

[ENC REPLACEMENT PROCESSING - RENC]

NOTE: The general workflow for the ENC replacement consists of the following three steps.

- (a) Blocking the ENC
- (b) Replacing the ENC module
- (c) Restoring the ENC

In Step (a), a message that instructs to replace not only the ENC module concerned but also to replace other ENC modules might appear. Even if the message appears, you might not necessarily need to replace the instructed all ENC modules with the maintenance parts to recover the failure. In this case, perform the procedure below.

1. Block the ENC concerned. (Step (a))
2. Replace the ENC module concerned with the maintenance part and perform dummy replacement of the other instructed ENC modules. (Step (b))
3. Perform the restoration of the ENC. (Step (c))
4. Check the statuses of all of the instructed ENC modules and DKB (CTL) modules connected with them with Maintenance Utility.

If any status of the ENC or DKB (CTL) modules isn't "Normal", go back to Step 1, and then replace another ENC with the maintenance part and then perform dummy replacement of the other instructed ENC modules.

Refer to the following procedure for the details of Step (a), (b), and (c).

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](#))

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2. Starting the SVP window

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

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3. Changing the operation mode

Change the mode to [View Mode].

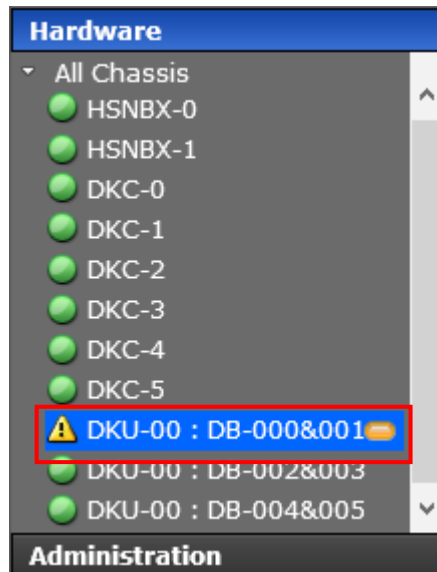
-
4. Starting Maintenance Utility

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

5. Selecting replacement parts by Maintenance Utility.

(1) <Main window>

Select [DKU-XX] in the main window.



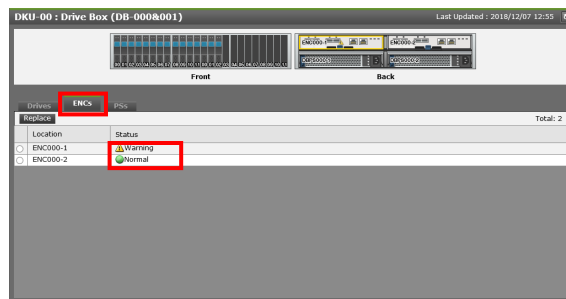
(2) <Drive Box window>

Click the [ENCs] tab in the Drive Box window to display an ENC status.

See “Alert Display Related to FRU (Field Replacement Unit)” (MU02-10) for [Status].

The status of the failed ENC is “Warning”.

• In case of SBX



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

(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.

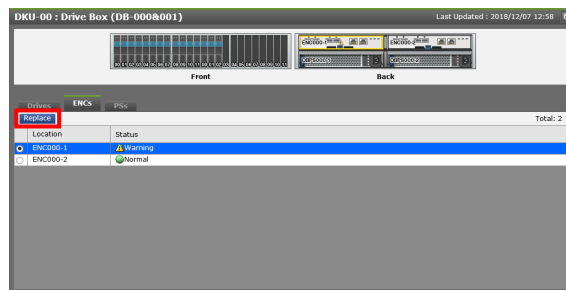
Refer to “Turn on Locate LED” (MU02-40) for the operation to turn on the Locate LED.

When the Locate LED can't be turned on, refer to “DKU (16U/8U)” (LOC02-50), and confirm the location of Drive Box.

(4) <Select ENC>

Select an ENC to be replaced. Click [Replace].

- In case of SBX



(5) <Block ENC>

⚠ CAUTION

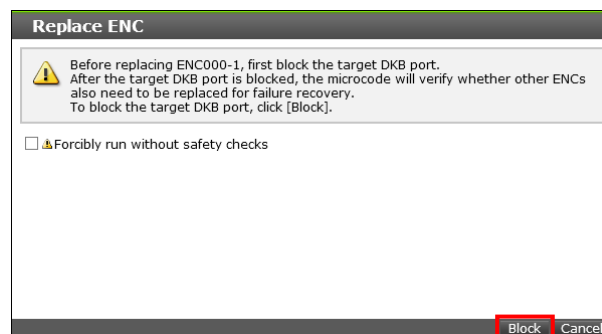
About “Forcibly run without safety checks”:

If you check this checkbox and execute the maintenance, the system may go down. Do not check it unless instructed by the message, the manual or the contact described in the manual.

Click [Block] after checking that the ENC to be replaced is correct.

If a message other than the described is displayed, refer to Message Section [\(MSG00-00\)](#).

NOTE : The error list window is displayed if multiple errors are detected by the prior check.
If it is displayed, click the text of “Error Code” and recover the failures or the blockade in accordance with the details of the displayed errors.



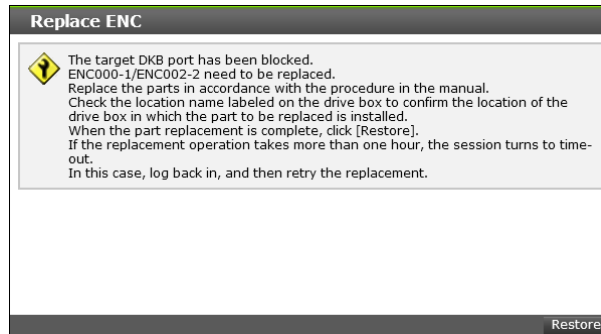
(6) <Check the beginning of ENC replacement>

Check that the ENC is blocked and becomes ready for replacing.

A message that instructs to replace multiple ENC modules might appear. If you don't replace all the instructed ENC modules with the maintenance parts replace the ENC module concerned with the maintenance part, and then perform dummy replacement of the other instructed ENC modules. For the detailed information, refer to the note in [REP\(RENC\)01-10](#).

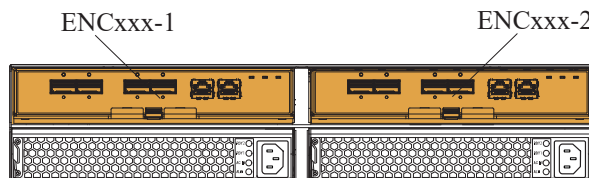
NOTE : Do not click [Restore] at this time.

Click [Restore] after completing the replacement work.



6. ENC Replacement Processing

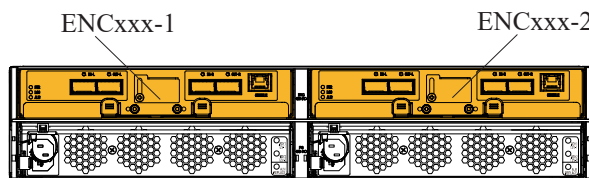
Location	Function Name of Component		Part Name
Rear of SBX/UBX/FBX/NBX	1	ENC	<ul style="list-style-type: none"> • ENC (SBX) • ENC (UBX) • ENC (FBX) • ENC (NBX)



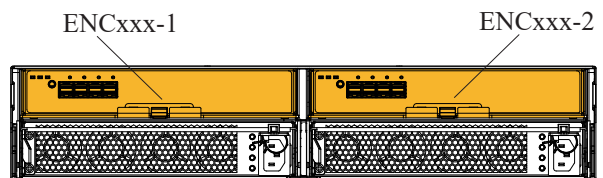
Rear view of SBX



Rear view of UBX



Rear view of FBX



Rear view of NBX

*1 : ENCxxx-1

↳ DB No. (000, 001, 002, , 191)

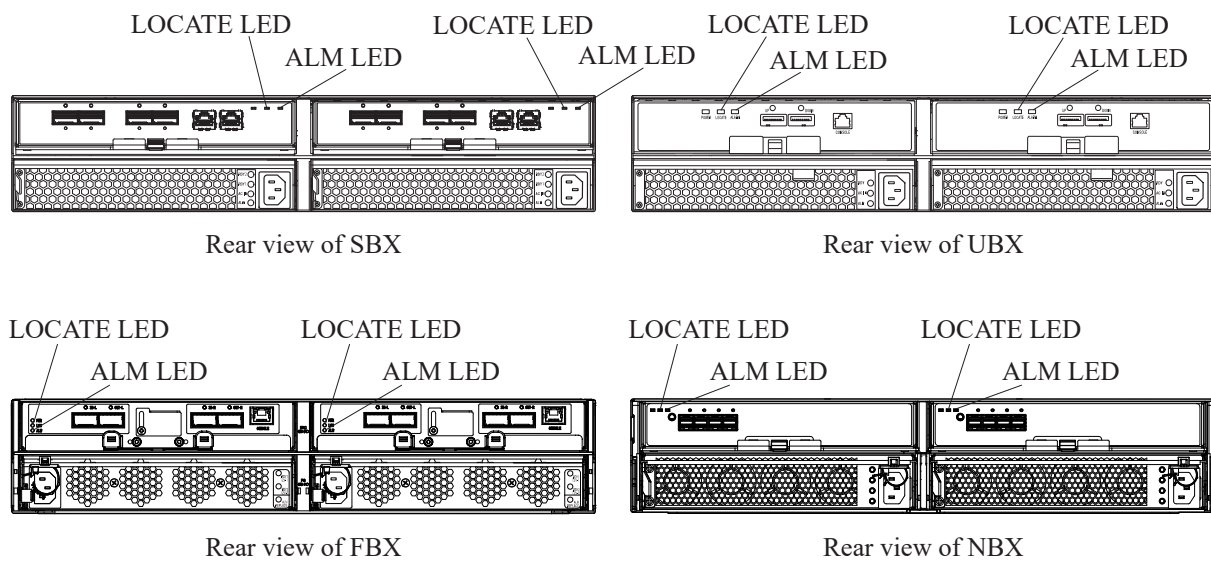
NOTICE: To prevent part failures caused by static electrical charge built up on your own body, be sure to wear a wrist strap connected to the Storage System before starting and do not take it off until you finish. See "Note on Installing and Removing Parts" ([REP\(GE\)01-30](#)).

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

⚠ CAUTION

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

Figure 1-1 ALM LED Location

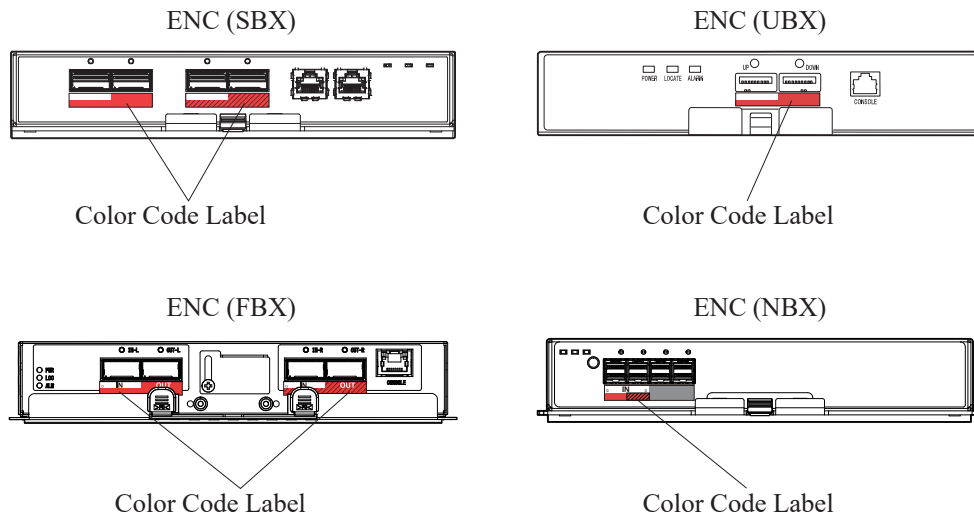


- (2) Remove the cables from the ENC to be replaced.

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

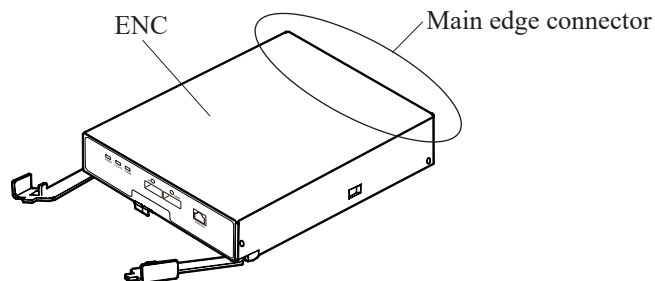
- (3) Attach the color code labels of the same color as those for the ENC to be replaced to the new ENC.

Figure 1-2 Attaching Color Code Label



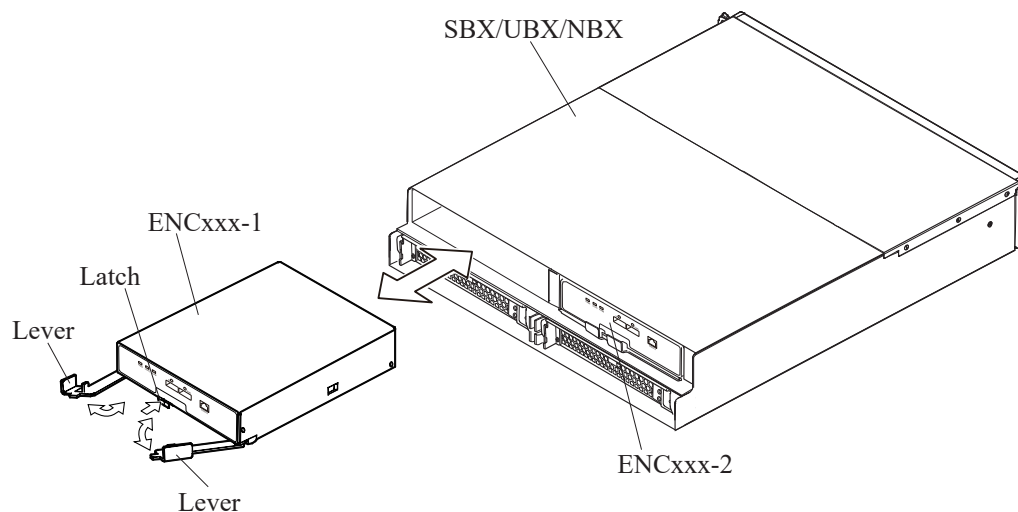
- (4) Replace the ENC.
- (a) <Replacement procedur of ENC for SBX/UBX/NBX>

- NOTICE:**
- When replacing the ENC, hold it with both hands and install it straight not to apply a shock to with any components.
 - Be careful not to hit the connector when placing the ENC temporarily.
 - Do not touch the main edge connector of the ENC directly because it is breakable.
 - Check that the main edge connector of the ENC has no deformation, damage or sticking of dust before installing the ENC.



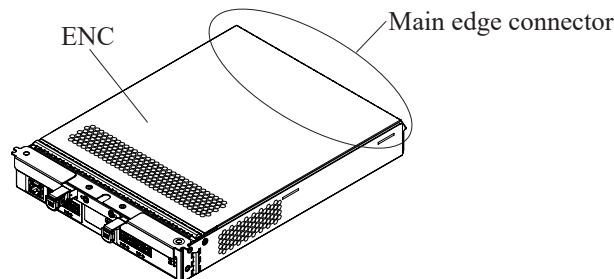
- Push the latch on the ENC toward the arrow direction to unlock the lever.
- Open the right and left levers which fix the ENC.
When the levers are completely opened, the ENC comes out forward.
- Pull out and remove the ENC while holding its body with both hands.
- Open the right and left levers of the new ENC to be installed completely.
- Insert the new ENC into the slot.
Push the right and left levers toward the ENC after inserting the ENC until its levers slightly opened.

Figure 1-3 Replacement of ENC



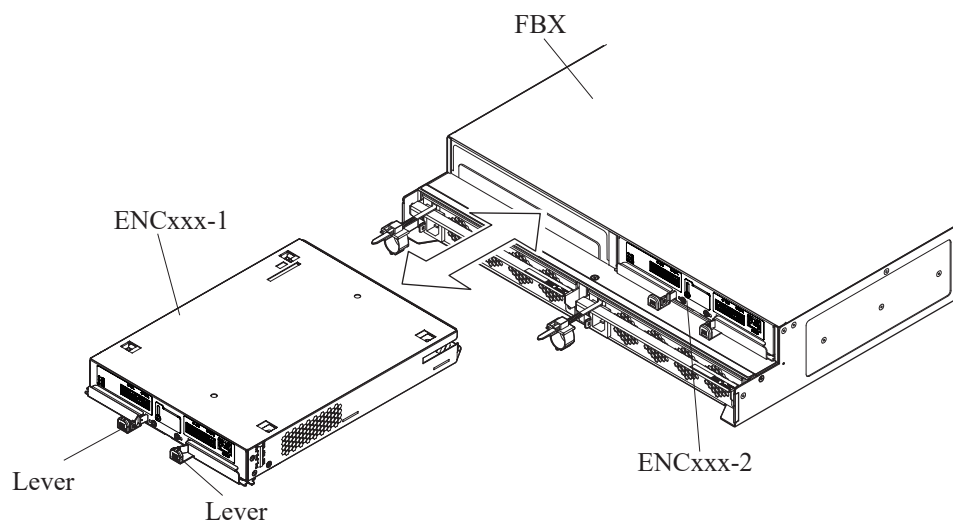
(b) <Replacement procedur of ENC for FBX>

- NOTICE:**
- When replacing the ENC, hold it with both hands and install it straight not to apply a shock to with any components.
 - Be careful not to hit the connector when placing the ENC temporarily.
 - Do not touch the main edge connector of the ENC directly because it is breakable.
 - Check that the main edge connector of the ENC has no deformation, damage or sticking of dust before installing the ENC.



- Open the right and left levers which fix the ENC.
When the levers are completely opened, the ENC comes out forward.
- Pull out and remove the ENC while holding its body with both hands.
- Open the right and left levers of the new ENC to be installed completely.
- Insert the new ENC into the slot.
- Push the right and left levers toward the ENC after inserting the ENC until its levers slightly opened.

Figure 1-4 Replacement of ENC

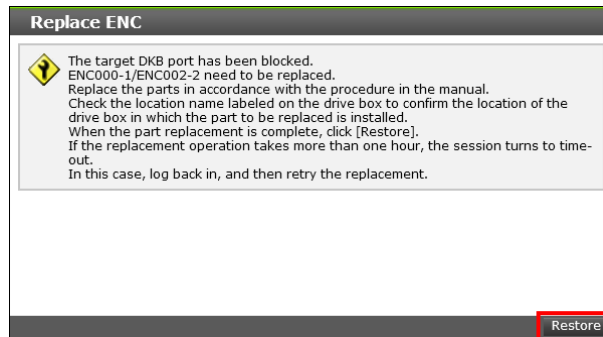


- Connect the cables to the replaced ENC.
When connecting cables, be careful not to damage the tips of the cables. (Refer to “Precautions when Connecting SAS Cables/NVMe cables” ([INST\(IN\)09-04-10](#))).

7. Restoring replacement parts by Maintenance Utility

(1) <Restore replacement parts>

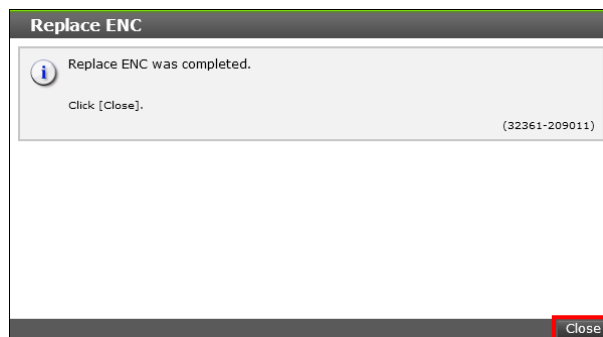
Click [Restore].



(2) <Check replacement parts restoration>

Check that the following message is displayed and click [Close].

If a message other than the described is displayed, refer to Message Section ([MSG00-00](#)).

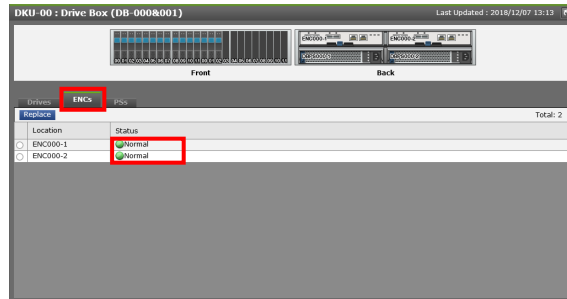


(3) <Check ENC restoration>

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

NOTE: When the ENC status is "Normal" and the ALM LED (red) light up, follow "Recovery Procedure when ALM LED (red) is not Turned OFF" ([TRBL02-04-320](#)).

- In case of SBX

(4) 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.

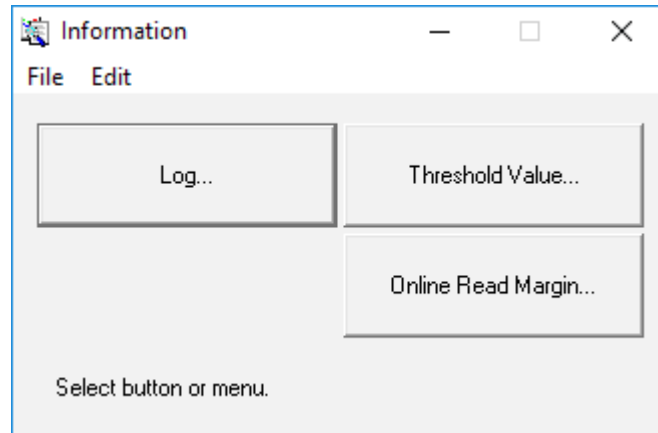
(2) <Get the error information>

Collect dumps "Rapid" for dump type by referring to "Dump/Auto Dump" ([SVP02-09-10](#)).

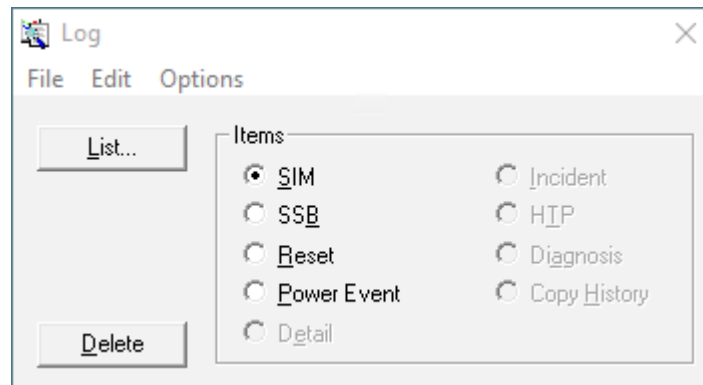
(3) Refer to the "Use of OnlineDumpTool" ([SVP02-21-10](#)), please upload the error information.

9. Completing the SIM log

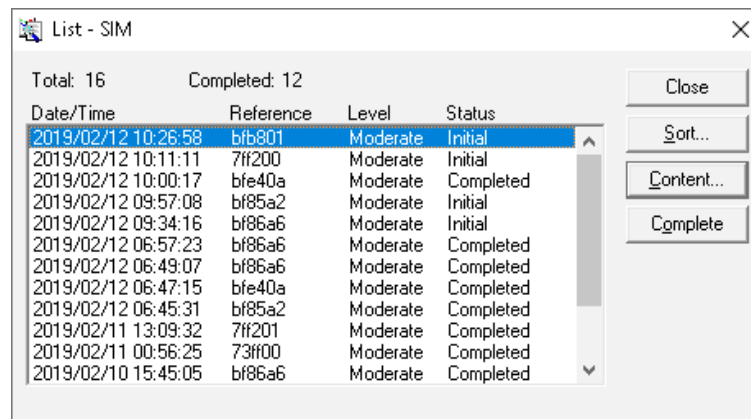
- (1) Change the mode to [Modify Mode], and then select [Information].
- (2) In the Information window, click [Log...].



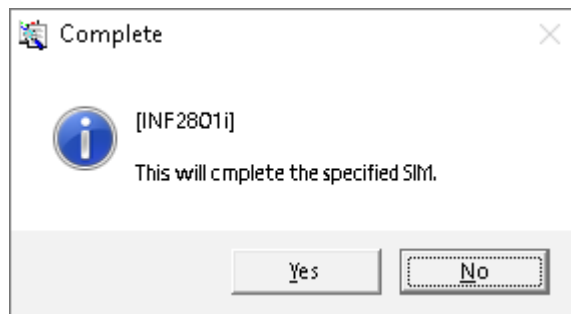
- (3) In the Log window, select [SIM] and then [List...].



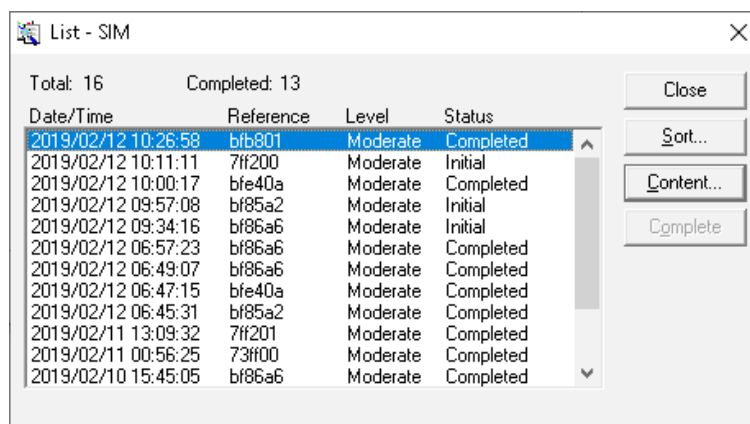
- (4) In the List-SIM window, select the data for which you end the process, and then click [Complete].



- (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](#))”.