



# SIR 5115

HF digital broadband tuner



The HF broadband receiver SIR 5115, covering the frequency range from 0.5 to 30 MHz, represents the benchmark of HF signal interception. It intercepts every signal simultaneously in the complete HF range.

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 signals with less error.

## Highlights

- Excellent dynamic range: IMFDR 105 dB
- Full high-resolution interception from 0.5 to 30 MHz
- Extraordinary high dynamic range due to 7 sub-octave filters
- Multiple channel interception: up to 600 virtual narrowband receivers
- No internal spurious responses



Rear side of SIR 5115



Modular architecture with plug in cards

## Technical data

### Features

Frequency range	0.5 – 30 MHz
Coherent bandwidth	29.5 MHz (digital in 40 subbands)
DDC channels	120 channels (10/20/40 kHz)
Tuning resolution (DDC)	< 1 Hz
Wideband I/Q data	40 x 808 kHz
Preselection	7 high- and low pass filters (per receiver frontend)
Gain control	Automatic, manual or automatic with user defined shift (AGC + M)
Maximum input level	+ 30 dBm (non-destructive)
Noise figure	≤ 12 dB (without preselection)
MDS (Minimum Detectable Signal)	-139 dBm (at 125 Hz resolution, 500ms integration)
SFDR (Spurious-Free Dynamic Range)	typ. 105 dB, ≥ 100 dB (2 – 30 MHz, in-band) ≥ 95 dB (0.5 – 2 MHz, in-band)
Input IP2	≥ 80 dBm
Input IP3	≥ 43 dBm
BDR (Blocking Free Dynamic Range)	140 dB/Hz
Dynamic range	169 dB
IF rejection	> 140 dB (direct sampling)
Image rejection	> 90 dB
Internal spurious	None
Frequency stability	±10 <sup>-7</sup>
Frequency drift	< ±5* 10 <sup>-7</sup> ageing/year
Phase noise	≤ -150 dBc/Hz at 10 kHz offset
VSWR	< 2 : 1

### Interfaces

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

Built In Test Equipment (BITE)	For every internal module, via SNMP interface
MTBF (according to MIL-HDBK)	At least 10,000 hours
<b>Environmental data</b>	
Permissible temperature range:	
Operating	0° C to +50° C
Storage	-40° C to +70° C
Humidity	≤ 85% (non-condensing)
Environmental standards maintained	EN61010-1:2002, EN61000-6-2:2002, EN61000-6-3:2002
<b>Integration data</b>	
Width	19" (482.6 mm)
Height	3 RU (133.5 mm)
Depth	605 mm
Weight	18 kg
<b>Order reference</b>	<b>SIR 4326.1</b>

## Optional features

Feature	Order reference
Advanced Memory Scan	AMS 3321.1
Output of 29.5 MHz in channels to 96 kHz	IFC 3321.1
240 additional DDC channels (this option could be used twice)	DDCM 3321.1
Graphical user interface WinMON	on request





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