


## NEC Storage M110/M310/M310F Disk Array Unit



# Setup Guide

Please read this document first.

This document describes the operating procedure based on the “NEC Storage M110/M310/M310F Disk Array Unit User’s Guide”.

For details, please see the pages indicated by  in the “Disk Array Unit User’s Guide”.



- Before using this unit, please read the “Safety Precautions” attached to the unit.
- If the setup operation for this unit is performed by a maintenance service company, check with maintenance personnel regarding the scope of work to be performed.

# 1 Starting the Setup: Preparation and Procedure

 [Ch. 2, Workflow - Installation to Operation](#)

 [3-1 Prerequisites](#)

## Preparation

◆ Make sure the following items are available:

- **Application server, and client machine**
- **Installation CD**
- **LAN cable (shielded)**
- **Interface cable for connecting the application server**
- **IP addresses (for disk array unit and connection ports)**
- **Network equipment (if necessary)**
- **Tool (Phillips screwdriver)**
- **At least three disk drives**
- **Operators (a minimum of two workers)**

◆ Perform the following setup operations with respect to the application server to which this unit is to be connected:

- **Acquiring a host adapter WWPN**
- **Mounting the host bus adapter**
- **Installing the host bus adapter driver**
- **Installing PathManager**  
(When using PathManager)

## Procedure

◆ Perform the following procedure:

- 1) **Starting the setup – Preparation and Procedure**
- 2) **Checking the package**
- 3) **Checking appearance and features**
- 4) **Installation**
- 5) **Connection – connecting the cables**
- 6) **Turning the power on**
- 7) **Installing and setting up the software**
  - 7-1 **Preparation**
  - 7-2 **Specifying the IP address**
  - 7-3 **Installing NEC Storage Manager Agent Utility**
  - 7-4 **Starting iSM client**
- 8) **Initializing the disk array unit**
  - 8-1 **Collecting host information**
  - 8-2 **Initializing and configuring the disk array**
  - 8-3 **Verifying the connection**
- 9) **Finish – setup complete**

## Notice

### ◆Notes on handling cables:

Be sure to handle cables carefully. Careless handling might cause the characteristics to degrade or mechanical damage (cable disconnection).

- Handle cable connectors carefully so that they are not dropped on the floor and damaged.
- Do not place excessive strain on the connector portion or cable portion of the connected cable.
- Do not pull strongly on the cable.

### ◆Notes on installing cables:

- Observe the defined minimum bending radius.(SAS cable: 100 mm, Optical cable: 50 mm)
- Install cables so that they do not cover the exhaust vents of the devices.
- Be sure to lock the cables.
- Form the base (connection portion) of the cable so as not to put excessive strain on it.

### ◆Notes on handling optical cables

If an optical cable that is dusty or dirty is inserted into a controller of the Disk Array Unit, the optical power may be attenuated, causing a data error.

- Before inserting an optical cable, clean the connector portion.

## 2 Checking the package

When opening the boxes, check the enclosed “Packing list” and make sure that all the listed items are accounted for.

If there is any missing or damaged item, contact the sales department that services your account or the dealer from which the system was purchased.

# 3

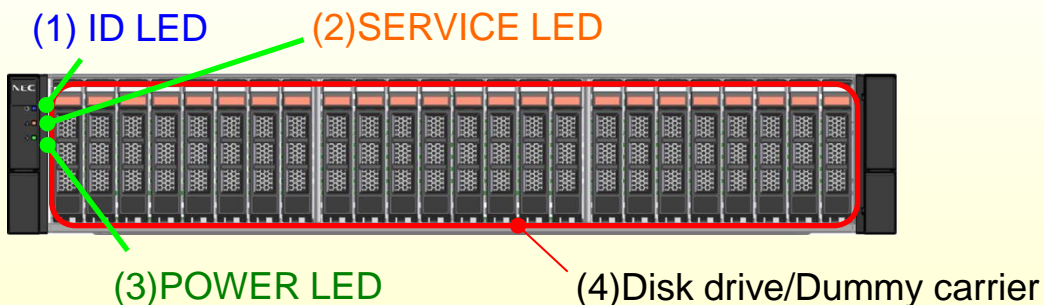
## Part Name – Checking Appearance and Features

Check the mount positions for the components and LED.

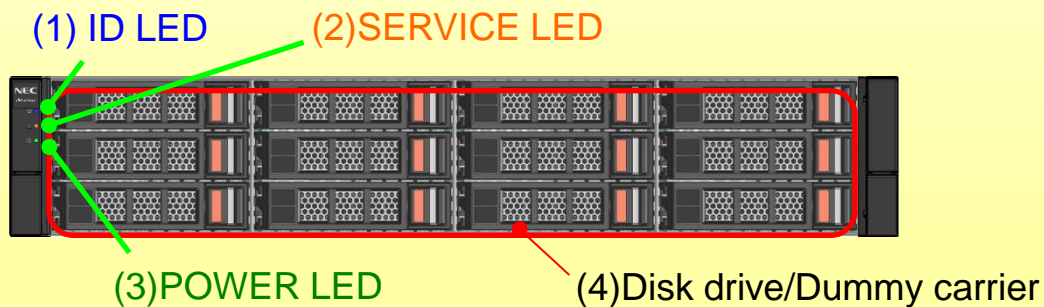
### Disk Array Unit

 [1-2-1 Disk Array Controller](#)

**[Front view]**



**[2.5-inch disk drive-mounting model]**



**[3.5-inch disk drive-mounting model]**

## [Rear view]

### Dual controllers and AC power mounting model

The DC power supply is same as the Disk Enclosure's. See the "Rear view" of the DC power mounting model Disk Enclosure on the next page.

(1) Controller (CONT1) (1) Controller (CONT0)



(2) Power supply (PS1) (2) Power supply (PS0)

[With FC 2port or iSCSI Optical 2port controllers]

[With FC 2port and iSCSI Copper 2port controllers]



[With FC 4port or iSCSI Optical 4port or  
FC 2port and iSCSI Optical 2port controllers]



[With iSCSI Copper 4port controllers]



[With iSCSI Copper 2port controllers]



[SAS 4port controllers]

[Optional]

**Disk Enclosure**

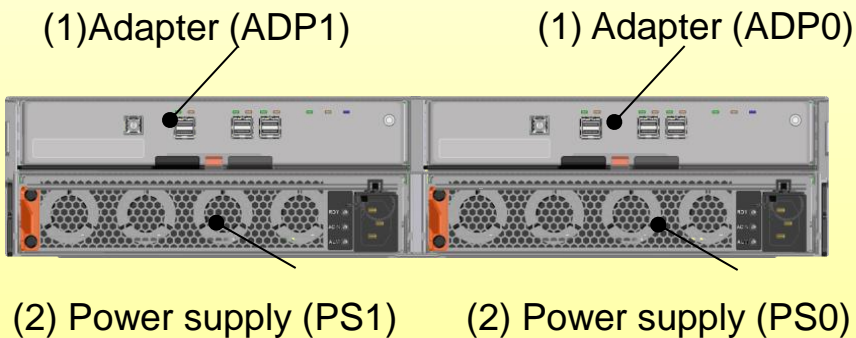
 [1-2-2 Disk Enclosure \(optional\)](#)

**[Front view]**

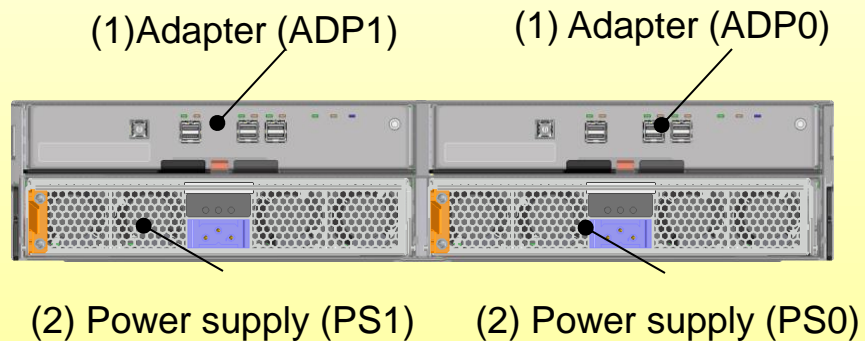
Same as the Disk Array Unit.

See the “Front view” of the Disk Array Unit.

**[Rear view]**



**[AC power mounting model]**



**[DC power mounting model]**

# 4 Installation

Perform the installation safely by reading the following safety precautions.

## 4-1 Assembling the controller

Install optional components if they are not already mounted in the controller. If they are all mounted, go to 4-2.

**In the case you install an optional controller to a single controller model, be sure to install it AFTER finishing all configuration of the Disk Array Unit as a single controller model.**

### Step 1

#### Installing host port cards and cache memories

Install host port cards and cache memories into the Disk Array Unit..



[3-2-3-1 Installing a host port card](#)



[3-2-3-2 Installing a cache memory \(only for M310\)](#)



- No extra lock screw is provided with the controller. So, keep the removed screws in a safe place until the next time you use them.
- After installing optional components, be sure to firmly attach the ejector to the controller by using the lock screws. Otherwise, there is a possibility that a failure or malfunction occurs in the controller.

### Step 2

#### Installing SFP modules (only for FC ports or iSCSI Optical ports)

Install SFP modules into FC ports or iSCSI Optical ports.



[3-2-3-3 Installing an SFP \(only when a host port card is optical\)](#)



- SFP module is a precision component. Protect it from any shock or vibration.
- When connecting cables, remove and store the dustproof cover.
- There are three types of SFP modules: 8Gb FC, 16Gb FC, and 10Gb iSCSI.

## 4-2

# Installing Disk Drives

Install the disk drive if it is not already mounted on the Disk Array Unit or the disk enclosure.



[3-2-4 Installing Disk Drives](#)



- Disk drives are electronic devices. When handling a disk drive, take anti-static measures, such as wearing a wrist strap.
- As system disks, install three disk drives, in locations 00, 01, and 02.
- On each disk drive, affix a system disk label and a location label(when 3.5-inch disk drives are installed).
- Store the removed dummy carrier in a safe place.

## 4-3

# Mounting the disk array unit and the disk enclosure on the rack



[3-2-5 Mounting a Disk Array Unit on a Rack](#)



- See the “Disk Array Unit Installation Guide”.
- The disk array unit (with a 3.5-inch disk drive) weighs 33 kg; the disk enclosure, 29 kg.
- Mounting the unit on the rack should be performed by two or more persons working together.
- Mount the disk array enclosure and the disk array unit, top-down, in the indicated order.



# 5 Connection – connecting the cables

- Connect the cables by checking the locations of cables (see figure below) .

 [3-3 Connecting Disk Array Units](#)

## Disk Array Unit

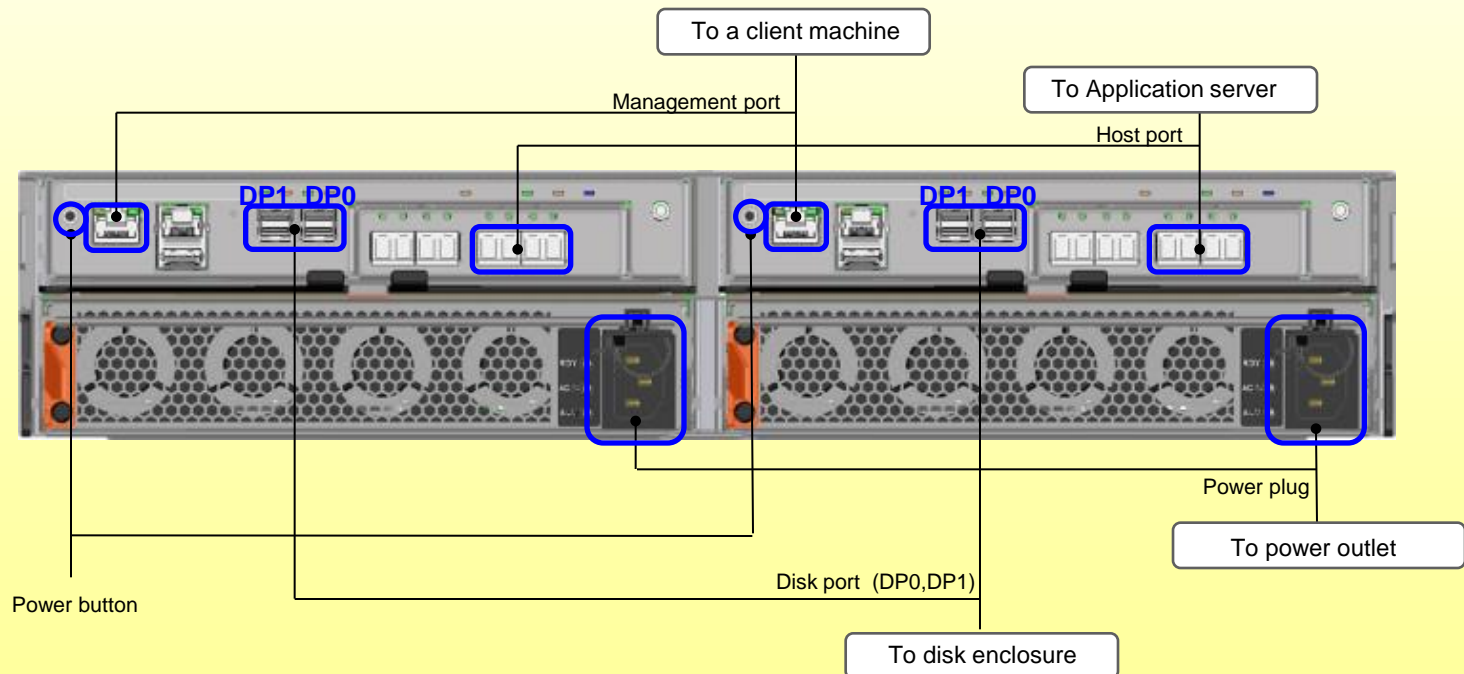
Note: Connect the power cable to the outlet after the connection of other cables is completed.

[Dual controllers and AC power mounting model with a pair of FC 4port HPE]

Connect the same way for Disk Array Units with other types of controller.

For details about name of each port, see the following section.

 [1-2-3-3 Controller \(CONT\) Table 1-9](#)



When connecting a disk enclosure, connect DP0 or DP1 (for M310) on the Disk Array Controller with the DP0-IN on the disk enclosure

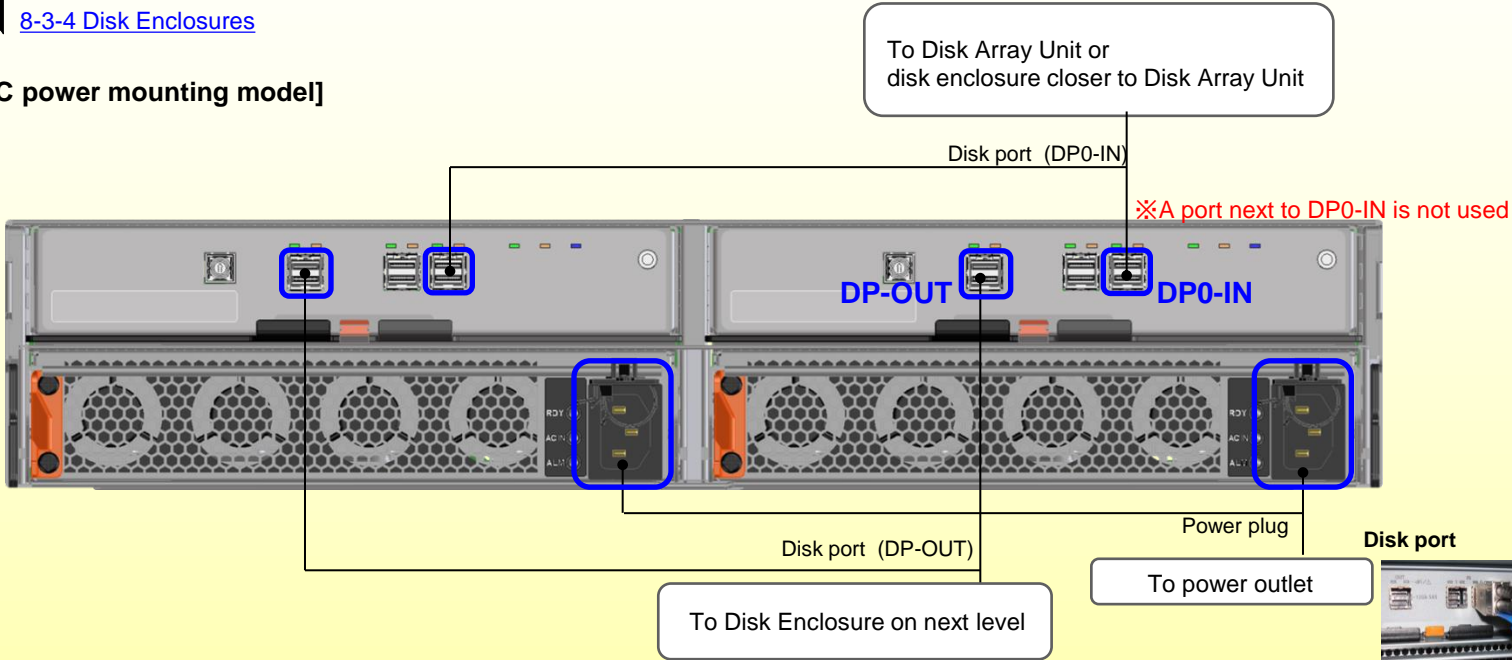
# [Optional]

## Disk enclosure

Note: Connect the power cable to the outlet after the connection of other cables is completed.

8-3-4 Disk Enclosures

[AC power mounting model]



- When connecting a SAS cable, be sure to insert the connector in the correct direction. Connect the SAS cable so that the pull tab faces down.  
Note that the direction of the connector is opposite from that of the SAS host port (only for M110). In the case of the SAS host port, the pull tab must face up.
- SAS cables have grooves in the connector that protect against incorrect insertion. Push the connector of the SAS cable into the port securely until you hear a click. If you feel some resistance, the direction of the connector may be wrong. In this case, do not insert the connector forcibly. Check the direction of the connector.
- When the connector has been inserted to the port correctly, it cannot be removed unless you pull the tab.
- If the link LED of the disk port does not turn on, or if the fault LED turns on, the direction of the connector may be wrong.
- A disk enclosure does not power on if both SAS cables are disconnected.
- When removing a SAS cable, be sure to remove the connector by pulling the pull tab straight along the cable.



• Disk Enclosure



• Disk Array Unit



SAS Host port

• Disk Array Unit

# ■ Connecting the SAS cables

Note: For wiring, see the User's Guide.

**M310 2.5/3.5, M310F 2.5 inch disk drive mounting model**

Disk enclosure 19 units max

**M110 3.5-inch disk drive mounting model**

Disk enclosure 9 units max

**M110 2.5-inch disk drive mounting model**

Disk enclosure 4unit max

**M11e 3.5-inch disk drive mounting model**

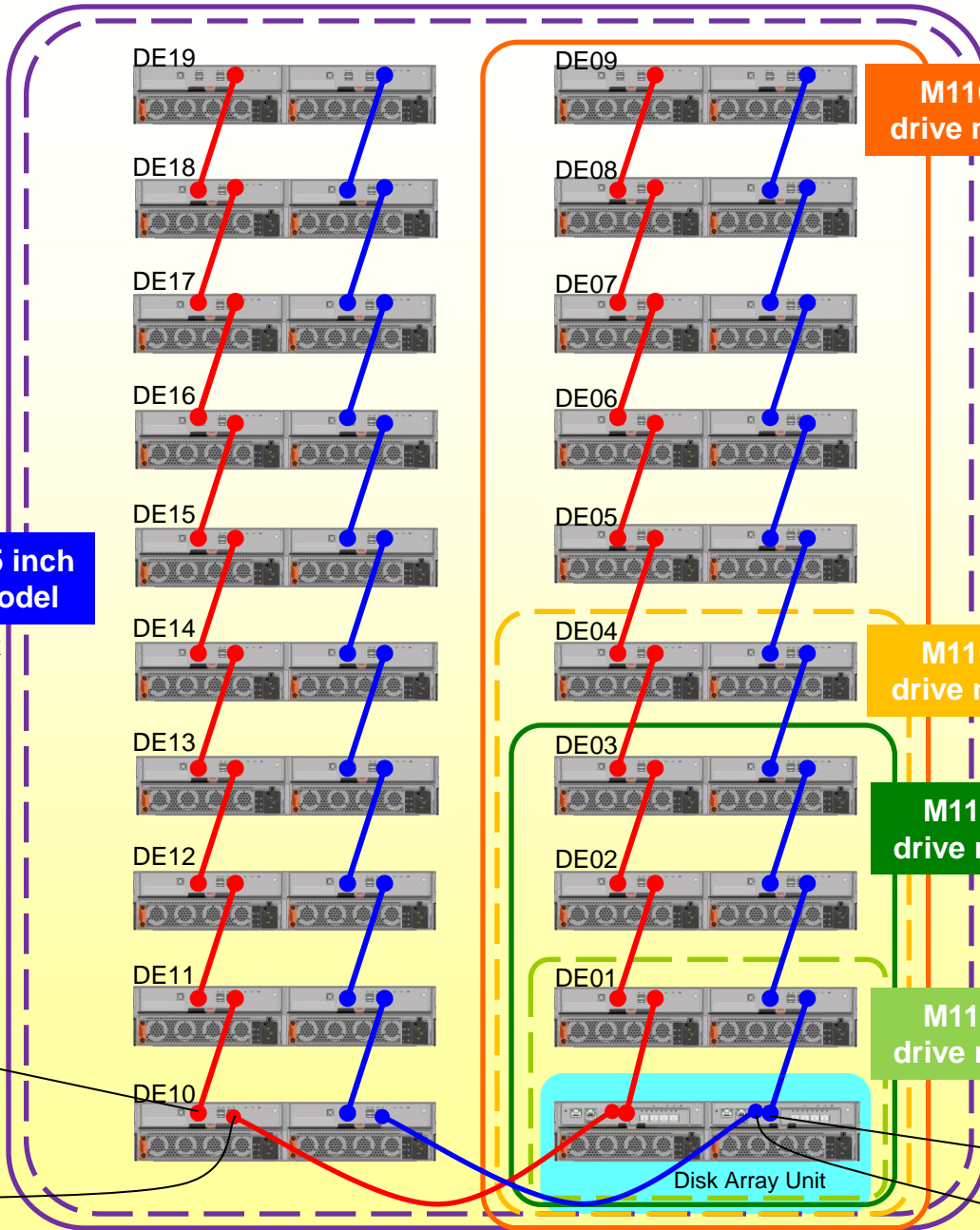
Disk enclosure 3unit max

**M11e 2.5-inch disk drive mounting model**

Disk enclosure 1 unit max

DP-OUT

DP0-IN



Disk Array Unit

DP0

DP1

# 6 Turning the Power On

Follow the steps below to power on the Disk Array Unit.

Make sure to power on the application servers after the Disk Array Unit is successfully started.

Step 0

## Preparation

- Check the disk array controller and the disk enclosures are connected correctly.
- Do not connect the power supply input cable to the disk array controller or power on the Disk Array Unit.

Step 1

## Power on the units

Connect the power supply input cable to the units, in the order of the disk enclosure and the disk array controller, or power on the units at the same time or in the order of the disk enclosure and the disk array controller.

Step 2

## Check the LEDs

Do not operate the Disk Array Unit until the Power LED (green) located at the front of the Disk Array Unit is lit and the Service LED (amber) goes off after cyclic flashing.



- In the case of the maximum configuration, it takes approximately six to eight minutes to performing initialization and the self test after power-on. During this period, the Service LED (amber) flashes cyclically.
- If the Service LED (amber) does not go off and the Power LED (green) is not lit after 10 minutes, the Disk Array Unit may be failing. See *Chapter 10, "Troubleshooting"*.

After checking the LEDs, power on the application servers.

For information on other power control systems, see the Users Guide.

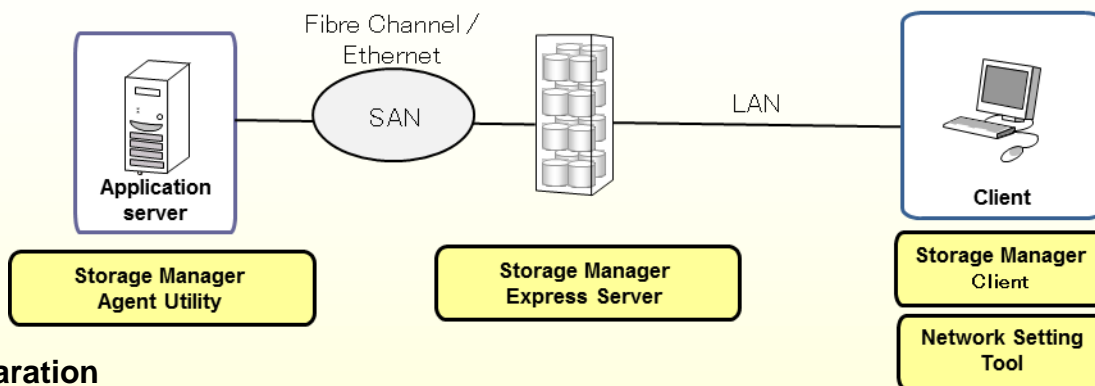


[3-4-1 Powering On the Disk Array Unit](#)

# 7

## Installing and Setting Up the Software



Install the software required to prepare and set up the NEC Storage Manager client.



### 7-1

#### Preparation




Prepare the client machine on which NEC Storage Manager client will be used. See the following section:

-  [4-1 Configuring NEC Storage Manager](#)
-  [4-2 Configuring Internet Explorer and Java for NEC Storage Manager](#)

### 7-2

#### Specifying the IP address


Install the network setup tool and then specify the IP address for the disk array. See the following sections:

-  [4-3-1 Installing Network Setting Tool](#)
-  [4-3-2 Configuring IP Addresses by Using Network Setting Tool](#)
-  [4-3-3 Setting the Disk Array Unit Time Zone](#)

### 7-3

#### Installing NEC Storage Manager Agent Utility

Install NEC Storage Manager Agent Utility on the application server. See the following section:

-  [4-4 Installing NEC Storage Manager Agent Utility on Application Server](#)

### 7-4

#### Starting NEC Storage Manager client

Start the NEC Storage Manager client on the client machine. See the following section:

-  [4-5 Starting NEC Storage Manager Client](#)

# 8 Initializing the Disk Array Unit

Initialize the disk array. The initialization method differs depending on the model.

## 8-1 Collecting host information for FC connection or iSCSI Opt connection

- To automatically collect host information on an FC model, go to 8-2.
- If the Disk array unit has only iSCSI connection, go to 8-2.

Collect host information from the application server. See the following section:

FC connection

 [5-2 Retrieving Host Information - Overview](#)

SAS connection

 [7-2 Retrieving Host Information - Overview](#)

## 8-2 Initializing and configuring the disk array


FC connection

Initialize and configure the disk array from the iSM client. See the following section:

 [5-3 Initializing the FC connection](#)

iSCSI connection

Initialize the disk array from the iSM client. Configure the disk array after setting up the iSCSI initiator for the application server. See the following section:

 [6-2 Initializing the iSCSI Connection](#)

## SAS model

Initialize and configure the disk array from the iSM client. See the following section:


 [7-3 Initialization the SAS Connection](#)

### 8-3


#### Verifying the connection

Verify the connection to the disk array from the application server to which the logical disk has been assigned. See below.

#### FC connection

 [5-4 Checking Connection from Application Servers](#)

#### iSCSI connection

 [6-3 Checking Connection from Application Servers](#)

#### SAS connection

 [7-4 Checking Connection from Application Servers](#)

# 9

## Setup Complete

This concludes the setup. If any problem should arise, see the following section:



[Chapter 10, Troubleshooting](#)

\* For a description on how to install/uninstall a controller, a disk drive, or a disk enclosure, see the following section:



[8-3 Installation and Removal](#)