AMPEX

REVOLUTIONIZING SWAP-C OPTIMIZED RUGGED DATA SOLUTIONS
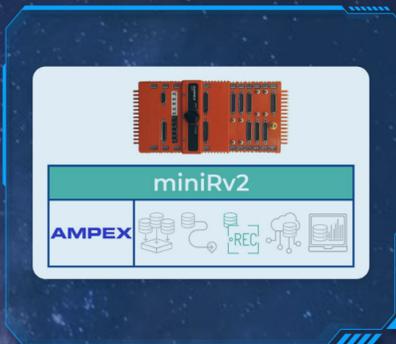
EXPLORE RUGGED SOLUTIONS

CAPTURE. PROCESS. STORE. HOST. SECURE.

DATA RECORDING

NETWORK FILE SERVERS

TuffCORD
TuffCORD-X
AMPEX

miniRv2
AMPEX

AMPEX TuffServ
TuffServ 640v2
AMPEX

ENCRYPTION

US Gov Approved Solutions

CYBERSECURITY

STIG Compliant OS

Turnstile Key Handling

EXPLORE RUGGED SOLUTIONS

Data at Rest.
Where mission data meets uncompromising security.

Ampex's miniRv2 recorder and SmartDock download station are built for Data-at-Rest (DAR) encryption, ensuring that mission-critical data is always protected. Together, they integrate full support for IRIG 106 .DAR and .KEY commands, as well as hardware Key Token Devices (KTDs), to safeguard sensitive information throughout its lifecycle.

With the intuitive ACCE GUI interface, encryption and key management become simpler than ever. Operators can create, load, and manage keys across the miniRv2, SmartDock, and the Ruggedized Mission Manager (RMM) with just a few clicks. This flexibility streamlines security while meeting the strictest mission requirements.

The result is a secure, end-to-end data ecosystem where encryption is designed in, not added on—delivering confidence from the cockpit to the ground station, and through every stage of analysis.

miniRv2
AMPEX

SmartDock
AMPEX

Trust Through Encryption.

AMPEX

REVOLUTIONIZING SWAP-C OPTIMIZED RUGGED DATA SOLUTIONS

EXPLORE RUGGED SOLUTIONS

SWaP-C OPTIMIZED RUGGED DATA RECORDERS.
CAPTURE. PROCESS. STORE. HOST. SECURE.

Qualified for airborne applications perform software-defined data recording on board and secure critical information with data-at-rest encryption.

Data can then be output and distributed as necessary in the proper format, to include Chapter 7 output to support post-mission data processing.

CAPABILITIES

DATA TYPES
DOMAINS
CAPABILITIES

- Land
- Maritime
- Aerospace
- Space

DATA AT THE EDGE

- Ruggedization
- SWaP-C
- Encryption
- Tailored Solutions
- Open Architecture

- EW&ISR
- Mission
- EO/IR
- Flight Test
- Bus Data
- Prognostic & Health

Ampex® delivers rugged, edge-ready solutions to capture, process, store, and secure mission-critical data; across land, sea, air, and space. From EW/ISR to EO/IR, we handle diverse data types with a focus on SWaP-C, encryption, and open architecture for ultimate flexibility.

Ruggedization.

We ensure that your solution will meet your shock, vibration, EMI, power, and environmental requirements. You can trust us to provide a solution that stands up to the harshest conditions, giving you peace of mind and reliable performance.

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Encryption.

The security of your data is of the utmost importance to us, and we protect your data by offering robust encryption options. We can provide you with FIPS 197/AES 256-bit, FIPS 140, Commercial Solutions for Classified (CSfC), and NSA Type-1.

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AMPEX

EXPLORE
RUGGED
SOLUTIONS

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Open Architecture.

You should have full access to your hardware capabilities, which is why we adopt an open architecture approach. By staying non-proprietary, we allow you to save costs and ensure you do not get vendor locked.

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STATION DEMO

COMPANY OVERVIEW

BENEFITS

PRODUCTS

EXPLORE RUGGED SOLUTIONS

SWaP-C OPTIMIZED RUGGED DATA RECORDERS.
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Edge Performance.

...es, which ...ying ...you do

Get state-of-the-art hardware to fulfill your mission requirements. Our hardware can collect data at speeds ranging from hundreds of Mbs per to hundreds of Gbs and store it in capacities ranging from GBs to hundreds of TBs.

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AMPEX

EXPLORE RUGGED SOLUTIONS

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Tailored Solutions.

Our COTS products were developed to meet previous mission requirements. To save you both time and money, we offer to customize one of our COTS solutions to fit your needs, or we can design you a solution from scratch.

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SWaP-C OPTIMIZED RUGGED DATA RECORDERS.
CAPTURE. PROCESS. STORE. HOST. SECURE.

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SWaP-C.

To succeed in today's cutting-edge applications, it's crucial to strike a balance between Size, Weight, Power, and Cost (SWaP-C) optimization for your product. Let us help you achieve the optimal balance for your system's success.

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BENEFITS

American Made.

American-made/manufactured. US-controlled supply chain.

Proven Data-at-Rest Security.

AES-256

FIPS 140

CSfC (Commercial Solutions for Classified)

Turnstile

CuSS Team.

A dedicated Customer Support and Services (CuSS) team is available to provide timely and effective assistance, ensuring customer satisfaction.

Field Applications Engineers (FAEs) specialize in Flight Test Instrumentation (FTI), offering expert guidance and on-site support to address complex technical challenges.

Uncompromising Data Capture .

Reliable/dependable data capture in extreme/harsh conditions

Products are engineered to withstand extreme temperatures, vibrations, and other harsh environmental factors, ensuring uninterrupted performance in critical missions.

Ruggedized designs and materials provide durability and reliability

Proven track record of dependable data capture ensures mission-critical operations are supported without compromise.

TOP PRODUCTS

miniRv2

AMPEX

TuffLITE

AMPEX

TuffCORD-X

AMPEX

TRS-X

AMPEX

TuffServ 640v2

AMPEX

SmartDock

AMPEX

EXPLORE
RUGGED
SOLUTIONS
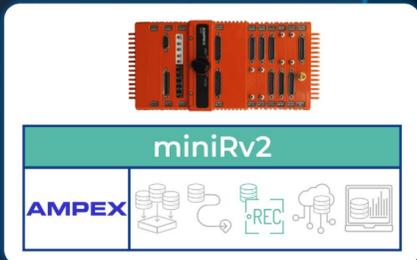
miniRv2.

Flight Test Recorder

● Secure, High-speed Data Capture
● Advanced DAR Encryption

ACCESS DATASHEET

The miniRv2 Solid State Recorder – a compact and powerful solution offering increased throughput, expanded storage, and flexible user configuration. With backwards compatibility and versatile I/O options, it captures traditional flight test data, telemetry, electronic warfare signals, and more. Its lower-cost solid-state mRMM and future-ready design ensure optimal performance and seamless adaptability. Upgrade your recording capabilities with the miniRv2.

miniRv2
AMPEX

Features

‣ IRIG 106 Chapter 10 File Format
‣ Outputs Chapter 10/11 Data As A Chapter 7 Serial PCM Stream
‣ Totally Flexible & Modular I/O
‣ Sustained Data Rates To 1,000 Mb/sec
‣ Up To 2TB Of Removable Storage

Download Station

Integrating this product with the SmartDock enables efficient offload, encryption handling, and deployment without hardware rework.

VIEW MISSION ASSET

SmartDock
AMPEX

MiniR®v2

AMPEX
A DELTA INFORMATION SYSTEMS COMPANY

Rugged Flight Test Data Recorder and Network File Server

Product Description

Introducing the MiniR v2 Solid State Recorder - a compact and powerful solution offering increased throughput, expanded storage, and flexible user configuration. With backwards compatibility and versatile I/O options, it captures traditional flight test data, telemetry, electronic warfare signals, and more. Its lower-cost solid-state mRMM and future-ready design ensure optimal performance and seamless adaptability. Upgrade your recording capabilities with the MiniR v2.

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
- Turnstile: Robust encryption method designed by Ampex

Features

- IRIG 106 Chapter 10 File Format
- Outputs Chapter 10/11 Data As A Chapter 7 Serial PCM Stream
- Totally Flexible & Modular I/O
- Sustained Data Rates To 1,000 Mb/sec
- Up To 2TB Of Removable Storage

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.

- Seamless support for data interfaces: IRIG 106 Chapter 10 File Format, IRIG 106 Chapter 11 Packet Format, Network Acquisition, HD & SD Video, SDI, DVI, MPEG2 H.264/AVC, IRIG 106 Chapter 7 Output, GPS, IRIG-B HAVE QUICK Time Signals, and a variety of AMux 600/700 I/O Modules
- Versatile solution for handling diverse critical data types in the defense industry
- Enables effective management and storage of various Flight Test data formats
- Empowering defense professionals with comprehensive data handling capabilities.

Ampex Data Systems Corporation

AMPEX
A DELTA INFORMATION SYSTEMS COMPANY

MiniR®v2

System

Specifications [1 & 2] [1] Specifications subject to change without notice, [2] Contact Ampex for availability of options

CPU:	Intel Atom E3800 Series "Bay Trail"
Network Interfaces:	1 Gigabit Ethernet, 10/100Mbps Fast Ethernet, RS232/422, 'sliced-based' expansion
Removable Storage:	2TB
Network Protocols:	Varies by Configuration
Operating System:	Red Hat Enterprise Linux (RHEL) plus ACCE Framework
Encryption:	AES 256/FIPS 197, FIPS-140,Turnstile, and Commercial Solutions for Classified (CSfC)

Performance
NFS Data Rate:	1,000 Mb/sec

Power
Power Input:	28VDC
Dissipation:	15W

Mechanical
Dimensions:	4.125" H x 3.5" W x 6.82" D
Weight (System):	4.6lbs

Environmental
Temperature:	-40°C to +71°C
Humidity:	0% to 95% RH
Vibration:	14 grms
Shock:	20 g. 11ms
EMI Compatibility:	MIL-STD-461

Module	Input	Output	Description
AM-132	2 (+2)	—	Video: RS-170A (NTSC/PAL) with MPEG2/4 Encoder, 2 audio, Event Tone, Time Insertion
AM-11x4	4 (+2)	—	Video Input: RS-170A (NTSC/PAL) matted "4 up" on a single 1440x1152 HD frame, 2 audio, incl. Event Tone, Time Insertion
AM-170x	—	—	MPEG-4/H.264 (AVC) Encoder with two channel audio; requires a video input module
AM-15F	1	—	Video: FC-AV (HSVN-9) Interface for F/A-18; Triple-width module
AM-156	6	—	Audio: CVSD at 32Kbps rate
AM-172	1 (+2)	—	Video: SDI/HD-SDI to 1080p with H.264 Encoder, KLV metadata, 2 audio
AM-173	1 (+2)	—	Video: HD DVI-A, DVI-D to 1080p with H.264 Encoder, 2 audio
AM-204	4	—	MIL-STD-1553B Bus Monitor (4 dual-redundant busses)
AM-228	8	—	ARINC 429 bus monitor
AM-261	1	—	IEEE1394B (FireWire) IIDC v1.31 DCAM Acquisition (400/800Mbps)
AM-264	1	—	IEEE1394B (FireWire) Bus Monitor (400/800Mbps)
AM-338	8	—	PCM: NRZ-L data with clock (RS-422 and TTL levels), data rate to 20Mb/s
AM-344	4	—	PCM: NRZ-L data with clock, Bi-phase, RS-422 and TTL levels, data rate to 20Mb/s
AM-413	3/2/1	—	Parallel input, programmable as 32bits x 1, or 16bits x 2, or 8bits x 3
AM-432	32	—	Discrete Inputs, TTL levels, debounced
AM-458	8	—	RS-232, RS-422/485 up to 1 million baud
AM-524	4	—	Analog with ICP interface: 16-bit resolution (Programmable Gain/Offset/Resolution)
AM-51b6	16	—	Analog with ICP interface: 16-bit resolution (Programmable Gain/Offset), requires AM-530a
AM-530a	—	—	Analog control module for AM-5xb6 with Digital Filter
AM-60x	1 / 2	—	Low overhead HOTLink II™ 400Mbps serial ports, one (AM-601) or two (AM-602) channels.
AM-801	1	1	IEEE802.3 Gigabit Ethernet for frames ("sniffing"), UDP, and TCP, input & output
AM-901	1	—	GPS: Time input and Time-Space-Position-Information channel
AO-381	—	1	PCM Output for on-board data reduction and telemetry downlink
AO-387	—	1	PCM Chapter 7 Output for on-board data reduction and telemetry downlink
AO-388	—	1	PCM Chapter 8 Output for on-board data reduction and telemetry downlink

AMPEX

TuffLITE.

Rugged Data Recorder

- PODS & Compact Platforms
- Multi-source Data Aggregation

ACCESS DATASHEET

TuffLITE

AMPEX

Tailored for constrained environments like PODS and smaller platforms with strict Size, Weight and Power (SWaP) constraints, the TuffLITE® is a compact, multi-functional device. Expertly balancing recording, data aggregation, and processing with robust cybersecurity measures, it handles multiple data sources and offers selective partition control with in-flight data erasure. The TuffLITE efficiently meets the stringent demands of compact platforms, making it an optimal choice for secure and efficient data management.

Features

- ‣ High-Speed I/O: Equipped With 10GbE Interface
- ‣ Over 8TB (Detachable)
- ‣ Capable Of Ingest, Pass Through, And Reproduction Video
- ‣ Specifically Crafted To Meet The Stringent Size, Weight, And Power (SWaP) Requirements Of Compact

PODS Application

Designed specifically for PODS and other compact airborne platforms, TuffLITE delivers reliable recording and secure data handling in SWaP-constrained environments. Its rugged design ensures mission-ready performance even where size, weight, and power are limited.

TuffLITE®

AMPEX
A DELTA INFORMATION SYSTEMS COMPANY

Rugged Data System-Network File Server, Video Server, Data Recorder

Product Description

Tailored for constrained environments like PODS and smaller platforms with strict Size, Weight and Power (SWaP) constraints, the TuffLITE® is a compact, multi-functional device. Expertly balancing recording, data aggregation, and processing with robust cybersecurity measures, it handles multiple data sources and offers selective partition control with in-flight data erasure. The TuffLITE efficiently meets the stringent demands of compact platforms, making it an optimal choice for secure and efficient data management.

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

- **High-Speed I/O: Equipped With 10GbE Interface**
- **Over 8TB (Detachable)**
- **Capable Of Ingest, Pass Through, And Reproduction Video**
- **Specifically Crafted To Meet The Stringent Size, Weight, And Power (SWaP) Requirements Of Compact**

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

TuffLITE®

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A DELTA INFORMATION SYSTEMS COMPANY

System

Specifications [1,2]

CPU:	Intel Atom X Series 'Elkhart Lake'
Network Interfaces:	10GbE, 1GbE, 2.5GbE, Video, and RS-422
Detachable Storage:	Custom Configurations handling up to 8TB
Network Protocols:	NFSv4, NFSv3, CIFS/SMB, FTP, TCP, UDP, SSH
Operating System:	Red Hat Enterprise Linux (RHEL) plus ACCE Framework
Encryption:	FIPS-140, AES 256/FIPS 197, and Commercial Solutions for Classified (CSfC)

Performance

Internal Data Rate:	1250MB/s
NFS Data Rate:	1100MB/s

Power

Power Input:	28VDC
Dissipation:	35W

Mechanical

Dimensions:	1.28"H x 6.12" W x 6.69" D
Weight (System):	2.5lbs

Environmental

Temperature:	-40°C to +70°C Operational
Humidity:	0% to 95% RH
Vibration:	4.6grms (active) / 9.8grms (endurance)
Shock:	20g (halfsine, 11ms)
EMI Compatibility:	MIL-STD-461

[1] Specifications subject to change without notice

[2] Contact Ampex for availability of options

EXPLORE RUGGED SOLUTIONS

TuffCORD-X.
Mission Computer, Data Recorder

● Rugged, Flight-proven Design
● Flexible I/O

TuffCORD-X

ACCESS DATASHEET

The **TuffCORD-X** is the next-generation drop-in replacement for the widely fielded **TuffCORD**. It features enhanced NVMe architecture, improved storage density, and a high-speed 10-gigabit payload interface. Its compact size, low power consumption, robust cybersecurity, and seamless connectivity provide versatile performance as a recorder, file server, and data loader in demanding, harsh-edge environments with strict information assurance requirements.

Features

‣ 10GbE and 1GbE interfaces
‣ 750 MB/s Sustained Network Throughput
‣ NVMe Architecture
‣ Removable Storage Capacity Up To 16TB
‣ Expandability And Flexibility: Customizable I/O Options
‣ Built Rugged, MIL-STD-810 With MIL-STD Connectors

Download Station

SmartDock

Integrating this product with the **SmartDock** enables efficient offload, encryption handling, and deployment without hardware rework.

VIEW MISSION ASSET

STATION DEMO   COMPANY OVERVIEW   BENEFITS   PRODUCTS

TuffCORD® X

AMPEX
A DELTA INFORMATION SYSTEMS COMPANY

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

Product Description

The TuffCORD X is the next-generation drop-in replacement for the widely fielded TuffCORD. It features enhanced NVMe architecture, improved storage density, and a high-speed 10-gigabit payload interface. Its compact size, low power consumption, robust cybersecurity, and seamless connectivity provide versatile performance as a recorder, file server, and data loader in demanding, harsh-edge environments with strict information assurance requirements.

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

- **10GbE and 1GbE interfaces**
- **750 MB/s Sustained Network Throughput**
- **NVMe Architecture**
- **Removable Storage Capacity Up To 16TB**
- **Expandability And Flexibility: Customizable I/O Options**
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- 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

Ampex Data Systems Corporation

TuffCORD® X

AMPEX
A DELTA INFORMATION SYSTEMS COMPANY

System

Specifications [1,2]

CPU:	Intel Atom x6000E Series "Elkhart Lake"
Network Interfaces:	10 Gigabit Ethernet and 1 Gigabit Ethernet (Custom I/O available)
Removable Storage:	Up to 16TB
Network Protocols:	NFSv4, NFSv3, CIFS/SMB, FTP, TCP, UDP
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:	1,000 MB/s sustained
NFS Data Rate:	750 MB/s sustained* (pending final testing)

Power

Power Input:	28VDC
Dissipation:	18W

Mechanical

Dimensions:	3.6" H x 4.8" W x 6.3" D
Weight (System):	5.5lbs

Environmental

Temperature:	-40°C to +55°C (Panel Mount)
	-40°C to +71°C (Base Mount on Conduction Cooled Surface)
Humidity:	0% to 95% RH
Vibration:	4.6grms (active) / 9.8grms (endurance)
Shock:	20g (half sine, 11ms)
EMI Compatibility:	MIL-STD-461

[1] Specifications subject to change without notice

[2] Contact Ampex for availability of options

AMPEX

TRS-X.
High-Capacity Rack-mount Recorder

- 100 Gb/S Data Collection
- Scalable architecture

TRS-X

ACCESS DATASHEET

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, semi-mobile, and fixed EW/ISR environments.

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

Large Aircraft Application

Designed for large platforms and mission environments where resilience and capacity are critical, the TRS-X delivers sustained, high-speed data capture under the harshest conditions. Its rugged architecture supports deployment in ground stations, airborne command centers, and even submarine platforms. The system's scalability ensures uninterrupted recording and secure handling of vast data streams, no matter how demanding the mission.

TuffServ® Rack System X

AMPEX
A DELTA INFORMATION SYSTEMS COMPANY

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, semi-mobile, and fixed EW/ISR environments.

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

Ampex Data Systems Corporation

TuffServ® Rackmount System X

AMPEX
A DELTA INFORMATION SYSTEMS COMPANY

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

AMPEX

EXPLORE RUGGED SOLUTIONS

TuffServ® 640v2. Rugged Data Recorder

TuffServ 640v2

AMPEX

- Edge-ready Performance
- AI/Ml-enabled Processing

ACCESS DATASHEET

The TuffServ® 640v2 (TS 640v2) 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 CPU processing power needed to run your Linux based AI/ML data analysis software, providing valuable insights for analysis and decision-making in near real-time.

Features

- Removable Storage Capacity Up To 300TB
- Quad 10GbE Optical Interfaces
- Suitable For Edge-Operating AI/ML Applications; Tested And Validated.
- Expandability And Flexibility: Customizable I/O Options
- Can Record IRIG 106 Chapter 10 data format

ISR Aircraft Application

The 640v2 is mission-ready for ISR aircraft, capturing and processing massive volumes of sensor data in real time. Its edge processing power ensures critical intelligence is available mid-mission, supporting faster decision-making and enhanced situational awareness.

TuffServ® 640v2

AMPEX
A DELTA INFORMATION SYSTEMS COMPANY

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

Product Description

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Encryption Options

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

Features

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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.

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- 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

Ampex Data Systems Corporation

TuffServ® 640v2

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System

Specifications [1][2]

CPU:	Intel Core i7
Network Interfaces:	4 x 10GbE and a 1 GbE
Removable Storage:	Up to 300TB (custom configurations available)
Network Protocols:	NFS, CIFS/SMB, PCAP, FTP, TCP, UDP, IP, PTP (1588), PCAPnG, IRIG 106 Chapter 10
Operating System:	Red Hat Enterprise Linux (RHEL) plus ACCE Framework
Encryption:	AES 256/FIPS 197, FIPS-140, and Commercial Solutions for Classified (CSfC)

Performance

NFS Data Rate:	~2 GB/s to 2.5 GB/s (Depending on Configuration)

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

[1] Specifications subject to change without notice

[2] Contact Ampex for availability of options

AMPEX

REVOLUTIONIZING SWAP-C OPTIMIZED RUGGED DATA SOLUTIONS

EXPLORE RUGGED SOLUTIONS

SmartDock

AMPEX

NEW PRODUCT!

SmartDock.
Download Station

● High-Speed & Intelligent

● Data-at-Rest Encryption

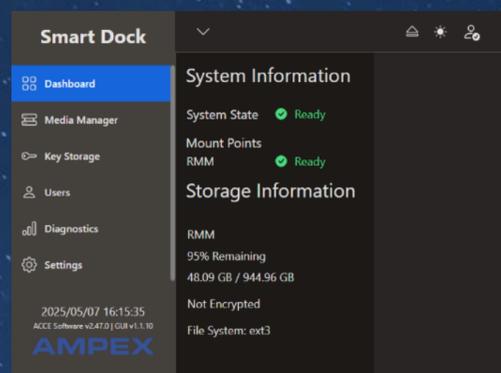▶ **ACCESS DATASHEET**

The **Ampex SmartDock®** is an intelligent download station that creates a seamless, secure bridge between Rugged Memory Modules (RMMs) and your network infrastructure. Built to support Data-at-Rest (DAR) encryption and key management, it meets AES 256, FIPS, and CSfC standards through an intuitive GUI interface that simplifies deployment.

SmartDock addresses common challenges with RMM interfacing, from disappearing legacy connections on modern hardware to strict security protocols limiting direct peripheral use. By streamlining post-mission data retrieval, crews can remove RMMs for rapid debriefing and secure download without extracting entire recording systems from platforms like aircraft.

Features

‣ miniRv2 or TuffCORD RMM download support

‣ Encryption and key management support for:

‣ FIPS197/AES256, FIPS-140 and CSfC.

‣ Fast 10 Gb/s network support

‣ LCD panel for status

‣ Easy to use Web GUI interface for status, download and encryption key management

Smart Dock

Dashboard	**System Information**
Media Manager	System State ✓ Ready
Key Storage	Mount Points
Users	RMM ✓ Ready
Diagnostics	**Storage Information**
Settings	RMM
	95% Remaining
2025/05/07 16:15:35	48.09 GB / 944.96 GB
ACCE Software v2.47.0	GUI v1.1.10	Not Encrypted
AMPEX	File System: ext3

Unified Mission Support

The **TuffCORD** is a versatile solution that serves as a multi-functional device, offering capabilities as a recorder, file server, and data loader in users harsh edge applications. Its compact size, lightweight design, and low power consumption make it easily deployable. With a strong emphasis on information assurance, it incorporates robust cybersecurity features. The **TuffCORD** provides seamless connectivity with multiple interface options, and a high-capacity removable memory module.

TuffCORDv2
AMPEX

TuffCORD-X
AMPEX

miniRv2
AMPEX

⌂ | STATION DEMO | COMPANY OVERVIEW | BENEFITS | PRODUCTS

SmartDock®

AMPEX
DATA SYSTEMS CORPORATION

Secure High-Speed Intelligent Download Station

Overview

The Ampex SmartDock is an intelligent download station designed to create a seamless and secure bridge between your mission-critical Rugged Memory Modules (RMMs), and your network infrastructure. The SmartDock was designed to support Data-at-Rest (DAR) encryption and key management to secure your data. Encryption and key management, including AES 256, FIPS, and CSfC standards, are handled through an intuitive GUI interface to simplify deployment. In today's evolving technological landscape, interfacing with specialized RMMs can present significant challenges, from dealing with legacy physical interfaces becoming scarce on new computing hardware to navigating strict security protocols that often prohibit direct peripheral connections. The SmartDock directly addresses these hurdles, providing a reliable, efficient, and secure pathway for your essential data. It streamlines the critical post-mission data retrieval process, allowing crews to simply remove the RMMs for debriefing and download, rather than requiring complex procedures or removal of the entire recording system from platforms like aircraft.

Features

- **miniR v2 or TuffCORD RMM download support**
- **Encryption and key management support for: FIPS197/AES256, FIPS-140 and CSfC.**
- **Fast 10 Gb/s network support**
- **LCD panel for status**
- **Easy to use Web GUI interface for status, download and encryption key management**

Compatibility

Specifically engineered for comprehensive compatibility within the Ampex ecosystem, the SmartDock offers native support for RMMs associated with Ampex's miniR v2 or TuffCORD product lines. This ensures users of these established rugged systems have a dedicated and reliable solution for post-mission data download.

High-Speed Performance

The SmartDock supports high data transfer performance tailored to your operational tempo. It comes standard with a high-speed 10 Gb/s Ethernet connection, capable of handling large data volumes efficiently and minimizing turnaround times for datasets typical in ISR, flight test, and other data-intensive applications.

Flexible Interface Conversion

Flexibility is core to the SmartDock's design. It presents the physical RMM such as the USB-C interface of the miniR v2 or the custom rugged connector of the TuffCORD RMM as an accessible network share for easy data offload. By translating these inputs to a standard 10 Gb Ethernet output, the SmartDock ensures broad compatibility with standard computers, servers, or network switches, effectively future-proofing your download station infrastructure and eliminating the need for specialized host interface cards.

Security Features

The SmartDock was designed for Data-at-Rest encryption by integrating support for key management using a Key Token Device (KTD). The intuitive GUI interface simplifies the deployment of DAR by managing the loading of keys to the KTD and the RMM. The KTD is used to load keys to your miniR v2 or TuffCORD recorder, enabling it to securely record to an encrypted RMM. Security is paramount in handling sensitive recorded data post-mission. The SmartDock functions as a dedicated secure download

AMPEX

SmartDock®

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DATA SYSTEMS CORPORATION

Secure High-Speed Intelligent Download Station

station, by mitigating risks associated with removable media by isolating the storage media from the download host. The SmartDock simplifies workflows involving encrypted data by supporting post-mission cryptographic key management and decryption processes directly on the station, facilitating workflows aligned with standards like FIPS and CSfC without requiring complex procedures on the analysis workstation.

Intuitive Operation and Integration

Ease of use is enhanced through an intuitive Graphical User Interface (GUI). This user-friendly interface streamlines configuration, simplifies the download process, and provides clear status monitoring, reducing operator workload. Integration into existing network environments is straightforward, thanks to support for standard network protocols including Web (HTTP/HTTPS), SMB/CIFS (Windows File Sharing), FTP/SFTP, and NFS. This allows the SmartDock to appear as a simple network resource within typical ground station, lab, or debriefing facility environments.

Rugged Design and Power

Housed in a compact enclosure built for demanding operational environments, the SmartDock utilizes common USB-C power delivery and a 10 Gb RJ-45 network interface to seamlessly integrate with your data offload system. Its intuitive and easy-to-read LCD display provides essential information about the System, RMM, and Encryption status at a quick glance.
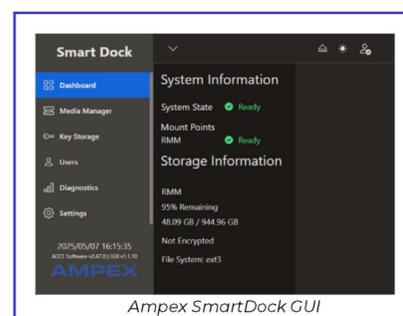
Specifications [1 & 2]

Network Interface:	10 Gb/s
Removable Storage:	Support for miniR v2 RMM or TuffCORD RMM
Network Protocols:	NFSv4, NFSv3, CIFS/SMB, SFTP, FTP, HTTP/HTTPS Web GUI Download
Operating System:	Red Hat Enterprise Linux (RHEL) plus ACCE Framework
Encryption:	AES 256/FIPS 197, FIPS-140, and Commercial Solutions for Classified (CSfC)
Key Management:	Hardware Key Token support, CLI .DAR and .KEY support, Web GUI managed
Power:	USB-C Power Delivery Input (100w A/C power supply included)

Mechanical

Dimensions:	4.5" H x 8.6" W 9.2" D
Weight (System):	4.75lbs

[1] Specifications subject to change without notice
[2] Contact Ampex for availability of options

Ampex SmartDock GUI