CRFS | EXTRAORDINARY RF TECHNOLOGY

RFEYE SENS PORTABLE
LIGHTWEIGHT WIDEBAND I/Q DATA RECORDER

Compact RF digital recording solution for capture and analysis of RF signals

The RFeye SenS Portable digital recorder provides real-time spectrum analysis and long-duration recording capabilities in a compact, low-power, portable configuration. With built-in high-speed, solid-state memory of up to 25.6 TB, this hand-held RF digital recorder interfaces to the Thunderbolt port of a desktop or laptop PC for seamless integration with RFeye DeepView signal extraction and analysis software.

FEATURES

- 9 kHz to 8, 18 or 40 GHz frequency range for C, X, Ku, Ka bands and 5G recording
- Integrated SSD(s) for 12+ hours of recording time at 100 MHz IBW
- Can be powered by vehicle AC inverter
- Low SWaP for signal recording on the move
- Powerful visualization and analysis tools
- Time and frequency filtering to minimize file size of I/Q exports

APPLICATIONS

- Portable signal collection – record native RF environments outside of a lab
- Anechoic chambers – extract and test target signals with forensic RFeye DeepView software
- Stimulus/response system development – capture signal files with crystal-clear fidelity for digital manipulation and playback

SENS PORTABLE

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System components
Internal receiver: R-8 option

Frequency

Range	9 kHz to 8 GHz

Noise figures at maximum sensitivity

9 kHz to 0.1 GHz	10 dB typical
0.1 GHz to 2.4 GHz	6 dB typical
2.4 GHz to 6 GHz	7 dB typical
6 GHz to 8 GHz	8 dB typical

Sweep speed

Sweep speed at 2 MHz RBW	280 GHz/s typical

Internal receiver: R-18 option

Frequency

Range	9 kHz to 18 GHz

Noise figures at maximum sensitivity

9 kHz to 83 MHz	11 dB
83 MHz to 1 GHz	9 dB
1 GHz to 2.9 GHz	8 dB
2.9 GHz to 5.9 GHz	7 dB
5.9 GHz to 10 GHz	9.5 dB
10 GHz to 15 GHz	12 dB
15 GHz to 16 GHz	13 dB
16 GHz to 17 GHz	18 dB
17 GHz to 18 GHz	21 dB

Sweep speed

Sweep speed at 2 MHz RBW	390 GHz/s typical

Internal receiver: R-40 option

Frequency

Range	9 kHz to 40 GHz

Noise figures at maximum sensitivity

9 kHz to 0.12 GHz	12 dB typical
0.12 GHz to 6 GHz	8.5 dB typical
6 GHz to 10 GHz	10.5 dB typical
10 GHz to 18 GHz	13 dB typical
18 GHz to 40 GHz	16 dB typical

Storage and record times

Disc capacity	25 MHz IBW	50 MHz IBW	100 MHz IBW
12.8 TB	24:20	12:10	06:05
25.6 TB (R8 & R18 only)	48:40	24:20	12:10

RFeye DeepView software is the ultimate signal extraction tool. Its robust indexing feature allows users to sift through multi-terabyte datasets and quickly find and export signals of interest.

Signal analysis software

RFeye DeepView (included)	Windows 10 based; 4-lane Thunderbolt 3 port required for hardware

Overall system

Signal analysis

Switchable full-bandwidth RF inputs	3 x SMA connectors (R-40 - 2 x SMA, 1 x K2.92)
Instantaneous bandwidth	100 MHz
Tuning resolution	1 Hz

Sampling

Resolution	16 bits I&Q
Rate	125 MS/s I&Q

Internal frequency reference

Initial accuracy @ 20°C	±0.1ppm typical
Stability over temperature	±0.3 ppm typical
Ageing over 1 day	±0.04 ppm per year

Connectivity USB-C (Thunderbolt 3)

Equivalent lanes	4 x Gen 2.0 PCIe
Total throughput	Up to 40 Gbps

Size, Weight and Power

Dimensions (w, h, d)	10.9 x 5.0 x 6.5 in 277 x 126 x 165 mm
Weight (w/ dual SSDs)	7 lbs 6 oz/ 3.4 kg
Power consumption	60 W typical

Environmental

Operating temperature range	0 to +50°C (32 to 122°F)
Storage temperature range	-40 to +70°C (-40 to 158°F)

ISO 9001:2015 Quality Management

UK Certificate number: FS576625