

# PRODUCT AT A GLANCE

2005 Q2

RAID Specialist since 1992















	Fibre RAID Controller He	ad and JBODs			Product Details	
Model	2510FS-4S / -6S	2510FS-4RH / -6RH	2510FS-4D / -6D	A16F-J1210-G	F16F-R2J2 (Dual SES) F16F-S2J2 (Single SES)	
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	<u>Single-UPG</u> Fibre-Fibre RAID Controller Head *1	Redundant Fibre-Fibre RAID Controller Head *1	<u>Dual-Single</u> Fibre-Fibre RAID Controller Head *1	Fibre-SATA JBOD Subsystem 3U 16-Bay *2	Fibre JBOD Subsystem 3U 16-Bay *2	
Form Factor *3	1U Rackmount	1U Rackmount	1U Rackmount	3U Rackmount	3U Rackmount	
Drive Channels *6 Hot Swap Trays	4 / 6 Chann Each channel hi Each channel mo which links the two controllers	as two SFP ports	4 / 6 Channels Fibre 2G in each Controller, total 8 / 12 Channels Each controller has one SFP port for each channel	16 Channels 16-bay (SATA Drives) IDE drives optional	2 Channels Fibre 2G Four SFP ports	
<b>Expansion Channels</b>	Every channel of	can be assigned c Channel mode	Every channel can be assigned as Host or Drive	2 Channels Fibre 2G	Dual-Loop 16-bay	
Host Channels *6		-loop	Channel mode Dual-loop	Two SFP Ports per channel, total four SFP ports	(2G FC-SCA Drives)	
Redundant Controller	Single Controller Upgradeable to Redundant	Dual-Controller Redundant Dedicated sync-channels user configurable	Dual-Single controller Two independent RAID controllers	·	JBOD (No RAID Controller) With dual SES Module (R2J2) Or single SES Module (S2J2)	
RAID Function			IDs, Multiple Host LUNs, Instant RAID Ready, LD onnent	configuration on disks, Dynamic host LUN mapping	gs	
Advanced Functions	Dual-mode RAID expansions: "Add-in Drive" and		nputers), fibre switch support, fabric log-in (support nt controller	ted on fibre-host models), background firmware do	ownload	
Management	LCD front panel: Easy-to-use menu for accessing all RS-232 Terminal: User friendly menu-driven for acce RAIDWatch M java-based cross-platform central and pager).	essing all functions and features.	anagement, remote / local management (in-band or out-	of-band), event notifications (via e-mail, SNMP trap, fax,	network broadcast – with full plain-text event message	
Management via Built-in LAN	RAIDWatch <sup>TM</sup> -onboard: Open browser to link to the RAID unit via built-in LAN port.  Telnet-terminal: Access terminal menu by telnet via built-in LAN port.  Notification-onboard: RAID unit itself issue e-mail and SNMP traps for event notifications (with full plain-text event messages)					
Hot Swap Fan Modules	2	2	2	2	2	
Hot Swap Power Supplies	2 x 300 W	2 x 300 W	2 x 300 W	2 x 460 W	2 x 460 W	
Cache Memory	128 MB – 1 GB (PC-133 SDRAM)	128 MB – 1 GB (PC-133 SDRAM)	128 MB – 1 GB (PC-133 SDRAM)	128 MB (PC-133 SDRAM)	-	
Battery Backup *4	Included x1	Included x2	Included x2	-	-	

- \*1 Single-UPG: Single RAID Controller Upgradeable to Redundant. Redundant: Dual-Redundant Controller configuration
  - Redundant with dedicated sync-channels: Use two dedicated Fibre channels as redundant controller communication and cache synchronization for enhanced write-back performance. Dual-Single: Two RAID controllers both operate individually. No redundant controller functions but performance simply double.
- \*2 JBOD models require connecting to a RAID controller or RAID subsystem order to benefit the RAID and management

Single-SES: One SES module is installed. Dual-SES: Two SES modules are installed to provide redundancy on SES module.

- \*3 For rack mount kits, please see page of "Rack Mount Guide".
- \*4 Battery backup provides power to cache memory when power fails. The unwritten write-back cached data will be kept in the cache memory with power providing from the battery. With one fully charged battery pack used, cached data will be kept for around 72 hours. (Estimated time based on using 512MB SDRAM memory module)

The battery is not able to provide the power for RAID controller or drives to operate when the power fails. Please use UPS (uninterruptible power supply) if it is required for the entire RAID system to work during the power failure.

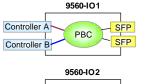
In redundant controller configuration, the two controllers should have identical cache memory and battery backup configuration.

- \*5 The manuals are provided in PDF format, in the CD included. The Quick Installation Guide provides basic information to get the system to work. All detailed functions and settings please refer to the manual files in the CD. The CD also includes RAIDWatch ™ software for RAID management.
- \*6 Host-side dual-loop is supported by using host-side software from the OS or 3rd party to provide redundant loop and load balancing functions.

Drive-side dual-loop is supported by RAID controller on all models with Fibre drive side. RAID controller provides redundant path and dynamic load balancing on the drive-side channels. (User configurable on ER2510FS series)

\*7 SFP modules are not included. To ensure the signal quality for 2G Fibre, we recommend to use SFP module with LC optical

#### Channel IO Module for ER2510FS:



With PBC (portbypass-circuit) builtin which links both controllers and both SFP ports together.



Straight-through connections with no PBC.





	Fibre RAID Controller He	ad and JBODs	Variant	s & Spare Parts	
Model	2510FS-4S/6S	2510FS-4RH/6RH	2510FS-4D/6D	A16F-J1210-G	F16F-R2J2 (Dual SES) F16F-S2J2 (Single SES)
Model	o manufacture	Redundant Fibre-Fibre	Dual-Single Fibre-Fibre	Fibre-SATA	
	Single-UPG Fibre-Fibre RAID Controller Head *1	RAID Controller Head *1	RAID Controller Head *1	JBOD Subsystem 3U 16-Bay *2	Fibre JBOD Subsystem 3U 16-Bay *2
Controller Module	9560-CTMod-4 (INC x1 for -4S) 9560-CTMod-6 (INC x1 for -6S)	9560-CTMod-4 (INC x2 for -4RH) 9560-CTMod-6 (INC x2 for -6RH)	9560-CTMod-4 (INC x2 for -4D) 9560-CTMod-6 (INC x2 for -6D)	80AF12JC16 (INCx1)	9270FSESM (INC x2 for -R2J2) (INC x1 for -S2J2)
Fan Module	9560-FanMod (INC x2)	9560-FanMod (INC x2)	9560-FanMod (INC x2)	9270CFanMod (INC x2)	9270CFanMod (INC x2)
Power Supply Module	9560-PSU (INC x2)	9560-PSU (INC x2)	9560-PSU (INC x2)	9270CPSU (INC x2)	9270CPSU (INC x2)
Drive Tray	-	-	-	9272CDTray (INC x16)	9270FDTray (INC x16)
Channel IO Module	9560-IO1 (INC x4 for -4S) (INC x6 for -6S)	9560-IO1 (INC x4 for -4RH) (INC x6 for -6RH)	9560-IO2 (INC x4 for -4D) (INC x6 for -6D)	-	-
RS-232 Cable	9560-Scab (INC x1)	9560-Ycab (INC x2)	9560-Scab (INC x1)	-	-
RS-232 Null Modem	9011 (INC x1)	9011 (INC x1)	9011 (INC x1)	-	-
Fibre SFP *7	9270CSFP2GA01 (OPT)	9270CSFP2GA01 (OPT)	9270CSFP2GA01 (OPT)	9270CSFP2GA01 (OPT)	9270CSFP2GA01 (OPT)
Rack Mount Kits (See Rack Mount Guide) *3	9253L20 (OPT)	9253L20 (OPT)	9253L20 (OPT)	9270CEncBrk 9270CSlider36 (OPT)	9270CEncBrk 9270CSlider36 (OPT)
Cache Memory *4	128 MB, 256 MB, 512MB and 1GB (OPT) PC-133 SDRAM Memory Module Not Included	128 MB, 256 MB, 512MB and 1GB <i>(OPT)</i> PC-133 SDRAM Memory Module Not Included	128 MB, 256 MB, 512MB and 1GB (OPT) PC-133 SDRAM Memory Module Not Included	128 MB PC-133 SDRAM (INC x1)	
Battery Backup *5	9560-IOBT (INC x1)	9560-IOBT (INC x2)	9560-IOBT (INC x2)	-	-
CD, Manual and QIG *6 (Quick Installation Guide)	CD (INC)	CD (INC)	CD (INC)	QIG (INC)	QIG (INC)
Redundant Ctrl. Upgrade Kit	9560UP4S4RH (-4S OPT) 9560UP6S6RH (-6S OPT)	Redundant enabled, no upgrade kit required	-	-	

- \*1 SC-UPG: Single RAID Controller Upgradeable to Redundant. Redundant: Dual-Redundant Controller configuration Redundant with dedicated sync-channels: Use two dedicated Fibre channels as redundant controller communication and cache synchronization for enhanced write-back performance. Dual-Single: Two RAID controllers both operate individually. No redundant controller functions but performance simply double.
- \*2 JBOD models require connecting to a RAID controller or RAID subsystem order to benefit the RAID and management functions.

Single-SES: One SES module is installed. Dual-SES: Two SES modules are installed to provide redundancy on SES module.

\*3 For rack mount kits, please see page of "Rack Mount Guide".

- \*4 The 2510FS series use PC-133 registered ECC SDRAM (168pin DIMM) only. Please contact Infortrend for optional memory
- \*5 Battery backup provides power to cache memory when power fails. The unwritten write-back cached data will be kept in the cache memory with power providing from the battery. With one fully charged battery pack used, cached data will be kept for around 72 hours. (Estimated time based on using 512MB SDRAM memory module)

The battery is not able to provide the power for RAID controller or drives to operate when the power fails. Please use UPS (uninterruptible power supply) if it is required for the entire RAID system to work during the power failure.

In redundant controller configuration, the two controllers should have identical cache memory and battery backup configuration.

- \*6 The manuals are provided in PDF format, in the CD included. The Quick Installation Guide provides basic information to get the system to work. All detailed functions and settings please refer to the manual files in the CD. The CD also includes RAIDWatch ™ software for RAID management.
- \*7 SFP modules are not included. To ensure the signal quality for 2G Fibre, we recommend to use SFP module with LC optical connection.

For the minimum / maximum cable length, recommended cable type, wave length and other additional information, please refer to specifications or data sheets from the SFP module manufacturers.

SFP module manufacturer and model: 9270CSFP2GA01 Agilent QFBR-5751ALP

#### Channel IO Module for ER2510FS:



With PBC (portbypass-circuit) builtin which links both controllers and both SFP ports together.



Straight-through connections with no PBC.





	Fibre-Fibre RAID Subsys	tems			Product Details	
Model	F12F-G2A2-M2	F16F-S2A2-M5 F16F-R2A2-M5		F16F-R2A2-AM5	F16F-R2J2 (Dual SES) F16F-S2J2 (Single SES)	
Model						
	Fibre-Fibre RAID Subsystems 2U 12-Bay	Single-UPG Fibre-Fibre RAID Subsystem *1 3U 16-Bay	Redundant Fibre-Fibre RAID Subsystem *1 3U 16-Bay	Redundant Fibre-Fibre RAID Subsystem with dedicated Sync-Channels *1 3U 16-Bay	Fibre JBOD Subsystem 3U 16-Bay	
Form Factor *3	2U Rackmount	3U Rackmount	3U Rackmount	3U Rackmount	3U Rackmount	
Drive Channels *6 Hot Swap Trays	2 Channels Fibre 2 G <i>Two SFP ports</i> Dual-Loop	2 Channels Fibre 2G Two SFP ports on each channel, total four SFP ports Dual-Loop	2 Channels Fibre 2G Two SFP ports on each channel, total four SFP ports Dual-Loop	2 Channels Fibre 2G Two SFP ports on each channel, total four SFP ports Dual-Loop	2 Channels Fibre 2G	
Expansion Channels	12-bay (2G FC-SCA Drives)	16-bay (2G FC-SCA Drives)	16-bay (2G FC-SCA Drives)	16-bay (2G FC-SCA Drives)	Four SFP ports Dual-Loop	
Host Channels *6	2 Channels Fibre 2G Two SFP ports	2 Channels Fibre 2G Two SFP ports	2 Channels Fibre 2G Two SFP ports on each controller, total Four SFP ports	2 Channels Fibre 2G Two SFP ports on each controller, total four SFP ports	16-bay (2G FC-SCA Drives)	
Redundant Controller		Single Controller Upgradeable to Redundant	Dual-Controller Redundant	Dual-Controller Redundant with two dedicated sync-channels	JBOD (No RAID Controller) With dual SES Module (R2J2) Or single SES Module (S2J2)	
RAID Function		e and Global Spare Drives al Volumes (LV), Multiple Partitions, Multiple Host I Background Rebuild, Automatic Bad Block Reassigi		onfiguration on disks, Dynamic host LUN mapping	S	
Advanced Functions	Dual-mode RAID expansions: "Add-in Drive" and	ported (3rd party software required in the host com "Copy & Replace with larger drive" uto-sync firmware and configuration on replacemen	. , ,	ed on fibre-host models), background firmware do	wnload	
Management	LCD front panel: Easy-to-use menu for accessing all RS-232 Terminal: User friendly menu-driven for accer RAIDWatch™ java-based cross-platform central in and pager).		nagement, remote / local management (in-band or out-o	Fband), event notifications (via e-mail, SNMP trap, fax, r	network broadcast – with full plain-text event message	
Management via Built-in LAN	RAIDWatch <sup>TM</sup> -onboard: Open browser to link to the RAID unit via built-in LAN port.  Telnet-terminal: Access terminal menu by telnet via built-in LAN port.  Notification-onboard: RAID unit itself issue e-mail and SNMP traps for event notifications (with full plain-text event messages)					
Hot Swap Fan Modules	3	2	2	2	2	
Hot Swap Power Supplies	2 x 350 W	2 x 460 W	2 x 460 W	2 x 460 W	2 x 460 W	
Cache Memory	256 MB – 1 GB (PC-133 SDRAM)	512 MB – 1 GB (PC-133 SDRAM)	512 MB – 1 GB (PC-133 SDR	AM) in Each RAID Controller	-	
Battery Backup *4	Optional	Optional	Included x2	Included x2	-	

- \*1 Single-UPG: Single RAID Controller Upgradeable to Redundant. Redundant: Dual-Redundant Controller configuration Redundant with dedicated sync-channels: Use two dedicated Fibre channels as redundant controller communication and cache synchronization for enhanced write-back performance.
- \*2 JBOD models require connecting to a RAID controller or RAID subsystem order to benefit the RAID and management functions.

Single-SES: One SES module is installed. <u>Dual-SES</u>: Two SES modules are installed to provide redundancy on SES module.

- \*3 For rack mount kits, please see page of "Rack Mount Guide".
- \*4 Battery backup provides power to cache memory when power fails. The unwritten write-back cached data will be kept in the cache memory with power providing from the battery. With one fully charged battery pack used, cached data will be kept for around 72 hours. (Estimated time based on using 512MB SDRAM memory module)

The battery is not able to provide the power for RAID controller or drives to operate when the power fails. Please use UPS (uninterruptible power supply) if it is required for the entire RAID system to work during the power failure.

In redundant controller configuration, the two controllers should have identical cache memory and battery backup configuration.

- \*5 The manuals are provided in PDF format, in the CD included. The Quick Installation Guide provides basic information to get the system to work. All detailed functions and settings please refer to the manual files in the CD. The CD also includes RAIDWatch ™ software for RAID management.
- \*6 Host-side dual-loop is supported by using host-side software from the OS or 3rd party to provide redundant loop and load balancing functions.
- Drive-side dual-loop is supported by RAID controller on all models with Fibre drive side. RAID controller provides redundant path and dynamic load balancing on the drive-side channels. (User configurable on ER2510FS series)
- \*7 SFP modules are not included. To ensure the signal quality for 2G Fibre, we recommend to use SFP module with LC optical connection.





	Fibre-Fibre RAID Subsystems Variants & Spare Page 1						
	F12F-G2A2-M2	F16F-S2A2-M5	F16F-R2A2-M5	F16F-R2A2-AM5	F16F-R2J2 (Dual SES) F16F-S2J2 (Single SES)		
Model	Fibre-Fibre	Single-UPG Fibre-Fibre	Redundant Fibre-Fibre	Redundant Fibre-Fibre RAID Subsystem	Fibre JBOD Subsystem		
	RAID Subsystems 2U 12-Bay	RAID Subsystem *1 3U 16-Bay	RAID Subsystem *1 3U 16-Bay	with dedicated Sync-Channels *1 3U 16-Bay	with Dual-SES *2 3U 16-Bay		
Controller Module	9272FCM4 (INC x1)	9270FCM4 (INC x1)	9270FCM4 (INC x2)	9270FCM6 (INC x2)	9270FSESM (INC x2 for -R2J2) (INC x1 for -S2J2)		
Fan Module	9272CFanMod (INC x3)	9270CFanMod (INC x2)	9270CFanMod (INC x2)	9270CFanMod (INC x2)	9270CFanMod (INC x2)		
Power Supply Module	9272CPSU (INC x2)	9270CPSU (INC x2)	9270CPSU (INC x2)	9270CPSU (INC x2)	9270CPSU (INC x2)		
Drive Tray	9272CDTray (INC x12)	9270FDTray (INC x16)	9270FDTray (INC x16)	9270FDTray (INC x16)	9270FDTray (INC x16)		
Channel IO Module	-	-	-	-	-		
RS-232 Cable	9270ASCab (INC x1)	Standard DB-9	Not included. male RS-232 connector, please use standard DB-	9 RS-232 cable.	-		
RS-232 Null Modem	9011 (INC x1)	9011 (INC x1)	9011 (INC x1)	9011 (INC x1)	-		
Fibre SFP *7	9270CSFP2GA01 (OPT)	9270CSFP2GA01 (OPT)	9270CSFP2GA01 (OPT)	9270CSFP2GA01 (OPT)	9270CSFP2GA01 (OPT)		
Rack Mount Kits (See Rack Mount Guide) *3	9272CESlide36 ( <i>OPT</i> )	9270CEncBrk 9270CSlider36 (OPT)	9270CEncBrk 9270CSlider36 (OPT)	9270CEncBrk 9270CSlider36 (OPT)	9270CEncBrk 9270CSlider36 (OPT)		
Cache Memory	256 MB PC-133 SDRAM (INC x1) 512 MB and 1GB (OPT)	512 MB PC-133 SDRAM (INC x1) 1GB (OPT)	512 MB PC-133 SDRAM (INC x2) 1GB (OPT)	512 MB PC-133 SDRAM (INC x2) 1GB (OPT)	-		
Battery Backup *4	9270FBT ( <i>OPT</i> )	9270FBT <i>(OPT)</i>	9270FBT (INC x2)	9270FBT (INC x2)	-		
CD, Manual and QIG *5 (Quick Installation Guide)	QIG (INC) CD (INC)	QIG (INC) CD (INC)	QIG (INC) CD (INC)	QIG (INC) CD (INC)	QIG (INC)		
Redundant Ctrl. Upgrade Kit	-	9270FCM4 (OPT)	Redundant enabled, no upgrade kit required	Redundant enabled, no upgrade kit required	-		

- Redundant: Dual-Redundant Controller configuration Redundant with dedicated sync-channels: Use two dedicated Fibre channels as redundant controller communication and cache synchronization for enhanced write-back performance.
- \*2 JBOD models require connecting to a RAID controller or RAID subsystem order to benefit the RAID and management

Single-SES: One SES module is installed. Dual-SES: Two SES modules are installed to provide redundancy on SES module.

- \*3 For rack mount kits, please see page of "Rack Mount Guide".
- \*1 Single-UPG: Single RAID Controller Upgradeable to Redundant. \*4 Battery backup provides power to cache memory when power fails. The unwritten write-back cached data will be kept in the cache memory with power providing from the battery. With one fully charged battery pack used, cached data will be kept for around 72 hours. (Estimated time based on using 512MB SDRAM memory module)

The battery is not able to provide the power for RAID controller or drives to operate when the power fails. Please use UPS (uninterruptible power supply) if it is required for the entire RAID system to work during the power failure.

In redundant controller configuration, the two controllers should have identical cache memory and battery backup configuration.

- \*5 The manuals are provided in PDF format, in the CD included. The Quick Installation Guide provides basic information to get the system to work. All detailed functions and settings please refer to the manual files in the CD. The CD also includes RAIDWatch ™ software for RAID management.
- \*6 Host-side dual-loop is supported by using host-side software from the OS or 3rd party to provide redundant loop and load balancing functions.
- \*7 SFP modules are not included. To ensure the signal quality for 2G Fibre, we recommend to use SFP module with LC optical

SFP module manufacturer and model: Agilent QFBR-5751ALP 9270CSFP2GA01





	Fibre-SATA RAID Sub	osystems			Pro	oduct Details		
	A08F-G1A2-M1	A12F-G1A2-M1	A16F-G1A2-M1	A16F-R1A2-M2 (Redundant) A16F-S1A2-M2 (Single-UPG)	A16F-R1211-M2 (Redundant) A16F-S1211-M2 (Single-UPG)	A16F-J1210-G		
Model	D. W. B.							
	Fibre-SATA RAID Subsystem 2U 8-Bay	Fibre-SATA RAID Subsystem 2U 12-Bay	Fibre-SATA RAID Subsystem 3U 16-Bay	Fibre-SATA RAID Subsystem with drive-side expansion *8 3U 16-Bay	Fibre-SATA RAID Subsystem with drive-side expansion and host-side hub function *8 3U 16-Bay	Fibre-SATA JBOD Subsystem 3U 16-Bay		
Form Factor *1	2U Rackmount	2U Rackmount	3U Rackmount	3U Rackmount	3U Rackmount	3U Rackmount		
Drive Channels Hot Swap Trays	8 Channels 8-bay (SATA Drives) IDE drives optional	12 Channels 12-bay (SATA Drives) IDE drives optional	16 Channels 16-bay (SATA Drives) IDE drives optional	16 Channels 16-bay (SATA Drives) IDE drives optional	16 Channels 16-bay (SATA Drives) IDE drives optional	16 Channels 16-bay (SATA Drives) IDE drives optional		
Expansions Channels				1 Channel Fibre 2G One SFP port on each controller Total two SFP ports (R1A2) or One SFP port (S1A2)	1 Channel Fibre 2G One SFP port on each controller Total two SFP ports (R1211) or One SFP port (S1211)	2 Channels		
Host Channels	2 Channels Fibre 2G Two SFP ports	2 Channels Fibre 2G Two SFP ports	2 Channels Fibre 2G Two SFP ports	2 Channels Fibre 2G One SFP ports per channel on each controller Total: four SFP ports (R1A2) or	2 Channels Fibre 2G Built-in Fibre hub function Two SFP ports per channel on each controller	Fibre 2G Two SFP Ports per channel, total four SFP ports		
	TWO OFF PORTS	TWO OFF PORTS	two SFP ports (S1A2)		two SFP ports (S1A2)		Total: Eight SFP ports (R1211) or Four SFP ports (S1211)	
Redundant Controller *5	-	-	-	R1A2: Dual-controller redundant S1A2: Single-controller upgradeable to redundant	R1211: Dual-controller redundant S1211: Single-controller upgradeable to redundant	-		
RAID Function		al Spare and Global Spare Drives e Logical Volumes (LV), Multiple Partitions, N ically Background Rebuild, Automatic Bad B		nt RAID Ready, LD configuration on disks, I	Oynamic host LUN mappings			
Advanced Functions	Dual-mode RAID expansions: "Add-in Driv	ing supported (3rd party software required ir e" and "Copy & Replace with larger drive" ade, auto-sync firmware and configuration o		fabric log-in (supported on fibre-host models	s), background firmware download			
Management	LCD front panel: Easy-to-use menu for acces RS-232 Terminal: User friendly menu-driven RAIDWatch™ java-based cross-platform c	for accessing all functions and features.	ling: Central management, remote / local manag	ement (in-band or out-of-band), event notification	s (via e-mail, SNMP trap, fax, network broadcast -	- with full plain-text event message and pager).		
Management via Built-in LAN		k to the RAID unit via built-in LAN port. <b>Telnet-t</b> -mail and SNMP traps for event notifications (with		ilŧin LAN port.				
Hot Swap Fan Modules	2	3	2	2	2	2		
Hot Swap Power Supplies	2 x 350 W	2 x 350 W	2 x 460 W	2 x 460 W	2 x 460 W	2 x 460 W		
Cache Memory * 6	128 MB – 1 GB (PC-133 SDRAM)	128 MB – 1 GB (PC-133 SDRAM)	128 MB – 1 GB (PC-133 SDRAM)	256 MB – 1 GB (PC-133 SDRAM)	256 MB – 1 GB (PC-133 SDRAM)	128MB (PC-133 SDRAM)		
Battery Backup *7	-	Optional	Optional	Included (R1A2) Optional (S1A2)	Included (R1211) Included (S1211)	-		

- \*1 For rack mount kits, please see page of "Rack Mount Guide".
- \*2 IDE drives can be used with optional dongle-boards installed in each drive tray.
- \*3 SFP modules and Fibre optical cables are not included. To ensure the signal quality for 2G Fibre, we recommend to use SFP module with LC optical connection.
- \*4 Host-side dual-loop is supported by using host-side software from the OS or 3rd party to provide redundant loop and load balancing functions.
- \*5 Single-UPG: Single Controller Upgradeable to Dual-Redundant Controller configuration.
  - Redundant: Dual-redundant controller configuration. "Activeactive" redundant RAID controller (can be used as "activepassive")
- \*6 Supports Infortrend qualified PC-133 ECC SDRAM modules only. Please contact Infortrend for optional memory upgrades.
- \*7 Battery backup provides power to cache memory when power fails. The unwritten write-back cached data will be kept in the cache memory with power providing from the battery. With one fully charged battery pack used, cached data will be kept for around 72 hours. (Estimated time based on using 512MB SDRAM memory module)

The battery is not able to provide the power for RAID controller or hard drives to operate when the power fails. Pleas e use UPS (uninterruptible power supply) if it is required for the entire RAID system to work during the power failure.

\*8 The drive-side expansion port(s) on A16F-R1A2/S1A2/R1211/ S1211 can be used to connect Fibre-SATA JBOD subsystems. Up to 7 units of A16FJ1210-G can be connected.

The built-in hub function in A16F-S1211 allows two computers connecting to each host channel without using a Fibre switch. (four SFP connections in total)

The built-in hub function in A16F-R1211 provides four SFP connection per host channel without using a Fibre switch. (Eight SFP connections in total)





	Fibre-SATA RAID Sub	osystems			Variants & Spare Parts		
	A08F-G1A2-M1	A12F-G1A2-M1	A16F-G1A2-M1	A16F-R1A2-M2 (Redundant) A16F-S1A2-M2 (Single-UPG)	A16F-R1211-M2 (Redundant) A16F-S1211-M2 (Single-UPG)	A16F-J1210-G	
Model	David To						
	Fibre-SATA RAID Subsystem 2U 8-Bay	Fibre-SATA RAID Subsystem 2U 12-Bay	Fibre-SATA RAID Subsystem 3U 16-Bay	Fibre-SATA RAID Subsystem with drive-side expansion *8 3U 16-Bay	Fibre-SATA RAID Subsystem with drive-side expansion and host-side hub function *8 3U 16-Bay	Fibre-SATA JBOD Subsystem 3U 16-Bay	
Controller Module	9272AFGCM08 (INC x1)	9272AFGCM12 (INC x1)	9270AFGCM (INC x1)	9270AFRCM (R1A2: INC x2; S1A2: INC X1)	80AF12RC16 (R1211: INC x2; S1211: INC X1)	80AF12JC16 (INC x1)	
Fan Module	9272CFanMod (INC x2)	9272CFanMod (INC x3)	9270CFanMod (INC x2)	9270CFanMod (INC x2)	9270CFanMod (INC x2)	9270CFanMod (INC x2)	
Power Supply Module	9272CPSU (INC x2)	9272CPSU (INC x2)	9270CPSU (INC x2)	9270CPSU (INC x2)	9270CPSU (INC x2)	9270CPSU (INC x2)	
Drive Tray	9272CDTray (INC x8)	9272CDTray (INC x12)	9270CDTray (INC x16)	9270ADT2S1S (R1A2: INC x16) 9270ADT1S1S (S1A2: INC x16)	9270ADT2S1S (R1211: INC x16) 9270ADT1S1S (S1211: INC x16)	9272CDTray (INC x16)	
Dongle Board for IDE Drive *1	9270AN1S1P-0011 (OPT)	9270AN1S1P-0011 (OPT)	9270AN1S1P (OPT)	-	-	9270AN1S1P (OPT)	
RS-232 Cable	9270ASCab (INC x1)	9270ASCab (INC x1)	9270ASCab (INC x1)	9270AYCab (R1A2: INC x1) 9270ASCab (S1A2: INC x1)	9270AYCab (R1211: INC x1) 9270ASCab (S1211: INC x1)	-	
RS-232 Null Modem	9011 (INC x1)	9011 (INC x1)	9011 (INC x1)	9011 (INC x1)	9011 (INC x1)	-	
Fibre Optical Cable (External) *2	- (OPT)	- (OPT)	- (OPT)	- (OPT)	- (OPT)	- (OPT)	
SFP Module *2	9270CSFP2GA01 (OPT)	9270CSFP2GA01 (OPT)	9270CSFP2GA01 (OPT)	9270CSFP2GA01 (OPT)	9270CSFP2GA01 (OPT)	9270CSFP2GA01 (OPT)	
Rack Mount Kits *3 (See Rack Mount Guide)	9272CESlide36 (OPT)	9272CESlide36 (OPT)	9270CEncBrk 9270CSlider36 (OPT)	9270CEncBrk 9270CSlider36 (OPT)	9270CEncBrk 9270CSlider36 (OPT)	9270CEncBrk 9270CSlider36 (OPT)	
Cache Memory *4	128 MB PC-133 SDRAM <i>(INC x1)</i> 256 MB, 512 MB and 1GB <i>(OPT)</i>	128 MB PC-133 SDRAM (INC x1) 256 MB, 512 MB and 1GB (OPT)	128 MB PC-133 SDRAM (INC x1) 256 MB, 512 MB and 1GB (OPT)	256 MB PC-133 SDRAM (R1A2: INC x2; S1A2: INC X1) 512 MB and 1GB ( <i>OPT</i> )	256 MB PC-133 SDRAM (R1211: INC x2; S1211: INC X1) 512 MB and 1GB ( <i>OPT</i> )	128 MB SDRAM (INC x1)	
Battery Backup *5	-	9270ABT <i>(OPT)</i>	9270ABT ( <i>OPT</i> )	9270ABT (R1A2: INC x2; S1A2: OPT)	9270ABT (R1211: INC x2; S1211: INC x1)	-	
CD, Manual & QIG *6 (Quick Installation Guide)	QIG (INC) CD (INC)	QIG (INC) CD (INC)	QIG (INC) CD (INC)	QIG (INC) CD (INC)	QIG (INC) CD (INC)	QIG (INC)	
Redundant Controller Upgrade Kit *7	-	-	-	9270AFSUPKIT (Optional for S1A2 only)	80AF12RC16-M2 (x1) + 9270AN2S1S (x16) (Optional for S1211 only)	-	

- \*1 IDE drives can be used with optional dongle-boards installed in each drive tray.
- \*2 SFP modules and Fibre optical cables are not included. To ensure the signal quality for 2G Fibre, we recommend to use SFP module with LC optical connection.
- \*3 For rack mount kits, please see page of "Rack Mount Guide".
- \*4 Supports Infortrend qualified PC-133 ECC SDRAM modules only. Please contact Infortrend for optional memory upgrades.
- \*5 Battery backup provides power to cache memory when power fails. The unwritten write-back cached data will be kept in the cache memory with power providing from the battery. With one fully charged battery pack used, cached data will be kept for around 72 hours. (Estimated time based on using 512MB SDRAM memory module)

The battery is not able to provide the power for RAID controller or hard drives to operate when the power fails. Pleas e use UPS (uninterruptible power supply) if it is required for the entire RAID system to work during the power failure.

\*6 The manuals are provided in PDF format, in the CD included. The Quick Installation Guide provides basic information to get the system to work. All detailed functions and settings please refer to the manual files in the CD.

The CD also includes RAIDWatch ™ software for RAID management.

- \*7 Single-UPG: Single Controller Upgradeable to Dual-Redundant Controller configuration.
  - Redundant: Dual-redundant controller configuration. "Activeactive" redundant RAID controller (can be used as "activepassive")
- \*8 The drive-side expansion port(s) on A16F-R1A2/S1A2/R1211/ S1211 can be used to connect Fibre-SATA JBOD subsystems. Up to 7 units of A16F-J1210-G can be connected.

The built-in hub function in A16F-S1211 allows two computers connecting to each host channel without using a Fibre switch. (four SFP connections in total)

The built-in hub function in A16F-R1211 provides four SFP connection per host channel without using a Fibre switch. (Eight SFP connections in total)





	iSCSI RAID Storage	Fibre - SATA II RAID Subsy	ystems		Product Details		
	New A12E-G2121-25	New A08F-G2221-M2	New A12F-G2221-M2	New A16F-G2221-M2	New A16F-R2221-M2		
Model	<b>国际共享的</b>		<b>医</b> 基共1				
	iSCSI – SATA II RAID Subsystem 12-Bay	Fibre – SATA II RAID Subsystem 2U 8-Bay	Fibre – SATA II RAID Subsystem 2U 12-Bay	Fibre – SATA II RAID Subsystem 3U 16-Bay	Fibre – SATA II Redundant Controllers RAID Subsystem 3U 16-Bay		
Form Factor *1	2U Rackmount	2U Rackmount	2U Rackmount	3U Rackmount	3U Rackmount		
Drive Channels Hot Swap Trays	12 Channels 12-bay (SATA I - II Drives) IDE drives optional	8 Channels 8-bay (SATA I - II Drives) IDE drives optional	12 Channels 12-bay (SATA I – II Drives) IDE drives optional	16 Channels 16-bay (SATA I - II Drives) IDE drives optional	16 Channels 16-bay (SATA I - II Drives) IDE drives optional		
Expansions Channels							
Host Channels 3	2 Channels Gigabit Ethernet Two RJ-45 ports	2 Channels Fibre 2G Two SFP ports	2 Channels Fibre 2G Two SFP ports	2 Channels Fibre 2G Two SFP ports on chassis (Fibre cable connections remain intact when exchanging the RAID controller module)	2 Channels Fibre 2G Four SFP Pots on chassis (Fibre cable connections remain intact when exchanging the RAID controller module)		
Redundant Controller		-			Redundant Controller Enabled		
RAID Function		nd Global Spare Drives /olumes (LV), Multiple Partitions, Multiple Host IDs, M kground Rebuild, Automatic Bad Block Reassignmen		ation on disks, Dynamic host LUN mappings			
Advanced Functions	The same as RAID subsystems, plus CHAP and other iSCSI related functions. (Refer to brochure)	Host-side redundant path and load balancing suppo Dual-mode RAID expansions: "Add-in Drive" and "C	rted (3rd party software required in the host compute topy & Replace with larger drive"	rs), background firmware download			
Management	The same as RAID subsystems, no LCD front panel.	LCD front panel: Easy-to-use menu for accessing all fur RS-232 Terminal: User friendly menu-driven for access RAIDWatch <sup>TM</sup> java-based cross-platform central ma broadcast - with full plain-text event message and pager).	ing all functions and features. nagement software included, providing: Central manage	ment, remote / local management (in-band or out-of-band),	event notifications (via e-mail, SNMP trap, fax, network		
Management via Built-in LAN	RAIDWatch <sup>TM</sup> -onboard: Open browser to link to the RA Telnet-terminal: Access terminal menu by telnet via buil Notification-onboard: RAID unit itself issue e-mail and S						
Hot Swap Fan Modules	3	2	3	2	2		
Hot Swap Power Supplies	2 x 350 W	2 x 350 W	2 x 350 W	2 x 460 W	2 x 460 W		
Cache Memory *4	512 MB – 1 GB (PC-3200 DDR400)	256 MB - 1 GB (PC-3200 DDR400)	256 MB - 1 GB (PC-3200 DDR400)	256 MB – 1 GB (PC-3200 DDR400)	256 MB - 1 GB (PC-3200 DDR400)		
Battery Backup *5	Optional	Optional	Optional	Optional	Optional		

- \*1 For rack mount kits, please see page of "Rack Mount Guide".
- \*2 IDE drives can be used with optional dongle-boards installed in each drive tray.

Both SATA I (with or without NCQ) and SATA II drives can be used in SCSI - SATA II and Fibre - SATA II RAID subsystem models.

- \*3 Host-side load balancing and redundant path functions are supported by using host-side software from the OS or 3rd party. (not included)
- \*4 Please note the different memory module types used in different RAID subsystem models:

PC-3200 ECC DDR400: A08F-G2221, A12F-G2221, A16F-G2221, A16F-R2221 (And all other Infortrend ASIC-266 based RAID controllers and RAID subsystems) Please contact Infortrend for optional memory upgrades.

\*5 Battery backup provides power to cache memory when power fails. The unwritten write-back cached data will be kept in the cache memory with power providing from the battery. With one fully charged battery pack used, cached data will be kept for around 72 hours. (Estimated time based on using 512MB SDRAM memory module)

The battery is not able to provide the power for RAID controller or hard drives to operate when the power fails. Pleas e use UPS (uninterruptible power supply) if it is required for the entire RAID system to work during the power failure.

9273CBT-C is a field replaceable module which is independent from the RAID controller module. It can be exchanged with the RAID controller remaining in the chassis.







# New! Constor iSCSI & Fibre - SATA II

	iSCSIRAID Storage	Fibre - SATA II RAID Subs	ystems	Varia	nts & Spare Parts
	New A12E-G2121-25	New A08F-G2221-M2	New A12F-G2221-M2	New A16F-G2221-M2	New A16F-R2221-M2
Model					
	iSCSI – SATA II RAID Subsystem 12-Bay	Fibre – SATA II RAID Subsystem 2U 8-Bay	Fibre – SATA II RAID Subsystem 2U 12-Bay	Fibre – SATA II RAID Subsystem 3U 16-Bay	Fibre – SATA II Redundant Controllers RAID Subsystem 3U 16-Bay
Controller Module	82AE21GD12-25 (INC x1)	82AF22GD08-M2 (INC x1)	82AF22GD12-M2 (INC x1)	83AF22GD16-M2 (INC x1)	83AF22RD16C-M2 (INC x2)
Fan Module	9272CFanModE (INC x3)	9272CFanModE (INC x2)	9272CFanModE (INC x3)	9273CFanMod (INC x2)	9273CFanMod (INC x2)
Power Supply Module	9272CPSU-0011 (INC x2)	9272CPSU-0011 (INC x2)	9272CPSU-0011 (INC x2)	9273CPSU (INC x2)	9273CPSU (INC x2)
Drive Tray	9273CDTray (INC x12)	9273CDTray (INC x8)	9273CDTray (INC x12)	9273CDTray (INC x16)	9273ADT2S1S (INC x16)
Dongle Board for IDE Drive *1	9270AN1S1P-0011 (OPT)	9270AN1S1P-0011 (OPT)	9270AN1S1P-0011 (OPT)	9270AN1S1P-0011 (OPT)	9270AN1S1P-0011 (OPT)
RS-232 Cable	9270ASCab (INC x1)	9270ASCab (INC x1)	9270ASCab (INC x1)	9270ASCab (INC x1)	9270AYCab (INC x1)
RS-232 Null Modem	9011 (INC x1)	9011 (INC x1)	9011 (INC x1)	9011 (INC x1)	9011 (INC x1)
Fibre SFP *2	9270CSFP2GA01 ( <i>OPT</i> )	9270CSFP2GA01 ( <i>OPT</i> )	9270CSFP2GA01 (OPT)	9270CSFP2GA01 (OPT)	9270CSFP2GA01 (OPT)
Fibre Optical Cable *3	(OPT)	(OPT)	(OPT)	(OPT)	(OPT)
Rack Mount Kits *4 (See Rack Mount Guide)	9272CESlide36 (OPT)	9272CESlide36 (OPT)	9272CESlide36 (OPT)	9273CSlider36 (OPT)	9273CSlider36 (OPT)
Cache Memory *5	512MB PC-3200 DDR400 (INC x1) DDRESCMA (1GB, OPT)	256 MB PC-3200 DDR400 (INCx1) DDRESCM5 (512MB, OPT) DDRESCMA (1GB, OPT)	256 MB PC-3200 DDR400 (INC x1)  DDRESCM5 (512MB, OPT)  DDRESCMA (1GB, OPT)	256 MB PC-3200 DDR400 (INCx1) DDRESCM5 (512MB, OPT) DDRESCMA (1GB, OPT)	256 MB PC-3200 DDR400 (INC x2) DDRESCM5 (512MB, OPT) DDRESCMA (1GB, OPT)
Battery Backup *6	9273CBT-C (OPT)	9273CBT-C ( <i>OPT</i> )	9273CBT-C ( <i>OPT</i> )	9273CBT-C ( <i>OPT</i> )	9273CBT-C (INCx2)
CD, Manual & QIG *7 (Quick Installation Guide)	QIG (INC) CD (INC)	QIG (INC) CD (INC)	QIG (INC) CD (INC)	QIG (INC) CD (INC)	QIG (INC) CD (INC)
Redundant Controller Upgrade Kit	-	-	-	-	Redundant enabled, no upgrade kit required

\*1 IDE drives can be used with optional dongle-boards installed in each drive tray.

Both SATA I (with or without NCQ) and SATA II drives can be used in SCSI - SATA II and Fibre - SATA II RAID subsystem models.

- \*2 SFP module manufacturer and model: 9270CSFP2GA01 Agilent QFBR-5751ALP
- \*3 SFP modules and Fibre optical cables are not included. To ensure the signal quality for 2G Fibre, we recommend to use SFP module with LC optical connection.
- \*4 For rack mount kits, please see page of "Rack Mount Guide".

- \*5 Please note the different memory module types used in different RAID subsystem models:
  - PC-3200 ECC DDR400: A08F-G2221, A12F-G2221, A16F-G2221, A16F-R2221 (And all other Infortrend ASIC-266 based RAID controllers and RAID subsystems)

Please contact Infortrend for optional memory upgrades.

\*6 Battery backup provides power to cache memory when power fails. The unwritten write-back cached data will be kept in the cache memory with power providing from the battery. With one fully charged battery pack used, cached data will be kept for around 72 hours. (Estimated time based on using 512MB SDRAM memory module)

The battery is not able to provide the power for RAID controller or hard drives to operate when the power fails. Pleas e use UPS (uninterruptible power supply) if it is required for the entire RAID system to work during the power failure.

9273CBT-C is a hot-swappable battery module, which can be exchanged without removing the RAID controller from the chassis.

- \*7 The manuals are provided in PDF format, in the CD included. The Quick Installation Guide provides basic information to get the system to work. All detailed functions and settings please refer to the manual files in the CD.
  - The CD also includes RAIDWatch ™ software for RAID management.





	SCSI-SATA RAID Subsystems Product Deta						
	A08U-G1A3-M1	A08U-G1410-M1	A12U-G1A3-M1	A12U-G1410-M1	A16U-G1A3-M1	A16U-G1410-M1	
Model	DIE STORY	THE REAL PROPERTY.					
	U160 SCSI-SATA RAID Subsystem 2U 8-Bay	<b>U320</b> SCSI-SATA RAID Subsystem 2U 8-Bay	U160 SCSI-SATA RAID Subsystem 2U 12-Bay	<b>U320</b> SCSI-SATA RAID Subsystem 2U 12-Bay	U160 SCSI-SATA RAID Subsystem 3U 16-Bay	<b>U320</b> SCSI-SATA RAID Subsystem 3U 16-Bay	
Form Factor *1	2U Rackmount	2U Rackmount	2U Rackmount	2U Rackmount	3U Rackmount	3U Rackmount	
Drive Channels Hot Swap Trays	8 Channels 8-bay (SATA Drives) IDE drives optional	8 Channels 8-bay (SATA Drives) IDE drives optional	12 Channels 12-bay (SATA Drives) IDE drives optional	12 Channels 12-bay (SATA Drives) IDE drives optional	16 Channels 16-bay (SATA Drives) IDE drives optional	16 Channels 16-bay (SATA Drives) IDE drives optional	
Expansions Channels		-					
Host Channels *3	2 Channels SCSI U160 Two VHDCI ports	2 Channels SCSI U320 Two VHDCI ports	2 Channels SCSI U160 Two VHDCI ports	2 Channels SCSI U320 Two VHDCI Ports	2 Channels SCSI U160 Two VHDCI ports	2 Channels SCSI U320 Two VHDCI Ports	
Redundant Controller *4	-	-	-		-		
RAID Function	RAID 0, 1, (0+1), 3, 5, 10, 30, 50 with Loca Multiple RAID Logical Drives (LD), Multiple Each LD/LV > 2TB (Up to 64TB), Automatic	ll Spare and Global Spare Drives Logical Volumes (LV), Multiple Partitions, M cally Background Rebuild, Automatic Bad Blo	ultiple Host IDs, Multiple Host LUNs, Instant ock Reassignment	RAID Ready, LD configuration on disks, Dy	namic host LUN mappings		
Advanced Functions	Host-side redundant path and load balancir Dual-mode RAID expansions: "Add-in Drive	ng supported (3rd party software required in a "and "Copy & Replace with larger drive"	the host computers), background firmware d	ownload			
Management	LCD front panel: Easy-to-use menu for access RS-232 Terminal: User friendly menu-driven fr RAIDWatch™ java-based cross-platform ce		ng: Central management, remote / local managen	nent (in-band or out-of-band), event notifications (	via e-mail, SNMP trap, fax, network broadcast – v	with full plain-text event message and pager).	
Management via Built-in LAN	RAIDWatch <sup>TM</sup> -onboard: Open browser to link to the RAID unit via built-in LAN port.  Telnet-terminal: Access terminal menu by telnet via built-in LAN port.  Notification-onboard: RAID unit itself issue e-mail and SNMP traps for event notifications (with full plain-text event messages)						
Hot Swap Fan Modules	2	2	3	3	2	2	
Hot Swap Power Supplies	2 x 350 W	2 x 350 W	2 x 350 W	2 x 350 W	2 x 460 W	2 x 460 W	
Cache Memory *5	128 MB – 1 GB (PC-133 SDRAM)	128 MB – 1 GB (PC-133 SDRAM)	128 MB – 1 GB (PC-133 SDRAM)	128 MB – 1 GB (PC-133 SDRAM)	128 MB – 1 GB (PC-133 SDRAM)	128 MB – 1 GB (PC-133 SDRAM)	
Battery Backup *6	-		Optional	Optional	Optional	Optional	

- \*1 For rack mount kits, please see page of "Rack Mount Guide".
- \*2 IDE drives can be used with optional dongle-boards installed in each drive tray.
- \*3 Host-side load balancing and redundant path functions are supported by using host-side software from the OS or 3rd party. (not included)
- \*4 All SCSI-SATA RAID subsystems are equipped with single RAID controller. If redundant RAID controller function is required, please choose EonStor™ Fibre-SATA RAID Subsystems.
- \*5 Supports Infortrend qualified PC-133 ECC SDRAM modules only. Please contact Infortrend for optional memory upgrades.
- \*6 Battery backup provides power to cache memory when power fails. The unwritten write-back cached data will be kept in the cache memory with power providing from the battery. With one fully charged battery pack used, cached data will be kept for around 72 hours. (Estimated time based on using 512MB SDRAM memory module)

The battery is not able to provide the power for RAID controller or hard drives to operate when the power fails. Pleas e use UPS (uninterruptible power supply) if it is required for the entire RAID system to work during the power failure.





	SCSI-SATA RAID Sub	systems			Variants	& Spare Parts
	A08U-G1A3-M1	A08U-G1410-M1	A12U-G1A3-M1	A12U-G1410-M1	A16U-G1A3-M1	A16U-G1410-M1
Model		THE REAL PROPERTY.				
	U160 SCSI-SATA RAID Subsystem 2U 8-Bav	U320 SCSI-SATA RAID Subsystem 2U 8-Bav	U160 SCSI-SATA RAID Subsystem 2U 12-Bay	U320 SCSI-SATA RAID Subsystem 2U 12-Bay	U160 SCSI-SATA RAID Subsystem 3U 16-Bay	U320 SCSI-SATA RAID Subsystem 3U 16-Bay
Controller Module	9272AUGCM08 (INC x1)	82AU14GC08 (INC x1)	9272AUGCM12 (INC x1)	82AU14GC12 (INC x1)	9270AUGCM (INC x1)	80AU14GC16 (INC x1)
Fan Module	9272CFanMod (INC x2)	9272CFanMod (INC x2)	9272CFanMod (INC x3)	9272CFanMod (INC x3)	9270CFanMod (INC x2)	9270CFanMod (INC x2)
Power Supply Module	9272CPSU (INC x2)	9272CPSU (INC x2)	9272CPSU (INC x2)	9272CPSU (INC x2)	9270CPSU (INC x2)	9270CPSU (INC x2)
Drive Tray	9272CDTray (INC x8)	9272CDTray (INC x8)	9272CDTray (INC x12)	9272CDTray (INC x12)	9270CDTray (INC x16)	9270CDTray (INC x16)
Dongle Board for IDE Drive *7	9270AN1S1P-0011 (OPT)	9270AN1S1P-0011 (OPT)	9270AN1S1P-0011 (OPT)	9270AN1S1P-0011 (OPT)	9270AN1S1P (OPT)	9270AN1S1P (OPT)
RS-232 Cable	9270ASCab (INC x1)	9270ASCab (INC x1)	9270ASCab (INCx1)	9270ASCab (INCx1)	9270ASCab (INC x1)	9270ASCab (INC x1)
RS-232 Null Modem	9011 (INC x1)	9011 (INC x1)	9011 (INC x1)	9011 (INC x1)	9011 (INC x1)	9011 (INC x1)
SCSI Cable (External)	9270UHstCab (INC x1) 9270UJBODCab (OPT)	9270UHstCab (INC x1) 9270UJBODCab (OPT)	9270UHstCab (INC x1) 9270UJBODCab (OPT)	9270UHstCab (INC x1) 9270UJBODCab (OPT)	9270UHstCab (INC x1) 9270UJBODCab (OPT)	9270UHstCab (INC x1) 9270UJBODCab (OPT)
SCSI Terminator (External) *1	-	-	-	-	-	-
Rack Mount Kits *2 (See Rack Mount Guide)	9272CESlide36 ( <i>OPT</i> )	9272CESlide36 (OPT)	9272CESlide36 (OPT)	9272CESlide36 (OPT)	9270CEncBrk 9270CSlider36 ( <i>OPT</i> )	9270CEncBrk 9270CSlider36 (OPT)
Cache Memory *3	128 MB PC-133 SDRAM <i>(INC x1)</i> 256 MB, 512 MB and 1GB <i>(OPT)</i>	128 MB PC-133 SDRAM (INC x1) 256 MB, 512 MB and 1GB (OPT)	128 MB PC-133 SDRAM (INC x1) 256 MB, 512 MB and 1GB (OPT)	128 MB PC-133 SDRAM (INC x1) 256 MB, 512 MB and 1GB (OPT)	128 MB PC-133 SDRAM <i>(INC x1)</i> 256 MB, 512 MB and 1GB <i>(OPT)</i>	128 MB PC-133 SDRAM (INC x1) 256 MB, 512 MB and 1GB (OPT)
Battery Backup *4	-	-	9270ABT (OPT)	9270ABT (OPT)	9270ABT (OPT)	9270ABT (OPT)
CD, Manual & QIG *5 (Quick Installation Guide)	QIG (INC) CD (INC)	QIG (INC) CD (INC)	QIG (INC) CD (INC)	QIG (INC) CD (INC)	QIG (INC) CD (INC)	QIG (INC) CD (INC)
Redundant Controller Upgrade Kit *6	-	-	-	-	-	-

\*1 For SCSI-SATA EonStor™ RAID subsystems, one external SCSI cable is included. The subsystem has built-in SCSI terminators, no external SCSI terminator is included (not required).

Optional external SCSI cables: (U160/U320 ready)

9270UHstCab VHDCI-HD68, 1 meter 9270UJBODCab VHDCI-VHDCI, 1 meter

- \*2 For rack mount kits, please see page of "Rack Mount Guide".
- \*3 Supports Infortrend qualified PC-133 ECC SDRAM modules only. Please contact Infortrend for optional memory upgrades.
- \*4 Battery backup provides power to cache memory when power fails. The unwritten write-back cached data will be kept in the cache memory with power providing from the battery. With one fully charged battery pack used, cached data will be kept for around 72 hours. (Estimated time based on using 512MB SDRAM memory module)

The battery is not able to provide the power for RAID controller or hard drives to operate when the power fails. Pleas e use UPS (uninterruptible power supply) if it is required for the entire RAID system to work during the power failure.

\*5 The manuals are provided in PDF format, in the CD included. The Quick Installation Guide provides basic information to get the system to work. All detailed functions and settings please refer to the manual files in the CD.

The CD also includes RAIDWatch ™ software for RAID management.

- \*6 All SCSI-SATA RAID subsystems are equipped with single RAID controller. If redundant RAID controller function is required, please choose EonStor™ Fibre-SATA RAID Subsystems.
- \*7 IDE drives can be used with optional dongle-boards installed in each drive tray.
- \*8 Host-side load balancing and redundant path functions are supported by using host-side software from the OS or 3rd party. (not included)





## New! Constor SCSI - SATA II

	SCSI - SATA II RAID Subsystems			Product Details
	A08U-C2410-M1	New A08U-G2421-M2	New A12U-G2421-M2	New A16U-G2421-M2
Model	SCSI 320 – SATA II Tower / Desktop RAID Subsystem 8-Bay	SCSI 320 – SATA II RAID Subsystem 2U 8-Bay	SCSI 320 – SATA II RAID Subsystem 2U 12-Bay	SCSI 320 – SATA II RAID Subsystem 3U 16-Bay
Form Factor *1	Tower / Desktop (Convertible)	2U Rackmount	2U Rackmount	3U Rackmount
Drive Channels Hot Swap Trays	8 Channels 8-bay (SATA I - II Drives) IDE drives optional	8 Channels 8-bay (SATA I - II Drives) IDE drives optional	12 Channels 12-bay (SATA I – II Drives) IDE drives optional	16 Channels 16-bay (SATA I - II Drives) <i>IDE drives optional</i>
Expansions Channels			-	-
Host Channels *3	2 Channels SCSI-320 Four VHDCI ports (in/out ports for each channel)	SCSI-320 SCSI-320 SCSI-320		2 Channels SCSI-320 Four VHDCI ports (in/out ports for each channel)
Redundant Controller *4				-
RAID Function	RAID 0, 1, (0+1), 3, 5, 10, 30, 50 with Local Spare and Global S Multiple RAID Logical Drives (LD), Multiple Logical Volumes (LV Each LD/LV > 2TB (Up to 64TB), Automatically Background Ret	, Multiple Partitions, Multiple Host IDs, Multiple Host LUNs, Instant	RAID Ready, LD configuration on disks, Dynamic host LUN mappi	ings
Advanced Functions	Host-side redundant path and load balancing supported (3rd par Dual-mode RAID expansions: "Add-in Drive" and "Copy & Repla	ty software required in the host computers), background firmware d ce with larger drive"	ownload	
Management	LCD front panel: Easy-to-use menu for accessing all functions and fee RS-232 Terminal: User friendly menu-driven for accessing all function RAIDWatch™ java-based cross-platform central management so		nent (in-band or out-of-band), event notifications (via e-mail, SNMP trap, fa	x, network broadcast – with full plain-text event message and pager).
Management via Built-in LAN	RAIDWatch™-onboard: Open browser to link to the RAID unit via bu Telnet-terminal: Access terminal menu by telnet via built-in LAN port. Notification-onboard: RAID unit itself issue e-mail and SNMP traps fo	•		
Hot Swap Fan Modules	2	2	3	2
Hot Swap Power Supplies	2 x 250 W	2 x 350 W	2 x 350 W	2 x 460 W
Cache Memory *5	128 MB – 1 GB (PC-133 SDRAM)	256 MB – 1 GB (PC-3200 DDR400)	256 MB – 1 GB (PC-3200 DDR400)	256 MB – 1 GB (PC-3200 DDR400)
Battery Backup *6	Optional	Optional	Optional	Optional

\*1 For rack mount kits, please see page of "Rack Mount Guide".

The A08U-C2410 is a RAID subsystem designed to standup vertically as a tower subsystem, or placed horizontally as a desktop subsystem. User can decide to use it as a tower or desktop RAID. The front panel LCD can also easily be changed between vertical and horizontal position accordingly.

\*2 IDE drives can be used with optional dongle-boards installed in each drive tray.

Both SATA I (with or without NCQ) and SATA II drives can be used in SCSI - SATA II and Fibre - SATA II RAID subsystem models.

\*3 Host-side load balancing and redundant path functions are supported by using host-side software from the OS or 3rd party. (not included)

The SCSI 320 - SATA II models all equipped with two SCSI-320 (Ultra320 SCSI) host channels, each host channel has two VHDCI SCSI connector ports (in/out ports). This design provides an easier way of chaining multiple RAID units to the same SCSI bus, with VHDCI-VHDCI external SCSI cable (9270UJBODCab).

\*4 All SCSI 320 - SATA II RAID subsystems are equipped with single RAID controller. If redundant RAID controller function is required, please choose EonStor™ Fibre - SATA RAID Subsystems with Redundant Controllers equipped.

\*5 Please note the different memory module types used in different RAID subsystem models:

PC-133 ECC SDRAM: A08U-C2410 (And all other Infortrend ASIC-133 based RAID controllers and RAID subsystems)

PC-3200 ECC DDR400: A08U-G2421, A12U-G2421, A16U-G2421 (And all other Infortrend ASIC-266 based RAID controllers and RAID subsystems)

Please contact Infortrend for optional memory upgrades.

\*6 Battery backup provides power to cache memory when power fails. The unwritten write-back cached data will be kept in the cache memory with power providing from the battery. With one fully charged battery pack used, cached data will be kept for around 72 hours. (Estimated time based on using 512MB SDRAM memory module)

The battery is not able to provide the power for RAID controller or hard drives to operate when the power fails. Pleas e use UPS (uninterruptible power supply) if it is required for the entire RAID system to work during the power failure.

9273CBT-C is a field replaceable module which is independent from the RAID controller module. It can be exchanged with the RAID controller remaining in the chassis.





## New! Constor SCSI - SATA II

	SCSI - SATA II RAID Subsystems		V	ariants & Spare Parts	
	A08U-C2410-M1	New A08U-G2421-M2	New A12U-G2421-M2	New A16U-G2421-M2	
Model	SCSI 320 – SATA II Tower / Desktop RAID Subsystem 8-Bay	SCSI 320 – SATA II RAID Subsystem 2U 8-Bay	SCSI 320 – SATA II RAID Subsystem 2U 12-Bay	SCSI 320 – SATA II RAID Subsystem 3U 16-Bay	
Controller Module	81AU24GC08-M1 (INC x1)	82AU24GD08-M2 (INC x1)	82AU24GD12-M2 (INC x1)	83AU24GD16-M2 (INC x1)	
Fan Module	9271CFanMod (INC x2)	9272CFanModE (INC x2)	9272CFanModE (INC x3)	9273CFanMod (INC x2)	
Power Supply Module	9271CPSU (INC x2)	9272CPSU-0011 (INC x2)	9272CPSU-0011 (INC x2)	9273CPSU (INC x2)	
Drive Tray	9273CDTray (INC x8)	9273CDTray (INC x8)	9273CDTray (INC x12)	9273CDTray (INC x16)	
Dongle Board for IDE Drive *7	9270AN1S1P-0011 (OPT)	9270AN1S1P-0011 (OPT)	9270AN1S1P-0011 (OPT)	9270AN1S1P-0011 ( <i>OPT</i> )	
RS-232 Cable	9270ASCab (INC x1)	9270ASCab (INC x1)	9270ASCab (INC x1)	9270ASCab (INC x1)	
RS-232 Null Modem	9011 (INC x1)	9011 (INC x1)	9011 (INC x1)	9011 (INC x1)	
SCSI Cable (External)	9270UJBODCab (INC x1) 9270UHstCab (OPT)	9270UJBODCab (INC x1) 9270UHstCab (OPT)	9270UJBODCab (INC x1) 9270UHstCab (OPT)	9270UJBODCab (INC x1) 9270UHstCab (OPT)	
SCSI Terminator (External) *1	-	-	-	-	
Rack Mount Kits *2 (See Rack Mount Guide)		9272CESlide36 ( <i>OPT</i> )	9272CESlide36 ( <i>OPT</i> )	9270CEnBrk 9273CSlider36 (OPT)	
Cache Memory *3	128 MB PC-133 SDRAM <i>(INC x1)</i> 256 MB, 512 MB and 1GB SDRAM <i>(OPT)</i>	256 MB PC-3200 DDR400 (INCx1) DDRESCM5 (512MB, OPT) DDRESCMA (1GB, OPT)	256 MB PC-3200 DDR400 (INCx1) DDRESCM5 (512MB, OPT) DDRESCMA (1GB, OPT)	256 MB PC-3200 DDR400 (INCx1) DDRESCM5 (512MB, OPT) DDRESCMA (1GB, OPT)	
Battery Backup *4	9070E + 9271CBT (OPT)	9273CBT-C ( <i>OPT</i> )	9273CBT-C (OPT)	9273CBT-C (OPT)	
CD, Manual & QIG *5 (Quick Installation Guide)	QIG (INC) CD (INC)	QIG (INC) CD (INC)	QIG (INC) CD (INC)	QIG (INC) CD (INC)	
Redundant Controller Upgrade Kit *6	-		-		

\*1 For SCSI-SATA EonStor™ RAID subsystems, one external SCSI cable is included. The subsystem has built-in SCSI terminators, no external SCSI terminator is included (not

Optional external SCSI cables: (SCSI-160 / SCSI-320 ready)

9270UHstCab VHDCI-HD68, 1 meter 9270UJBODCab VHDCI-VHDCI, 1 meter

\*2 For rack mount kits, please see page of "Rack Mount Guide". The A08U-C2410 comes with four "feet" which can be used

for both Tower or Desktop installations.

The A08U-C2410 is a RAID subsystem designed to stand-up vertically as a tower subsystem, or placed horizontally as a desktop subsystem. User can decide to use it as a tower or desktop RAID. The front panel LCD can also easily be changed between vertical and horizontal position accordingly.

\*3 Please note the different memory module types used in different RAID subsystem models:

PC-133 ECC SDRAM: A08U-C2410 (And all other Infortrend ASIC-133 based RAID controllers and RAID subsystems)

PC-3200 ECC DDR400: A08U-G2421, A12U-G2421, A16U-G2421 (And all other Infortrend ASIC-266 based RAID controllers and RAID subsystems)

Please contact Infortrend for optional memory upgrades.

\*4 Battery backup provides power to cache memory when power fails. The unwritten write-back cached data will be kept in the cache memory with power providing from the battery. With one fully charged battery pack used, cached data will be kept for around 72 hours. (Estimated time based on using 512MB SDRAM memory module)

The battery is not able to provide the power for RAID controller or hard drives to operate when the power fails. Pleas e use UPS (uninterruptible power supply) if it is required for the entire RAID system to work during the power failure.

9273CBT-C is a field replaceable module which is independent from the RAID controller module. It can be exchanged with the RAID controller remains in the chassis.

\*5 The manuals are provided in PDF format, in the CD included. The Quick Installation Guide provides basic information to get the system to work. All detailed functions and settings please refer to the manual files in the CD.

The CD also includes RAIDWatch ™ software for RAID

\*6 All SCSI-SATA RAID subsystems are equipped with single RAID controller. If redundant RAID controller function is required, please choose EonStor™ Fibre-SATA RAID Subsystems.

\*7 IDE drives can be used with optional dongle-boards installed in each drive tray.

Both SATA I (with or without NCQ) and SATA II drives can be used in SCSI - SATA II and Fibre - SATA II RAID subsystem models.

\*8 Host-side load balancing and redundant path functions are supported by using host-side software from the OS or 3rd party. (not included)





	SCSI RAID Subsys	stems				Prod	duct Details		
	U12U-G3A3-M1	U12U-G4010-M1	U16U-G3A3-4M2	U16U-G4010-42	U16U-G3A3-6M2	U16U-G4010-62	U16U-G3J3		
Model	SCSI-SCSI RAID Subsystem 2U 12-Bay	U320 SCSI-SCSI RAID Subsystem 2U 12-Bay	SCSI-SCSI RAID Subsystem 3U 16-Bav	U320 SCSI-SCSI RAID Subsystem 3U 16-Bay	SCSI-SCSI RAID Subsystem with drive-side expansion *2	U320 SCSI-SCSI RAID Subsystem with drive-side expansion '2	U160/ <b>U320</b> SCSI JBOD Subsystem *2 3U 16-Bay		
		,		•	3U 16-Bay	3U 16-Bay			
Form Factor *1	2U Rackmount	2U Rackmount	3U Rackmount	3U Rackmount	3U Rackmount	3U Rackmount	3U Rackmount		
Drive Channels Hot Swap Trays	2 Channels SCSI U160 12-bay (SCSI SCA Drives)	2 Channels SCSI U320 12-bay (SCSI SCA Drives)	2 Channels SCSI U160 16-bay (SCSI SCA Drives)	2 Channels SCSI U320 16-bay (SCSI SCA Drives)	2 Channels SCSI U160 16-bay (SCSI SCA Drives)	2 Channels SCSI U320 16-bay (SCSI SCA Drives)			
Expansion Channels	-	-	-	-	2 Channels SCSI U160 Two VHDCI ports	2 Channels SCSI U320 Two VHDCI ports	2 Channels SCSI U160/U320 16-bay (SCSI SCA Drives) Two VHDCI ports		
Host Channels *3	2 Channels SCSI U160 Two VHDCI ports	2 Channels SCSI U320 Two VHDCI ports	2 Channels SCSI U160 Two VHDCI ports	2 Channels SCSI U320 Two VHDCI ports	2 Channels SCSI U160 Two VHDCI ports	2 Channels SCSI U320 Two VHDCI ports			
Redundant Controller	-								
RAID Function	Multiple RAID Logical Drives (LD), N	h Local Spare and Global Spare Drive Iultiple Logical Volumes (LV), Multiple tomatically Background Rebuild, Auto	Partitions, Multiple Host IDs, Multiple	e Host LUNs, In stant RAID Ready, LC	O configuration on disks, Dynamic hos	et LUN mappings			
Advanced Functions	Dual-mode RAID expansions: "Add-	alancing supported (3rd party softwa in Drive" and "Copy & Replace with la e-upgrade, auto-sync firmware and co	rger drive"		orted on fibre-host models), backgrou	nd firmware download			
Management		driven for accessing all functions and feat		remote / local management (in-band or ou	nt-of-band), event notifications (via e-mail,	SNMP trap, fax, network broadcast – with	full plain-text event message and		
Mgmt. via Built-in LAN	Telnet-terminal: Access terminal menu	er to link to the RAID unit via built-in LAN p I by telnet via built-in LAN port. Issue e-mail and SNMP traps for event no		ges)					
Hot Swap Fan Modules	3	3	2	2	2	2	2		
Hot Swap Power Supplies	2 x 350 W	2 x 350 W	2 x 460 W	2 x 460 W	2 x 460 W	2 x 460 W	2 x 460 W		
Cache Memory	128 MB – 1 GB (PC-133 SDRAM)	128 MB – 1 GB (PC-133 SDRAM)	256 MB – 1 GB (PC-133 SDRAM)	256 MB – 1 GB (PC-133 SDRAM)	256 MB – 1 GB (PC-133 SDRAM)	256 MB – 1 GB (PC-133 SDRAM)	-		
Battery Backup *4	Optional	Optional	Optional	Optional	Optional	Optional	-		

<sup>\*1</sup> For rack mount kits, please see page of "Rack Mount Guide".

\*2 JBOD (Just-a-Bunch-Of-Disks) subsystem requires connecting to a RAID subsystem (or RAID controller) in order to benefit the RAID and management functions.

The U16U-G3J3 SCSI JBOD is compliant with U160 / U320 SCSI, either U160 or U320 SCSI disks can be used. The U16U-G3J3 is designed to be used with U16U-G3A3-6M2 and U16U-G4010-62.

The battery is not able to provide the power for RAID controller or drives to operate when the power fails. Please use UPS (uninterruptible power supply) if it is required for the entire RAID system to work during the power failure.

For U16U and U12U series: A battery charger board (9070E) is required for U16U and U12U series, when battery backup option is taken. The battery module (9270UBT) requires the charger board (9070E) in order to recharge the battery.

<sup>\*3</sup> Host-side load balancing and redundant path functions are supported by using host-side software from the OS or 3rd party. (not included)

<sup>\*4</sup> Battery backup provides power to cache memory when power fails. The unwritten write-back cached data will be kept in the cache memory with power providing from the battery. With one fully charged battery pack used, cached data will be kept for around 72 hours. (Estimated time based on using 512MB SDRAM memory module)





	SCSI RAID Subsys	stems				Variants &	Spare Parts	
	U12U-G3A3-M1	U12U-G4010-M1	U16U-G3A3-4M2	U16U-G4010-42	U16U-G3A3-6M2	U16U-G4010-62	U16U-G3J3	
Model								
	SCSI-SCSI RAID Subsystem 2U 12-Bay	U320 SCSI-SCSI RAID Subsystem 2U 12-Bay	SCSI-SCSI RAID Subsystem 3U 16-Bay	<b>U320</b> SCSI-SCSI RAID Subsystem 3U 16-Bay	SCSI-SCSI RAID Subsystem with drive-side expansion *2 3U 16-Bay	U320 SCSI-SCSI RAID Subsystem with drive-side expansion *2 3U 16-Bay	SCSI JBOD Subsystem *2 3U 16-Bay	
Controller Module	9272UCM4 (INC x1)	82U40GC4 (INC x 1)	9270UCM4 (INC x1)	80U40GC4 (INC x1)	9270UCM6 (INC x1)	80U40GC6 (INC x1)	-	
Fan Module	9272CFanMod (INC x3)	9272CFanMod (INC x3)	9270CFanMod (INC x2)	9270CFanMod (INC x2)	9270CFanMod (INC x2)	9270CFanMod (INC x2)	9270CFanMod (INC x2)	
Power Supply Module	9272CPSU (INC x2)	9272CPSU (INC x2)	9270CPSU (INC x2)	9270CPSU (INC x2)	9270CPSU (INC x2)	9270CPSU (INC x2)	9270CPSU (INC x2)	
Drive Tray	9272CDTray (INC x12)	9272CDTray (INC x12)	9270CDTray (INC x16)	9270CDTray (INC x16)	9270CDTray (INC x16)	9270CDTray (INC x16)	9270CDTray (INC x16)	
RS-232 Cable	9270ASCab (INCx1)	9270ASCab (INC x1)	Sta	Not inc ndard DB-9 male RS-232 connector,		ıble.	-	
RS-232 Null Modem	9011 (INC x1)	9011 (INC x1)	9011 (INC x1)	9011 (INC x1)	9011 (INC x1)	9011 (INC x1)	-	
SCSI Cable (External) *1	9270UHstCab (INC x1)	9270UHstCab (INC x1)	9270UHstCab (INC x1)	9270UHstCab (INC x1)	9270UHstCab (INC x1)	9270UHstCab (INC x1)	9270UJBODCab (INC x1)	
SCSI Terminator (External) *1	-	-	-	-	-	-	-	
Rack Mount Kits *3 (See Rack Mount Guide)	9272CESlide36 (OPT)	9272CESlide36 (OPT)	9270CEncBrk 9270CSlider36 (OPT)	9270CEncBrk 9270CSlider36 (OPT)	9270CEncBrk 9270CSlider36 (OPT)	9270CEncBrk 9270CSlider36 (OPT)	9270CEncBrk 9270CSlider36 (OPT)	
Cache Memory	128 MB PC-133 SDRAM (INC x1) 256 MB, 512 MB and 1GB (OPT)	128 MB PC-133 SDRAM <i>(INC x1)</i> 256 MB, 512 MB and 1GB <i>(OPT)</i>	256 MB PC-133 SDRAM (INC x1) 512 MB and 1GB (OPT)	256 MB PC-133 SDRAM (INC x1) 512 MB and 1GB (OPT)	256 MB PC-133 SDRAM (INC x1) 512 MB and 1GB (OPT)	256 MB PC-133 SDRAM (INC x1) 512 MB and 1GB (OPT)	-	
Battery Backup *4	9070E + 9270UBT (OPT)	9070E + 9270UBT (OPT)	9070E + 9270UBT (OPT)	9070E + 9270UBT (OPT)	9070E + 9270UBT (OPT)	9070E + 9270UBT (OPT)	-	
CD, Manual and QIG *5 (Quick Installation Guide)	QIG (INC) CD (INC)	QIG (INC) CD (INC)	QIG (INC) CD (INC)	QIG (INC) CD (INC)	QIG (INC) CD (INC)	QIG (INC) CD (INC)	QIG (INC)	

\*1 For SCSI-SCSI EonStor™ RAID subsystems, an external SCSI cable – 9270UHstCab is included (VHDCI-HD68, 1 meter length)

For SCSI JBOD subsystem (U16U-G3J3), an external SCSI cable - 9270UJBODCab is included (VHDCI-VHDCI, 1 meter length).

In order to connect U16U-G3J3 to U16U-G3A3-6M2, two 9270JBODCab are required. (one is included)

The EonStor systems has built-in SCSI terminators, no external SCSI terminator is included (not required).

Optional external SCSI cables: (U160/U320 ready)

9270UHstCab VHDCI-HD68, 1 meter 9270UJBODCab VHDCI-VHDCI, 1 meter

\*2 JBOD models require connecting to a RAID controller or RAID subsystem order to benefit the RAID and management functions.

- \*3 For rack mount kits, please see page of "Rack Mount Guide".
- \*4 Battery backup provides power to cache memory when power fails. The unwritten write-back cached data will be kept in the cache memory with power providing from the battery. With one fully charged battery pack used, cached data will be kept for around 72 hours. (Estimated time based on using 512MB SDRAM memory module)

The battery is not able to provide the power for RAID controller or drives to operate when the power fails. Please use UPS (uninterruptible power supply) if it is required for the entire RAID system to work during the power failure.

In redundant controller configuration, the two controllers should have identical cache memory and battery backup configuration.

For U16U and U12U series: A battery charger board (9070E) is required for U16U and U12U series, when battery backup option is taken. The battery module (9270UBT) requires the charger board (9070E) in order to recharge the battery.

- \*5 The manuals are provided in PDF format, in the CD included. The Quick Installation Guide provides basic information to get the system to work. All detailed functions and settings please refer to the manual files in the CD.
  - The CD also includes RAIDWatch™ software for RAID management.



## SentinelRAID™ Controllers

	SCSI-SCSI, Fibre-SCSI RAID Co	ntrollers – SentinelRAID™	Produc	t Details and Options						
	SR150F	SR170	SR2700	SR2500FR1						
Model										
	SCSI-SCSI RAID Controller	SCSI-320 – SCSI-320 RAID Controller	SCSI-320 - SCSI-320 / Fibre - SCSI-320 RAID Controller	SCSI-SCSI Redundant RAID Controller						
Form Factor	5.25" Half Height	5.25" Half Height	5.25" Half Height	5.25" Full Height						
Base Channels	4 Channels SCSI-160 Four standard 68-pin high-density connectors	4 Channels SCSI-320 Four standard 68-pin high-density connectors	4 Channels SCSI-320 Four standard 68-pin high-density connectors	3 Channels SCSI-160 Three standard 68-pin high-density connectors						
Add-on Channels	4 Channels SCSI-160	4 Channels SCSI-320	4 Channels SCSI-320 Four standard 68-pin high-density connectors (9284U4 + 9288FB4 + 9515)							
(Optional Daughter Board)	Four standard 68-pin high-density connectors (9284FU3A)	Four standard 68-pin high-density connectors (9284U4A)	OR -	-						
			2 Channels Fibre 2G Two optical LC connectors (9282FF2 + 9288FB2F2) *5							
Redundant Controller	Supported Requires connections with another SR150F (9535)	-	•	Supported Two integrated controller modules built-in (top-bottom) No additional controller required						
Hot-Swap Controller Docking Connectors *3	-	-	Yes	Yes						
RAID Function	RAID 0, 1, (0+1), 3, 5, 10, 30, 50 with Local Spare and Global Multiple RAID Logical Drives (LD), Multiple Logical Volumes (I Automatically Background Rebuild, Automatic Bad Block Rea	LV), Multiple Partitions, Multiple Host IDs, Multiple Host LUNs, I	.D configuration on disks, Dynamic host LUN mappings							
Advanced Functions	Host-side redundant path and load balancing supported (3rd p Dual-mode RAID expansions: "Add-in Drive" and "Copy & Rep Redundant models: Rolling-firmware-upgrade, auto-sync firm	place with larger drive"	ort, fabric log-in (supported on fibre-host models), background fi	irmware download						
Management	LCD front panel: Easy-to-use menu for accessing all functions and RS-232 Terminal: User friendly menu-driven for accessing all funct RAIDWatch* java-based cross-platform central management and pager).	tions and features.	nagement (in-band or out-of-band), event notifications (via e-mail, SNIv	MP trap, fax, network broadcast – with full plain-text event message						
Management via Built-in LAN Port	-	RAIDWatch <sup>TM</sup> -onboard: Open browser to link to the RAID unit via Telnet-terminal: Access terminal menu by telnet via built-in LAN po Notification-onboard: RAID unit itself issue e-mail and SNMP traps	rt.	-						
Cache Memory		128 MB, 256 MB, 512 MB and 10	GB PC-133 SDRAM (Not Included)							
Battery Backup *4	Optional (Battery charger board and first battery pack: 9070D + 9010D; second battery pack: 9010D; battery extension cable 9519D)									

- \*1 SR2500FR5 and SR2500FR6 can be fit into a 1U rackmount enclosure. SR2500FR5 and SR2500FR6 do not include power supply or rackmount enclosure/chassis.
- \*2 All channels (base channels and additional channels) can be configured as Host channel or Drive channel by user.
- \*3 Hot-Swap Controller Docking Connectors provide the ease of controller maintenance - removing the controller board without the need of opening the enclosure or disconnecting any SCSI/Fibre/power/RS-232 cables.

The hot-swap drive is supported on all SentinelRAID controllers. (which is not related to the controller docking connectors)

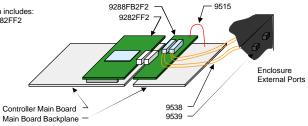
\*4 Battery backup provides power to cache memory when power fails. The unwritten write-back cached data will be kept in the cache memory with power providing from the battery. With one fully charged battery pack (9010D) used, cached data will be kept for 72 hours.

A second battery (9010D) can be connected (connecting to the first battery pack) for longer. The battery extension cable (9519D) can be used in between the battery pack and RAID controller, when the location of the battery cannot be close to the RAID controller in the enclosure.

The battery is not able to provide the power for RAID controller or drives to operate when the power fails. Please use UPS (uninterruptible power supply) if it is required for the entire RAID system to work during the power failure.

\*5 9282FF2: 2 Channel 2G FC Daughter Board 9288FB2F2: The backplane for 9282FF2

The 9288FB2F2 is now available as a kit, which includes: 9282FB2F2 daughter board backplane for 9282FF2 9538 2G FC optical-LC cables, 2 pairs 9539 LC duplex adapters, 2 pcs 9515 5V auxiliary cable





# Constor High Capacity Guide - SATA

#### **SATA Disk Based** Combination 1: A16F-R1A2 + A16F-J1210-G A16F-R1A2 A16F-J1210-G Up to 128 Disks Up to 24U Height (3U, 16 Disks) (Up to 7 units) (3U, 16 Disks each) A16F-S1A2 A16F-J1210-G Up to 128 Disks Up to 24U Height (3U, 16 Disks) (Up to 7 units) (3U, 16 Disks each) Combination 2: A16F-R1211 + A16F-J1210-G A16F-R1211 A16F-J1210-G Up to 128 Disks Up to 24U Height (3U, 16 Disks) (Up to 7 units) (3U, 16 Disks each) A16F-S1211 A16F-J1210-G Up to 128 Disks Up to 24U Height (3U, 16 Disks) (Up to 7 units) (3U, 16 Disks each) Combination 3: ER2510FS + A16F-J1210-G ER2510FS-4S A16F-J1210-G Up to 22U Height Up to 112 Disks (1U, no disk) (Up to 7 units) (3U, 16 Disks each) ER2510FS-6S A16F-J1210-G Up to 43U Height Up to 224 Disks (1U, no disk) (Up to 14 units) (3U, 16 Disks each) ER2510FS-4RH A16F-J1210-G Up to 112 Disks Up to 22U Height (Up to 7 units) (3U, 16 Disks each) (1U, no disk) ER2510FS-6RH A16F-J1210-G Up to 224 Disks Up to 43U Height (Up to 14 units) (3U, 16 Disks each) (1U, no disk) ER2510FS-4D A16F-J1210-G Up to 224 Disks Up to 43U Height (1U. no disk) (Up to 14 units) (3U, 16 Disks each) A16F-J1210-G ER2510FS-6D Up to 448 Disks Up to 85U Height (1U, no disk) (Up to 28 units) (3U, 16 Disks each)

### Cables and SFPs:

- 1. Fibre cables and SFPs are not included in the above models, should be purchased additionally.
- At least 512MB cache memory is required in each RAID controller, when there are more than 96 disks in the configuration.
- Host channels: Basically needs two LC-LC optical cables and four SFP modules. May vary depending on the connector type on the host computer or Fibre switch.
- 4. Drive channels: Each A16F-J1210-G unit requires two LC-LC optical cables and four SFP modules.
- 5. ER2510FS-6RH: It is recommended to use two of the drive channels as dedicated sync-cache channels, to gain an enhanced WRITE performance. When large capacity or more drives are required, user can configure and use four drive channels to connect drive JBODs.

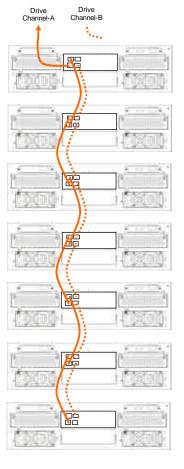
## ER2510FS-6S JBOD Chain 1 ER2510FS-4S JBOD Chain 1 ER2510FS-6RH JBOD Chain 1 JBOD Chain 2 ER2510FS-4RH JBOD Chain 1 ER2510FS-6D Controller A Controller A JBOD Chain 1 JBOD Chain 2 Controller B \* Controller B JBOD Chain 1 JBOD Chain 2 ER2510FS-4D Controller A JBOD Chain 1 Controller B JBOD Chain 1 A16F-S1211

**RAID Controller Connections** 

## **JBODs Connections**

### A16F-J1210-G

Connecting to the RAID Controller's Drive Channels



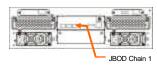
Up to 7 JBOD Subsystems can be chained in one pair of drive channels.

(Diagram shown above as one JBOD chain)

## A16F-R1A2



### A16F-S1A2



### A16F-R1211







## **Constor** High Capacity Guide - Fibre

#### Fibre Disk Based Combination 1: F12F-G2A2 + F16F-R2J2 (or F16F-S2J2) F12F-G2A2 F16F-R2J2 (or F16F-S2J2) Up to 108 Disks Up to 20U Height (2U, 12 Disks) (Up to 6 units) (3U, 16 Disks each) Combination 2: F16F-R2A2 + F16F-R2J2 (or F16F-S2J2) F16F-R2A2-A F16F-R2J2 (or F16F-S2J2) Up to 112 Disks Up to 21U Height (3U. 16 Disks) (Up to 6 units) (3U, 16 Disks each) F16F-R2A2 F16F-R2J2 (or F16F-S2J2) Up to 112 Disks Up to 21U Height (Up to 6 units) (3U, 16 Disks each) (3U, 16 Disks) F16F-S2A2 F16F-S2J2 (or F16F-S2J2) Up to 112 Disks Up to 21U Height (3U, 16 Disks) (Up to 6 units) (3U, 16 Disks each) Combination 3: ER2510FS + F16F-R2J2 (or F16F-S2J2) ER2510FS-4S F16F-R2J2 (or F16F-S2J2) Up to 112 Disks Up to 22U Height (1U. no disk) (Up to 7 units) (3U, 16 Disks each) ER2510FS-6S F16F-R2J2 (or F16F-S2J2) Up to 224 Disks Up to 43U Height (1U, no disk) (Up to 14 units) (3U, 16 Disks each) ER2510FS-4RH F16F-R2J2 (or F16F-S2J2) Up to 112 Disks Up to 22U Height (1U. no disk) (Up to 7 units) (3U, 16 Disks each) ER2510FS-6RH F16F-R2J2 (or F16F-S2J2) Up to 224 Disks Up to 43U Height (Up to 14 units) (3U, 16 Disks each) (1U, no disk) ER2510FS-4D F16F-R2J2 (or F16F-S2J2) Up to 224 Disks Up to 43U Height (Up to 14 units) (3U, 16 Disks each) (1U, no disk) F16F-R2J2 (or F16F-S2J2) ER2510FS-6D Up to 448 Disks Up to 85U Height (1U, no disk) (Up to 28 units) (3U, 16 Disks each)

### Cables and SFPs:

F12F-G2A2

JBOD Chain 1

- 1. Fibre cables and SFPs are not included in the above models, should be purchased additionally.
- 2. At least 512MB cache memory is required in each RAID controller, when there are more than 96 disks in the configuration.
- 3. Host channels: Basically needs two LC-LC optical cables and four SFP modules. May vary depending on the connector type on the host computer or Fibre switch.
- 4. Drive channels: Each F16F-R2J2 (or F16F-S2J2) unit requires two LC-LC optical cables and four SFP modules.
- 5. ER2510FS-6RH: It is recommended to use two of the drive channels as dedicated sync-cache channels, to gain an enhanced WRITE performance. When large capacity or more drives are required, user can configure and use four drive channels to connect drive JBODs.

16F-S2A2

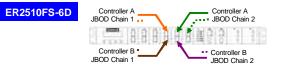
## F16F-R2A2-A F16F-R2A2 0.6 JBOD Chain 1 JBOD Chain 1 JBOD Chain 1

## **RAID Controller Connections**







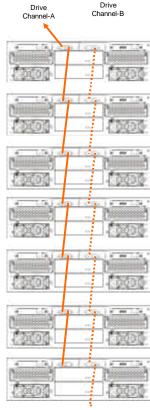




## **JBODs Connections**

### F16F-R2J2 / F16F-S2J2

Connecting to the RAID Controller's Drive Channels



Up to 7 JBOD Subsystems (ER2510FS) or up to 6 JBOD Subsystems (F12F, F16F) can be chained in one pair of drive channels. (Diagram shown above as one JBOD chain)





# **Constor** High Capacity Guide - SCSI

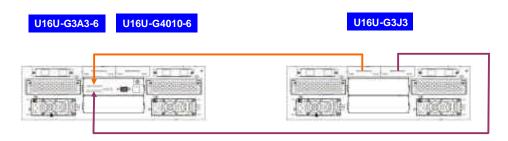
#### **SCSI Disk Based** Combination 1: U16U-G4010-62 (or U16U-G3A3-6M2) + U16U-G3J3 U16U-G3A3-6M2 U16U-G3J3 (Up to 1 unit) Up to 32 Disks Up to 6U Height (3U, 16 Disks) (3U, 16 Disks) U16U-G4010-62 U16U-G3J3 (Up to 1 unit) Up to 32 Disks Up to 6U Height (3U, 16 Disks) (3U, 16 Disks)

### SCSI Cables:

1. Two types of SCSI cables are available:

9270UHstCab VHDCI - HD68, 1 meter 9270UJBODCab VHDCI - VHDCI, 1 meter

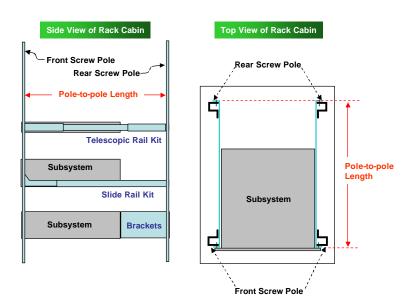
- 2. Host-side: Depending on the SCSI connector on the SCSI HBA in the host computer. Up to two SCSI cables can be connected. The U16U-G3A3-6M2 includes one 9270UHstCab (VHDCI - HD68) cable.
- 2. Drive-side: Two SCSI cables are required. (VHDCI-VHDCI cable) The U16U-G3J3 includes one 9270UJBODCab (VHDCI-VHDCI) cable, the other one should be purchased additionally.







Models		Rack Mount K	its for Rack Mo	Rack Mount Guide					
		9253L20 - 0010	53L20 - 0010 9272CESlide28 9272CESlide36 9273		9273CSlider36	9270CEncBrk	9270CESlide32	9270CESlide36	
		Telescopic Rail Kit	Slide Rail Kit	Slide Rail Kit	Slide Rail Kit	Brackets	Slide Rail Kit	Slide Rail Kit	
	EonRAID™ 2510FS *1  ER2510FS-4S	$\square$	-	-	-	-	-	-	
	EonStor™ 2U 8 / 12 -Bay  A08U-G1A3 A08U-G1410 A08F-G1A2 A08U-G2421  A12U-G1A3 A12U-G1410 A12F-G1A2 A12F-G2221  U12U-G3A3 F12F-G2A2 A12E-G2121	-	$\square$	$\square$	-	-	-	-	
	EonStor™ 3U 16-Bay *2 A16U-G1A3 A16U-G1410 A16F-G1A2 A16F-R1A2 A16F-S1A2 A16F-R1211 A16F-S1211 A16F-J1210 U16U-G3A3 U16U-G3J3 U16U-G4010 F16F-S2A2 F16F-R2A2 F16F-S2J2 F16F-R2J2	-	-	-	-	Ø	Ø	Ø	
	EonStor™ 3U 16-Bay (New Chassis) A16U-G2421 A16F-G2221 A16F-R2221	-	-	-	$\square$	-	-	-	
	Minimum Length (Pole-to-pole) *3	511 mm (20.11 inches)	533 mm (20.98 inches)	647 mm (25.47 inches)	605 mm (23.81 inches)	609 mm (24 inches)	609 mm (24 inches)	600 mm (23.62 inches)	
	Maximum Length (Pole-to-pole) *3	717 mm (28.22 inches)	724 mm (28.50 inches)	914 mm (35.98 inches)	900 mm (35.43 inches)	812 mm (32 inches)	812 mm (32 inches)	910 mm (35.82 inches)	



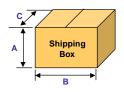
- \*1 The 9253L20-0010 is a revised version from 9253L20. It supports ER2510FS series and 6300 / 6330 series RAID Subsystems.
- \*2 The 3U 16-Bay new chassis uses 9273CSlider36, which covers the length range of both 32" and 36" rail options on the previous equivalent models.
- \*3 The "pole-to-pole" length (or "post-to-post" length) is referring to the distance between the front screw hole pole (post) to the rear screw hole pole (post) in a rack cabin. A typical 900mm rack cabin often has pole-to-pole length of around 670 mm, and 800mm rack has around 615 mm.
- \*4 Rail option part number change:

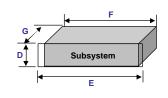
Previous Part Numbers		New Part Numbers
9272CSlider28	$\Rightarrow$	9272CESlide28
9272CSlider36	$\Rightarrow$	9272CESlide36
9270CSlider32	$\Longrightarrow$	9270CESlide32
9270CSlider36	$\Rightarrow$	9270CESlide36

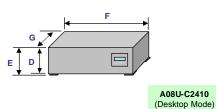


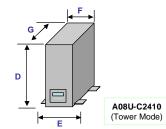


# **Shipping and Rack Planning Reference**







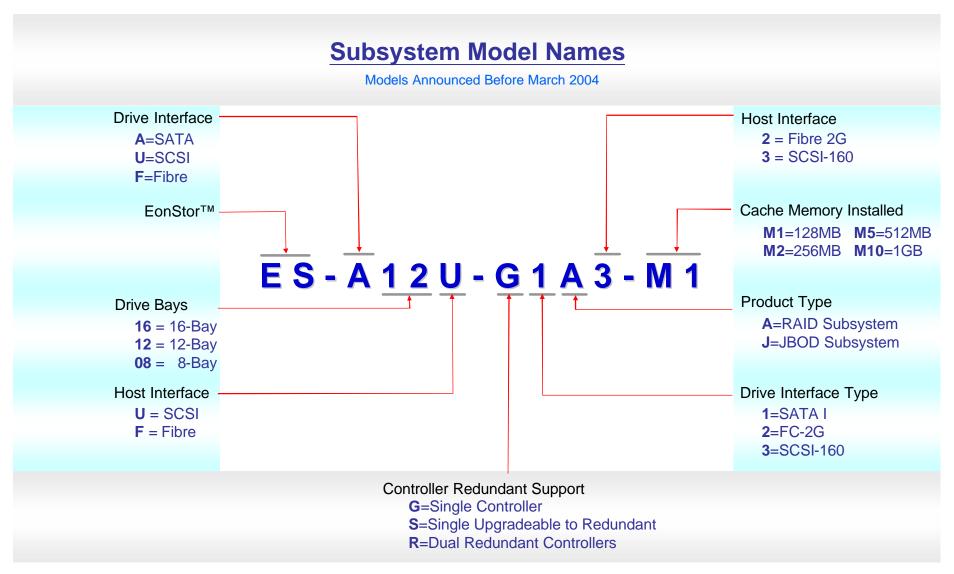


	Shipping Dimensions & Weights						Subsystem Dimensions & Weights					BTU & Amps		Air
	Α	В	С	Shipping Weight without Drives (Estimated)	Shipping Weight with Drives (Estimated) *1	D	E	F	<b>G</b> *2	Subsystem Weight without Drives (Estimated)	Subsystem Weight with Drives (Estimated) *1	Maximum Heat Dissipation (Estimated)	Maximum Current at 230V AC (Estimated)	Airflow Direction
ER2510FS   ER2510FS-6S   ER2510FS-6S   ER2510FS-6RH   ER2510FS-6RH   ER2510FS-6D   ER2	360 mm 14.17 "	625 mm 24.60 "	720 mm 28.34 "	19.5 kg 42.95 lbs		44 mm 1.73 "	482 mm 19.00 "	426 mm 16.77 "	470 mm 18.50 "	17.5 kg 38.54 lbs		1197 BTU/Hour	1.52 A	Front to Rear
EonStor™ 2U 8-Bay A08U-G1A3 A08U-G1410 A08F-G1A2	344 mm 13.54 "	600 mm 23.62"	670 mm 26.37 "	23.5 kg 51.76 lbs	29.5 kg 64.97 lbs	88 mm 3.46 "	482 mm 19.00 "	446 mm 17.55 "	490 mm 19.29 "	16.0 kg 35.24 lbs	22.0 kg 48.45 lbs	1197 BTU/Hour	1.52 A	Front to Rear
EonStor™ 2U 8-Bay A08U-G2421 A08F-G2221	390 mm <i>15.35 "</i>	580 mm 22.83"	780 mm 30.70 "	26.5 kg 58.37 lbs	32.5 kg 71.58 lbs	88 mm 3.46 "	482 mm 19.00 "	446 mm 17.55 "	490 mm 19.29 "	16.0 kg 35.24 lbs	22.0 kg 48.45 lbs	1197 BTU/Hour	1.52 A	Front to Rear
EonStor™ 2U 12-Bay A12U-G1A3 A12U-G1410 A12F-G1A2 U12U-G3A3 U12U-4010 F12F-G2A2	344 mm 13.54 "	600 mm 23.62 "	670 mm 26.37 "	25.5 kg 56.16 lbs	34.5 kg 75.99 lbs	88 mm 3.46 "	482 mm 19.00 "	446 mm 17.55 "	490 mm 19.29 "	18.0 kg 39.64 lbs	27.0 kg 59.47 lbs	1197 BTU/Hour	1.52 A	Front to Rear
EonStor™ 2U 12-Bay A12U-G2421 A12F-G2221 A12E-G2121	390 mm <i>15.35 "</i>	580 mm 22.83"	780 mm 30.70 "	28.5 kg 62.77 lbs	37.5 kg 82.59 lbs	88 mm 3.46 "	482 mm 19.00 "	446 mm 17.55 "	490 mm 19.29 "	18.0 kg 39.64 lbs	27.0 kg 59.47 lbs	1197 BTU/Hour	1.52A	Front to Rear
EonStor™ 3U 16-Bay  A16U-G1A3 A16U-G1410 A16F-G1A2  A16F-R1A2 A16F-S1A2 A16F-R1211  A16F-S1211 U16U-G3A3 U16U-G4010  F16FR2A2 F16F-S2A2 F16F-R2J2  F16F-S2J2	480 mm 18.89 "	600 mm 23.62 "	700 mm 27.55 "	34.5 kg 75.99 lbs	<b>46.5 kg</b> 102.42 lbs	132 mm 5.19 "	482 mm 19.00 "	450 mm 17.71 "	500 mm 19.68 "	18.0 kg 39.64 lbs	30.0 kg 66.07 lbs	1573 BTU/Hour	2 A	Front to Rear
EonStor™ 3U 16-Bay A16U-G2421 A16F-G2221	435 mm 17.13 "	575 mm 22.63 "	780 mm 30.70 "	34.0 kg 74.88 lbs	46.0 kg 101.32 lbs	132 mm 5.19 "	482 mm 19.00 "	445 mm 17.51 "	550 mm 21.65 "	18.0 kg 39.64 lbs	30.0 kg 66.07 lbs	1573 BTU/Hour	2 A	Front to Rear
EonStor™ Desktop / Tower 8-Bay A08U-C2410	450 mm 17.71 "	510 mm 20.07 "	610 mm 24.01 "	21.0 kg 42.65 lbs	34.5 kg 60.57 lbs	155 mm 6.10 " 382 mm	167 mm 6.57 " 235 mm	375 mm 14.76 " 155 mm	370 mm 14.56 " 370 mm	11.50 kg 25.33 lbs	17.0 kg 37.44 lbs	855 BTU/Hour	1.08 A	Front to Rear
						15.03 "	9.25 "	6.10 "	14.56 "					

<sup>\*1</sup> All weight information are estimated numbers as an example. The actual weight can vary with different drive models and configurations.
\*2 Please allow additional 5 cm at the back of the subsystem for the cabling and airflow.

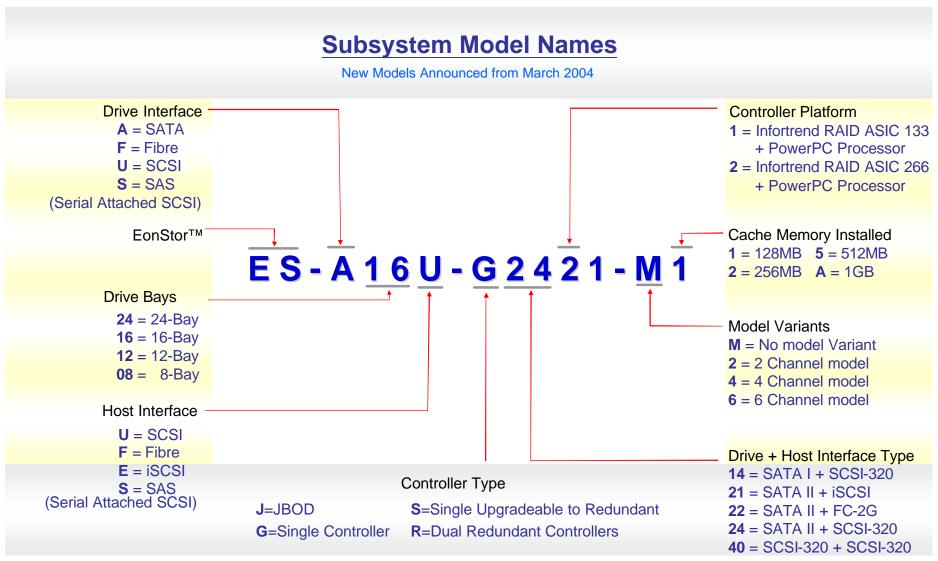












Note: Existing models remain intact, only new models announced after March 2004 use new model naming.

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