WIREPATH
SURVEILLANCE

WPS-750-BUL-AH-GR
WPS-750-BUL-AH-WH

BULLET CAMERA

INSTALLATION MANUAL

Review manual thoroughly before installation.
Retain for future reference.

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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 ~ 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 12~30V 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

FEATURES

- **1/3" 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 3.7-12 mm. The auto-iris function intuitively manages the amount of light passing through the lens for consistent image brightness.
- **SWDR (Super Wide Dynamic Range)**
  SWDR 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.
- **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 objects from becoming blurred when 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 at the camera for fast and easy installation.
- **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.

PACKAGE CONTENTS

(1) WPS-750-BUL-AH
(1) AC/DC Plug
(1) OSD Joystick / BNC Test Adapter
(3) Screws
(3) Wall Fasteners
(1) 3mm Allen key
(1) Foam gasket
(1) Installation Manual
(1) Spare Silica
Pack 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.

OPTIONAL ACCESSORIES

Wirepath Surveillance offers a wide range of accessories that provide power to the cameras, allow for various mounting options, and make connection to the head end quick and easy.

MOUNTS

- **WPS-MNT-FLUSH-BUL**
  Use when the camera needs to be attached to a flush mount junction box.

POWER SUPPLIES

Local Power Supplies

- **PS-12DC-1A**
  12 Volt 1 Amp Power Supply for Cameras & IR Systems.

Remote Power Supplies
Use these remote power supplies to power all the cameras in the system from a remote location.

- **WPS-PS9-12VDC-10A**
  9 Output Power Supply - 12V DC, 10A - PTC Fuses

- **WPS-PS9-24VAC-12A**
  9 Output Power Supply - 24V AC, 12A - PTC Fuses

- **WPS-PS18-12VDC-18A**
  18 Output Power Supply - 12V DC, 18A - PTC Fuses

WIRING ACCESSORIES

In addition to mounts and power supplies, Wirepath offers a full line of accessories to easily send power, audio, and video over 2 conductors of Cat5 wiring back to the head end.

Visit www.snapav.com for a complete listing of accessories.

- **WPS-BAL-V-PIGTAIL**
  Mini Passive Video Balun with Pigtail and Screw Terminals

- **WPS-BAL-V-MINI**
  Mini Passive Video Balun with Pigtail and Screw Terminals

- **WPS-BAL-V-COMBO**
  Mini Passive Video Balun with Screw Terminals Combo Pack
  Contains: 1 WPS-BAL-V-PIGTAIL and 1 WPS-BAL-V-MINI

- **WPS-BAL-VP**
  Passive Video and Power Balun with RJ45

- **WPS-BAL-VPA**
  Passive Video, Power, Audio Balun with RJ45

- **WPS-BAL-VPD**
  Passive Video, Power, PTZ Balun with RJ45

- **WPS-ACC-PWR-F & WPS-ACC-PWR-M**
  DC Power Plug with Screw Terminals Available in Male and Female version 10packs.

- **WPS-ACC-PWR-1X2**
  DC Power Splitter Cable - 1 Female to 2 Male Connectors

- **WPS-ACC-PWR-1X4**
  DC Power Splitter Cable - 1 Female to 4 Male Connectors

- **WPS-ACC-MIC**
  Mini Microphone 12V DC Amplified

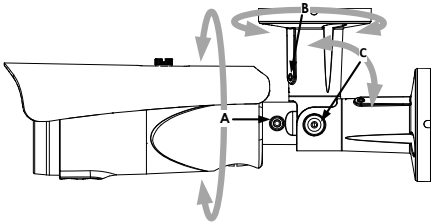
- **WPS-ACC-GND-ISO**
  Ground Loop Isolator Male to Female BNCs

INSTALLATION INSTRUCTIONS

1. Prepare Camera for Mounting

Prior to mounting to the Camera, we recommend that the position and angles be preset in order to speed installation. These settings can be fine-tuned once the Camera is mounted.

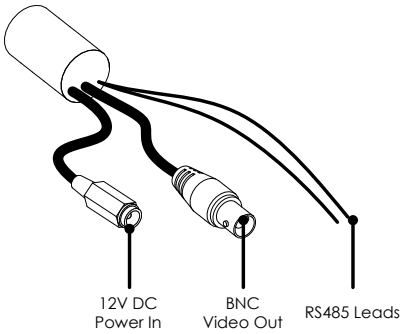
A. Adjust Camera Rotation
B. Adjust Swivel of Camera
C. Adjust Camera Angle



2. Connect the Camera to the System

Recommended Cabling:

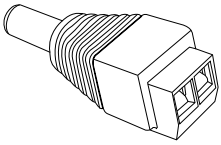
- Video	RG59 or RG6
- RS485 OSD Control	Cat5e/6
- Power	18/2 or Cat5e/6



A. Connect the BNC video output to the video in of a DVR or monitor.

B. Connect the DC Power In to a 12V DC-24V AC 1A power supply using the included WPS-ACC-PWR power adapter. The power supply can be located at the head end of system using a WPS-PS multiple output power supply and prewiring a power wire.

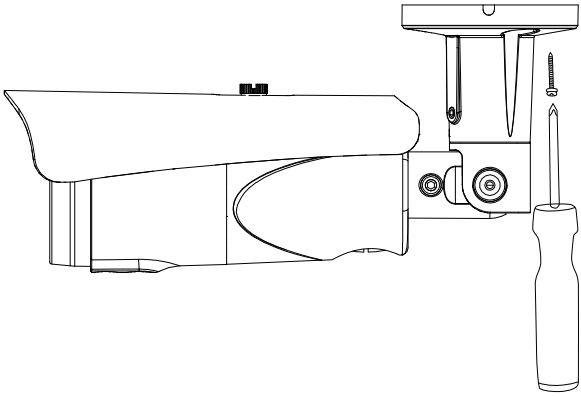
Important Note! *Be sure to use the correct power supply and power wire for the length of run to the camera to ensure reliable operation. Too small a power supply or wire will cause too much voltage drop, which will cause the camera to operate incorrectly or not power up at all.*



3. Mount the Camera

A. Mounting directly to a wall or eve:

A.1 - Use the Camera base as a template to mark the screw locations.
A.2 - Predrill holes in the marked locations.
A.3 - Connect the wires from the wall to the Cameras Pigtail and insert them into wall.
A.4 - Position the Camera base over the marked holes from step 3-A.1.
A.5 - Secure the Camera with the provided screws.



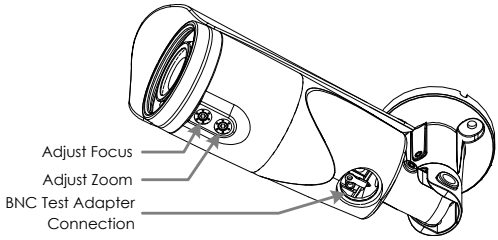
B. Mounting to a Single gang Junction Box

We recommend the use of the WPS-MNT-FLUSH-BUL Flush Mount plate when mounting to a single gang junction box. This plate is available in gray or white to match the color of the Camera being used. Follow the instructions in the WPS-MNT-FLUSH-BUL manual for using this mounting method and then proceed to step 4.

4. Fine-Tuning Camera Adjustments

The Camera is equipped with a BNC Test Port that allows for local Analog Video output and power to the Camera for adjusting positioning, zoom, and focus.

The camera is supplied with an OSD Joystick / BNC Test Adapter that allows for viewing the output of the camera on a monitor or the WPS-CCTV-TESTER (not included). Use this connection to adjust the camera directly from the installed location.



A. Remove the plate located at the rear of the Cameras just before the Cameras base to access the OSD Joystick / BNC Test Adapter connection.

B. Connect the OSD Joystick / BNC Test Adapter to the Camera.

C. Connect the BNC on the adapter to a monitor or WPS-CCTV-TESTER video in.

D. Connect a **12 V DC** Power Supply to the Power connection on the OSD Joystick / BNC Test Adapter if no other power connection is active.

Warning!! The Test Port adapter power connection for this camera only uses a 12 V DC power supply. Using a 24 V AC or other voltage power supply with the Test Port Adapter will result in damage to the camera, and possibly the power supply.

E. Adjust the Cameras Rotation, Swivel, and Angle as defined in step 1 and secure the set screws using the supplied 3mm Allen key.

F. Adjust the Cameras Zoom (furthest to the lens) using the supplied 3mm Allen key.

G. Adjust the Cameras Focus (closest from the lens) using the supplied 3mm Allen key.

SET-UP

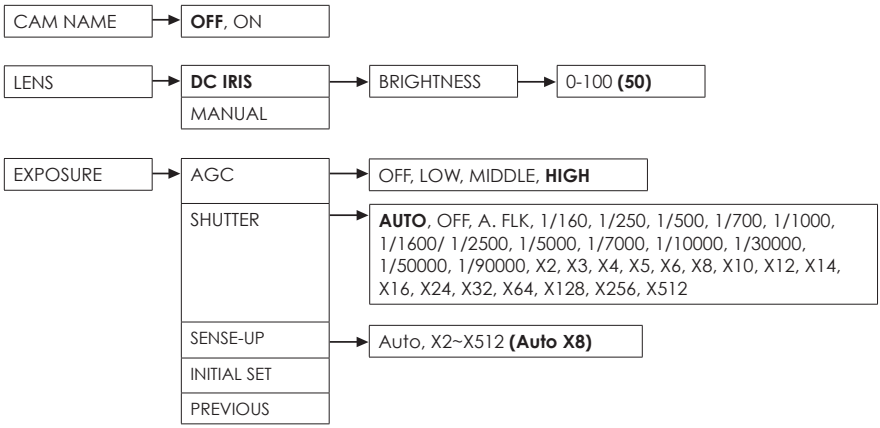
Operating the OSD Menu

- To view the OSD, the OSD Joystick / BNC Test Adapter must be connected to a display monitor or WPS-CCTV-TESTER (not included).
- The button found on the pigtail provides five separate actions: UP, DOWN, EXIT, ENTER and MENU.
- Press the button to enter into the OSD MENU page.
- Press UP, DOWN, EXIT (Left) or ENTER (Right) to select items on the menu and begin configuration.

OSD Menu Structure

Settings have been preconfigured for optimal performance in most applications. If adjusting the settings produces a poor picture, factory reset the camera to restore the original settings (see p.21)

Bold indicates factory preset



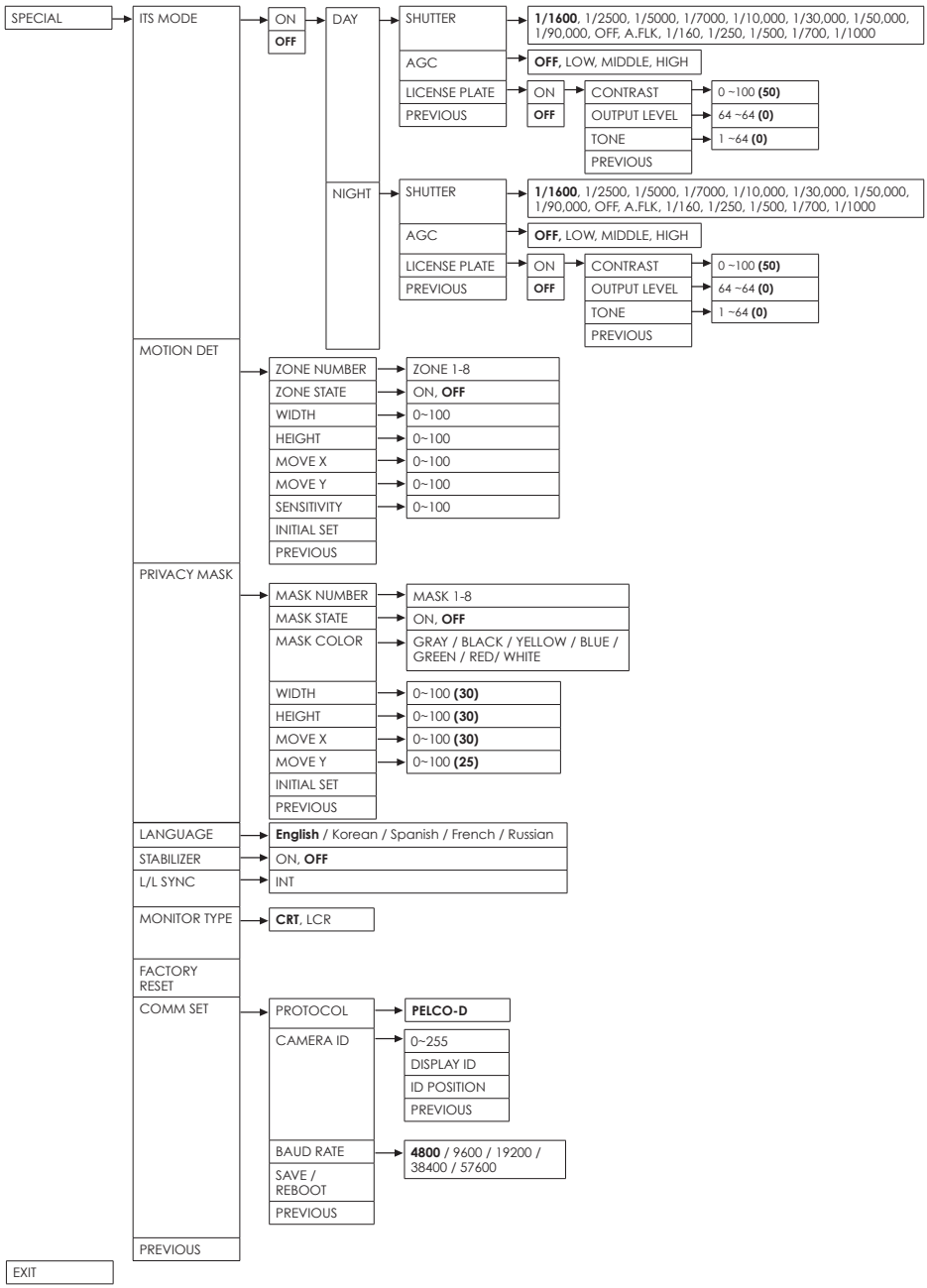
OSD Menu Structure cont. (bold indicates factory preset)

- DAY/NIGHT
  - DAY
  - AUTO
    - D/N LEVEL
      - **HIGH**, MIDDLE, LOW
    - FILTER DLY
      - 1, 3, 5, **10**, 15, 30 and 60SEC
    - NIGHT BURST
      - ON, **OFF**
    - INITIAL SET
    - PREVIOUS
  - **EXT**
    - IR MODE
      - ON, **OFF**
    - IR DEST
      - 1~100 **(32)**
    - PREVIOUS
  - NIGHT

- WDR/BLC/ ECLPS
  - **WDR**
    - WDR LEVEL
      - **SUPER**, HIGH, MIDDLE, LOW
    - NIGHT ECLIPSE
      - **OFF**
      - ON DARK
        - AREA SETTING
        - ALL AREA SET
          - ON, **OFF**
        - MASK COLOR
          - **GRAY**, D GRAY,BLACK
        - ECLPS LEVEL
          - **1**-5
        - GAIN CONTROL
          - **ON**, OFF
        - PREVIOUS
      - ON IR
        - AREA SETTING
        - ALL AREA SET
          - ON, **OFF**
        - MASK COLOR
          - **GRAY**, D GRAY,BLACK
        - ECLPS LEVEL
          - **1**-5
        - GAIN CONTROL
          - **ON**, OFF
        - PREVIOUS
    - PREVIOUS
  - BLC
    - BLC LEVEL
      - HIGH, **MIDDLE**, LOW
    - PREVIOUS
  - ECLPS
    - AREA SETTING
    - ALL AREA SET
      - ON, **OFF**
    - MASK COLOR
      - **GRAY**, BLACK, D. GRAY
    - ECLPS LEVEL
      - 1~5 **(1)**
    - GAIN CONTROL
      - ON, **OFF**
    - PREVIOUS
  - OFF

OSD Menu Structure cont. (bold indicates factory preset)

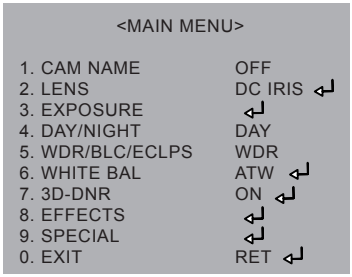
- WHITE BAL
  - **ATW**
  - COL-ROLL
  - PUSH
  - MANUAL
    - COLOR TEMP
      - **INDOOR**, OUTDOOR
    - BLUE
      - -100~100 **(0)**
    - RED
      - -100~100 **(0)**
    - INITIAL SET
    - PREVIOUS
- 3D-DNR
  - **ON**, OFF
    - DNR LEVEL
      - 1~100 **(24)**
    - DESTINATION
      - 0-63 **(47)**
    - GLOBAL MOVEMENT
      - ON, **OFF**
    - PREVIOUS
- EFFECTS
  - DZOOM MODE
    - ON, **OFF**
      - ZOOM
        - X1~X6.13
      - PAN
        - -100~100
      - TILT
        - -100~100
      - PREVIOUS
  - IMAGE FREEZE
    - ON, **OFF**
  - D-EFFECT
    - **OFF**, MIRROR, V-FLIP, ROTATE
  - CONTRAST
    - 0~100 **(50)**
  - SHARPNESS
    - 0~100 **(50)**
  - COLOR ADJUST
    - COLOR
      - **ON**, OFF
    - COLOR LEVEL
      - □100 □200 **(100)**
    - COLOR HUE
      - □100 □100 **(0)**
    - RED GAIN
      - □100 □100 **(0)**
    - BLUE GAIN
      - □100 □100 **(0)**
    - PREVIOUS
  - INITIAL SET
  - PREVIOUS



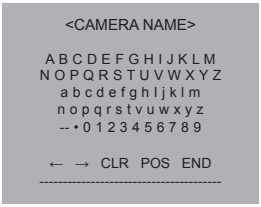
OSD MENU SETTINGS

The camera menu allows for the adjustment of settings to obtain optimal image clarity and color realism.

Note : If there is a "↵" symbol after the option, enter into the subdirectory to adjust more settings.



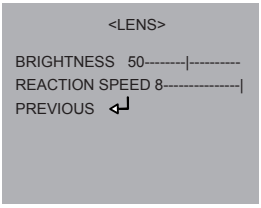
CAMERA NAME SETTING



The CAM NAME provides the ability to set a camera title to appear on-screen.

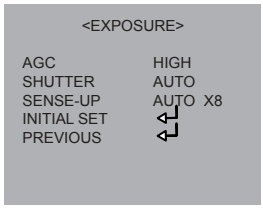
- To display the camera name on-screen, set the CAM NAME to ON.
- Select a camera name by selecting one letter/number at a time using the menu at the bottom of the screen. Consider assigning a camera name that highlights the location of the camera such as Lobby, Main Hall, Entrance 1, etc.
- Select CLR to clear all letters. Select POS to choose the position of CAM NAME on the screen. Select END to exit the menu.

LENS



- Select DC IRIS (Auto-IRIS), or MANUAL mode.
- In DC mode, the camera adjusts the aperture of the lens automatically based on the lighting conditions of the environment. DC mode is the recommended setting, especially for outdoor locations and environments with varying lighting conditions. Reaction Speed determines the speed of the Auto Iris feature.
- In MANUAL mode, the aperture is set fully open.
  This setting is only recommended for an environment with consistent lighting conditions.

EXPOSURE



AGC (Auto Gain Control) Setup

AGC mode automatically amplifies the video signal during low light conditions.

- Adjust the AGC by selecting OFF, LOW, MIDDLE, or HIGH. Please note that signal noise is slightly higher when AGC is enabled.

SHUTTER Setup

Shutter setup allows for control of the electronic shutter speed. Select a shutter speed to match the lighting condition of the environment and the goal of the camera location.

- Choose from AUTO, OFF, A. FLK, 1/160, 1/250, 1/500, 1/700, 1/1000, 1/1600/ 1/2500, 1/5000, 1/7000, 1/10000, 1/30000, 1/50000, 1/90000, X2, X3, X4, X5, X6, X8, X10, X12, X14, X16, X24, X32, X64, X128, X256, X512.
- For environments with unstable lighting conditions, the AUTO setting is recommended.
- For darker environments with fixed lighting conditions, select a slower shutter speed.
- For brighter environments with fixed lighting conditions, or scenarios in which fast-moving objects must be captured, select a faster shutter speed, such as 1/1000 seconds.
- A. FLK controls the flickering effect on the screen resulting from different video refresh rates, e.g. NTSC (50 Hz, 60 Hz). In such cases, set the shutter to A. FLK(1/100) to accommodate the different refresh rates.

SENSE-UP Setting

The SENSE-UP feature enhances the sensitivity of the camera and allows the camera to display bright images even under extremely dark conditions. SENSE-UP slows the shutter speed while increasing the brightness for superior low-lux performance.

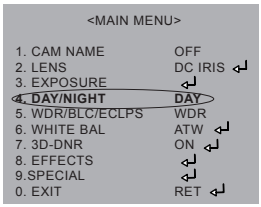
- **OFF:** Deactivates the SENSE-UP function.
- **AUTO:** Activates the SENSE-UP function. Select the SENSE-UP level from X2 to X512.

Note : The SENSE-UP function is only available when SHUTTER is set to AUTO.

INITIAL SET

Returns the exposure settings to factory default.

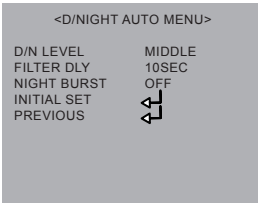
DAY/NIGHT



- Set the DAY/NIGHT value to AUTO, DAY, NIGHT, or EXT based on the installation application.
- **DAY:** The camera remains in color mode all of the time.
- **NIGHT:** The camera remains in black and white (B/W) all of the time.
- **EXT:** This mode uses the external sensor in the camera to switch to color or B/W. This is the recommended setting.
- **AUTO:** The camera uses the lens to determine color or B/W. When in AUTO mode, the camera automatically switches to B/W when lighting levels are low, and back to color when they increase.
  Note: AGC must be enabled for AUTO mode to be an option in the DAY/NIGHT menu.

AUTO Setting

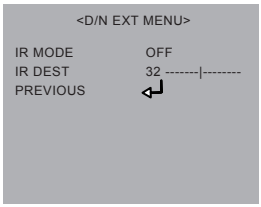
When setting the DAY/NIGHT mode to AUTO, the camera uses the lens to detect the Lux rating of the picture and switches to color or B/W automatically. Press the MENU button to set the switching time and speed for AUTO mode.



- **D/N LEVEL:** Select the sensitivity of switching between color and B/W. Set the value to “LOW”, “MIDDLE” or “HIGH” mode based on the environment of where the camera is installed. The “HIGH” level switches the camera to color or B/W with less change in the lighting level than the LOW mode.
- **FILTER DLY:** Select the delay time before the camera switches between color and B/W mode by changing the filter delay. The delay time can be set to 1SEC, 3SEC, 5SEC, 10SEC, 15SEC, 30SEC and 60SEC.
- **NIGHT BURST**
  - ON: The B/W image is actually a gray image and contains the color signal.
  - OFF: This is a true B/W image containing no color signal.
- **INITIAL SET:** Returns the Day/Night Auto settings to factory default settings.
- **PREVIOUS:** Return to the previous page.

EXT Setting

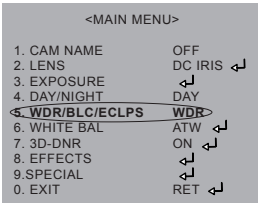
By selecting the EXT value in the Day/Night Mode and pressing MENU, you can enter into a subdirectory to adjust the IR WDR LEVEL and IR WDR DEST.



- **IR MODE:** The IR level can be switched to ON or OFF.
- **IR DEST:** IR Destination is used to spread the IR light to evenly fill the scene with the same IR intensity.
- **PREVIOUS:** Return to previous page.

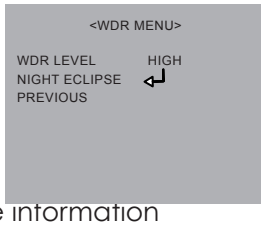
WDR/BLC/ECLPS

Select one of three mode options: Wide Dynamic Range, Back Light Compensation or Eclipse.



WDR (Wide Dynamic Range) Setting

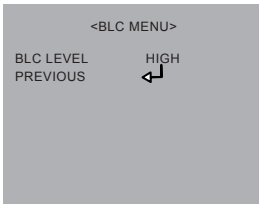
When there are both bright and dark areas in the scene at the same time, this setting balances the contrast between the two areas. This makes the picture distinctive and clear so the object has optimum detail and color.



- **WDR LEVEL:** Choose SUPER, HIGH, MIDDLE or LOW based on the environment.
- **NIGHT ECLIPSE:** Choose **ON DARK** for low lux environments when IR is not used. Choose **ON IR** for use at night when IR LEDs are on. Refer to ECLIPSE setting on page 16 for more information
- **PREVIOUS:** Return to previous page.

BLC (Back Light Compensation) Setting

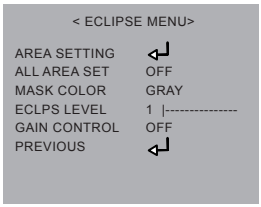
This function corrects the exposure of subjects in front of a bright light source.



- **BLC LEVEL:** Set the BLC LEVEL by selecting LOW, MIDDLE, or HIGH.
- **PREVIOUS:** Return to previous page.

ECLIPSE Setting

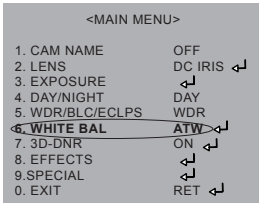
The ECLIPSE function is used to cut off exceptionally bright light, such as headlights of a vehicle. Zones and sensitivity can be adjusted based on the scene.



- **AREA SETTING:** Up to 16 programmable areas can be set. Press ENTER and EXIT to select areas. Press UP or DOWN to turn the areas ON or OFF. Press MENU to return to previous page.
- **ALL AREA SET:** Select ON to select the entire screen to cut off bright light. Select OFF to cancel all areas.
- **MASK COLOR:** Change the mask color to GRAY, Dark GRAY or BLACK.
- **ECLPS LEVEL:** Adjust the ECLIPSE level from 1 to 5. The larger the value, the more sensitive the camera to the light.
- **GAIN CONTROL:** Turns the gain ON or OFF
- **PREVIOUS:** Return to previous page.

WHITE BALANCE

White Balance is the process of balancing the color of an image so that the picture is as accurate as possible. White balance adjusts the image color according to the lighting conditions of the scene. Select one of following white balance modes:



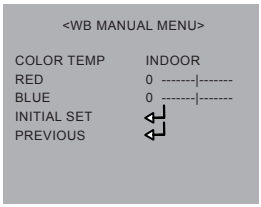
- **ATW (Auto Tracking White Balance):** ATW analyzes the color temperature of the scene and automatically compensates to provide accurate white balance.
- **COL-ROLL:** This feature is used when the scene includes fluorescent lighting and the camera has a moiré of colors in the image near the lights.

- **PUSH:** This function is ideal for an environment with the predominance of a single color. For example, when used in a casino and the camera is pointed to a green table, the color would be inaccurate and the overall tone of the picture would be too red. This mode compensates the white balance and offers a more accurate color.

  To set the PUSH function, select PUSH and zoom the camera to a sheet of white paper located in the scene. Press the "MENU" button. The camera will automatically set the white balance value. Reorient the camera to the desired scene, and remove the white paper.
- **MANUAL:** Adjusts the value of blue and red colors to a user-preferred white balance image.

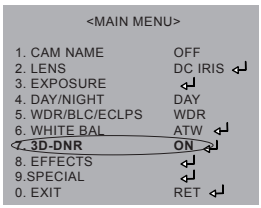
MANUAL Setting

- **COLOR TEMP:** Select INDOOR or OUTDOOR based on the installation.
- **RED** and **BLUE:** Adjust the value of the red and blue colors to a user-preferred white balance image.
- **INITIAL SET:** Return the White Balance to the factory default setting.
- **PREVIOUS:** Return to previous page.

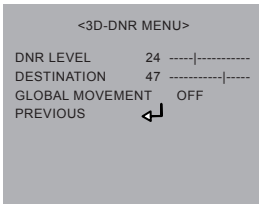


3D-DNR

Digital noise reduction produces extremely clear images even in low light conditions for 24/7 surveillance. Not only does it help to reduce image noise, but it also minimizes blurring of moving objects.
Note: The 3D-DNR function is only available when Auto Gain Control (AGC) is enabled in the EXPOSURE sub menu.

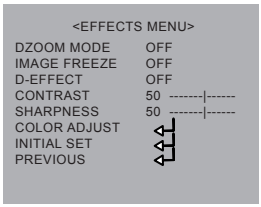


- Set the 3D-DNR to ON to activate the DNR function.
  When 3D-DNR is ON, enter into the subdirectory to adjust:



- **DNR LEVEL:** User-selectable from 1 to 100. The higher the value, the more obvious DNR performance.
- **DESTINATION:** User-selectable from 0 to 63. The higher the value, the brighter the image.
- **GLOBAL MOVEMENT:** This function reduces the object-blurred phenomenon when an object is in motion.
- **PREVIOUS:** Return to previous page.

EFFECTS



DZOOM Mode

The Digital Zoom feature allows the user to set a zoom up to X10.22

- **ZOOM:** Select a digital zoom of X1.0 to X10.22
- **PAN:** Adjust the zoom picture to move horizontally.
- **TILT:** Adjust the zoom picture to move vertically.

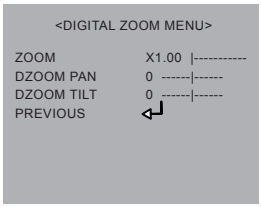


IMAGE FREEZE

- Select ON for a still picture, OFF for a moving picture.

D-EFFECT

Typically used in vehicles, the image can be mirrored by enabling the Mirror Image View. There are 3 modes available: MIRROR, V-FLIP(Vertical Flip), and ROTATE (Rotate 180 degrees).

CONTRAST

When increasing the contrast value, dark colors become darker and light colors become lighter. The value ranges from 0 to 100.

SHARPNESS

When increasing the sharpness value, the picture outline becomes stronger and clearer. The value ranges from 0 to 100.

COLOR ADJUST

Adjust the color of the image.

INITIAL SET

Return to factory default setting.

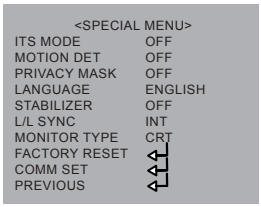
PREVIOUS

Return to previous page.

SPECIAL

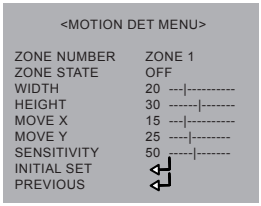
ITS MODE

Intelligent Traffic System Mode allows for setup of the camera in DAY and NIGHT modes to better see license plates in bright light conditions ypically caused by car head lamps. Settings adjust the speed of the shutter and AGC based on environmental conditions.



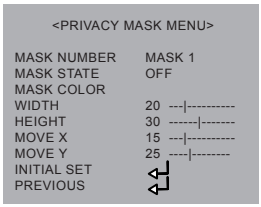
MOTION DET Setting

The Motion Detection Menu allows up to 8 zones of motion detection. When an object in one of the zones moves, the camera will display MOTION AT: XX and highlight the box around the zone of motion. This allows for monitoring motion more efficiently. Set MOTION DET to ON to enter into the Motion Det subdirectory for settings.



- **ZONE NUMBER:** Select 1~8 to adjust the settings of the area (zone) for motion to be detected.
- **ZONE STATE:** Set to ON to display the detection zone on the screen, set to OFF to hide the detection zone on the screen.
- **WIDTH, HEIGHT:** Customize the size of detection zone by adjusting the width and height.
- **MOVE X:** Determines the coordinate of the vertical axis for selected zone.
- **MOVE Y:** Determines the coordinate of the horizontal axis for selected zone.
- **SENSITIVITY:** Increase motion detection sensitivity by increasing this setting.
- **PREVIOUS:** Return to previous page.

PRIVACY MASK Setting



Privacy Mask configuration allows for masking of up to 8 "surveillance-free" zones in the picture. For example, this may be used for a camera that has a neighbor's window in part of the scene. Set PRIVACY MASK to ON to enter into the subdirectory.

- **MASK NUMBER:** Select 1~8 to adjust the settings of the area to be masked.
- **MASK STATE:** Set to ON to show the privacy mask on the screen. Set to OFF to hide the privacy mask.
- **MASK COLOR:** Options for the mask color include: Gray, White, Red, Green, Blue, Yellow or Black.
- **WIDTH, HEIGHT:** Customize the size of privacy mask by adjusting these values.
- **MOVE X:** Determines the coordinate of the vertical axis for selected privacy mask.
- **MOVE Y:** Determines the coordinate of the horizontal axis for selected privacy mask.
- **PREVIOUS:** Return to previous page.

LANGUAGE Setting

There are 5 different language options; English / Korean / Spanish / French / Russian.

STABILIZER Setting

This function is effective for when the camera is installed in an unstable environment (such as a camera mounted on an antenna tower) and efficiently eliminates the blurring or flickering of images.
Note: The Image Stabalizer function uses the digital zoom and will decrease the resolution of the camera. It is not recommend in low light or monochromatic settings.

- **ON:** Enables the Image Stabilizer.
- **OFF:** Disables the Image Stabilizer.

L/L SYNC

Line Lock Sync is used to reduce picture “roll” when the camera is connected to an AC power supply and its picture is switched with other cameras on a monitor.

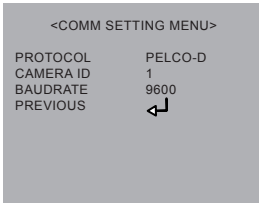
MONITOR TYPE

Select CRT or LCD based upon the type of monitor being used to view the camera.

FACTORY RESET

If adjustment to the camera’s settings results in poor picture quality, it is recommended to restore the camera to factory default settings. All configurations with the exception of the COMM SETTINGS can be reset to factory default settings by selecting FACTORY RESET and pressing the MENU button. **This option does not have an "UNDO" feature, so ensure default settings are desired before selecting this function.**

COMM Set



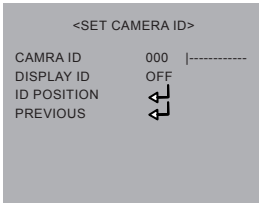
The communication setting is used to remotely control the camera’s OSD (On-Screen Display) from a PTZ controller or DVR through RS-485. This is helpful for adjusting camera settings after installation without having to be next to the camera.

- **PROTOCOL:** The communication protocol is preset to PELCO-D. This is the protocol how a PTZ controller or DVR remotely controls the OSD.

  Warning: Confirm that all devices in the system use the same Protocol.

- **CAMERA ID**

  - CAMERA ID: Select a unique number from 0 to 255



  Warning: If multiple cameras and devices are being used in the surveillance system, confirm that no other device is using the same ID. If two or more devices share the same ID number, the PTZ controller or DVR will not be able to control or configure any of the devices.

- DISPLAY ID: Set DISPLAY ID to ON to display the CAMERA ID on the screen. This feature is useful when needing to know the ID of a camera simply by viewing a picture.
- ID POSITION: Select the position for the CAMERA ID on the display screen by using the left and right arrows "←", "→" to move the ID.
- PREVIOUS: Return to previous page.

BAUD RATE

Choose a baud rate for RS-485 communication between the camera and controller. Baud rate options include 4800, 9600, 19200, 38400, and 57600, and must be set to the same rate in all of the devices.
Warning: Confirm that all devices in the system use the same Baud Rate.
SAVE/REBOOT

Once changes have been made to the COMM SETTINGS, Save and Reboot the camera to retain the settings. These settings are stored even when the Factory Default settings are applied. Select SAVE/REBOOT and press the MENU button.

PREVIOUS

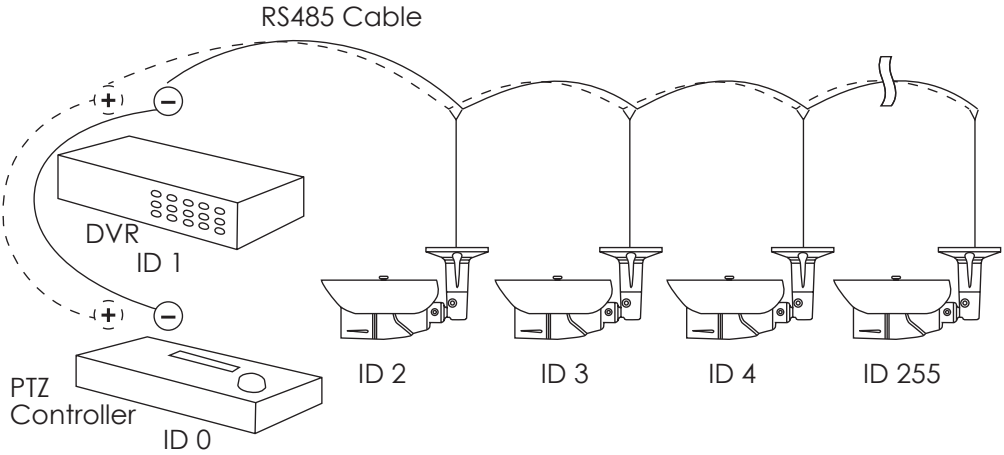
Return to previous page.

EXIT

A. Select EXIT to exit the OSD menu.

B. Disconnect the OSD Joystick / BNC Test Adapter and replace the plate removed in step 4-A.

SYSTEM DIAGRAM



TROUBLESHOOTING

If you have trouble operating the camera, first refer to the following guidelines. If the problem persists, contact Technical Support at 866.838.5052.

Nothing appears on the display

- Check if the power for camera and 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 and camera brightness setting.
- Check the camera exposure and shutter settings.
- Check the lens. If necessary, clean with a soft, clean cloth.
- Check if the camera is facing towards a bright light. If so, change the camera position.
- If a device exists between the camera and screen, confirm the signal accepted by the screen is strong enough – 75 Ohm.
- Reset the camera to factory default settings.

Image appears blurry on the display

- Check the focus of the lens.
- Check the lens. If necessary, clean with a soft, clean cloth.
- Check the camera iris and shutter settings.
- Reset the camera to factory default settings.

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

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

The SENSE-UP function cannot be activated

- Check if SHUTTER is set to OFF or other value. SENSE-UP function is only available when SHUTTER is set to AUTO.

The DAY/NIGHT menu cannot be set to AUTO

- Check if AGC is set to OFF. When AGC is OFF, AUTO cannot be activated.

The 3D-DNR function cannot be set to ON

- Check if AGC is set to OFF. When AGC is OFF, 3D-DNR cannot be activated.

The color of the picture is not correct

- Check White Balance and Color (Red / Blue) settings.
- Reset the camera to factory default settings.

Screen flickers continuously

- Check the camera location to make sure it is not pointing directly towards the sun or bright light source.
- Check if the flickerless control is set correctly; proper settings should reflect required refresh rates.
- Reset the camera to factory default settings.

RS-485 communication failure

- Check whether the RS-485 polarity is connected correctly to the RS-485 port.
- Check the Camera ID setting and make sure there is not more than one device with the same ID on the RS485 network.
- Check that the Protocol and Baud Rate for all devices are set to the same configuration.
- ***Warning: Conflicting settings of the Protocol and Baud Rate among devices connected to the RS485 network could result in abnormal operation of the camera. Ensure that the Protocol and Baud Rate for all devises are set to the same configuration.***

OSD Menu appears randomly without prompt from user

- Check the Pigtail - Verify that the pigtail is not pinched.
- Secure RS485 Wiring - Verify that the RS485 wires are not touching or shorting on a metal box.

Condensation Appears on Camera Lens Cover

- Check the color of the beads in the Silica pack under the lens cover.
  - If the blue crystals have turned pink indicating that the pack has absorbed moisture, replace the pack with the spare provided with the camera.

Camera Power Cycles Intermittently

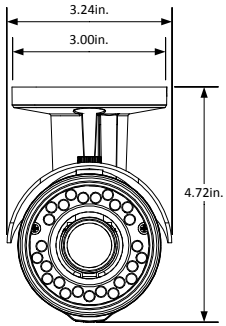
- Check voltage at camera for proper voltage level.
- Connect camera locally with a different power supply to test.

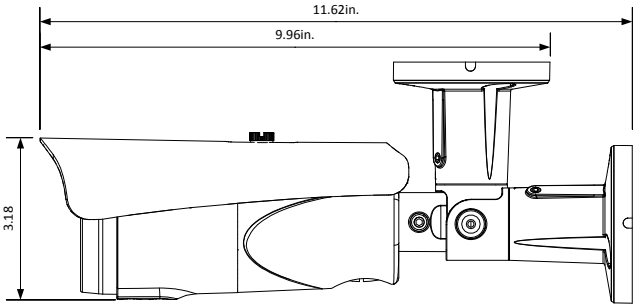
SPECIFICATIONS

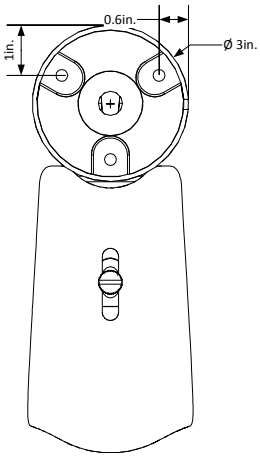
Imaging	Image Sensor		1/3" Color Sony Super HAD II			
	Lens		3.7 - 12mm			
	Estimated Horizontal Viewing Angle		78.1° (3.7mm) ~ 28.1° (12mm)			
	Resolution (TVLs)		650			
	Effective Pixels		NTSC: 768(H) x 494(V)			
	Gamma		0.45			
	S/N Ratio		52dB (AGC Off, Weight On)			
	Sync Mode		Internal			
	Scanning System		2:1 Interlace			
	Auto Iris		Yes			
	IR Range		80 ft.			
	Smart IR		Yes			
	True Day / Night		Yes			
Technology	OSD		Yes			
	WDR		Super WDR			
	DNR		3D DNR			
	Minimum Illumination		0.03 Lux color, 0.00003 Lux Sens-up			
	Sense-Up		Yes			
	Highlight Compensation		Yes			
	Auto Gain Control		Yes			
	Back Light Compensation		Yes			
	White Balance		Yes			
	Privacy Mask		Yes			
	Motion Detection		Yes			
	Mirror Mode		Yes			
	Digital Zoom		Yes			
	Image Stabilizer		Yes			
	Parking Line		Yes			
Housing & Power	Weather Rating		IP66			
	RS485		Yes			
	Operating Temperature		'-40˚F ~ 140˚F / 80% RH *Operates to -40˚ when continually powered			
	Operating Humidity		30% - 80% RH			
	Power Source	Main Power	12 VDC (1A) or 24VAC(500mA)			
		Test Adapter	12 VDC (1A) Only			
	Power Consumption		10.5W - 870mA			
	Dimensions			Depth	Height	Width
			Arm 90°	9.96"	4.72"	3.4"
			Arm Straight	11.62"	3.28"	3.4"
			All Dimensions with Sun Shade Attached			
	Weight		1.70 lb. (770g)			

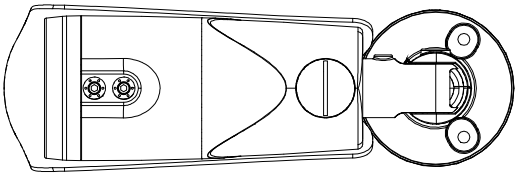
*Specifications are subject to change without notice

DIMENSIONS









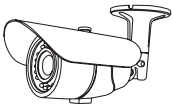
WARRANTY

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).

CONTACTING TECHNICAL SUPPORT

Phone: (866) 838-5052
Email: Techsupport@snapav.com



WIREPATH
SURVEILLANCE

130424-1605