



Man Portable deployment of the R20SS

FLIR RANGER[™] R20SS

Man Portable Configuration

The Ranger[®] R20SS is a ground-surveillance radar specifically designed to detect and track personnel and vehicles within a 30 kilometer range. With its electronic scanning capability and fast refresh rate, the Ranger R20SS has class leading target detection and acquisition performance.

The Ranger R20SS Portable Kit allows the radar unit to be deployed in a man portable configuration. The Portable Kit creates a Fully Adaptive System for Minimal Operator Workload that is simple to set up and operate. Equipped with persistent wide area surveillance, unmatched detection performance, high target geo-location accuracy, and all weather performance you will be able to detect and protect, borders, forces and equipment 24/7.

APPLICATIONS

- Force Protection
- Border Security
- Vehicle Dismount
- Artillery and Mortar Fire Correction

KEY FEATURES

- High Performance Ground Surveillance System
- Man Portable, Total Kit
- Built-in North Finding Capability
- Automatic Target Tracker
- Automatic Target Classification
- Low False Alarm Rate
- MIL - STD Qualified

Specifications

System Components	
Ranger R20SS radar	
Accurate Pan/Tilt	
Ruggedized tripod	
Battery kit	
Ruggedized tablet	
R20SS Radar Features	
Target Types - Moving	> 0.1 m/s minute, Vehicles, personnel, rubber rafts, and boats
Target Velocity	0.1 to 44 m/s
Detection Range	up to 12,000 m, personnel walking (1 m ² RCS) up to 12,000 m, rubber raft (1 m ² RCS, sea state 3) up to -20,000 m, patrol vessel (10 m ² RCS, sea state 4) up to 28,000 m, vehicles, large vessels
Scan Rate	2 Hz (90 degree sector)
Coverage	90° in sector mode 360° in scan mode (with pan/tilt)
Communications	Ethernet, XML (ICD-0100 compliant)
Dimensions	29.6" h x 14.7" w x 6.0" d (75.2 x 37.3 x 15.2 cm)
Weight	38 lbs (17.3 kg)
Power Consumption	275 watts (standard version) 170 watts (low-power version)
Tripod	
Construction type	Black Carbon Fiber, 3-Stage
Foot type	Spike
Payload Interface	No-tool quick connect
Weight	6.8 lbs (3.1 kg)
Max height (working)	73.6" (187 cm)
Min height (working)	8.7" (22 cm)
Pan/Tilt	
Pan Range	360° continuous
Tilt Range	± 30°
Weight	20.5 lbs (9.3 kg)
Batteries	
Battery type	BB-2590/U
Ruggedized Tablet	
Processor and display	5th Generation Intel® Core™ i5 vPro™ Processor, Daylight-Readable 10.1" Display with Gloved Multi Touch + Digitizer
Environmental	
Mil-Spec	MIL-STD-810F
Operating temp	-30°C to +60°C
Weather Sealing	IP 67 Rating
Standard Accessories	
Radar Carry Bag	
Accessory Carry Bag	
Interconnect cable	
Operator's Manual and Documentation	



Ranger® R20SS



FLIR Ranger[®] R20SS

Solid State, Electronic Scanning, Long Range
Surveillance Radar

The Ranger[®] R20SS is a ground-based surveillance radar that provides fast detection and accurate target location within a 30 kilometer range. Featuring advanced electronic scanning, the Ranger R20SS can cover an entire 90-degree area twice per second with low false alarm rates. With both man-portable and vehicle mounted options, the Ranger R20SS is ideal for military vehicle applications.

Accurate target location

The Ranger R20SS utilizes advanced tracking algorithms which enable fast detection and track initiation, resulting in highly accurate target location with a low false alarm rate. And by operating in the X-band, the Ranger R20SS is minimally affected by adverse weather or precipitation.

Next-generation track and scan capabilities

The Ranger R20SS provides fast 90-degree coverage using enhanced “track while scan” capabilities that cover an entire 90-degree area twice per second. When deployed with an optional pan/tilt device, the Ranger R20SS can provide 360-degree coverage.

Low SWaP applications

R20SS radar performs over land and over water allowing the use of a single radar for both applications. The result is lower ILS costs and reduced training and spare requirements. The low SWaP requirements minimize infrastructure costs in coastal applications. Its low weight and easy implementation make it an ideal candidate for military vehicle applications and deployable in a man-portable configuration. As with the entire line of Ranger ground surveillance radars, the Ranger R20SS provides highly reliable system performance and 24/7 persistent surveillance, both within and beyond the fence.



Critical Infrastructure Protection



Mobile Border Surveillance



Coastal Surveillance

Specifications

Target Types Moving	> 0.1 m/s min Vehicles, personnel, rubber rafts, boats
Target Velocity	0.1 to 44 m/s
Number of tracks	over 500
Scan Rate	2 Hz (90 degree sector)
Coverage	90° in sector mode 360° in scan mode (with optional pan/tilt device)
Elevation Control	Yes with optional Pan/Tilt
Input Power	21-42 VDC, 24 nominal
Communications	Ethernet, wireless, fiber
XML	Yes (ICD-0100 compliant)
Mask Zone(s)	Unlimited polygons
Dimensions	29.6" h x 14.7" w x 6.0" d, no pan/tilt
Weight	38 lbs (17.3 kg), no pan/tilt
Power Consumption	245 watts (standard version) 170 watts (low-power version)
Operating Range	20 – 30,000 m
Detection Range	up to 12,000 m, personnel walking (1 m ² RCS) up to 12,000 m, rubber raft (1 m ² RCS, sea state 3) up to 20,000 m, patrol vessel (10 m ² RCS, sea state 4) up to 28,000 m, vehicles, large vessels
Temperature	-30° to +60°C (operating) -40° to +70°C (storage)
Humidity	Up to 100%,
Weather Sealing	IP 67 Rating
Altitude	Up to 15 000 ft (operating and storage)
Mil Spec	Complies with MIL-STD-810 and MIL-STD-461

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FEATURES

- Optional pan/tilt device offers 360-degree coverage
- Low SWaP requirements minimize ILS costs, including reduced training and spare requirements
- Persistent wide-area surface surveillance 24/7
- Mil-spec design and qualification
- Easy sensor integration
- Performs over land and over water
- Low lifecycle cost

APPLICATIONS

- Border Security
- Coastal Surveillance
- Force Protection
- Industrial Facility
- Critical Infrastructure Security
- Air & Sea Ports
- Vehicle & Man-Portable Capabilities

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