

# SI-9150 POLARIS MULTI-CHANNEL WIDEBAND TUNERS

## DESIGNED TO OPERATE IN DENSE SIGNAL ENVIRONMENTS AND HARSH CONDITIONS.

The Polaris tuner family builds on a 50-year legacy of continuous innovation in the design of state-of-the-art HF/VHF/UHF tuners and receivers. Polaris' high performance and small form factor set it apart from other RF front ends in the industry. Polaris' low cost per channel and powerful features open the door for its use in a range of military and commercial applications.

With a frequency coverage of 2 MHz to 6.2 GHz, Polaris can intercept a wide range of signals of interest and provide a wide bandpass from each of its channels. Polaris is available as an analog or digital tuner with up to four channels. The Polaris digital tuner is also available as a five-channel unit. Each of its wideband channels can operate independently or phase-coherently providing a unique ability to tailor this sensor to a wide range of missions.

Polaris tuners are well-suited for commercial applications such as identification and geo-location of RF interference. Polaris possesses capabilities that are both critical to the development of emerging commercial cognitive radio networks and paramount to spectrum monitoring, signals intelligence, direction finding and beam forming applications.

Weighing no more than 4.3 pounds and as little as 0.5 pounds, Polaris easily fits in the palm of your hand. Polaris tuners are easily the smallest in their class of signal intelligence collection tuners. They consume little power, and their rugged mechanical design allow optimal performance in harsh environments and over a wide temperature range.



# SI-9150 POLARIS MULTI-CHANNEL WIDEBAND TUNERS

## FOUR-CHANNEL DIGITAL POLARIS

PARAMETER	SPECIFICATION
Frequency coverage	2 MHz - 6.2 GHz
Tuning resolution	1 Hz minimum
Tuning speed	300 microseconds
IF outputs	Digitized 85 MHz IF with selectable bandwidth range packetized per VITA 49, time-stamped per GPS input and output via two SFP+ interface for high-speed Ethernet
Isolation between RF channels	70 dB minimum
Size	3 x 5 x 2.5 inches
Weight	3.7 lbs.
Input power	8 to 16 Vdc
Power consumption	35 watts maximum
Control interfaces	10/100 Ethernet control via RJ-45 connector, USB 2.0 control via 5-pin interface, RS-232 multi-drop and four GPIO pins via nine-pin interface

## FOUR-CHANNEL ANALOG POLARIS

PARAMETER	SPECIFICATION
Frequency coverage	2 MHz - 6.2 GHz
Tuning resolution	1 MHz minimum
Tuning speed	300 microseconds
IF outputs	40 MHz wideband analog IF centered at 70 MHz
Isolation between RF channels	70 dB minimum
Size	3 x 5 x 1.65 inches
Weight	2.25 lbs.
Input power	8 to 16 Vdc
Power consumption	18 watts maximum
Control interfaces	RS-232 multi-drop, USB 2.0 & four GPIO pins per channel via 25-pin interface

## COMMERCIAL & MILITARY APPLICATIONS

As a front-end tuner to a system, Polaris can optimize the wireless spectrum to its fullest potential and adaptively juggle a wide range of signals with minimal interference.

- Signal Intelligence - direction finding & beam forming
- Surveillance receiver
- TSCM (technical surveillance countermeasures)
- Threat warning
- RF interference detection, identification, geolocation
- Test and measurement of radio frequencies
  - Lab instrument
  - Site survey tool for field operations
- Wideband spectral sensing
- Commercial spectrum compliance
- Spectrum monitoring
- Enabling technology for cognitive radio systems
- Tracking of resources via emitter signatures

## POLARIS PRODUCT LINE\*

NOMENCLATURE	DESCRIPTION
SI-9150/A1	One-channel HF/VHF/UHF Analog Tuner
SI-9150/A2	Two-channel HF/VHF/UHF Analog Tuner
SI-9150/A3	Three-channel HF/VHF/UHF Analog Tuner
SI-9150/A4	Four-channel HF/VHF/UHF Analog Tuner
SI-9150/D2	Two-channel HF/VHF/UHF Digital Tuner
SI-9150/D4	Four-channel HF/VHF/UHF Digital Tuner
SI-9150/D5	Five-channel HF/VHF/UHF Digital Tuner

\*New configurations coming soon. Check with your account manager!



The tiny single channel analog tuner. The Polaris validates DRS Signal Solutions' continuous innovation in low SWAP solutions that push the technology envelope and exceed customer expectations.

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PN 14106954-001, -002 | REV E | September 2019

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