FE-91DF8294-19

DF850

Disk Array System

Maintenance Manual

REV.24

Read this manual carefully and keep it.
• Before starting operation, read the safety instructions carefully and fully understand them. • After reading this manual, keep it at hand for your reference.

HITACHI

Preface

This manual explains the operation introduction, installation, maintenance, and WEB of the DF850 disk array system for service personnel to make them understand the DF850.

This manual contains information on maintenance works of the DF850 series disk array system such as array outline, structure, installation, and actions against failures.
When performing a maintenance work, read this manual carefully, and fully understand the Introduction of operation, operation procedure, and instructions before starting the work.

This manual was carefully prepared and reviewed for completeness and correctness. However, please feel free to contact us concerning any question, mistake, omission, or any other issues about this manual.

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Cautionary Notes

On This Manual

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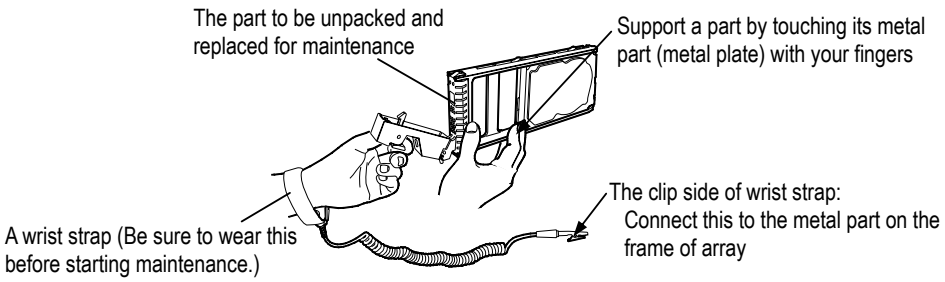
- Hitachi, Ltd. is not liable for any troubles or accidents which are caused by operation not written in this manual.
- The DF850 Maintenance Manual may be revised without prior notice.
- Although this array has the built-in laser diode, it meets the laser system standard of class 1. It does not emit the laser beam, which is harmful to a human body, outside the array in the usual operation.
  Operate the array according to this manual. Otherwise, it may cause unexpected accidents or failures.

General Cautionary Notes

- It is feared that user data is lost unless the power is turned off correctly following the specified procedure.
- The Drives are precision components. Never apply any shock or vibration to them.
- After replacing the Cache Backup Battery, connect the power cables to the Power Units, and deliver it to the customer after charging the battery. (It is about 3 hours at the maximum.)

- In order to protect parts from the electrostatic discharge, every worker must put a wrist strap on his/her wrist before starting installation or maintenance work and start the work after connecting the grounding clip to a metallic portion of the frame. (The wrist strap must be put on when connecting the LAN cable.)
- Do the work with the wrist strap put on. Do not put off the wrist strap till the work is finished.
- When handling a part, hold it in the way that fingertips of the hand putting the wrist strap on touch a metallic portion of the part. (The above is necessary in order to discharge the charged static electricity and prevent a charge caused by handling.)
- Be sure to touch the array with the wrist strap put on. If you touch the array without putting on the wrist strap, the static electricity charged on your body flows to the array in an instant because no resistance exists between your body and the array causing an array trouble.



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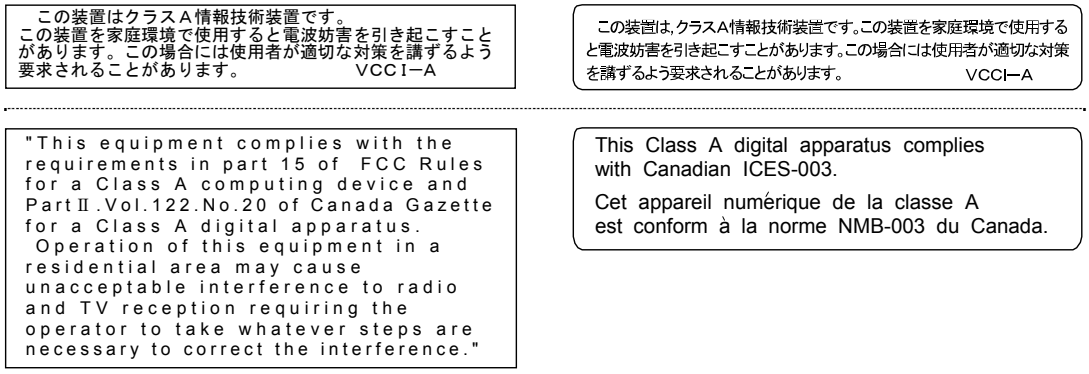
Note

EMI Regulation

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference in which case the user will be required to correct the interference at his own expense. Testing was done with shielded cables. Therefore, in order to comply with the FCC regulations, you must use shielded cables with you installation.

- This product must not be used in residential areas.
- This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

EMI Regulation Labels Affixed on the Array.



The EMI test was done in the following configuration.
If a trouble occurs in another configuration, a user may be requested to take appropriate preventive measures.

- DF850-CBSL/CBSS+DBL/DBS(×4)+RK40
- DF850-CBL+DBL/DBS(×4)+RK40
- DF850-CBSL/CBSS+DBL/DBS(×2)+DBX(×2)+RK40
- DF850-CBXSL/CBXSS+DBL/DBS(×2)+RK40
- DF850-CBLD+DBLD(×3)+DBSD(×3)+RK40
- DF850-CBL+DBW(×4)+RK40

Model Name Conversion

Throughout this document, product model name is written as “DF850”. When you want to use this document for the HT-4066 series, please read the model name “DF850” as “HT-4066”.

Table 1 Conversion Table for Model Name and Other Model Name

The model name which is used in this document	The model name replace to DF850	Type
DF850-×××	HT-4066-×××	(DF850-CBx)
DF-F850-××××	HT-F4066-××××	Optional component Accessory component

Throughout this document, array name “Hitachi Unified Storage” is abbreviated as “HUS” in some places. Read each array model names as shown in the table below.

Table 2 Conversion Table for Array Model Name

Model name	Abbreviation for Model Name
Hitachi Unified Storage 130	HUS130
Hitachi Unified Storage 150	HUS150
Hitachi Unified Storage 110	HUS110
Hitachi Unified Storage 100 Series	HUS100 Series

This manual does not describe CBLE except for the installing the encryption module.
CBLE have the same procedures for CBL. Therefore, read CBL as CBLE except for the shared part.

This manual does not describe CBLD, DBLD and DBSD except for the following differences.
CBLD, DBLD and DBSD have the same procedures for CBL, DBL and DBS, respectively.
Therefore, read CBL as CBLD, DBL as DBLD and DBS as DBSD except for the shared part.

Table 3 Difference between CBL/CBLD, DBL/DBLD and DSB/DBSD

Chassis Name	Power specification
CBL	AC power supply
CBLD	DC power supply
DBL	AC power supply
DBLD	DC power supply
DBS	AC power supply
DBSD	DC power supply

Manual Composition

This Maintenance Manual is composed of 12 volumes: Safety Summary, Introduction, Installation, Firmware, System Parameter, Addition/Removal/Relocation, Upgrade, Troubleshooting, Messages, Replacement, Parts Catalog, and WEB.
Each volume and chapter has table of contents to help readers to find just the page they want.

For the composition of the each volume, refer to the following.

Safety Summary :
This “Safety Summary” volume describes the cautionary notes to handle the maintenance work safely.

Introduction :
This “Introduction” volume describes the cautionary/prohibited notes in the maintenance work, the outline of the array, and the configuration, etc.

Installation :
This “Installation” volume describes the setting of the array and the installation of the parts, etc.

Firmware :
This “Firmware” volume describes the update installation of the firmware.

System Parameter :
This “System Parameter” volume describes the setting of the system parameter of the array, etc.

Addition/Removal/Relocation :
This “Addition/Removal/Relocation” volume describes the addition, removal and relocation related to the setting of the array.

Upgrade :
This Upgrade Volume describes the procedure for upgrading from the existing model to the upper model and the procedure for upgrading the HUS150 to the Drive I/O Module (Encryption) (Chapter 8.).

Troubleshooting :
This “Troubleshooting” volume describes the trouble analysis of the array, etc.

Messages:
This “Message” volume describes the content of the message which occurs at the time of the array failure.

Replacement :
This “Parts Replacement” volume describes the replacement work of each part and the periodic maintenance, etc.

Parts Catalog :
This “Parts Catalog” volume describes each part installed in the array.

WEB :
This “WEB” volume describes the operating procedure for WEB.

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