

High Data Rate/High Capacity Rack-mounted Recorder/Server System

Product Description

The TuffServ® Rack System X (TRS-X) is a high-performance data recorder designed to meet the urgent data collection needs of the Intelligence Community. It enables the collection of large volumes of sensor network data over multiple channels at up to 100 Gb/s sustained data rate per system. With its scalable architecture, the TRS-X is suitable for various applications within land, sea, and air domains. It provides the capacity and performance required for mobile.



Encryption Options

- FIPS 197/AES256: Available for Data-At-Rest and Data-In-Transit
- FIPS-140: Available for Data-At-Rest
- Commercial Solutions for Classified (CSfC): Available for Data-At-Rest and Data-In-Transit

Features

- **Sustained Data Rate Of 100 Gb/s**
- **Scalable: Virtually Unlimited Storage/Capacity**
- **QSFP Optical Interfaces**
- **Multiple Expansion Sites For Additional I/O**
- **Industry Standard Architecture And Commodity SSDs**

Ampex Common Compute Environment (ACCE)

ACCE is a comprehensive software suite designed for data acquisition, management, and storage. It provides a unified interface and supports various hardware devices, simplifying data and device management while ensuring data integrity.

- Software-defined recording for capturing diverse data types
- Facilitation of third-party software integration
- Accurate timestamping and synchronization with external time sources
- File indexing for efficient data retrieval and analysis
- Comprehensive device management capabilities

Data Types

Ampex offers an open architecture platform designed to address the unique data storage and management challenges faced by the defense industry, particularly the Department of Defense (DoD) weapon system portfolios. Its adaptability enables seamless integration of new input/output configurations, ensuring effective management and storage of any data type required.

- Support for diverse critical data types such as EO/IR, EW/ISR, Mission Data, Flight Test, Bus Data, and Prognostic and Health data
- Open architecture platform designed to handle unique defense industry data storage and management challenges
- Seamless integration of new input/output configurations for effective data management and storage
- Commitment to innovation and continuous improvement to address emerging challenges

System

Specifications^{1&2}

CPU:	Dual Intel Xeon Scalable Processor “Ice Lake”
Network Interfaces:	Two 100 GbE and two 1GbE (1 Shared with IPMI)
Removable Storage:	Custom Configurations Handling up to 187TB or more
Network Protocols:	NFSv4, NFSv3, CIFS/SMB, PCAP, FTP, TCP, UDP, IP
Operating System:	Red Hat Enterprise Linux (RHEL) plus ACCE Framework
Encryption:	AES 256/FIPS 197, FIPS-140, and Commercial Solutions for Classified (CSfC)

Performance

Internal Data Rate:	Varies by Configuration
NFS Data Rate:	Varies by Configuration

Power

Power Input:	115VAC/220VAC
Dissipation:	Varies by Configuration

Mechanical

Dimensions:	19" W x 3.5" H x 20" D (Chassis) 19" W x 1.75" H x 22" D (Removable Storage Tray)
Weight (System):	40lbs

Environmental

Temperature:	0°C to 50°C
Humidity:	5% to 95% non-condensing
Vibration:	4.76 grms
Shock:	Varies by Configuration
EMI Compatibility:	MIL-STD-461

DESIGNED FOR CAPACITY

Writing data up to 100 Gb/s requires vast amounts of storage: a two channel system collects up to 90 TB per hour while a 4-channel system collects twice that. The TRS-X has a high capacity, high-speed Removable Storage Tray (RST) that can handle two 100GbE channels and that comfortably supports over 180TB of storage, which may be daisy-chained to secondary RSTs for addition capacity. Four channel systems will need to have dual chassis and dual RSTs (each of which supports daisy chaining) due to the rate and amount of storage required.

DESIGNED FOR GROWTH

Everything in the TRS-X has been designed to provide a flexible platform for current and future requirements. A standard dual channel TRS-X system comes with a 2U server chassis and one 1U RST. You can scale up to more channels by adding additional processing and storage (RST) subsystems.

¹ Specifications subject to change without notice

² Contact Ampex for availability of options

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