

SI-9170A SPARROW

3U VPX Wideband Microwave Tuner

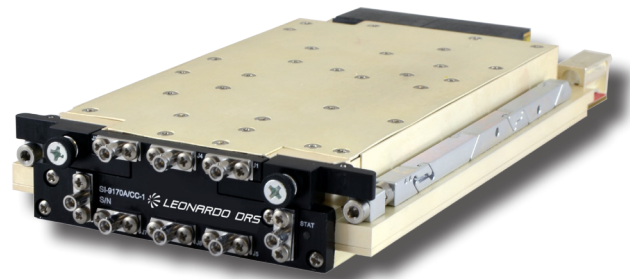
THE THOUGHT LEADER IN MICROWAVE TECHNOLOGY

The high-performance Sparrow Microwave Tuner searches for and identifies sources of electromagnetic energy in order to detect threats. Sparrow is the ideal RF front end for systems conducting surveillance and commercial monitoring operations as well as ELINT, electronic support measures and electronic warfare missions.

Covering the VHF/UHF/SHF spectrum, Sparrow offers single-channel tuning in a 3U VPX 1-inch package weighing 2 lbs. and consuming less than 32 watts of power. Sparrow can also be configured as a two-channel tuner, providing even better SWAP capabilities by consuming only 21 watts per channel in the same 3U VPX package. Both tuner configurations convert RF input signals in the 70 MHz to 18.25 GHz range to an IF signal with a center frequency of 1 GHz and a bandwidth of 500 MHz.

Each tuner consists of a high-performance multi-stage downconverter, a microwave synthesizer, and a digital control processor that interface directly to cover the unit's tunable frequency range supporting fast tuning and rapid spectral scanning. Boasting low phase noise and high dynamic range, the tuners provide 1 MHz tuning resolution with a nominal tuning speed of 30 microseconds.

Either tuner can provide independent or phase-coherent operations regardless of channel count without LO distribution.



SI-9170A SPARROW 3U VPX WIDEBAND MICROWAVE TUNER

HIGHLIGHTS

- Internal high-stability reference can be phase-locked to external reference source for system applications
- Conduction-cooled
- Alternates between independent tuning or multi-channel phase-coherent tuning via software command without the need to re-cable

SPARROW PRODUCT LINE

NOMENCLATURE	DESCRIPTION
SI-9170A/CC-1	Dual-channel Wideband Microwave Tuner
SI-9170A/CC-2	Single-channel Wideband Microwave Tuner
SI-9170A/CC-4	Dual-channel Wideband Microwave Tuner with a reduced tuning speed
SI-9170A/CC-5	Single-channel Wideband Microwave Tuner with a reduced tuning speed

SPARROW EQUIPMENT FRAME

The SI-9918A/SYS-X is a 1U VPX equipment frame that mounts into a standard EIA 19-inch equipment rack. This frame is designed to hold up to four SI-9170A 3U VPX single-slot Sparrow cards. Contact the facility for configuration options.



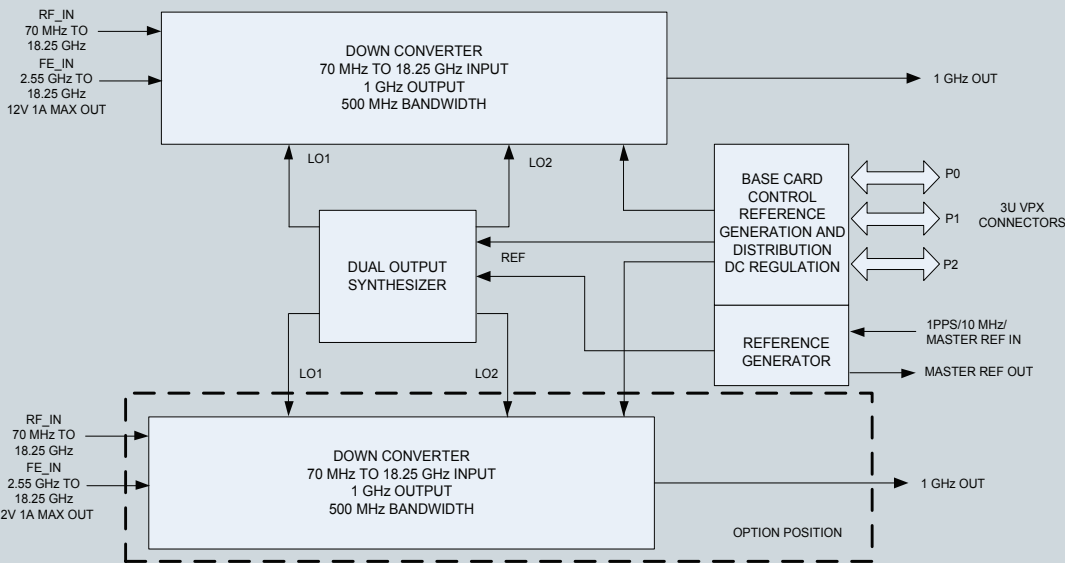
PERFORMANCE FEATURES

PARAMETER	SPECIFICATION
Input frequency range	70 MHz to 18.25 GHz at RF input
Frequency tuning range	270 MHz to 18 GHz at RF input
Tuning step size	1 MHz
Tuning speed	40 microseconds maximum 30 microseconds nominal
IF passband characteristics	500 MHz bandwidth centered at 1 GHz

MECHANICAL CHARACTERISTICS

PARAMETER	SPECIFICATION
Size	Single-slot, 1-inch pitch, 3U VPX
Weight	2 lbs. nominal
Power consumption	
Single-channel	32 watts maximum
Dual-channel	42 watts maximum
Temperature range	
Operational	-40°C to +70°C (rail)
Storage	-55°C to +85°C
Altitude	Up to 50,000 feet
Humidity	5 to 95% non-condensing

*Specifications are subject to change. Please contact the facility for the most up to date specifications.



Up to eight units can be made phase-coherent for DF applications by designating one unit as the master, and the others as slaves. This results in an eight-channel phase-coherent system when employing the single-channel tuner and a 16-channel system with the dual-channel tuners. Units can be reconfigured by software command to tune independently or in pools without the need to change physical interconnections.

Airborne & Intelligence Systems

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