LUMA SURVEILLANCE

LUM-510-PTZ
Analog Surveillance Camera

Installation & Operation Manual

Inspection

Ensure that the device is in good condition and all the assembly parts are included. If the product does not function properly, please contact technical support. Do not disassemble the camera for repair or maintenance.

Box Contents

- Camera with arm mount
- 24VAC power adapter with two wire leads
- Steel cable lanyard with two carabiners
- Mount coupling with lanyard hook
- Hex wrench
- (4) expansion screws

Required Equipment

Aside from the contents of this box, you must provide

- Small slot-head screwdriver
- CC-TV tester (recommended)

Preparation

- **Ensure that your recorder has the very latest firmware.** Use OvrC to update the firmware, or consult your DVR manual.
- Make sure that all equipment is powered off during installation.
- Ensure the wall is strong enough to withstand three times the weight of the camera and the mount.

We recommend installing with RG-59 or RG-6 cabling with two-wire power (the power supply is included). This provides better performance over distance than traditional category cable with baluns. For more details, see the product page at SnapAV.com.

Overview

Before installing, familiarize yourself with the parts of your camera.

Tails

The PTZ camera has four different tails.

BNC Video Cables

Two black BNC cables are labeled for TVI, CVI, CVBS and AHD. These connectors are also provided with protective sheaths to prevent accidental cross-connection.

Power Cable

The power cable ends in a red screw terminal. Insert the two wires of the power supply into the red and black inputs. Do not use the yellow/green input. For grounding instructions, see the product manual.

Interface Cables

The RS-485 cable ends in a black screw terminal. Insert the positive line into the orange terminal, and the negative line into the yellow terminal.

The alarm cable is a bundle of wires that have no terminal.

- **Alarm In 1:** Yellow/blue
- **Alarm In 2:** Yellow/orange
- **Ground:** Yellow/black
- **Alarm Out 1:** White/red
- **Alarm Com 1:** White/black

When the camera triggers an alarm, it closes the circuit between Out 1 and Com 1.

Installing the Camera with an DVR

First, choose which of the connectors you will use.

Using the TVI Connector

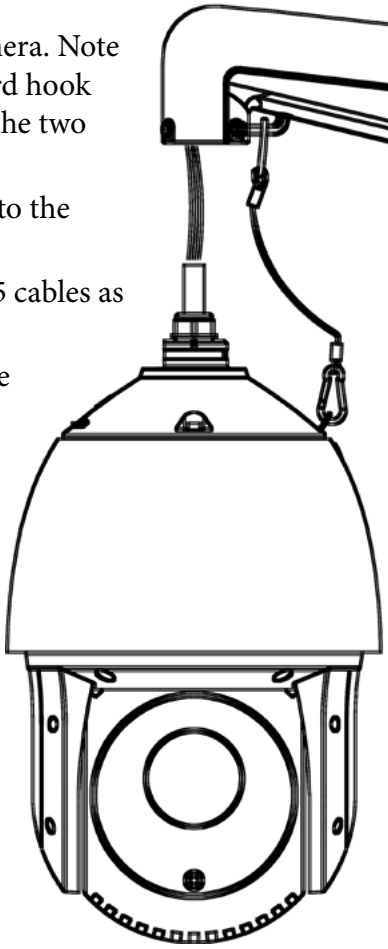
This is the recommended method.

1. Use your RG59 or RG6 cable to connect the analog PTZ to a channel on the DVR. The TVI connection allows control of the PTZ.
2. Power up the DVR.
3. Power up the camera by using the 24VAC power supply provided with the camera.

Using the CVBS connector

1. Use your RG59 or RG6 cable to connect the analog PTZ to a channel on the DVR.
2. Make the RS-485 connections to allow control of the PTZ camera.
3. Power up the DVR.
4. Power up the camera by using the 24VAC power supply provided with the camera.

Physical Installation



1. Attach the mount coupling to the camera. Note that, despite its appearance, the lanyard hook does not rotate; you can only tighten the two hex screws.
2. Attach the lanyard to the camera and to the mount, as shown.
3. Connect the video, power, and RS-485 cables as needed.
4. Attach power to the camera: attach the hot line to the red power terminal, and the ground to the black power terminal (refer to page 3 for details).
5. Insert the camera into the mount and secure it by rotating the camera clockwise.
6. Fasten the two lock screws with the Allen wrench.

Set the Camera Parameters

You may, if you wish, set the camera's channel number, protocol, and baud mechanically, by using the DIP switches on the camera. Setting these allows your joystick controller to interact with the camera.

We recommend instead that you use the camera's OSD to set these parameters as it is much easier.

Please refer to the appendices for details on how to set the DIP switches mechanically.

Menu Operation

This camera does not have a web interface. All camera options can be handled by the in-camera OSD menu.

To access the OSD menu, click the PTZ icon ( ) in the lower part of the DVR interface, then call Preset 95 to open the menu.

Menu Operation

If you see a menu item that is enclosed in carats <Like This>, that menu item can be opened by pressing Iris+ (Open).

Otherwise the menu item can be edited directly. When editing:

- **Iris+** (Open) accepts all changes and exits.
- **Iris-** (Close) closes without saving.

Other selectable menu items include Back (which navigates you through the panes) and Exit (which takes you to the root).

Menus with Multiple Pages

Some menus have more options than can be displayed on the screen. Instead, these menus have multiple pages. If a menu has additional pages available, special cursors display on the Back and Exit menu items.

- ⬖ This icon shows if additional pages are available to the right.
- ⬗ This shows if additional pages are available to the left.
- ◇ This icon shows if there are pages in both directions.
- ◆ If there are no additional pages, this icon shows.

To access these additional pages, tap your joystick (or the arrows of the DVR interface) left and right.

Menu Quick Reference

Here is a quick guide to locate the menu items you need.

Image Adjustment

Dome Settings > Sys Info Settings > EIS Function

Dome Settings > Sys Info Settings > EIS Level

Dome Settings > Camera Parameter > Sharpness

Dome Settings > Camera Parameter > Image Flip

Dome Settings > Camera Parameter > 2D DNR

Dome Settings > Camera Parameter > 3D DNR

Dome Settings > Camera Parameter > Contrast

Dome Settings > Camera Parameter > Focus

Dome Settings > Camera Parameter > Scene Mode

Dome Settings > Camera Parameter > HLC

Dome Settings > Camera Parameter > Sharpness Comp

Dome Settings > Camera Parameter > Defog

Image Color

Dome Settings > Camera Parameter > White Balance

Dome Settings > Camera Parameter > Red

Dome Settings > Camera Parameter > Blue

Dome Settings > Camera Parameter > Chroma Suppress

Dome Settings > Camera Parameter > Saturation

Infrared

Dome Settings > IR Parameter > (all menu items)

Image Exposure

Dome Settings > Camera Parameter > Slow Shutter

Dome Settings > Camera Parameter > BLC/WDR

Dome Settings > Camera Parameter > Gain

Dome Settings > Camera Parameter > Exposure Comp

Dome Settings > Camera Parameter > Gain Limit

Lens

Dome Settings > Camera Parameter > Zoom Limit

Dome Settings > Camera Parameter > AE Mode

Dome Settings > Camera Parameter > Iris

Dome Settings > Camera Parameter > Shutter

Dome Settings > Camera Parameter > Focus Limit

Dome Settings > Camera Parameter > Wide Limit

Programmed Behavior

Dome Settings > Presets > (all menu items)

Dome Settings > Patrols > (all menu items)

Dome Settings > Time Task > (all menu items)

Dome Settings > Patterns > (all menu items)

Dome Settings > Privacy > (all menu items)

Dome Settings > Alarms > (all menu items)

Information

Dome Settings > Sys Info Settings > Sys Tme

Dome Settings > Clear Settings > Diagnostics

Sys Info Menu

PTZ Settings

Dome Settings > Sys Info Settings > Zero Angle

Dome Settings > Sys Info Settings > Power Memory

Dome Settings > Camera Parameter > Zoom Speed

Dome Settings > Motion Parameter > (all menu items)

Dome Settings > Zones > (all menu items)

Dome Settings > Video Set > (all menu items)

Control Settings

Dome Settings > Sys Info Settings > Soft Address

Dome Settings > Sys Info Settings > Soft Addr Act

Dome Settings > Sys Info Settings > Soft Baud

Dome Settings > Sys Info Settings > Soft Baud Act

Dome Settings > Sys Info Settings > Broadcast Addr

Dome Settings > Sys Info Settings > Pelco Checksum

Dome Settings > Sys Info Settings > 485check

Dome Settings > Sys Info Settings > Coaxitron Active

Maintenance

Dome Settings > Sys Info Settings > Heat Control

Dome Settings > Sys Info Settings > Fan Control

Dome Settings > Camera Parameter > Init Lens

Dome Settings > Clear Settings > (most menu items)

Dome Settings > Restore Defaults > (all menu items)

Dome Settings > Restore Camera > (all menu items)

Dome Settings > Reboot Dome > (all menu items)

Dome Settings > Language > (all menu items)

Protocol

Dome Settings > Sys Info Settings > Protocol Status

Dome Settings > Sys Info Settings > Protocol

Dome Settings > Sys Info Settings > Protocol-C

Other Settings

Dome Settings > Auxs > (all menu items)

Dome Settings > Sys Info Settings > Display Settings

Sys Info Menu

This displays the current settings of your system. These entries are information and cannot be edited. Here you can review the camera's

- **Model Number:** This is always LUM-510-PTZ-A.
- **Address:** The default communication address of the camera.
- **Com Form:** The communication settings of the camera, including baud (4800 by default), data bit (8 by default) and stop bit (1 by default).
- **Protocol:** This is the method of communication between devices. We recommend HD-TVI as the preferred protocol.
- **Firmware:** Which version is currently installed and runnng. Unlike IP cameras, there is no way to change the firmware on this analog PTZ.
- **Hardware:** This is the version of the hardware.
- **Build Date:** When the camera was manufactured
- **Cam Version:** This is the version of the camera module.
- **Param Date:** This is the date the camera parameters were updated.
- **Temperature:** How hot the camera's interior is, measured in Celsius.

Dome Settings > Sys Info Settings

Soft Address

Choose a channel ranging from 1–31.

Soft Addr Act

When this is on, you may choose the camera channel using the OSD rather than using the DIP switches. **This is a great time saver,** as you no longer have to open the camera to set its address.

When this is off, you must set the camera's address with the DIP switches. See the appendices for details on setting the DIP switches manually.

After you enable or disable the soft address, the camera automatically reboots.

Soft Baud

Use the OSD to select baud from 2400–19200.

Soft Baud Act

When this is on, you may set the camera baud in the OSD rather than using the DIP switches. **This is a great time saver,** as you no longer have to open the camera to set its address.

When this is off, you must set the camera's address with the DIP switches. See the appendices for details on setting the DIP switches manually.

After you enable or disable the soft baud, the camera automatically reboots.

Broadcast Addr

When the camera is set to broadcast its address, a control device (usually a joystick controller) with an address of 0 can control all PTZs connected to it.

Pro Tip: Set the PTZ controller's address to 0 and your 16-channel DVR to channel 17 to ensure that even if all 16 cameras have an address, your system will not have any address conflicts.

Pelco Checksum

This is used with Pelco-P and Pelco-D protocols. If the video lags, turn this on to improve video quality.

Sys Time

This camera maintains its time independent of the Luma DVR. Use Zoom+ and Zoom- to adjust a given value, then push the joystick right to edit the next number.

Zero Angle

Use controls to move your camera, then use this command to set this level to be the default zero angle.

Display Settings

These settings place data onto the camera's on-screen display. Each entry can be turned on or off, with a duration of 2–10 seconds.

If you enable both Zoom Show and P/T Show, then, when calling a preset, the preset number displays on the screen.

- Zoom Show: Identifies the amount of magnification. The format is Z###, where the numbers display the zoom amount.
- PT Show: Displays panning and tilting direction, with the format of XX###/T###. With the first entry, XX is one or two letters to indicate the general facing (e.g., SE for southeast). The ### entry indicates how many degrees clockwise it has rotated from the zero angle (set in the item above). The T entry displays the tilt in degrees.
- Alarm Show: This displays a notification if the alarm is active.
- Time Show: Displayed as day/month/year/weekday/hour/minute in 24-hour time.

- Preset Show: This displays the preset number on-screen after you call the configured preset.
- Zone Show: Display the zone's title.
- Address Show Display the camera's channel.
- Error Rate Show: Displays the number of errors the camera has experienced since power-up.
- Fan/Heat Show: Display the camera's heat information.

Heat Control

If set to Off, the heater never functions.

When set to On, the heater operates until the temperature hit triple digits. This can help avoid condensation.

When set to Temp, the heater's operation varies by temperature, shutting off when the temperature hits roughly 80°F.

Fan Control

If set to Off, the fan never functions.

When set to On, the fan operates unless the temperature drops below -4°F.

When set to Temp, the fan's operation varies by temperature.

EIS Function

This enables electronic image stabilization, where the camera uses image data to compensate for any vibration caused by wind, construction, etc.

EIS Level

This function has been disabled.

Preset DFocus

When active, the camera automatically refocuses when it moves to a preset location.

Protocol Status

If you don't want to use auto-match, this allows you to select your preferred protocol.

Protocol

Choose Pelco-P, Pelco-D, HIKvision, Kalatel, Vicon, or auto-match.

485check

Turn this on if you want to check RS-485 diagnostic messages for your camera.

Setting this to auto still allows you to check messages, but disables the setting once no errors are detected.

Power Memory

This is how long the camera remembers its status from before a power loss. If there is a lack of power longer than the memory time, the camera restarts its PTZ patrolling from its defaults.

Near Focus Level

This allows you to prevent the camera from focusing on objects that are too close. Experiment to see which level works best for you.

Coaxitron Active

Enable this to transmit the RS-485 signal along with the video signal through the BNC cable. If the connected DVR also supports coaxial transmission, the RS-485 cable is unnecessary.

Set the protocol using the item below. Ensure the protocol and baud on the camera and DVR match.

Protocol-C

This is where you control private-code protocols. Ensure the transmission protocol of the Luma DVR is the same as the camera to support the coaxial transmission.

Dome Settings > Camera Parameter

Focus

Here you set the camera's lens behavior during PTZ movements.

AF: With auto-focus, the lens remains in focus while moving.

MF: Manual focus means you must adjust the focus manually after adjusting the pan, tilt, or zoom.

HAF: With half-auto focus, the camera refocuses automatically, but only once after panning, tilting, and/or zooming.

Zoom Limit

You can restrict how close in your camera zooms. For example, you could prevent the camera from zooming closer than a full-body view of people walking on a given sidewalk. This is especially valuable for people using imprecise tools to zoom (e.g., the Luma mobile app), where the camera might zoom too far for the image to be usable.

If you set the zoom limit to the minimum value, digital zoom is disabled, but the optical zoom can still reach the maximum value. If you set the zoom limit higher, digital zoom is also enabled.

Zoom Speed

This sets how swiftly the camera changes zoom level.

Slow Shutter

This keeps the shutter open longer, which makes for brighter images in low-light situations, but also causes moving objects to blur more. The higher you set the value, the longer the shutter stays open. Setting it to 0 turns the slow shutter feature off.

IRcut Filter

This function has been disabled.

D/N Level

This function has been disabled.

Sharpness

Adjust the sharpness of the camera image from 0 (unchanged) to 15 (edges highly sharpened).

BLC/WDR

Backlight compensation and wide dynamic range adjust-the screen to compensate for backlighting as well as light and dark areas. The more uniform lighting gives a better overall effect.

BLC Level

This function has been disabled.

AE Mode

AE mode defines the priority of iris, shutter and gain when the camera is adjusting the image brightness.

Auto: Here the camera adjusts the values automatically, responding to the lighting conditions. This is the default mode.

Iris: The user defines the iris value, leaving the camera to adjust shutter and gain automatically. Set the iris value as shown under the Iris menu item, below.

Shutter: The user defines the shutter value, leaving the camera to adjust iris and gain automatically. Set the shutter value as shown under the Shutter menu item, below.

Manual: With this, you must define the iris value, gain value, and shutter speed; the camera makes no automatic adjustments. Set these values as shown in the next three menu items.

Iris

A tighter iris makes for darker images, but increases depth of field.

The iris is as tight as it can be at value 0, and fully open at value 17.

Shutter

The speed of the electronic shutter controls the amount of light entering the lens. A faster shutter makes for darker images, but reduces blur.

You can manually configure the shutter speed (speed is 1/X second), and you can also enable the slow shutter function for low-light circumstances

Gain

Here you set how much the camera amplifies the original image signal. 0 means no gain. Note that increasing gain also increases any digital noise in the image.

Exposure Comp

Set the exposure compensation increase the brightness of the image (higher numbers create more brightness). The default value is 7.

White Balan

White balance corrects the colors of the image so that white actually appears white.

ATW (auto-tracking white balance) has the camera handle white balance constantly, even while the camera is moving and zooming.

HAuto: Half-auto mode seeks to maintain color balance based on the current color temperature of the image. This means white balance may change often.

Auto: Here, the camera determines color balance on bootup, and retains that setting.

Indoor, Outdoor: These modes set the white balance based on standard profiles for those environments.

SelfDef lets you adjust the blue and red levels manually. Between them, these determine the green level. Use the next menu items to adjust the blue and red values.

Red

If SelfDef is selected, adjust your red balance here. Increase this if your scene is too cyan, reduce it if it is too red.

Blue

If SelfDef is selected, adjust your blue balance here. Increase this if your scene is too yellow, reduce it if it is too blue.

Image Flip

Turning this on rotates the image 180°.

Focus Limit

This sets a limit on how close the PTZ tries to focus. Auto, 1cm–5m.

You can restrict how close in your camera tries to focus. For example, this allows the camera to focus on a sidewalk without becoming distracted by a tree branch that occasionally waves in the view area.

2D DNR

This uses data from within a single image to reduce noise. Higher numbers have a greater effect on reducing noise in a low-light environment.

3D DNR

This evaluates image data variance over time to reduce noise. Higher numbers have a greater effect on reducing noise in a low-light environment.

Wide Limit

This limits the minimum zoom the lens is allowed.

Chroma Suppress

Higher levels of chromatic suppression reduce the color signal in favor of a black-and-white signal. In low-light situations, this washes the color way but makes for a crisper and clearer black-and-white image.

Saturation

Higher saturation increases the color in an image.

Contrast

The higher contrast is, the more variance there is between black and white. Low contrast shifts everything towards middle intensities.

Scene Mode

Select either indoor or outdoor. The camera then changes all default settings to match that environment. Settings that you have edited remain unchanged.

HLC

Set the value of high light compensation to brighten the darker areas and weaken the brighter areas of the image. It's the opposite of increasing contrast. The greater the value is, the stronger the effect will be.

Sharpness Comp

Sharpness compensation automatically adjusts the data to get a clear image. The greater the value is, the stronger the effect will be, but the less natural it will look.

Gain Limit

This menu item limits the maximum user-configurable gain value to avoid excessive image noise.

Defog

Enable the defog function if desired. This grants the camera better visibility in foggy ambient conditions. It does not affect condensation on the interior or exterior of the camera.

Init Lens

This triggers a lens initiation for basic maintenance purposes. If you find that your image isn't looking the way it used to, doing this refreshes all electronic image adjustments and should restore normal operation.

Dome Settings > IR Parameter

IR Sensitivity

This sets the level of illumination below which the camera activates infrared.

Near/Mid/Far LED Current

These three menu items balance the relative power levels of the various IR emitters. Higher current means more infrared illumination. Balance the relative powers of the near, middle, and distance LEDs to provide a uniform picture.

Reference Zoom

Set this for each of the three LED settings to help the camera determine the proper LEDs to use.

LED Control

This controls which infrared setting is active based on the camera's zoom level.

Switch Delay(s)

This sets the delay in seconds when switching between near, mid, or far LED. This prevents the camera from flipping levels

Smart IR

This adjusts the infrared illumination as the camera zooms and pans to avoid oversaturation.

Dome Settings > Motion Parameter

Auto Flip

When active, this feature automatically corrects the image when the PTZ tilts so far down that it passes through vertical and continues up the other side.

Proportional Pan

You can enable proportional panning to adjust the pan and tilt speed according to the camera's current zoom. In effect, this slows down the pan and tilt functions at high zoom levels, and increases it when the camera shows a wide field of view.

Park Time

If your camera has been inactive (parked) for a certain amount of time, you can program it to start a desired activity automatically. The park time ranges from 5 seconds to 12 minutes.

Set the action using the item below. If you do not want your camera to undertake an activity when not in use, choose the None action.

Park Act

This is where you choose which action the camera takes when parked.

- Pan Scan
- Tilt Scan
- Panorama
- Frame Scan
- Random Scan
- Patrol-D
- Patrol 1–10
- Pattern 1–5
- Preset 1–8
- Day
- Night
- None

Set the time using the item above. If you do not want your camera to undertake an activity when not in use, choose the None action.

Scan Speed

The scan speed defines the scan degree per second of pan scan, tilt scan, frame scan, random scan and panoramic scan. The scan speed is adjustable from level 1 to level 40 and the higher the level is, the faster the scan speed is.

Image Freeze

When the camera is ordered to a new preset, this feature keeps the old image in place while the camera moves. Because the camera does not transmit the transitional imagery, it reduces the bandwidth use in a digital network system as well as provides privacy protection for the intermediate scenes.

Dome Speed

The manual movement speed of the dome can be set from level 1 to 10.

Dome Settings > Presets

Presets are preconfigured images for your camera. Each preset specifies the exact position of the PTZ, including rotation, tilt angle, and zoom. You can have up to 256 different presets programmed.

Preset Num

Select which preset you want to edit here.

The number is displayed below.

Preset PTZ done/quit

To edit a preset position, use the direction buttons to move the camera to find the desired position.

You can select the preset number from the drop-down preset list in the control panel of the web browser, and click the arrow to call a user-defined or system-defined preset.

Clear

Use this to delete a preset.

Dome Settings > Patrols

A patrol is a scanning track that moves the camera from one preset to the next in a user-defined sequence.

Patrol Num

Choose the patrol number to edit. Your camera can handle up to ten patrols.

Edit Patrol

You edit the patrol by means of a table. The table has columns for the line number, the preset number, the dwell time, and the patrol speed.

Note that the line number is not editable. You can configure up to 32 presets in sequence for a patrol.

Move the joystick left and right to select which field to edit, and up and down to adjust the setting.

The presets you use for your control must already be defined.

Dwell time is the duration that the camera remains on that preset. The time ranges from 0–800s.

Patrol speed (level 1~40 selectable) is the speed the camera uses when switching to the next preset.

Preview

If you want to see how it works, select this menu item.

You can call the special presets to call the defined patrol. See the appendices for a list of reserved presets.

Clear

Use this to delete the currently selected patrol.

Patrol-D

Patrol-D is the one-touch patrol that comes pre-programmed with the camera. It consists of presets 1–32.

If a preset has not been defined when this is called, the camera generates one.

In this menu item, you define the dwell time for the patrol (that is, how long the camera remains at each preset).

Dome Settings > Time Task

This menu sets up actions that are performed automatically at a preconfigured time each week.

Task Num

Choose the task number. You can have up to eight timed tasks.

Task State

Activate or deactivate the task with this menu.

Task Act

There are a number of different actions that you can select:

- Zero Calibration: The camera executes a scan from the zero angle position (if it was set).
- Pan Scan: The camera scans horizontally, panning 360° with changing tilt.
- Tilt Scan: The camera scans vertically, panning up and down without rotating.
- Panorama: The camera scans the entire view area.
- Frame Scan: The camera moves from one view area to an another view area that is adjacent, essentially building a tile or mosaic of its entire field of view.
- Random Scan: Self-explanatory.
- Patrol-D: The camera executes patrol-D.
- Patrol 1–10: The camera executes all defined patrols in sequence.
- Pattern 1–5: Executes all defined patterns in sequence.
- Preset 1–8: The camera moves to each preset in sequence.
- Day: Executes the actions you have set up for daytime.
- Night: Executes the actions you have set up for nighttime.
- None: No activity.

Task Time

In this menu, tap the joystick left/right to select which field to edit, and up/down to edit the selected entry.

You can choose to perform the action once per week by selecting a day, or every day by selecting Whole Week.

Select the start and end times using 24-hour notation, or use the Task Clear menu item to remove the task permanently.

Dome Settings > Patterns

A pattern is a programmed series of pans, tilts, and zooms, as well as preset calls. A pattern can be activated by a command or called automatically by a preconfigured function (alarm, park, time task, and power-up). You can either call the pattern directly, or else call special presets for specific patterns See the appendix for details.

Pattern Num

Use this to choose the pattern number to edit or review.

Edit Pattern

Once this is active, use the PTZ control buttons and direction buttons to operate the camera to draw a movement path, including pan scan, tilt scan, zoom in, zoom out, etc. The camera automatically memorizes the path.

Preview

Use this to review the pattern's movements.

Clear Pattern

Delete the current pattern, as well as all patterns that have higher numbers (e.g., if you delete pattern 2, patterns 3 and higher also get deleted). If you no longer want a lower-numbered pattern, you are better served by re-recording that pattern. To do so, go to Main Menu > Dome Settings > Patterns, choose the pattern number you no longer want, select Edit Pattern, and press Iris+ to edit.

Remaining

This is not editable, but it indicates the remaining camera memory for holding pattern movements. This memory is shared by all patterns collectively. This updates every time you save a pattern; when the remaining memory reaches 0, no more pattern movements can be configured.

Dome Settings > Privacy

Privacy masks enable you to cover certain areas of your camera's view from being viewed and recorded. When the camera moves or zooms, it automatically adjusts the masked areas to maintain their size and position.

Blank Num

This is where you select which of the eight possible privacy masks you wish to edit.

Blank Status

Use this to activate or deactivate the selected mask.

Set Blank

This is where you set the size and position of the privacy screen.

Adjust Blank Pos/Size

This headline indicates whether you are changing the mask's size or position. You can change which one is being edited with the next menu entry.

If you are changing position, use the joystick to move the box left or right, and up or down.

If you are changing size, use the joystick to adjust its height and width.

Focus Shift Status

This toggles you between adjusting the mask's size and position.

Clear Blank

Use this command to remove the selected privacy mask from memory.

Dome Settings > Alarms

This section configures how the camera responds to alarm events sent by a linked alarm, or when the camera itself triggers an alarm.

Alarm Resume

This activates or deactivates the alarm settings.

Alarm Sequence

When more than one alarm of the same priority occurs at the same time, the camera responds to one alarm first, and then others, based on this user-defined interval. You can set a delay of up to 200 seconds.

Alarm Rest Delay

This setting prevents the camera from reacting to an alarm trigger from the same alarm device until a short time has passed. This gives a person time to, say, cross a room and enter a security code before an actual alarm is triggered. This also prevents a single alarm from triggering the camera repeatedly.

Alarm Setting

Here's where you customize your alarms.

Alarm Num

Here you choose which alarm you are editing.

Priority

If multiple alarms are triggered simultaneously, the camera only responds to the alarm with the highest priority rating. If multiple alarms with the same priority are triggered, the camera responds to each alarm according to the alarm sequence defined in the previous menu item.

Alarm AC

This is the action (and alarm output) the camera takes when reacting to an alarm.

Aux

Your camera has two configurable alarm output interfaces on the camera that can trigger another alarm device to operate. Here you select which one(s) are active.

Alarm Input

Here you set which status sets off the alarm.

Move the cursor to Alarm Inout and click the Iris+ to enter edit mode. Configure the input status as Open (the alarm trigger is normally open), Close (the alarm trigger is normally closed), or Off (thus disabling the alarm input).

Dome Settings > Auxs

Here you set up the camera to trigger external alarms. These must of course be linked to the alarms the camera is to trigger.

Aux

For each, you configure which kind of alarm closure the camera's alarm outputs are linking to. This allows the camera to send the proper signal. The options are Open (the alarm trigger is normally open), and Close (the alarm trigger is normally closed).

Dwell Time

Here you set the dwell time 0–60 seconds. This assigns the duration of the alarm output signal.

Dome Settings > Clear Settings

These menu items, for the most part, allow you to clear any customizations you have made to your PTZ camera. In addition, the diagnostics are also here.

Clear All

Clears everything from all the menu items below.

Clear All Preset

Clear All Patrols

Clear All Patterns

Clear All Blanks

Clear All Zones

Clear All Time Tasks

Diagnostics

These commands have all been disabled as their efficacy was minor at best.

Dome Settings > Zones

A zone is a panning and tilting area defined by the left/right and up/down limits. Zones are used when you want to restrict the surveillance area.

You can identify up to 8 zones with this camera.

Zone Num

Choose the zone you wish to edit.

Edit Zone

When you initially open this, the camera asks you to set the leftmost limit of the zone. Once you define that, it asks for the rightmost limit. Once that is set, your zone is defined as all areas between those limits, from the lowest tile to the highest.

Zone Status

This is not editable. It indicates whether or not the zone has been defined. If the limits of this zone have been defined, this shows as on, otherwise it displays off.

Scan Status

Turn the scan status on or off to enable or disable surveillance in that zone.

Clear Zone

This clears the currently selected zone from the camera's memory.

Dome Settings > Video Set

Video Std

Here you change the video standard to suit your location.

Choose **1080P / 30** for NTSC countries like the United States.

Choose **1080P / 25** for PAL countries like the United Kingdom.

Restore Defaults Menu

You can reset all dome settings to factory default parameters as shown in the table below.

Dome settings are mainly of PTZ parameters and alarm parameters, and also include some system settings, e.g. dome address.

Camera settings include the image parameters, lens settings and display settings.

Restore Camera Menu

This restores the camera settings to their default values. Camera settings include the image parameters, lens settings and display settings.

Reboot Dome Menu

This reboots the PTZ camera. We recommend that this be done on a regular basis (for example, by using a timed event).

Language Menu

Use the arrows to select from English, French, Spanish, and many others.

Exit Menu

This leaves the OSD.

Troubleshooting

PTZ Control Issues

Problem	Possible Cause	Solution
The camera passes self-test, but cannot be controlled remotely.	The camera's address or baud does not match those of remote control device.	Adjust the settings so the remote control device and camera have matching address and baud.
	The RS-485+ wire connects to the RS-485- interface and vice versa).	Rewire the RS-485 correctly.
	The RS-485 connection is loose.	Reconnect the RS-485 wire tightly.
	The RS-485 wire has failed.	Replace the RS-485 wire.
The camera can be controlled, but not smoothly.	The camera is too far away from the remote control device; the long run causes signal loss.	Add a terminal resistor.
	Too many cameras are connected.	Add a RS-485 distributor.
	The RS-485 connection is loose.	Reconnect the RS-485 wire tightly.
	The RS-485 wire has failed.	Replace the RS-485 wire.

I'm Getting "Protocol Error 100"

Protocol Error 100 occurs when the camera notices that your PTZ joystick controller has RS-485 settings (e.g., baud) that do not match those of the camera.

Appendices

Reserved Presets

These presets cannot be overwritten.

#	Function
33	Auto-flip
34	Home position
35	Patrol 1
36	Patrol 2
37	Patrol 3
38	Patrol 4
39	IR cut filter in
40	IR cut filter out
41	Pattern 1
42	Pattern 2
43	Pattern 3
44	Pattern 4
46	Enable fast patrol
92	Enable limit stops
93	Set manual limits

#	Function
94	Remote reboot
95	Access main menu
96	Stop scanning
97	Start random scanning
98	Start frame scanning
99	Start auto scanning
100	Start tilt scanning
101	Start panorama scanning
102	Patrol 5
103	Patrol 6
104	Patrol 7
105	Patrol 8

Grounding Your Camera

Follow all federal, state, and local government electrical codes for proper grounding and surge protection.

With their typically elevated placement, PTZ cameras are vulnerable to damage from lighting or power surges. Ground your equipment properly for the best protection.

Ensure that your camera and its wiring are at least 50m from high-voltage equipment or cabling.

Route your wiring under the eaves or inside the building as much as possible; do not leave them exposed.

In open terrain, bury the wiring inside a sealed steel pipe. Do not use overhead routing in open terrain.

In thunderstorm-prone areas or in with high-induction voltage (such as a transformer substation), install high-end lightning protection equipment and lightning conductors.

The system should be grounded according to all applicable federal, state, and local electrical codes for proper grounding and surge protection. When the system is grounded alone, the resistance should be no more than 4Ω. The cross-sectional area of the grounding cable should be a minimum of 25mm^2.

Setting DIP Switches

You can set the camera's channel using the camera's own menu system (which we recommend), or you can set them physically using the camera's DIP switches.

Accessing the DIP Switches

The DIP switches are located beneath the camera hood that protects the camera's machinery. If you turn the camera casing upside down, you'll see a small access panel. Remove the cover, and you'll see the DIP switches, and shown here:

Setting the Camera Channel

Bank SW1 sets the channel for the PTZ. This lets you use a joystick controller to manipulate the camera.

	Switch #	1	2	3	4	5	6	7	8
	Value	1	2	4	8	16	32	64	128
Address	0	off	off	off	off	off	off	off	off
	1	ON	off	off	off	off	off	off	off
	2	off	ON	off	off	off	off	off	off
	3	ON	ON	off	off	off	off	off	off
	...	...	...	...	...	...	...	...	...
	13	ON	off	ON	ON	off	off	off	off
	...	...	...	...	...	...	...	...	...
	255	ON	ON	ON	ON	ON	ON	ON	ON

Choose the channel for the PTZ, then flip the DIP switches whose total value equals the channel. Ensure all the others are off.

Setting the Communications

Bank SW2 controls the baud, protocol, video mode, and resistance.

SW2 Block: Baud Setting		
Baud	Sw 1	Sw 2
2400	ON	off
4800	off	ON
9600	ON	ON
19200	off	off

SW2 Block: Baud Protocol Setting			
Protocol	Sw 3	Sw 4	Sw 5
Self-adaptive	off	off	off
Peclo-P	ON	off	off
Pelco-D	off	ON	off
Hikvision	ON	ON	off
Kalate	off	off	ON
Vicon	ON	off	ON
Man_Bosch	off	ON	ON
Man_AD	ON	ON	ON

SW2 Block: Video		
Terminal Match	**Sw 6**	**Sw 7**
TVI	off	off
CVI	off	ON
AHD	ON	off
CVBS	ON	ON

SW2 Block: Resistance	
Terminal Match	**Sw 8**
Resistor On	ON
Resistor Off	off

Support

Need Help? Contact Tech Support!

If you need further clarification, please email support@SnapAV.com. For more information, instructional videos, support documentation, or ideas, visit our website and view your item's product page.

5-Year Limited Warranty

This Luma Surveillance™ product has a 5-Year Limited Warranty. This 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 that have been abused, modified or disassembled. Products to be repaired under this warranty must be returned to a designated service center with an assigned return authorization (RA) number. Contact technical support for an RA number.

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