

SIR 5115

Multi-Channel HF Digital Broadband 3 RU Receiver System



0.5 to 30 MHz

Flawless interception

The 3 RU HF broadband receiver SIR 5115, covering the full frequency range from 0.5 to 30 MHz, represents the benchmark for interception of even extremely weak HF signals in COMINT missions.

Offering full high-resolution coverage and multiple virtual narrowband receivers, the SIR 5115 replaces entire banks of single channel receivers without compromising blocking dynamic range or intermodulation. This means having fewer receivers produce more precisely tuned signals with less error.

Features

- 100% high-resolution interception of signals from 0.5 to 30 MHz
- Excellent dynamic range of 169 dB; spurious free 105 dB
- Flexible multiple channel interception of up to 40 wideband and 600 narrowband channels
- No internal spurious responses
- 5 independent RF inputs
- Built In Test Equipment (BITE) for every internal module / via SNMP interface



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Reseller in North America

Specifications

SIR 5115 – Multi-Channel HF Digital Broadband 3 RU Receiver

Characteristics	
Frequency range	0.5 to 30 MHz
Coherent bandwidth	29.5 MHz (digital in 40 subbands)
DDC channels	120 channels (10/20/40 kHz) (optionally up to 600)
Tuning resolution (DDC)	< 1 Hz
Pre-selection	7 high- and low pass filters (per receiver frontend)
Wideband I/Q data	40 x 768 kHz +/- 20 kHz overlap, each sub-band
Gain control	automatic, manual or automatic with user defined shift (AGC + M)
VSWR	< 2:1
Maximum input level	+ 30 dBm (non-destructive)
Noise figure	≤ 12 dB (without pre-selection)
MDS (Minimum Detectable Signal)	-139 dBm (at 125 Hz resolution, 500 ms integration)
SFDR (Spurious-Free Dynamic Range)	typ. 105 dB ≥ 100 dB (2 to 30 MHz, in-band) ≥ 95 dB (0.5 to 2 MHz, in-band)
Input IP2	≥ 80 dBm
Input IP3	≥ 43 dBm
BDR (Blocking Free Dynamic Range)	140 dB/Hz
Full dynamic range	169 dB
IF rejection	n. a. (direct sampling)
Image rejection (related to ADC)	not measurable
Internal spurious	none
Frequency stability	±10 ⁻⁷
Frequency drift	< ±5* 10 ⁻⁷ ageing/year
Phase noise	≤ -150 dBc/Hz at 10 kHz offset

Interfaces	
Antenna input	5 x N-connector female (nominal impedance 50 Ω)
Input for external reference frequency	BNC-female (10 MHz)
Input for time synchronisation	BNC: pulse per second (PPS)
Network interfaces	7 x Gigabit Ethernet (for control and data)
Service connection	RS 232
Operating voltage	90 to 230 VAC (50/60 Hz)
Power consumption	450 VA (integrated power supply)

Environmental data	
Operating temperature	0° C to +50° C
Storage temperature	-40° C to +70° C
Humidity	≤ 85% (non-condensing)
Environmental standards maintained	EN61010-1:2002 / EN61000-6-2:2002 / EN61000-6-3:2002

Mechanical data	
Width	19" (482.6 mm)
Height	3 RU (133.5 mm)
Depth	605 mm
Weight	max. 18 kg