# ThermoVision® RANGER™ II

## LONG-RANGE SURVEILLANCE SYSTEM

Maximizing long-range thermal imaging performance, the ThermoVision Ranger II advances thermal imaging into the next generation. Ranger II is rugged and weatherproof, optimized for medium or long-range surveillance in mobile systems or field installations. The powerful system delivers crisp imagery at multi-kilometer ranges, through a variety of obscurants and in total darkness.

### LONG-RANGE 24/7 IMAGING

Ranger II offers crisp state-of-the-art imaging performance incorporating a third generation midwave focal plane array detector, 2x/4x digital zoom, and powerful dual field of view optics. Track vehicles at distances greater than 9 km, through smoke, dust, battlefield obscurants or poor weather conditions.

### COMMERCIALLY DEVELOPED, MILITARY QUALIFIED

As with most FLIR Systems products, Ranger II is commercially developed and military qualified (CDMQ). Ranger II is rugged and environmentally sealed, making it at home in the desert, in maritime environments or in extreme cold. The MIL-STD-810F-qualified system withstands temperature extremes, dust, sand, water, ice and salt-spray, permitting deployment in severe climatic and weather conditions.

Built-in internal heaters keep Ranger II's front window clear in cold weather conditions. System components and design are maximized for long-term, unattended operation.
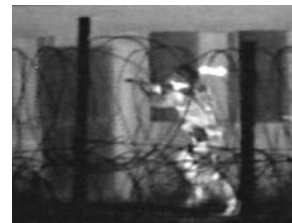
### MISSION FLEXIBILITY

Adapt Ranger II to the mission. Its dual field of view lens, low power consumption, small size and light weight make Ranger II ideal for mobile or fixed operations. Easily install Ranger II as part of a conventional CCTV surveillance system to provide a long-range, night-piercing 24/7 capability. Ranger II is available as a turn-key system with an integrated pan/tilt head, or as a stand-alone sensor-head for use on your own platform or vehicle mount.

### SIMPLE OPERATION

Ranger II eases operator workload with a variety of automatic functions, including Auto Image Optimization with Auto Gain and Auto Level. Sophisticated on-board processing provides digital zoom, histogram image equalization and a variety of color display modes. Switch between wide and narrow fields of view and leverage automatic digital image enhancement features, or freeze-frame on subjects of interest.

### DIGITAL INTERFACE

Designed for rapid integration, the Ranger II offers a variety of industry-standard electrical interfaces, including RS-232, RS-422, RS-170 video, and S-video. Ranger accepts power input from 9 to 28 VDC, suiting a variety of common power sources.

**FLIR SYSTEMS**

# ThermoVision® RANGER™ II

## SYSTEM SPECIFICATIONS

| | |
|---|---|
| Video Format | S-video, and RS-170 or CCIR |
| Serial Interface | RS-422 or RS-232 |
| Power Requirements | 9-28 VDC |
| Heaters | Lens defroster 80 W@12 VDC |
| Environmental Qualifications | Fully ruggedized/Mil-STD-810F-qualified for field operations |
| Operating Temperature Range | 32°C to +55°C (-26°F to +131°F) |
| Camera Controls | On/Standby/Off, dual optical zoom FOV change, digital zoom 2x and 4x, front lens defroster, focus, polarity, reticle on/off, manual gain, manual level, NUC sensitivity adjustment, freeze frame, auto span with histogram equalization |
| Mounting | ¼-20 threaded base plate |
| Dimensions | 20" long x 6.5" diameter |
| Weight | <20 lbs |

## THERMAL IMAGER

| | | |
|---|---|---|
| Detector | 320 x 240 InSb FPA | |
| Spectral Band | 3-5 μm | |
| Optics | f/4.0 | |
| Nominal Field of View | Long Range | Extended Range |
| WFOV | 50 mm, 11° x 8.2° | 100 mm, 5.5° x 4.1° |
| NFOV | 250 mm, 2.2° x 1.6° | 500 mm, 1.1° x 0.8° |
| Digital Zoom | 2x, 4x | |
| FPA Cooling | Closed-cycle Stirling | |
| Thermal Sensitivity | 0.025°C @ 23.0°C | |

## ACCESSORIES

| | |
|---|---|
| Storage/Transport Case | Hard shell, lockable with fitted foam insert |
| AC Adapter | 110 VAC/220 VAC power supply |
| Break Out Box | S-video, composite video, power, Ethernet, system cable, and hand controller |
| System Controller | Push button hand controller |
| System Cable | 25' with molded connectors |
| Power Supply Cable | 10' with molded connectors |

## SYSTEM OPTIONS

| | |
|---|---|
| Ethernet Connectivity | Establish system connectivity through Break Out Box Ethernet Port |
| Hard Carbon Optical Coating | Front optical surface hard carbon coated for extreme environments |
| Pan Tilt | System is available with pan/tilt and controller |

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