CRFS | EXTRAORDINARY **RF TECHNOLOGY**

RFEYE SENS REMOTE 100-18

REMOTE RECEIVER WITH I/Q RECORDER

The RFeye SenS Remote 100-18 combines the RF and edge-processing capabilities of the RFeye Node 100-18 together with the high-speed recording feature of the RFeye SenS family.

The RFeye SenS Remote can perform all the functions of a standard CRFS Node but with the addition of optical take-off for 100MHz full-rate I/Q streaming. It also includes a powerful rack-mounted COTS processor and recording server unit. Secure recording can take place in fixed, unmanned locations such as on a mast or tower with no data or pulse detector parameters being stored on the remote receiver. The weatherproof remote radio head can stream full rate 100MHz IBW data down an armored fiber optic cable (up to 100 meters long) to a rack-mounted server unit housed in a building / secure enclosure, or a tactical shock-mount rack for portable applications.

The server unit provides high capacity high-speed, solid-state memory of 30+ TB, allowing full bandwidth recording of IQ data for 15 hours or more depending on channel size. The servers host RFeye DeepView signal analysis software as well as Node firmware. SenS Remote can operate in both high-capacity storage mode using DeepView and also as a Node with multi-mission capability allowing multiple concurrent measurements & geolocations to be performed by multiple users simultaneously from remote locations.

The SenS Remote 100-18 remote radio head is characterized by outstanding phase noise, noise figure, channel re-tune time and spurious free dynamic range parameters, well above any other product in its class.

FEATURES

- 9 kHz to 18 GHz frequency range for wide frequency range recording
- Server with hot-swap integrated SSD(s) for 15+ hours of recording time at 100 MHz IBW
- Armoured fiber optic cable up to 100 meters length
- Powerful visualization and analysis tools
- Time and frequency filtering to minimize file size of I/Q exports from the server SSD

SENS REMOTE 100-18

Remote Radio Head (RRH): 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

RF Signal inputs

Switchable full-bandwidth RF inputs	3 x SMA connectors
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 PCIe over Fiber

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

Size, Weight and Power (RRH)

Dimensions of RRH in Std ODK (w, h, d)	16.3 x 15.8 x 10.2 in 415 x 400 x 260 mm
Weight of RRH in Std ODK	62 lbs / 28 kg
Dimensions of RRH in Mini-ODK (w, h, d)	8.7 x 16.3 x 4.7 in 220 x 415 x 120 mm
Weight of RRH in Mini-ODK	22 lbs / 10 kg
Power consumption of RRH	40 W typical

Environmental (RRH)

Operating temperature range	0 to +50°C (32 to 122°F)
Storrage temperature range	-40 to +71°C (-40 to 160°F)

Server rack unit

Node server (Node functionality)

Operating system	Linux (CRFS Core)
Processor	Intel Xeon
Connectivity (to RRH)	Fiber optical cable to RRH
Connectivity (to DeepView server)	10GigE

DeepView server (Recording functionality)

Operating system	Windows 10
Processor	Intel Xeon
Connectivity (to Node server)	10GigE

Size, Weight and Power (Server rack unit)

Form-factor of 19" server rack unit 5U	Rugged shock-mount case
Dimensions (w, h, d) of server rack unit	24.4 x 15.4 x 39.4 in 620 x 390 x 1000 mm
Weight of server rack unit	121 lbs / 55 kg (approx.)

Storage and record times (hours)

Disc capacity	25 MHz IBW	50 MHz IBW	100 MHz IBW
30 TB	60	30	15
60 TB	120	60	30

Signal analysis software

RFeye DeepView software (included)	Windows 10 based

bsi. ISO 9001:2015 Quality Management

UK Certificate number: FS576625