



DATA SHEET

Integrated Storage Server Exos AP 2U12



Powerful and compact, the Seagate® Exos® AP 2U12 all-in-one, expandable, low-cost integrated storage server supports growing businesses with the latest drive technologies and delivers modern processing power.



Best-Fit Applications

- Small to mid-sized businesses
- Scalable capacity with the latest drive technologies
- Low latency data access

Key Advantages

Save space and maximise capacity with up to 12 drives that can hold 216 TB per chassis in a 2U rackmount enclosure (when using 18 TB drives)

Dual x86 controllers with flexible performance options that fit your software requirements and budget, including high availability

Deliver data fast with 7 Gb/s reads and 5.5 Gb/s writes

Future-proofed to support network infrastructures with 10 GbE, 25 GbE, and 100 GbE I/O options

Expandable with up to 8 total EBOD chassis to grow with your business

Dual 12 Gb/s SAS controllers are compliant with latest architecture standards for maximum data throughput. Ensure data is constantly available with hot-swappable controllers, PSUs, system fan modules, drives, and expander cards. Modular solution is easily serviceable and allows for interchangeability with other Exos products.

Reduce power consumption 80 PLUS Gold and 80 PLUS Platinum power supply options with certified adaptive cooling technology.



Specifications	
Controller Specifications	
Controllers	One or two AP-BV-1 Controllers, redundancy optional
CPU	AMD SP3 7292P EPYC CPU (8,12,16 Core)
Memory	4 x DDR4 - 3200MHz DIMM slots - 8, 16, 32, 64 GB DIMM support
Internal Boot Drive	Single or Dual M.2 NVMe SSD for Redundant Boot/Logs
Onboard I/O	On-board Mellanox CX4 Dual Port 10/25 GbE I/O, /2x 1GbE onboard connections (Management/Data)
PCIe Expansion	One low-profile, half-length PCI Express Gen 4 x16 Host Interface Slot One OCP v2.0 Gen 4x8 host interface slot
Storage Infrastructure	Gen 4 x8 PCIe Lanes to 12G Broadcom SAS Controller, Dual 12G x4 Mini-SAS HD External Expansion Ports
Inter-Controller Link	PCI Express Gen 3 x16 NTB Inter-controller Interface
Chassis Specifications	
Redundant Path	Yes (SAS only)
Management/Status Reporting	Redfish API + IPMI & SES
Device Support	12 Gb/s SAS drives and 6 Gb/s SATA drives
Max Drives Per Enclosure	up to 12 x 3.5-in LFF or 2.5 in SFF drives (in 3.5 in conversion carrier) (for a full list of supported drives, please contact your account or sales manager)
Hot-Swappable Components	HDDs and SSDs (in chassis data slots), power supply and cooling modules units (PCU), and controllers
Physical	Height: 87.9 mm/3.46 in Width: 443 mm/17.44 in Depth: 630 mm/24.8 in Width (w/ear mounts): 483 mm/19.01 in Weight: 17 kg/38 lb Weight (with drives): 32 kg/71 lb
Power Requirements — AC Input	
Input Power Requirements	100V-240V AC 60 Hz/50 Hz
Max Power Output per PSU	764W
Environmental/Temperature Ranges	
Operating/Nonoperating Temperature	ASHRAE A2, 5°C to 35°C (41°F to 95°F), derate 1°C/300m above 900m, 20°C/hr max rate of change / -40°C to 70°C (-40°F to 158°F)
Operating/Nonoperating Humidity	-12°C DP minimum, 8% RH to 85% RH, max DP 21°C / 5% to 100% non-condensing
Operating/Nonoperating Shock	5 Gs, 10ms, half sine pulses/15 Gs, 10ms, half sine pulses
Operating/Nonoperating Vibration	0.21 Gs rms, 5Hz to 500 Hz random / 1.04 Gs rms, 2Hz to 200 Hz random
Standards/Approvals	
Safety Certifications	UL62368-1 ED3 (United States) CAN/CSA-C22.2 No.60950-1-07/No.62368-1-14, 2nd Ed (Canada) EN62368-1 (European Union) IEC 62368-1 Ed3 (International) CQC (China PRC – CQC Power Supplies) BIS (India – BIS Power Supplies)
Emissions (EMC)	FCC CFR 47 Part 15 Subpart B Class A (United States) ICES/NMB-003 Class A (Canada) EN 55032 Class A, EN 55024, EN 61000-3-2, EN 61000-3-3 (Europe) AS/NZS CISPR 32 Class A (Australia/New Zealand) VCCI Class A (Japan) KS 32 Class A/KS 35 (S. Korea) CNS 13438 Class A (Taiwan)
Harmonics	EN 61000-3-2 (EU)
Flicker	EN 55024 (EU) KS 24/KS 35 (S. Korea) CISPR 24/CISPR35
Immunity	EN 55024 (EU) KN 24/KN 35 (S. Korea) CISPR 24/CISPR35
Environmental Standards	The RoHS Directive (2015/65/EU) The WEEE Directive (2012/19/EU) The REACH Directive (EC/1907/2006) The Batteries Directive (2006/66/EC)
Standard Marks/Approvals	Australia/New Zealand (RCM), Canada (cUL/ICES/NMB-003 Class A), China (CCC – PSU only), European Union (CE), Japan (VCCI), South Korea (KC), Taiwan (BSMI), United States (FCC/UL), The Eurasian Economic Union (EAC), India (BIS)
Ecodesign	Commission Regulation (EU) 2019/424 (Directive 2009/125/EC)
Power Supply Units	
Power Supply	Ecodesign (Part SP-PCM2-HE764-AC/Model SPAXRTX-07xx) – Gold
	Power Efficiency 115 VAC/60 Hz 230 VAC/50 Hz
	10% Load = >80% >80%
	20% Load = >87% >88%
Power Supply	Ecodesign (Model SPASGAT-01) – Platinum
	Power Efficiency 115 VAC/60 Hz 230 VAC/50 Hz
	10% Load = >80% >80%
	20% Load = >90% >90%
Power Supply	Power Factor Condition
	10% Loading = N/A
	20% Loading = >0.90
	50% Loading = >0.90
Power Supply	Power Factor Conditions (PFC)
	10% Loading = N/A
	20% Loading = >0.90
	50% Loading = >0.95
Power Supply	100% Loading = >0.95
	100% Loading = >0.95
	100% Loading = >0.95
	100% Loading = >0.95

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DATA SHEET

Integrated Storage Server Exos AP 2U24



Seagate® Exos® AP 2U24 is the data sphere's value rich performance storage server. Leverage the latest drive technologies, and modern compute in a cost-effective, scalable 2U, 24-drive rack mounted storage enclosure.



Best-Fit Applications

- Small footprint high performance applications
- High-bandwidth, low-latency environments
- 4K and 8K workflows, medical offices, surveillance
- Image sequence processing
- Hybrid tiered systems

Key Advantages

Harness fast data transfers with a 12 Gb/s SAS interface paired with Seagate SSD drives.

Gain more space and performance while lowering TCO with a 2U rack enclosure storing up to 24 small form factor drives.

Build an efficient compute and storage environment with modern processing power and mass storage in a compact form factor.

Select controller performance and high-availability options to suit budget and/or software requirements with dual x86 controllers.

Support virtually any current or future network infrastructure with 10 GbE, 25 GbE and 100 GbE I/O options.

Dual 12 Gb/s SAS controllers are compliant with the latest architecture standards for maximum data throughput.

Tap into increased reliability and business/operations continuity with fully redundant, hot-swappable components.

Right-size your configuration by purchasing only what you need.

Shares design and multiple FRUs with various Exos® products for modular, easy-to-service AP and EBOD ecosystems.

Reduce Power Consumption. 80 PLUS Gold and 80 PLUS Platinum power supply options with certified adaptive cooling technology.



Specifications											
Controller Specifications											
Controllers	One or two AP-BV-1 Controllers, redundancy optional										
CPU	AMD SP3 7292P EPYC CPU (8,12,16 Core)										
Memory	4 x DDR4 - 3200MHz DIMM slots - 8, 16, 32, 64 GB DIMM support										
Internal Boot Drive	Single or Dual M.2 NVMe SSD for Redundant Boot/Logs										
Onboard I/O	On-board Mellanox CX4 Dual Port 10/25 GbE I/O, /2x 1GbE onboard connections (Management/Data)										
PCIe Expansion	One low-profile, half-length PCI Express Gen 4 x16 Host Interface Slot One OCP v2.0 Gen 4x8 host interface slot										
Storage Infrastructure	Gen 4 x8 PCIe Lanes to 12G Broadcom SAS Controller, Dual 12G x4 Mini-SAS HD External Expansion Ports										
Inter-Controller Link	PCI Express Gen 3 x16 NTB Inter-controller Interface										
Chassis Specifications											
Redundant Path	Yes (SAS only)										
Management/Status Reporting	Redfish API + IPMI & SES										
Device Support	12 Gb/s SAS and 6 Gb/s SATA SSDs										
Max Drives Per Enclosure	up to 24 x 2.5 in SFF drives (for a full list of supported drives, please contact your account or sales manager)										
Hot-Swappable Components	SSDs (in chassis data slots), power supply and cooling modules units (PCU), controllers										
Physical	Height: 87.9 mm/3.46 in Width: 443 mm/17.44 in Depth: 630 mm/24.8 in Width (w/ear mounts): 483 mm/19.01 in Weight: 17 kg/38 lb Weight (with drives): 30 kg/66 lb										
Power Requirements — AC Input											
Input Power Requirements	100V-240V AC 60 Hz/50 Hz										
Max Power Output per PSU	764W										
Environmental/Temperature Ranges											
Operating/Nonoperating Temperature	ASHRAE A2, 5°C to 35°C (41°F to 95°F), derate 1°C / 300m above 900m, 20°C / hr max rate of change / -40°C to 70°C (-40°F to 158°F)										
Operating/Nonoperating Humidity	-12°C DP minimum, 8% RH to 85% RH, max DP 21°C / 5% to 100% non-condensing										
Operating/Nonoperating Shock	5 Gs, 10ms, half sine pulses/15 Gs, 10ms, half sine pulses										
Operating/Nonoperating Vibration	0.21 Gs rms, 5Hz to 500 Hz random / 1.04 Gs rms, 2Hz to 200 Hz random										
Standards/Approvals											
Safety Certifications	UL62368-1 ED3 (United States) CAN/CSA-C22.2 No.60950-1-07/No.62368-1-14, 2nd Ed (Canada) EN62368-1 (European Union) IEC 62368-1 Ed3 (International) CQC (China PRC – CQC Power Supplies) BIS (India – BIS Power Supplies)										
Emissions (EMC)	FCC CFR 47 Part 15 Subpart B Class A (United States) ICES/NMB-003 Class A (Canada) EN 55032 Class A, EN 55024, EN 61000-3-2, EN 61000-3-3 (Europe) AS/NZS CISPR 32 Class A (Australia/New Zealand) VCCI Class A (Japan) KS 32 Class A/KS 35 (S. Korea) CNS 13438 Class A (Taiwan)										
Harmonics	EN 61000-3-2 (EU)										
Flicker	EN 61000-3-3 (EU)										
Immunity	EN 55024 (EU) KS 24/KS 35 (S. Korea) CISPR 24/CISPR35										
Environmental Standards	The RoHS Directive (2011/65/EU) The WEEE Directive (2012/19/EU) The REACH Directive (EC/1907/2006) The Batteries Directive (2006/66/EC)										
Standard Marks/Approvals	The RoHS Directive (2015/65/EU) The WEEE Directive (2012/19/EU) The REACH Directive (EC/1907/2006) The Batteries Directive (2006/66/EC)										
Ecodesign	Commission Regulation (EU) 2019/424 (Directive 2009/125/EC)										
Power Supply Units											
Power Supply	<p>Ecodesign (Part SP-PCM2-HE764-AC/Model SPAXRTX-07xx) – Gold</p> <table border="0"> <tr> <td>Power Efficiency 115VAC/60Hz 230VAC50/Hz</td> <td>Power Factor Conditions (PFC)</td> </tr> <tr> <td>20% Load = >87% >88%</td> <td>50% Loading = >0.90</td> </tr> <tr> <td>50% Load = >90% >92%</td> <td></td> </tr> <tr> <td>100% Load = >87% >88%</td> <td></td> </tr> </table>	Power Efficiency 115VAC/60Hz 230VAC50/Hz	Power Factor Conditions (PFC)	20% Load = >87% >88%	50% Loading = >0.90	50% Load = >90% >92%		100% Load = >87% >88%			
Power Efficiency 115VAC/60Hz 230VAC50/Hz	Power Factor Conditions (PFC)										
20% Load = >87% >88%	50% Loading = >0.90										
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100% Load = >87% >88%											
Power Supply	<p>Ecodesign (Model SPASGAT-01) – Platinum</p> <table border="0"> <tr> <td>Power Efficiency 115 VAC/60 Hz 230 VAC/50 Hz</td> <td>Power Factor Condition(PFC)</td> </tr> <tr> <td>10% Load = >80% >80%</td> <td>50% Loading = >0.90</td> </tr> <tr> <td>20% Load = >90% >90%</td> <td></td> </tr> <tr> <td>50% Load = >92% >94%</td> <td></td> </tr> <tr> <td>100% Load = >89% >91%</td> <td></td> </tr> </table>	Power Efficiency 115 VAC/60 Hz 230 VAC/50 Hz	Power Factor Condition(PFC)	10% Load = >80% >80%	50% Loading = >0.90	20% Load = >90% >90%		50% Load = >92% >94%		100% Load = >89% >91%	
Power Efficiency 115 VAC/60 Hz 230 VAC/50 Hz	Power Factor Condition(PFC)										
10% Load = >80% >80%	50% Loading = >0.90										
20% Load = >90% >90%											
50% Load = >92% >94%											
100% Load = >89% >91%											

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DATA SHEET

Integrated Storage Server Exos AP 5U84



Seagate® Exos® AP 5U84 Integrates compute with massive capacity for larger data centre applications.



Product Highlights

- Maximise your investment with this low-TCO integrated compute and high-density storage system
- Leverage industry-leading CPU technology
- Efficiently manage your data centre with a 5U rackmount enclosure and unique drawer design that provides easy access to drives
- Future-proof your data centre with support for current and next-generation HDDs and SSDs

Key Advantages

Reduce Data Centre Footprint. Build a space-saving private cloud with this all-in-one high-density, high-capacity building block. With this high-performance solution, you'll never sacrifice fast input/output data speeds. Future-proofed, this Exos supports a variety of deployments. Modular, interchangeable components mean easy upgrades and fast innovations.

Deliver a Versatile Architecture Built to Grow. Minimise your TCO and store up to 1.344 PB¹ of data with an enclosure that leads the industry in both density and cost-for-performance while enabling easy change in functionality by swapping to EBOD expansion controllers or hardware-based RAID controllers. This flexible enclosure includes support and capabilities to manage cables, universal ports, self-configuration controls and standardized zoning.

Create Powerful Multi-Node Configurations. Dual controller redundancy, inter-controller communication and multi-controller drive access safeguards your data with powerful redundancy. Additionally, split the chassis into two nodes to yield powerful multi-node architecture in a single chassis.

Reduce Touch Points Between Storage Modules and Storage Server. This enclosure is suited for both high-capacity and transaction-dependent environments that demand tighter Service Level Agreement (SLA) requirements and need faster response times for optimal data availability.

Reduce Power Consumption 80 PLUS Titanium and 80 PLUS Platinum power supply options with certified adaptive cooling technology.

Build In Security at the Foundation of the Data Life Cycle. Protect your valuable business assets with compatible Seagate Secure™ SSDs and hard drives.



Specifications	
Controller Specifications	
Controllers	One or two AP-BV-1 Controllers, redundancy optional
CPU	AMD SP3 7292P EPYC CPU (8,12,16 Core)
Memory	4 x DDR4 - 3200MHz DIMM slots - 8, 16, 32, 64 GB DIMM support
Internal Boot Drive	Single or Dual M.2 NVMe SSD for Redundant Boot/Logs
Onboard I/O	On-board Mellanox CX4 Dual Port 10/25 GbE I/O, /2x 1GbE onboard connections (Management/Data)
PCIe Expansion	One low-profile, half-length PCI Express Gen 4 x16 Host Interface Slot One OCP v2.0 Gen 4x8 host interface slot
Storage Infrastructure	Gen 4 x8 PCIe Lanes to 12G Broadcom SAS Controller, Dual 12G x4 Mini-SAS HD External Expansion Ports
Inter-Controller Link	PCI Express Gen 3 x16 NTB Inter-controller Interface
Chassis Specifications	
Redundant Drive Path	Yes (SAS only)
Host/Expansion I/O Ports	Two x4 mini-SAS HD Expansion I/O connectors
Management/Status Reporting	Redfish API + IPMI & SES
Device Support	12 Gb/s SAS drives
Max Drives Per Enclosure	84 x 3.5-in LFF drive slots (for a full list of supported drives, please contact your account or sales manager)
Hot-Swappable Components	HDDs and SSDs (in chassis data slots), power supply units (PSU), cooling modules, side-plane expanders, and controllers
Physical	Height: 220 mm/8.65 in (5 EIA units) Width: 483 mm/19 in (IEC rack compliant) Depth: 933 mm/36.75 in Weight: 135 kg/298 lb (with drives, no rail kit)
Power Requirements	
Input Power Requirements	200VAC-240VAC, 50Hz/60Hz
Max Power Output per PSU	2200W
Environmental Requirements	
Operating/Nonoperating Altitude	-100 m to 3,000 m (-330 ft to 10,000 ft) / -100 m to 12,192 m (-330 ft to 40,000 ft)
Operating/Nonoperating Temperature	ASHRAE A2, 5°C to 35°C (41°F to 95°F), derate 1°C/300m above 900m, 20°C/hr max rate of change / -40°C to +70°C (-40°F to +158°F)
Operating/Nonoperating Humidity	-12°C DP and 10% RH to 21°C DP and 80% RH, Max DP 21°C / 5% to 100% non-condensing
Operating/Nonoperating Shock	5 Gs 10ms half sine (X, Y, and Z axes), 20 Gs 10ms half sine (X and Y axes)
Operating/Nonoperating Vibration	0.21 Gs rms (5Hz to 500Hz) / 1.04 Gs rms (2Hz to 200Hz)
Standards/Approvals	
Safety Certifications	UL62368-1 ED3 (United States) CAN/CSA-C22.2 No.60950-1-07/No.62368-1-14, 2nd Ed (Canada) EN62368-1 (European Union) IEC 62368-1 Ed3 (International) CQC (China PRC - CQC Power Supplies) BIS (India - BIS Power Supplies)
Emissions (EMC)	FCC CFR 47 Part 15 Subpart B Class A (United States) ICES/NMB-003 Class A (Canada) EN 55032 Class A, EN 55024, EN 61000-3-2, EN 61000-3-3 (Europe) AS/NZS CISPR 32 Class A (Australia/New Zealand) VCCI Class A (Japan) KS 32 Class A/KS 35 (S. Korea) CNS 13438 Class A (Taiwan)
Standard Marks/Country Approvals	North America (FCC, UL, cUL, ICES/NMB-003 Class A), Europe (CE), China (CQC - PSU only), Taiwan (BSMI), Korea (KC), Japan (VCCI), Australia/New Zealand (RCM - formerly C-tick)
Ecodesign	Commission Regulation (EU) 2019/424 (Directive 2009/125/EC)
Power Supply Units	
Power Supply	Ecodesign (Part UD-PCM2-2200-AC/ Model SGT-S-2200ADE00) - Titanium
	Power Efficiency 230VAC50/Hz
	Power Factor Conditions (PFC)
	10% Load = >90% 20% Load = >94% 50% Load = >96% 100% Load = >91%
Power Supply	Ecodesign (Part UD-PSU01-2200-AC/ Model FS2K2HS180-xx) - Platinum
	Power Efficiency 230VAC50/Hz
	Power Factor Conditions (PFC)
	10% Load = >81% 20% Load = >89% 50% Load = >93% 100% Load = >90%

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