



# Azerbaijan National Academy of Aviation

INSTITUTE OF SCIENTIFIC AVIATION INVESTIGATION



 **“ETAI-R”**





**“ETAIR” Portable Ground Surveillance Radar**

“ETAIR” is a unique lightweight man-portable radar, which is capable of intercepting, detecting and recognizing targets on or close to the ground. It can also classify and differentiate targets based on their size and movement characteristics.

The radar is a versatile, cost-effective solution offering a multitude of advantages making it an ideal choice for border guard, battlefield surveillance, civilian and military installation security and combat operations duties.

As a result of its low weight and small dimensions, “ETAIR” can be carried in backpacks by two-man teams. It is also mountable on vehicles and on fixed posts as needed. “ETAIR” can be used as a standalone unit or in clusters of 2-3 and/or in network of several dozens, as required by the specifics of the surveillance scenario.





The high tech DSP technologies can differentiate between moving and stationary targets, determine the exact parameters of the detected targets and control the adaptive detection during changing environmental conditions. The radar unit transmits information in 'ready to display' format to the operator unit.

The operation of the "ETAI-R" is controlled from the operator unit. The operator unit's software is capable of utilizing different map formats and displaying the detected targets over the map. The software is designed in a user friendly way. Small icons represent the different functions and make learning easy even for untrained users. The radar can be set up,

and made ready for operation in five minutes. It is easy to maintain and operate with minimal need for special training.

The software supports the integration of this single unit into complex multisensory systems.

The radar is very durable, capable of withstanding a wide range of environmental factors and is also very reliable, with only a minimal chance of malfunctioning (MTBF > 10000 hours).

Due to its operating principles "ETAI-R" has minimal possibility of being jammed or intercepted (LPI-Low Probability of Intercept).



Portable Ground Surveillance Radar



## Surveillance and Data Processing

<b>Typical Detection Range</b>	Pedestrian : 6 km ( RCS 0.5 m <sup>2</sup> )
	Armed soldier: 8 km ( RCS 1 m <sup>2</sup> )
	Vehicle: 15 km ( RCS 10 m <sup>2</sup> )
	Large vehicle: 24 km ( RCS 50 m <sup>2</sup> )
<b>Scanning</b>	Sector scan 6° - 346° and Continuous rotation ( n x 360°)
<b>Scan Rate</b>	7° and 14°/sec
<b>Accuracy</b>	Range: ± 3m (at 3 km range)
	Azimuth: ≤ 0.3°
<b>Minimum Detectable Radial</b>	1.0 km/h
<b>Target Capacity</b>	10 plots/sec
	300 + tracks
	1000+ displayed plots
<b>Spot Window</b>	Yes
<b>Target Classification</b>	Automatic and Audio
<b>Processing</b>	STC, FFT, CFAR, PLOT EXT., TRACK EXT.
<b>Data/Control Interface</b>	RS-485, WIFI, Ethernet

## Technical Parameters

<b>Operation principle</b>	FMCW
<b>Antenna</b>	28 dBi, Patch, Horizontal Polarization
<b>Frequency Band</b>	I/J (X) Band, 32 Fixed channel and automatic hopping
<b>Max. Transmitted Power</b>	2W
<b>Radar Power Supply</b>	28V DC (22-33V DC), max. 50 Watts
<b>Continuous Operation on Single Set of Batteries</b>	10-12 h
<b>Temperature Ranges</b>	Operation: -32°C to +50°C
	Storage: -40°C to +60°C
<b>System Weight</b>	~30 kg
<b>Radar Unit Size</b>	69 x 47 x 13 cm
<b>MTBF</b>	> 10 000 hrs
<b>MTTR</b>	< 1 hrs
<b>Maintainability</b>	2 level BIT to LRM

## Further Features

Map Handling
Integrated GPS and North Finding Device
Freely Configurable Alarm and Dumb Zones
Fully Logged Operation and Replay
Low Radiated Power for Human Safety

## Accessories

Tripod
Carrying Cases
Rechargeable Batteries and battery Charger
12V-24V Power Adapter
AC Power Adapter

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