

# Perimeter Intrusion Surveillance Radar



## TECHNOLOGY CORE PLATFORM

The core platform consists of millimeterwave and baseband transmit / receive electronics, which generates a well-defined search beam and converts the captured radar reflections of real-world targets into electrical signal. The Spread-spectrum technology guarantees these advantages:

- Accurate and consistent determination of the range of detected targets within the search beam.
- Inherent immunity to interference, jamming, and emissions from other radar units.
- Low emission, designed for FCC license exempt compliance, virtually undetectable by conventional radar detectors or scanners.

## ANTENNA MODULE

The choice of antenna is generally dictated by beam geometry (elevation and azimuth beam angles and range). In addition to those defined in the standard configurations (SR-0303, SR-3030, SR-4505, SR-4503 & SR-2003), other beam geometries can be supplied covering 2 to 120 degrees.

## SIGNAL PROCESSING MODULE

This software layer analyzes the return signal of each target according to application-specific alarm thresholds for target size, range, and speed. Only those targets that exceed the predefined thresholds in user-selected ranges would trigger an intrusion alarm. A programmable alarm-condition counter provides a simple but effective means of preventing false alarms.

## RADAR UNIT

The Radar Unit (including the antenna module) is designed and sealed for outdoor, either: extreme temperatures (desert to northern conditions), exposure to salt spray and protection against lightning voltage surges. The Radar Unit comprises a positioning sensor generating a tamper alarm when the angle of view is moved from its initial orientation.

## ► Features

- Millimeter Wave
- Spread Spectrum Technology
- Doppler Radar
- High gain Antenna
- Low Radiated Power

## ► Benefits

- Small Size
- Immune to Environmental Changes
- Immune to Interference
- Multiple Sensors
- Location Capability
- Sub-Zoning
- Adjustable Range
- Intrusion Audio Signature
- Low side & back lobes
- Harmless to human

## PRODUCT DESCRIPTION

The K&G Spectrum family of perimeter intrusion surveillance sensors are compact, high-reliability, doppler millimeterwave radars.

K&G Spectrum radars are based on a patented spread-spectrum technology core, with additional layers of modularized hardware/software functions to provide tailored support for a wide range of security systems.

## INTERFACE UNIT

In addition to the transmission of alarm signals, the Interface Unit (including the processing module) supports two-way communication with the Radar Unit. The Interface Unit is used to set-up internal parameters during installation and calibration of the Radar Unit. The Interface Unit is mounted in a housing IP-67 (Nema-4) interconnected to the Radar Unit via a Interconnect Cable of 10 meters (30 ft) maximum.

## OPTIONS

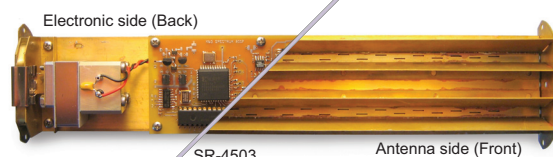
Optionally, the Interface Unit includes a GPS and a TCP-IP port for transmitting geo-spatial coordinates of the point of intrusion. An PoE (Power over Ethernet) is also available.

## INSTALLATION AND ALIGNMENT

K&G Spectrum radar sensors are designed for easy installation with a supplied mounting kit. Beam alignment (aiming) to the intended area of coverage is initially set up using conventional video alignment equipment. Boundary and detection range are verified using wireless network and PALM PC type devices running on KG-Scope, an K&G Spectrum installation and diagnostic software. All field equipment needed to aim are based on commercially available devices.

## RADAR UNIT

(no housing)



## SPECIFICATIONS



### K&G Spectrum Model

### SR-3030-MP

### SR-0303-MP

### SR-4505-MP

### SR-4503-MP

### SR-2003-MP

3dB Beamwidth	30 x 30 degrees	3 x 3 degrees	45 x 5 degrees	45 x 3 degrees	20 x 3 degrees
Width of Field at maximum range	52 meters	34 meters	9 meters	10 meters	21 meters
Range (human walking)*	50 meters (164 ft)	300 meters (984 ft)	50 meters (164 ft)	100 meters (328 ft)	200 meters (656 ft)
Range Resolution	3 meters (10 ft)				
Operating Frequency	24.125 GHz (K Band)				
Modulation	Direct Sequence Spread Spectrum (DSSS)				
ERP	< 2,500 mV/m at 3 meters (10 ft)				
MTBF	100,000 hrs				
Communications	RS-232 and/or Ethernet (TCP-IP)				
Alarm Output	4 Form-C Relay, serial port or GIS coordinates				
Power	12 to 24 Volts AC or DC, 8 Watts				
Operating Temperature	-40°C to 85°C (-40°F to 185°F)				
Radar Unit Dimensions (including bracket)	12.7 dia x 15.2 cm	33 dia x 25.4 cm	25.4 x 8.9 x 12.7 cm	34.3 x 8.9 x 12.7 cm	34.3 x 11.4 x 15.2 cm
Interface Unit Dimensions	30 x 25 x 13 cm	30 x 25 x 13 cm	30 x 25 x 13 cm	30 x 25 x 13 cm	30 x 25 x 13 cm

\* For vehicle: double the range

# SPECTRUM

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