

## Low elevation target detection Surveillance Radar

### System Features

- Low elevation target detection
- Solid-state bulk amplifier
- Fully coherent architecture
- High mobility on all-terrain transporter
- Fully autonomous on single vehicle
- Air transportable by standard cargo aircraft
- Integral command centre within armoured shelter
- Comprehensive ECCM suite
- Integral generator
- Combined radar/IFF
- Local or remote control and status monitoring
- High reliability, short down-time design
- Comprehensive on-line BIT with integrated diagnostics
- COTS-based Software Signal Processor



**Table 1: Performance Specifications**

Frequency	L-Band (NATO D-Band)
Instrumented range	120 km
Detection range	65 km (RCS=2 m <sup>2</sup> , 80% P <sub>d</sub> , 10 <sup>-6</sup> <sub>fa</sub> )
Antenna rotation rate	15 r/min
Antenna height	4 -12 m variable
Signal processor	MTI and non-coherent channel
Target track capability	100 targets/sec
Radar accuracy(range)	40 m
Radar accuracy(accuracy)	0.7 °
ECCM Features	Frequency agility
	Random PRF stagger
	Digital pulse compression
	Single pulse suppression
	Low mean antenna sidelobe level
System mass	10 500 kg
Deployment time(Operational)	< 5 minutes
Deployment time(Fully deployed)	< 10 minutes
Altitude (operational)	3 000 m
Wind(operational)	80 km/h
Wind(survival)	150 km/h
Shelter protection	small-arms and shrapnel

### Sub-system Features

- **Antenna**
  - > **Composite planar array**
  - > **Ultra low antenna sidelobes**
  - > **Robust composite-material structure**

- **Transmitter**
  - > **Solid state bulk transmitter**
  - > **Wide band**
  - > **Air cooled**
  
- **Receiver**
  - > **Low noise figure**
  - > **Self-calibrating**
  - > **Auto offset control**
  
- **Processor**
  - > **Digital pulse generation and compression**
  - > **MTI and non-coherent channel**
  - > **Range and Temporal CFAR**
  - > **Plot extraction and track-while-scan**
  - > **COTS software processor implementation**
  
- **Display**
  - > **High resolution colour display**
  - > **Integral maps**
  - > **Radar control & status display**

#### **Options**

- **Air Defence Control system**
- **Integrated IFF**
- **Customised logistic package**
- **Voice and data communications**
- **Full Doppler processing**
- **Enhanced ECCM suite**

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<http://surveillance-radars.at-communication.com/en/at/esr-220I.html>