daqscribe

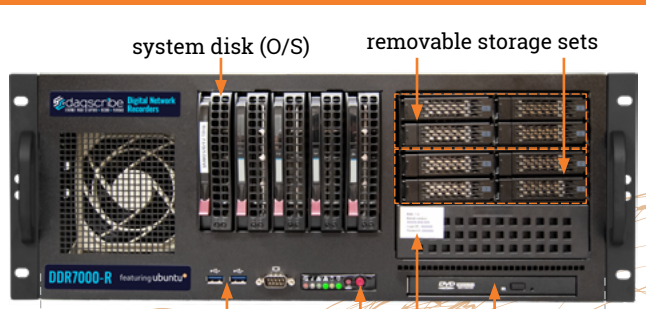
ETHERNET PACKET CAPTURE • RECORD • PLAYBACK

Innovated and produced in the U.S.A

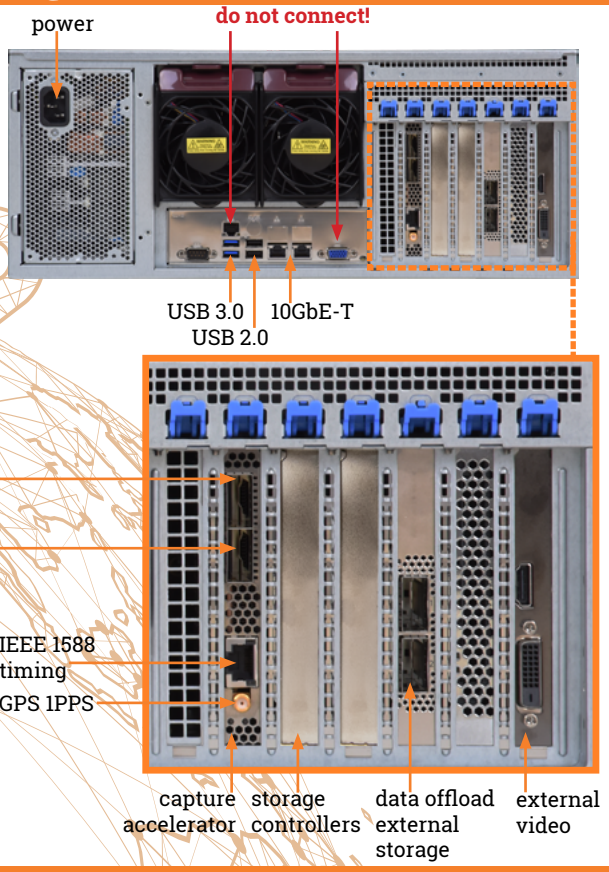
DDR7000-R series

2021

DDR7000-R SERIES ETHERNET RECORDERS



100G	40G	25G	10G
P1 QSFP28	P1 QSFP+	P1 SFP28	P1-P4 QSFP+ to SFP+
P2 QSFP28	P2 QSFP+	P2 SFP28	P5-P8 QSFP+ to SFP+



RECORDER HIGHLIGHTS

- Our fastest rackmount Ethernet recorder series.
- Sustained **100%** Ethernet capture, record, and playback performance.
- **Real-time** standard PCAP status monitoring of capture ports.
- System storage options up to **1 Petabyte (SSDs)**.
- **STIG** compliant & **AES256** encryption options.
- Data offload: **USB 3.0** and **10GbE** or optional **25/40/100GbE** ports.

DESIGNED FOR ANY NETWORK PROTOCOL

Daqscribe Ethernet recorders feature high-performance network technologies that grab data from **Layer-2** of the **OSI stack.**

This means precise packet-capture no matter the protocol, including **IPV4** or **IPV6**; **TCP** to **SCTP**; and **IP Unicast** to **IP Multicast**.

Data is reliably stored to enterprise **SSDs** in real-time and as standard **PCAP or NTCAP** formats.

Access and analyze your recorded packet-data with common network analysis tools such as **Wireshark® and ntop.®**

100% capture & record from Layer 2

7	Application	High level APIs. HTTP, FTP, SMTP	SOFTWARE
6	Presentation	Encryption / decryption compression Context for communication between levels	
5	Session	Controls dialogue between computers Controls terminations and results	
4	Transport	Enables transfer of data TCP/UDP End-to-end connection	
3	Network	Connects hosts on different networks IPV4 + IPV6. Routing of data packets.	
2	Data Link	Provides connections between hosts on the same network. (Ethernet MAC addresses)	HARDWARE
1	Physical	Electrical + physical specifications for devices. Cables and connectors. Data in bits (1's and 0's)	

Rackmount Ethernet recorders	Storage options		Line rate performance Packet Size 61 to 10,000 bytes	IEEE802.3	Network interfaces Port type	 Modules (not included)
DDR7000-R-100G 100Gbps throughput 100GbE-link x 1	25TB (149TBW) 120TB (269TBW)	50TB (298TBW) 180TB (403TBW)	Rx: 100Gbps Tx: 100Gbps	100GbE	1 x QSFP28	QSFP28 100GBASE CR4/SR4/LR4
DDR7000-R-100G-2 160Gbps throughput 100GbE-link x 2	25TB (149TBW) 120TB (269TBW)	50TB (298TBW) 180TB (403TBW)	Rx: 160Gbps (1 x 100Gbps or 2 x 80Gbps) Tx: 160Gbps (1 x 100Gbps or 2 x 80Gbps)	100GbE	2 x QSFP28	QSFP28 100GBASE CR4/SR4/LR4
DDR7000-R-40G-2 80Gbps throughput 40GbE-link x 2	12TB (74TBW) 25TB (149TBW) 120TB (269TBW)	50TB (298TBW) 180TB (403TBW)	Rx: 80Gbps (2 x 40Gbps) Tx: 80Gbps (2 x 40Gbps)	40GbE	2 x QSFP+	QSFP+ 40GBASE CR4/SR4/LR4
DDR7000-R-40G-4 160Gbps throughput 40GbE-link x 4	25TB (149TBW) 120TB (269TBW)	50TB (298TBW) 180TB (403TBW)	Rx: 160Gbps (4 x 40Gbps) Tx: 160Gbps (4 x 40Gbps)	40GbE	4 x QSFP+	QSFP+ 40GBASE CR4/SR4/LR4
DDR7000-R-25G-4 100Gbps throughput 25GbE-link x 4	25TB (149TBW) 120TB (269TBW)	50TB (298TBW) 180TB (403TBW)	Rx: 100Gbps (4 x 25Gbps) Tx: 100Gbps (4 x 25Gbps)	25GbE	4 x SFP28	SFP28 25GBASE CR/SR/LR/LR-BiDi, dual-rate 10/25GBASE-SR/LR
DDR7000-R-25G-6 150Gbps throughput 25GbE-link x 6	38TB (223TBW) 153TB (896TBW)	76TB (448TBW) 180TB (403TBW)	Rx: 150Gbps (6 x 25Gbps) Tx: 150Gbps (6 x 25Gbps)	25GbE	6 x SFP28	SFP28 25GBASE CR/SR/LR/LR-BiDi, dual-rate 10/25GBASE-SR/LR
DDR7000-R-10G-8 80Gbps throughput 10GbE-link x 8	25TB (149TBW) 120TB (269TBW)	50TB (298TBW) 180TB (403TBW)	Rx: 80Gbps (8 x 10Gbps) Tx: 80Gbps (8 x 10Gbps)	10GbE	8 x SFP+	4 x 10GBASE CR/SR/LR
DDR7000-R-10G-16 160Gbps throughput 10GbE-link x 16	25TB (149TBW)	50TB (298TBW) 180TB (403TBW)	Rx: 160Gbps (16 x 10Gbps) Tx: 160Gbps (16 x 10Gbps)	10GbE	16 x SFP+	4 x 10GBASE CR/SR/LR breakout from SFP+
DDR7000-R-PB 160Gbps throughput 100GbE-link x 2	1PB (1740.8TBW)		Rx: 160Gbps (1 x 100Gbps or 2 x 80Gbps) Tx: 160Gbps (1 x 100Gbps or 2 x 80Gbps)	100GbE	2 x QSFP28	2 × QSFP+ ports, 2 x QSFP28

SYSTEMS SPECIFICATIONS

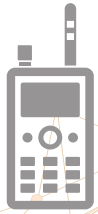
Performance	✓ 100% packet capture, record, playback
Hardware Time Stamp	✓ Resolution: 1 ns, Stratum 3 compliant TCXO ✓ Time formats: PCAP-ns/-µs, UNIX 10 ns, 1 ns
Timing/Synchronization	✓ SMA interface for PPS (optional) ✓ RJ45 100/1000BASE-T interface for IEEE 1588 PTP support (optional) ✓ OS time synchronization
Data Format	✓ PCAP format (capture/record only) ✓ NTCAP – PCAP style binary format (capture/replay) ✓ CLI utilities: Simple/quick conversion from NTCAP to standard PCAP format or payload extraction
Optional Capture /Record In-Line Features (FPGA Processing)	✓ Filtering based on e.g. L3/L4 criteria ✓ GTP, IP-in-IP, GRE and NVGRE tunneling support ✓ IP fragment handling ✓ Slicing at fixed or dynamic offset
Storage Options	✓ NVMe NAND flash (enterprise) ✓ Storage in TB with endurance TBW (Total Bytes written in PB) ✓ SSD endurance TBW is based on 128K sequential writing
CPU & Memory	✓ Intel® Xeon® scalable dual socket CPU(s) or AMD EPYC™ CPU(s) ✓ System memory from 96GB up to 2TB
Peripherals	✓ Power On/Off switch & LED, Locate switch & LED, NMI switch, 2 x LAN LED ✓ 2 x rear 10GBASE-T, 1 x 1GbE IPMI ✓ 2 x rear USB3.0 ✓ 1 x rear COM port ✓ Rear VGA/DVI/HDMI display
Data Offload Options	✓ 10G: 2 or 4 x SFP+ or 10GBASE-T ✓ 40G: 1 or 2 x QSFP+ ✓ 100G: 1 or 2 x QSFP28
Temperature	✓ Operating temperature: 0°C to 35°C (32°F to 95°F) ✓ Operating humidity: 20% to 80%
System Cooling	✓ 92mm, 2 x 80mm fans with Smart Fan Control ✓ Front bezel with removable air filter
Power Supply	✓ 865W high efficiency power supply, 100-240VAC, 50-60Hz
Dimensions & Weight	✓ H 7" (17.8cm) x W 17.2"(43.7cm) x D 20.5" (52.1cm) ✓ Weight: 50lbs (24kg)
What's Included	✓ 4U chassis rail kit (includes side handles) ✓ Display monitor, keyboard and mouse NOT included

System specifications subject to change

Daqscribe Ethernet recorders are Assured Data Availability Solutions (ADAS) offering 100% packet capture, record, and playback capabilities

APPLICATIONS

Wireless comms



- **remote radio**
- **5G baseband**
- µ/mmWave
- MIMO
- xHaul

Cable TV access

- R-PHY node
- DOCSIS 3.1

Radar

- phased array radar
- synthetic aperture radar
- 3D radar

Embedded systems

- **RFSoC**
- GPGPU
- FPGA

Autonomous vehicle

- LiDAR
- IoT (i.e., MIPI® DSI)
- Test & Measurement

5G O-RAN ALLIANCE GNURadio THE FREE & OPEN SOFTWARE RADIO ECOSYSTEM mipi alliance IEEE VITA Radio Transport Supported

A versatile processing platform
(software examples)

COMINT consulting

SIGNALEYE GENERAL DYNAMICS Information Technology

REDHAWK REDHAWK

3dB Labs

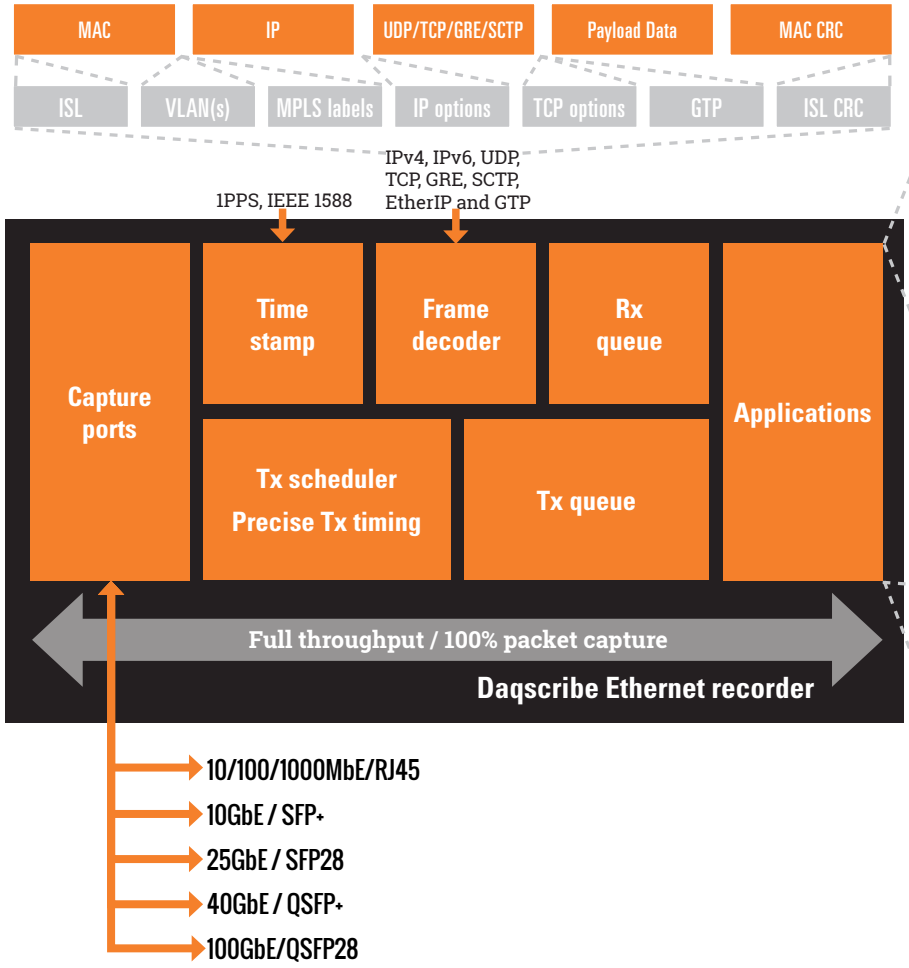
VIAVI

ntop

MATLAB

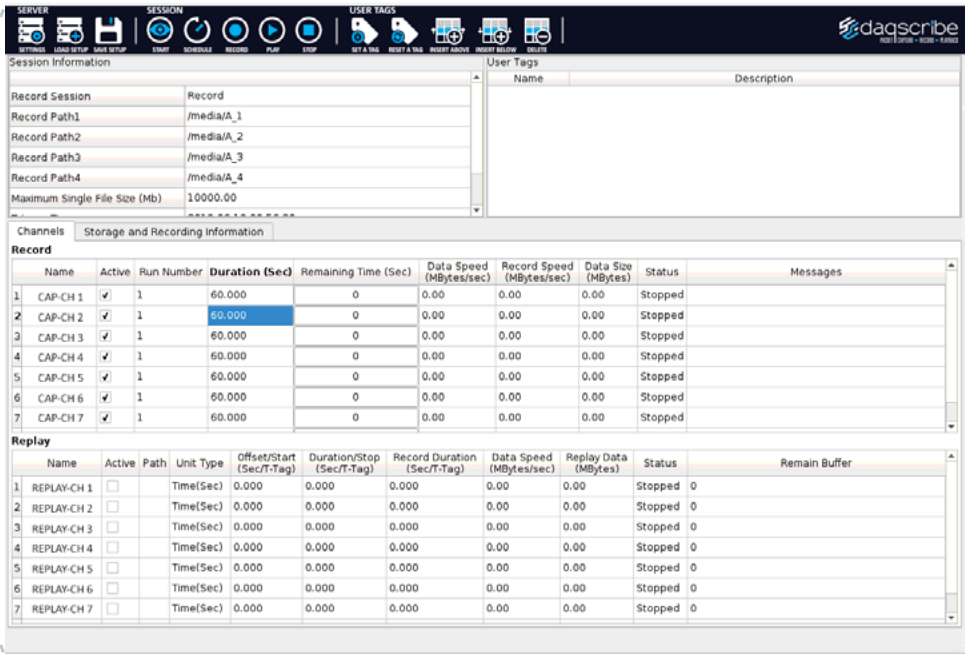
WIRESHARK

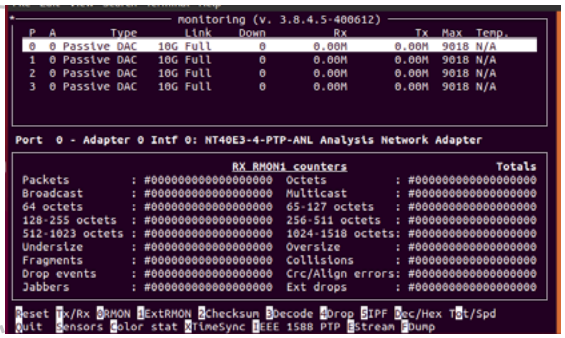
SYSTEM BLOCK DIAGRAM



netREC™ and netPLAY™ software suite

- ✔ full-rate record & playback





L2 monitoring tool

- ✔ Port statics/RMON counters RX - TX
- ✔ Checksum error counters
- ✔ Packet decode counters
- ✔ Drop counters
- ✔ IPF table counters
- ✔ Sensor monitoring
- ✔ PPS statistics
- ✔ IEEE 1588 PTP

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