

NSP-7 WHITE PAPER

WHAT IS THE NSP-7

The NSP-7 is a low-Size, Weight, Power and Cost (SWaP-C), multi-mode Ku-band radar system designed to operate from manned or unmanned airborne platforms. The operationally-proven NSP-7 comes in an easy-to-integrate, weatherized pod form factor to provide imaging, detection, tracking, and surface search capabilities.

The NSP-7 comes standard with SAR, CCD, GMTI, and maritime capabilities which can be performed day or night, in all weather conditions, and in other low-visibility conditions such as those caused by fog or smoke.



NSP-7 mounted with a 15" camera ball

CAPABILITIES

Synthetic Aperture Radar (SAR) Imaging:

Creates imagery using antenna movement to achieve finer resolution. NSP-7 resolutions are user selectable from 0.1 to 10 m.

Coherent and Magnitude Change Detection (CCD/MCD):

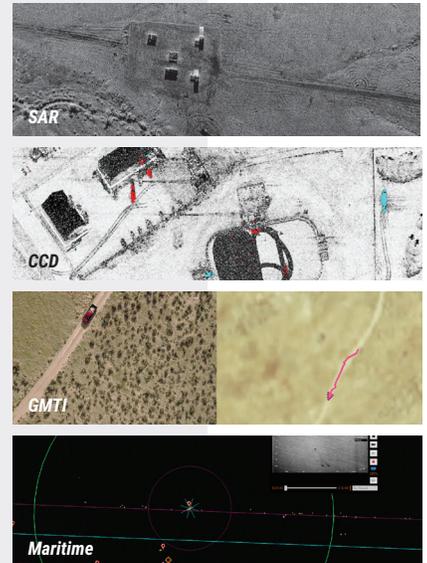
Compares multiple SAR images of the same area collected at different times and automatically detects changes, including vehicle tracks and footprints, that occurred in the area during the time between the SAR image collections.

Ground and Dismount Moving Target Indication (GMTI/DMTI):

Automatically detects and tracks moving targets, including people, by comparing the returns of the radar signal from multiple receive antennas. The NSP-7 is capable of performing vehicle MTI at a range of 32 km.

Maritime Moving Target Indication (MMTI):

Performs a wide-area search and automatically detects moving targets in maritime environments. The NSP-7 is capable of performing MMTI at multiple ranges up to 73 NMI, depending on the target size.



EASY TO USE

The NSP-7 is easy to use and typically paired with a Lisa Ground or Airborne Server and an Image Analyst Workstation that includes Lisa 3D software. Lisa 3D is a graphical and intuitive software tool for NSP-7 Command and Control (C2) and the Processing, Exploitation, and Dissemination (PED) of sensor data. IMSAR has also developed a radar control Application Programming Interface (API) for the NSP-7 to support integrations with third-party software.



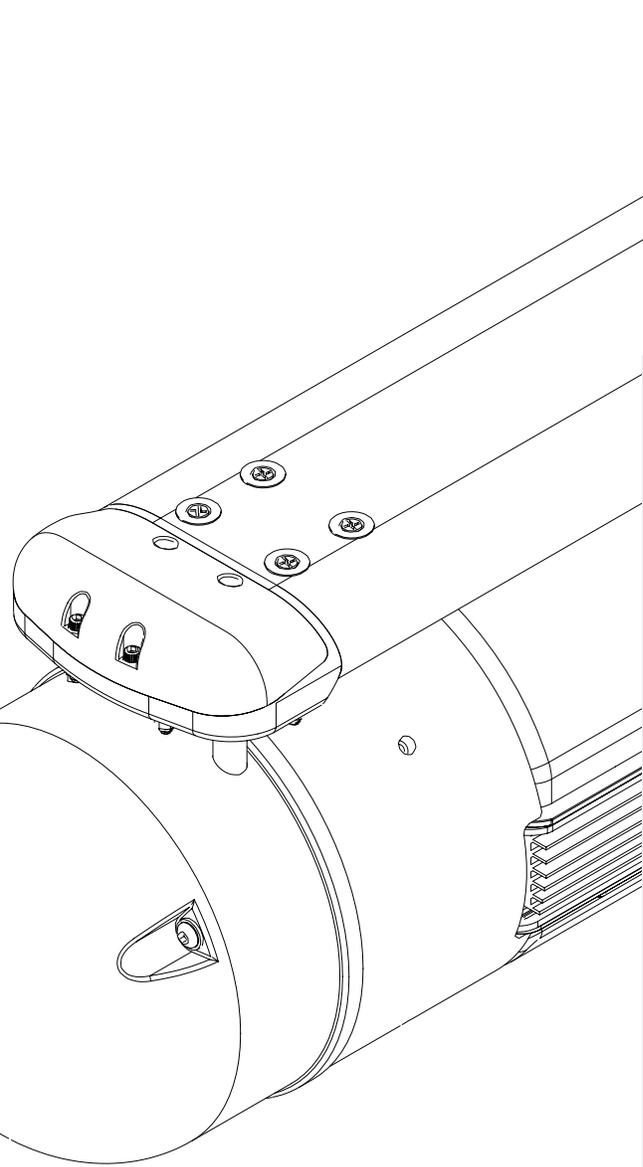
Lisa 3D Software



Lisa Ground or Airborne Server



Image Analyst Workstation



SYSTEM SPECIFICATIONS

SIZE	DIAMETER: 5.4 IN (13.7 CM) LENGTH: 58.1 IN (147.6 CM) HEIGHT: 6.8 IN (17.3 CM)
WEIGHT	24 LBS (10.9 KG)
POWER	275 W
VOLTAGE	28 V
OPERATING ALTITUDE	3 - 23,000 FT AGL
IMAGING RESOLUTION	32 KM (AT 1M RESOLUTION)

BENEFITS

As a low-SWaP-C, high-performance, multi-mode radar system, the NSP-7 provides the following benefits over other potential radar systems:

- Simultaneous operation with other sensors
- Maintain aircraft endurance
- Operate on multiple types of aircraft
- Reduce need for extensive aircraft modifications
- Adapt to changing requirements and urgent needs
- Lower initial and operational costs

POTENTIAL APPLICATIONS

With its multiple modes and capabilities, the NSP-7 is an ideal sensor to perform multiple applications.

COUNTER DRUG	COUNTER TRAFFICKING	SEARCH & RESCUE
RANGE CLEARING	CONVOY OVERWATCH	ROUTE CLEARANCE
OIL SPILL DETECTION	DISASTER SUPPORT	ILLEGAL FISHING
ICE FLOW MONITORING	HIGH VALUE TARGET TRACKING	BATTLE DAMAGE ASSESSMENT
BORDER PATROL	FORCE PROTECTION	AND MORE...

HIGH RELIABILITY & SUPPORT

To ensure high reliability, IMSAR performs each step of the design, production, and testing of each NSP-7 in-house using our own engineering teams, production team and equipment, and testing resources, including ground and flight testing assets. The low-SWaP architecture of the NSP-7 further increases the reliability of the system because it is using less power and moving less mass. With the moving parts of the NSP-7 limited to the elevation gimbals that are built into the pod structure, the NSP-7 has a proven track record of reliability and low maintenance with an industry-leading Mean Time Between Failure (MTBF) in excess of 2,000 operational hours.

IMSAR is committed to helping its customers have a successful experience with the installation and operation of the NSP-7 radar system. IMSAR has in-house training and demonstration teams that are able to provide on-site or mobile training, Field Service Representative (FSR) support, and reachback support. With rapid development cycle times, IMSAR is able to help customers respond to changing operational environments and threats with new capabilities, modalities, and enhancements.

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