

Rugged Data System-Network File Server, Mission Computer, Data Recorder

Product Description

The TuffServ 640 (TS 640) empowers you to capture and record your fastest-moving data at the edge. Designed for high-performance applications, such as intensive EW/ISR and EO/IR applications. Its robust capabilities enable you to effectively capture and store critical information while having the headspace to run your Linux-based AI/ML data analysis software, providing valuable insights for analysis and decision-making in near real-time.



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

- **Removable Storage Capacity up to 300TB**
- **Dual 10GbE Optical Interfaces**
- **Standards Based: VPX, XMC, and Commodity SSDs**
- **Expandability and Flexibility: Customizable I/O options**
- **Built Rugged, MIL-STD-810 with MIL-STD Connectors**

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:	Intel Core i7
Network Interfaces:	two 10GSR, 1 Gigabit Ethernet, and 10/100 Fast Ethernet
Removable Storage:	Custom Configurations but can handle up to 300TB
Network Protocols:	NFS, 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:	1,900 MB/s
NFS Data Rate:	1,900 MB/s

Power

Power Input:	28VDC
Dissipation:	125 W

Mechanical

Dimensions:	7.63" H x 4.88" W x 12.63" D
Weight (System):	30lbs (varies depending on RSA configuration)

Environmental

Temperature:	-40° C to +60° C (Vertical Mount on Conduction Cooled Surface) -40° C to +71° C (Horizontal Mount on Conduction Cooled Surface)
Humidity:	0% to 95% RH
Vibration:	10 grms
Shock:	20 g, half sine, 11ms
EMI Compatibility:	MIL-STD-461F

The TS 640 is not just a product: it's a product family. There is a complete range of systems tailored to meet different applications and requirements:

- **TuffServ 640:** The flagship airborne recorder, offering dual 10 gigabit/second Ethernet interfaces over optical fiber. A compact, "½ ATR" airborne package.
- **TuffServ 640 options:** additional 10 gig E interfaces, MIL-STD-1553 interfaces, GPS, additional gigabit Ethernet interfaces.
- **TuffServ 640FP:** A Serial Front Panel Data Port (sFPDP, VITA 17.1) recorder, based on the TS 640 with the addition of 2 or 4 interfaces running at up to 2.5 Gbaud each. Contact Ampex for other sFPDP variations (e.g. 4.25 Gbaud)
- **TuffServ 641:** A download station for ingesting data into a ground-based data center. Configured as a 19 inch, 3U rack-mount system, a 40 gigabit/sec Ethernet links the TS 641 unit with processing and data archiving systems, creating a clean separation between the data collection and data processing parts of a mission. Accepts the RSA-2 storage module.

¹ Specifications subject to change without notice

² Contact Ampex for availability of options