



### Key Features

- Dual sensor optical and thermal integrated PTZ system
- High resolution day night 37X optical zoom CCD camera
- Active IR performs in 0 Lux (complete darkness)
- Rugged IP 66/NEMA 4X weather-proof/vandal proof housing
- Extreme heater/blower for operation in -45°C to 60°C
- User defined WDR, HLC, BLC, AWB, etc. via OSD
- Integrated mechanical infrared cut filter for absolute clarity
- Military connector supplies video, power and telemetry over 1 cable
- Flat viewing window with wiper eliminates dithering and distortion
- Micro-Step technology for quick, accurate pan/tilt better than 0.1°
- Can be mounted on vehicles or buildings to suit any application
- Multi-protocol communications for integration with 3rd party systems

### Overview

#### The Ranger

The RNG-37X-LIR boasts a state-of-the-art 1/4" Ex-View HAD II CCD imager that delivers rich 600TVL color by day and crisp 700TVL monochrome images at night. It contains a 3.5mm-129.5mm lens for an optical zoom factor of 37X for extreme wide angle to narrow fields of view. This, along with the camera's 16X digital zoom gives a total of 592X zoom to capture even the most minute details at great distances. All of this is integrated into a rugged IP 66 housing constructed of strengthened aluminum with alloy treated anti-corrosive coating. This internal heater/blower and wiper allows the Ranger to withstand the harshest climates and the most brutal assaults, making it ideal for perimeter security, homeland defense, and coastal protection.

#### Optical Day/Night Camera

The RNG-37X-TI has 5mm optically pure, flat tempered glass eliminating distortion and blurring to further enhance image clarity, even when zoomed in. The OSD allows you to program the Wide Dynamic Range (WDR), backlight compensation, privacy zones, and virtually every aspect of the camera allowing it to be installed in any application. All these features, in tandem with the accurate pan/tilt drivers, allow the RNG-37X-LIR to capture minute details at great distances.

#### Active IR ZLID Laser Illumination

Many laser illuminators only light the center of the screen and act as a spot beam that over-exposes the center of the image and leaves the edges dark. Ascendent's laser has up to a 1.0° to 40° (40X) resulting in an illuminated scene that matches the FOV of the camera. Ascendent's ZLID (Zoom Laser IR Diodes) technology synchronizes IR intensity and area illumination with a motorized zoom lens for outstanding active IR performance, eliminating over-exposure, washout, and hot-spots for performance at distances up to 400m in complete darkness.





### Pan-Tilt Resolver

The heavy-duty PTZ driver is designed for extreme performance in the most demanding applications. It implements brushless motor technology for endless 360° panning and Micro-Step technology for precise (0.10°) pan and tilt positioning. Advanced features, such as preset and auto-cruise, will complement almost any existing equipment by means of Pelco-D and Pelco-P protocols.

### Intuitive and User Friendly

Although the RNG-37X-LIR is an extremely sophisticated piece of equipment, it is operated by an intuitive, user friendly interface with multiple control options such as touch screen and mouse. It can also be controlled by a 3-axis joystick and operated by any individual without prior training. Additionally, the optional Image Stabilizer (IS) and fog filter helps eliminate the effects of vibration and waves giving the Ranger similar performance of a gyro-stabilized system at a fraction of the cost.

### Remote Connectivity (optional)

View all of your cameras instantly and remotely, and control them through the internet in real-time from anywhere in the world using Ascendent Remote Management Software (ARMS) on your laptop, iPhone, or Android device. Internet is often limited to low bandwidth satellites which is why our DVRs and IP cameras can record at one resolution, stream at another, and have integrated VBR and CBR to manage the amount of data and bandwidth used by each camera individually to ensure smooth operation on any network.



*Rapid Deployment Kit (RDK) - The Ranger can be ordered as a RDK kit. RDK kits are in high demand these days with a variety of applications from construction sites to critical response teams.*

### Rugged and Robust

The RNG-37X-LIR is comprised of military grade, precision engineered components and manufactured using unique processes to offer absolute performance. It integrates a military style connector to supply power, video, and communication over a single cable. The Ranger also does not require a junction box or external electronics of any kind, increasing reliability and the amount of time required to install the system.

## Optional Accessories

3-Axis PTZ Controller



IP Pro Video Server



Image Stabilizer



IP65-66 Marine Display





### Optical Camera

#### Wide Dynamic Range

The RNG-37X-LIR optical camera incorporates advanced backlight compensation technology that dramatically improves dynamic range by 128 times, resulting in accurate reproduction in extreme high-contrast lighting environments. The camera captures the same image twice; first with a normal shutter speed and then with a high shutter speed. The dark areas captured at normal shutter speed and the bright areas captured at high shutter speed are then blended into one image, using an advanced DSP LSI, producing superb images.

#### Automatic AE Response

The RNG-37X-LIR is equipped with a slow AE response function that automatically slows the rate at which camera exposure levels change. This rate can be set up to 32 times slower than when full-auto AE or priority (shutter/iris) modes are selected. This allows for monitoring areas in which lighting conditions change abruptly. For example, if the camera is used to monitor a flow of night time traffic and vehicle headlights are pointed directly towards it, the camera's exposure level is reduced slowly. This gives the ability to identify important details that are often overexposed by the headlights, such as the car's license plate or the driver's face.

#### Auto MICF (IR Filter)

Mechanical IR Cut Filter (MICF) delivers optimal images in both day and night shooting applications. At a set level of darkness the IR cut filter is automatically disabled (ICR ON) and the infrared sensitivity is increased. At a set level of brightness the filter is automatically enabled (ICR OFF). The IR cut filter automatically activates depending on the ambient light allowing the capture of images in a variety of lighting conditions.

#### High-Resolution Images

Combining a newly developed DSP with a 1/4" EX-View HAD CCD, this camera achieves a high horizontal resolution of 600TVL and outputs amazingly clear and detail-rich images with accurate color reproduction. Not only does this camera offer high resolution, it also has a 37X 3.5mm-129.5mm optical motorized IR corrected zoom lens with an additional 16X of digital zoom for a total zoom of 592X.

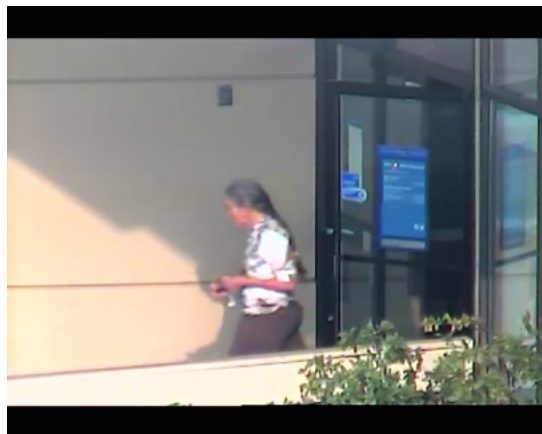
#### Multi-Line On Screen Display (OSD)

Up to eleven lines with 20 characters per line can be displayed on the monitoring screen using VISCA commands. Users can freely display captions on the screen such as monitoring location, camera name, and alarm messages providing operators with a user friendly interface.

1X



37X



*A comparison of a 37X camera zoomed in fully and zoomed out. The zoomed in image is a door of the bank located just above the middle of the 1X image. The 37X imager provides detail in mission critical applications where details are a must have. One zoom module on a pan-tilt can effectively replace many different cameras, making it not only cost effective but also more efficient.*



Specifications subject to change without notice

### Optical Assembly (37X)

Image Sensor	1/4" Ex-View HAD II CCD
Resolution	600TVL (day) / 700TVL (night)
Frame Rate (FPS)	30FPS
Lens	3.5mm-129.5mm IR corrected continuous zoom lens
Minimum Illumination (Sens-Up)	Color 0.05 Lux / BW 0.0008 Lux
Shutter Speed	Auto: 1/50 - 1/10,000 SEC
Zoom	37X optical, 16X digital, 592X total
Filter	Dual MICF: (Mechanical IR Cut Filter)

### IR Illuminator

ZLID	Zoom Laser IR Diode
Distance	300-450m
Angle	1° ~ 40°
Wavelength	810nm (940nm Stealth optional)
Control Protocol	Pelco-P/D standard

### Mechanical

Drive Unit	Integral pan/tilt brushless motor drive
Pan Angle and Speed	360° continuous pan (variable speed up to 55° per second)
Tilt Angle and Speed	40° (variable speed between 1.2° and 80° per second)
Speed Control	Closed loop electronics
Preset Accuracy	0.01° (Micro-Step)
Proportional P/T to Zoom Position	Yes (Automatic adjust speed with zoom for accurate pan-tilt)

### Physical

Construction	High strength aluminum alloy (salt spray PH 6.5-7.2)
Standard Colors	White, black optional
Weight	6.7KG
Viewing Window	Flat glass (optical), optional bullet proof

### Environmental

Operational Temperature	-45°C to +60°C
Environmental	IP 66, NEMA 4X outdoor weather ring

### Electrical

Input Voltage	18VAC-24VAC, 18VDC-24VDC (optional) (CE, ROHS, FCC)
Power Consumption	Max 60W (heater on), 30W (without heater)

### Available Options

Mounting	Upright mount or inverted
IP-Pro Server (with X4/X5 software)	Converts camera into IP camera to distribute video over wireless networks
Image Stabilization	Available
Video Analytics	Virtual fence, object classification, trip wire, abandoned object, etc