DP-1000
DOCSIS Protocol Analyzer

Developed in conjunction with major industry players, the DP-1000 covers all your DOCSIS analysis needs.

> ENSURE SMOOTH 24-7 OPERATION FOR YOUR MAC LAYER

Averna's DOCSIS Protocol Analyzers are the industry standard for functional DOCSIS and EuroDOCSIS network analysis, providing exceptional visibility into the MAC layer. Multiple system operators (MSOs), chipset manufacturers, product developers and certification bodies use them to quickly find and correct trouble spots.

Best Tool on the Market for DOCSIS 3.0 & 3.1 Protocol Analysis

Optimized for real-time signal processing with FPGA technology, the DP-1000 analyzes up to 32x8 single or bonded US/DS channels (DOCSIS 3.0) and 2x1 OFDM US/DS channels (DOCSIS 3.1), with numerous channel-filtering, demodulation, triggering, display, and upgrade features.

As a passive sniffer between CMTS and CPE devices, the DP-1000 silently captures and filters DOCSIS MAC-layer data in real-time to verify RF parameters, validate MAC-level communication, troubleshoot interoperability issues, and improve network performance.

Highlights

- Supports both DOCSIS 3.0 and 3.1 protocols through FPGA-based signal processing
- Input DS frequency range of 5 MHz–1.8 GHz (5–200 MHz US), and resolution of 1 MHz
- Up to 7 acquisition cards of 200 MHz bandwidth each (5 DS, 1 US and 1 additional US or DS)
- Contained in a single, 19-inch (48 cm), 4U rack for minimal footprint (60 lbs/27 kg)
- FPGA-based architecture is highly flexible, configurable, upgradable and extendable
- Many channel-filtering and display features like placement, burst, constellation, and spectrum

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HANDLES MULTIPLE DOCSIS 3.1 CHALLENGES

- Network bandwidth and channel expansion
- Orthogonal Frequency Division Multiplexing (OFDM)
- New modulation schemes of up to 4096 QAM
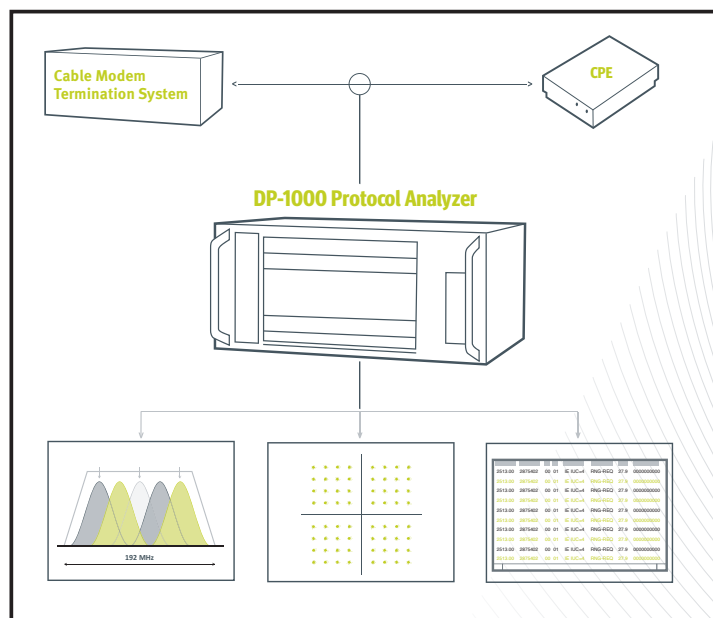- Mixed-mode operation (support of DOCSIS 3.0/3.1 devices)

DELIVERS SUBSTANTIAL RETURN ON INVESTMENT

- Powerful, flexible solution can be easily modified/ upgraded
- Intuitive GUI for quick analysis and correction of network issues
- Provides a cost-effective solution for both DOCSIS 3.0 and 3.1
- Produces real-time and historical usage and trend data
- Accelerates lab testing and equipment validation

OTHER AVERNA DOCSIS TEST SOLUTIONS

- **Jupiter Design Verification System**
  Automated PHY layer testing for DOCSIS 3.0 & 3.1
- **Mercury Manufacturing Verification Test System**
  High-volume DOCSIS CPE compliance testing

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> INDUSTRY-LEADING DOCSIS EXPERTISE BUILT-IN

Deploy the DP-1000 to monitor, analyze, and fix MAC-layer issues in real-time.

> SPECIFICATIONS

Frequency	
Input Frequency	5 MHz to 1.8 GHz
Resolution	1 MHz
Phase Noise (1 GHz @ 10 kHz offset)	< -110 dBc/Hz, 10 kHz Offset
Amplitude	
Noise Floor	-164 dBm/Hz
Maximum Input	20 dBm
Baseband	
Real-Time Bandwidth	200 MHz per card
Sample Rate	245.76 MS/s (DS DOCSIS 3.0) 204.8 MS/s (US DOCSIS 3.0) 256 MS/s (DS/US DOCSIS 3.1)
Dynamic Range	90 dB SFDR
Output Resolution	16-bit
Triggering	
Input (50Ω)	1 x SMA female
Output (50Ω)	1 x SMA female
Ethernet	
1 x 10/100/1000 Mbps RJ-45 LAN Port	
Peripheral	
4 x USB 3.0 Type A Peripheral Ports (back)	
2 x USB 2.0/1.1 Type A Peripheral Ports (back)	
Storage	
Internal: 2 x 2.5-inch (6.4 cm) 480 GB SSD	
External: RAID PCIe connector	

Specifications are subject to change without notice.

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