MAINTENANCE UTILITY SECTION

Contents

1. Starting Maintenance Utility

NOTICE:	When the power is off, Maintenance Utility cannot be started by Auto Connection. Start Maintenance Utility by specifying a CTL for "Connect to".

Perform the following procedures to start Maintenance Utility or Maintenance Utility (Sub Panel) from the SVP window.

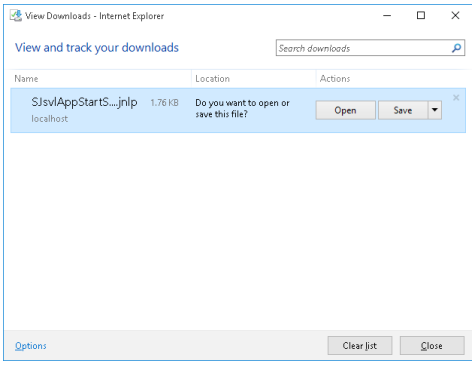
NOTE: There are maintenance procedures performed by using Maintenance Utility and those performed by using Maintenance Utility (Sub Panel). Choose which to use as instructed in each maintenance procedure.

1.1 Starting Maintenance Utility by Using Maintenance Utility Button

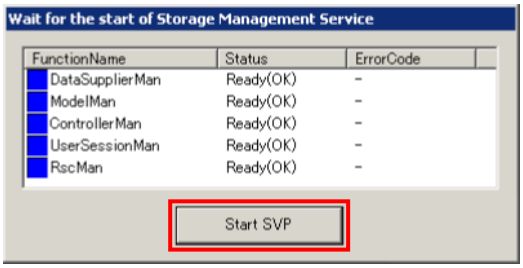
Use the SVP window to start Maintenance Utility as follows:

1. When Storage Management Service starts, the window automatically changes to Web Console. Click [Maintenance] - [Maintenance Components (General)].

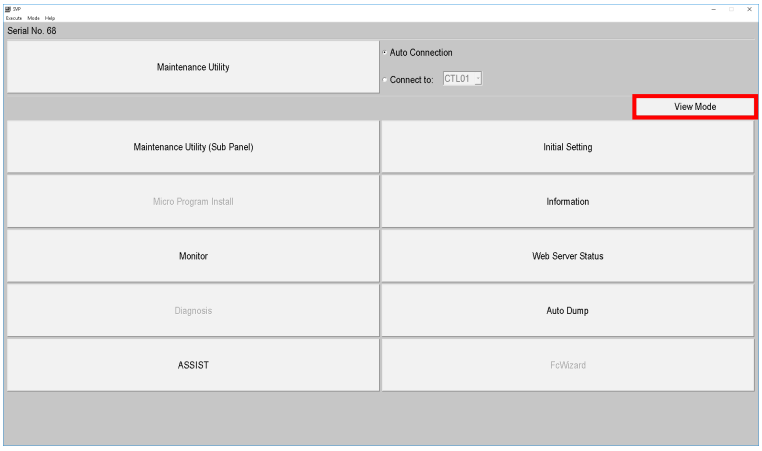
NOTE: If the following window appears, click [Open].



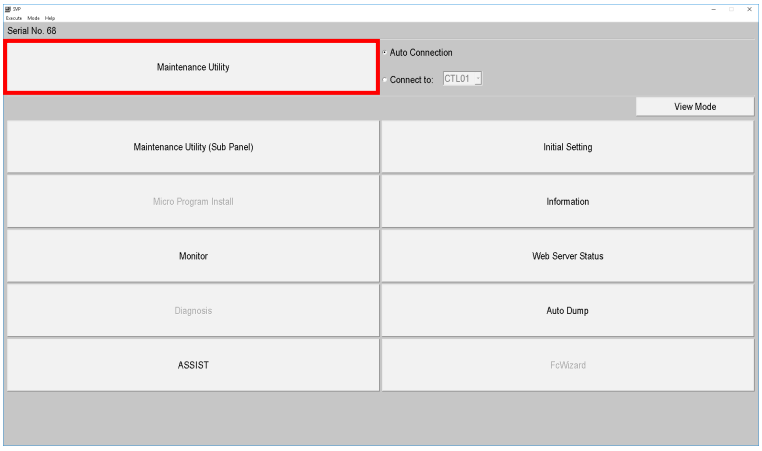
NOTE: If you log in to the SVP when Web Console is not started, or if Storage Management Service does not start due to a failure, the following initial screen is displayed. When the Web Console window does not appear automatically, click [Start SVP] to start the SVP window.



2. In the SVP window, change the mode to [View Mode].



3. Click [Maintenance Utility] in the SVP window.



'Auto Connection' is selected as default.
Maintenance Utility of the connectable CTL is started in the order described in "Table 1-1 CTL Connection Order When Auto Connection Is Selected". The connection order is shown in Table 1-1.

Table 1-1 CTL Connection Order When Auto Connection Is Selected

Connection Order	Location Name	Default IP Address	Remarks
1	CTL01	126.255.254.16	
2	CTL02	126.255.254.17	
3	CTL11	126.255.254.18	
4	CTL12	126.255.254.19	
5	CTL21	126.255.254.20	
6	CTL22	126.255.254.21	
7	CTL31	126.255.254.22	
8	CTL32	126.255.254.23	
9	CTL41	126.255.254.24	
10	CTL42	126.255.254.25	
11	CTL51	126.255.254.26	
12	CTL52	126.255.254.27	

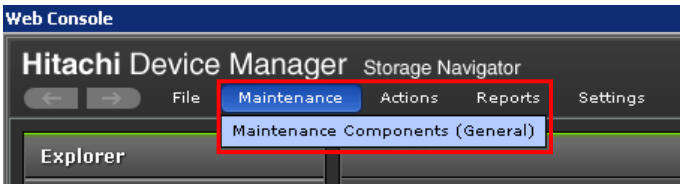
NOTE: To perform a maintenance procedure that requires specifying a CTL, see "1.1.2 Starting Maintenance Utility by Specifying CTL".

4. The Maintenance Utility window is activated.

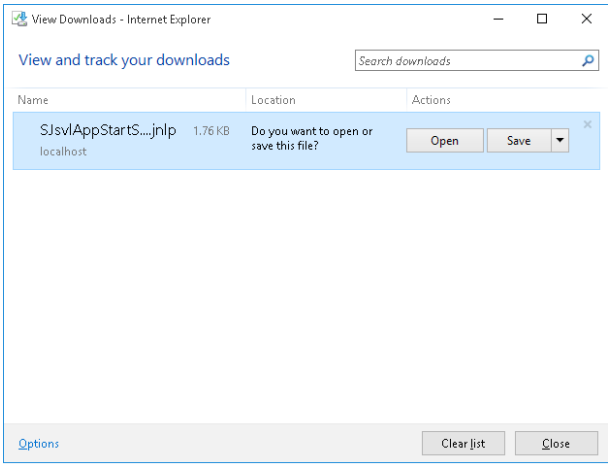
1.1.1 Starting Maintenance Utility from Menu Bar

Maintenance Utility can also be started from the menu bar of the SVP window.

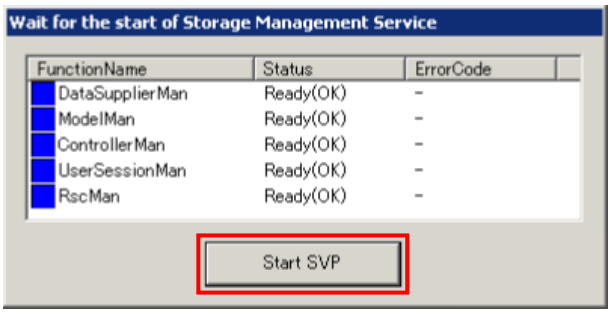
1. When Storage Management Service starts, the window automatically changes to Web Console. Click [Maintenance] - [Maintenance Components (General)].



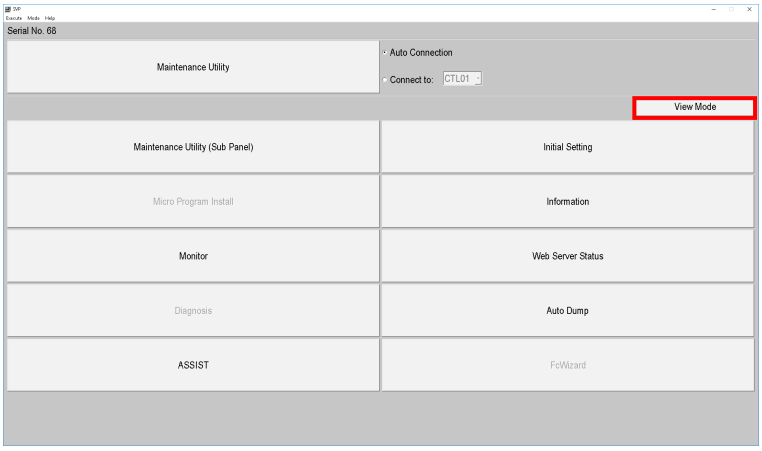
NOTE: If the following window appears, click [Open].



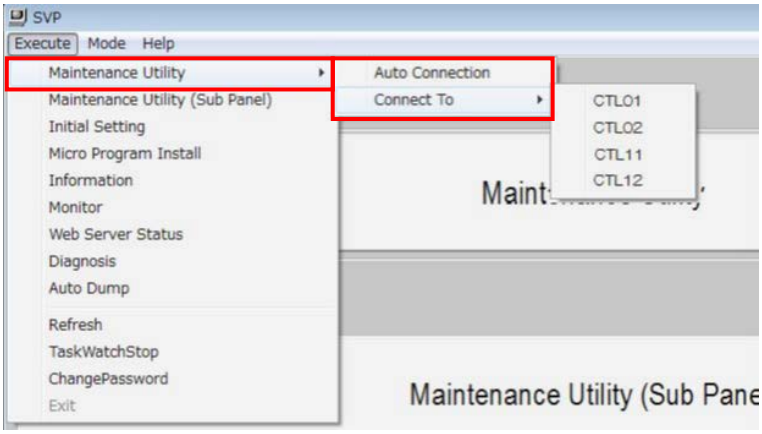
NOTE: If you log in to the SVP when Web Console is not started, or if Storage Management Service does not start due to a failure, the following initial screen is displayed. When the Web Console window does not appear automatically, click [Start SVP] to start the SVP window.



2. In the SVP window, change the mode to [View Mode].



3. Start Maintenance Utility from the menu bar in the SVP window.
   - To start Maintenance Utility by connecting to an automatically selected CTL:
     Select [Execute] - [Maintenance Utility] - [Auto Connection].
   - To start Maintenance Utility by specifying a CTL:
     Select [Execute] - [Maintenance Utility] - [Connect To] - [desired CTL].
     For details, see "1.1.2 Starting Maintenance Utility by Specifying CTL".



4. The Maintenance Utility window is activated.

1.1.2 Starting Maintenance Utility by Specifying CTL

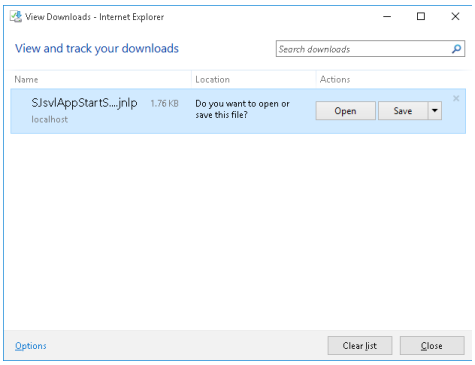
If you perform maintenance operations shown in Table 1-2, specify an appropriate CTL to start Maintenance Utility in the SVP window.

Table 1-2 Maintenance Operations Requiring CTL to Be Specified

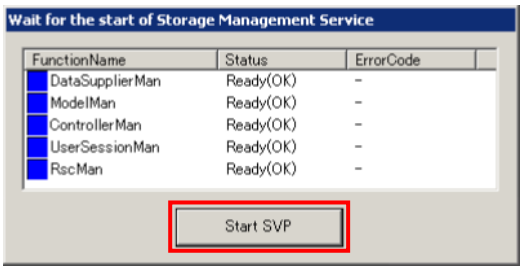
Maintenance Operations	CTL to Be Specified
Cache Memory installation	Connection other than CTL for expansion or replacement.
Controller Board (CTL) replacement	
Cache Memory replacement	
LAN Board (LANB) replacement	
GUM Reboot	Connect to target CTL to execute HUB reset or GUM reboot.
HUB Reset	

1. When Storage Management Service starts, the window automatically changes to Web Console. Click [Maintenance] - [Maintenance Components (General)].

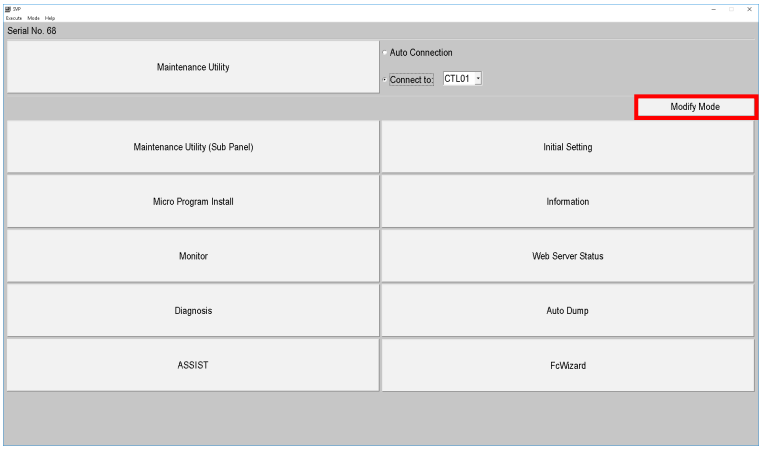
NOTE: If the following window appears, click [Open].



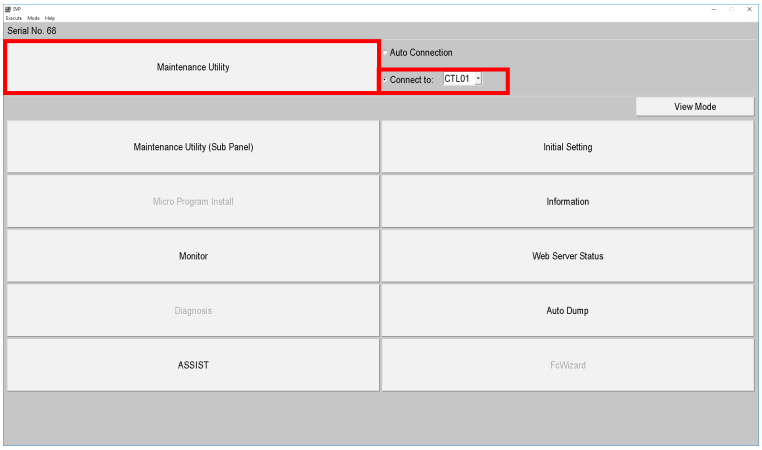
NOTE: If you log in to the SVP when Web Console is not started, or if Storage Management Service does not start due to a failure, the following initial screen is displayed. When the Web Console window does not appear automatically, click [Start SVP] to start the SVP window.



2. In the SVP window, change the mode to [View Mode].



3. In the SVP window, select a desired CTL for 'Connect To', and then click [Maintenance Utility].



1.1.3 Closing Maintenance Utility

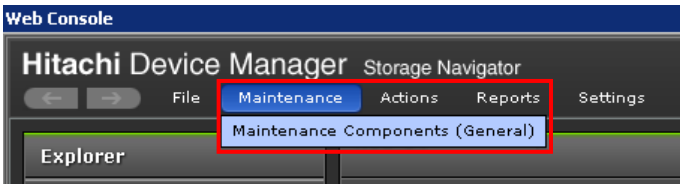
1. When the work is completed, click [Log Out].

2. The login window or the logout completion window is displayed. Click the [X] button to close the window.

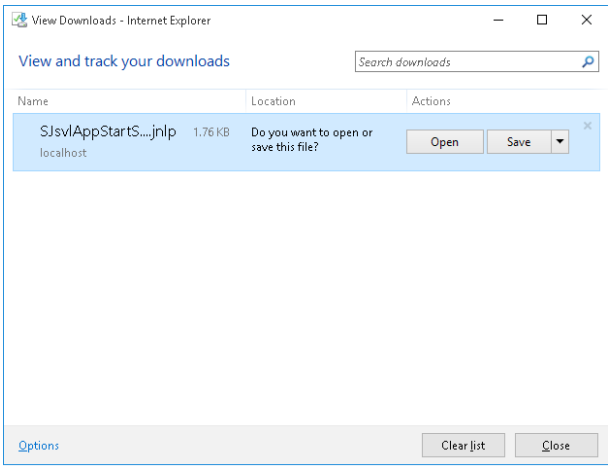
1.2 Starting Maintenance Utility (Sub Panel)

Start Maintenance Utility (Sub Panel) from the SVP window by performing the following procedures.

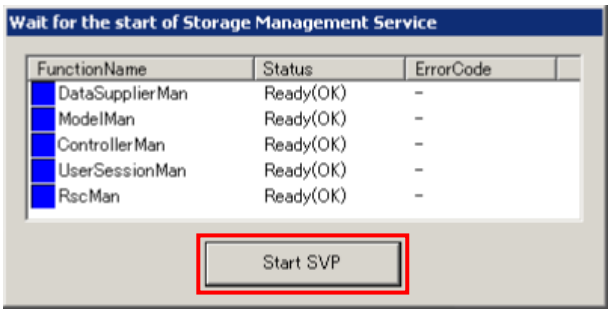
1. When Storage Management Service starts, the window automatically changes to Web Console. Click [Maintenance] - [Maintenance Components (General)].



NOTE: If the following window appears, click [Open].

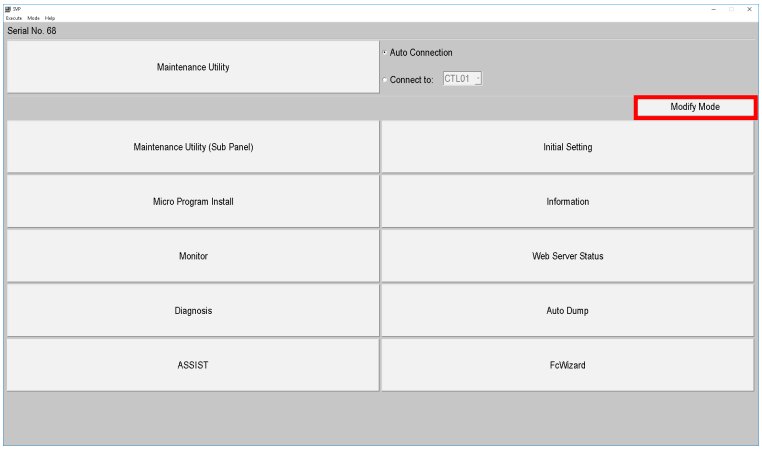


NOTE: If you log in to the SVP when Web Console is not started, or if Storage Management Service does not start due to a failure, the following initial screen is displayed. When the Web Console window does not appear automatically, click [Start SVP] to start the SVP window.

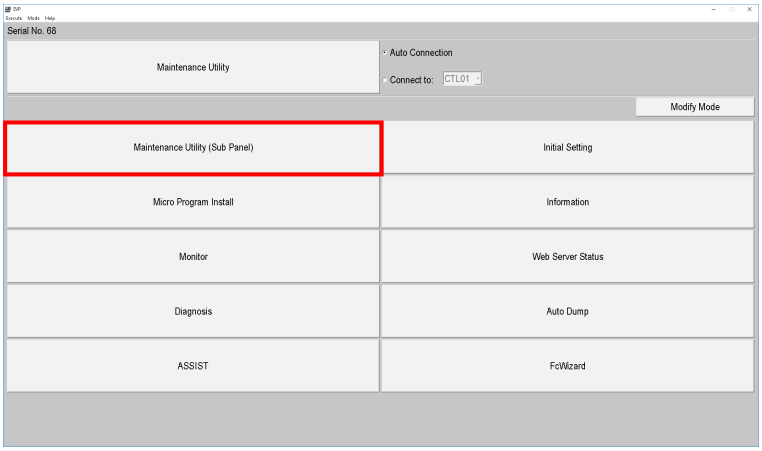


2. Change the mode on the SVP window.

   NOTE: To switch modes, follow each maintenance procedure.



3. Click [Maintenance Utility (Sub Panel)] in the SVP window.

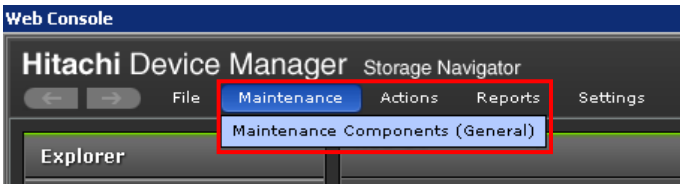


4. The Maintenance Utility (Sub Panel) window is activated.

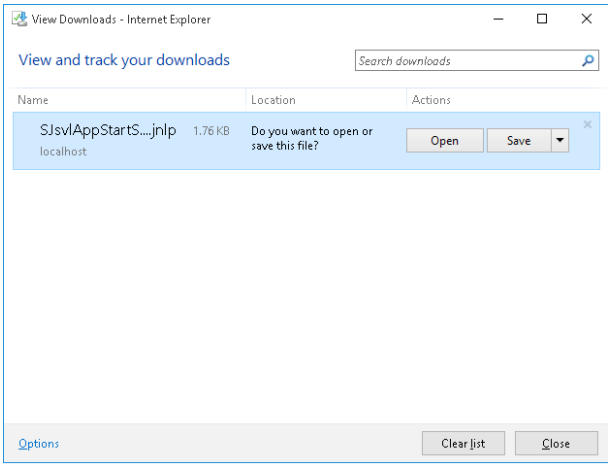
1.2.1 Starting Maintenance Utility (Sub Panel) from Menu Bar

Maintenance Utility (Sub Panel) can also be started from the menu bar of the SVP window.

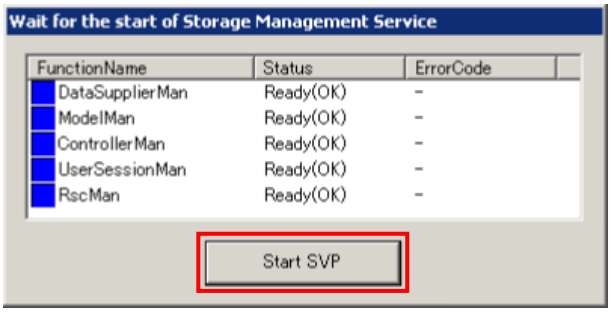
1. When Storage Management Service starts, the window automatically changes to Web Console. Click [Maintenance] - [Maintenance Components (General)].



NOTE: If the following window appears, click [Open].



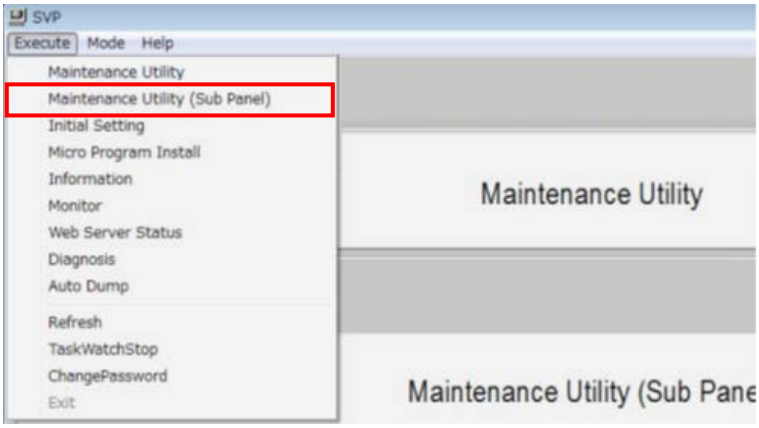
NOTE: If you log in to the SVP when Web Console is not started, or if Storage Management Service does not start due to a failure, the following initial screen is displayed. When the Web Console window does not appear automatically, click [Start SVP] to start the SVP window.



2. Change the mode on the SVP window.

   NOTE: To switch modes, follow each maintenance procedure.

3. From the menu bar in the SVP window, select [Execute] - [Maintenance Utility (Sub Panel)].



4. The Maintenance Utility (Sub Panel) window is activated.

1.2.2 Closing Maintenance Utility (Sub Panel)

When the work is completed, select [File] - [Exit] from the menu bar of the Maintenance Utility (Sub Panel) window.

1.3 Troubleshooting of Maintenance Utility

Description	Failure	Recovery Action
Network failures Login failures	• The network cannot connect to Maintenance Utility. • The error message (32061-204002) occurs while operating Maintenance Utility.	Check whether SIM = 73xx00 is output. If it is output, resolve the problem, and then resume the operation. 1. When logging in, log out once and operate it again after closing the browser. 2. If it cannot be recovered yet, see "Recovery Procedure when a GUM Failure Occurs (SIM = aff1xx)" (TRBL03-44-10) to recover.
	The network cannot connect to Maintenance Utility when starting it on Web Console.	The following message might be displayed at the time of starting Maintenance Utility. This can be displayed due to monitoring by the security software or antivirus software installed on the SVP. When the message is displayed, click the [Add] button to release the monitoring. * The window actually displayed might be different from the one below. 
	Login for Maintenance Utility is not available even if 30 minutes elapse after the progress reaches 99%.	See "Recovery Procedure when a GUM Failure Occurs (SIM = aff1xx)" (TRBL03-44-10) and restore the failure.
	The error [SVP4758E] occurs when you specify a CTL for "Connect to" and click [Maintenance Utility] in the SVP window.	After terminating other functions, specify the CTL again and click [Maintenance Utility].

(To be continued)

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Description	Failure	Recovery Action
Browser Cache clearing	• Login to Maintenance Utility fails. • The “Maintenance Utility” window opens, but it is still blank even after one minute or more elapse.	Reboot the SVP and open Maintenance Utility again.
Display failure of the Maintenance Utility window	The status displays of device status and Maintenance Utility differ.	• Reboot the GUM (see “2.6 Reboot GUM”). • If the problem persists after the reboot of the GUM, start Maintenance Utility by specifying another CTL. If an error occurs in the CTL in trouble, resolve the error. If no error occurs in the CTL in trouble, reset the GUM (see “2.9 Resetting GUM”).
GUM internal failure	When logging into the Maintenance Utility, the storage system state was Ready but the hardware state was not displayed. The error message (60863-200030) was displayed.	Reboot the GUM. See “2.6 Reboot GUM” for the reboot method.
The storage system status displayed on Maintenance Utility is stuck at “Power-on in progress”.	The READY LED lights solid green, and the storage system status displayed on Maintenance Utility is stuck at “Power-on in progress”.	Perform the following procedure. • Check whether any SIM is reported in the SVP window. • If no SIM is reported, perform the dummy replacement of the CTL whose status is stuck at “Power-on in progress”. For the replacement procedure, see “Controller Board REPLACEMENT PROCESSING - RCTL” (REP(RCTL)00-00). • If a SIM is reported, follow the procedure according to the SIM.
The maintenance operation cannot be continued.	The system lock status is displayed as [Unlocked], but the message “The operation cannot be performed because another user is working on it .” is displayed and the maintenance operation cannot be continued.	There might be an inconsistency in the system lock status due to a communication error between the storage system and the Maintenance PC and so on. 1. Setting operations of Storage Navigator might be being performed on another management client. Make sure that all windows of Storage Navigator are closed, and then retry the operation. 2. If the problem is not solved, reboot SVP. If the problem persists, perform “Recovery Procedure for the System Lock during a Setting Change” (TRBL02-04-310).

(To be continued)

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Description	Failure	Recovery Action
The storage system status displayed on Maintenance Utility is stuck at “Power-off in progress”.	The storage system status displayed on Maintenance Utility of one CTL in the VSP 5100, 5100H configuration is stuck at “Power-off in progress”.	Perform the following procedure. • Check whether any SIM is reported in the SVP window. • If no SIM is reported, replace the CTL that has the problem with the Maintenance Utility display (the storage system status is stuck at “Power-off in progress”) after starting Maintenance Utility by specifying the other CTL. For the replacement procedure, see “Controller Board REPLACEMENT PROCESSING - RCTL” (REP(RCTL)00-00). • If a SIM is reported, follow the procedure according to the SIM.
When Maintenance Utility is opened, the message saying that the maintenance is in progress (32061-208063) is displayed.	When Maintenance Utility is opened, the message saying that the maintenance is in progress (32061-208063) is displayed even though the system is unlocked.	• Close the message saying that the maintenance is in progress (32061-208063), and check the system lock status displayed in the upper right of the Maintenance Utility window. • If “System Unlocked” is displayed, release the system lock forcibly (see “2.5 Force Release System Lock”).

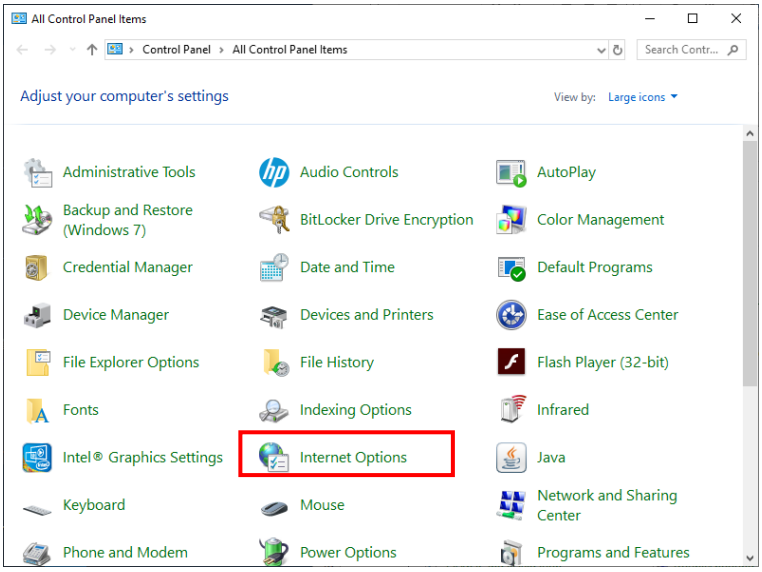
1.4 Proxy Setting of Browser

If the browser of SVP is set to use a proxy server, pages of Maintenance Utility might not be found. The browser might be set to use a proxy server in the [Internet Options] window. Perform the procedure shown below.

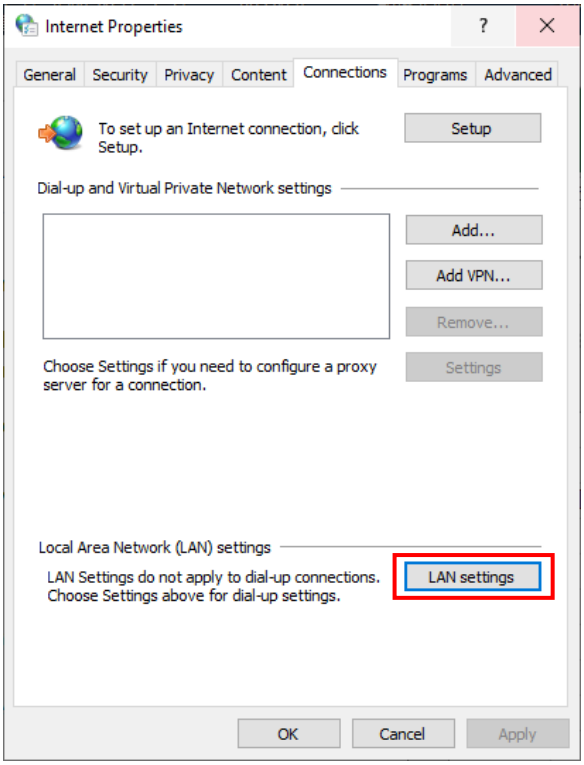
<An example of the proxy setting procedure>

1. In the Start menu list, click [Windows System] - [Control Panel].

2. The [Control Panel] window appears. From there, open [Internet Options] window.

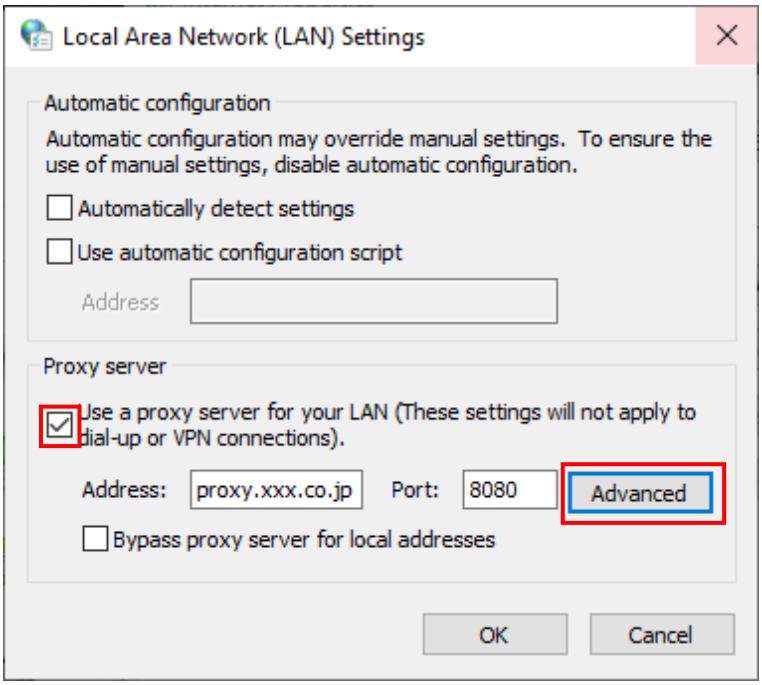


3. In the [Connections] tab, click [LAN settings].

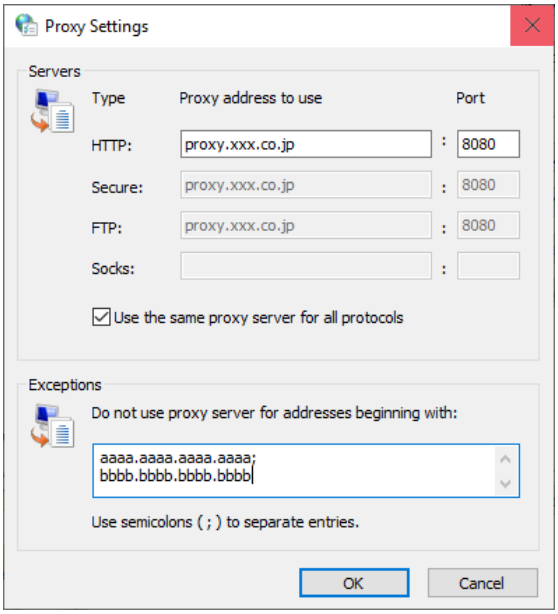


4. Click [Advanced].

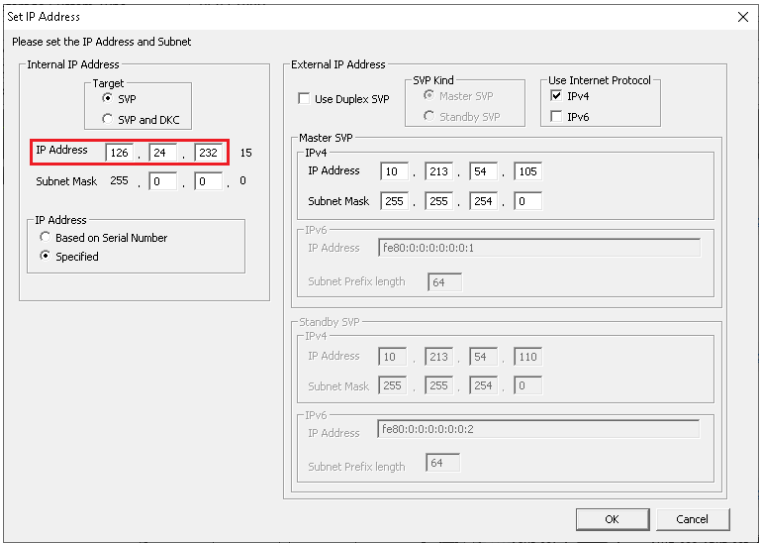
NOTE: Only when [Use a proxy server for your LAN] is checked, [Advanced] is active.



5. Add IP addresses of all installed CTLs to [Exceptions], and click [OK].
   For the default IP addresses of the CTLs, see "1.1 Starting Maintenance Utility by Using Maintenance Utility Button".



NOTE: When a default IP address of a CTL is changed, use the first through third octets of [IP Address] in the [Internal IP Address] field in the [Set IP Address] window, which is opened by clicking [Initial Setting] in the SVP window, as the IP address of the CTL.



2. Storage System Maintenance Function

2.1 Alert Display Related to FRU (Field Replacement Unit)

Main window	Tab	Status
HSNBX-x	ISWs	[Status], [ISWFAN (First)]-[Status], [ISWFAN (Second)]-[Status]
	PSs	[Status]
DKC-x	CTLs	[CTL Status], [Battery Charge Remaining], [Cache Memory], [CMG0 Status], [CMG1 Status], [Temperature]
	BKMFs	[BKMF Status], [Battery]-[Status], [Battery]-[Battery Lifespan Remaining]
	CFMs	[Status]
	HIEs	[Status]
	CHBs	[Status], [SFP Status] (*1) (*2)
	DKBs	[Status]
	LANBs	[Status]
	PSs	[Status]
DKU-xx : DB-xxx	Drives	[Status]
	ENCs	[Status]
	PSs	[Status]
All Chassis	Chassis	Status, (*1)
	Drives	[Status]
	Memory	[CMG0 Status], [CMG1 Status]
	CHBs	[Status], [SFP Status] (*1) (*2)
	DKBs	[Status]
	X-paths	[Status]

*1: To check the status of all ports, click [View Port Status].

*2: When you click [SFP Status], the Port Status window is displayed, and then you can check the status of the port.

- The followings are displayed in [Status].

[Status]	Description	Parts frame color	Status icon
Normal	This indicates normal status. But the latest status might not be reflected due to failures of other related parts. If failures in other related parts are notified, the latest status is reflected by replacing the failed parts.	None	
Warning	• Parts failures are suspected. • This might be displayed due to failures of other related parts. • If this is caused by the failures of other related parts, the latest status is reflected by replacing the failed parts. • In the case of Warning of BKMF, “?” is displayed in the Battery Lifespan Remaining column. After the warning is resolved, “?” returns to a numerical value.	Amber	
Failed	The part is isolated from the storage system due to a failure.	Red	
	[Drive Status-limited] • Parts failures are suspected. • This might be displayed due to failures of other related parts. • If this is caused by the failures of other related parts, the latest status is reflected by replacing the failed parts.		
Blocked	Only parts needed the blockage instruction by using Maintenance Utility are displayed, and the parts are in an exchangeable status.	Red	
Not fix	[SFP Status-limited] The classification is in an undetermined status.	None	
Warning (Port n failed)	[Drive Status-limited] The drive port is in a failure status. n: Failure drive port number	Amber	
Copying n % (TYPE to DRIVE)	[Drive Status-limited] Copying is in progress. When multiple copy statuses exist, a line break is added to every copy status line, and then the information is displayed. n: Copy progress rate TYPE: “Correction copy” “Copy back” “Dynamic sparing” “Drive copy” DRIVE: Copy destination drive location (If the drive is a copy destination drive in “Correction copy”, DRIVE is displayed as “this Drive”.)	Amber	

(To be continued)

(Continued from preceding page)

[Status]	Description	Parts frame color	Status icon
Copying n % (TYPE from DRIVE)	[Drive Status-limited] Copying is in progress. When multiple copy statuses exist, a line break is added to every copy status line, and then the information is displayed. n: Copy progress rate TYPE: "Copy back" "Dynamic sparing" "Drive copy" DRIVE: Copy source drive location	Amber	
Pending (TYPE to DRIVE)	[Drive Status-limited] Copying is in a suspended status. When multiple copy statuses exist, a line break is added to every copy status line, and then the information is displayed. TYPE: "Correction copy" "Copy back" "Dynamic sparing" "Drive copy" DRIVE: Copy destination drive location (If the drive is a copy destination drive in "Correction copy", DRIVE is displayed as "this Drive".)	Amber	
Pending (TYPE from DRIVE)	[Drive Status-limited] Copying is in a suspended status. When multiple copy statuses exist, a line break is added to every copy status line, and then the information is displayed. TYPE: "Copy back" "Dynamic sparing" "Drive copy" DRIVE: Copy source drive location	Amber	
Copy incomplete	[Drive Status-limited] Copying is in an incomplete status.	Amber	
Reserved	[Drive Status-limited] The spare disk is in an unusable status, or waiting for copyback.	Amber	
Available (Connected)	This port is implemented and in use.	None	
Available (Not Connected)	This port is implemented and enabled.	None	
Not Installed, Not Available	This port is either not implemented or disabled.	None	None

2.2 Turn on/off Locate LEDs

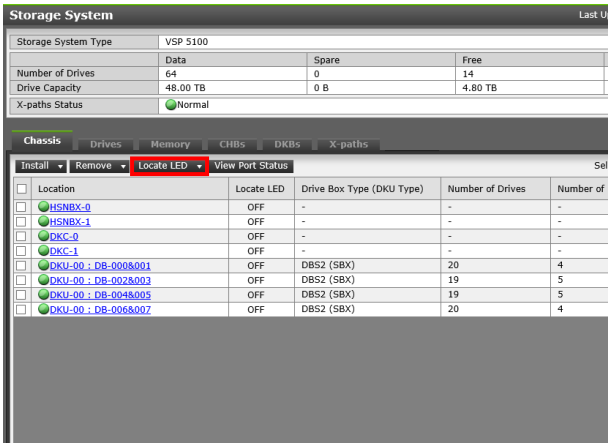
The Locate LEDs on HSN Box, Controller Chassis, and Drive Box are turned on or off by using the Maintenance Utility window.

NOTICE:	Maintenance operations might cause differences between the actual lighting state of the Locate LEDs and the lighting state displayed in the Maintenance Utility window. If differences occur, perform the operations to turn on/off the Locate LEDs again by using the Maintenance Utility window.

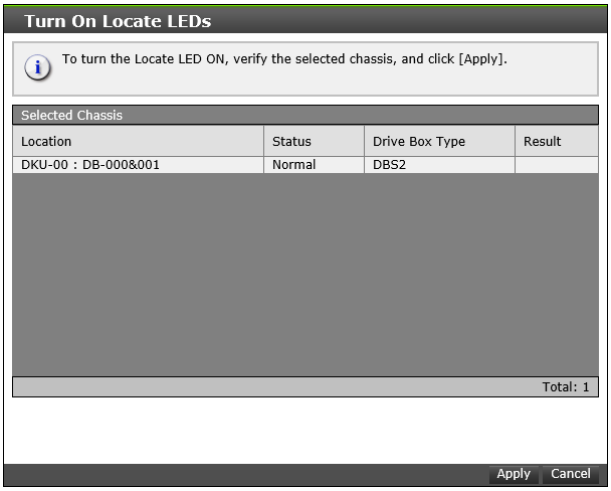
2.2.1 Turn on Locate LED

1. Table display of Location
   Select the [Table] switch from the [Chassis] tab in the main window.

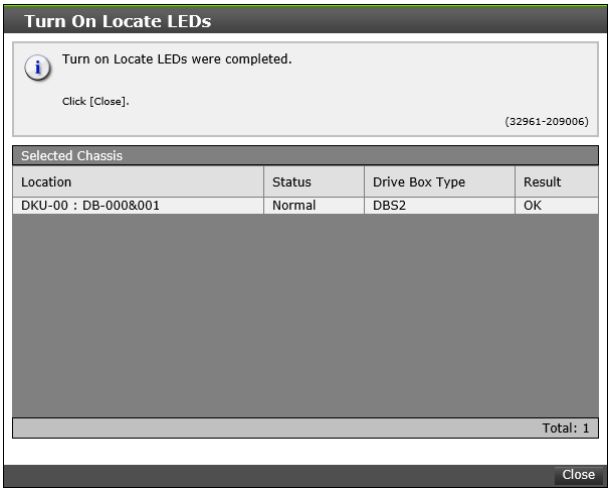
2. Selecting locations in the list
   Select the locations of the LEDs that you want to turn on, and then click [Locate LED] - [Turn on]. (You can select multiple locations.)



3. Confirm the locations targeted for turning on the Locate LEDs, and then click [Apply].



4. A message is displayed. Click [Close].



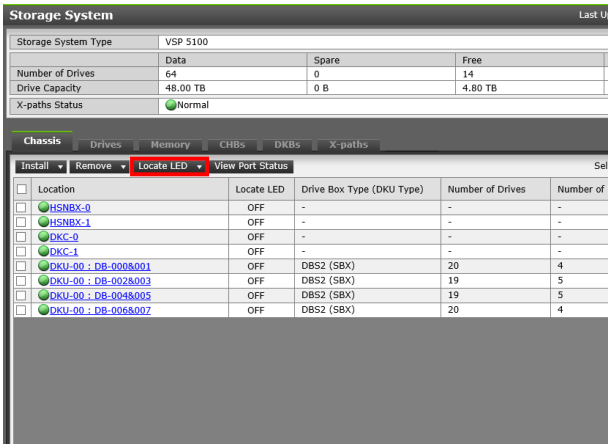
For the locations of LOCATE LEDs, reference the pages shown below.

Location Name	Reference destination
HSNPANEL	(LOC03-10)
DKC	(LOC03-70)
SBX/UBX/NBX	(LOC03-150)
ENC (SBX/UBX/NBX)	(LOC03-170)
FBX	(LOC03-200)
ENC (FBX)	(LOC03-210)

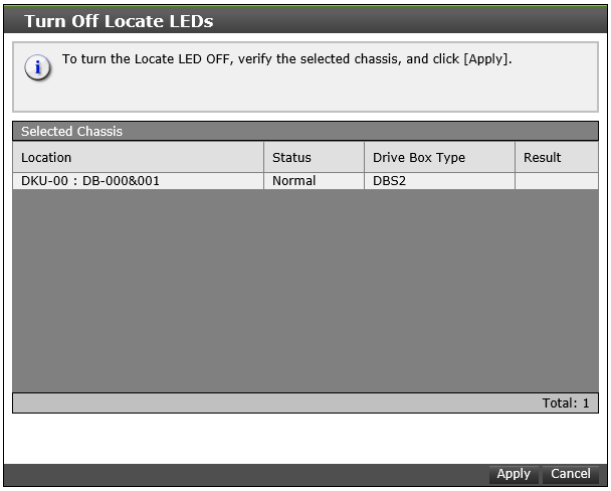
2.2.2 Turn off Locate LED

1. Table display of Location
   Select the [Table] switch from the [Chassis] tab in the main window.

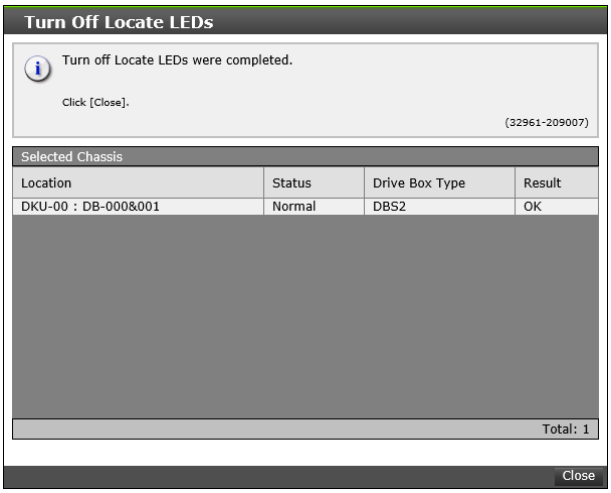
2. Selecting locations in the list
   Select the locations of the LEDs that you want to turn off, and then click [Locate LED] - [Turn off]. (You can select multiple locations.)



3. Confirm the locations targeted for turning off the Locate LEDs, and then click [Apply].



4. A message is displayed. Click [Close].



2.3 System Management

Clicking the [Menu] item opens menus.

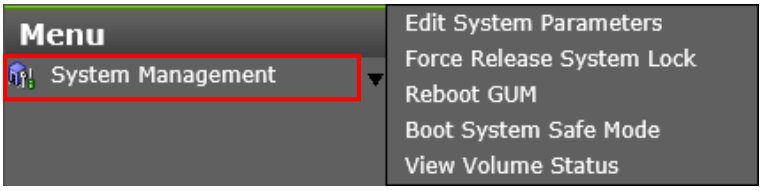


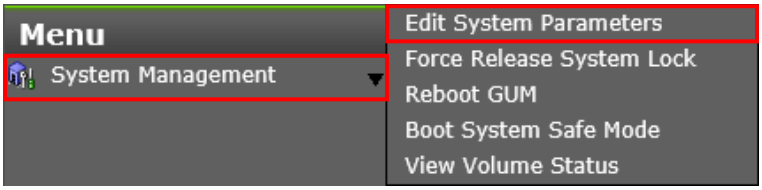
Table 2-1 List of System Management Menus

Operation Panel	Menu	Description
System Management	Edit System Parameters	Edit system parameters
	Force Release System Lock	Release the system lock
	Reboot GUM	Reboot GUM
	Boot System Safe Mode	Switch to System Safe Mode
	View Volume Status	Check blocked LDEV exist and whether pinned track (failed track)

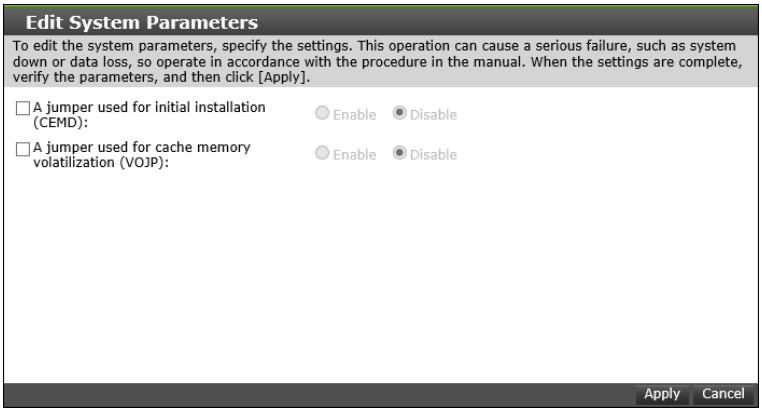
2.4 Edit System Parameters

This is a window used for initial installation of the Storage System and volatilization start.

1. Operation menu panel
   Select [Edit System Parameters] from [System Management].



2. Set the [Edit System Parameters] and click [Apply].
   If you do not change system parameters (you just confirm system parameters), click [Cancel].



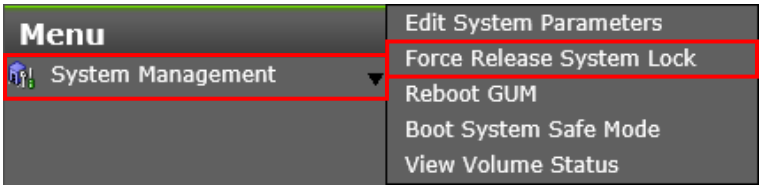
Menu	Description
A jumper used for initial installation (CEMD)	A jumper used for initial installation
A jumper used for cache memory volatilization (VOJP)	A jumper used for cache memory volatilization

NOTE: Set CEMD and VOJP only when instructed in the manual.

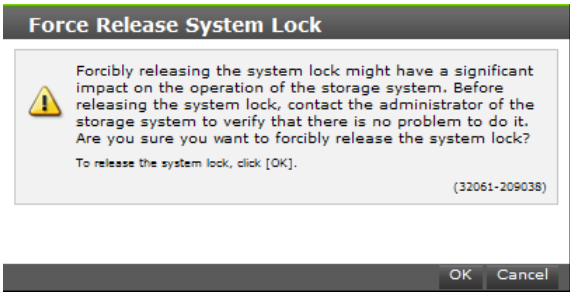
2.5 Force Release System Lock

NOTICE: While another user is changing a setting by Storage Navigator or Maintenance Utility, or while a service personnel is using [Modify Mode] in the SVP window, the system lock status is applied.
If a setting change by another user or a change in the SVP mode by a service personnel is not completed normally due to an error or something, the system lock status might not be released.
This is a function to release the system lock forcibly in such a case.
To perform Force Release System Lock, check that another user is not changing any setting and that any maintenance operation is not being performed.
If Force Release System Lock is performed while another user is changing a setting or while a maintenance operation is being performed, multiple users can change the settings at the same time, and the storage system might not be set as the user intends.

1. Operation menu panel
   Select [Force Release System Lock] from [System Management].



2. Click [OK].



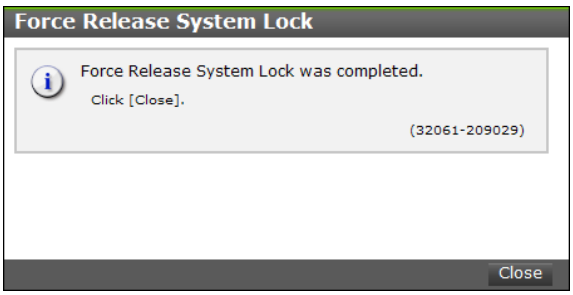
3. Displaying the Password entry window

⚠ CAUTION

This operation may cause a serious error such as a system down or a data loss. Confirm the appropriateness of the operation, and then input of the password.

Enter the login password for the maintenance account of the storage system, and then click [OK].

4. A completion message is displayed. Click [Close].



2.6 Reboot GUM

This is a window to restart the connected GUM.
This function is operated by service personnel.

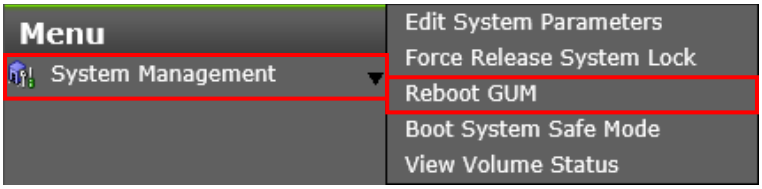
NOTE: If the login window of the Maintenance Utility is not displayed, you cannot log into the Maintenance Utility or an error occurs when you try to reboot GUM, perform "2.9 Resetting GUM".

- For influence of rebooting the GUM, see the NOTE in "2.9 Resetting GUM". (The influence of rebooting the GUM and the influence of resetting the GUM are the same.)

To reboot GUM of CTL, perform the following steps:

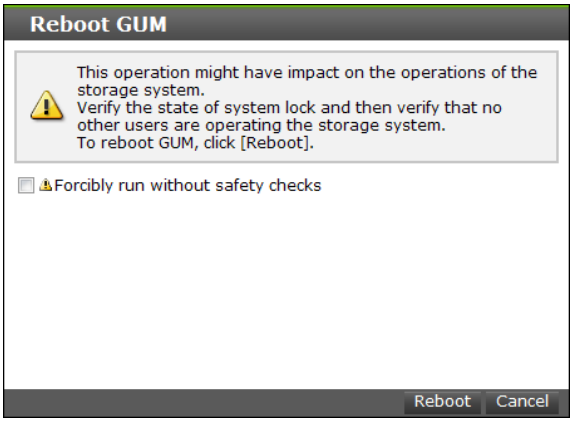
1. Specify the CTL to reboot, and then click [Maintenance Utility].

2. Operation menu panel
   Select [Reboot GUM] from [System Management].



3. Click [Reboot].

> **⚠ 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.

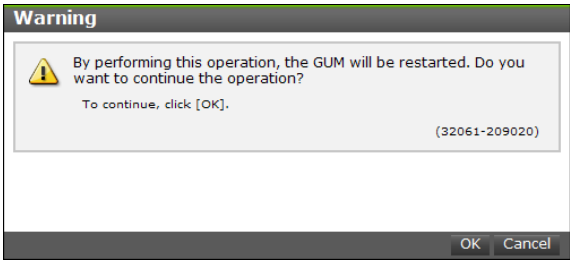


4. Displaying the Password entry window

> **⚠ CAUTION**
>
> The Storage System operation might be affected. Confirm the appropriateness of the operation, and then input of the password.

Enter the login password for the maintenance account of the storage system, and then click [OK].

5. A confirmation message is displayed. Click [OK].
   Clicking [Cancel] returns to Step 3.



6. A completion message is displayed. Click [Close].

7. The GUM reboots automatically.
   The logout window is displayed. Click the [X] button to close the window.

8. Wait for about five minutes.

9. Confirm that you can log into the Maintenance Utility of the rebooted CTL.
   (If you cannot login, wait for one to two minutes and login again. Note that it might take up to 20 minutes until you can login)

10. If you need to reboot GUMs of other controllers, repeat the above GUM reboot procedure from Step 1.

2.7 Boot System Safe Mode

This work is special (exceptional).If you perform this work without permission, the Storage System may go down.
When performing this work, contact the Technical Support Division for its validity and procedure.

2.8 Volume Status

Check whether the blocked LDEV exist and the pinned track (failed track).

1. Operation menu panel
   Select [View Volume Status] from [System Management] in the Maintenance Utility window.

2. Results display
   The following window is displayed.

Item	Description
Blocked volume	• Not Exist No LDEVs are in blocked status. • Exist The LDEVs in blocked status exist. To identify the blocked LDEV, use the Logical Devices window selected from the [Storage Systems] tree in the Web Console window. The [Status] column for the blocked LDEV displays “Blocked”. To filter the [Status] column, specify [Status] in the filtering condition. For details about how to perform the filtering, refer to “System Administrator Guide”.
Pinned track	• Not Exist No pinned tracks exist. • Exist The pinned tracks exist. To check the detailed information about the pinned tracks, refer to “Pin Slot Indication” (SVP03-07-10).

2.9 Resetting GUM

This is the procedure to reset GUM by force.
This function is operated by service personnel.

NOTE:
- Do not perform this procedure except the cases when "2.6 Reboot GUM" cannot be performed, or instructions in the troubleshooting and from the Technical Support Division.
- When GUM is reset, the connection to the network is disconnected. Consult with the customer, and then perform this procedure.
- If you perform this procedure during the micro-program exchange of GUM, the controller failure might occur. Do not perform this procedure during the micro-program exchange. You can know whether the micro-program exchange is in process by checking whether the message indicating that the micro-program exchange is in process is displayed when you log in to Maintenance Utility or when you click the Refresh button.
- Resetting the GUM disconnects the connection to the network. Then, the communication with Storage Navigator is temporarily stopped and automatically started again.

1. See the "Other Switches and LEDs" (LOC03-80) and confirm the location of the LAN-RST switch.

2. Press the controller LAN-RST switch that resets GUM for around one second (any sharp object such as a pen tip is necessary).
   Check that the CTL ALM LED lights up in amber. If the LED does not light up in amber, the switch might not be pressed properly.

3. Wait for around five minutes.

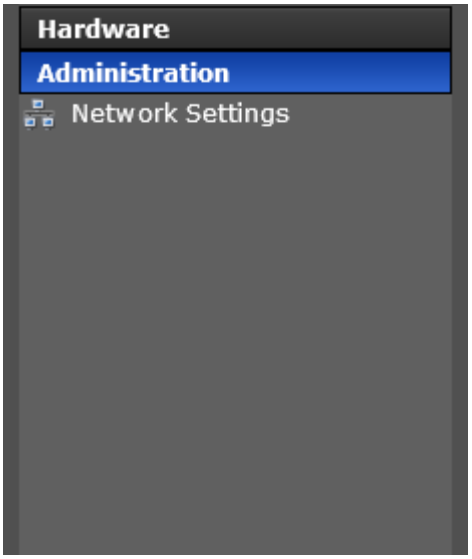
4. Confirm that you can log into the Maintenance Utility of the reset controller (If you cannot login, retry after waiting for one to two minutes. Note that it might take up to 20 minutes until you can login.)

5. If you cannot login even after waiting for 20 minutes, repeat the procedure from Step 2 to Step 4. If you cannot still login, contact the Technical Support Division.

   NOTE: If you need to reset GUMs of other controllers, repeat the above GUM reset procedure from Step 1 to Step 5.

2.10 Management Menu

The items in the Administration menu of Maintenance Utility are shown below.



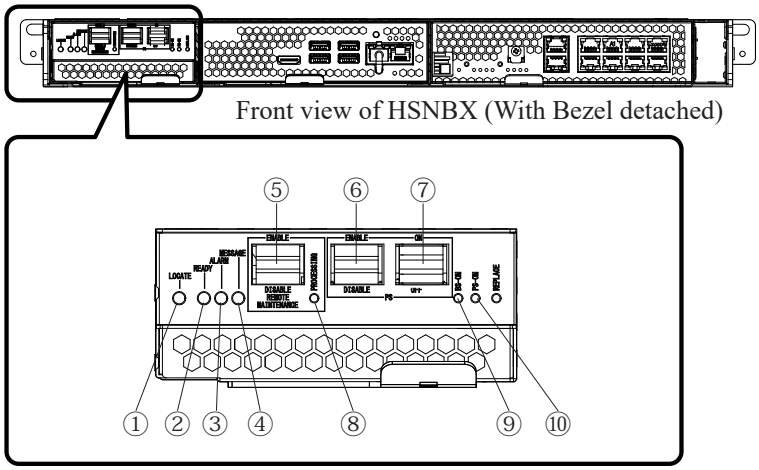
Item	Description
Network Settings	View the network settings. (For the network settings, see “Setting IP address” (SVP02-20-10).

2.11 Setting the jumper used for initial installation (CEMD)

2.11.1 Enabling the jumper used for initial installation (CEMD)

1. Perform the following operations for all controller chassis (DKCs) of the storage system.
   Start the operation while the storage system is turned off by the PS ON/PS OFF switch of HSNPANEL.
   While holding the PS SW ENABLE switch (⑥) on the HSNPANEL in the ENABLE position, turn off the PS ON/PS OFF switch (⑦). (LOC03-10)

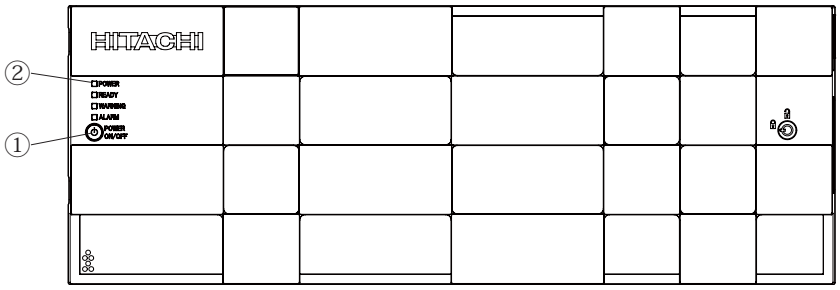
   NOTE: If the storage system cannot be powered off, turn it off by one of the following operations.
   - Turn off the PDU circuit breaker. (LOC03-230)
   - Disconnect and then connect the DKC power cable. (LOC03-230)



Front view of HSNBX (With Bezel detached)

2. For all DKCs, hold the POWER ON/OFF switch (①) on the front until the POWER LED (②) turns orange. (LOC03-70)

   NOTE: Make sure to perform the operation for all DKCs.



Front view of DKC (With Bezel detached)

3. From "Table 2-2 Correspondence between DKC Number and Location Name", select a location for which CEMD is to be enabled, and then perform Step 4 to Step 6. Repeat the steps for all locations.

Table 2-2 Correspondence between DKC Number and Location Name

- VSP 5500, 5500H

DKC number	CTL number	Location name
0	0x00	CTL01
1	0x02	CTL11
2	0x04	CTL21
3	0x06	CTL31
4	0x08	CTL41
5	0x0A	CTL51

- VSP 5100, 5100H

DKC number	CTL number	Location name
0, 1	0x00	CTL01

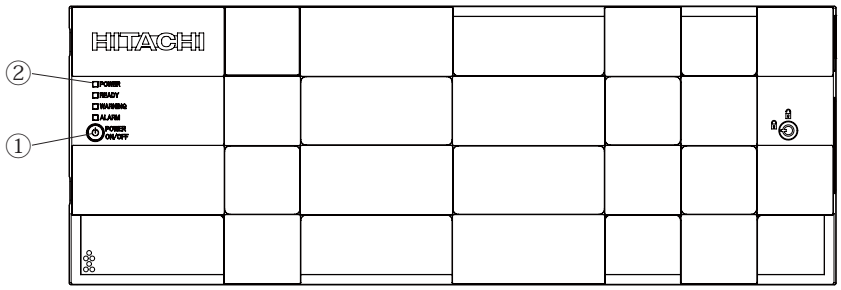
4. Select a location from "Connect To:", and then click [Maintenance Utility]. (See "1.1.2 Starting Maintenance Utility by Specifying CTL".)

5. In the Maintenance Utility window, select Enable for "A jumper used for initial installation (CEMD)". (See "2.4 Edit System Parameters".)

6. Click [Log Out] in the upper-right corner in the Maintenance Utility window to close the window.

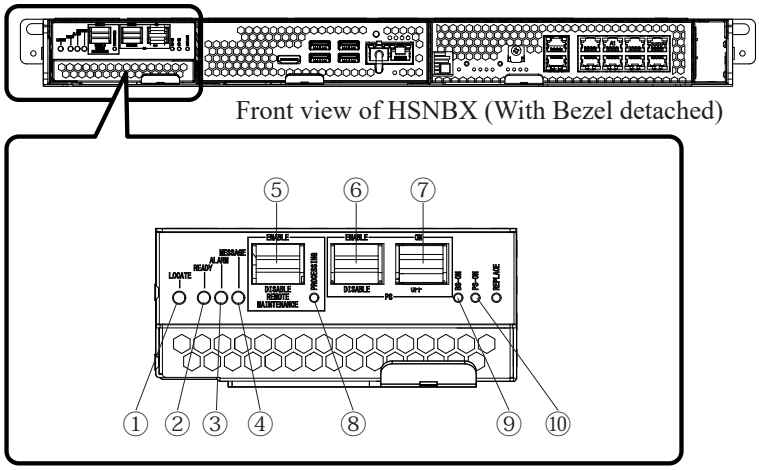
7. For all DKCs, hold the POWER ON/OFF switch (①) on the front until the POWER LED (②) changes from orange to green. (LOC03-70)

NOTE: Make sure to perform the operation for all DKCs.



Front view of DKC (With Bezel detached)

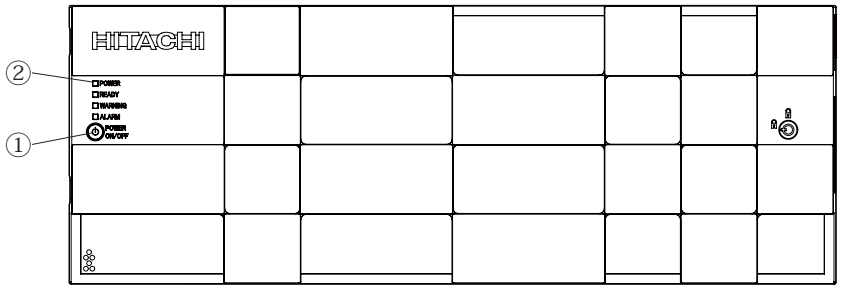
8. While holding the PS SW ENABLE switch (⑥) on the HSNPANEL in the ENABLE position, turn on the PS ON/PS OFF switch (⑦) and confirm that the PS ON LED (⑩) turns green. (LOC03-10)



2.11.2 Disabling the jumper used for initial installation (CEMD)

1. For all DKCs, hold the POWER ON/OFF switch (①) on the front until the POWER LED (②) turns orange. (LOC03-70)

   NOTE: Make sure to perform the operation for all DKCs.



Front view of DKC (With Bezel detached)

2. From "Table 2-3 Correspondence between DKC Number and Location Name", select a location for which CEMD is to be enabled, and then perform Step 3 to Step 5. Repeat the steps for all locations.

Table 2-3 Correspondence between DKC Number and Location Name

- VSP 5500, 5500H

DKC number	CTL number	Location name
0	0x00	CTL01
1	0x02	CTL11
2	0x04	CTL21
3	0x06	CTL31
4	0x08	CTL41
5	0x0A	CTL51

- VSP 5100, 5100H

DKC number	CTL number	Location name
0, 1	0x00	CTL01

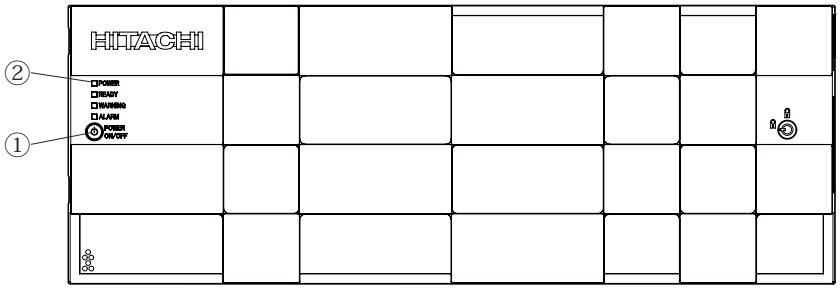
3. Select a location from "Connect To:", and then click [Maintenance Utility]. (See "1.1.2 Starting Maintenance Utility by Specifying CTL".)

4. In the Maintenance Utility window, select Enable for "A jumper used for initial installation (CEMD)". (See "2.4 Edit System Parameters".)

5. Click [Log Out] in the upper-right corner in the Maintenance Utility window to close the window.

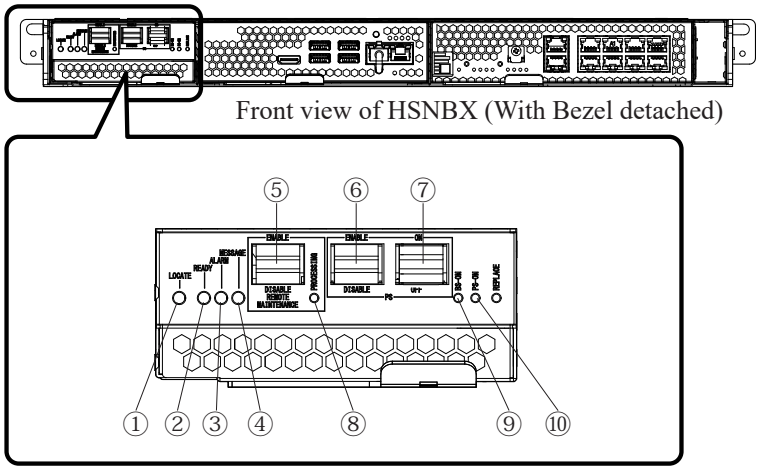
6. For all DKCs, hold the POWER ON/OFF switch (①) on the front until the POWER LED (②) changes from orange to green. (LOC03-70)

   NOTE: Make sure to perform the operation for all DKCs.



Front view of DKC (With Bezel detached)

7. While holding the PS SW ENABLE switch (⑥) on the HSNPANEL in the ENABLE position, turn on the PS ON/PS OFF switch (⑦) and confirm that the PS ON LED (⑩) turns green. (LOC03-10)

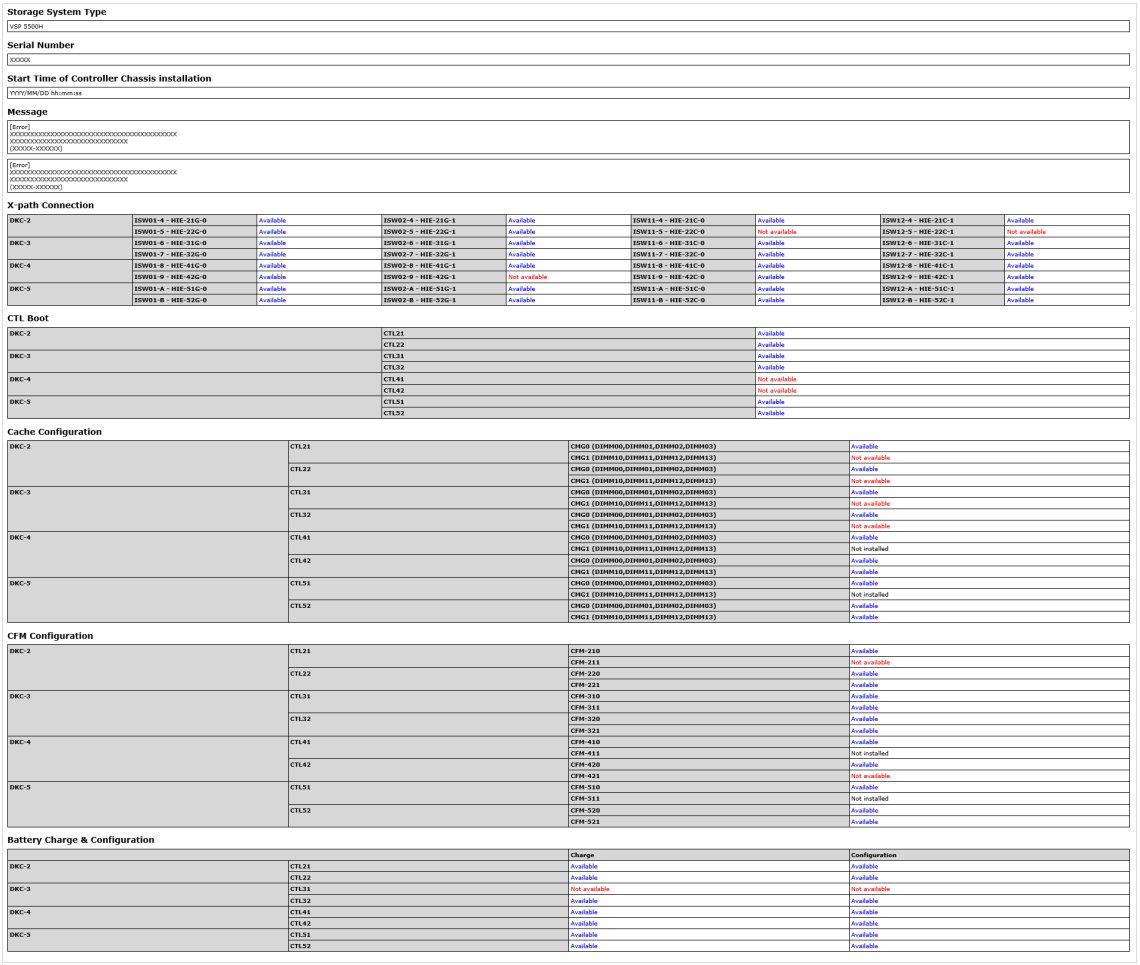


Front view of HSNBX (With Bezel detached)

2.12 Controller Board/Controller Chassis Installation Results Window

The following are the Controller Board/Controller Chassis Installation Results window and the items to be displayed.

An example of the Controller Chassis Installation Results window is shown below.



Storage System Type

VSP 5500H

Serial Number

XXXXX

Start Time of Controller Chassis installation

YYYY/MM/DD hh:mm:ss

Message

[Error]
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXX
(XXXXX-XXXXXX)

[Error]
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXX
(XXXXX-XXXXXX)

X-path Connection

DKC-2	ISW01-4 - HIE-21G-0	Available	ISW02-4 - HIE-21G-1	Available	ISW11-4 - HIE-21C-0	Available	ISW12-4 - HIE-21C-1	Available
	ISW01-5 - HIE-22G-0	Available	ISW02-5 - HIE-22G-1	Available	ISW11-5 - HIE-22C-0	Not available	ISW12-5 - HIE-22C-1	Not available
DKC-3	ISW01-6 - HIE-31G-0	Available	ISW02-6 - HIE-31G-1	Available	ISW11-6 - HIE-31C-0	Available	ISW12-6 - HIE-31C-1	Available
	ISW01-7 - HIE-32G-0	Available	ISW02-7 - HIE-32G-1	Available	ISW11-7 - HIE-32C-0	Available	ISW12-7 - HIE-32C-1	Available
DKC-4	ISW01-8 - HIE-41G-0	Available	ISW02-8 - HIE-41G-1	Available	ISW11-8 - HIE-41C-0	Available	ISW12-8 - HIE-41C-1	Available
	ISW01-9 - HIE-42G-0	Available	ISW02-9 - HIE-42G-1	Not available	ISW11-9 - HIE-42C-0	Available	ISW12-9 - HIE-42C-1	Available
DKC-5	ISW01-A - HIE-51G-0	Available	ISW02-A - HIE-51G-1	Available	ISW11-A - HIE-51C-0	Available	ISW12-A - HIE-51C-1	Available
	ISW01-B - HIE-52G-0	Available	ISW02-B - HIE-52G-1	Available	ISW11-B - HIE-52C-0	Available	ISW12-B - HIE-52C-1	Available

CTL Boot

DKC-2	CTL21	Available
	CTL22	Available
DKC-3	CTL31	Available
	CTL32	Available
DKC-4	CTL41	Not available
	CTL42	Not available
DKC-5	CTL51	Available
	CTL52	Available

Cache Configuration

DKC-2	CTL21	CHG0 (DIMM00,DIMM01,DIMM02,DIMM03)	Available
		CHG1 (DIMM10,DIMM11,DIMM12,DIMM13)	Not available
	CTL22	CHG0 (DIMM00,DIMM01,DIMM02,DIMM03)	Available
		CHG1 (DIMM10,DIMM11,DIMM12,DIMM13)	Not available
DKC-3	CTL31	CHG0 (DIMM00,DIMM01,DIMM02,DIMM03)	Available
		CHG1 (DIMM10,DIMM11,DIMM12,DIMM13)	Not available
	CTL32	CHG0 (DIMM00,DIMM01,DIMM02,DIMM03)	Available
		CHG1 (DIMM10,DIMM11,DIMM12,DIMM13)	Not available
DKC-4	CTL41	CHG0 (DIMM00,DIMM01,DIMM02,DIMM03)	Available
		CHG1 (DIMM10,DIMM11,DIMM12,DIMM13)	Not installed
	CTL42	CHG0 (DIMM00,DIMM01,DIMM02,DIMM03)	Available
		CHG1 (DIMM10,DIMM11,DIMM12,DIMM13)	Available
DKC-5	CTL51	CHG0 (DIMM00,DIMM01,DIMM02,DIMM03)	Available
		CHG1 (DIMM10,DIMM11,DIMM12,DIMM13)	Not installed
	CTL52	CHG0 (DIMM00,DIMM01,DIMM02,DIMM03)	Available
		CHG1 (DIMM10,DIMM11,DIMM12,DIMM13)	Available

CFM Configuration

DKC-2	CTL21	CFM-210	Available
		CFM-211	Not available
	CTL22	CFM-220	Available
		CFM-221	Available
DKC-3	CTL31	CFM-310	Available
		CFM-311	Available
	CTL32	CFM-320	Available
		CFM-321	Available
DKC-4	CTL41	CFM-410	Available
		CFM-411	Not installed
	CTL42	CFM-420	Available
		CFM-421	Not available
DKC-5	CTL51	CFM-510	Available
		CFM-511	Not installed
	CTL52	CFM-520	Available
		CFM-521	Available

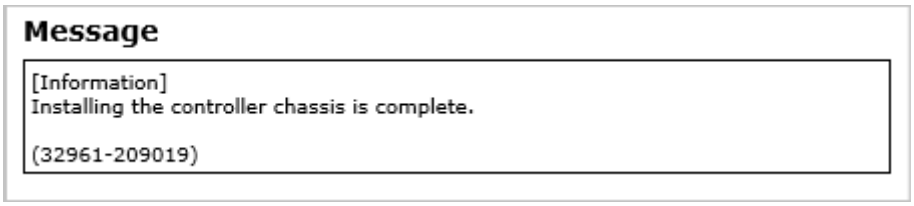
Battery Charge & Configuration

		Charge	Configuration
DKC-2	CTL21	Available	Available
	CTL22	Available	Available
DKC-3	CTL31	Not available	Not available
	CTL32	Available	Available
DKC-4	CTL41	Available	Available
	CTL42	Available	Available
DKC-5	CTL51	Available	Available
	CTL52	Available	Available

Item	Displayed content	Details
Storage System Type	Storage system name	
Serial Number	5-digit serial number	
• Start Time of Controller Chassis installation • Start Time of Controller Boards installation	Start time of installation.	Displayed in the format of "YYYY/MM/DD hh:mm:ss"
Message	Message information Upper box: Status and message content (message, recovery action, and error code)	[Processing]: The installation processing is in process. The message content is blank. [Error], [Warning], and [Information]: The installation ends. The message content is displayed. When the installation ends normally, the message shown under this table (see *1) is displayed.
	Lower box: • When the post-processing of installation fails: Status and message content (message, recovery action, and error code) • When the post-processing of installation is successful: The lower box is not displayed.	
X-path Connection	X-path connection status • Only the information related to the DKCs being installed is displayed. • Only the Controller Boards being installed (CTL-02/CTL-11 in DKC-0/DKC-1) are displayed.	Available : Link-up is recognized. Not available : Link-up is not recognized (including timeout). Checking : Default
CTL Boot	MP boot status • Only the information related to the DKCs being installed is displayed. • Only the Controller Boards being installed (CTL-02/CTL-11 in DKC-0/DKC-1) are displayed.	Available : All MPs have booted. Not available : Some MPs have not booted. Checking : Default

(To be continued)

*1: The following message is displayed when the installation of Controller Chassis ends normally.



(Continued from preceding page)

Item	Displayed content	Details
Cache Configuration	The type and the number of Cache, and so on • Only the information related to the DKCs being installed is displayed. • Only the Controller Boards being installed (CTL-02/CTL-11 in DKC-0/DKC-1) are displayed.	Available : The type/number meets the specifications. Not available : The type/number does not meet the specifications, or Cache is not recognized (Cache seems to be not installed). Not installed : Paired CTLs do not recognize Cache in the other CTL (Cache seems to be not installed). Checking : Default
CFM Configuration	The type and the number of CFMs, and so on • Only the information related to the DKCs being installed is displayed. • Only the Controller Boards being installed (CTL-02/CTL-11 in DKC-0/DKC-1) are displayed.	Available : The type/number meets the specifications. Not available : The type/number does not meet the specifications, or CFMs are not recognized (CFMs seem to be not installed). Not installed : Paired CTLs do not recognize CFMs in the other CTL (CFMs seem to be not installed). Checking : Default
Battery Charge & Configuration	Charge: Battery charge • Only the information related to the DKCs being installed is displayed. • Only the Controller Boards being installed (CTL-02/CTL-11 in DKC-0/DKC-1) are displayed.	Available : The battery charge is sufficient. Not available : The battery charge is not sufficient. Checking : Default
	Configuration: Battery installation • Only the information related to the DKCs being installed is displayed. • Only the Controller Boards being installed (CTL-02/CTL-11 in DKC-0/DKC-1) are displayed.	Available : Both of two batteries are recognized. Not available : Batteries are not recognized. Checking : Default

(To be continued)

(Continued from preceding page)

Item	Displayed content	Details
CHB Configuration	Displayed only when Controller Boards are installed. • Only the Controller Boards being installed (CTL-02/CTL-11 in DKC-0/DKC-1) are displayed.	Available : The type/number meets the specifications. Not available : The type/number does not meet the specifications, or CHBs are not recognized (CHBs seem to be not installed). Not installed : Paired CTLs do not recognize CHBs in the other CTL (CHBs seem to be not installed). Checking : Default
DKB Configuration	Displayed only when Controller Boards are installed. • Only the Controller Boards being installed (CTL-02/CTL-11 in DKC-0/DKC-1) are displayed.	Available : The type/number meets the specifications. Not available : The type/number does not meet the specifications, or DKBs are not recognized (DKBs seem to be not installed). Not installed : Paired CTLs do not recognize DKBs in the other CTL (DKBs seem to be not installed). Checking : Default

3. Appendix

3.1 Maintenance Utility Window Configuration

3.1.1 Basic Framework

Consists of three areas, “Header Area”, “Navigation Area” and “Application Area”.

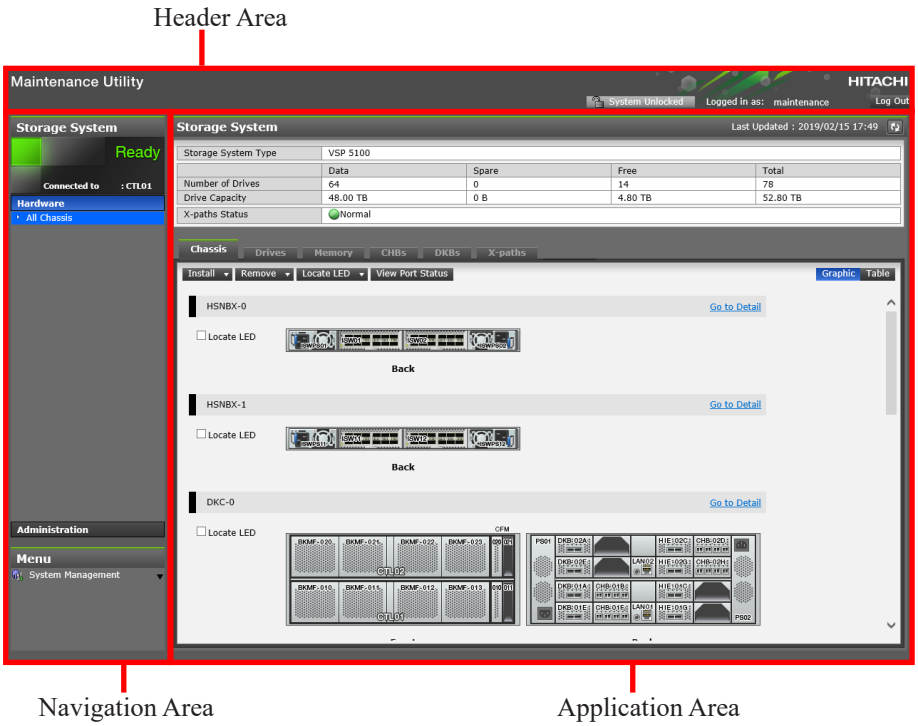


Table 3-1 Window Configuration

Area	Description
Header Area	The common information (such as alert display/system lock display/user name) is displayed always.
Navigation Area	Display system management menus.
Application Area	Perform information display and setting related to the system.

3.1.2 Header Area

The following describes the common header area configuration in the main window.

Table 3-2 Header Area Configuration

Window Item	Description
Lock release button	• Clicking this button starts the Force Release System Lock window. (Refer to "2.5 Force Release System Lock") • Switch the system lock status to locked/unlocked.
Login user display	Display the user name used for login. When the login name is long and does not fit in the location area due to expansion of the window, display "…" at the end of the name.
Logout button	Clicking this button displays a confirmation message.

3.1.3 Navigation Area

The following describes the navigation area configuration.

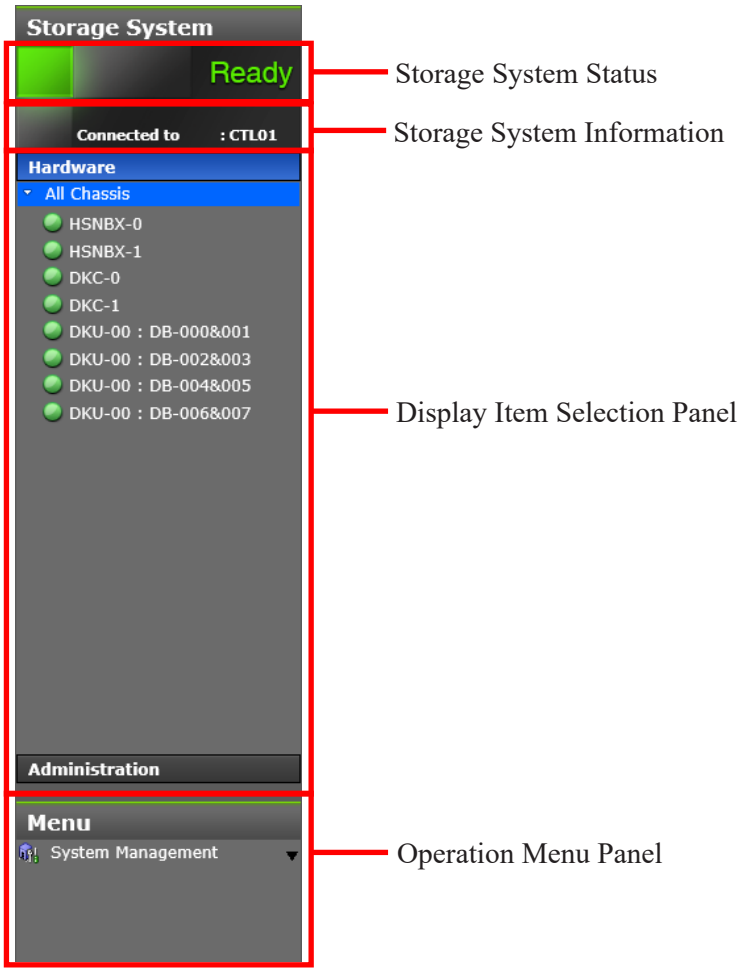
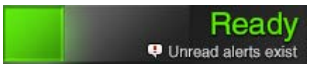


Table 3-3 Navigation Area Configuration

Window Item	Description
Storage System information	• Display a serial number in the first row. • Display the currently connecting CTL number in the second row. • Clicking this area displays the Storage System information (Main window) in the application area.
Storage System status	Display a Storage System status image. (Refer to Table 3-4)
Display item selection panel	• Separate the menus used into [Hardware] and [Administration] to display. Selecting a menu displays the content in the application area. • In the [Hardware] menu, the icon on the left of the hardware name character string displays the hardware status and the icon on the right shows the LED lighting status.
Operation menu panel	Place the operation menu related to the entire system.

Table 3-4 Storage System Status

NOTE: See "2.1 Alert Display Related to FRU (Field Replacement Unit)" for the status of each part.

Status	Condition	Unreferenced SIM	Navigation Area	Icon and Color of Alert Button
Failed	The status with a possibility that the Storage System may be down	None		 /Red
		Available		 /Red
Warning	The status with Blocked/Warning in the part status	None		 /Amber
		Available		 /Amber
Ready	Part statuses are all normal (all SIMs are referred to)	None		 /Green
		Available		 /Green
Power on in progress	PSON is in progress			–
Power off in progress	PSOFF is in progress			–
?	Others (The status before performing PSON, and so on)			–

3.1.4 Application Area

The following describes the common application area configuration in the main window.

Table 3-5 Application Area Configuration

Window Item	Description
Last update date display	Display the last update dated of the figure display information. (YYYY/MM/DD hh:mm)
Refresh button	Refresh the displayed information.