

Ultra SWaP-C optimized Video and Mission Data Recorder

Product Description

Tailored for the smallest, most power-constrained platforms, the TuffServ 120 (TS 120) is a compact networked video and mission data recorder for small UASs, loitering munitions, pods, and unmanned maritime systems now fielded at every echelon. As these systems shift from boutique capabilities to mass-produced, attritable kits, the data they carry must be trusted. The TS 120 captures video and mission data and signs every frame in hardware, preserving chain of custody from capture through exploitation. Offered as a low-cost polymer build for attritable use or a ruggedized metal one for fielded operations, it brings trusted recording to the platforms that have had to operate without it.



What sets it apart is not that it records, but that what it records can be proven. That per-frame signature, time-synced as it is captured, gives the data both its integrity and its provenance, the what and the when. Alter a frame and the signature breaks at once. On platforms feeding intelligence, targeting, and increasingly evidence and interdiction, that is what turns raw footage into data that holds up to scrutiny, in the targeting cell or the courtroom alike.

Data Security

- Self-Encrypting Removable Media for data-at-rest protection
- Per-Frame Video Attestation, signing every frame for chain-of-custody data integrity from capture to exploitation

Features

- **Per-Frame Video Attestation, Built-In Chain of Custody**
- **Ultra-Compact, Low-Power SWaP for Small Platforms**
- **Attritable Polymer or Ruggedized Metal Build**
- **Networked Video and Mission Data Capture**
- **Removable Media for Rapid Exploitation**
- **Open Architecture for Rapid OEM Integration**

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 and output configurations, ensuring effective management and storage of any data type required.

- Support for diverse critical data types such as Video, Mission Data, EO/IR, and EW/ISR
- Suited to ISR, maritime domain awareness and interdiction, border surveillance, and special operations across small and attritable platforms
- Per-frame attestation extends the 120 to evidence integrity and intelligence chain-of-custody applications where the recorded data has to hold up to scrutiny
- An ideal video recording companion, designed to integrate with Delta Digital Video encoders for time-synced, robust capture

Specifications ¹ Systems

CPU Subsystems: 6 × ARM Cortex-A55 cores @ 1.8 GHz
Network Interfaces: Dual 1 Gigabit Ethernet
Removable Storage: CFExpress, 1TB (I-Temp), up to 4TB (C-Temp)
Network Protocols: TCP/IP, UDP/IP, PCAP, Other common protocols
Operating System: Linux OS plus ACCE Framework
Encryption: Self-Encrypting Drive

Performance

Internal Data Rate: 400MB/s
NFS Data Rate: 200MB/s

Power

Power Input: 5V
Dissipation: 5W to 6W

Mechanical

Dimensions: 3" x 3" x 4"
Weight: < 1lbs

Environmental

Operating: -40°C to +71°C
Humidity: 0% to 95% RH
Vibration: 4grms
Shock: 9g (Sawtooth, 11ms)
EMI Compatibility: MIL-STD-461 *(Depending on Configuration)

¹Specifications subject to change without notice

² Contact Ampex for availability of options

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