

Compatibility Matrix

Ultrastar® Data60

Firmware 4011-005

D018-000235-000

Revision 14

March 2024



The Western Digital System Integration Lab tested the Ultrastar Data60 for the following hardware components and operating systems to demonstrate functional compatibility. Other combinations of hardware and software are expected to function with this product family but have not been evaluated.

Newly qualified device models are listed by category on the right. To use this document, click on the provided link to be taken to a detailed listing of the compatibility information for that specific device type. Or scroll down to view details for all tested devices.

HBAs & RAID Adapters

- [Adaptec 1100-8e](#)
- [Areca ARC-1886-8x, 1883x](#)
- [ATTO ExpressSAS H1280GT](#)
- [Broadcom 9300-8e, -4i4e, -16e](#)
- [Broadcom 9302-16e](#)
- [Broadcom 9305-16e](#)
- [Broadcom MegaRAID 9380-8e](#)
- [Broadcom 9400-16e, -8i8e, -8e](#)
- [Broadcom 9405w-16e](#)
- [Broadcom MegaRAID 9480-8i8e](#)
- [Broadcom 9500-8e, -16e](#)
- [Broadcom MegaRAID 9580-8i8e](#)
- [QNAP QXP-820S-B3408, QXP-1620S-B3616W](#)

Cables

- [Molex 106415-2103](#)
- [CS Electronics 12G-HD-4444/2M](#)
- [The Mate Company \(TMC\) C5555-2M](#)
- [Amphenol ICC \(FCI\) 601760008](#)

Drives

- [Ultrastar DC HC570](#)
- [Ultrastar DC HC580](#)
- [Ultrastar DC HC650](#)
- [Ultrastar DC HC670](#)

1.1 HBA Compatibility

Adaptec 1100-8e

Table 1: Adaptec 1100-8e Interoperability Notes

| | Linux | Windows |
|--|--|---------------|
| BIOS | N/A | N/A |
| Firmware | 2.10[0] | 2.10[0] |
| Driver | 1.2.4.065 | 106.84.2.64 |
| Operating System Support | | |
| Microsoft® Windows | 2016 R1 x64 Server | Supported |
| | 2019 R1 x64 Server | Supported |
| | 2022 R1 x64 Server | Supported |
| CentOS/RedHat® Enterprise Linux (RHEL) | 7.6 (x86_64) Kernel: 3.10.0-957 | Not Supported |
| | 8.0 (x86_64) Kernel: 4.18.0-80 | Not Supported |
| | 8.2 (x86_64) Kernel: 4.18.0-193 | Not Supported |
| | 8.3 (x86_64) Kernel: 4.18.0-240 | Not Supported |
| | 8.4 (x86_64) Kernel: 4.18.0-305 | Not Supported |
| | 8.6 (x86_64) Kernel: 4.18.0-372 | Not Supported |
| Ubuntu® Server | 9 (x86_64) Kernel: 5.14.0-70 | Not Supported |
| | 16.04 Kernel: 4.4 | Not Supported |
| | 18.04 Kernel: 4.15 | Not Supported |
| | 20.04 Kernel: 5.4 | Not Supported |
| Debian GNU/Linux | 22.04 Kernel: 5.15 | Not Supported |
| | 9.8 Kernel: 4.9 | Not Supported |
| | 10 Kernel: 4.19 | Not Supported |
| | 11 Kernel: 5.10 | Not Supported |



Attention: For all HBAs using CentOS/RedHat® Enterprise Linux (RHEL), Ubuntu® Server, or Debian GNU/Linux . If the drives being used exceed 16TiB (equivalent to 16.37 TB) capacity, you must use the Ext4 or XFS file system. Using the Ext3 files system with a drive capacity higher than 16TiB (equivalent to 16.37 TB) will result in an **"too big to be expressed"** error message.

Areca ARC-1886-8x, 1883x

Table 2: Areca ARC-1886-8x, 1883x Interoperability Notes

| | Linux | Windows |
|--|--|---------------|
| BIOS | N/A | N/A |
| Firmware | 1.58 | 1.58 |
| Driver | 1.50.0X.07 | 6.20.00.38 |
| Operating System Support | | |
| Microsoft® Windows | 2016 R1 x64 Server | Not Supported |
| | 2019 R1 x64 Server | Supported |
| | 2022 R1 x64 Server | Supported |
| CentOS/RedHat® Enterprise Linux (RHEL) | 7.6 (x86_64) Kernel: 3.10.0-957 | Not Supported |
| | 8.0 (x86_64) Kernel: 4.18.0-80 | Not Supported |
| | 8.2 (x86_64) Kernel: 4.18.0-193 | Not Supported |
| | 8.3 (x86_64) Kernel: 4.18.0-240 | Not Supported |
| | 8.4 (x86_64) Kernel: 4.18.0-305 | Supported |
| | 8.6 (x86_64) Kernel: 4.18.0-372 | Supported |
| Ubuntu® Server | 9 (x86_64) Kernel: 5.14.0-70 | Supported |
| | 16.04 Kernel: 4.4 | Not Supported |
| | 18.04 Kernel: 4.15 | Not Supported |
| | 20.04 Kernel: 5.4 | Not Supported |
| Debian GNU/Linux | 22.04 Kernel: 5.15 | Not Supported |
| | 9.8 Kernel: 4.9 | Not Supported |
| | 10 Kernel: 4.19 | Not Supported |
| | 11 Kernel: 5.10 | Not Supported |



Attention: For all HBAs using CentOS/RedHat® Enterprise Linux (RHEL), Ubuntu® Server, or Debian GNU/Linux . If the drives being used exceed 16TiB (equivalent to 16.37 TB) capacity, you must use the Ext4 or XFS file system. Using the Ext3 files system with a drive capacity higher than 16TiB (equivalent to 16.37 TB) will result in an **"too big to be expressed"** error message.

ATTO ExpressSAS® H1280GT

Table 3: ATTO ExpressSAS H1280GT Interoperability Notes

| | Linux | Windows |
|---|--|--|
| BIOS | N/A | N/A |
| Firmware | FW version: 19.0.0.0 (14) Flash version: 2021_06_15 | FW version: 19.0.0.0 (14) Flash version: 2021_06_15 |
| Driver | 1.02 (Full version: 1.02.0f1) | 1.02 (Full version: 1.02.0f1) |
| Operating System Support | | |
| Microsoft® Windows | 2016 R1 x64 Server | Not Supported |
| | 2019 R1 x64 Server | Supported |
| | 2022 R1 x64 Server | Not Supported |
| CentOS/RedHat® Enterprise Linux (RHEL) | 7.6 (x86_64) Kernel: 3.10.0-957 | Not Supported |
| | 8.0 (x86_64) Kernel: 4.18.0-80 | Not Supported |
| | 8.2 (x86_64) Kernel: 4.18.0-193 | Not Supported |
| | 8.3 (x86_64) Kernel: 4.18.0-240 | Supported |
| | 8.4 (x86_64) Kernel: 4.18.0-305 | Supported |
| | 8.6 (x86_64) Kernel: 4.18.0-372 | Not Supported |
| | 9 (x86_64) Kernel: 5.14.0-70 | Not Supported |
| Ubuntu® Server | 16.04 Kernel: 4.4 | Not Supported |
| | 18.04 Kernel: 4.15 | Not Supported |
| | 20.04 Kernel: 5.4 | Not Supported |
| | 22.04 Kernel: 5.15 | Not Supported |
| Debian GNU/Linux | 9.8 Kernel: 4.9 | Not Supported |
| | 10 Kernel: 4.19 | Not Supported |
| | 11 Kernel: 5.10 | Not Supported |



Note: As per the design of this adapter, disabling or resetting the PHYs connected from the expander/IOM to the adapter will cause the enclosure's drives to be dropped (unable to be discovered). Rebooting the enclosure or the attached host will allow the drives to be discovered again.



Attention: For all HBAs using CentOS/RedHat® Enterprise Linux (RHEL), Ubuntu® Server, or Debian GNU/Linux. If the drives being used exceed 16TiB (equivalent to 16.37 TB) capacity, you must use the Ext4 or XFS file system. Using the Ext3 file system with a drive capacity higher than 16TiB (equivalent to 16.37 TB) will result in an **"too big to be expressed"** error message.

Broadcom 9300-8e, -4i4e, -16e

Table 4: Broadcom 9300-8e, -4i4e, -16e Interoperability Notes

| | Linux | Windows |
|---|--|---------------------------|
| BIOS | 08.37.00.00 | 08.37.00.00 |
| Firmware | 16.00.11.00 / 16.00.17.00 | 16.00.11.00 / 16.00.17.00 |
| Driver | 26.00.00.00-1 CentOS/RHEL 8.0, 8.2, 8.3, 8.4, 8.6, 9: 41.00.00.00-1 | 2.51.27.01 |
| Operating System Support | | |
| Microsoft® Windows | 2016 R1 x64 Server | Supported |
| | 2019 R1 x64 Server | Supported |
| | 2022 R1 x64 Server | Supported |
| CentOS/RedHat® Enterprise Linux (RHEL) | 7.6 (x86_64) Kernel: 3.10.0-957 | Supported |
| | 8.0 (x86_64) Kernel: 4.18.0-80 | Supported |
| | 8.2 (x86_64) Kernel: 4.18.0-193 | Supported |
| | 8.3 (x86_64) Kernel: 4.18.0-240 | Supported |
| | 8.4 (x86_64) Kernel: 4.18.0-305 | Supported |
| | 8.6 (x86_64) Kernel: 4.18.0-372 | Supported |
| Ubuntu® Server | 9 (x86_64) Kernel: 5.14.0-70 | Supported |
| | 16.04 Kernel: 4.4 | Supported |
| | 18.04 Kernel: 4.15 | Supported |
| | 20.04 Kernel: 5.4 | Supported |
| Debian GNU/Linux | 22.04 Kernel: 5.15 | Supported |
| | 9.8 Kernel: 4.9 | Supported |
| | 10 Kernel: 4.19 | Supported |
| | 11 Kernel: 5.10 | Supported |



Note: Using ScrutinyCLI (version 32 or later), changing the **Task Management Reset Type** on the HBA(s) from **Target Reset** to **I_T Nexus Reset** will increase the responsiveness of the topology during the event of a cable pull, IOM/ESM reset, or drive pull. See https://support-en.westerndigital.com/app/answers/detail/a_id/32058 for more details.



Important: Active Optical SAS cable support is limited to Broadcom 9300-, 9302-, 9305-, 9400-, 9500-series HBAs.



Attention: For all HBAs using CentOS/RedHat® Enterprise Linux (RHEL), Ubuntu® Server, or Debian GNU/Linux . If the drives being used exceed 16TiB (equivalent to 16.37 TB) capacity, you must use the Ext4 or XFS file system. Using the Ext3 files system with a drive capacity higher than 16TiB (equivalent to 16.37 TB) will result in an **"too big to be expressed"** error message.

Broadcom 9302-16e

Table 5: Broadcom 9302-16e Interoperability Notes

| | Linux | Windows |
|--|--|---------------|
| BIOS | 08.37.00.00 | 08.37.00.00 |
| Firmware | 16.00.17.00 | 16.00.17.00 |
| Driver | 39.100.00.00 | 2.51.27.01 |
| Operating System Support | | |
| Microsoft® Windows | 2016 R1 x64 Server | Supported |
| | 2019 R1 x64 Server | Supported |
| | 2022 R1 x64 Server | Supported |
| CentOS/RedHat® Enterprise Linux (RHEL) | 7.6 (x86_64) Kernel: 3.10.0-957 | Supported |
| | 8.0 (x86_64) Kernel: 4.18.0-80 | Supported |
| | 8.2 (x86_64) Kernel: 4.18.0-193 | Supported |
| | 8.3 (x86_64) Kernel: 4.18.0-240 | Supported |
| | 8.4 (x86_64) Kernel: 4.18.0-305 | Supported |
| | 8.6 (x86_64) Kernel: 4.18.0-372 | Supported |
| Ubuntu® Server | 9 (x86_64) Kernel: 5.14.0-70 | Supported |
| | 16.04 Kernel: 4.4 | Supported |
| | 18.04 Kernel: 4.15 | Supported |
| | 20.04 Kernel: 5.4 | Supported |
| Debian GNU/Linux | 22.04 Kernel: 5.15 | Supported |
| | 9.8 Kernel: 4.9 | Not Supported |
| | 10 Kernel: 4.19 | Not Supported |
| | 11 Kernel: 5.10 | Not Supported |



Note: Using ScrutinyCLI (version 32 or later), changing the Task Management Reset Type on the HBA(s) from Target Reset to I_T Nexus Reset will increase the responsiveness of the topology during the event of a cable pull, IOM/ESM reset, or drive pull. See https://support-en.westerndigital.com/app/answers/detail/a_id/32058 for more details.



Important: Active Optical SAS cable support is limited to Broadcom 9300-, 9302-, 9305-, 9400-, 9500-series HBAs.



Attention: For all HBAs using CentOS/RedHat® Enterprise Linux (RHEL), Ubuntu® Server, or Debian GNU/Linux . If the drives being used exceed 16TiB (equivalent to 16.37 TB) capacity, you must use the Ext4 or XFS file system. Using the Ext3 files system with a drive capacity higher than 16TiB (equivalent to 16.37 TB) will result in an **"too big to be expressed"** error message.

Broadcom 9305-16e

Table 6: Broadcom 9305-16e Interoperability Notes

| | Linux | Windows |
|--|--|---------------|
| BIOS | 08.37.00.00 | 08.37.00.00 |
| Firmware | 16.00.13.00 | 16.00.13.00 |
| Driver | 39.100.00.00 | 2.51.27.01 |
| Operating System Support | | |
| Microsoft® Windows | 2016 R1 x64 Server | Supported |
| | 2019 R1 x64 Server | Supported |
| | 2022 R1 x64 Server | Supported |
| CentOS/RedHat® Enterprise Linux (RHEL) | 7.6 (x86_64) Kernel: 3.10.0-957 | Supported |
| | 8.0 (x86_64) Kernel: 4.18.0-80 | Supported |
| | 8.2 (x86_64) Kernel: 4.18.0-193 | Supported |
| | 8.3 (x86_64) Kernel: 4.18.0-240 | Supported |
| | 8.4 (x86_64) Kernel: 4.18.0-305 | Supported |
| | 8.6 (x86_64) Kernel: 4.18.0-372 | Supported |
| Ubuntu® Server | 9 (x86_64) Kernel: 5.14.0-70 | Supported |
| | 16.04 Kernel: 4.4 | Supported |
| | 18.04 Kernel: 4.15 | Supported |
| | 20.04 Kernel: 5.4 | Supported |
| Debian GNU/Linux | 22.04 Kernel: 5.15 | Supported |
| | 9.8 Kernel: 4.9 | Not Supported |
| | 10 Kernel: 4.19 | Not Supported |
| | 11 Kernel: 5.10 | Not Supported |



Note: Using ScrutinyCLI (version 32 or later), changing the Task Management Reset Type on the HBA(s) from Target Reset to I_T Nexus Reset will increase the responsiveness of the topology during the event of a cable pull, IOM/ESM reset, or drive pull. See https://support-en.westerndigital.com/app/answers/detail/a_id/32058 for more details.



Important: Active Optical SAS cable support is limited to Broadcom 9300-, 9302-, 9305-, 9400-, 9500-series HBAs.



Attention: For all HBAs using CentOS/RedHat® Enterprise Linux (RHEL), Ubuntu® Server, or Debian GNU/Linux. If the drives being used exceed 16TiB (equivalent to 16.37 TB) capacity, you must use the Ext4 or XFS file system. Using the Ext3 files system with a drive capacity higher than 16TiB (equivalent to 16.37 TB) will result in an **"too big to be expressed"** error message.

Broadcom MegaRAID 9380-8e

Table 7: Broadcom MegaRAID 9380-8e Interoperability Notes

| | Linux | Windows |
|--|--|---------------|
| BIOS | N/A | N/A |
| Firmware | 24.21.0-0159 | 24.21.0-0159 |
| Driver | 07.723.02.00 | 06.714.18.00 |
| Operating System Support | | |
| Microsoft® Windows | 2016 R1 x64 Server | Supported |
| | 2019 R1 x64 Server | Supported |
| | 2022 R1 x64 Server | Supported |
| CentOS/RedHat® Enterprise Linux (RHEL) | 7.6 (x86_64) Kernel: 3.10.0-957 | Supported |
| | 8.0 (x86_64) Kernel: 4.18.0-80 | Supported |
| | 8.2 (x86_64) Kernel: 4.18.0-193 | Supported |
| | 8.3 (x86_64) Kernel: 4.18.0-240 | Supported |
| | 8.4 (x86_64) Kernel: 4.18.0-305 | Supported |
| | 8.6 (x86_64) Kernel: 4.18.0-372 | Supported |
| | 9 (x86_64) Kernel: 5.14.0-70 | Supported |
| Ubuntu® Server | 16.04 Kernel: 4.4 | Supported |
| | 18.04 Kernel: 4.15 | Supported |
| | 20.04 Kernel: 5.4 | Supported |
| | 22.04 Kernel: 5.15 | Supported |
| Debian GNU/Linux | 9.8 Kernel: 4.9 | Not Supported |
| | 10 Kernel: 4.19 | Not Supported |
| | 11 Kernel: 5.10 | Not Supported |



Attention: For all HBAs using CentOS/RedHat® Enterprise Linux (RHEL), Ubuntu® Server, or Debian GNU/Linux . If the drives being used exceed 16TiB (equivalent to 16.37 TB) capacity, you must use the Ext4 or XFS file system. Using the Ext3 files system with a drive capacity higher than 16TiB (equivalent to 16.37 TB) will result in an **"too big to be expressed"** error message.

Broadcom 9400-16e, -8i8e, -8eTable 8: *Broadcom 9400-16e, -8i8e, -8e Interoperability Notes*

| | Linux | Windows |
|--|--|---------------|
| BIOS | 09.23.00.00 | 09.23.00.00 |
| Firmware | 24.00.00.00 | 24.00.00.00 |
| Driver | 43.00.00.00-1 | 2.61.48.00 |
| Operating System Support | | |
| Microsoft® Windows | 2016 R1 x64 Server | Supported |
| | 2019 R1 x64 Server | Supported |
| | 2022 R1 x64 Server | Supported |
| CentOS/RedHat® Enterprise Linux (RHEL) | 7.6 (x86_64) Kernel: 3.10.0-957 | Supported |
| | 8.0 (x86_64) Kernel: 4.18.0-80 | Supported |
| | 8.2 (x86_64) Kernel: 4.18.0-193 | Supported |
| | 8.3 (x86_64) Kernel: 4.18.0-240 | Supported |
| | 8.4 (x86_64) Kernel: 4.18.0-305 | Supported |
| | 8.6 (x86_64) Kernel: 4.18.0-372 | Supported |
| Ubuntu® Server | 9 (x86_64) Kernel: 5.14.0-70 | Supported |
| | 16.04 Kernel: 4.4 | Supported |
| | 18.04 Kernel: 4.15 | Supported |
| | 20.04 Kernel: 5.4 | Supported |
| Debian GNU/Linux | 22.04 Kernel: 5.15 | Supported |
| | 9.8 Kernel: 4.9 | Not Supported |
| | 10 Kernel: 4.19 | Supported |
| | 11 Kernel: 5.10 | Supported |



Note: Using ScrutinyCLI (version 32 or later), changing the Task Management Reset Type on the HBA(s) from Target Reset to I_T Nexus Reset will increase the responsiveness of the topology during the event of a cable pull, IOM/ESM reset, or drive pull. See https://support-en.westerndigital.com/app/answers/detail/a_id/32058 for more details.



Attention: For all HBAs using CentOS/RedHat® Enterprise Linux (RHEL), Ubuntu® Server, or Debian GNU/Linux. If the drives being used exceed 16TiB (equivalent to 16.37 TB) capacity, you must use the Ext4 or XFS file system. Using the Ext3 file system with a drive capacity higher than 16TiB (equivalent to 16.37 TB) will result in an **"too big to be expressed"** error message.

Broadcom 9405w-16e

Table 9: Broadcom 9405w-16e Interoperability Notes

| | Linux | Windows |
|--|--|---------------|
| BIOS | 09.23.00.00 | 09.23.00.00 |
| Firmware | 24.00.00.00 | 24.00.00.00 |
| Driver | 43.00.00.00-1 | 2.61.48.00 |
| Operating System Support | | |
| Microsoft® Windows | 2016 R1 x64 Server | Supported |
| | 2019 R1 x64 Server | Supported |
| | 2022 R1 x64 Server | Supported |
| CentOS/RedHat® Enterprise Linux (RHEL) | 7.6 (x86_64) Kernel: 3.10.0-957 | Supported |
| | 8.0 (x86_64) Kernel: 4.18.0-80 | Supported |
| | 8.2 (x86_64) Kernel: 4.18.0-193 | Supported |
| | 8.3 (x86_64) Kernel: 4.18.0-240 | Supported |
| | 8.4 (x86_64) Kernel: 4.18.0-305 | Supported |
| | 8.6 (x86_64) Kernel: 4.18.0-372 | Supported |
| Ubuntu® Server | 9 (x86_64) Kernel: 5.14.0-70 | Supported |
| | 16.04 Kernel: 4.4 | Supported |
| | 18.04 Kernel: 4.15 | Supported |
| | 20.04 Kernel: 5.4 | Supported |
| Debian GNU/Linux | 22.04 Kernel: 5.15 | Supported |
| | 9.8 Kernel: 4.9 | Not Supported |
| | 10 Kernel: 4.19 | Not Supported |
| | 11 Kernel: 5.10 | Not Supported |



Note: Using ScrutinyCLI (version 32 or later), changing the Task Management Reset Type on the HBA(s) from Target Reset to I_T Nexus Reset will increase the responsiveness of the topology during the event of a cable pull, IOM/ESM reset, or drive pull. See https://support-en.westerndigital.com/app/answers/detail/a_id/32058 for more details.



Attention: For all HBAs using CentOS/RedHat® Enterprise Linux (RHEL), Ubuntu® Server, or Debian GNU/Linux. If the drives being used exceed 16TiB (equivalent to 16.37 TB) capacity, you must use the Ext4 or XFS file system. Using the Ext3 file system with a drive capacity higher than 16TiB (equivalent to 16.37 TB) will result in an **"too big to be expressed"** error message.

Broadcom MegaRAID 9480-8i8e

Table 10: Broadcom MegaRAID 9480-8i8e Interoperability Notes

| | Linux | Windows |
|--|--|---------------|
| BIOS | N/A | N/A |
| Firmware | 51.23.0-4637 | 51.23.0-4637 |
| Driver | 07.723.02.00 | 07.723.02.00 |
| Operating System Support | | |
| Microsoft® Windows | 2016 R1 x64 Server | Supported |
| | 2019 R1 x64 Server | Supported |
| | 2022 R1 x64 Server | Supported |
| CentOS/RedHat® Enterprise Linux (RHEL) | 7.6 (x86_64) Kernel: 3.10.0-957 | Supported |
| | 8.0 (x86_64) Kernel: 4.18.0-80 | Supported |
| | 8.2 (x86_64) Kernel: 4.18.0-193 | Supported |
| | 8.3 (x86_64) Kernel: 4.18.0-240 | Supported |
| | 8.4 (x86_64) Kernel: 4.18.0-305 | Supported |
| | 8.6 (x86_64) Kernel: 4.18.0-372 | Supported |
| Ubuntu® Server | 9 (x86_64) Kernel: 5.14.0-70 | Supported |
| | 16.04 Kernel: 4.4 | Supported |
| | 18.04 Kernel: 4.15 | Supported |
| | 20.04 Kernel: 5.4 | Supported |
| Debian GNU/Linux | 22.04 Kernel: 5.15 | Supported |
| | 9.8 Kernel: 4.9 | Not Supported |
| | 10 Kernel: 4.19 | Not Supported |
| | 11 Kernel: 5.10 | Not Supported |



Attention: For all HBAs using CentOS/RedHat® Enterprise Linux (RHEL), Ubuntu® Server, or Debian GNU/Linux . If the drives being used exceed 16TiB (equivalent to 16.37 TB) capacity, you must use the Ext4 or XFS file system. Using the Ext3 files system with a drive capacity higher than 16TiB (equivalent to 16.37 TB) will result in an **"too big to be expressed"** error message.

Broadcom 9500-8e, -16e

Table 11: Broadcom 9500-8e, -16e Interoperability Notes

| | Linux | Windows | FreeBSD |
|--|---------------|--|------------------------|
| BIOS | N/A | N/A | N/A |
| Firmware | 25.00.00.00 | 25.00.00.00 | 25.00.00.00 |
| Driver | 44.00.00.00-1 | 2.61.54.00 | 23.00.00.00 |
| Operating System Support | | | |
| Microsoft® Windows | | 2016 R1 x64 Server | Not Supported |
| | | 2019 R1 x64 Server | Supported |
| | | 2022 R1 x64 Server | Supported |
| CentOS/RedHat® Enterprise Linux (RHEL) | | 7.6 (x86_64) Kernel: 3.10.0-957 | Supported |
| | | 8.0 (x86_64) Kernel: 4.18.0-80 | Supported |
| | | 8.2 (x86_64) Kernel: 4.18.0-193 | Supported |
| | | 8.3 (x86_64) Kernel: 4.18.0-240 | Supported |
| | | 8.4 (x86_64) Kernel: 4.18.0-305 | Supported |
| | | 8.6 (x86_64) Kernel: 4.18.0-372 | Supported |
| Ubuntu® Server | | 9 (x86_64) Kernel: 5.14.0-70 | Supported |
| | | 16.04 Kernel: 4.4 | Supported |
| | | 18.04 Kernel: 4.15 | Supported |
| | | 20.04 Kernel: 5.4 | Supported |
| Debian GNU/Linux | | 22.04 Kernel: 5.15 | Supported |
| | | 9.8 Kernel: 4.9 | Not Supported |
| | | 10 Kernel: 4.19 | Not Supported |
| FreeBSD® | | 11 Kernel: 5.10 | Not Supported |
| | | 13.2 | Supported ¹ |



Note: Using ScrutinyCLI (version 32 or later), changing the Task Management Reset Type on the HBA(s) from Target Reset to I_T Nexus Reset will increase the responsiveness of the topology during the event of a cable pull, IOM/ESM reset, or drive pull. See https://support-en.westerndigital.com/app/answers/detail/a_id/32058 for more details.



Attention: For all HBAs using CentOS/RedHat® Enterprise Linux (RHEL), Ubuntu® Server, or Debian GNU/Linux. If the drives being used exceed 16TiB (equivalent to 16.37 TB) capacity, you must use the Ext4 or XFS file system. Using the Ext3 files system with a drive capacity higher than 16TiB (equivalent to 16.37 TB) will result in an **"too big to be expressed"** error message.

1. WDDCS tool and sg_scan tool will not work in FreeBSD. Camcontrol tool which has limited functionality can be used.

Broadcom MegaRAID 9580-8i8e

Table 12: Broadcom MegaRAID 9580-8i8e Interoperability Notes

| | Linux | Windows |
|--|--|----------------|
| BIOS | N/A | N/A |
| Firmware | 52.23.0-4636 | 52.23.0-4636 |
| Driver | 07.723.02.00 | 07.723.02.00-1 |
| Operating System Support | | |
| Microsoft® Windows | 2016 R1 x64 Server | Not Supported |
| | 2019 R1 x64 Server | Supported |
| | 2022 R1 x64 Server | Supported |
| CentOS/RedHat® Enterprise Linux (RHEL) | 7.6 (x86_64) Kernel: 3.10.0-957 | Supported |
| | 8.0 (x86_64) Kernel: 4.18.0-80 | Supported |
| | 8.2 (x86_64) Kernel: 4.18.0-193 | Supported |
| | 8.3 (x86_64) Kernel: 4.18.0-240 | Supported |
| | 8.4 (x86_64) Kernel: 4.18.0-305 | Supported |
| | 8.6 (x86_64) Kernel: 4.18.0-372 | Supported |
| Ubuntu® Server | 9 (x86_64) Kernel: 5.14.0-70 | Supported |
| | 16.04 Kernel: 4.4 | Supported |
| | 18.04 Kernel: 4.15 | Supported |
| | 20.04 Kernel: 5.4 | Supported |
| Debian GNU/Linux | 22.04 Kernel: 5.15 | Supported |
| | 9.8 Kernel: 4.9 | Not Supported |
| | 10 Kernel: 4.19 | Not Supported |
| | 11 Kernel: 5.10 | Not Supported |



Attention: For all HBAs using CentOS/RedHat® Enterprise Linux (RHEL), Ubuntu® Server, or Debian GNU/Linux. If the drives being used exceed 16TiB (equivalent to 16.37 TB) capacity, you must use the Ext4 or XFS file system. Using the Ext3 file system with a drive capacity higher than 16TiB (equivalent to 16.37 TB) will result in an **"too big to be expressed"** error message.

QNAP QXP-820S-B3408, QXP-1620S-B3616

Table 13: QNAP QXP-820S-B3408, QXP-1620S-B3616W Interoperability Notes

| | Linux | Windows |
|--|--|---------------|
| BIOS | N/A | N/A |
| Firmware | 18.00.00.00 | N/A |
| Driver | 41.00.00.00 | N/A |
| Operating System Support | | |
| Microsoft® Windows | 2016 R1 x64 Server | Not Supported |
| | 2019 R1 x64 Server | Not Supported |
| CentOS/RedHat® Enterprise Linux (RHEL) | 7.6 (x86_64) Kernel: 3.10.0-957 | Not Supported |
| | 8.0 (x86_64) Kernel: 4.18.0-80 | Not Supported |
| | 8.2 (x86_64) Kernel: 4.18.0-193 | Not Supported |
| | 8.3 (x86_64) Kernel: 4.18.0-240 | Not Supported |
| | 8.4 (x86_64) Kernel: 4.18.0-305 | Not Supported |
| Ubuntu® Server | 16.04 Kernel: 4.4 | Not Supported |
| | 18.04 Kernel: 4.15 | Supported |
| | 20.04 Kernel: 5.4 | Not Supported |
| Debian GNU/Linux | 9.8 Kernel: 4.9 | Not Supported |
| | 10 Kernel: 4.19 | Not Supported |
| | 11 Kernel: 5.10 | Not Supported |



Attention: For all HBAs using CentOS/RedHat® Enterprise Linux (RHEL), Ubuntu® Server, or Debian GNU/Linux. If the drives being used exceed 16TiB (equivalent to 16.37 TB) capacity, you must use the Ext4 or XFS file system. Using the Ext3 files system with a drive capacity higher than 16TiB (equivalent to 16.37 TB) will result in an **"too big to be expressed"** error message.

1.2 Cable Compatibility

Active Cables

Active cables can be used for both direct (host-to-enclosure) and daisy-chain (enclosure-to-enclosure) connections.



Important: Active Optical SAS cable support is limited to Broadcom 9300-, 9302-, 9305-, 9400-, 9500-series HBAs.



Note: MegaRAID adapters do not support the use of active SAS cables. If your configuration requires the use of MegaRAID adapters, passive cables must be used.

Table 14: Approved Active Optical HD Mini-SAS to HD Mini-SAS Cables

| Length | Manufacturer | Vendor Part Number |
|--------|------------------------------|-----------------------------|
| 2m | JPC Connectivity (Jess-Link) | P5388FC3002M-1 ² |
| 3m | Amphenol ICC (FCI) | FOHHB23P00003 ³ |
| | JPC Connectivity (Jess-Link) | P5388FC3003M-1 |
| 4m | Molex | 106415-2103 |
| | Amphenol ICC (FCI) | FOHHB23P00004 |
| | JPC Connectivity (Jess-Link) | P5388FC3004M-1 |
| 5m | JPC Connectivity (Jess-Link) | P5388FC3004M-3 |
| | Amphenol ICC (FCI) | FOHHB23P00005 |
| 6m | Molex | 106415-2105 |
| | Amphenol ICC (FCI) | FOHHB23P00006 |
| 10m | JPC Connectivity (Jess-Link) | P5388FC3006M-1 |
| | Molex | 106415-2110 |

Passive Cables

Passive cables should only be used for direct (host-to-enclosure) connections.

Table 15: Approved Passive HD Mini-SAS to HD Mini-SAS Cables

| Length | Manufacturer | Vendor Part Number |
|--------|--------------------|--------------------|
| 1m | Amphenol ICC (FCI) | 10112041-2010LF |
| 2m | Amphenol ICC (FCI) | 601760006 |
| | | 10117949-2020LF |

- Listed JPC P5388FC300xxx cables are compatible, beginning with firmware version 4008-020 and later.
- Listed FOHHB23P00xxx cables are compatible, beginning with firmware version 2052-020 and later.

| Length | Manufacturer | Vendor Part Number |
|--------|---------------------------|--------------------|
| | | 10112041-2020LF |
| | CS Electronics | 12G-HD-4444/2M |
| | Data Storage Cables (DSC) | C5555-2M |
| | Molex | 1110751002 |
| | The Mate Company (TMC) | C5555-2M |
| 3m | Amphenol ICC (FCI) | 601760008 |
| | | 10117949-4030LF |
| | | 10112041-2030LF |
| | CS Electronics | 12G-HD-4444/3M |
| | Molex | 1110751003 |

1.3 Drive Compatibility

Ultrastar DC HC310 CMR, 6TB HDD with 3.5" Drive Carrier

Table 16: DC HC310 Part / Model Numbers

| Sector Size | SATA | | SAS | | |
|-------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| | SE | TCG | SE | TCG | TCG-FIPS |
| 512e | 1EX1189 / HUS726T6TAL-E604 | 1EX1188 / HUS726T6TAL-E601 | 1EX1185 / HUS726T6TAL-5204 | 1EX1184 / HUS726T6TAL-5201 | 1EX1853 / HUS726T6TAL-5205 |
| 4Kn | 1EX1187 / HUS726T6TAL-N604 | 1EX1186 / HUS726T6TAL-N601 | 1EX1183 / HUS726T6TAL-4204 | 1EX1182 / HUS726T6TAL-4201 | 1EX1852 / HUS726T6TAL-4205 |

Ultrastar DC HC310 drives are only compatible with the OSs and HBAs listed in the following table:

| OS | Kernel | HBA | HBA FW | HBA Driver |
|--------------|-------------------|-----------|-------------|-------------|
| Ubuntu 18.04 | 4.15.0-76-generic | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | 24.00.00.00 | |
| | | 9405-16e | | |
| | | 9500-8e | | |
| 9500-16e | | | | |
| Ubuntu 20.04 | 5.4.0-47-generic | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | 24.00.00.00 | |
| | | 9405-16e | | |
| | | 9500-8e | | |
| 9500-16e | | | | |
| Ubuntu 22.04 | 5.15 | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | 24.00.00.00 | |
| | | 9400-16e | | |
| | | 9500-8e | | |
| 9500-16e | | | | |

| OS | Kernel | HBA | HBA FW | HBA Driver |
|---------------------------------------|----------------|-----------|-------------|-------------|
| CentOS/RedHat Enterprise Linux (RHEL) | 5.14.0.70:13.1 | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | 24.00.00.00 | |
| | | 9400-16e | | |
| | | 9500-8e | | |
| 9500-16e | | | | |

Ultrastar DC HC320 CMR, 8TB HDD with 3.5" Drive Carrier

Table 18: DC HC320 Part / Model Numbers

| Sector Size | SATA | | | SAS | | |
|-------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| | SE | SED | TCG | SE | TCG | TCG-FIPS |
| 512e | 1EX1227 / HUS728T8TAL-E604 | 1EX1226 / HUS728T8TAL-E601 | | 1EX1223 / HUS728T8TAL-5204 | 1EX1222 / HUS728T8TAL-5201 | 1EX1343 / HUS728T8TAL-5205 |
| 4Kn | 1EX1225 / HUS728T8TAL-N604 | | 1EX1224 / HUS728T8TAL-N601 | 1EX1221 / HUS728T8TAL-4204 | 1EX1220 / HUS728T8TAL-4201 | 1EX1342 / HUS728T8TAL-4205 |

Ultrastar DC HC320 drives are only compatible with the OSs and HBAs listed in the following table:

| OS | Kernel | HBA | HBA FW | HBA Driver |
|--------------|-------------------|-----------|-------------|-------------|
| Ubuntu 18.04 | 4.15.0-76-generic | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | 24.00.00.00 | |
| | | 9405-16e | | |
| | | 9500-8e | | |
| 9500-16e | | | | |
| Ubuntu 20.04 | 5.4.0-47-generic | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | 24.00.00.00 | |
| | | 9405-16e | | |
| | | 9500-8e | | |
| 9500-16e | | | | |
| Ubuntu 22.04 | 5.15 | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |

| OS | Kernel | HBA | HBA FW | HBA Driver |
|---------------------------------------|----------------|-----------|-------------|-------------|
| | | 9300-4i4e | 24.00.00.00 | |
| | | 9400-8e | | |
| | | 9400-16e | | |
| | | 9500-8e | | |
| | | 9500-16e | | |
| CentOS/RedHat Enterprise Linux (RHEL) | 5.14.0.70.13.1 | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9400-16e | | |
| | | 9500-8e | 24.00.00.00 | |
| 9500-16e | | | | |

Ultrastar DC HC330 CMR, 10TB HDD with 3.5" Drive Carrier

Table 20: DC HC330 Part / Model Numbers

| Sector Size | SATA | | SAS | | |
|-------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| | SE | SED | SE | TCG | TCG-FIPS |
| 512e | 1EX2440 / WUS721010AL-E604 | 1EX2441 / WUS721010AL-E601 | 1EX2435 / WUS721010AL-5204 | 1EX2436 / WUS721010AL-5201 | 1EX2437 / WUS721010AL-5205 |
| 4Kn | 1EX2438 / WUS721010AL-N604 | 1EX2439 / WUS721010AL-N601 | 1EX2432 / WUS721010AL-4204 | 1EX2433 / WUS721010AL-4201 | 1EX2434 / WUS721010AL-4205 |

Ultrastar DC HC330 drives are only compatible with the OSs and HBAs listed in the following table:

| OS | Kernel | HBA | HBA FW | HBA Driver |
|--------------|-------------------|-----------|-------------|-------------|
| Ubuntu 18.04 | 4.15.0-76-generic | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9405-16e | | |
| | | 9500-8e | 24.00.00.00 | |
| 9500-16e | | | | |
| Ubuntu 20.04 | 5.4.0-47-generic | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |

| OS | Kernel | HBA | HBA FW | HBA Driver |
|---------------------------------------|----------------|-----------|-------------|-------------|
| | | 9405-16e | 24.00.00.00 | |
| | | 9500-8e | | |
| | | 9500-16e | | |
| Ubuntu 22.04 | 5.15 | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9400-16e | 24.00.00.00 | |
| | | 9500-8e | | |
| | | 9500-16e | | |
| CentOS/RedHat Enterprise Linux (RHEL) | 5.14.0.70.13.1 | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9400-16e | 24.00.00.00 | |
| | | 9500-8e | | |
| | | 9500-16e | | |

Ultrastar DC HC510 CMR, 10TB HDD with 3.5" Drive Carrier

Table 22: DC HC510 Part / Model Numbers

| Sector Size | SATA | | | SAS | | | |
|-------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| | SE | ISE | SED | SE | ISE | TCG | TCG-FIPS |
| 512e | 1EX0499 / HUH721010AL-E604 | 1EX0497 / HUH721010AL-E600 | 1EX0498 / HUH721010AL-E601 | 1EX0487 / HUH721010AL-5204 | 1EX0485 / HUH721010AL-5200 | 1EX0486 / HUH721010AL-5201 | 1EX1341 / HUH721010AL-5205 |
| 4Kn | 1EX0496 / HUH721010AL-N604 | 1EX0494 / HUH721010AL-N600 | 1EX0495 / HUH721010AL-N601 | 1EX0484 / HUH721010AL-4204 | 1EX0482 / HUH721010AL-4200 | 1EX0483 / HUH721010AL-4201 | 1EX1340 / HUH721010AL-4205 |

Ultrastar DC HC510 drives are only compatible with the OSs and HBAs listed in the following table:

| OS | Kernel | HBA | HBA FW | HBA Driver |
|--------------|-------------------|-----------|-------------|-------------|
| Ubuntu 18.04 | 4.15.0-76-generic | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9405-16e | 24.00.00.00 | |
| | | 9500-8e | | |

| OS | Kernel | HBA | HBA FW | HBA Driver |
|---------------------------------------|------------------|-----------|-------------|-------------|
| Ubuntu 20.04 | 5.4.0-47-generic | 9500-16e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-8e | | |
| | | 9300-16e | | |
| | | 9300-4i4e | 24.00.00.00 | |
| | | 9400-8e | | |
| | | 9405-16e | | |
| | | 9500-8e | | |
| 9500-16e | | | | |
| Ubuntu 22.04 | 5.15 | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | 24.00.00.00 | |
| | | 9400-16e | | |
| | | 9500-8e | | |
| | | 9500-16e | | |
| CentOS/RedHat Enterprise Linux (RHEL) | 5.14.0.70.13.1 | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | 24.00.00.00 | |
| | | 9400-16e | | |
| | | 9500-8e | | |
| | | 9500-16e | | |

Ultrastar DC HC520 CMR, 12TB HDD with 3.5" Drive Carrier

Table 24: DC HC520 Part / Model Numbers

| Sector Size | SATA | | | SAS | | | |
|-------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| | SE | ISE | SED | SE | ISE | TCG | TCG-FIPS |
| 512e | 1EX1015 / HUH721212AL-E604 | 1EX1013 / HUH721212AL-E600 | 1EX1014 / HUH721212AL-E601 | 1EX1009 / HUH721212AL-5204 | 1EX1007 / HUH721212AL-5200 | 1EX1008 / HUH721212AL-5201 | 1EX1338 / HUH721212AL-5205 |
| 4Kn | 1EX1012 / HUH721212AL-N604 | 1EX1010 / HUH721212AL-N600 | 1EX1011 / HUH721212AL-N601 | 1EX1006 / HUH721212AL-4204 | 1EX1004 / HUH721212AL-4200 | 1EX1005 / HUH721212AL-4201 | 1EX1339 / HUH721212AL-4205 |

Ultrastar DC HC520 drives are only compatible with the OSs and HBAs listed in the following table:

| OS | Kernel | HBA | HBA FW | HBA Driver |
|--------------|-------------------|---------|-------------|-------------|
| Ubuntu 18.04 | 4.15.0-76-generic | 9300-8e | 22.00.00.00 | 43.00.00.00 |

| OS | Kernel | HBA | HBA FW | HBA Driver |
|---------------------------------------|------------------|-----------|-------------|-------------|
| | | 9300-16e | 24.00.00.00 | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9405-16e | | |
| | | 9500-8e | | |
| | | 9500-16e | | |
| Ubuntu 20.04 | 5.4.0-47-generic | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9405-16e | | |
| | | 9500-8e | | |
| Ubuntu 22.04 | 5.15 | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9400-16e | | |
| | | 9500-8e | | |
| CentOS/RedHat Enterprise Linux (RHEL) | 5.14.0.70.13.1 | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9400-16e | | |
| | | 9500-8e | | |
| | | 9500-16e | 24.00.00.00 | |

Ultrastar DC HC530 CMR, 14TB HDD with 3.5" Drive Carrier



Attention: Lower performance observed for multiple (2, 4, and 8) write streams when using I/O Queue Depths of less than 4 on Ultrastar DC HC530 14TB SAS drives.

Table 26: DC HC530 Part / Model Numbers

| Sector Size | SATA | | SAS | | | |
|-------------|---|-----------------------------|---|----------------------------|-----------------------------|----------------------------|
| | SE | SED | SE | ISE | TCG | TCG-FIPS |
| 512e | 1EX1793* / WUH721414AL-E604 1EX3046 / WUH721814AL-E6L4 | 1EX1794* / WUH721414AL-E6L1 | 1EX1791* / WUH721414AL-5204 1EX3045 / WUH721814AL-5204 | 1EX1583 / WUH721414AL-5200 | 1EX1792* / WUH721414AL-5201 | 1EX1855 / WUH721414AL-5205 |
| 4Kn | 1EX1790* / WUH721414AL-N604 | | 1EX1788* / WUH721414AL-4204 | | 1EX1789* / WUH721414AL-4201 | 1EX1854 / WUH721414AL-4205 |

* This part number is no longer available.

Ultrastar DC HC530 drives are only compatible with the OSs and HBAs listed in the following table:

| OS | Kernel | HBA | HBA FW | HBA Driver |
|---------------------------------------|-------------------|-----------|-------------|-------------|
| Ubuntu 18.04 | 4.15.0-76-generic | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | 24.00.00.00 | |
| | | 9405-16e | | |
| | | 9500-8e | | |
| Ubuntu 20.04 | 5.4.0-47-generic | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | 24.00.00.00 | |
| | | 9405-16e | | |
| | | 9500-8e | | |
| Ubuntu 22.04 | 5.15 | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | 24.00.00.00 | |
| | | 9400-16e | | |
| | | 9500-8e | | |
| CentOS/RedHat Enterprise Linux (RHEL) | 5.14.0.70.13.1 | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |

| OS | Kernel | HBA | HBA FW | HBA Driver |
|----|--------|----------|-------------|------------|
| | | 9400-8e | | |
| | | 9400-16e | | |
| | | 9500-8e | 24.00.00.00 | |
| | | 9500-16e | | |

Ultrastar DC HC550 CMR, 16TB HDD with 3.5" Drive Carrier

Table 28: DC HC550 Part / Model Numbers

| Sector Size | SATA | | SAS | | |
|-------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| | SE | SED | SE | TCG | TCG-FIPS |
| 512e | 1EX2476 / WUH721816AL- E604 | 1EX2477 / WUH721816AL- E601 | 1EX2473 / WUH721816AL- 5204 | 1EX2474 / WUH721816AL- 5201 | 1EX2475 / WUH721816AL- 5205 |

Ultrastar DC HC550 drives are only compatible with the OSs and HBAs listed in the following table:

| OS | Kernel | HBA | HBA FW | HBA Driver |
|--------------|-------------------|-----------|-------------|-------------|
| Ubuntu 18.04 | 4.15.0-76-generic | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | 24.00.00.00 | |
| | | 9405-16e | | |
| | | 9500-8e | | |
| Ubuntu 20.04 | 5.4.0-47-generic | 9500-16e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-8e | | |
| | | 9300-16e | | |
| | | 9300-4i4e | 24.00.00.00 | |
| | | 9400-8e | | |
| | | 9405-16e | | |
| Ubuntu 22.04 | 5.15 | 9500-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9500-16e | | |
| | | 9300-8e | | |
| | | 9300-16e | 24.00.00.00 | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| Ubuntu 22.04 | 5.15 | 9400-16e | 24.00.00.00 | 43.00.00.00 |
| | | 9500-8e | | |
| | | 9500-16e | | |

| OS | Kernel | HBA | HBA FW | HBA Driver |
|---------------------------------------|----------------|-----------|-------------|-------------|
| CentOS/RedHat Enterprise Linux (RHEL) | 5.14.0.70.13.1 | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9400-16e | 24.00.00.00 | |
| | | 9500-8e | | |
| | | 9500-16e | | |

Ultrastar DC HC550 CMR, 18TB HDD with 3.5" Drive Carrier

Table 30: DC HC550 Part / Model Numbers

| Sector Size | SATA | | SAS | | |
|-------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| | SE | SED | SE | TCG | TCG-FIPS |
| 512e | 1EX2481 / WUH721818AL-E604 | 1EX2482 / WUH721818AL-E601 | 1EX2478 / WUH721818AL-5204 | 1EX2479 / WUH721818AL-5201 | 1EX2480 / WUH721818AL-5205 |

Ultrastar DC HC550 drives are only compatible with the OSs and HBAs listed in the following table:

| OS | Kernel | HBA | HBA FW | HBA Driver |
|--------------|-------------------|-----------|-------------|-------------|
| Ubuntu 18.04 | 4.15.0-76-generic | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9405-16e | 24.00.00.00 | |
| | | 9500-8e | | |
| | | 9500-16e | | |
| Ubuntu 20.04 | 5.4.0-47-generic | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9405-16e | 24.00.00.00 | |
| | | 9500-8e | | |
| | | 9500-16e | | |
| Ubuntu 22.04 | 5.15 | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |

| OS | Kernel | HBA | HBA FW | HBA Driver |
|---------------------------------------|----------------|-----------|-------------|-------------|
| | | 9400-16e | 24.00.00.00 | |
| | | 9500-8e | | |
| | | 9500-16e | | |
| CentOS/RedHat Enterprise Linux (RHEL) | 5.14.0.70.13.1 | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9400-16e | 24.00.00.00 | |
| | | 9500-8e | | |
| 9500-16e | | | | |

Ultrastar DC HC560 CMR, 20TB HDD with 3.5" Drive Carrier

Table 32: DC HC560 Part / Model Numbers

| Sector Size | SATA | | SAS | |
|-------------|----------------------------|----------------------------|----------------------------|----------------------------|
| | SE | SED | SE | TCG |
| 512e | 1EX2909 / WUH722020BL-E604 | 1EX2910 / WUH722020BL-E601 | 1EX2906 / WUH722020BL-5204 | 1EX2907 / WUH722020BL-5201 |

Ultrastar DC HC560 drives are only compatible with the OSs and HBAs listed in the following table:

| OS | Kernel | HBA | HBA FW | HBA Driver |
|--------------|-------------------|-----------|-------------|-------------|
| Ubuntu 18.04 | 4.15.0-76-generic | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9405-16e | 24.00.00.00 | |
| | | 9500-8e | | |
| 9500-16e | | | | |
| Ubuntu 20.04 | 5.4.0-47-generic | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9405-16e | 24.00.00.00 | |
| | | 9500-8e | | |
| 9500-16e | | | | |
| Ubuntu 22.04 | 5.15 | 9300-8e | 22.00.00.00 | 43.00.00.00 |

| OS | Kernel | HBA | HBA FW | HBA Driver |
|---------------------------------------|----------------|-----------|-------------|-------------|
| | | 9300-16e | 24.00.00.00 | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9400-16e | | |
| | | 9500-8e | | |
| | | 9500-16e | | |
| CentOS/RedHat Enterprise Linux (RHEL) | 5.14.0.70.13.1 | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9400-16e | | |
| | | 9500-8e | | |
| | | 9500-16e | 24.00.00.00 | |

Ultrastar DC HC570 CMR, 22TB HDD with 3.5" Drive Carrier

Table 34: DC HC570 Part / Model Numbers

| Sector Size | SATA | | SAS | |
|-------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| | SE | SED | SE | TCG |
| 512e | 1EX2966/ WUH722222AL- E604 | 1EX2967/ WUH722222AL- E601 | 1EX2963/ WUH722222AL- 5204 | 1EX2964/ WUH722222AL- 5201 |

Ultrastar DC HC570 drives are only compatible with the OSs and HBAs listed in the following table:

| OS | Kernel | HBA | HBA FW | HBA Driver |
|--------------|-------------------|-----------|-------------|-------------|
| Ubuntu 18.04 | 4.15.0-76-generic | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9405-16e | | |
| | | 9500-8e | | |
| | | 9500-16e | 24.00.00.00 | |
| Ubuntu 20.04 | 5.4.0-47-generic | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9405-16e | | |

| OS | Kernel | HBA | HBA FW | HBA Driver |
|---------------------------------------|----------------|-----------|-------------|-------------|
| | | 9500-8e | 24.00.00.00 | |
| | | 9500-16e | | |
| Ubuntu 22.04 | 5.15 | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9400-16e | | |
| | | 9500-8e | 24.00.00.00 | |
| | | 9500-16e | | |
| CentOS/RedHat Enterprise Linux (RHEL) | 5.14.0.70.13.1 | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9400-16e | | |
| | | 9500-8e | 24.00.00.00 | |
| | | 9500-16e | | |

Ultrastar DC HC580 CMR, 22TB HDD with 3.5" Drive Carrier

Table 36: DC HC580 Part / Model Numbers

| Sector Size | SATA | |
|-------------|----------------------------------|--|
| | SE | |
| 512e | 1EX3169/ WUH722422AL- E6L4 | |

Ultrastar DC HC570 drives are only compatible with the OSs and HBAs listed in the following table:

| OS | Kernel | HBA | HBA FW | HBA Driver |
|--------------|-------------------|-----------|-------------|-------------|
| Ubuntu 18.04 | 4.15.0-76-generic | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9405-16e | | |
| | | 9500-8e | 24.00.00.00 | |
| | | 9500-16e | | |
| Ubuntu 20.04 | 5.4.0-47-generic | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |

| OS | Kernel | HBA | HBA FW | HBA Driver |
|---------------------------------------|----------------|-----------|-------------|-------------|
| | | 9300-4i4e | 24.00.00.00 | |
| | | 9400-8e | | |
| | | 9405-16e | | |
| | | 9500-8e | | |
| | | 9500-16e | | |
| Ubuntu 22.04 | 5.15 | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9400-16e | | |
| | | 9500-8e | | |
| CentOS/RedHat Enterprise Linux (RHEL) | 5.14.0.70.13.1 | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9400-16e | | |
| | | 9500-8e | | |
| | | 9500-16e | 24.00.00.00 | |

Ultrastar DC HC580 CMR, 24TB HDD with 3.5" Drive Carrier

Table 38: DC HC580 Part / Model Numbers

| Sector Size | SATA |
|-------------|------------------------------|
| | SE |
| 512e | 1EX3171/ WUH722424AL-E6L4 |

Ultrastar DC HC580 drives are only compatible with the OSs and HBAs listed in the following table:

| OS | Kernel | HBA | HBA FW | HBA Driver |
|--------------|-------------------|-----------|-------------|-------------|
| Ubuntu 18.04 | 4.15.0-76-generic | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9405-16e | | |
| | | 9500-8e | | |
| | | | 24.00.00.00 | |

| OS | Kernel | HBA | HBA FW | HBA Driver |
|---------------------------------------|------------------|-----------|-------------|-------------|
| | | 9500-16e | | |
| Ubuntu 20.04 | 5.4.0-47-generic | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9405-16e | | |
| | | 9500-8e | 24.00.00.00 | |
| | | 9500-16e | | |
| Ubuntu 22.04 | 5.15 | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9400-16e | | |
| | | 9500-8e | 24.00.00.00 | |
| | | 9500-16e | | |
| CentOS/RedHat Enterprise Linux (RHEL) | 5.14.0.70.13.1 | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9400-16e | | |
| | | 9500-8e | 24.00.00.00 | |
| | | 9500-16e | | |

Ultrastar DC HC650 SMR, 20TB HDD with 3.5" Drive Carrier

Table 40: DC HC650 Part / Model Numbers

| Sector Size | SATA | | SAS | |
|-------------|----------------------------|----------------------------|----------------------------|----------------------------|
| | SE | SED | SE | TCG |
| 4Kn | 1EX2719 / WSH722020AL-N604 | 1EX2720 / WSH722020AL-N601 | 1EX2716 / WSH722020AL-4204 | 1EX2717 / WSH722020AL-4201 |

Ultrastar DC HC650 drives are only compatible with the OSs and HBAs listed in the following table:



Caution: Known Issue

- The host or application is required to send an explicit write pointer reset before rewriting zones.
- This issue will only occur with SATA SMR drives when a zone is full. The application is required to add a check and apply the write pointer reset command that is appropriate for the zone state.
- The `sg_rep_zones` command will report the following zone state information: empty, partially filled, or full.

| OS | Kernel | HBA | HBA FW | HBA Driver |
|--------------|-------------------|-----------|-------------|-------------|
| Ubuntu 18.04 | 4.15.0-76-generic | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9405-16e | 24.00.00.00 | |
| | | 9500-8e | | |
| | | 9500-16e | | |
| Ubuntu 20.04 | 5.4.0-47-generic | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9405-16e | 24.00.00.00 | |
| | | 9500-8e | | |
| | | 9500-16e | | |
| Ubuntu 22.04 | 5.15 | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9400-16e | | |

| OS | Kernel | HBA | HBA FW | HBA Driver |
|---------------------------------------|----------------|-----------|-------------|-------------|
| CentOS/RedHat Enterprise Linux (RHEL) | 5.14.0.70.13.1 | 9500-8e | 24.00.00.00 | 43.00.00.00 |
| | | 9500-16e | | |
| | | 9300-8e | 22.00.00.00 | |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9400-16e | | |
| | | 9500-8e | 24.00.00.00 | |
| | | 9500-16e | | |

Ultrastar DC HC670 SMR, 26TB HDD with 3.5" Drive Carrier

Table 42: DC HC670 Part / Model Numbers

| Sector Size | SATA | | SAS | |
|-------------|---------------------------|---------------------------|---------------------------|---------------------------|
| | SE | SED | SE | TCG |
| 4Kn | 1EX3013 / WSH722626ALN604 | 1EX3014 / WSH722626ALN601 | 1EX3010 / WSH722626AL4204 | 1EX3011 / WSH722626AL4201 |

Ultrastar DC HC670 drives are only compatible with the OSs and HBAs listed in the following table:



Caution: Known Issue

- The host or application is required to send an explicit write pointer reset before rewriting zones.
- This issue will only occur with SATA SMR drives when a zone is full. The application is required to add a check and apply the write pointer reset command that is appropriate for the zone state.
- The `sg_rep_zones` command will report the following zone state information: empty, partially filled, or full.

| OS | Kernel | HBA | HBA FW | HBA Driver |
|--------------|-------------------|-----------|-------------|-------------|
| Ubuntu 18.04 | 4.15.0-76-generic | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9405-16e | | |
| | | 9500-8e | 24.00.00.00 | |
| | | 9500-16e | | |
| Ubuntu 20.04 | 5.4.0-47-generic | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |

| OS | Kernel | HBA | HBA FW | HBA Driver |
|---------------------------------------|----------------|-----------|-------------|-------------|
| | | 9300-4i4e | 24.00.00.00 | |
| | | 9400-8e | | |
| | | 9405-16e | | |
| | | 9500-8e | | |
| | | 9500-16e | | |
| Ubuntu 22.04 | 5.15 | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | 24.00.00.00 | |
| | | 9400-16e | | |
| | | 9500-8e | | |
| CentOS/RedHat Enterprise Linux (RHEL) | 5.14.0.70.13.1 | 9300-8e | 22.00.00.00 | 43.00.00.00 |
| | | 9300-16e | | |
| | | 9300-4i4e | | |
| | | 9400-8e | | |
| | | 9400-16e | 24.00.00.00 | |
| | | 9500-8e | | |
| | | 9500-16e | | |

1.4 Compatible Third-Party Drives



Attention: All drives have been tested with version 4008-020 enclosure firmware.

| Device | Volume | Encryption | Drive Firmware | Manufacturer Part Number |
|---------------------------------|--------------|------------|----------------|--------------------------|
| Kioxia SAS PM7-M/V/R Series SSD | Up to 3.84TB | SE | 0101 | KPM7XRUG3T84 |
| Samsung SAS PM1653A SSD | Up to 3.84TB | SE | GXG3 | MZILG3T8HCLS-00A07 |



Note: Ultrastar Data60 supports third-party device features that are within SAS specification as mandatory. Any third-party drive features that are vendor specific are not guaranteed to function.

1.5 nTAA SKUs for Fully Populated Configurations

Table 45: Fully Populated Configurations

| Capacity | Drive Type | Sector Size | SATA | | | SAS | | | |
|----------|------------|-------------|----------|----------|---------|----------|---------|----------|----------|
| | | | SE | SED | ISE | SE | ISE | TCG | TCG-FIPS |
| 1440TB | HC580 | 512e | 1ES2526 | | | | | | |
| | | 512e | 1ES2540 | | | | | | |
| 1320TB | HC570 | 512e | 1ES2203 | 1ES2204 | | 1ES2063 | | 1ES2198 | |
| | HC580 | 512e | 1ES2522 | | | | | | |
| | | 512e | 1ES2536 | | | | | | |
| 1200TB | HC560 | 512e | 1ES2135 | 1ES2136 | | 1ES2143 | | 1ES2144 | |
| 1080TB | HC550 | 512e | 1ES1871 | 1ES1872 | | 1ES1865 | | 1ES1866 | |
| 960TB | HC550 | 512e | 1ES1881 | 1ES1882 | | 1ES1875 | | 1ES1876 | |
| 840TB | HC550 | 512e | 1ES2345 | | | 1ES2344 | | | |
| | | 512e | 1ES2347 | | | 1ES2346 | | | |
| | | 512e | 1ES2351 | | | 1ES2350 | | | |
| | HC530 | 512e | 1ES1466* | 1ES1467* | | 1ES1464* | | 1ES1465* | 1ES1947* |
| | | 4Kn | 1ES1463* | | | 1ES1461* | | 1ES1462* | |
| 720TB | HC520 | 512e | 1ES0370 | | 1ES0368 | 1ES0364 | 1ES0362 | 1ES0363 | |
| | | 4Kn | 1ES0367 | | 1ES0365 | 1ES0361 | 1ES0359 | 1ES0360 | |
| 600TB | HC330 | 512e | 1ES1835 | 1ES1834 | | 1ES1827 | | 1ES1822 | |
| | | 4Kn | 1ES1836 | 1ES1837 | | 1ES1824 | | 1ES1825 | |
| 480TB | HC320 | 512e | 1ES1241 | 1ES1240 | | 1ES1237 | | 1ES1236 | |
| | | 4Kn | 1ES1239 | 1ES1238 | | 1ES1235 | | 1ES1234 | |
| 360TB | HC320 | 512e | 1ES1164 | 1ES1163 | | 1ES1160 | | 1ES1159 | |
| | | 4Kn | 1ES1162 | 1ES1161 | | 1ES1158 | | 1ES1157 | |
| 240TB | HC310 | 512e | | | | 1ES1645 | | 1ES1646 | 1ES1647 |
| | | 4Kn | | | | 1ES1560 | | 1ES1643 | 1ES1644 |

* This part number is no longer available.

1.6 nTAA SKUs for Partially Populated Configurations

Table 46: Partially Populated Configurations

| Capacity | Drive Type | Sector Size | SATA | | | SAS | | | |
|----------|------------|-------------|----------|----------|---------|----------|---------|----------|----------|
| | | | SE | SED | ISE | SE | ISE | TCG | TCG-FIPS |
| 576TB | HC580 | 512e | 1ES2527 | | | | | | |
| | | 512e | 1ES2541 | | | | | | |
| 528TB | HC570 | 512e | 1ES2205 | 1ES2206 | | 1ES2200 | | 1ES2201 | |
| | HC580 | 512e | 1ES2523 | | | | | | |
| | | 512e | 1ES2537 | | | | | | |
| 480TB | HC560 | 512e | 1ES2146 | 1ES2147 | | 1ES2148 | | 1ES2149 | |
| 432TB | HC550 | 512e | 1ES1873 | 1ES1874 | | 1ES1868 | | 1ES1869 | |
| 384TB | HC550 | 512e | 1ES1883 | 1ES1884 | | 1ES1878 | | 1ES1879 | |
| 336TB | HC550 | 512e | 1ES2349 | | | 1ES2348 | | | |
| | | 512e | 1ES2353 | | | 1ES2352 | | | |
| | HC530 | 512e | 1ES1473* | 1ES1474* | | 1ES1471* | | 1ES1472* | 1ES1948* |
| | | 4Kn | 1ES1470* | | | 1ES1468* | | 1ES1469* | |
| 288TB | HC520 | 512e | 1ES0400 | | 1ES0398 | 1ES0394 | 1ES0392 | 1ES0393 | |
| | | 4Kn | 1ES0397 | | 1ES0395 | 1ES0391 | 1ES0389 | 1ES0390 | |
| 240TB | HC330 | 512e | 1ES1838 | 1ES1839 | | 1ES1828 | | 1ES1829 | |
| | | 4Kn | 1ES1840 | 1ES1841 | | 1ES1831 | | 1ES1832 | |
| 192TB | HC320 | 512e | 1ES1249 | 1ES1248 | | 1ES1245 | | 1ES1244 | |
| | | 4Kn | 1ES1247 | 1ES1246 | | 1ES1243 | | 1ES1242 | |
| 144TB | HC310 | 512e | 1ES1173 | 1ES1172 | | 1ES1169 | | 1ES1168 | |
| | | 4Kn | 1ES1171 | 1ES1170 | | 1ES1167 | | 1ES1166 | |
| 96TB | HC310 | 512e | | | | 1ES1651 | | 1ES1652 | 1ES1653 |
| | | 4Kn | | | | 1ES1648 | | 1ES1649 | 1ES1650 |

* This part number is no longer available.

1.7 TAA SKUs for Fully Populated Configurations

Table 47: Fully Populated Configurations

| Capacity | Drive Type | Sector Size | SATA | | | SAS | | | |
|----------|------------|-------------|----------|----------|-----|----------|-----|----------|----------|
| | | | SE | SED | ISE | SE | ISE | TCG | TCG-FIPS |
| 1440TB | HC580 | 512e | 1ES2551 | | | | | | |
| | | 512e | 1ES2558 | | | | | | |
| 1320TB | HC570 | 512e | 1ES2223 | 1ES2209 | | 1ES2224 | | 1ES2207 | |
| | HC580 | 512e | 1ES2549 | | | | | | |
| | | 512e | 1ES2556 | | | | | | |
| 1200TB | HC560 | 512e | 1ES2225 | 1ES2183 | | 1ES2226 | | 1ES2181 | |
| 1080TB | HC550 | 512e | 1ES2227 | 1ES2098 | | 1ES2228 | | 1ES2096 | 1ES2097 |
| 960TB | HC550 | 512e | 1ES2229 | 1ES2095 | | 1ES2230 | | 1ES2093 | 1ES2094 |
| 840TB | HC530 | 512e | 1ES2231* | 1ES2092* | | 1ES2232* | | 1ES2090* | 1ES2091* |
| 720TB | HC520 | 512e | 1ES2233 | 1ES2127 | | 1ES2234 | | 1ES2124 | 1ES2125 |

* This part number is no longer available.

1.8 nTAA SKUs for Scale-Up Modules

Table 48: 12-Pack nTAA Scale-Up Modules

| Capacity | Drive Type | Sector Size | SATA | | | SAS | | | |
|----------|------------|-------------|----------|----------|---------|----------|----------|----------|----------|
| | | | SE | SED | ISE | SE | ISE | TCG | TCG-FIPS |
| 312TB | HC670 | 4Kn | 1EX3008 | 1EX3009 | | 1EX3005 | | 1EX3006 | |
| 288TB | HC580 | 512e | 1EX3164 | | | | | | |
| 264TB | HC570 | 512e | 1EX2961 | 1EX2962 | | 1EX2958 | | 1EX2959 | |
| | HC580 | 512e | 1EX3162 | | | | | | |
| 240TB | HC560 | 512e | 1EX2904 | 1EX2905 | | 1EX2901 | | 1EX2902 | |
| 216TB | HC550 | 512e | 1EX2491 | 1EX2492 | | 1EX2488 | | 1EX2489 | 1EX2490 |
| | | 4Kn | | | | 1EX2785 | | | |
| 192TB | HC550 | 512e | 1EX2486 | 1EX2487 | | 1EX2483 | | 1EX2484 | 1EX2485 |
| 168TB | HC550 | 512e | 1EX3044 | | | 1EX3043 | | | |
| | HC530 | | 1EX1847* | 1EX1848* | | 1EX1845* | | 1EX1846* | |
| | | | 4Kn | 1EX1844* | | | 1EX1842* | | |
| 144TB | HC520 | 512e | 1EX0553 | | 1EX0551 | 1EX0547 | 1EX0545 | 1EX0546 | |
| | | 4Kn | 1EX0550 | | 1EX0548 | 1EX0544 | 1EX0542 | 1EX0543 | |
| 120TB | HC330 | 512e | 1EX2460 | 1EX2461 | | 1EX2455 | | 1EX2456 | |
| | | 4Kn | 1EX2458 | 1EX2459 | | 1EX2452 | | 1EX2453 | |
| 96TB | HC320 | 512e | 1EX1243 | 1EX1242 | | 1EX1239 | | 1EX1238 | |
| | | 4Kn | 1EX1241 | 1EX1240 | | 1EX1237 | | 1EX1236 | |
| 72TB | HC310 | 512e | 1EX1213 | 1EX1212 | | 1EX1209 | | 1EX1208 | |
| | | 4Kn | 1EX1211 | 1EX1210 | | 1EX1207 | | 1EX1206 | |
| 48TB | HC310 | 512e | | | | 1EX2250 | | 1EX2251 | 1EX2252 |
| | | 4Kn | | | | 1EX2247 | | 1EX2248 | 1EX2249 |

* This part number is no longer available.

1.9 Notices

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1.10 Points of Contact

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