



# FLIR Ranger<sup>®</sup> R20SS

Solid State, Electronic Scanning, Long Range  
Surveillance Radar

The Ranger<sup>®</sup> 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 <sup>2</sup> RCS) up to 12,000 m, rubber raft (1 m <sup>2</sup> RCS, sea state 3) up to 20,000 m, patrol vessel (10 m <sup>2</sup> 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

NASHUA  
FLIR Systems, Inc.  
9 Townsend West  
Nashua, NH 03063  
USA  
PH: +1 866.477.3687

PORTLAND  
Corporate Headquarters  
FLIR Systems, Inc.  
27700 SW Parkway Ave.  
Wilsonville, OR 97070  
USA  
PH: +1 866.477.3687

EUROPE  
FLIR Systems  
Luxemburgstraat 2  
2321 Meer  
Belgium  
PH: +32 (0) 3665 5100

CANADA  
FLIR Systems, Ltd.  
120-3440 av Francis-  
Hughes, Laval, Québec,  
H7L 5A9  
Canada  
PH: +1 800.613.0507

[www.flir.com/surveillance](http://www.flir.com/surveillance)  
NASDAQ: FLIR

SWEDEN  
FLIR Systems AB  
Antennvägen 6,  
PO Box 7376  
SE-187 66 Täby  
Sweden  
PH: +46 (0)8 753 25 00

UK  
FLIR Systems UK  
2 Kings Hill Avenue  
Kings Hill  
West Malling - Kent  
ME19 4AQ  
United Kingdom  
PH: +44 (0)1732 220 011

LATIN AMERICA  
FLIR Systems Brasil  
Av. Antonio Bardella, 320  
Sorocaba, SP 18052-852  
Brasil  
TEL: +55 15 3238 7080

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