

# SPIDER

## COMMUNICATIONS INTELLIGENCE



### EXPLOIT YOUR ADVERSARY'S COMMUNICATIONS

In the modern battlefield, communications systems are used universally to share strategic Command & Control information and conduct tactical operations. This abundance of information provides an opportunity to gain a tactical advantage through the interception of communications and subsequent interpretation into actionable intelligence.

The COMINT product facilitates the detection, processing and exploitation of communications across a wide frequency spectrum. This information can then be used to determine an adversary's disposition, tactics and intentions.

Spider uses advanced direction finding techniques to locate targets, provide situational awareness, warn of incoming threats and cue supplementary sensors and weapons systems.

A small footprint allows it to be packaged alongside other sensor systems to satisfy a diverse range of operational requirements, while the mission software is flexible and configurable.

As new and complex target communications systems appear, the system can be readily updated to monitor the latest enemy Electronic Order of Battle.

#### DETECT

Ultra Wideband Auto Detection.

#### INTERCEPT

Direction Finding and Geo-location.

#### IDENTIFY

Classify and recognise threats.

#### EXPLOIT

Record and generate Pattern of Life and analyse signal content for adversarial disposition and reportable intelligence.

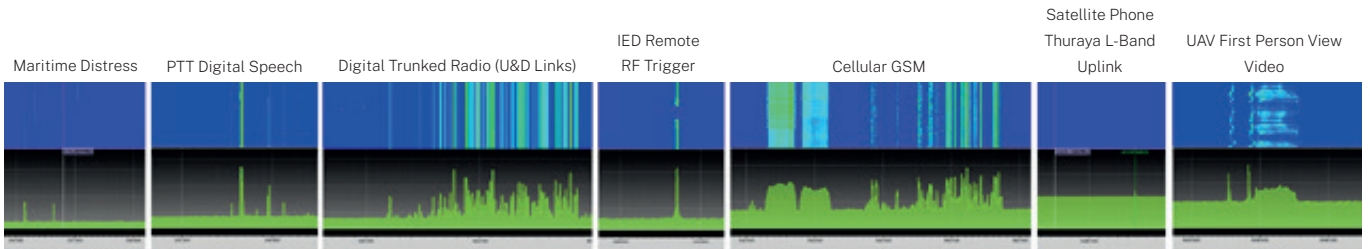
## KEY BENEFITS

- Highly accurate Direction Finding and geo-location enabling accurate sensor cueing at extended range from a single platform
- Operator burden is reduced through automatic detection and Direction Finding of Fixed Frequency and Frequency Hopping emissions
- A single, integrated antenna assembly eases aircraft installation
- Automated processing of relevant target solutions enables rapid and effective development of tactical intelligence product
- Ease of export around the world –non-ITAR

## KEY FEATURES

- Sophisticated Super Resolution Direction Finding algorithms accurately prosecute co-channel targets in congested communications environments
- World leading instantaneous digitised bandwidth, incorporating multi-channel parallel processing resources
- Adaptive Digital Beam-Forming enhances weak target signals even in the presence of strong interfering signals.
- Fully integrated Mission Information System including multi-layer electronic mapping and smart, interactive database
- Dynamic sensor reconfiguration whilst airborne supports both tactical Indications & Warnings and persistent, strategic COMINT tasking

## OPTIMISED FOR



Sample spectrum outputs from the Spider system

## TECHNICAL SPECIFICATIONS

<b>Frequency range:</b>	20MHz to 6GHz
<b>No. of wideband digitising channels:</b>	8
<b>Instantaneous digitised bandwidth:</b>	100MHz per channel
<b>No. of super resolution DF digital drop receivers:</b>	64
<b>No. of DFs per second:</b>	64000
<b>DF accuracy:</b>	Typically 2° RMS
<b>Instantaneous Spurious Free Dynamic Range (SFDR):</b>	Typically 85dB, (>120MHz)
<b>Sensitivity (at wideband receiver input):</b>	-115dBm (for 10dB SNR)
<b>Wideband Sweep Rate (&gt;100MHz):</b>	40GHz/sec
<b>Wideband and Narrowband IQrecording format:</b>	VITA49
<b>Audio recording format:</b>	.wav

### SWAP

<b>Antenna:</b>	400mm x 400mm, <20kg
<b>Mission rack:</b>	19" rack form factor (scalable)

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Antenna Array



Digital Receiver and Processing Unit



Spider deployed on a PA31 aircraft

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