

2U SAS JBOD Enclosure Configuration Guide



Introduction

This document contains product and configuration information that will enable you to configure your system. The guide will ensure fast and proper configuration of your storage system.

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Technical Specification

Key Features

- Compact direct attached storage
- Twenty four 2.5-inch or twelve 3.5-inch drive bays in 2U enclosure
- Superior reliability with hot plug redundant power supplies and redundant fans

Specification

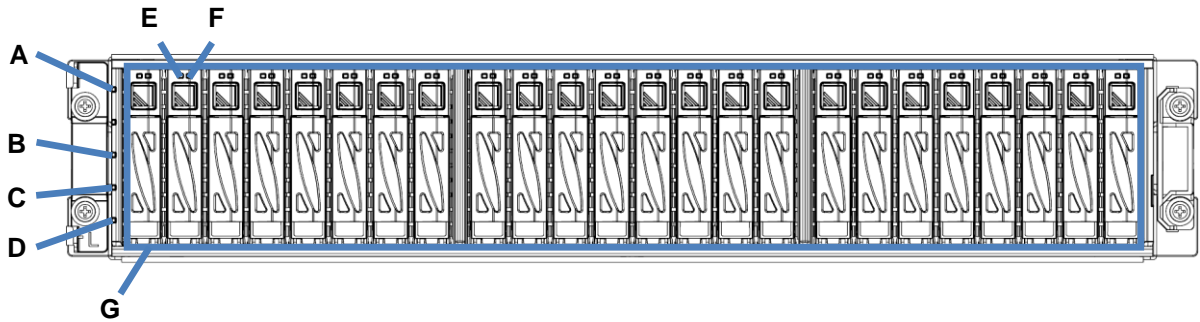
Model		2U SAS JBOD Enclosure	
Part Number		N8192-101F	N8192-102F
Storage	Maximum Capacity	28.8 TB SAS	48 TB NL SAS
	Hot Plug	Supported	
	Drive Bays	24	12
Interfaces		One SFF-8088 mini-SAS Connector	
Redundant Power Supply		Standard, hot plug	
Power Supply		Two hot plug PSU 100-240 VAC ± 10% 50 / 60 Hz ± 3 Hz	
Maximum Power Consumption		300 Watt	310 Watt
Dimensions (W x D x H)		455.0 x 569.0 x 88 mm / 17.9 x 22.4 x 3.4 in (2U)	
Weight (Maximum)		29 kg, 63.93 lbs.	
Temperature, Relative Humidity (non-condensing)		Operating: 10° to 35° C / 50° to 95° F, 20 to 80% Non-Operating: -10° to 55° C / 14° to 131° F, 20 to 80%	

External Views

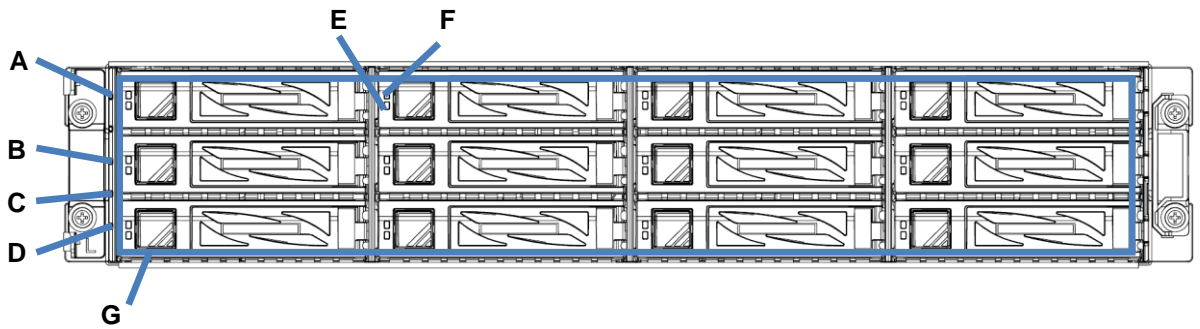
Front and Rear Views

Front View

2U 2.5-inch SAS JBOD Enclosure



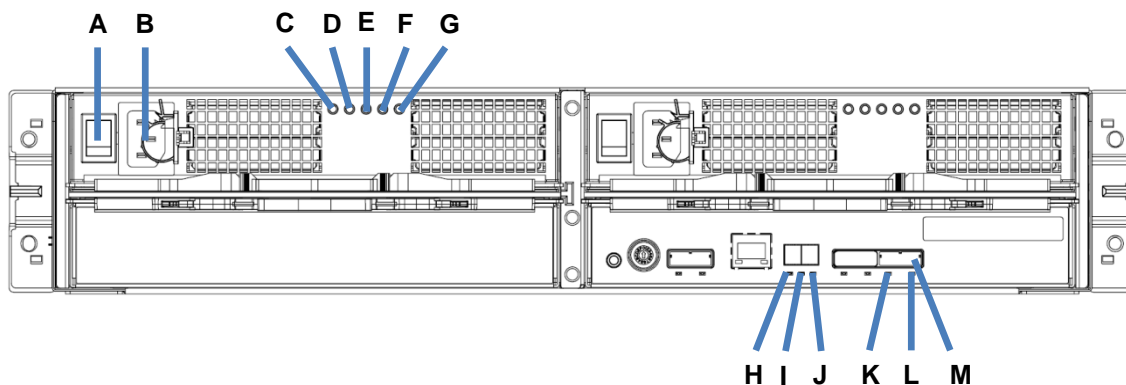
2U 3.5-inch SAS JBOD Enclosure



Optional Front Bezel Installed

Legend			
A.	ID LED	E.	Hard Drive Activity LED
B.	Service LED	F.	Hard Drive Fault LED
C.	Power LED	G.	Drive Bays
D.	Standby LED		

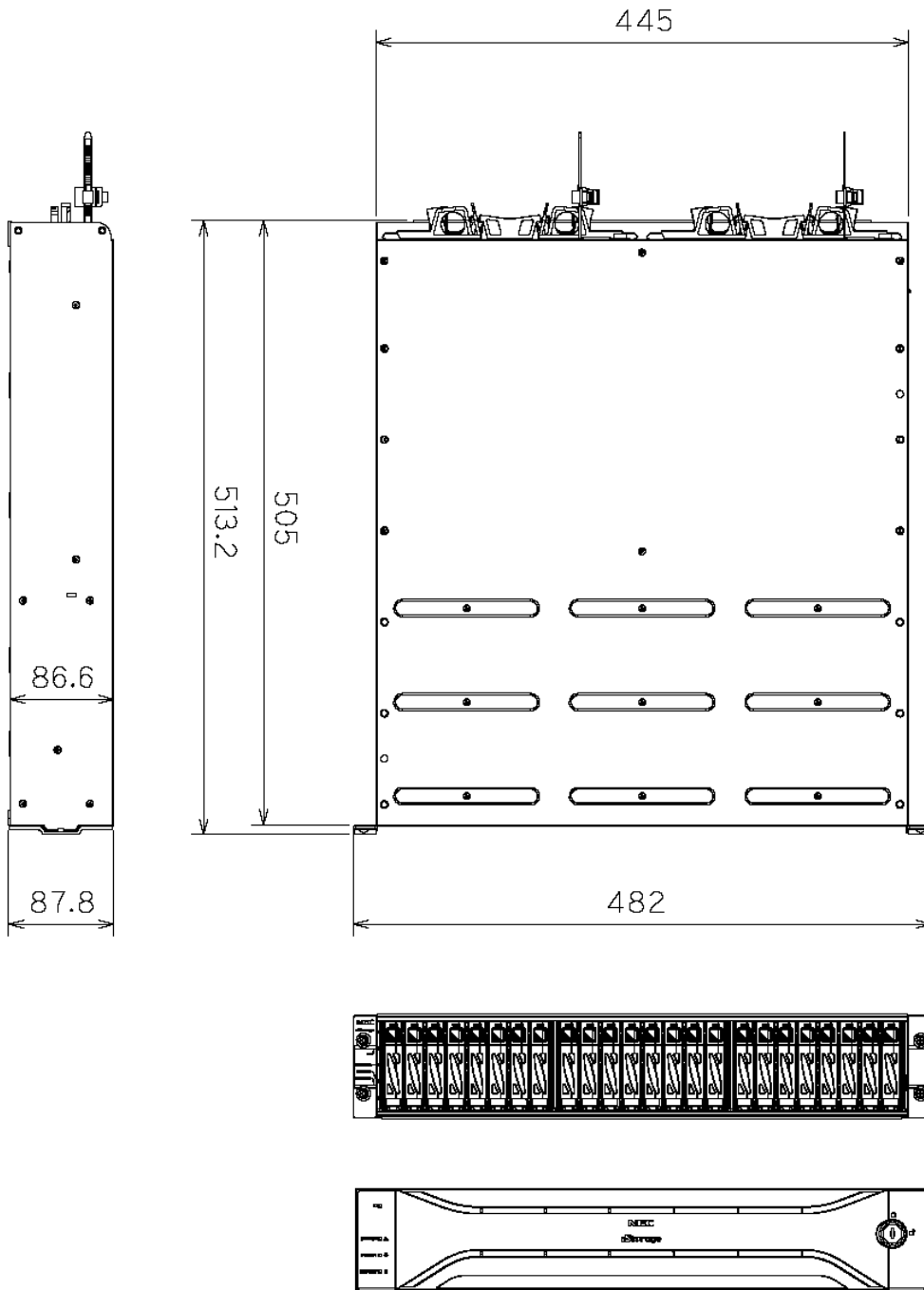
Rear View



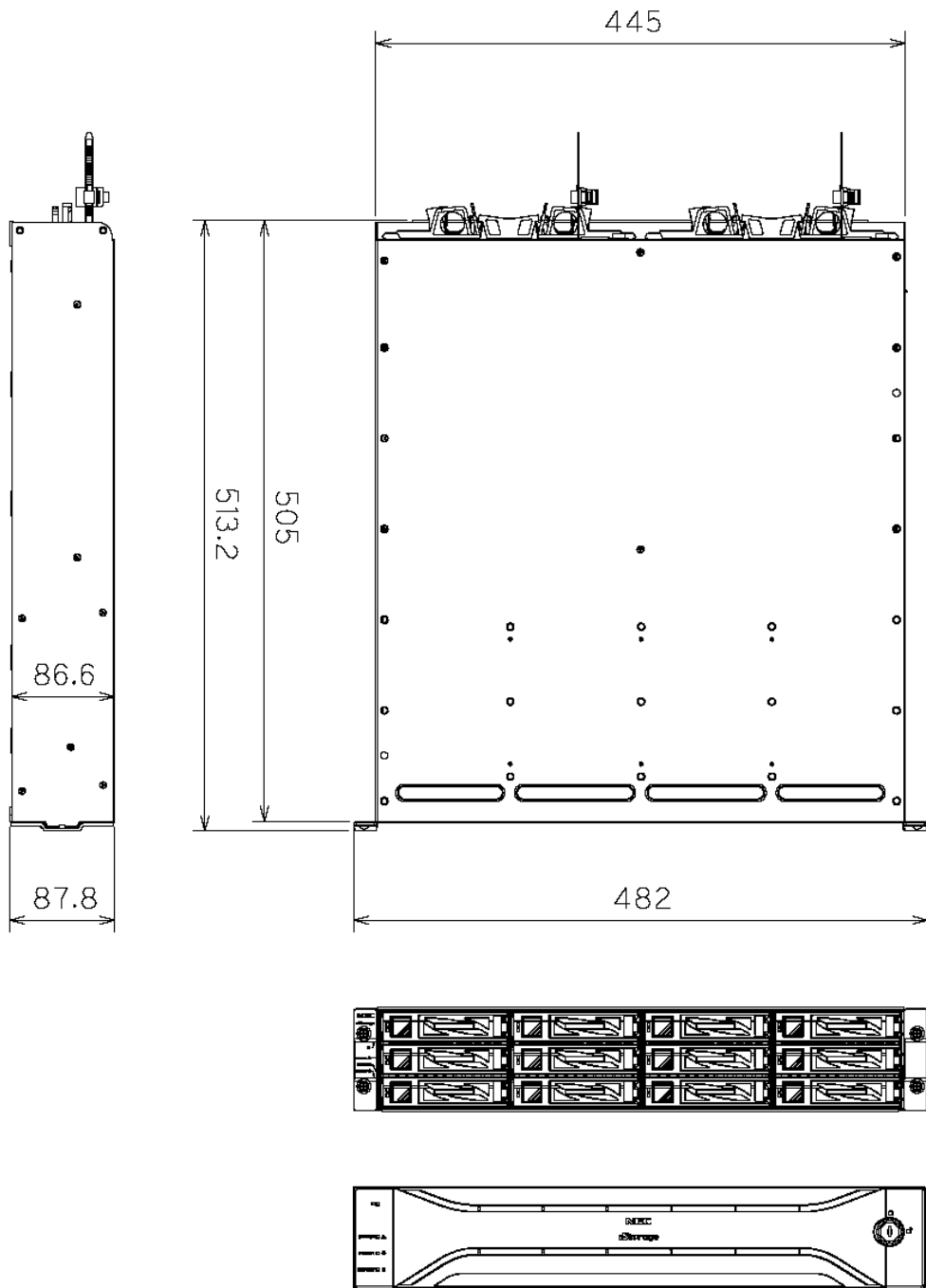
Legend	
A.	Power Switch
B.	AC Inlet
C.	AC Power Good LED
D.	Power Fault LED
E.	Service Action LED
F.	DC Power Good LED
G.	Standby Power Good LED
H.	Controller Ready LED
I.	Controller Fault LED
J.	ID LED
K.	SAS Link LED
L.	SAS Fault LED
M.	SFF-8088 mini-SAS Connector

Dimensions (mm)

2U 2.5-inch SAS JBOD Enclosure



2U 3.5-inch SAS JBOD Enclosure



Unit Configuration

1 External Drive Configuration

1.1 2U 2.5-inch SAS JBOD Enclosure (1)

Category	Product Name / Description	Part Number
Storage Controller Required	RAID Controller (512MB, RAID0/1/5/6) LSI MegaRAID SAS 9285-8e RAID0/1/5/6/10/50/60, 1GB, Ext. 8, PCIe 2.0 x8, SAS 6Gb/s, SATA 6Gb/s	N8103-160
	RAID Controller (1GB, RAID0/1/5/6) LSI MegaRAID SAS 9286CV-8e RAID0/1/5/6/10/50/60, 1GB, Ext. 8, PCIe 3.0 x8, SAS 6Gb/s, SATA 6Gb/s, flash cache protection modules included	N8103-161
RAID BBU Recommended	RAID Battery Backup Unit for LSI MegaRAID SAS 9285-8e	N8103-162
Cable 1 to 2 Required	External SATA Cable 2 m, 1 x SFF-8088 to 1 x SFF-8088	K410-191(02)
Enclosure 1 to 2 Required	2U 2.5-inch SAS JBOD Enclosure 24 x 2.5-inch Hot-plug hard drive bays	N8192-101F
Bezel	Front Bezel For N8192-101F/102F	N8192-302F
Drive 24 slots available	300GB HDD 1 x 300 GB SAS HDD, 2.5-inch, 6Gb/s, 10000 rpm	N8192-501
	450GB HDD 1 x 450 GB SAS HDD, 2.5-inch, 6Gb/s, 10000 rpm	N8192-502
	600GB HDD 1 x 600 GB SAS HDD, 2.5-inch, 6Gb/s, 10,000 rpm	N8192-503
	900GB HDD 1 x 900 GB SAS HDD, 2.5-inch, 6Gb/s, 10,000 rpm	N8192-504
	1.2TB HDD 1 x 1.2 TB, SAS HDD, 2.5-inch, 6Gb/s, 10,000 rpm	N8192-508

NOTE:

- Storage controllers must be compatible with the server connected.
- The drive enclosures connected to one storage controller must be identical.
- One drive enclosure can be connected to one port of storage controller.
- Eight and more disk drives must be installed.
- All hard drives within a RAID array should be of the same capacity and rotation speed.
- To configure a large-capacity RAID array, it is recommended to configure in RAID 6 or RAID 60 in order to minimize the risk of becoming multiple hard drives failure during the RAID rebuilding process.
- It is recommended to set RAID array configuration drives less than eight in order to minimize the risk of becoming multiple hard drives failure.
- Any of RAID arrays cannot be used as a boot device.

1.2 2U 2.5-inch SAS JBOD Enclosure (2)

Category	Product Name / Description	Part Number
Storage Controller Required	RAID Controller (2GB, RAID0/1/5/6) LSI MegaRAID SAS 9380-8e RAID0/1/5/6/10/50/60, 2GB, Ext. 8, PCIe 3.0 x8, SAS 12Gb/s, SATA 6Gb/s, Flash cache protection modules included	N8103-179
Cable 1 to 2 Required	External SATA Cable 2 m, 1 x SFF-8088 to 1 x SFF-8644	K410-322(02)
Enclosure 1 to 2 Required	2U 2.5-inch SAS JBOD Enclosure 24 x 2.5-inch Hot-plug hard drive bays	N8192-101F
Bezel	Front Bezel For N8192-101F/102F	N8192-302F
Drive 24 slots available	300GB HDD 1 x 300 GB SAS HDD, 2.5-inch, 6Gb/s, 10000 rpm	N8192-501
	450GB HDD 1 x 450 GB SAS HDD, 2.5-inch, 6Gb/s, 10000 rpm	N8192-502
	600GB HDD 1 x 600 GB SAS HDD, 2.5-inch, 6Gb/s, 10,000 rpm	N8192-503
	900GB HDD 1 x 900 GB SAS HDD, 2.5-inch, 6Gb/s, 10,000 rpm	N8192-504
	1.2TB HDD 1 x 1.2 TB, SAS HDD, 2.5-inch, 6Gb/s, 10,000 rpm	N8192-508

NOTE:

- Storage controllers must be compatible with the server connected.
- The drive enclosures connected to one storage controller must be identical.
- One drive enclosure can be connected to one port of storage controller.
- Eight and more disk drives must be installed.
- All hard drives within a RAID array should be of the same capacity and rotation speed.
- To configure a large-capacity RAID array, it is recommended to configure in RAID 6 or RAID 60 in order to minimize the risk of becoming multiple hard drives failure during the RAID rebuilding process.
- It is recommended to set RAID array configuration drives less than eight in order to minimize the risk of becoming multiple hard drives failure.
- Any of RAID arrays cannot be used as a boot device.

1.3 2U 3.5-inch SAS JBOD Enclosure (1)

Category	Product Name / Description	Part Number
Storage Controller Required	RAID Controller (512MB, RAID0/1/5/6) LSI MegaRAID SAS 9285-8e RAID0/1/5/6/10/50/60, 1GB, Ext. 8, PCIe 2.0 x8, SAS 6Gb/s, SATA 6Gb/s	N8103-160
	RAID Controller (1GB, RAID0/1/5/6) LSI MegaRAID SAS 9286CV-8e RAID0/1/5/6/10/50/60, 1GB, Ext. 8, PCIe 3.0 x8, SAS 6Gb/s, SATA 6Gb/s, flash cache protection modules included	N8103-161
RAID BBU Recommended for N8103-160	RAID Battery Backup Unit for N8103-160 LSI MegaRAID SAS 9285-8e	N8103-162
Cable 1 to 2 Required	External SATA Cable 2 m, 1 x SFF-8088 to 1 x SFF-8088	K410-191(02)
Enclosure 1 to 2 Required	2U 3.5-inch SAS JBOD Enclosure 12 x 3.5-inch Hot-plug hard drive bays	N8192-102F
Bezel	Front Bezel For N8192-101F/102F	N8192-302F
Drive 12 slots available	1TB 7.2K Hot Plug 3.5-inch NL SAS HDD 1 x 1 TB NL SAS HDD, 3.5-inch, 6Gb/s, 7,200 rpm	N8192-505
	2TB 7.2K Hot Plug 3.5-inch NL SAS HDD 1 x 2 TB NL SAS HDD, 3.5-inch, 6Gb/s, 7,200 rpm	N8192-506
	3TB 7.2K Hot Plug 3.5-inch NL SAS HDD 1 x 3 TB NL SAS HDD, 3.5-inch, 6Gb/s, 7,200 rpm	N8192-507
	4TB 7.2K Hot Plug 3.5-inch NL SAS HDD 1 x 4 TB, NL SAS HDD, 3.5-inch, 6Gb/s, 7,200 rpm	N8192-509

NOTE:

- Storage controllers must be compatible with the server connected.
- The drive enclosures connected to one storage controller must be identical.
- One drive enclosure can be connected to one port of storage controller.
- Four or more disk drives must be installed.
- All hard drives within a RAID array should be of the same capacity and rotation speed.
- To configure a large-capacity RAID array, it is recommended to configure in RAID 6 or RAID 60 in order to minimize the risk of becoming multiple hard drives failure during the RAID rebuilding process.
- It is recommended to set RAID array configuration drives less than eight in order to minimize the risk of becoming multiple hard drives failure.
- Any of RAID arrays cannot be used as a boot device.

1.4 2U 3.5-inch SAS JBOD Enclosure (2)

Category	Product Name / Description	Part Number
Storage Controller Required	RAID Controller (2GB, RAID0/1/5/6) LSI MegaRAID SAS 9380-8e RAID0/1/5/6/10/50/60, 2GB, Ext. 8, PCIe 3.0 x8, SAS 12Gb/s, SATA 6Gb/s, Flash cache protection modules included	N8103-179
Cable 1 to 2 Required	External SATA Cable 2 m, 1 x SFF-8088 to 1 x SFF-8644	K410-322(02)
Enclosure 1 to 2 Required	2U 3.5-inch SAS JBOD Enclosure 12 x 3.5-inch Hot-plug hard drive bays	N8192-102F
Bezel	Front Bezel For N8192-101F/102F	N8192-302F
Drive 12 slots available	1TB 7.2K Hot Plug 3.5-inch NL SAS HDD 1 x 1 TB NL SAS HDD, 3.5-inch, 6Gb/s, 7,200 rpm	N8192-505
	2TB 7.2K Hot Plug 3.5-inch NL SAS HDD 1 x 2 TB NL SAS HDD, 3.5-inch, 6Gb/s, 7,200 rpm	N8192-506
	3TB 7.2K Hot Plug 3.5-inch NL SAS HDD 1 x 3 TB NL SAS HDD, 3.5-inch, 6Gb/s, 7,200 rpm	N8192-507
	4TB 7.2K Hot Plug 3.5-inch NL SAS HDD 1 x 4 TB, NL SAS HDD, 3.5-inch, 6Gb/s, 7,200 rpm	N8192-509

NOTE:

- Storage controllers must be compatible with the server connected.
- The drive enclosures connected to one storage controller must be identical.
- One drive enclosure can be connected to one port of storage controller.
- Four or more disk drives must be installed.
- All hard drives within a RAID array should be of the same capacity and rotation speed.
- To configure a large-capacity RAID array, it is recommended to configure in RAID 6 or RAID 60 in order to minimize the risk of becoming multiple hard drives failure during the RAID rebuilding process.
- It is recommended to set RAID array configuration drives less than eight in order to minimize the risk of becoming multiple hard drives failure.
- Any of RAID arrays cannot be used as a boot device.

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Revision History

Revision	Date	Description
3.0	February 13, 2015	Other: Corrected the type of SAS cable to connect with N8103-179 RAID Controller and JBOD
2.0	January 30, 2015	New products added: RAID Controller (2GB, RAID0/1/5/6) / N8103-179
1.0	December 26, 2013	Initial release