ATTO

Elevate Airborne Missions with Unbreakable Data Flow

In rugged airborne surveillance platforms, where real-time sensor fusion and split-second decisions require flawless execution, seamless storage connectivity is essential. For extreme environments, deploy ATTO ExpressSAS® SAS HBAs to deliver low-latency, vibration-proof data streaming—ensuring reliability against altitudes, EMI, and shocks. Unlock faster analysis, zero downtime, and scalable defense-grade performance for next-gen operations.

ExpressSAS® SAS/SATA HBAs

Application Use Case:
Real-Time Data Processing in Rugged Airborne Environments

If you are building or upgrading rugged computing systems for airborne surveillance and command platforms—such as advanced flying operations centers that integrate battle management, sensor fusion, and reconnaissance capabilities—you need a storage connectivity solution that delivers low-latency, high-throughput data handling under extreme conditions. ATTO ExpressSAS® SAS/SATA HBAs provide the enterprise-class backbone to connect computing modules with SAS-based storage arrays, enabling seamless, real-time streaming of high-resolution radar, sensor, and communications data without interruption or loss.

These adapters are optimized for mission-critical applications where every millisecond counts, featuring technologies like Adaptive Path Optimization and Advanced Data Streaming for precise control, deterministic latency, and resilient performance. By integrating ATTO ExpressSAS HBAs, you ensure your platform supports rapid data acquisition, on-the-fly analysis, and instant decision-making, even amid vibrations, temperature extremes, altitude shifts, and electromagnetic interference.

Key Application Requirements:

- **Real-Time Data Demands:** Capture and process high-resolution sensor, radar, and communication streams instantly, with zero latency or data loss.

- **Extreme Environmental Resilience:** Maintain operations in harsh conditions, including temperature swings, vibrations, high altitudes, and EMI.

- **Compact and Efficient Design:** Adhere to tight space, power, and weight limits while delivering fault-tolerant uptime. Uncompromised Data Integrity: Guarantee error-free, high-bandwidth transfers during extended, high-intensity missions.

The Solution

If you are developing turnkey solutions for defense agencies requiring robust, scalable storage infrastructure, ATTO ExpressSAS HBAs stand out for their rugged reliability and high-speed connectivity tailored to airborne deployments. These adapters integrate effortlessly into your storage systems, providing the low-latency pathway essential for synchronizing mission systems and ensuring operational continuity.

Key Solution Features

- **High-Bandwidth, Low-Latency Performance:** Engineered for real-time operations, supporting continuous data flows at up to 24Gb/s

- **Advanced Error Handling and End-to-End Data Integrity:** Built-in safeguards for flawless reliability in dynamic environments. Shared Memory Allocation: Boosts overall throughput and efficiency for demanding workloads.

- **Small Form Factor with Low Power and Management Overhead:** Simplifies installation in constrained airborne setups.

- **Proven Rugged Durability:** Flexible connectivity options tested for high-stress conditions like those in military-grade platforms.

Benefits

- **Accelerated Real-Time Read/Write Performance**
  Rapidly store and retrieve mission-critical data, empowering time-sensitive decisions and enhanced situational awareness.

- **Unmatched Rugged Reliability**
  Perform flawlessly amid airborne stressors like vibrations, thermal fluctuations, and power variances, minimizing downtime.

- **Seamless Operational Continuity**
  Sustain consistent throughput and data integrity during prolonged surveillance and command tasks, without bottlenecks.

- **Scalable Future-Proof Flexibility**
  Integrate effortlessly with evolving infrastructure and expandable storage setups, adapting to modernization needs without performance trade-offs.

- **Defense-Validated Excellence**
  Trusted by top integrators worldwide for military-grade applications, ensuring compliance and proven results in high-stakes environments.

In scenarios where flawless execution defines success, ATTO ExpressSAS adapters deliver the speed, resilience, and precision required for superior storage connectivity in airborne platforms. This drives real-time mission effectiveness and positions your systems for next-generation defense challenges.

ExpressSAS® 24Gb	ESAH-24F0	ESAH-240F	ESAH-240N
Ports	16 External	16 Internal	24 Internal
Bus Characteristics	x16 PCIe 4.0	x16 PCIe 4.0	x8 PCIe 4.0
Connections	4x4 miniSAS HD SFF-8674 external	2 x8 SlimSAS SFF-8654 internal	3 x8 SlimSAS SFF-8654 internal

ExpressSAS® 12Gb	ESAH-1208	ESAH-120F	ESAH-1244	ESAH-1280	ESAH-12F0
Ports	8 Internal	16 Internal	4 External, 4 Internal	8 External	16 External
Bus Characteristics	x8 PCIe 4.0	x8 PCIe 4.0	x8 PCIe 4.0	x8 PCIe 4.0	x8 PCIe 4.0
Connections	2 Mini SAS HD (x4) SFF 8643 Internal	4 Mini SAS HD (x4) SFF 8643 Internal	1 Mini SAS HD (x4) SFF 8644 External 1 Mini SAS HD (x4) SFF 8643 Internal	2 Mini SAS HD (x4) SFF 8644 External	4 Mini SAS HD (x4) SFF 8644 External

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