RPA-170M MEDIUM RANGE TACTICAL AIR DEFENCE 3D RADAR

The RPA-170M is an L band medium-range tactical air defense 3D radar. It is a high mobility system, designed for rapid deployment on virtually any type of terrain, employing minimum personnel requirements. Featuring state-of-the-art processing algorithms, the radar delivers excellent performance in a wide range of operational scenarios, even in the most adverse clutter and interference conditions. Designed for dual use, the RPA-170M can play a key role in air defense systems while exhibiting excellent performance in electronic warfare environments. During peacetime, its ability to detect and track low speed and low altitude targets makes it an ideal tool for

defence and homeland security, border control and counter-drug operations. By means of its integrated secondary interrogator, it can also act as a support sensor for civil air traffic control.

Derived from the long-range version RPA-240T, currently operated by the Argentine Air Force, the RPA-170M shares most of its modules (LRU) with its predecessor. This heritage guarantees the proven great reliability and performance characteristics, while benefiting from common life cycle management and logistics support.

GENERAL DESCRIPTION



The RPA-170M Pencil Beam Active Electronic Scanned Antenna and the use of digital techniques for waveform generation, beamforming and signal processing, give the system the flexibility to adapt to different functional requirements in the most varied operating environments. In particular, the specially designed low elevation beams show excellent performance in the detection of small low altitude aircraft.

The multi-beam, low side lobes level antenna is driven by multiple solid state transmission and reception modules (MTR). This natural redundancy, together with the automatic reconfiguration capability, guarantees high availability and a graceful degradation in case of single component failures.

The advanced set of electronic counter-counter measures (ECCM) allows the system to deliver excellent detection performance even in the most complex electronic warfare scenarios. The dedicated antennas, receivers and processors, together with specific algorithms, were designed to deal with a wide variety of electronic attacks.

Radar configuration, control, diagnosis and operation are performed through simple and intuitive graphical interfaces. This drastically accelerates the personnel learning curve, minimizing the time and costs of new units deployment and commissioning.

The complete system, including two operator workstations and communications equipment, is confined in the volume of two 20-foot ISO containers that can be transported by any vehicle with standard fixings. All the equipment required to enter into operation can be transported in a single C-130.

Deployment and start-up is done in less than 30 minutes, with a minimally trained two people staff. It can be operated locally, configuring a complete command, control and communications center by itself, or remotely via datalink. Flexible interfaces, including Asterix standard data output, provide seamless integration to multi-sensor command and control systems.

The RPA-170M is a system designed and manufactured entirely in San Carlos de Bariloche, Argentina.

INVAP guarantees logistical support and after-sales service with a low cost and a minimum response time. In addition, INVAP also offers real training and technology transfer proven by more than 40 years of development of complex projects.



Advanced Electronic Counter-Counter Measures (ECCM)

- Interference analysis with automatic frequency selection
- Interference DOA reports (Jam-strobe)
- Side lobe blanking
- Side lobe interference detection with adaptive cancelling
- Pulsed interference detection and cancelling
- Burnthrough mode



MAIN FEATURES

- Pencil Beam Active Electronic Scanned Antenna with low side lobe level
- Solid state transmitter-receiver modules (TRM)
- Digital waveform generation, with intra-pulse frequency diversity
- High bandwidth frequency agility
- Independent pencil configuration including waveforms, burst parameters and processing type
- Configurable scan pattern (by sector)
- Advanced digital processing, including MTI, Doppler, clutter map, adaptive filtering.
- Azimuth and elevation monopulse
- Automatic acquisition and tracking of up to 600
 simultaneous targets
- Full self-diagnosis (BIT) capability
- · Integrated calibration tools
- · Local and remote operation and monitoring
- · Integrated secondary interrogator
- Monoradar Processor for radar data fusion (SSR-PSR)
- · Ground to air communications system
- Fast deployment
- · Self-contained Diesel generator

INTERFACES

• Data output: ASTERIX, or custom defined.

Configuration and control: Intuitive user friendly graphical interface



SPECIFICATIONS

- Frequency: L Band (1250-1400Mhz)
- Instrumented range: 170NM
- Altitude: 100Kft
- VeloScan rate: 6 to 14 RPM
- Simultaneous track capacity: > 600
- Deployment time: < 30 minutes
- MTBCF: > 1500 hours
- MTTR: < 1 hour
- **IFF Modes:** 1,2,3/A, C, S (4 y 5 optional)



SCODA C2 software

- Designed for Surveillance, Identification and Control activities
- Detection analysis tools
- Static and dynamic measurements
- Interception assistance.
 - Data exchange with other terminals in the system
 - Support for digital maps, points of interest, air routes and user defined work areas
- Multi-radar support
- Integrated communications tools
- Radar data recording and playback





INVAP's headquarters are located in San Carlos de Bariloche at the foot of the Patagonian Andes. The company has offices in several cities throughout Argentina and operates in various countries.

INVAP's Headquarters

Argentina

4950 Cmte. Luis Piedrabuena Avenue (R8403CPV) San Carlos de Bariloche Province of Río Negro Phone number: +54 (294) 440-9300 Fax: +54 (294) 440-9336



ſ / invap
✓ / invapargentina
www.invap.com.ar