# SI-9158 MICROWAVE TUNER

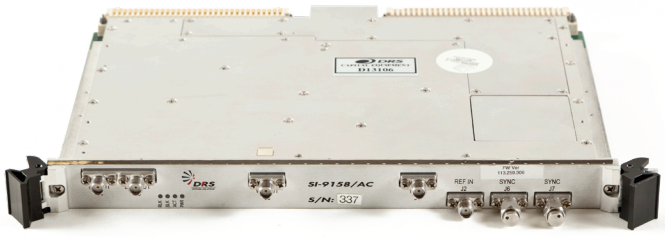
## SI-9158 MICROWAVE SIGINT VME 64X TUNER

The SI-9158 Microwave VME 64x Tuner's high performance and flexibility make it fully capable of being used for both Signals Intelligence (SIGINT) and Electronic Support (ES) operations. Covering the UHF/SHF spectrum from 250 MHz to 18.25 GHz, the SI-9158 can be reconfigured on the fly for either independent or phase-coherent operation.  Features designed to optimize SIGINT operations include two simultaneous IF outputs (centered at 1 GHz and 160 MHz), a switchable log video output (one wideband and one narrowband), and multiple tuning approaches.

By providing two IF outputs with unique center frequencies and bandwidths, the SI-9158 enables the simultaneous processing of electronic intelligence (ELINT), communications intelligence (COMINT), and/or foreign instrumentation intelligence (FISINT) signals.

The SI-9158 provides four methods to tune a signal: fixed frequency, sweep (continuous coverage from a start frequency to a stop frequency), step tuning (through two tables, each with up to 4,865 re-programmable channels), and RF PAN mode for very fast spectral monitoring.

The SI-9158's superior dynamic range allows intercept of weak signals in the presence of strong signals in dense environments.  High signal fidelity and low phase noise support complex signal demodulators. The SI-9158 delivers industry-leading single-tone and two-tone spurious performance.

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## KEY HIGHLIGHTS

- Input frequency range 250 MHz to 18.25 GHz
- Independent and phase-coherent operation
- Single cable sync approach for coherent applications
- SWAP maximizes platform payloads
- 6U single-slot VME form factor
- Optional ultra-wide 1 GHz and 2 GHz IF bandwidths available
- Two simultaneous IF outputs
- 500 MHz BW centered at 1 GHz
- 80 MHz BW centered at 160 MHz
- Log Video output switchable for either 1 GHz or 160 MHz IF
- Backplane VME control
- Air convection cooled or conduction cooled

## ORDERING INFORMATION

| NOMENCLATURE | DESCRIPTION |
|---|---|
| SI-9158/AC | Tuner converts input signals between 0.25 and 18.25 GHz to a wideband 1 GHz IF with 500 MHz bandwidth |
| SI-9158/AC-1 | Tuner converts input signals between 0.25 and 18.5 GHz to a 1 GHz bandwidth IF (consult factory for details) |
| SI-9158/AC-2 | Tuner converts input signals between 0.25 and 18.5 GHz to a wideband 4 GHz IF with 2 GHz bandwidth |
| SI-9158/AC-5 | Same as SI-9158/AC but with improved phase tracking when used with slaved SI-9158/AC-5 units |

## SPECIFICATIONS

| PARAMETER | DESCRIPTION |
|---|---|
| Frequency range | 250 MHz to 18.25 GHz |
| Frequency tuning range | 500 MHz to 18.0 GHz |
| Tuning step size | 1 kHz (main IF) - finer resolution available |
| Tuning speed | 35 microseconds maximum (manual mode) (from receipt of tune command to within 100 kHz of final frequency) |
| Spurious | |
| Single-tone | -70 dBc typical (with -20 dBm RF input level) |
| Internally-generated | <-100 dBm referred to the RF input |
| SSB integrated phase noise | 0.4 degrees RMS typical 100 Hz to 40 MHz |
| Input two-tone third-order intercept point at maximum gain | +2 dBm typical |
| Noise figure | 15 dB maximum; 13 dB typical |
| **ENVIRONMENTAL** | |
| Cooling | Air convection cooled |
| Temperature range | |
| Operating temperature | 0°C to +55°C |
| Storage temperature | -40°C to +70°C |

| SWAP | |
|---|---|
| Size | Single-slot, 6U VME |
| Weight | 4.0 lbs. |
| Power | 45 watts, independent mode<br>50 watts maximum, phase-coherent mode |

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