DEFENSE AND SECURITY

MULTIMODE AIRBORNE RADAR

Defense and security in five continents

indracompany.com
HORUS is a compact and lightweight X-Band airborne radar system that provides air to air, air to surface and air to ground radar operation in all-weather, night-and-day conditions.

HORUS is based on a scalable “core” radar architecture that provides customized operational configurations to meet specific customer operational needs.

Horus provides radar performance levels and capabilities, suitable for operation in helicopters, fixed winged aircrafts (including MPAs) and MALE UAVs. Customized configurations are also available, benefiting from HORUS flexible architecture concept.

### Product

<table>
<thead>
<tr>
<th>General description</th>
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<tr>
<td>HORUS is an airborne radar, based on Indra’s own technologies, compact, lightweight and multi-mission, with weather, navigation, air to surface and air to ground surveillance and air to air operational capabilities.</td>
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<td>HORUS is a pulse doppler coherent detection radar that operates in X-band, being frequency and PRF agile.</td>
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<td>HORUS is based on a modular, open and compact architecture, with growth potential for functionality upgrade and BIT for ease of maintenance.</td>
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<td>HORUS is ruggedized for fixed winged, rotary winged and UAV environments, with flexible interfaces for simple installation in platform an integration with air vehicle avionics.</td>
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**MULTIMODE AIRBORNE RADAR**

True all-weather, day and night multi-role airborne radar sensor providing: air, sea surface and ground target search, acquisition and tracking including high resolution SAR and ISAR imaging and target identification aids.
HORUS product is based on a modular system design, with flexible interfaces for simple integration with host air platforms and avionics/mission system.

HORUS is a powerful multi-mission sensor, providing:
- Air, sea surface and ground target detection, tracking, acquisition and surveillance.
- Self-protection capabilities, Rx/Tx blank for ECM/ESM interface.
- High resolution imaging and identification support capabilities.

HORUS provides the following operational modes:
- **Early warning and Maritime reconnaissance**
  - Air-to-air early warning, detection and tracking
  - Air raid detection

**Operational capabilities**
- Sea surface target detection and tracking
- Sea surface target profiling
- Weather detection and avoidance
- Ground mapping
- Beacon and SART modes

**Surveillance**
- MTI maritime and littoral surveillance
- MTI wide area ground surveillance
- High resolution SAR ground surveillance

**Intelligence**
- Enhanced configuration
- Very high resolution spot SAR ground imaging
- Sea surface target imaging (ISAR)
- Ground target classification support

**Multi-platform**
Helicopters, Fixed wings (incl. MPAs) MALE UAVs.

**Key product features**

**Multimode**
Air, sea surface and ground target detection and tracking, acquisition and surveillance
Self-protection capabilities
High resolution imaging (Swath and Spot SAR)
Identification support capabilities (Maritime ISAR and HRR profiling)

**Multiplatform**
HORUS is based on a modular system design, with flexible interfaces for simple integration with host air platforms and avionics/mission system.

**True all-weather, day-and-night operation**

Lightweight and scalable design multiple radar configurations based on a modular core radar

**Frequency**
X-Band

**Interface**
Interfaced with L-Band IFF, Datalink and EW subsystems

**Key hardware features**

**Scanner**
Stabilized mechanical scan: 360° (belly mount), sector and profile scan modes
Antenna flat plate configurations adaptable to platform mounting
Monopulse capability and L Band IFF

**Receiver/Exciter/Processor**
Master system clocks and triggers
Digital waveform generation
LO, Deramp-On-Receive and Step-frequency demodulation
Wide bandwidth for high resolution SAR imaging
STC and AGC management
RF and PRF agility
Signal processing on parallel architecture
Doppler processing for A/A and A/S MTI modes
Multi-target tracking
Power management (LPI)
Self-protection features SAR and ISAR processing

**Transmitter**
TWT amplifier, X-band operation
High peak and duty cycle for pulse doppler operation
Linear FM, fixed, agile, or bi-phase coded waveform amplification
Peak-Pulse Management for LPI
Indra reserves the right to modify these specifications without prior notice.