daqscribe
ETHERNET PACKET CAPTURE • RECORD • PLAYBACK

RDR70-Mini-40G
Rugged mini 40Gbps Ethernet recorder

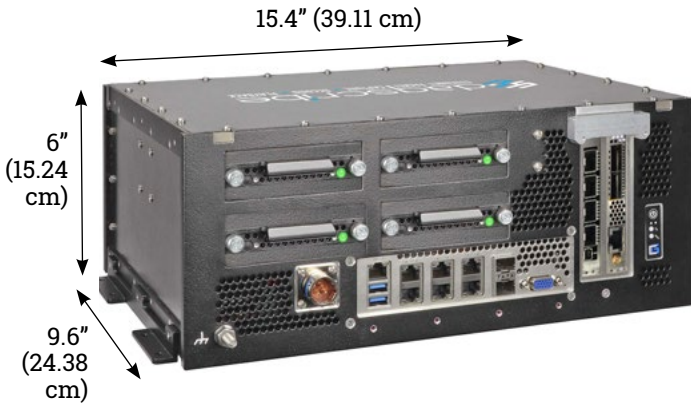## OPTIONAL DATA PLAYBACK UP TO 40Gbps

15.4" (39.11 cm)

6" (15.24 cm)

9.6" (24.38 cm)

FEATURE SUMMARY

- ✔ A miniature rugged (**MIL-STD-810** compliant) Ethernet recorder featuring **1 x 40GbE** port.
- ✔ Sustained 100% Ethernet capture and record performance at **40Gbps.**
- ✔ Up to **60 Terabytes (SSDs)** of local data storage.
- ✔ Data offload: **USB 3.0, 1GbE and 10GbE** ports.
- ✔ Interfaces with **VRT/VITA 49** or other digital radio devices.
- ✔ **STIG** compliant & **AES256** encryption options**.**
- ✔ Real-time status monitoring of capture ports.

MOST SUITABLE FOR THE FOLLOWING APPLICATIONS

Radar

- ✔ phased array radar
- ✔ synthetic apperture radar
- ✔ 3D radar

Wireless comms

- ✔ **remote radio**
- ✔ **5G baseband**
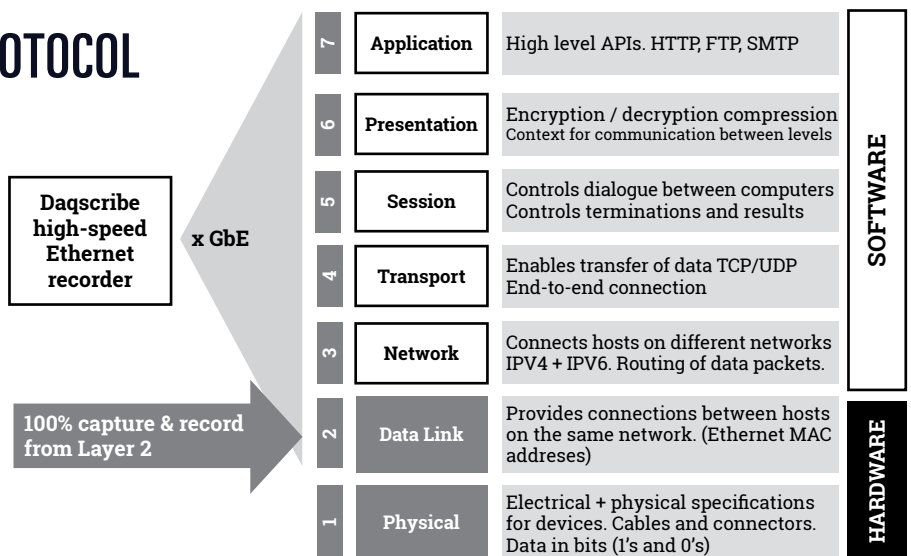- ✔ µ/mmWave
- ✔ MIMO
- ✔ O-RAN

Autonomous vehicle

- ✔ LiDAR
- ✔ IoT (i.e., MIPI® DSI)
- ✔ test & measurement

DESIGNED FOR ANY NETWORK PROTOCOL

- ✔ The **RDR70-Mini-40G** captures data from **Layer-2** through **Layer-7** of the Ethernet protocol stack.
- ✔ This includes recording **IPV4** or **IPV6** protocols at the network layer and **TCP** or **UDP** protocols at the transport layer.
- ✔ The result is our robust, **network protocol-agnostic** packet recording tool.
- ✔ Data format - compatible with other popular network monitoring tools like **Wireshark**.

Daqscribe high-speed Ethernet recorder → x GbE

100% capture & record from Layer 2

#	Layer	Description	
7	Application	High level APIs. HTTP, FTP, SMTP	SOFTWARE
6	Presentation	Encryption / decryption compression Context for communication between levels	SOFTWARE
5	Session	Controls dialogue between computers Controls terminations and results	SOFTWARE
4	Transport	Enables transfer of data TCP/UDP End-to-end connection	SOFTWARE
3	Network	Connects hosts on different networks IPV4 + IPV6. Routing of data packets.	SOFTWARE
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)	HARDWARE

Performance	✔ Line rate Rx 1 x 40Gbps for packet size 61 - 10,000 bytes ✔ Line rate Tx 1 x 40Gbps for packet size 61 - 10,000 bytes ✔ 100% packet capture
Network interfaces	✔ IEEE 802.3 40GbE Ethernet support ✔ Network interface: 1 x QSFP+ ports ✔ QSFP+ modules: 40GBASE-CR4/SR4/LR4
Hardware time stamp	✔ Resolution: 4 ns, Stratum 3 compliant TCXO ✔ Time formats: PCAP-ns/-µs, UNIX 10 ns
Timing/synchronization	✔ OS time synchronization (default) ✔ SMA interface for PPS (optional) ✔ RJ45 100/1000BASE-T interface for IEEE1588 PTP support (optional)
Data format	✔ PCAP format (capture/record only) ✔ NTCAP – PCAP style binary format (capture/replay) ✔ Command-line-interface utilities: Simple/quick conversion of file formats and UDP payload extraction
Optional capture /record 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) ✔ 6TB (37TBW), 12TB (75TBW), 25TB (149TBW), 60TB (134TBW) ✔ Storage in TB with endurance TBW (total bytes written in PB) ✔ SSD endurance TBW is based on 128K sequential writing
CPU & memory	✔ Xeon SoC: Options from 8 to 16 physical cores ✔ System memory: Options from 32GB to 256GB
Peripherals & data offload options	✔ 1 x USB 3.0 ports ✔ 2 x 10GBASE-T ✔ 1 x VGA display ✔ 4 x 1GBASE-T ✔ 2 x 10Gbps SFP+
Environmental standards	**MIL-STD-810 & DO-160 (compliant)** ✔ MIL-STD-810, Operational Temperature: -40°C to +60°C ✔ MIL-STD-810, Storage, Method 501, Procedure I/II: -40°C to +85°C ✔ MIL-STD-810, Altitude, Method 500: 12,500ft operation, 40,000ft transport ✔ MIL-STD-810, Vibration, Method 514, Procedure I: 5.5G, 10-2000Hz, 60 min/axis, 3 axes ✔ MIL-STD-810, Shock, Method 516, Procedures I/V: 20g, 11msec – functional shock; 40g, 11msec – crash hazard shock
System cooling	✔ Three high reliability 92 mm fans
Power supply	✔ Option 1: 36 - 72 VDC, 120VAC Watt power brick ✔ Option 2: 250VDC
Dimensions & weight	✔ Height: 6" (15.24 cm) max, Width: 15.4" (39.11 cm), Depth: 9.6" (24.38 cm) excluding connectors ✔ 17 lbs (7.71 kg) - estimated
Mounting	✔ Tray or bulkhead mounted using ears supplied