

Surveillance Radar 940 Spider

The SPIDER 940 is a mobile, rapid deployment, continuous scanning surveillance radar optimized for the simultaneous detection of both air and surface targets.

It forms part of the 900 StealthRad product range of Low Cost, Light-weight, Low Probability of Intercept (LPI) Frequency Modulated Continuous Wave (FMCW) radars. FMCW provides a cost effective way to achieve coherent operation and the low transmitted power levels make StealthRad ideal for covert operations. The low power levels also increase reliability and reduce component costs.

The antenna, transceiver and signal processor are integrated into a single line-replaceable unit, which is mounted on a deployable frame. An integrated power generator supports autonomous operations at remote sites.

The SPIDER 940 can be transported on a 1 ton pickup truck (single or double cab), with the antenna stowed away to fit in the vehicle envelope. Deployment is quick and simple on or off the track. The radar display is available for the local operator and can be easily integrated into control centers via suitable communication links.



TYPICAL APPLICATIONS

- **Border control operations**
- **Monitoring of private and unattended airfields**
- **Rapid deployment surveillance operations**
- **Monitoring of coastal traffic (both sea and air)**
- **Monitoring of activities on inland lakes**
- **Multi-role radar gap filler**

MODE OF OPERATION

Continuous scanning surveillance. The unique architecture of the StealthRad continuous scanning surveillance radars allows them to be optimised for both surface and air targets at the same time. This enables the Stealth Rad to be deployed in littoral situations as well as on inland water areas, where it can serve in both the air surveillance and surface surveillance role.

SYSTEM FEATURES

- **High mobility**
- **Rapid deployment**
- **Local and remote (via wire or wireless network) operation**
- **Data distribution to an area control center**
- **Autonomous operation**
- **Geolocation and North alignment**
- **Detection and tracking +50°C**

Table 1: TECHNICAL SPECIFICATIONS

Characteristic	Description
Frequency band	I / J Band
Transmit power	20 Watt
Antenna size	3.5 m
Antenna tilt range	-10° to +10°
Instrumented range	40 km
Scan rate	15 RPM
Range accuracy	8 m

Azimuth accuracy	<1°
Source	230 VAC 50 Hz
Consumption	1.6 kW
Weight cabin	900 kg
MTBF	>1000 h
Temperature storage	-20 to +70°C
Temperature operational	-20 to +50°C

Table 2: DETECTION RANGES:

Characteristic	Description
Light aircraft (RCS = 2m ²)	20 km
Private jet (RCS = 5m ²)	30 km
Helicopter (RCS = 10 m ²)	35 km
Inflatable boat (RCS = 1 m ²)	15 km
Power boat (RCS = 5 m ²)	30 km
Fishing vessel (RCS = 100 m ²)	Instrumented range

**Mobile Rapid Deployment Surveillance Radar**

<http://surveillance-radars.at-communication.com/en/at/940-spider.html>