



# ALR-400 RADAR WARNING RECEIVER

ALR-400 leading edge field proven wide-band digital reception technology brings enhanced survivability in today's operating theatre. A high reliability open architecture and versatile ground support tools provide simple installation, reduced life cycle costs, increased operational availability and equipment sovereignty

## Mission

ALR-400 has been designed to ensure maximum survivability in today's complex high density environment by means of improved situation awareness in the presence of an increasing number and sophistication of radar systems.

ALR-400 performs with complex waveforms such as frequency agile pulse-Doppler radars, in high pulse densities and detecting faint distant signals in the presence of strong nearby transmitters. Indra's radar warning receiver is suited for all missions, for both low altitude -short range and high altitude- long range engagements.

## Capabilities

Use of advanced Wide Band Digital Reception Techniques:

- Effective identification of threats in high density scenarios, enabling automatic countermeasures.
- Pulse to pulse Frequency measurement with the highest accuracy.
- Wide Band multi CW scenarios capability.
- High sensitivity.
- High AOA accuracy.
- LPI radars detection capability.
- Interfaces: MIL-STD-1553B (redundant), Serial Port RS-422, USB, ARIN-429, 100 Base T fast Ethernet, special interfaces.

- Reduced part count and intensive use of COTS.
- Improved reliability, low life cycle costs and enhanced supportability.
- Easy installation on a large variety of platforms.
- Control and integration of a full self-protection suite.
- Provides an open structure of libraries full programmable in flight line without any kind of manufacturer or supplier dependency.

## Operational Features

The ALR-400 RWR has been designed to perform the following main functions:

### Threat indication

- Threat displaying on different resources as HUD, TWI, DDI.
- Through alphanumeric and graphic symbols, representatives of the emitter identification.
- Polar AOA information.
- Emitter presentation according to its dangerousness.
- Pilot warning acoustic signals generated: PRF, Tones and synthetic voice.



### Control of ECM subsystem

When an emission is detected and identified as a threat, if it has associated the implementation of a certain ECM program, the ECM and emission data are transmitted to the corresponding countermeasures subsystem (either active or passive) through the provided interfaces.

### Auto-test function

Auto checking of the operative state of the system, giving a complete diagnosis of each unit of the ALR-400 system.

### Upload or download of emitter libraries and data stored during the flight

- Data sovereignty: Threat library fully programmable by the End User.
- Standard MLV, fast Ethernet auxiliary port, or cockpit control unit removable compact flash are valid ways to upload or download data.

- The system can also export to the user the capability to download the stored data during flight with a wide variety of recorded events. This capability supports a deep post mission analysis task.

### Interface with other systems

- Interfaces with avionic systems: Both navigation and other nature systems.
- Interfaces with other EW systems (data interface MIL-STD-1553B, serial ports, USB, ARINC-429, 100BaseT fast Ethernet).

## Technological Advantages

- ALR-400 RWR is the best ally of the pilots to self protect the platform.
- The ALR-400 was designed for easy installation in a large variety of platforms (including fighters, transport aircrafts and helicopters) with several standard mechanical housing.
- The cooling system of ALR-400 makes it a good choice to operate even into explosive atmospheres.
- Modular design, flexible HW Architecture.
- High spatial accuracy and resolution.
- Wide spatial coverage.
- Multi CW scenarios capability.
- LPI radar detection capability.
- Improved sensitivity.
- Improved dynamic range.
- Flexible integration.
- Logical ICD adapted to platform.

### Baseline System

- E/J Band.

### Extensions Available

- Dual polarization antennae.
- C/D Band (with/without DF).
- K Band.
- Cockpit Control Unit & Displays.
- Self-cooling.

- The ALR-400 has enough process capability to perform other extra functions.
- Capacity to interface with external DAC or to include embedded DAC functionality to support other EW sensor (Laser or Missile Warner Systems) process requirements.



[indracompany.com](http://indracompany.com)

Avda. de Bruselas, 35  
28108 Alcobendas  
Madrid, Spain

T +34 91 627 10 00  
[infodefence@indracompany.com](mailto:infodefence@indracompany.com)

Indra reserves the right to  
modify these specifications  
without prior notice

**indra**