The Ultimate ELINT RECORDER PLATFORM MUNIN 1005

MUNIN 1005 is the wideband IF recorder platform from Novator Solutions. Built on a modular platform, MUNIN 1005 is the ultimate solution for gapless recording of narrowband and wideband IF signals with 2 MHz to 1000 MHz real-time bandwidth. MUNIN 1005 is optimized for mission critical ELINT applications supporting precise time difference of arrival (TDOA) measurements. And it enables offline spectrum analysis, DUT characterizations and repeatable lab tests.

MUNIN 1005

- Selection of 4 Narrowband & Wideband IF inputs
- 2 MHz to 1000 MHz real-time bandwidth
- 8 to 96 TB storage capacity
- Superior timing precision
- Realtime spectrum monitor

Gapless Recording

In electronic signal intelligence, possible new emitters need to be recorded which enables deep offline analysis and signal classification. To ensure proper classification it is important to record the IQ data gapless. MUNIN 1005 buffer & streaming architecture takes care of potential latencies allowing lossless recording for many hours. In addition, the buffer caches all pre-trigger events which guarantees gapless recording of the electronic signature.

Superior Global Timing Precision

To perform geo positioning using TDOA measurements, precise timing is crucial. MUNIN 1005 supports NTP (Network Time Protocol) to distribute the timing information among all modules on the server and client. For accurate timekeeping the recorder can be synchronised to GPS. Together with a 1 PPS signal the timestamp accuracy is better than ten microseconds.

Scalability & Flexibility

The modular COTS platform makes MUNIN 1005 an effective scalable solution. The IF inputs and disk storage capacity can be adapted to mission specific requirements. You can choose between in-chassis storage module(s) with at least 8 TB or one or more external chassis with 96 TB each.

Additionally, operators can choose to configure, monitor, and control MUNIN using the build-in client with the optional real-time spectrum monitor. Or use any third-party application using the intuitive TCP/IP API which comes with a well documented ICD.

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Technical Specifications MUNIN 1005

IF Receiver			
	Narrowband input	Wideband input	
IF receiver channels (Rx)	1 - 2 SMA connectors	1 – 2, SMA connectors	
ADC resolution	16 bits	12 bits	
ADC clock	500 MHz	2,8 GHz - 3,2 GHz	
SFDR	88 dBc (@70 MHz bandwidth)	71 dBc (@500 MHz bandwidth)	
IF center frenquency (default)	160 MHz	1000 MHz	
Frequency range (-3dB)	0,1 MHz - 225 MHz	0,1 MHz - 6 GHz	
Instantaneous bandwidth	2 MHz - 100 MHz	500/1000 MHz	
IF output			
IF channel (Tx)	1, SMA connector		
DAC resolution	12 bits		
Update rate	6,4 GS/s		
SFDR	-62,4 dBc @1,01 GHz		
General			
Recording modes	Manual, software trigger & hardware trigger		
Data format	Real or IQ, 16- bit		
File format	TDMS or Midas Blue 2.0		
Time source	GPS antenna or external NTP server		
Time reference	GPS, 1 PPS		
Disk storage			
	NS-M.2 storage	NS-U.2 storage	NS- SATA storage
Form factor	Single slot module	Single slot module	2U chassis
Removable disk(s)	No	Yes	Yes
Total storage capacity	8 - 32 TB	7.68 / 15.2 TB	24 - 96 TB
Mechanical / Environmental			
Form factor	4U - 19” rack mountable chassis		
Operating Altitude	3000 m		

Novator Solutions AB, part of Novator Consulting Group, is a leading provider of products & system development within SIGINT & EW domains. Our highly skilled R&D team applies its extensive know-how in high-speed data processing and software defined radio “SDR” technology to develop next generation COMINT receivers and ELINT signal recorders. Our software expertise combined with a modular hardware architectures allows us to provide customized products and complete turn-key solutions tailored to specific project or mission requirements.

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