

KEY FEATURES

- › Dual sensor optical and thermal integrated PTZ system
- › High resolution day night 37X optical zoom CCD camera
- › Thermal camera for 2.9km human and 8.8km vehicle detection
- › 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°



RNG-37X-TI

PTZ THERMAL/OPTICAL CAMERA

The RNG-37X-TI is an integrated dual-sensor PTZ system that boasts a 37X ultra-high resolution color CCD and a highly tuned thermal imager for true 24/7 performance. Integrating these two sensors provides unparalleled performance resulting in accurate detection, recognition, and identification of intruders. 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.

THERMAL IMAGING

The Ranger incorporates the latest thermal VOX core with a pixel size of 17UM to render images that are over 30% sharper than standard 25UM sensors and proprietary noise reduction for high contrast images resulting in greater distance and clarity over traditional thermal imagers. The VOX thermal core is immune to the damage caused by direct sunlight and parasitic light that plagues many thermal cores leading to expensive repairs and down time. The Ranger thermal has a variety of imaging modes such as heat variance, false color hot and cold, and spot highlights allowing an integrator to optimize the performance of the camera in any application. This makes the Ranger an industry leading thermal camera in both performance and features.



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), back-light compensation, privacy zones, and virtually every aspect of the camera allowing it to be installed in any application.

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

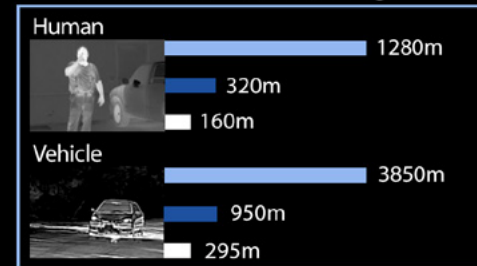
Although the RNG-37X-TI is an extremely sophisticated piece of equipment, it is operated by an intuitive, user friendly interface with multiple control options such as touch screen and mouse. It can also be controlled by a 3-axis joystick and operated by any individual without prior training. Additionally, 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.

RUGGED AND ROBUST

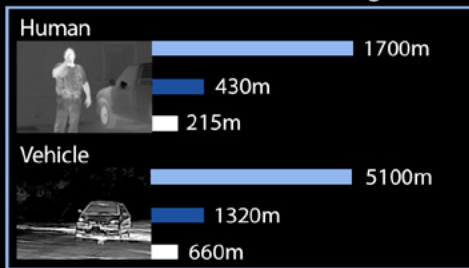
The RNG-37X-TI is comprised of military grade, precision engineered components and manufactured using unique processes to offer absolute performance. It integrates a military style connector to supply power, video, and communication over a single cable. The Ranger also does not re-

Legend: Detection Recognition Identification

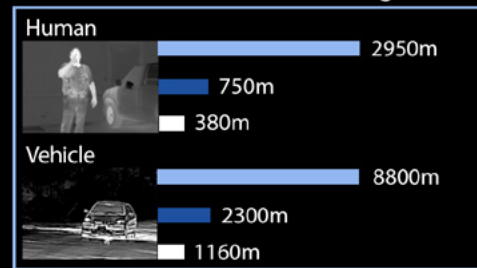
35mm Lens 320x240 Imager



50mm Lens 320x240 Imager



100mm Lens 320x240 Imager



quire a junction box or external electronics of any kind, increasing reliability and the amount of time required to install the system.

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 Infiniti Remote Management Software (IRMS) 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.

OPTIONAL ACCESSORIES

3-Axis PTZ Controller



IP Pro Video Server



Image Stabilizer



IP65-66 Marine Display



OPTICAL CAMERA

WIDE DYNAMIC RANGE

The RNG-37X-TI 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-TI 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 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 new 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 12X of digital zoom for a total zoom of 444X.

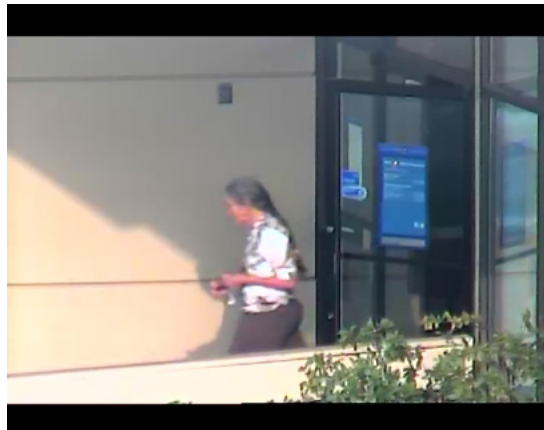
Multi-Line On Screen Display

Up to eleven lines with 20 characters per line can be displayed on the monitoring screen using VIS-CA 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.

THERMAL CAMERA

RANGER THERMAL

The thermal detector Focal Plane Array (FPA) is based on a FLIR VOX core that comes in 2 resolutions, a 336x240 and a 640x480, with sensitivity of 50MK at f/1.0. Not only does the thermal range boast an impressive core, it also comes with a variety of precision engineered germanium lenses ranging from 9mm to 150mm for razor sharp images that maintain a low f-stop for real-time performance without lag and latency.

FEATURE PACKED

To enhance image clarity the Ranger has FLIR priority noise reduction and 2X and 4X digital zoom to enhance even the most minute details. The cores have integrated solar protection and self heal from damage caused by direct sunlight. The Ranger thermal has a variety of image enhancements such as BPR, NUC, and AGC'd.

THERMAL IMAGING

Thermal cameras, unlike traditional visible cameras, use heat rather than light to see an object, giving them a huge advantage over other imaging technologies. Using minute differences in Infrared Radiation (IR) they produce a high contrast thermal image in complete darkness. It is unaffected by bright light and has the ability to see through obstructions such as smoke, dust, and light fog. This makes thermal ideal for a number of applications including but not limited to surveillance & security, search and rescue, fire, marine and land navigation, and wide area situational assessment.

SEE IT ALL

Everything above absolute zero (-273°C) emits thermal IR radiation. The Ranger thermal camera converts this into a digital image that can be displayed, distributed, and recorded. Humans, animals, and vehicles are very hot in contrast to a background and trespassers hiding in shadows or bushes are easily spotted.

EXTREME LONG RANGE DETECTION

The Ranger is a Long-Wave Infrared (LWIR) camera which means it operates on 7-14UM (7000nm-14000nm) wavelengths where terrestrial temperature targets emit most of their infrared energy. It has unparalleled performance and is able to detect humans at 2.9km and vehicles at 8.8km with just a 100mm lens, allowing one camera to replace many traditional cameras. While thermal is a significant investment, its superior range and performance allows it to replace and outperform other solutions, making it a viable option for MANY applications.

THERMAL ADVANTAGES OVER OPTICAL

Infiniti's thermal cameras let you see further than any other night vision technology. All CCTV cameras require light which means using either expensive image intensifiers, which produce blurry lagging video, or the cameras have to be illuminated using LED arrays that are only effective for about 200m. Furthermore, LEDs only illuminate a small portion of the cameras FOV where a thermal image can see everything, day or night. Even during the day there are situations where thermal is better as CCTV cameras can be rendered useless by direct sunlight or areas where contrast is poor.



Optical Assembly (37X)		*Specifications subject to change
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, 12X digital, 444X total	
Filter	Dual MIF: (Mechanical IR Cut Filter)	
336 V2 FLIR Thermal Imager (640 Optional)		
Lens	9mm, 13mm, 19mm, 35mm, 50mm, 100mm, and 150mm Germanium lens	
Image Sensor	FPA, uncooled Vanadium Oxide micro-bolometer 7.5Hz NTSC, 8.3Hz PAL CMOS 8-14 Bit	
Picture Elements	324(H) x 256(V) pixels (640x480 optional with 8X zoom)	
Scene Temperature	-40°C to +160°C (High and Low Gain)	
Pixel Pitch	17µm (32% sharper image over 25µm sensors) FLIR's proprietary noise reduction	
Image Optimizations	BPR, NUC, & AGC'd user configurability via SDK, GUI	
Digital Zoom	2X & 4X dynamic zoom/pan with dynamic range switching	
Thermal Sensitivity/Response	36 mk @ f1.0 / 85mk @ f1.6 7.5-14 micron	
Image Display Modes	White hot, black hot, false color, and color & monochrome palettes (LUTs)	
Communication & Presets		
Presets	Up to 128 presets	
Preset Tours	4 preset tours	
Home Position	Yes (preset 1 or tour)	
Communication	RS485 / RS422 (optical), network or USB (thermal)	
Control Protocol	Pelco-P/D standard	
Mechanical		
Drive Unit	Integram pan/tilt brushless motor drive	
Pan Angle and Speed	360° continuous pan (variable speed up to 55° per second) 40° on 100mm	
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	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) & Germanium glass (thermal) 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		
Image Stabilization	Available	
Video Analytics	Virtual fence, object classification, trip wire, abandoned object, etc	