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[PSU REPLACEMENT PROCESSING - RPSU]

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REP(RPSU)01-10

NOTICE: The Power Supply to be removed differs depending on the type of Controller Chassis or Drive Box. Check the Storage System to replace the Power Supply.

- When replacing the Power Supply of the DKC
 - "1. Replacing a Power Supply (DKCPS) for DKC"
- When replacing the Power Supply of the Drive Box
 - "2. Replacing a Power Supply (DBPS) for Drive Box"

1. Replacing a Power Supply (DKCPS) for DKC

1. Connecting the Maintenance PC

Connect the Maintenance PC to the SSVP, and then log in to the SVP.

- "Attachment/Removal Procedure of Maintenance PC" (INST(IN)13-02-10)
- "Connection to the SVP" (SVP01-30)
- 2. Starting the SVP window

From the menu of Web Console, click [Maintenance Components] - [Maintenance Other Components].

3. Changing the operation mode

Change the mode to [View Mode].

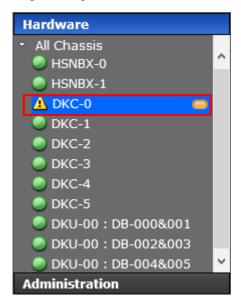
4. Starting Maintenance Utility

In the SVP window, click [Maintenance Utility]. (See "Starting Maintenance Utility" (MU01-10).)

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- 5. Selecting replacement parts by Maintenance Utility.
 - (1) <Main window> Select [DKC-X] in the main window.



(2) <Controller Chassis window>

Click the [PSs] tab in the Controller Chassis window to display a DKCPS status. See "Alert Display Related to FRU (Field Replacement Unit)" (MU02-10) for [Status]. Replace a DKCPS whose Status is "Warning".



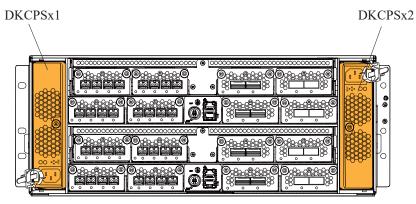
- NOTE: When performing the preventive replacement of a DKCPS in which no error occurs, confirm that the status of the other DKCPS is Normal, and then replace the target DKCPS.
 - SIM RC = af20xx (DKCPS warning) or SIM RC = af21xx (DKCPS input voltage abnormality) might occur during preventive replacement. Ignore the SIMs because they occur due to DKCPS replacement.
 - If there is any error in the other DKCPS, resolve the error, and then replace the target DKCPS.
- (3) <Confirm the location of DKC>
 Turn on the Locate LED on the DKC to be replaced is installed to check the chassis location.
 Refer to "Trun on Locate LED" (MU02-40) for the operation to turn on the Locate LED.

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6. Power Supply (for DKC) Replacement Processing

Location	Function Name of Component		Part Name
Rear of DKC	1	DKCPS	DKCPS



Rear view of DKC

*1: DKC-
$$x$$
 DKC No. (0, 1, 2,, 5)

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NOTICE: To prevent part failures caused by static electrical charge built up on your own body, be sure to wear a wrist strap connected to the Storage System before starting and do not take it off until you finish. Refer to "Note on Installing and Removing Parts" (REP(GE)01-30).

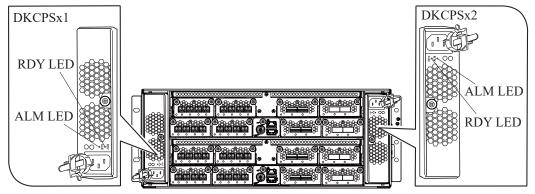
NOTICE: The insertion direction of DKCPSx1 and DKCPSx2 is opposite.

(1) Check that the ALM LED (red) on the DKC DKCPS to be replaced lights up. When the LED does not light up, check the location of the DKCPS to be replaced in the Maintenance Utility window.

A CAUTION

If replacing the DKCPS not to be replaced, the system will be down. Check that the DKCPS is to be replaced.

Figure 1-1 ALM LED Location



Rear view of DKC

REP(RPSU)01-41



Watching for short-circuits:

A Short-circuit may cause a fire.

Never insert metal or the like into the cable connector or a short-circuit may occur.

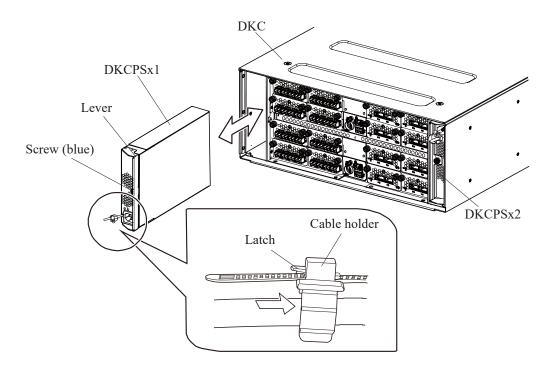
- (2) Remove the power cables from the DKCPS to be replaced. Remove the cable holder to remove the power cable from the DKCPS.
- (3) Replace the DKCPS.
 - (a) Loosen the screw (blue) which fixed the DKCPS.
 - (b) Open the lever to pull out and remove the DKCPS.

 When the lever is completely opened, the DKCPS comes out forward.
 - (c) Pull out and remove the DKCPS while holding its body with both hands.
 - (d) Hold up the latch on the cable holder of the new DKCPS to release the lock, and then slide the cable holder forward.

NOTICE: Wait for more than or equal to 20 seconds, and then insert the replacement DKCPS.

- (e) With the lever opened completely, insert the new DKCPS into the slot.
- (f) Push the new DKCPS all the way in.
- (g) Close the lever completely.
- (h) Tighten the screw (blue) to fix the DKCPS.

Figure 1-2 Replacement of DKCPS



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(4) Connect the removed power cable to the DKCPS, and then fix the cable by the cable holder. Check that the ALM LED (red) on the DKCPS goes out and the RDY LED (green) lights up.

NOTICE: If the ALM LED (red) does not go out for more than or equal to 30 minutes after replacing the DKCPS, redo the steps from Step (2).

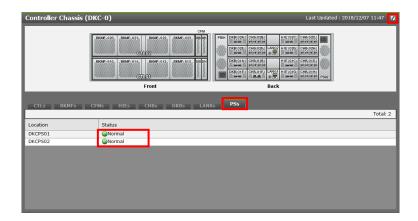
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7. Restoring replacement parts by Maintenance Utility

(1) <Check DKCPS restoration> Click the [PSs] tab in the Controller Chassis window and check that a Status of the replaced DKCPS is "Normal".

NOTE: Click [refresh] on the upper right of the window to update the window, and then check the status.



- (2) Turn off the Locate LED on the DKC in according with "Turn off Locate LED" (MU02-70).
- 8. Closing Maintenance Utility
 - (1) Click [Logout] to close the window.
 - (2) <Get the error information>
 Collect dumps "Rapid" for dump type by referring to "Dump/Auto Dump" (SVP02-09-10).
 - (3) Refer to the "Use of OnlineDumpTool" (SVP02-21-10), please upload the error information.

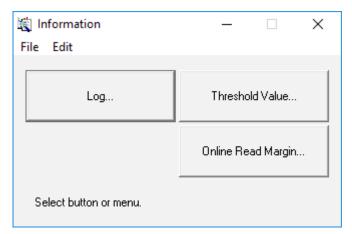
DKC910I

REP(RPSU)01-70

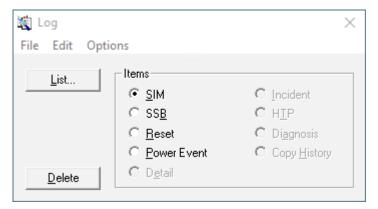
Rev.0

9. Completing the SIM log

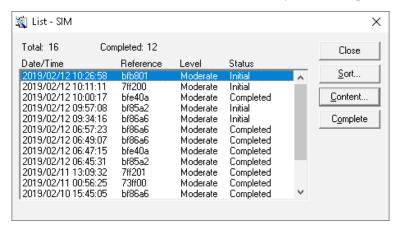
- (1) Change the mode to [Modify Mode], and then select [Information].
- (2) In the Information window, click [Log...].



(3) In the Log window, select [SIM] and then [List...].



(4) In the List-SIM window, select the data for which you end the process, and then click [Complete].

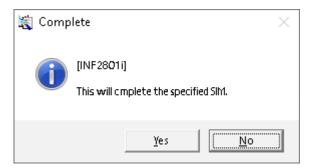


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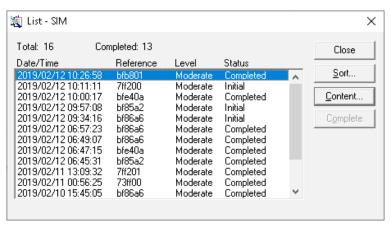
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(5) In the Complete window, click [Yes].



(6) In the List-SIM window, confirm that the "Status" of the data has become "Completed".



(7) In the List-SIM window, click [Close].Close the Log window, then the Information window.Change the mode from [Modify Mode] to [View Mode].

NOTE: If the MESSAGE LED is lit on the HSNPANEL after you complete all SIMs, display SIMs to check that SIM statuses are "Completed". If SIM statuses are not "Completed", wait for five minutes, and then perform the procedure for completing the SIM log again.

10. Checking Normality

Perform the normality check according to "Checking Normality (TRBL02-06-10)".

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REP(RPSU)02-10

2. Replacing a Power Supply (DBPS) for Drive Box

1. Connecting the Maintenance PC

Connect the Maintenance PC to the SSVP, and then log in to the SVP.

- "Attachment/Removal Procedure of Maintenance PC" (INST(IN)13-02-10)
- "Connection to the SVP" (SVP01-30)
- 2. Starting the SVP window

From the menu of Web Console, click [Maintenance Components] - [Maintenance Other Components].

3. Changing the operation mode Change the mode to [View Mode].

4. Starting Maintenance Utility

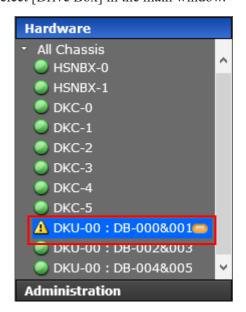
In the SVP window, click [Maintenance Utility]. (See "Starting Maintenance Utility" (MU01-10).)

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REP(RPSU)02-20

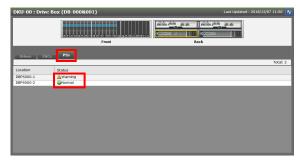
- 5. Selecting replacement parts by Maintenance Utility.
 - (1) <Main window> Select [Drive Box] in the main window.



(2) <Drive Box window>

Click the [PSs] tab in the Drive Box window to display a DBPS status. See "Alert Display Related to FRU (Field Replacement Unit)" (MU02-10) for [Status]. The status of the failed DBPS is "Warning".

• In case of SBX



- NOTE: When performing the preventive replacement of a DBPS in which no error occurs, confirm that the status of the other DBPS is Normal, and then replace the target DBPS.
 - SIM RC = af5xxx (DBPS-x warning) or SIM RC = af6xxx (DBPS-x input voltage abnormality) might occur during preventive replacement. Ignore the SIMs because they occur due to DBPS replacement.
 - If there is any error in the other DBPS, resolve the error, and then replace the target DBPS.
- (3) <Confirm the location of Drive Box>

Turn on the Locate LED on the Drive Box in which the ENC to be replaced is installed to check the chassis location.

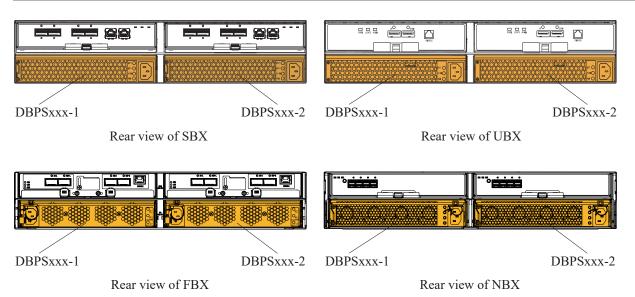
Refer to "Trun on Locate LED" (MU02-40) for the operation to turn on the Locate LED.

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REP(RPSU)02-30

6. Power Supply (for Drive Boxes) Replacement Processing

Location	Function Name of Component		Part Name
Rear of	1	DBPS	• DBPS (SBX/NBX)
SBX/UBX/FBX/NBX			• DBPS (UBX)
			• DBPS (FBX)



*1: DBPSxxx-1

→ DBPS No. (000, 001, 002,, 191)

NOTICE: To prevent part failures caused by static electrical charge built up on your own body, be sure to wear a wrist strap connected to the Storage System before starting and do not take it off until you finish. Refer to "Note on Installing and Removing Parts" (REP(GE)01-30).

A CAUTION

If replacing the DBPS not to be replaced, the system will be down. Check that the DBPS is to be replaced.

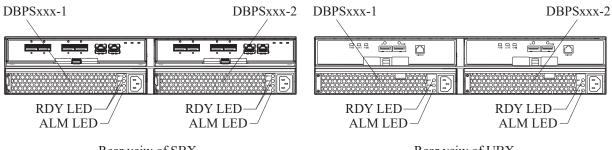
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REP(RPSU)02-31

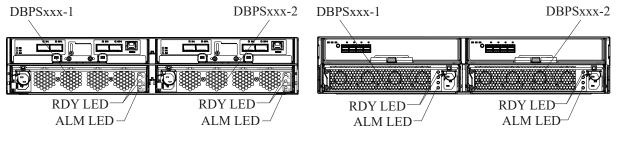
(1) Check that the ALM LED (red) on the DBPS to be replaced lights up. When the LED does not light up, check the location of the DBPS to be replaced in the Maintenance Utility window.

NOTICE: Even if the ALM LED (red) lights up, the DBPS status might be "Normal". In that case, follow "Recovery Procedure when ALM LED (red) is not Turned OFF" (TRBL02-04-320).

Figure 2-1 ALM LED Location



Rear veiw of SBX Rear veiw of UBX



Rear view of FBX Rear veiw of NBX

REP(RPSU)02-40



Watching for short-circuits:

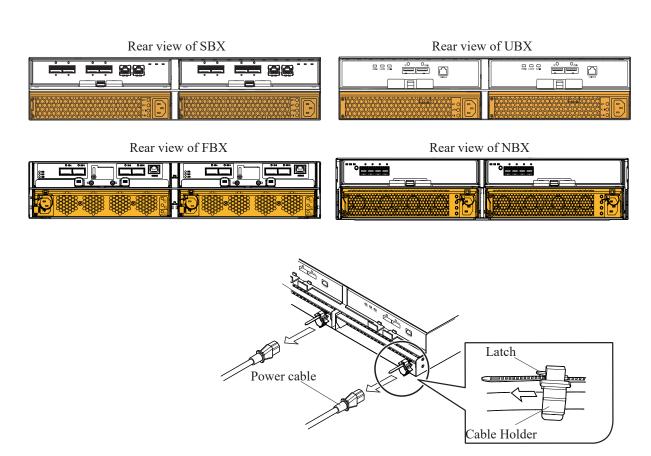
A Short-circuit may cause a fire.

Never insert metal or the like into the cable connector or a short-circuit may occur.

(2) Remove the power cables from the DBPS to be replaced.

Remove the cable holder from the power cable and remove the power cable from the DBPS.

Figure 2-2 Removing Power Cables



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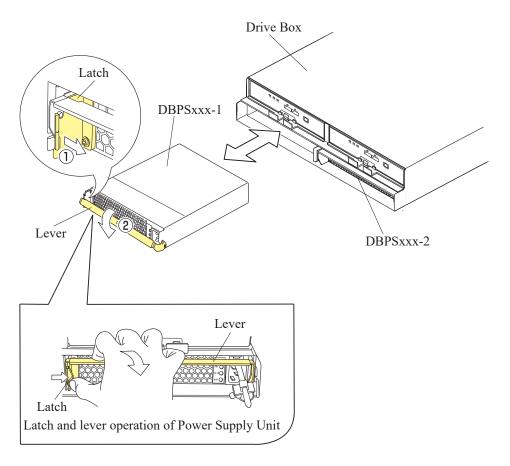
REP(RPSU)02-50

- (3) Replace the DBPS.
 - (a) Pull the lever open (②) while pressing the latch on the DBPS inward with right thumb (①). When the lever is completely opened, the DBPS comes out forward.
 - (b) Pull out and remove the DBPS while holding its body with both hands.
 - (c) With the lever opened completely, insert the new DBPS into the slot. If you cannot insert the DBPS into the slot easily, insert it after adjusting the position by slightly returning the lever.

NOTICE:

- Wait for more than 20 or equal to seconds, and then insert the replacement DBPS.
- When the ambient temperature is 35° C or higher, insert the DBPS within two minutes. When the ambient temperature is lower than 35° C, insert the DBPS within four minutes.
- To remove the DBPS, pull it out immediately after pulling the lever open.
- (d) Push the new DBPS all the way in.
- (e) Close the lever completely and fix the DBPS.

Figure 2-3 Replacement of DBPS



*1: SBX/UBX/NBX is illustrated as an example in the figure. The procedure for FBX is also the same.

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REP(RPSU)02-60

(4) Connect the removed power cables to the DBPS, and then fix a cable with a cable holder. (Refer to Figure 2-2.)

- (5) Check that the RDY LED (green) on the DBPS lights up.
 - NOTE: If the DBPS status is "Normal" and the RDY LED (green) does not light up, follow "Recovery Procedure when ALM LED (red) is not Turned OFF" (TRBL02-04-320).
 - If the ALM LED (red) does not go out for more than 30 minutes after replacing the DBPS, redo the steps from Step (2).

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REP(RPSU)02-70

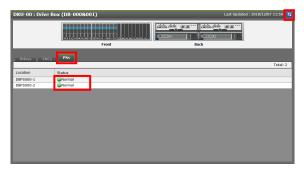
7. Restoring replacement parts by Maintenance Utility

(1) <Check DBPS restoration>

Click the [PSs] tab in the Drive Box window and check that a Status of the replaced DBPS is "Normal".

NOTE: Click [refresh] on the upper right of the window to update the window, and then check the status.

• In case of SBX



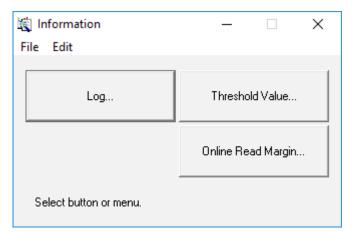
- (2) Turn off the Locate LED on the Drive Box in according with "Turn off Locate LED" (MU02-70).
- 8. Closing Maintenance Utility
 - (1) Click [Logout] to close the window.
 - (2) <Get the error information> Collect dumps "Rapid" for dump type by referring to "Dump/Auto Dump" (SVP02-09-10).
 - (3) Refer to the "Use of OnlineDumpTool" (SVP02-21-10), please upload the error information.

DKC910I

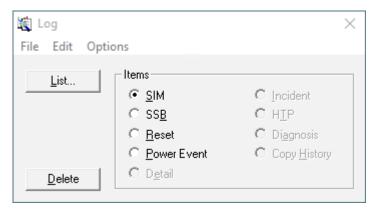
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REP(RPSU)02-80

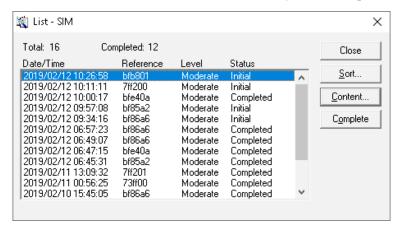
- 9. Completing the SIM log
 - (1) Change the mode to [Modify Mode], and then select [Information].
 - (2) In the Information window, click [Log...].



(3) In the Log window, select [SIM] and then [List...].



(4) In the List-SIM window, select the data for which you end the process, and then click [Complete].



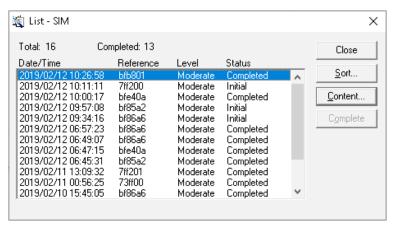
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(5) In the Complete window, click [Yes].



(6) In the List-SIM window, confirm that the "Status" of the data has become "Completed".



(7) In the List-SIM window, click [Close].Close the Log window, then the Information window.Change the mode from [Modify Mode] to [View Mode].

NOTE: If the MESSAGE LED is lit on the HSNPANEL after you complete all SIMs, display SIMs to check that SIM statuses are "Completed". If SIM statuses are not "Completed", wait for five minutes, and then perform the procedure for completing the SIM log again.

10. Checking Normality

Perform the normality check according to "Checking Normality (TRBL02-06-10)".