



NetApp Hardware Universe – RC-0036-0909 – Side A – 09-15-2009

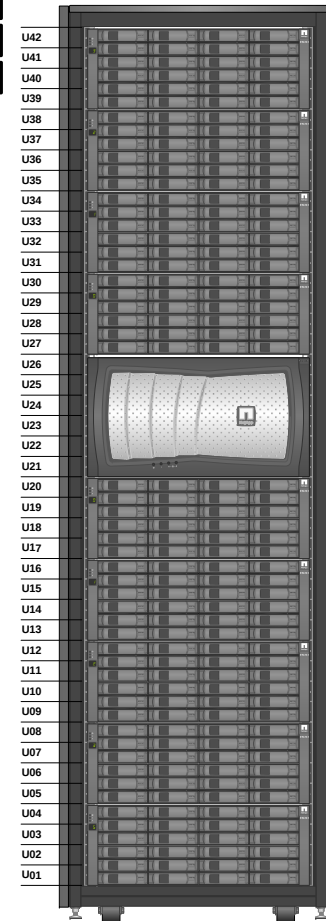
System Cabinet and Power

42U System Cabinet

Dimensions	Height	78.7 in. (200 cm)	Weight	Rail Load Capacity	125 lb. (56.7 kg)	Clearance	Front/Rear	30 in. (76.3 cm)
	Depth	37.4 in. (95 cm)		Empty Weight	275 lb. (124.7 kg)		Side (Optional)	24 in. (61 cm)
	Width	23.6 in. (60 cm)		Loaded Weight	1500 lb. (680 kg)		Top	12 in. (30 cm)
	Rack Space	73.5 in. (186.7 cm)						

System Cabinet Configurations

Configuration	PDUs	PDU Part #	Plug Type	Service Outlet	Cords Per Side	Amps Per Side	Outlets Per Side	Approx Power Per Cabinet	Thermal (BTU/hr)	Notes
20A Single-Phase	4	X8711-R6	NEMA L6-20P (X875A-R6) IEC60309-16A (X875B-R6) AS/NZS3123-20 (X875C-R6)	20A 16A 20A	2 2 2	35.2 32 32	16 (IEC 60320-C13) 16 (IEC 60320-C13) 16 (IEC 60320-C13)	7.3 kW @ 208V 7.4 kW @ 230V 7.4 kW @ 230V	24989 25120 25120	There are four 0U PDUs mounted per side. Each PDU has a IEC60320-C20 inlet connector that can be coupled with different input cords for all markets. All input cords have IEC60320-C19 receptacles.
NEMA 30A Single-Phase	2	X8712-R6	NEMA L6-30P (input cord tethered to PDU)	30A	1	26.4	16 (IEC 60320-C13)	5.5 kW @ 208V	18741	There are two 0U PDUs mounted one per side. Each power cord is hard-wired to the PDU with a strain relief connector.
NEMA 30A Single-Phase	4	X8712C-R6	NEMA L6-30P (input cord tethered to PDU)	30A	2	52.8	24 (IEC 60320-C13)	11 kW @ 208V	37483	There are four 0U PDUs mounted two per side. Each power cord is hard-wired to the PDU with a strain relief connector.
NEMA 30A 3-Phase Delta	2	X8719A-R6	NEMA L15-30P (input cord tethered to PDU)	30A	1	45.7	24 (IEC 60320-C13)	9.5 kW @ 208V	32460	There are two 0U PDUs mounted one per side. Each power cord is hard-wired to the PDU with a strain relief connector.
NEMA 30A 3-Phase Delta	2	X8720A-R6	NEMA L21-30P (input cord tethered to PDU)	30A	1	45.7	24 (IEC 60320-C13)	9.5 kW @ 208V	32460	There are two 0U PDUs mounted one per side. Each power cord is hard-wired to the PDU with a strain relief connector.
IEC 32A Single-Phase	2	X8713-R6	IEC 60309-32A P+N+E (input cord tethered to PDU)	32A	1	30	16 (IEC 60320-C13)	6.9 kW @ 230V	23550	There are two 0U PDUs mounted one per side. Each power cord is hard-wired to the PDU with a strain relief connector. PDU is limited to 30A.
IEC 32A Single-Phase	4	X8713C-R6	IEC 60309-32A P+N+E (input cord tethered to PDU)	32A	2	64	24 (IEC 60320-C13)	14.7kW @ 230V	50239	There are four 0U PDUs mounted one per side. Each power cord is hard-wired to the PDU with a strain relief connector. PDU is limited to 24A (48A per side).
IEC 32A 3-Phase Wye	2	X8718A-R6	IEC 60309-32A 3P+N+E (input cord tethered to PDU)	32A	1	96	24 (IEC 60320-C13)	22.1 kW @ 230V	75359	There are two 0U PDUs mounted one per side. Each power cord is hard-wired to the PDU with a strain relief connector.



System Cabinet Part Numbers

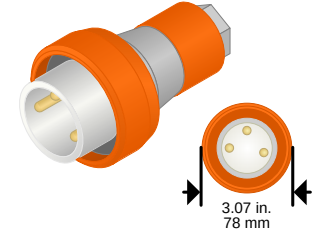
Empty Cabinet (No PDUs/Rails)	X870B-R6
Rail Kit	X877B-R6
Bolt-Down Kit	X878-R6
Interconnect Kit	X879-R6
Mounting Bracket Tie-Down	X8773-R6
1U Blank Panel	X8776-R6
3U Blank Panel	X8777-R6

2-Post and 4-Post Rack Mount Kit (3U systems and up)	X5515A-R6
2-Post and 4-Post Rack Mount Kit (FAS2020 & FAS2040)	X5518A-R6

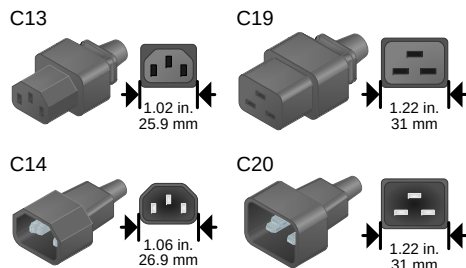
Power Distribution IEC60320-C13 to IEC60320-C14	
27 in. Power Cable	X800-42U-R6
48 in. Power Cable	X1558A-R6

AS/NZS 3123 Plugs

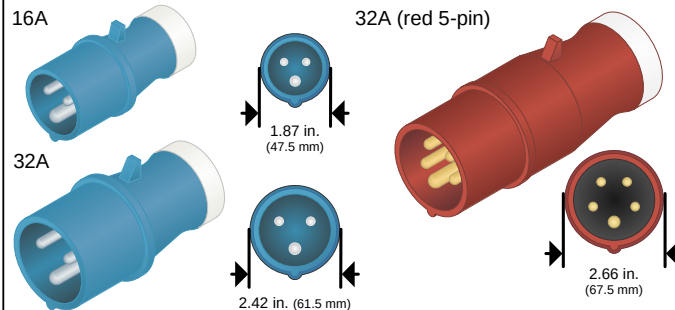
AS/NZS3123-20



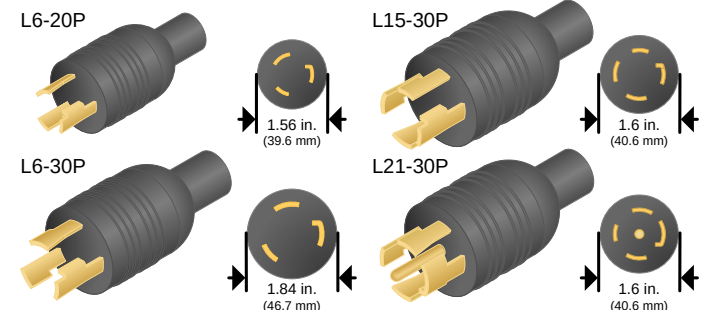
IEC 60320 Plugs



IEC 60309 Plugs



NEMA Plugs



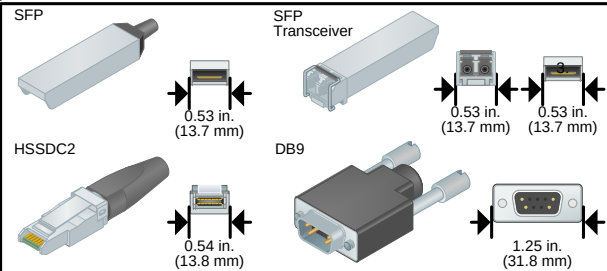
Please recycle after use. Feedback and questions can be sent to xdl-hardwareuniverse@netapp.com.



NetApp Hardware Universe – RC-0036-0909 – Side B – 09-15-2009

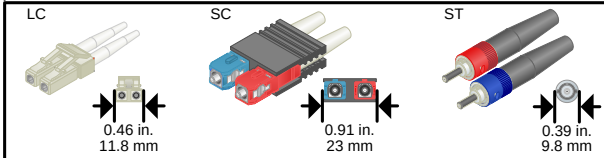
Common Cables

Fibre Channel Cables and Connectors



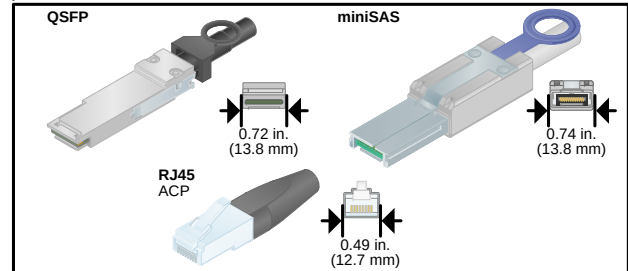
Part No.	Begin	End	Length	Quantity
X6529-R6	SFP	LC (Op)	Transceiver (2Gb)	1
X6539-R6	SFP	LC (Op)	Transceiver (4Gb)	1
X6530-R6	SFP	SFP	.5m (4/2/1Gb)	1
X6532-R6	SFP	SFP	3m (2/1Gb only)	1
X6556-R6	SFP	SFP	5m (4/2/1Gb Op)	1
X6538-R6	SFP	DB9	3m	1
X6531-R6	SFP	HSSDC2	.5m	1
X6533-R6	SFP	HSSDC2	3m	1

Optical Cables and Connectors



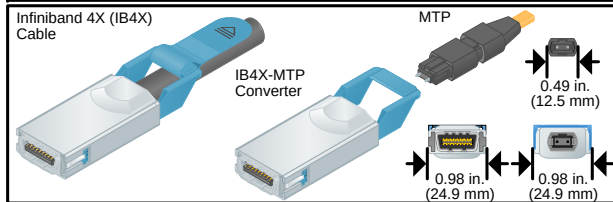
Part No.	Begin	End	Length	Quantity
X6510A-R6	SC	SC	5m	1
X6511A-R6	SC	SC	30m	1
X6524-R6	2 x LC	2 x LC	2m	1
X6553-R6	LC	LC	2m	1
X6536-R6	LC	LC	5m	1
X6554-R6	LC	LC	15m	1
X6537-R6	LC	LC	30m	1
X6523-R6	2 x LC	2 x SC	2m	1
X6547-R6	LC	SC	5m	1
X6546-R6	LC	SC	30m	1

SCSI Cables and Connectors



Part No.	Begin	End	Length	Quantity
X6513-R6	HD-68	VHDCI	2m	1
X6557-R6	QSFP	QSFP	0.5m	1
X6558-R6	QSFP	QSFP	2m	1
X6559-R6	QSFP	QSFP	5m	1
X6543-R6	miniSAS	QSFP	2m	1
X6544-R6	miniSAS	QSFP	5m	1
X6560-R6	RJ45	RJ45	0.5m	1
X6561-R6	RJ45	RJ45	2m	1
X6562-R6	RJ45	RJ45	5m	1

HA Pair Interconnect Cables and Connectors



Part No.	Begin	End	Length	Quantity
X1943A-R6	InfiniBand 4X	InfiniBand 4X	.5m	1
X1940A-R6	InfiniBand 4X	InfiniBand 4X	2m	1
X1941A-R6	InfiniBand 4X	InfiniBand 4X	5m	1
X1942A-R6	InfiniBand 4X	InfiniBand 4X	10m	1
X1949A-R5	InfiniBand 4X	MTP	Cu-Op converter	1
X1945A-R6	MTP	MTP	5m	1
X1946A-R6	MTP	MTP	30m	1
X1951A-R6	MTP	SC (Op)	30m	1
X1952A-R6	MTP	ST (Op)	30m	1
X1953A-R6	MTP	LC (Op)	30m	1
X1954A-R6	MTP	FC (Op)	30m	1
X1955A-R6	MTP	MT-RJ (Op)	30m	1

HA Pair Notes

HA pair configuration means two controllers - both actively serving data - are connected for automatic failover protection. The following interconnect options are applicable to HA pair configurations using NVRAM6 adapters:

.5m to 10m – Copper InfiniBand interconnect cables (standard)
NetApp part: X1943A-R6 (5m), X1940A-R6 (2m), X1941A-R6 (5m), or X1942A-R6 (10m)

5m to 30m – Optical interconnect using MTP ribbon cables
NetApp part: X1949A-R6 (Cu-to-Op converter)
NetApp part: X1945A-R6 (5m) or X1946-R6 (30m)

30m to 300m – Optical interconnect using MTP ribbon cables
NetApp part: X1949A-R6 (Cu-to-Op converter)
Fujikura part: CBPE4-497-XXX, where XXX designates length in meters
Example: 300 meter MTP 50/125 Plenum Cable 500Mhz/KM is CBPE4-497-300

300m to 500m – Optical interconnect using MTP ribbon cables
NetApp part: X1949A-R6 (Cu-to-Op converter)
Fujikura part: CBPE4-507-XXX, where XXX designates length in meters
Example: 500 meter MTP 50/125 Plenum Cable 2000Mhz/KM is CBPE4-507-500

NOTE: In order to achieve the maximum 500 meter distance between controllers in a HA pair, the interconnect cable must be a direct point-to-point connection with no intermediate device between them (such as patch panel).

The 30-300m & 300-500m cables from Fujikura are custom and have a 8 to 10 week lead-time.

HA configurations that must go through a patch panel can use the following part numbers in conjunction with the X1949A-R6 Cu-to-Op converters:

X1951A-R6 - SC termination	X1954A-R6 - FC (Op) termination
X1952A-R6 - ST termination	X1955A-R6 - MT-RJ termination
X1953A-R6 - LC termination	

Terms and Abbreviations

ACP – Alternate Control Path
BTU – British Thermal Unit
Cu – Copper Connector
FC – Fibre Channel
FC (Op) – Ferrule Connector
HSSDC – High-Speed Serial Data Connector
IB – InfiniBand
IB4X – InfiniBand 4X
LC – Lucent Connector
MTP – Mechanical Transfer Pull-Off

MT-RJ – Mechanical Transfer Registered Jack
Op – Optical Connector
PDU – Power Distribution Unit
QSFP – Quad SFP
SAS – Serial-Attached SCSI
SC – Subscriber Connector
SFP – Small Form-Factor Pluggable
ST – Straight Tip Connector
VHDCI – Very High Density Cable Interconnect

© 2009 NetApp. All rights reserved. Specifications are subject to change without notice. NetApp, the NetApp logo, Go further, faster, and Data ONTAP, are trademarks or registered trademarks of NetApp, Inc. in the United States and/or other countries. All other brands or products are trademarks or registered trademarks of their respective holders and should be treated as such.
RC-0036-0909

This document is subject to change without notice. Be sure to cross-reference the NOW System Configuration Guide at <http://now.netapp.com> for the most current information. NetApp employees and partners can check the NetApp 1Stop site at <http://www.netapp1stop.com> for updates. NetApp customers should check with their account teams for updates.

This document is chartered under the NetApp Technology Enablement and Solutions Organization (TESO).