

Compaq StorageWorks™

Model 4300 Family Ultra3 LVD Disk Enclosure Addendum for Use with the MA8000/EMA12000 Storage System

This document summarizes features and characteristics of using the Model 4310R, Model 4350R, Model 4314R, and Model 4354R disk enclosures in an MA8000/EMA12000 Storage System, running ACS version 8.5.

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Compaq Computer Corporation

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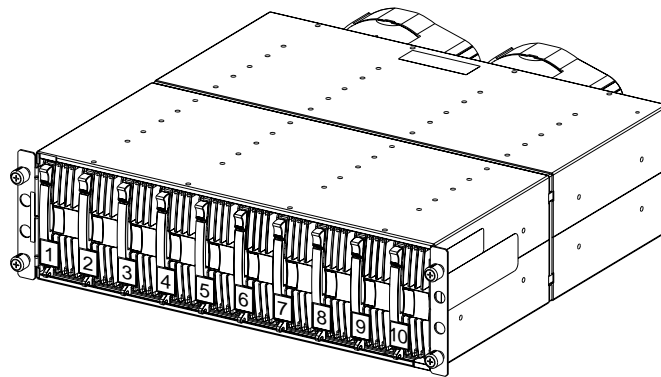
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Disk Enclosures

The Model 4300 family of Ultra3 SCSI disk enclosures is made up of four models:

- **Model 4310R disk enclosure** - 10 drive bays, single-bus I/O module.
- **Model 4350R disk enclosure** - 10 drive bays, dual-bus I/O module.

Figure 1 shows the drive enclosure bay numbering for Models 4310R and 4350R.

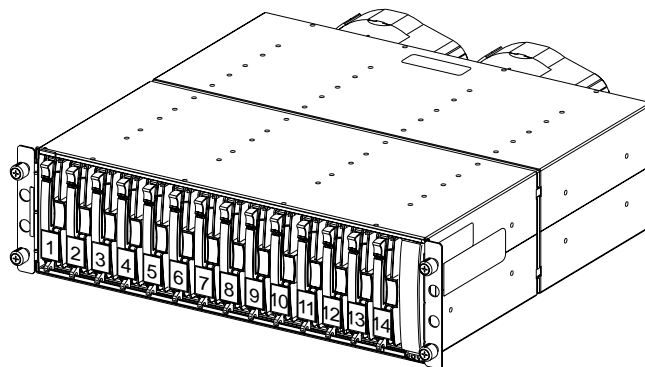


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Figure 1. Model 4310R and 4350R 10-Drive Enclosure Bay Numbering

- **Model 4314R disk enclosure** - 14 drive bays, single-bus I/O module.
- **Model 4354R disk enclosure** - 14 drive bays, dual-bus I/O module.

Figure 2 shows the drive enclosure bay numbering for Models 4314R and 4354R.



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Figure 2. Model 4314R and 4354R 14-Drive Enclosure Bay Numbering

MA8000/EMA12000 Storage System Installation



WARNING: A shock hazard exists at the backplane when the controller enclosure bays or cache module bays are empty.

Be sure the enclosures are empty, then mount the enclosures into the rack. DO NOT use the disk enclosure handles to lift the enclosure. The handles cannot support the weight of the enclosure. Only use these handles to position the enclosure in the mounting brackets.

Use two people to lift, align, and install any enclosure into a rack. Failure to use two people might cause personal injury and/or equipment damage.



CAUTION: Controller and disk enclosures have no power switches. Make sure the controller enclosures and disk enclosures are physically configured before turning the PDU on and connecting the power cords. Failure to do so can cause equipment damage.

1. Be sure the enclosures are empty before mounting them into the rack. If necessary, remove the following elements from the controller enclosure:

- Environmental Monitoring Unit (EMU)
- Power Supplies
- External Cache Batteries (ECBs)
- Fans

If necessary, remove the following elements from the disk enclosure:

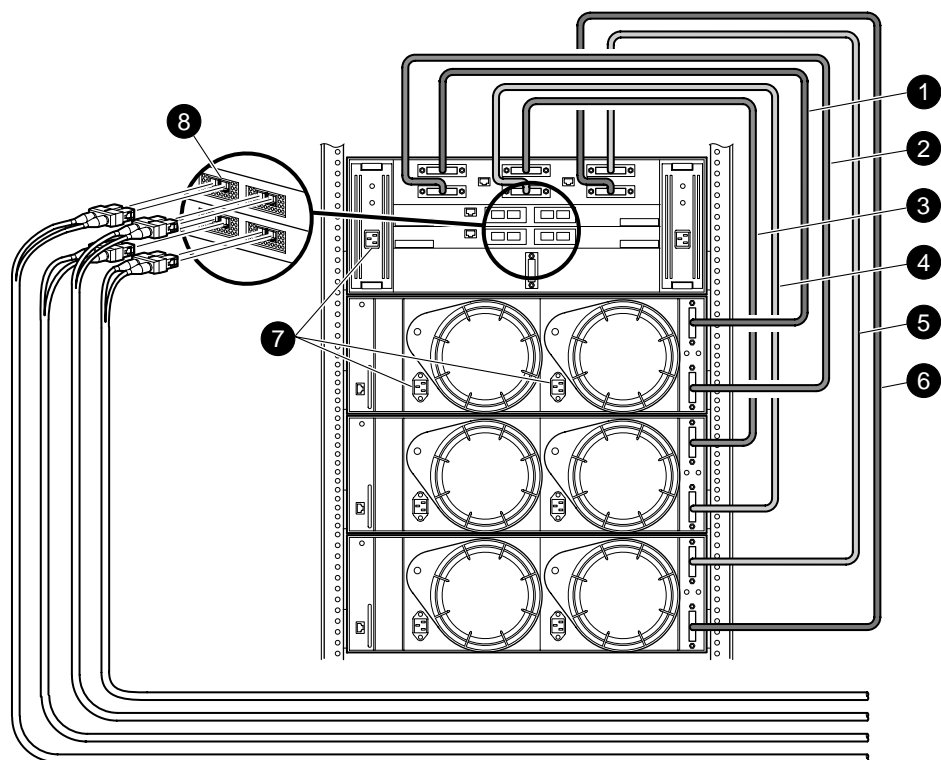
- Power Supply/Blower Assemblies
- Disk Drives
- Environmental Monitoring Unit (EMU)
- I/O Modules

Refer to the *Compaq StorageWorks Model 2100 and 2200 UltraSCSI Controller User Guide*, *Compaq StorageWorks Enclosure 4200 Family LVD Disk Enclosure User Guide*, and *Compaq StorageWorks Enclosure 4300 Family LVD Disk Enclosure User Guide* for further information.

2. Install brackets onto the controller enclosure and disk enclosures. Using two people, mount the enclosures into the rack. Refer to the mounting kit documentation for further information.
3. Install the elements. Install the disk drives (up to 12 disk drives in the Model 4314R disk enclosures, or up to 14 disk drives in the Model 4354R disk enclosures). Make sure you install blank panels in any unused bays.

NOTE: Fibre channel cabling information is shown to illustrate supported configurations. In a dual-bus disk enclosure configuration, disk enclosures 1, 2, and 3 are stacked below the controller enclosure—two SCSI Buses per enclosure (see Figure 3). In a single-bus disk enclosure configuration, disk enclosures 6, 5, and 4 are stacked above the controller enclosure and disk enclosures 1, 2, and 3 are stacked below the controller enclosure—one SCSI Bus per enclosure(see Figure 4).

4. Connect the six VHDCI UltraSCSI bus cables between the controller and disk enclosures as shown in Figure 3 for a dual bus system and Figure 4 for a single bus system. Note that the maximum supported cable lengths are 1, 2, 3, 5, and 10 meters.

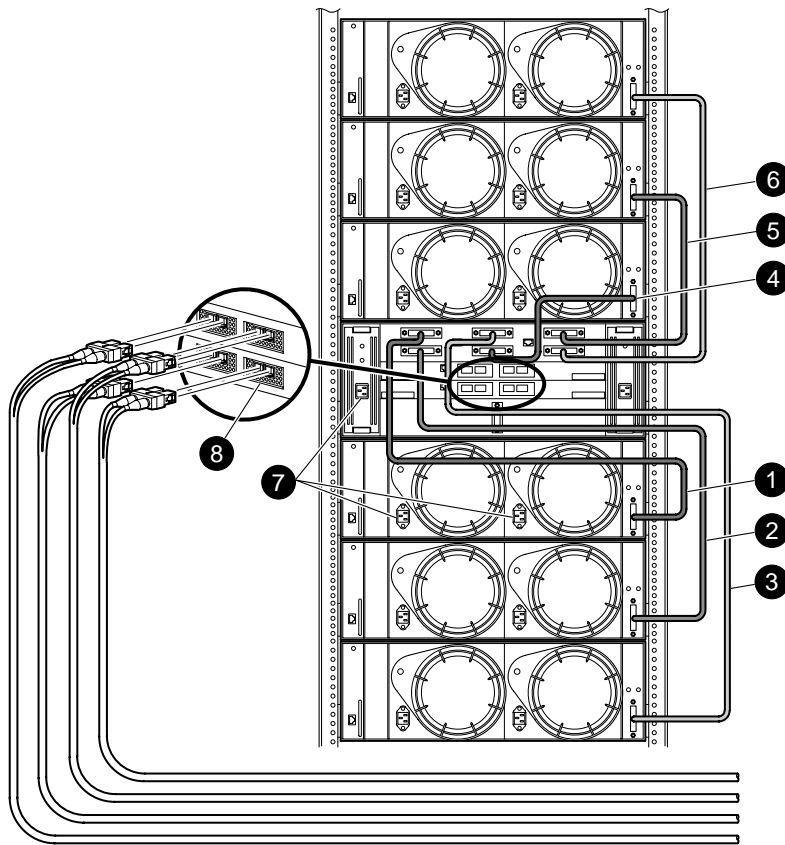


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- | | |
|--------------------|-----------------------|
| ① SCSI Bus 1 Cable | ② SCSI Bus 2 Cable |
| ③ SCSI Bus 3 Cable | ④ SCSI Bus 4 Cable |
| ⑤ SCSI Bus 5 Cable | ⑥ SCSI Bus 6 Cable |
| ⑦ AC Power Inputs | ⑧ Fibre Channel Ports |

Figure 3. Dual-Bus MA8000/EMA12000 Storage System

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- | | |
|--------------------|-----------------------|
| ① SCSI Bus 1 Cable | ② SCSI Bus 2 Cable |
| ③ SCSI Bus 3 Cable | ④ SCSI Bus 4 Cable |
| ⑤ SCSI Bus 5 Cable | ⑥ SCSI Bus 6 Cable |
| ⑦ AC Power Inputs | ⑧ Fibre Channel Ports |

Figure 4. Single-Bus MA8000/EMA12000 Storage System

5. Connect the AC power cords from the appropriate rack AC outlets to the controller and disk enclosures.

Creating Storage Maps

The controller can operate either in a BA370 enclosure or in a Model 2200 controller enclosure.

The Model 2200 controller enclosure can be combined with the following:

- **Model 4214R disk enclosure** - Ultra2 SCSI with 14 drive bays, single-bus I/O module.
- **Model 4254 disk enclosure** - Ultra2 SCSI with 14 drive bays, dual-bus I/O module.

NOTE: The Model 4214R uses the same storagemaps as the Model 4314R and the Model 4254 uses the same storage maps as the Model 4354R disk enclosures.

- **Model 4310R disk enclosure** - Ultra3 SCSI with 10 drive bays, single-bus I/O module. Figure 5 shows the addresses for each device in a six-shelf single-bus configuration. A maximum of six Model 4310R disk enclosures can be used with each Model 2200 controller enclosure.

NOTE: The storage map for the Model 4310R reflects the disk enclosures physical location in the rack. Disk enclosures 6, 5, and 4 are stacked above the controller enclosure and disk enclosures 1, 2, and 3 are stacked below the controller enclosure.

- **Model 4350R disk enclosure** - Ultra3 SCSI with 10 drive bays, dual-bus I/O module. Figure 6 shows the addresses for each device in a three-shelf dual-bus configuration. A maximum of three Model 4350R disk enclosures can be used with each Model 2200 controller enclosure.

- **Model 4314R disk enclosure** - Ultra3 SCSI with 14 drive bays, single-bus I/O module. Figure 7 shows the addresses for each device in a six-shelf single-bus configuration. A maximum of six Model 4314R disk enclosures can be used with each Model 2200 controller enclosure.

NOTE: The storage map for the Model 4314R reflects the disk enclosures physical location in the rack. Disk enclosures 6, 5, and 4 are stacked above the controller enclosure and disk enclosures 1, 2, and 3 are stacked below the controller enclosure.

- **Model 4354R disk enclosure** - Ultra3 SCSI with 14 drive bays, dual-bus I/O module. Figure 8 shows the addresses for each device in a three-shelf dual-bus configuration. A maximum of three Model 4354R disk enclosures can be used with each Model 2200 controller enclosure.

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Model 4310R Disk Enclosure Shelf 6 (single-bus)										
Bay	1	2	3	4	5	6	7	8	9	10
SCSI ID	00	01	02	03	04	05	08	10	11	12
DISK ID	Disk60000	Disk60100	Disk60200	Disk60300	Disk60400	Disk60500	Disk60800	Disk61000	Disk61100	Disk61200

Model 4310R Disk Enclosure Shelf 5 (single-bus)										
Bay	1	2	3	4	5	6	7	8	9	10
SCSI ID	00	01	02	03	04	05	08	10	11	12
DISK ID	Disk50000	Disk50100	Disk50200	Disk50300	Disk50400	Disk50500	Disk50800	Disk51000	Disk51100	Disk51200

Model 4310R Disk Enclosure Shelf 4 (single-bus)										
Bay	1	2	3	4	5	6	7	8	9	10
SCSI ID	00	01	02	03	04	05	08	10	11	12
DISK ID	Disk40000	Disk40100	Disk40200	Disk40300	Disk40400	Disk40500	Disk40800	Disk41000	Disk41100	Disk41200

Model 4310R Disk Enclosure Shelf 1 (single-bus)										
Bay	1	2	3	4	5	6	7	8	9	10
SCSI ID	00	01	02	03	04	05	08	10	11	12
DISK ID	Disk10000	Disk10100	Disk10200	Disk10300	Disk10400	Disk10500	Disk10800	Disk11000	Disk11100	Disk11200

Model 4310R Disk Enclosure Shelf 2 (single-bus)										
Bay	1	2	3	4	5	6	7	8	9	10
SCSI ID	00	01	02	03	04	05	08	10	11	12
DISK ID	Disk20000	Disk20100	Disk20200	Disk20300	Disk20400	Disk20500	Disk20800	Disk21000	Disk21100	Disk21200

Model 4310R Disk Enclosure Shelf 3 (single-bus)										
Bay	1	2	3	4	5	6	7	8	9	10
SCSI ID	00	01	02	03	04	05	08	10	11	12
DISK ID	Disk30000	Disk30100	Disk30200	Disk30300	Disk30400	Disk30500	Disk30800	Disk31000	Disk31100	Disk31200

Figure 5. PTL addressing in a single-bus configuration, using six Model 4310R disk enclosures

Model 4350R Disk Enclosure Shelf 1 (dual-bus)										
	SCSI Bus A					SCSI Bus B				
Bay	1	2	3	4	5	6	7	8	9	10
SCSI ID	00	01	02	03	04	00	01	02	03	04
DISK ID	Disk10000	Disk10100	Disk10200	Disk10300	Disk10400	Disk20000	Disk20100	Disk20200	Disk20300	Disk20400

Model 4350R Disk Enclosure Shelf 2 (dual-bus)										
	SCSI Bus A					SCSI Bus B				
Bay	1	2	3	4	5	6	7	8	9	10
SCSI ID	00	01	02	03	04	00	01	02	03	04
DISK ID	Disk30000	Disk30100	Disk30200	Disk30300	Disk30400	Disk40000	Disk40100	Disk40200	Disk40300	Disk40400

Model 4350R Disk Enclosure Shelf 3 (dual-bus)										
	SCSI Bus A					SCSI Bus B				
Bay	1	2	3	4	5	6	7	8	9	10
SCSI ID	00	01	02	03	04	00	01	02	03	04
DISK ID	Disk50000	Disk50100	Disk50200	Disk50300	Disk50400	Disk60000	Disk60100	Disk60200	Disk60300	Disk60400

Figure 6. PTL addressing in a dual-bus configuration, using three Model 4350R disk enclosures

Model 4314R Disk Enclosure Shelf 6 (single-bus)

Bay	1	2	3	4	5	6	7	8	9	10	11	12	13	14
SCSI ID	00	01	02	03	04	05	08	09	10	11	12	13	14	15
DISK ID	Disk60000	Disk60100	Disk60200	Disk60300	Disk60400	Disk60500	Disk60800	Disk60900	Disk61000	Disk61100	Disk61200	Disk61300	not supported	not supported

Model 4314R Disk Enclosure Shelf 5 (single-bus)

Bay	1	2	3	4	5	6	7	8	9	10	11	12	13	14
SCSI ID	00	01	02	03	04	05	08	09	10	11	12	13	14	15
DISK ID	Disk50000	Disk50100	Disk50200	Disk50300	Disk50400	Disk50500	Disk50800	Disk50900	Disk51000	Disk51100	Disk51200	Disk51300	not supported	not supported

Model 4314R Disk Enclosure Shelf 4 (single-bus)

Bay	1	2	3	4	5	6	7	8	9	10	11	12	13	14
SCSI ID	00	01	02	03	04	05	08	09	10	11	12	13	14	15
DISK ID	Disk40000	Disk40100	Disk40200	Disk40300	Disk40400	Disk40500	Disk40800	Disk40900	Disk41000	Disk41100	Disk41200	Disk41300	not supported	not supported

Model 4314R Disk Enclosure Shelf 1 (single-bus)

Bay	1	2	3	4	5	6	7	8	9	10	11	12	13	14
SCSI ID	00	01	02	03	04	05	08	09	10	11	12	13	14	15
DISK ID	Disk10000	Disk10100	Disk10200	Disk10300	Disk10400	Disk10500	Disk10800	Disk10900	Disk11000	Disk11100	Disk11200	Disk11300	not supported	not supported

Model 4314R Disk Enclosure Shelf 2 (single-bus)

Bay	1	2	3	4	5	6	7	8	9	10	11	12	13	14
SCSI ID	00	01	02	03	04	05	08	09	10	11	12	13	14	15
DISK ID	Disk20000	Disk20100	Disk20200	Disk20300	Disk20400	Disk20500	Disk20800	Disk20900	Disk21000	Disk21100	Disk21200	Disk21300	not supported	not supported

Model 4314R Disk Enclosure Shelf 3 (single-bus)

Bay	1	2	3	4	5	6	7	8	9	10	11	12	13	14
SCSI ID	00	01	02	03	04	05	08	09	10	11	12	13	14	15
DISK ID	Disk30000	Disk30100	Disk30200	Disk30300	Disk30400	Disk30500	Disk30800	Disk30900	Disk31000	Disk31100	Disk31200	Disk31300	not supported	not supported

Figure 7. PTL addressing in a single-bus configuration, using six Model 4314R disk enclosures

Model 4354R Disk Enclosure Shelf 1 (dual-bus)

Bay	SCSI Bus A							SCSI Bus B						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
SCSI ID	00	01	02	03	04	05	08	00	01	02	03	04	05	08
DISK ID	Disk10000	Disk10100	Disk10200	Disk10300	Disk10400	Disk10500	Disk10800	Disk20000	Disk20100	Disk20200	Disk20300	Disk20400	Disk20500	Disk20800

Model 4354R Disk Enclosure Shelf 2 (dual-bus)

Bay	SCSI Bus A							SCSI Bus B						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
SCSI ID	00	01	02	03	04	05	08	00	01	02	03	04	05	08
DISK ID	Disk30000	Disk30100	Disk30200	Disk30300	Disk30400	Disk30500	Disk30800	Disk40000	Disk40100	Disk40200	Disk40300	Disk40400	Disk40500	Disk40800

Model 4354R Disk Enclosure Shelf 3 (dual-bus)

Bay	SCSI Bus A							SCSI Bus B						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
SCSI ID	00	01	02	03	04	05	08	00	01	02	03	04	05	08
DISK ID	Disk50000	Disk50100	Disk50200	Disk50300	Disk50400	Disk50500	Disk50800	Disk60000	Disk60100	Disk60200	Disk60300	Disk60400	Disk60500	Disk60800

Figure 8. PTL addressing in a dual-bus configuration, using three Model 4354R disk enclosures

Example Storage Maps for the HSG80

Example Storage Map - Model 4310R Disk Enclosure

Figure 9 shows an example of four Model 4310R disk enclosures (single-bus I/O).

- Unit D100 is a 4-member RAID 3/5 storage set named R1. R1 consists of Disk10000, Disk20000, Disk30000, and Disk 40000.
- Unit D101 is a 2-member striped mirror set named S1. S1 consists of M1 and M2:
 - M1 is a 2-member mirror set consisting of Disk10100 and Disk20100.
 - M2 is a 2-member mirror set consisting of Disk30100 and Disk40100.
- Unit D102 is a 2-member mirror set named M3. M3 consists of Disk10200 and Disk20200.
- Unit D103 is a 2-member mirror set named M4. M4 consists of Disk30200 and Disk40200.
- Unit D104 is 3-member stripeset named S2. S2 consists of Disk10300, Disk20300, and Disk30300.
- Unit D105 is a single (JBOD) disk named Disk40300.
- Unit D106 is a 3-member RAID 3/5 storage set named R2. R2 consists of Disk10400, Disk20400, and Disk30400.
- Unit D107 is a single (JBOD) disk named Disk40400.
- Unit D108 is a 4-member stripeset named S3. S3 consists of Disk10500, Disk20500, Disk30500, and Disk40500.
- Unit D1 is a 2-member striped mirror set named S4. S4 consists of M4 and M5:
 - M4 is a 2-member mirror set consisting of Disk10800 and Disk20800.
 - M5 is a 2-member mirror set consisting of Disk30800 and Disk40800.
- Unit D2 is a 4-member RAID 3/5 storage set named R3. R3 consists of Disk11000, Disk21000, Disk31000, and Disk41000.
- Unit D3 is a 4-member stripeset named S5. S5 consists of Disk11100, Disk21100, Disk31100, and Disk41100.
- Unit D4 is a 2-member mirror set named M7. M7 consists of Disk11200 and Disk21200.
- Disk31200 and Disk41200 are spare set members.

Model 4310R Disk Enclosure Shelf 4 (single-bus)

Bay	1	2	3	4	5	6	7	8	9	10
SCSI ID	00	01	02	03	04	05	08	10	11	12
DISK ID	D100 R1 Disk40000	D101 S1 M2 Disk40100	D103 M4 Disk40200	D105 Disk40300	D107 Disk40400	D108 S3 Disk40500	D1 S4 M6 Disk40800	D2 R3 Disk41000	D3 S5 Disk41100	spare Disk41200

Model 4310R Disk Enclosure Shelf 1 (single-bus)

Bay	1	2	3	4	5	6	7	8	9	10
SCSI ID	00	01	02	03	04	05	08	10	11	12
DISK ID	D100 R1 Disk10000	D101 S1 M1 Disk10100	D102 M3 Disk10200	D104 S2 Disk10300	D106 R2 Disk10400	D108 S3 Disk10500	D1 S4 M5 Disk10800	D2 R3 Disk11000	D3 S5 Disk11100	D4 M7 Disk11200

Model 4310R Disk Enclosure Shelf 2 (single-bus)

Bay	1	2	3	4	5	6	7	8	9	10
SCSI ID	00	01	02	03	04	05	08	10	11	12
DISK ID	D100 R1 Disk20000	D101 S1 M1 Disk20100	D102 M3 Disk20200	D104 S2 Disk20300	D106 R2 Disk20400	D108 S3 Disk20500	D1 S4 M5 Disk20800	D2 R3 Disk21000	D3 S5 Disk21100	D4 M7 Disk21200

Model 4310R Disk Enclosure Shelf 3 (single-bus)

Bay	1	2	3	4	5	6	7	8	9	10
SCSI ID	00	01	02	03	04	05	08	10	11	12
DISK ID	D100 R1 Disk30000	D101 S1 M2 Disk30100	D103 M4 Disk30200	D104 S2 Disk30300	D106 R2 Disk30400	D108 S3 Disk30500	D1 S4 M6 Disk30800	D2 R3 Disk31000	D3 S5 Disk31100	spare Disk31200

Figure 9. Model 4310R disk enclosure - example storage map

Example Storage Map - Model 4350R Disk Enclosure

Figure 10 shows an example of three Model 4350R disk enclosures (dual-bus).

- Unit D100 is a 6-member RAID 3/5 storage set named R1. R1 consists of Disk10000, Disk20000, Disk30000, Disk 40000, Disk50000, and Disk60000.
- Unit D101 is a 6-member RAID 3/5 storage set named R2. R2 consists of Disk10100, Disk20100, Disk30100, Disk 40100, Disk50100, and Disk60100.
- Unit D102 is a 2-member striped mirror set named S1. S1 consists of M1 and M2:
 - M1 is a 2-member mirror set consisting of Disk10200 and Disk20200.
 - M2 is a 2-member mirror set consisting of Disk30200 and Disk40200.
- Unit D103 is a 2-member mirror set named M3. M3 consists of Disk50200 and Disk60200.
- Unit D1 is a 4-member stripe set named S2. S2 consists of Disk10300, Disk20300, Disk30300, and Disk40300.
- Unit D2 is a 2-member mirror set named M4. M4 consists of Disk50300 and Disk60300.
- Unit D3 is a 2-member striped mirror set named S3. S3 consists of M5 and M6:
 - M5 is a 2-member mirror set consisting of Disk10400 and Disk20400.
 - M6 is a 2-member mirror set consisting of Disk30400 and Disk40400.
- Unit D4 is a single (JBOD) disk named Disk50400.
- Disk60400 is a spare set member.

Model 4350R Disk Enclosure Shelf 1 (dual-bus)

	SCSI Bus A					SCSI Bus B				
Bay	1	2	3	4	5	6	7	8	9	10
SCSI ID	00	01	02	03	04	00	01	02	03	04
	D100 R1	D101 R2	D102 S1 M1	D1 S2	D3 S3 M5	D100 R1	D101 R2	D102 S1 M1	D1 S2	D3 S3 M5
DISK ID	Disk10000	Disk10100	Disk10200	Disk10300	Disk10400	Disk20000	Disk20100	Disk20200	Disk20300	Disk20400

Model 4350R Disk Enclosure Shelf 2 (dual-bus)

	SCSI Bus A					SCSI Bus B				
Bay	1	2	3	4	5	6	7	8	9	10
SCSI ID	00	01	02	03	04	00	01	02	03	04
	D100 R1	D101 R2	D102 S1 M2	D1 S2	D3 S3 M6	D100 R1	D101 R2	D102 S1 M2	D1 S2	D3 S3 M6
DISK ID	Disk30000	Disk30100	Disk30200	Disk30300	Disk30400	Disk40000	Disk40100	Disk40200	Disk40300	Disk40400

Model 4350R Disk Enclosure Shelf 3 (dual-bus)

	SCSI Bus A					SCSI Bus B				
Bay	1	2	3	4	5	6	7	8	9	10
SCSI ID	00	01	02	03	04	00	01	02	03	04
	D100 R1	D101 R2	D103 M3	D2 M4	D4	D100 R1	D101 R2	D103 M3	D2 M4	spare
DISK ID	Disk50000	Disk50100	Disk50200	Disk50300	Disk50400	Disk60000	Disk60100	Disk60200	Disk60300	Disk60400

Figure 10. Model 4350R disk enclosure - example storage map

Example Storage Map - Model 4314R Disk Enclosure

Figure 11 shows an example of four Model 4314R disk enclosures (single-bus I/O).

- Unit D100 is a 4-member RAID 3/5 storageset named R1. R1 consists of Disk10000, Disk20000, Disk30000, and Disk 40000.

- Unit D101 is a 2-member striped mirrorset named S1. S1 consists of M1 and M2:
 - M1 is a 2-member mirrorset consisting of Disk10100 and Disk20100.
 - M2 is a 2-member mirrorset consisting of Disk30100 and Disk40100.
- Unit D102 is a 2-member mirrorset named M3. M3 consists of Disk10200 and Disk20200.
- Unit D103 is a 2-member mirrorset named M4. M4 consists of Disk30200 and Disk40200.
- Unit D104 is 3-member stripeset named S2. S2 consists of Disk10300, Disk20300, and Disk30300.
- Unit D105 is a single (JBOD) disk named Disk40300.
- Unit D106 is a 3-member RAID 3/5 storage set named R2. R2 consists of Disk10400, Disk20400, and Disk30400.
- Unit D107 is a single (JBOD) disk named Disk40400.
- Unit D108 is a 4-member stripeset named S3. S3 consists of Disk10500, Disk20500, Disk30500, and Disk40500.
- Unit D1 is a 2-member striped mirrorset named S4. S4 consists of M4 and M5:
 - M4 is a 2-member mirrorset consisting of Disk10800 and Disk20800.
 - M5 is a 2-member mirrorset consisting of Disk30800 and Disk40800.
- Unit D2 is a 4-member RAID 3/5 storage set named R3. R3 consists of Disk10900, Disk20900, Disk30900, and Disk40900.
- Unit D3 is a 4-member stripeset named S5. S5 consists of Disk11000, Disk21000, Disk31000, and Disk41000.
- Unit D4 is a 2-member mirrorset named M7. M7 consists of Disk11100 and Disk21100.
- Unit D5 is a 2-member stripeset named S6. S6 consists of Disk31100 and Disk41100.
- Unit D6 is a 4-member RAID 3/5 storage set named R4. R4 consists of Disk11200, Disk21200, Disk31200, and Disk41200.
- Unit D7 is a 2-member mirrorset named M8. M8 consists of Disk11300 and Disk21300.
- Disk31300 and Disk41300 are spareset members.

Model 4314R Disk Enclosure Shelf 4 (single-bus)

Bay	1	2	3	4	5	6	7	8	9	10	11	12	13	14
SCSI ID	00	01	02	03	04	05	08	09	10	11	12	13	14	15
	D100 R1	D101 S1 M2	D103 M4	D105	D107	D108 S3	D1 S4 M6	D2 R3	D3 S5	D5 S6	D6 R4	spare	not supported	not supported
DISK ID	Disk40000	Disk40100	Disk40200	Disk40300	Disk40400	Disk40500	Disk40800	Disk40900	Disk41000	Disk41100	Disk41200	Disk41300		

Model 4314R Disk Enclosure Shelf 1 (single-bus)

Bay	1	2	3	4	5	6	7	8	9	10	11	12	13	14
SCSI ID	00	01	02	03	04	05	08	09	10	11	12	13	14	15
	D100 R1	D101 S1 M1	D102 M3	D104 S2	D106 R2	D108 S3	D1 S4 M5	D2 R3	D3 S5	D4 M7	D6 R4	D7 M8	not supported	not supported
DISK ID	Disk10000	Disk10100	Disk10200	Disk10300	Disk10400	Disk10500	Disk10800	Disk10900	Disk11000	Disk11100	Disk11200	Disk11300		

Model 4314R Disk Enclosure Shelf 2 (single-bus)

Bay	1	2	3	4	5	6	7	8	9	10	11	12	13	14
SCSI ID	00	01	02	03	04	05	08	09	10	11	12	13	14	15
	D100 R1	D101 S1 M1	D102 M3	D104 S2	D106 R2	D108 S3	D1 S4 M5	D2 R3	D3 S5	D4 M7	D6 R4	D7 M8	not supported	not supported
DISK ID	Disk20000	Disk20100	Disk20200	Disk20300	Disk20400	Disk20500	Disk20800	Disk20900	Disk21000	Disk21100	Disk21200	Disk21300		

Model 4314R Disk Enclosure Shelf 3 (single-bus)

Bay	1	2	3	4	5	6	7	8	9	10	11	12	13	14
SCSI ID	00	01	02	03	04	05	08	09	10	11	12	13	14	15
	D100 R1	D101 S1 M2	D103 M4	D104 S2	D106 R2	D108 S3	D1 S4 M6	D2 R3	D3 S5	D5 S6	D6 R4	spare	not supported	not supported
DISK ID	Disk30000	Disk30100	Disk30200	Disk30300	Disk30400	Disk30500	Disk30800	Disk30900	Disk31000	Disk31100	Disk31200	Disk31300		

Figure 11. Model 4314R disk enclosure - example storage map

Example Storage Map - Model 4354R Disk Enclosure

Figure 12 shows an example of three Model 4354R disk enclosures (dual-bus).

- Unit D100 is a 6-member RAID 3/5 storageset named R1. R1 consists of Disk10000, Disk20000, Disk30000, Disk 40000, Disk50000, and Disk60000.
- Unit D101 is a 6-member RAID 3/5 storageset named R2. R2 consists of Disk10100, Disk20100, Disk30100, Disk 40100, Disk50100, and Disk60100.
- Unit D102 is a 2-member striped mirrorset named S1. S1 consists of M1 and M2:
 - M1 is a 2-member mirrorset consisting of Disk10200 and Disk20200.
 - M2 is a 2-member mirrorset consisting of Disk30200 and Disk40200.
- Unit D103 is a 2-member mirrorset named M3. M3 consists of Disk50200 and Disk60200.
- Unit D104 is a 2-member striped mirrorset named S2. S2 consists of M3 and M4:
 - M3 is a 2-member mirrorset consisting of Disk10300 and Disk20300.
 - M4 is a 2-member mirrorset consisting of Disk30300 and Disk40300.
- Unit D105 is a 2-member stripeset named S3. S3 consists of Disk50300 and Disk60300.
- Unit D1 is 4-member stripeset named S4. S4 consists of Disk10400, Disk20400, Disk30400, and Disk40400.
- Unit D2 is a 2-member mirrorset named M5. M5 consists of Disk50400 and Disk60400.
- Unit D3 is a 2-member striped mirrorset named S5. S5 consists of M6 and M7:
 - M6 is a 3-member mirrorset consisting of Disk10500, Disk20500, and Disk30500.
 - M7 is a 2-member mirrorset consisting of Disk40500 and Disk50500.
- Unit D4 is a single (JBOD) disk named Disk60500.
- Unit D5 is a 4-member RAID 3/5 storageset named R3. R3 consists of Disk10800, Disk20800, Disk30800, Disk and 40800.
- Disk50800 and Disk60800 are spareset members.

Model 4354R Disk Enclosure Shelf 1 (dual-bus)

Bay	SCSI Bus A							SCSI Bus B						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
SCSI ID	00	01	02	03	04	05	08	00	01	02	03	04	05	08
	D100 R1	D101 R2	D102 S1 M1	D104 S2 M3	D1 S4	D3 S5 M6	D5 R3	D100 R1	D101 R2	D102 S1 M1	D104 S2 M3	D1 S4	D3 S5 M6	D5 R3
DISK ID	Disk10000	Disk10100	Disk10200	Disk10300	Disk10400	Disk10500	Disk10800	Disk20000	Disk20100	Disk20200	Disk20300	Disk20400	Disk20500	Disk20800

Model 4354R Disk Enclosure Shelf 2 (dual-bus)

Bay	SCSI Bus A							SCSI Bus B						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
SCSI ID	00	01	02	03	04	05	08	00	01	02	03	04	05	08
	D100 R1	D101 R2	D102 S1 M2	D104 S2 M4	D1 S4	D3 S5 M6	D5 R3	D100 R1	D101 R2	D102 S1 M2	D104 S2 M4	D1 S4	D3 S5 M7	D5 R3
DISK ID	Disk30000	Disk30100	Disk30200	Disk30300	Disk30400	Disk30500	Disk30800	Disk40000	Disk40100	Disk40200	Disk40300	Disk40400	Disk40500	Disk40800

Model 4354R Disk Enclosure Shelf 3 (dual-bus)

Bay	SCSI Bus A							SCSI Bus B						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
SCSI ID	00	01	02	03	04	05	08	00	01	02	03	04	05	08
	D100 R1	D101 R2	D103 M3	D105 S3	D2 M5	D3 S5 M7	spare	D100 R1	D112 R2	D103 M3	D105 S3	D2 M5	D4	spare
DISK ID	Disk50000	Disk50100	Disk50200	Disk50300	Disk50400	Disk50500	Disk50800	Disk60000	Disk60100	Disk60200	Disk60300	Disk60400	Disk60500	Disk60800

Figure 12. Model 4354R disk enclosure - example storage map

Subsystem Enclosure Templates

The following are storage map templates you can use to help keep track of the location of devices and storagesets in your shelves.

- Storage Map Template for Model 4350R Disk Enclosures

NOTE: The storage map templates for the Model 4310R and Model 4214R or 4314R reflect the disk enclosures physical location in the rack. Disk enclosures 6, 5, and 4 are stacked above the controller enclosure and disk enclosures 1, 2, and 3 are stacked below the controller enclosure.

- Storage Map Template for Model 4310R Disk Enclosures

- Storage Map Template for Model 4214R or 4314R Disk Enclosures

- Storage Map Template for Model 4254 or 4354R Disk Enclosures

Storage Map Template for Model 4350R Disk Enclosures

Model 4350R Disk Enclosure Shelf 1 (dual-bus)

	SCSI Bus A					SCSI Bus B				
Bay	1	2	3	4	5	6	7	8	9	10
SCSI ID	00	01	02	03	04	00	01	02	03	04
DISK ID	Disk10000	Disk10100	Disk10200	Disk10300	Disk10400	Disk20000	Disk20100	Disk20200	Disk20300	Disk20400

Model 4350R Disk Enclosure Shelf 2 (dual-bus)

	SCSI Bus A					SCSI Bus B				
Bay	1	2	3	4	5	6	7	8	9	10
SCSI ID	00	01	02	03	04	00	01	02	03	04
DISK ID	Disk30000	Disk30100	Disk30200	Disk30300	Disk30400	Disk40000	Disk40100	Disk40200	Disk40300	Disk40400

Model 4350R Disk Enclosure Shelf 3 (dual-bus)

	SCSI Bus A					SCSI Bus B				
Bay	1	2	3	4	5	6	7	8	9	10
SCSI ID	00	01	02	03	04	00	01	02	03	04
DISK ID	Disk50000	Disk50100	Disk50200	Disk50300	Disk50400	Disk60000	Disk60100	Disk60200	Disk60300	Disk60400

Storage Map Template for Model 4310R Disk Enclosures

Model 4310R Disk Enclosure Shelf 6 (single-bus)

Bay	1	2	3	4	5	6	7	8	9	10
SCSI ID	00	01	02	03	04	05	08	10	11	12
DISK ID	Disk60000	Disk60100	Disk60200	Disk60300	Disk60400	Disk60500	Disk60800	Disk61000	Disk61100	Disk61200

Model 4310R Disk Enclosure Shelf 5 (single-bus)

Bay	1	2	3	4	5	6	7	8	9	10
SCSI ID	00	01	02	03	04	05	08	10	11	12
DISK ID	Disk50000	Disk50100	Disk50200	Disk50300	Disk50400	Disk50500	Disk50800	Disk51000	Disk51100	Disk51200

Model 4310R Disk Enclosure Shelf 4 (single-bus)

Bay	1	2	3	4	5	6	7	8	9	10
SCSI ID	00	01	02	03	04	05	08	10	11	12
DISK ID	Disk40000	Disk40100	Disk40200	Disk40300	Disk40400	Disk40500	Disk40800	Disk41000	Disk41100	Disk41200

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Model 4310R Disk Enclosure Shelf 1 (single-bus)

Bay	1	2	3	4	5	6	7	8	9	10
SCSI ID	00	01	02	03	04	05	08	10	11	12
DISK ID	Disk10000	Disk10100	Disk10200	Disk10300	Disk10400	Disk10500	Disk10800	Disk11000	Disk11100	Disk11200

Model 4310R Disk Enclosure Shelf 2 (single-bus)

Bay	1	2	3	4	5	6	7	8	9	10
SCSI ID	00	01	02	03	04	05	08	10	11	12
DISK ID	Disk20000	Disk20100	Disk20200	Disk20300	Disk20400	Disk20500	Disk20800	Disk21000	Disk21100	Disk21200

Model 4310R Disk Enclosure Shelf 3 (single-bus)

Bay	1	2	3	4	5	6	7	8	9	10
SCSI ID	00	01	02	03	04	05	08	10	11	12
DISK ID	Disk30000	Disk30100	Disk30200	Disk30300	Disk30400	Disk30500	Disk30800	Disk31000	Disk31100	Disk31200

Storage Map Template for Model 4214R or 4314R Disk Enclosures

Model 4314R Disk Enclosure Shelf 6 (single-bus)

Bay	1	2	3	4	5	6	7	8	9	10	11	12	13	14
SCSI ID	00	01	02	03	04	05	08	09	10	11	12	13	14	15
DISK ID	Disk60000	Disk60100	Disk60200	Disk60300	Disk60400	Disk60500	Disk60800	Disk60900	Disk61000	Disk61100	Disk61200	Disk61300	not supported	not supported

Model 4314R Disk Enclosure Shelf 5 (single-bus)

Bay	1	2	3	4	5	6	7	8	9	10	11	12	13	14
SCSI ID	00	01	02	03	04	05	08	09	10	11	12	13	14	15
DISK ID	Disk50000	Disk50100	Disk50200	Disk50300	Disk50400	Disk50500	Disk50800	Disk50900	Disk51000	Disk51100	Disk51200	Disk51300	not supported	not supported

Model 4314R Disk Enclosure Shelf 4 (single-bus)

Bay	1	2	3	4	5	6	7	8	9	10	11	12	13	14
SCSI ID	00	01	02	03	04	05	08	09	10	11	12	13	14	15
DISK ID	Disk10000	Disk10100	Disk10200	Disk10300	Disk10400	Disk10500	Disk10800	Disk10900	Disk11000	Disk11100	Disk11200	Disk11300	not supported	not supported

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Model 4314R Disk Enclosure Shelf 1 (single-bus)

Bay	1	2	3	4	5	6	7	8	9	10	11	12	13	14
SCSI ID	00	01	02	03	04	05	08	09	10	11	12	13	14	15
DISK ID	Disk10000	Disk10100	Disk10200	Disk10300	Disk10400	Disk10500	Disk10800	Disk10900	Disk11000	Disk11100	Disk11200	Disk11300	not supported	not supported

Model 4314R Disk Enclosure Shelf 2 (single-bus)

Bay	1	2	3	4	5	6	7	8	9	10	11	12	13	14
SCSI ID	00	01	02	03	04	05	08	09	10	11	12	13	14	15
DISK ID	Disk20000	Disk20100	Disk20200	Disk20300	Disk20400	Disk20500	Disk20800	Disk20900	Disk21000	Disk21100	Disk21200	Disk21300	not supported	not supported

Model 4314R Disk Enclosure Shelf 3 (single-bus)

Bay	1	2	3	4	5	6	7	8	9	10	11	12	13	14
SCSI ID	00	01	02	03	04	05	08	09	10	11	12	13	14	15
DISK ID	Disk30000	Disk30100	Disk30200	Disk30300	Disk30400	Disk30500	Disk30800	Disk30900	Disk31000	Disk31100	Disk31200	Disk31300	not supported	not supported

Storage Map Template for Model 4254 or 4354R Disk Enclosures

Model 4354R Disk Enclosure Shelf 1 (dual-bus)

	SCSI Bus A							SCSI Bus B						
Bay	1	2	3	4	5	6	7	8	9	10	11	12	13	14
SCSI ID	00	01	02	03	04	05	08	00	01	02	03	04	05	08
DISK ID	Disk10000	Disk10100	Disk10200	Disk10300	Disk10400	Disk10500	Disk10800	Disk20000	Disk20100	Disk20200	Disk20300	Disk20400	Disk20500	Disk20800

Model 4354R Disk Enclosure Shelf 2 (dual-bus)

	SCSI Bus A							SCSI Bus B						
Bay	1	2	3	4	5	6	7	8	9	10	11	12	13	14
SCSI ID	00	01	02	03	04	05	08	00	01	02	03	04	05	08
DISK ID	Disk30000	Disk30100	Disk30200	Disk30300	Disk30400	Disk30500	Disk30800	Disk40000	Disk40100	Disk40200	Disk40300	Disk40400	Disk40500	Disk40800

Model 4354R Disk Enclosure Shelf 3 (dual-bus)

	SCSI Bus A							SCSI Bus B						
Bay	1	2	3	4	5	6	7	8	9	10	11	12	13	14
SCSI ID	00	01	02	03	04	05	08	00	01	02	03	04	05	08
DISK ID	Disk50000	Disk50100	Disk50200	Disk50300	Disk50400	Disk50500	Disk50800	Disk60000	Disk60100	Disk60200	Disk60300	Disk60400	Disk60500	Disk60800