu to change advanced IR optimization settings.
 - MODE — Select between AUTO and CENTER modes:
 - AUTO — Uses the entire scene for calculating IR optimization.
 - CENTER — Enter the advanced IR AREA menu to set where on the screen IR is sensed for making adjustments.
 - IR AREA — Set the area for IR LED illumination from the top, bottom, left and right. Weight customization allows one area to become more illuminated than another.
 - LEVEL — Set the IR LED intensity for all LEDs.
 - IR LED — Set the IR LED activation mode.
 - OFF — Deactivate LEDs at all times.
 - DAY/NIGHT — Allows the IR LEDs to activate as needed. Enter the sub-menu to change advanced settings:
 - LEVEL MIN — Sets the lowest value for IR optimization.
 - LEVEL MAX — Sets the highest value for IR optimization.
 - FIX — Manually forces IR to stay on.
 - LEVEL — Sets lowest/highest value for IR optimization.
 - COLOR NIGHT — Set to ON and enter the sub-menu to change the COLOR GAIN when the viewing area is darkened, but bright enough for color to be picked up.
 - IR SHADE COMP — Reduces the dark corners of the viewing area by bleeding in IR LED illumination from the rest of the image. Turn the feature ON and enter the sub-menu to change.
 - PATTERN — Selects the dimensions of the area to be selected for IR Shade Compensation.
 - POSH — Sets the horizontal position for IR Shade Compensation.
 - POSV — Sets the vertical position IR Shade Compensation.
 - LEVEL — Sets lowest/highest value for IR optimization.



6.4.2.8. LENS SHD COMP

Lens Shade Compensation curtails the dimly lit corners of the viewing area by bleeding in light from other sources. Settings in this menu only affect color operation modes.

DEFOG

Effio-V enhancer improves the clarity of images taken in poor conditions such as fog, rain or snow. Applied to live or recorded color video, it delivers real-time results and displays visual details that would otherwise have been difficult to see.

- Note — Defog can be selected on CUSTOM mode.

FLK LESS

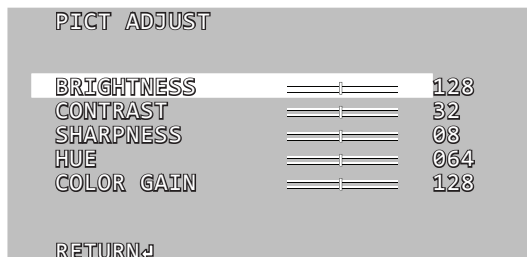
“Flicker Less” is a feature designed to even out inconsistent lighting from sources such as fluorescent lighting, CRT monitors, or other light sources that are out of sync with the frame rate of the camera.

ANTI CR

Use “Anti Color-Roll” this function when the camera image appears to be constantly changing (or rolling) the color of the viewing screen without any lighting changes. This happens in environments with fluorescent lighting.

6.4.2.9. PICT ADJUST

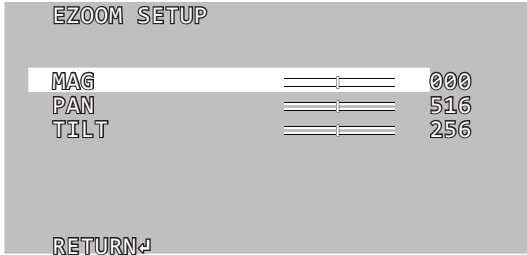
Use this menu to change the BRIGHTNESS, CONTRAST, SHARPNESS, HUE and COLOR GAIN. Values range from 0 ~ 255.





6.4.2.10. EZOOM SETUP

Electronic zoom allows the scene to be focused in tighter than the camera's field of view. Select MAG for magnification levels, PAN and TILT of the zoom area.



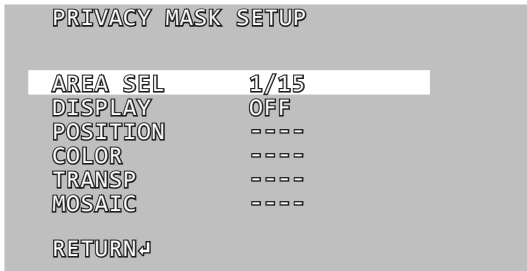
6.4.2.11. DIS

Dynamic Image Stabilization is effective for installs where the camera is subject to vibrations (like mounted in a parking deck) or outside forces such as strong winds. DIS effectively eliminates blurring and/or flickering of images.

- Pivot the joystick left or right to set to OFF or ON. No further settings are necessary.

6.4.2.12. PRIVACY MASK SETUP

Privacy mask settings allow for up to 15 different surveillance-free zones of the viewing area.



- AREA SEL — Select which of the 15 zones is being adjusted.
- DISPLAY — Toggle the zone on (displayed) or off (not displayed).
- POSITION — Move the entire coverage area.
- COLOR — Set the color displayed over the privacy mask zone.
- TRANSP — Change the level of transparency for the zone.
- MOSAIC — Use a mosaic tile to obscure the private area instead of a solid block of color.



6.4.2.13. MOTION DETECTION

With detection turned on, when the camera detects motion, a colored block will appear on the screen to call attention to the view. Motion configuration allows for up to 96 zones.

NOTE — It is suggested for most applications to use the motion detection settings on the DVR rather than the camera. The camera will not initiate recording in the DVR using this feature.

MOTION DETECTION		
DETECT SENSE	<input type="range"/>	50
INTERVAL	<input type="range"/>	50
BLOCK DISP	OFF	08
MASK AREA	↙	064
MONITOR AREA	↙	128
RETURN ↙		

- **DETECT SENSE** — Level of sensitivity to changes in contrast within the selected area.
- **INTERVAL** — Time delay from the first motion event to the subsequent event. Motion alerts will not occur within this time delay.
- **BLOCK DISP** — Generates black or white inverted squares over the area that motion is detected.
- **MASK AREA**— Select the portion of the grid you would like for motion to be masked in. Each number is a grid of 4 blocks for which you can select, for a total of 96 zones.
- **MONITOR AREA**—

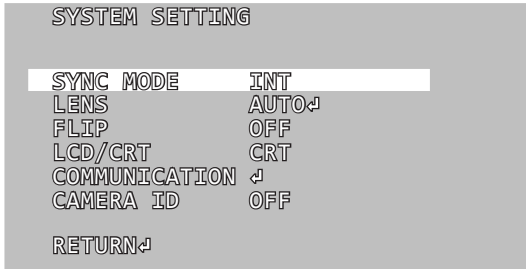
MONITOR AREA		
AREA SEL	1/4	
AREA MODE	OFF	
TOP	<input type="range"/>	10
BOTTOM	<input type="range"/>	10
LEFT	<input type="range"/>	10
RIGHT	<input type="range"/>	10
RETURN ↙		

- **AREA SEL** — Select one of the four areas to modify settings.
- **AREA MODE** — Toggle monitoring on or off for the area selected.
- Customize the size and the position of each detection zone by adjusting **TOP, BOTTOM, LEFT, and RIGHT** values.

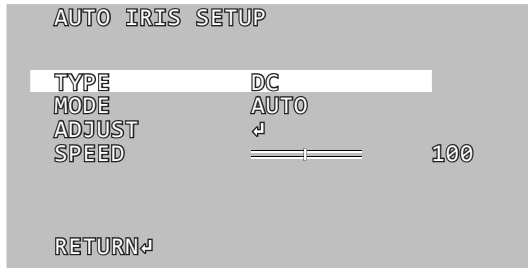


6.4.2.14. SYSTEM SETTING

More functions are available for customization under the SYSTEM SETTING menu.



- SYNC MODE — Auto Tracking White Balance, color temperature is set to 2500°K.
- LENS — Enter the sub-menu to set up AUTO IRIS settings:



- TYPE — DC allows the external light sensor to control the Iris. Video allows the camera to monitor the image for lighting conditions and subsequent Iris control.
- MODE — The camera handles the size of the Iris opening. Open is fully open, closed is fully closed.
- ADJUST — The camera begins a calibration sequence for the Iris control.
- SPEED — How quickly the Iris responds to a change in lighting conditions.
- FLIP — Flip the view on the screen horizontally or vertically.
- LCD/CRT — Set the refresh style to be optimized for viewing on a LCD or CRT monitor.
- CAMERA ID — Set to ON to display the camera name on the screen. Use the on-screen keyboard to change the name, and enter the "POS" sub-menu to set the position of the ID on the screen,



6.4.2.15. COMMUNICATION

Set the RS485 communication protocols within this submenu to match the protocols from the DVR.

COMMUNICATION	
PROTOCOL	PELCO-D
ADDRESS	050
BAUDRATE	4800
DATABIT	8BIT
PARITY	OFF
STOPBIT	1BIT
RETURN ↵	

- PROTOCOL — Scroll left or right to select a communication protocol - PELCO-D or PELCO-P. Wirepath devices use Pelco-D.
- ADDRESS — Scroll left or right to select a unique ID number from 0 to 225 to identify the camera on the RS485 loop.

Note— Each device in the RS485 connection MUST be set to a unique address number for proper RS-485 communication.

- BAUDRATE — Scroll left or right to choose a baud rate for RS485 communication between the camera and controller. Baud rate options include 4800, 9600, 19200, 38400, and 57600.

Note— ALL devices in the RS485 connection must be set to the same baud rate for proper RS-485 communication.

- DATABIT — 8
- PARITY — OFF
- STOPBIT — 1

6.4.2.16. LANGUAGE

Select one of 7 language options—English, Spanish, Russian, German, Portuguese, French, and Japanese.

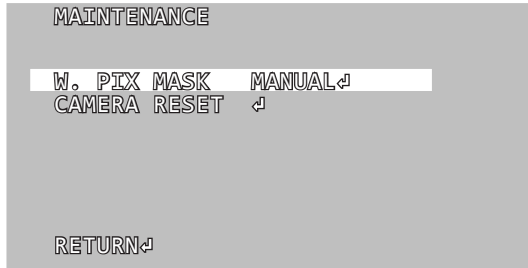
6.4.2.17. VERSION

To view the version of firmware currently running on the camera, select VERSION.

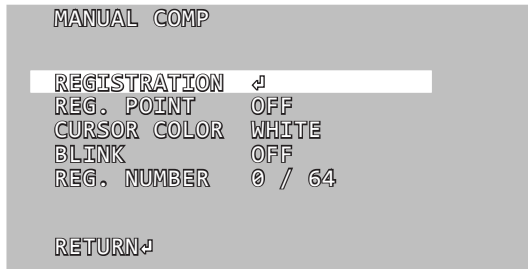


6.4.2.18. MAINTENANCE

To factory reset the camera or save settings, select Maintenance.



- W. PIX MASK — White Pixel Mask aka Dead Pixel Compensation. Allows an area to be set over a dead pixel and when activated causes surrounding pixels to be feathered in to “fix” the dead pixel.

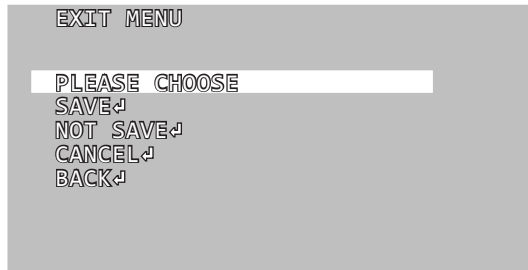


- CAMERA RESET — Factory resets the camera (cannot be undone). All configurations with the exception of the COMM SETTINGS will be reset back to factory default. Ensure default settings are desired before selecting this function. To complete the reset, enter the CAMERA RESET sub-menu, and select “CAMERA RESET”. The menu will exit after the process is complete.



6.4.3. EXIT MENU

After making changes, settings should be saved by using the SAVE function in the EXIT menu. If adjustment to the camera's settings results in poor picture quality, settings may be discarded (NOT SAVE).



- SAVE — Save all current settings and exit the SETUP menu.
- NOT SAVE — Discard all unsaved changes and exit the SETUP menu.
- CANCEL — Discard all unsaved changes and exit the SETUP menu.



7. Troubleshooting

If you have trouble operating the camera, first refer to the following guidelines. If the problem persists, contact our Technical Support line at (866) 838-5052.

Nothing appears on the display:

- Check if the power for the camera and the monitor is ON.
- Check if the VIDEO cable is connected to the camera BNC video output jack.
- Check if the VIDEO cable is connected to the monitor VIDEO input jack.

Image appears dim on the display:

- Check the monitor contrast setting.
- Check the monitor brightness setting.
- Check the lens. If necessary, clean with a soft, clean eyeglasses cloth.
- Check if the camera is facing bright lighting. If so, change the viewing position away from the light source.
- If a device exists between the camera and screen, confirm the signal accepted by the screen is strong enough – 75 Ohm.

Image appears blurry on the display:

- Check the focus of the lens.
- Check the lens. If necessary, clean with a soft, clean eyeglasses cloth.

The camera is not working properly and the camera housing is hot:

- Check if camera is connected to the correct power source.

Condensation appears on camera lens cover:

- Add a new silica desiccant pack inside the camera housing.

Camera power cycles intermittently:

- Check voltage at camera for proper voltage level.
- Connect camera locally with a different power supply to test.

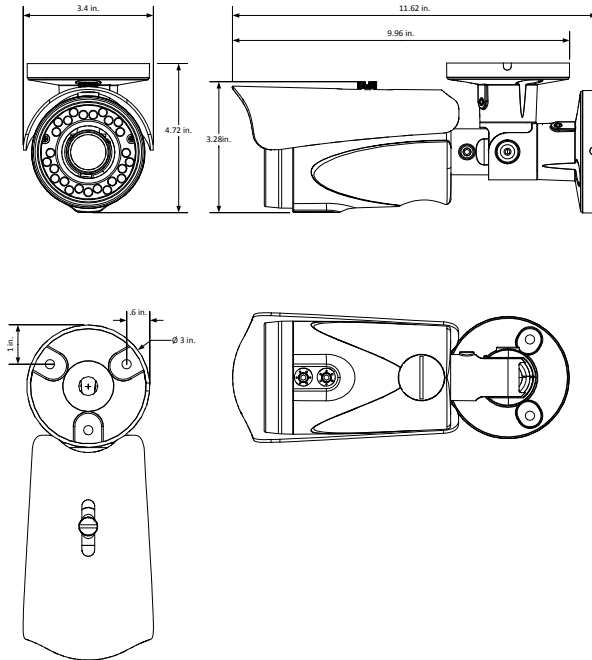


8. Specifications

Imaging		
Image Sensor	1/3" Sony Exview HAD 960H CCD (Double Scan CCD)	
Lens	2.8 ~ 12mm Auto Iris Vari-Focal Lens	
Estimated Horizontal Viewing Angle	92° (W) ~ 30° (T)	
Resolution (TVLs)	720	
Effective Pixels	NTSC:976(H)x494(V)	
Gamma	0.45	
S/N Ratio	>52dB (AGC OFF)	
Sync. Mode	Internal Sync	
Scanning System	2:1 Interlace	
Auto IRIS	Yes	
IR Range	80ft	
Smart IR	Yes	
True Day / Night	Yes	
Technology		
Auto Electronic Shutter	Yes	
OSD	Yes	
WDR	True WDR	
DNR	3D DNR	
Minimum Illumination	0.03 Lux color, 0.00003 Lux Sens-up	
Highlight Compensation	Yes	
Auto Gain Control	Yes	
Back & High Light Compensation	Yes	
White Balance	Yes	
Lens Correction	Yes	
Anti Fog	Yes	
Privacy Mask	Yes	
Motion Detection	Yes	
Mirror/Flip Mode	Yes	
Digital Zoom	Yes	
Image Stabilizer	Yes	
Housing and Power		
Weather Rating	IP66	
RS485	Yes	
Operating Temperature	-40°F~140°F *Operates to -40° when continually powered	
Operating Humidity	30%-80% RH	
Power Source (Not Included)	Main Power	12V DC or 24V AC (1A minimum)
	Test Adapter	12V DC (500mA minimum)
Power Consumption	10W 830mA	
Weight	2 lbs	



9. Dimensions



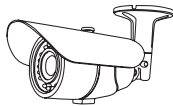
10. 5-Year Limited Warranty

This camera has a 5-Year Limited Warranty. The warranty includes parts and labor repairs on all components found to be defective in material or workmanship under normal conditions of use. This warranty shall not apply to products which have been abused, modified, disassembled or improperly installed. Products to be repaired under this warranty must be returned to Wirepath™ Surveillance or a designated service center with prior notification and an assigned return authorization number (RA).

11. Contacting Technical Support

Phone: (866) 838-5052

Email: Techsupport@snapav.com



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