



indra

DEFENSE AND SECURITY

MULTIMODE AIRBORNE RADAR FAMILY

Defense and security in five continents

indracompany.com

MULTIMODE AIRBORNE RADAR FAMILY



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

Product family

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.

Three standard configurations are available, offering increasing 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.

General description

HORUS is a family of airborne radars, based on Indra’s own technologies, compact, light weight and multi-mission, with weather, navigation, air to surface and air to ground surveillance and air to air operational capabilities.

HORUS is a pulsed coherent detection radar that operates in X-band, being frequency and PRF agile.

HORUS is based on a modular, open and compact architecture, with growth potential for functionality upgrade and BIT for ease of maintenance.

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.

Multi-platform

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

Operational capabilities

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 three standard configurations:

Core radar configuration (early warning and reconnaissance)

- Air-to-air early warning, tracking and targeting
- Air raid detection

- Sea surface target detection navigation
- Sea surface target profiling
- Weather detection and avoidance
- Ground mapping

Enhanced radar configuration (surveillance)

- Core radar capabilities
- MTI maritime and littoral surveillance
- MTI wide area ground surveillance
- High resolution SAR ground surveillance

Advanced radar configuration (intelligence)

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

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

Helicopters, Fixed wings (incl. MPAs)
MALE UAVs.

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

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

Navigation

Early Warning

Surveillance

Intelligence

Frequency

X-Band

Interface

Interfaces with L-Band IFF, Datalink and EW subsystems

Provides optional operator control and exploitation display unit

User friendly colour display interface for radar control and radar products screening
Radar products display formats in PPI, A-scope and B-scope SAR imaging and ISAR displays

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

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

Receiver/Exciter

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

Processor

Signal processing on parallel cross-bar architecture

Doppler processing for A/A and A/S MTI modes

Multi-target tracking

Power management (LPI)

Self-protection features

SAR and ISAR processing



ISO 9001:2000



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