AX6700S

ALAXALA AX6700S

Hardware Instruction Manual Corrections

Released December 25, 2015 (Edition 4)

■ Preface

This document contains corrections for the AX6700S Hardware Instruction Manual (Copyright (C) 2009, ALAXALA Networks Corporation. All rights reserved.).

If you intend to use the Switch, please read this document carefully.

This document applies to the following manual:

Item No.	Manual Name	Manual Number
1	ALAXALA AX6700S Hardware Instruction Manual	AX67S-H001-40X

■ Trademarks

- Ethernet is a product name of Xerox Corporation.
- Windows is a registered trademark of Microsoft Corporation in the United States and other countries.
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■ Note

The information in this document is subject to change without notice.

■ Edition history

December 25, 2015 (Edition 4)

■ Conventions: The terms "Switch" and "switch"

The term Switch (upper-case "S") is an abbreviation for any or all of the following models:

- AX6700S series switch

The term switch (lower-case "s") might refer to a Switch, another type of switch from the current vendor, or a switch from another vendor. The context decides the meaning.

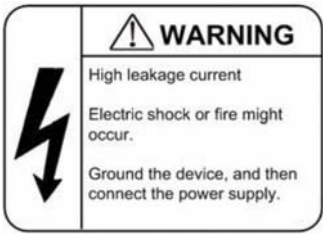
Contents

⚠ Safety Information

The following correction has been made to "Ground the Switch."

Before correction :

When connecting the Switch to a 100 V AC power supply, each Switch has at most 3.5 mA of leakage current. To connect a Switch to an AC power supply, always use a grounded power outlet for the Switch. Using the Switch without grounding could result in electric shock or failures due to electrical noise.
When connecting the Switch to a 200 V AC power supply, each Switch has at most 5 mA of leakage current. To connect a Switch to an AC power supply, always use a grounded power outlet for the Switch, and make sure that the power outlet is grounded to the grounding board of the building. To do this, ask maintenance personnel or a professional electrician. Using the Switch without grounding could result in electric shock or failures due to electrical noise.
The following label is attached to a Switch.



After correction :

Each Switch has at most 3.5 mA of leakage current. To connect a Switch to an AC power supply, always use a grounded power outlet for the Switch. Using the Switch without grounding could result in electric shock or failures due to electrical noise.

The following warning has been added to "Ground the Switch."

Addition:

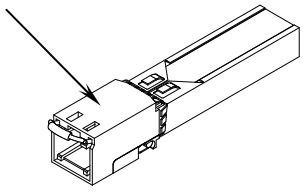
■Power Supply Redundancy.
● When the device is used in redundant power supply mode, it must be supplied power from two different power lines (different power distribution panels).
● Leak current of up to 5mA flows for each device when it is supplied power from one power line (one power distribution panel).

The following note has been added after "Avoid looking directly at laser beams.".

Addition:

Do not touch the SFP-T transceiver during operation or just after operation has stopped.
During operation and when a link is being established, the temperature of the SFP-T transceiver can rise to 65°C. Do not touch the SFP-T transceiver while it is operating and just after it has stopped. Doing so could result in burns.

Caution: Hot
(During operation, all sides are very hot.)



When you remove the SFP-T transceiver, use the procedure below. Failure to do so could result in burns.
- To remove the SFP-T transceiver while the Switch is on, execute the `inactive` command, and then wait 5 minutes before removing the SFP-T transceiver.
- To remove the SFP-T transceiver while the Switch is off, turn off the Switch, and then wait 5 minutes before removing the SFP-T transceiver.

The following label is affixed to the SFP-T transceiver.

1. Components Overview

1.7 Memory card (MC)

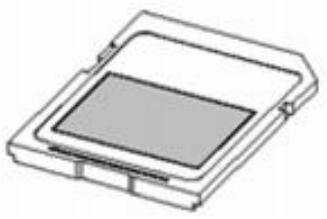
A description of the SD1G has been added as (2) .

Addition:

(2) SD1G

This memory card is an SD memory card with a capacity of 1 GB.

Figure 1-23a External appearance



Label: ALAXALA SD1G

1.8 Transceiver

1.8.1 SFP

Table *1-16* is corrected as follows.

Correction:

Table 1-16 List of SFP transceivers

Number	Module name	Interface	Supported network interface unit
1	SFP-SX	Gigabit Ethernet 1000BASE-SX	NK1G-24S NK1GS-8M
2	SFP-SX2	Gigabit Ethernet 1000BASE-SX2	
3	SFP-LX	Gigabit Ethernet 1000BASE-LX	
4	SFP-LH	Gigabit Ethernet 1000BASE-LH	
5	SFP-LHB	Gigabit Ethernet 1000BASE-LHB	
6	SFP-BX1U	Gigabit Ethernet 1000BASE-BX10-U[#1]	
7	SFP-BX1D	Gigabit Ethernet 1000BASE-BX10-D[#1]	
8	SFP-BX4U	Gigabit Ethernet 1000BASE-BX40-U[#2]	
9	SFP-BX4D	Gigabit Ethernet 1000BASE-BX40-D[#2]	
10	SFP-T	Ethernet 10/100/1000BASE-T	NK1G-24S

#1: 1000BASE-BX10-U and 1000BASE-BX10-D are used in pairs.
#2: 1000BASE-BX40-U and 1000BASE-BX40-D are used in pairs.

The caution about laser beams has been corrected as follows.

Correction:

⚠CAUTION	SFP transceivers except the SFP-T transceiver use laser beams that are colorless and transparent, and invisible to the eye. Never look directly into the optical transceiver.

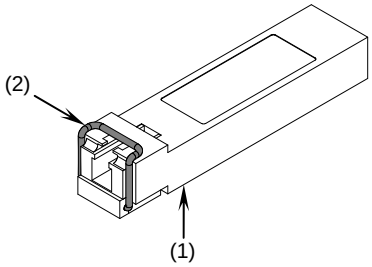
The explanation in (6) SFP-BX1U transceivers has been corrected as follows.

Correction:

(6) SFP-BX1U

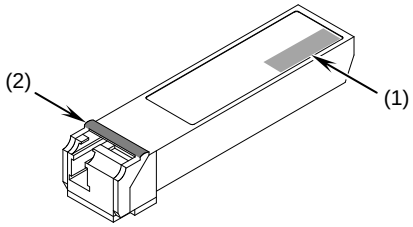
Figure 1-29 External appearance

・ Type-A module



(1) Label at the back of the transceiver:
ALAXALA SFP-BX1U
Label color: White
(2) Lever color: Blue

・ Type-B module



(1) Label: ALAXALA SFP-BX1U
Label color: White
(2) Lever color: Blue

NOTE Two types of SFP-BX1U transceivers are available: a type-A module and a type-B module. Functionally, these two modules are identical.

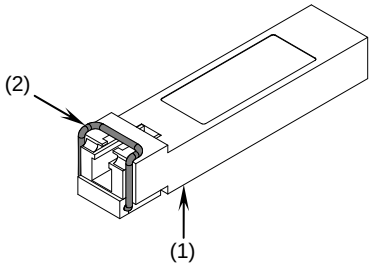
The explanation in (7) SFP-BX1D transceivers has been corrected as follows.

Correction:

(7) SFP-BX1D

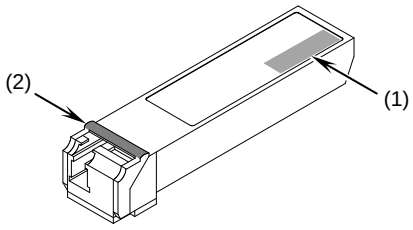
Figure 1-30 External appearance

・ Type-A module



(1) Label at the back of the transceiver:
ALAXALA SFP-BX1D
Label color: White
(2) Lever color: Magenta

・ Type-B module



(1) Label: ALAXALA SFP-BX1D
Label color: White
(2) Lever color: Purple

NOTE Two types of SFP-BX1D transceivers are available: a type-A module and a type-B module. Functionally, these two modules are identical.

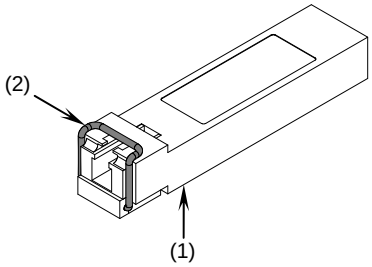
The explanation in (8) SFP-BX4U transceivers has been corrected as follows.

Correction:

(8) SFP-BX4U

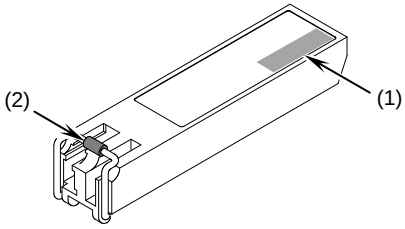
Figure 1-31 External appearance

・ Type-A module



(1) Label at the back of the transceiver:
ALAXALA SFP-BX4U
Label color: White
(2) Lever color: Yellow

・ Type-B module



(1) Label: ALAXALA SFP-BX4U
Label color: White
(2) Lever color: Blue

NOTE Two types of SFP-BX4U transceivers are available: a type-A module and a type-B module. Functionally, these two modules are identical.

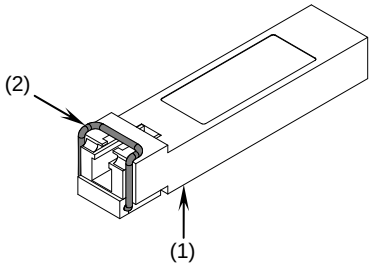
The explanation in (9) SFP-BX4D transceivers has been corrected as follows.

Correction:

(9) SFP-BX4D

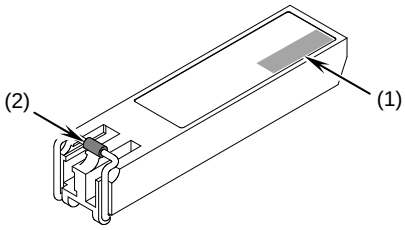
Figure 1-32 External appearance

・ Type-A module



(1) Label at the back of the transceiver:
ALAXALA SFP-BX4D
Label color: White
(2) Lever color: Green

・ Type-B module



(1) Label: ALAXALA SFP-BX4D
Label color: White
(2) Lever color: Purple

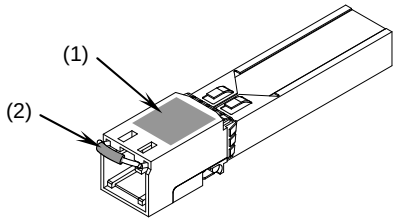
NOTE Two types of SFP-BX4D transceivers are available: a type-A module and a type-B module. Functionally, these two modules are identical.

A description of the SFP-T transceiver has been added as (10).

Addition:

(10) SFP-T

Figure 1-32a External appearance



(1) Label: ALAXALA SFP-T
Label color: White
(2) Lever color: Yellow

NOTE The SFP-T transceiver is supported by NK1G-24S.

1.8.2 XFP

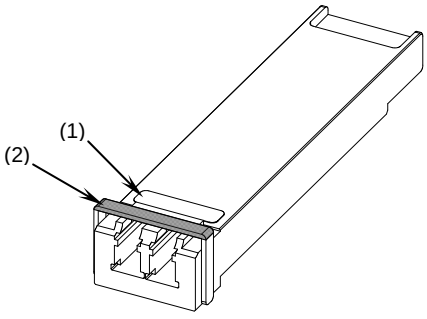
The explanation in (2) XFP-LR transceivers has been corrected as follows.

Correction:

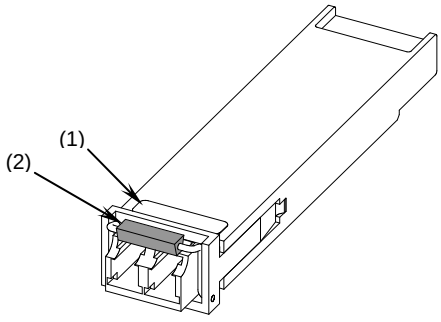
(2) XFP-LR

Figure 1-34 External appearance

・ Type-A module



・ Type-B module



(1) Label: ALAXALA XFP-LR
(2) Lever color: Blue

NOTE Two types of XFP-LR transceivers are available: a type-A module and a type-B module. Functionally, these two modules are identical.

2. Preparation for Installation

2.4 Power supply facility

2.4.1 Power supply facility for 100 V AC

"NOTE" has been corrected as follows.

Before correction :

NOTE	For a redundant power supply, the power from different power supply systems can be supplied to each power supply unit.

After correction :

⚠WARNING	When the device is used in redundant power supply mode, it must be supplied power from two different power lines (different power distribution panel). Leak current of up to 5mA flows for each device when it is supplied power from one power line (one power distribution panel).

Table *2-4 Inrush current* has been corrected as follows.

Correction:

Table 2-4 Inrush current

Current (peak value)	30 A	15 A
Time	10 ms or less	150 ms or less

2.4.2 Power supply facility for 200 V AC

"NOTE" has been corrected as follows.

Before correction :

NOTE	For a redundant power supply, the power from different power supply systems can be supplied to each power supply unit.

After correction :

⚠WARNING	When the device is used in redundant power supply mode, it must be supplied power from two different power lines (different power distribution panel). Leak current of up to 5mA flows for each device when it is supplied power from one power line (one power distribution panel).

Table *2-8 Inrush current* has been corrected as follows.

Correction:

Table 2-8 Inrush current

Current (peak value)	30 A	15 A
Time	10 ms or less	150 ms or less

2.4.3 Power supply facility for −48 V DC

Table *2-11 Inrush current* has been corrected as follows.

Correction:

Table 2-11 Inrush current

Current (peak value)	60 A
Time	40 ms or less

2.6 Leakage current

2.6 *Leakage current* has been corrected as follows.

Correction:

The Switch is equipped with a noise filter to prevent failure due to electric noise. As a result, a maximum leakage current of 3.5 mA flows through the protective ground line (Type D grounding).
Be sure to consider whether the installation of a residual current circuit breaker is required for compliance with the Fire Service Act or other legislation.

3. Preparation of Interface Cables and Terminals

3.1 List of interface cables

Table *3-1* has been corrected as follows.

Correction:

Table 3-1 Interface cables

Port	Transceiver	Interface	Cable	Connector
10/100/1000BASE-T port	--	10BASE-T	UTP cable (Category 3 or higher)	RJ-45 connector
	--	100BASE-TX	UTP cable (Category 5 or higher)	
	--	1000BASE-T	UTP cable (Enhanced category 5 or higher)	
1000BASE-X port	SFP-T	10BASE-T	UTP cable (Category 5 or higher)	RJ-45 connector
		100BASE-TX	UTP cable (Category 5 or higher)	
		1000BASE-T	UTP cable (Enhanced category 5 or higher)	
	SFP-SX	1000BASE-SX	Multiple-terminal mode fiber optic cable (core/cladding diameter = 50 μm/125 μm)	LC duplex connector
			Multiple-terminal mode fiber optic cable (core/cladding diameter = 62.5 μm/125 μm)	
	SFP-SX2	1000BASE-SX2	Multiple-terminal mode fiber optic cable (core/cladding diameter = 50 μm/125 μm)	
			Multiple-terminal mode fiber optic cable (core/cladding diameter = 62.5 μm/125 μm)	
	SFP-LX	1000BASE-LX	Multiple-terminal mode fiber optic cable[#1] (core/cladding diameter = 50 μm/125 μm)	
			Multiple-terminal mode fiber optic cable[#1] (core/cladding diameter = 62.5 μm/125 μm)	
			Single-terminal mode fiber optic cable (core/cladding diameter = 10 μm/125 μm)	
	SFP-LH	1000BASE-LH	Single-terminal mode fiber optic cable (core/cladding diameter = 10 μm/125 μm)	
			Single-terminal mode (DSF) fiber optic cable (core/cladding diameter = 8 μm/125 μm)	
	SFP-LHB	1000BASE-LHB	Single-terminal mode fiber optic cable (core/cladding diameter = 10 μm/125 μm)	
			Single-terminal mode (DSF) fiber optic cable (core/cladding diameter = 8 μm/125 μm)	
	SFP-BX1U	1000BASE-BX10-U	Single-terminal mode fiber optic cable (core/cladding diameter = 10 μm/125 μm)	LC simplex connector
	SFP-BX1D	1000BASE-BX10-D		
	SFP-BX4U	1000BASE-BX40-U		
	SFP-BX4D	1000BASE-BX40-D		

Port	Transceiver	Interface	Cable	Connector
10GBASE-R port	XFP-SR	10GBASE-SR	Multiple-terminal mode fiber optic cable (core/cladding diameter = 50 μm/125 μm)	LC duplex connector
			Multiple-terminal mode fiber optic cable (core/cladding diameter = 62.5 μm/125 μm)	
	XFP-LR	10GBASE-LR	Single-terminal mode fiber optic cable (core/cladding diameter = 10 μm/125 μm)	
	XFP-ER	10GBASE-ER		
	XFP-ZR	10GBASE-ZR		
AUX port	--	RS-232C	RS-232C straight-through cable	D-SUB 9-pin connector
CONSOLE port	--	RS-232C	RS-232C crossover cable	D-SUB 9-pin connector
MANAGEMENT port	--	10BASE-T	UTP cable (Category 3 or higher)	RJ-45 connector
		100BASE-TX	UTP cable (Category 5 or higher)	

#1: Some kinds of multiple-terminal mode fiber optics might increase the BER (bit error rate) when used with 1000Baase-LX. In this case, proper communication can be established by using the mode-conditioning patch code.

3.2 Details about interface cables

3.2.1 UTP cables (10/100/1000BASE-T)

The SFP-T transceiver's physical specifications have been added as Table *3-2a*.

Addition:

Table 3-2a 10/100/1000BASE-T physical specifications (SFP-T transceiver)

Item	Physical specifications		
	10BASE-T	100BASE-TX	1000BASE-T
Category	Category 5 and higher	Category 5 and higher	Enhanced category 5 and higher
Transmission distance (max.)	100 m	100 m	100 m

4. Installing a Switch

4.9 Inserting and removing SFP transceivers

The explanation about inserting and removing SFP transceivers has been corrected as follows.

Correction:

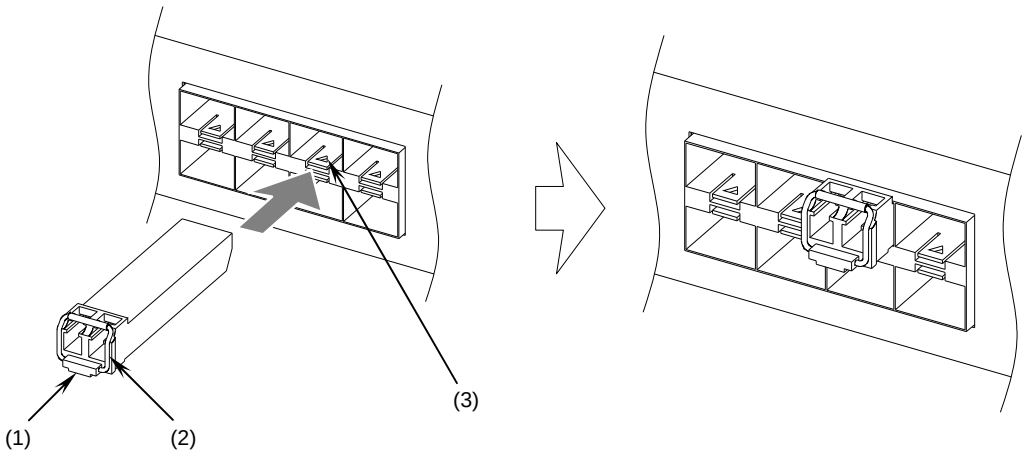
SFP transceivers with a network interface unit attached can be inserted and removed while the Switch is on.

4.9.1 Inserting or removing the SFP-SX, SFP-SX2, SFP-LX, SFP-LH, SFP-LHB, SFP-BX1U, SFP-BX1D, SFP-BX4U, or SFP-BX4D

(1) Inserting an SFP transceiver

Keep the lever upright as shown in the figure, and insert the SFP transceiver until you hear a click.

Figure 4-27 Inserting an SFP transceiver (upper port)

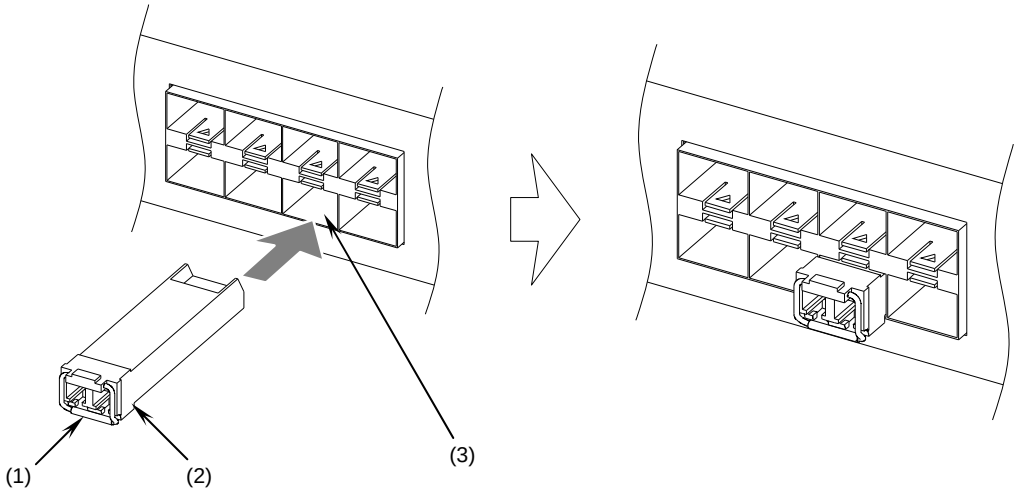


(1) SFP transceiver
(2) Lever
(3) Ethernet port

NOTE

The above figure shows an example for inserting an SFP transceiver in the upper Ethernet port of the network interface unit.
If you want to insert an SFP transceiver in the lower Ethernet port, turn the SFP transceiver upside down and install it as shown in the figure below.

Figure 4-28 Inserting an SFP transceiver (lower port)

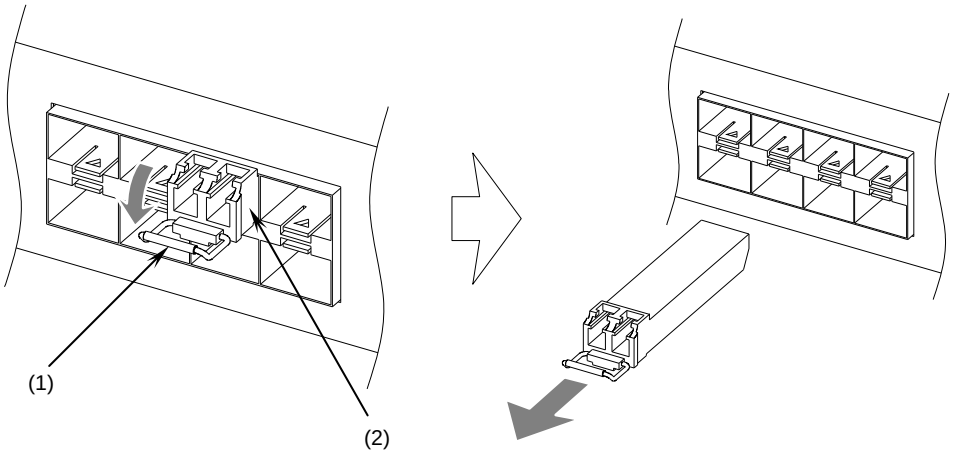


(1) Lever
(2) SFP transceiver
(3) Ethernet port

(2) Removing an SFP transceiver

Press the lever down in the direction of the arrow. While holding down the lever, pull out the SFP transceiver.

Figure 4-29 Removing an SFP transceiver



(1) Lever
(2) SFP transceiver

4.9.2 Inserting and removing an SFP-T transceiver

⚠CAUTION

During operation and when a link is being established, the temperature of the SFP-T transceiver can rise to 65°C. Do not touch the SFP-T transceiver while it is operating and just after it has stopped. Doing so could result in burns.
When you remove the SFP-T transceiver, use the procedure below. Failure to do so could result in burns.
- To remove the SFP-T transceiver while the Switch is on, execute the `inactive` command, and then wait 5 minutes before removing the SFP-T transceiver.
- To remove the SFP-T transceiver while the Switch is off, turn off the Switch, and then wait 5 minutes before removing the SFP-T transceiver.

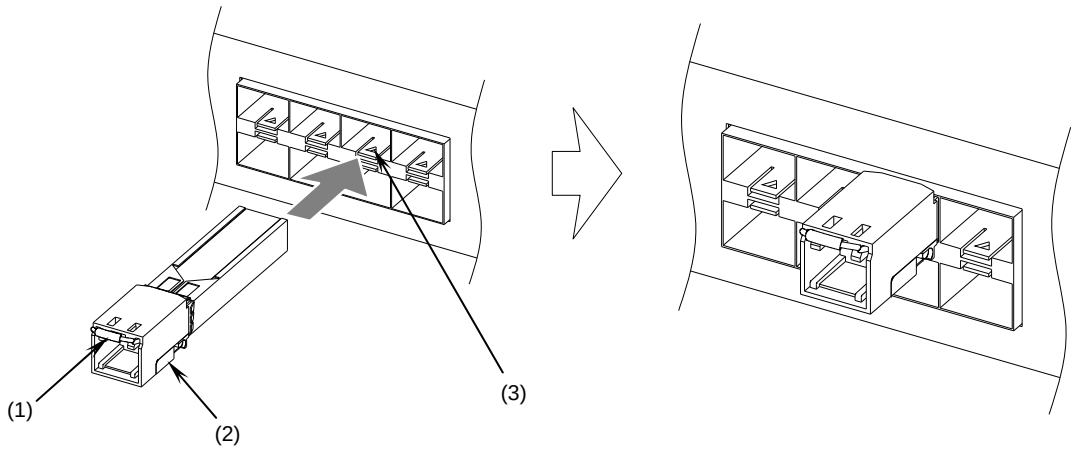
NOTE

For details about the `inactive` command, see *17. Ethernet* in the manual *Software Manual Operation Command Reference Vol. 1*.

(1) Inserting an SFP-T transceiver

Keep the lever upright as shown in the figure, and insert the SFP transceiver until you hear a click.

Figure 4-29a Inserting an SFP transceiver (upper port)

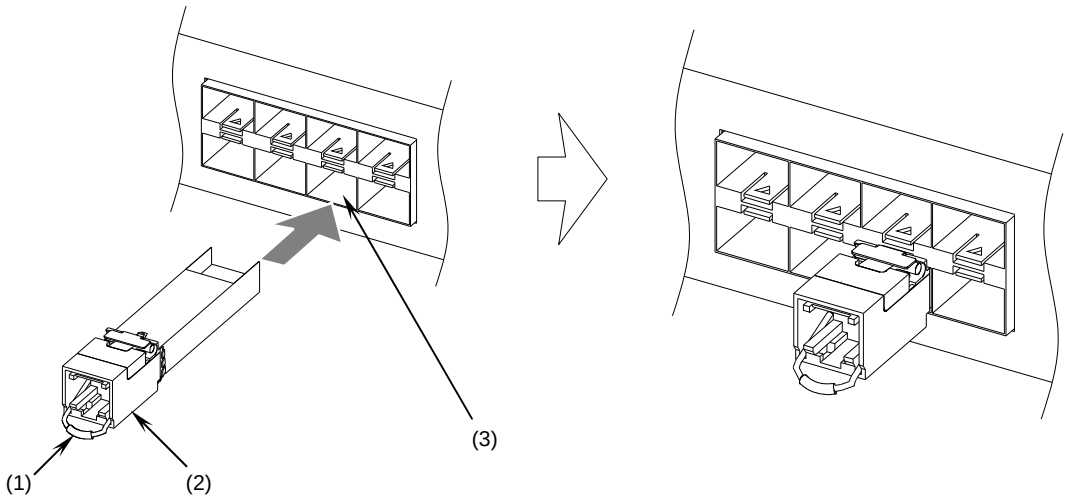


(1) Lever
(2) SFP transceiver
(3) Ethernet port

NOTE

The above figure shows an example of inserting an SFP transceiver into the upper Ethernet port of the network interface unit.
If you want to insert an SFP transceiver in the lower Ethernet port, turn the SFP transceiver upside down and install it as shown in the figure below.

Figure 4-29b Inserting an SFP transceiver (lower port)

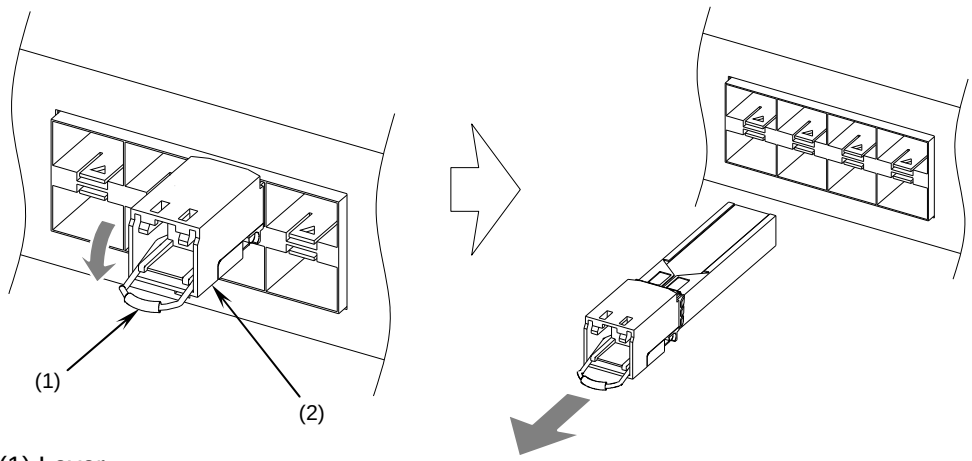


(1) Lever
(2) SFP transceiver
(3) Ethernet port

(2) Removing an SFP-T transceiver

Press the lever down in the direction of the arrow. While holding the lever, pull out the SFP transceiver.

Figure 4-29c Removing an SFP transceiver



(1) Lever
(2) SFP transceiver

4.12 Connecting interface cables

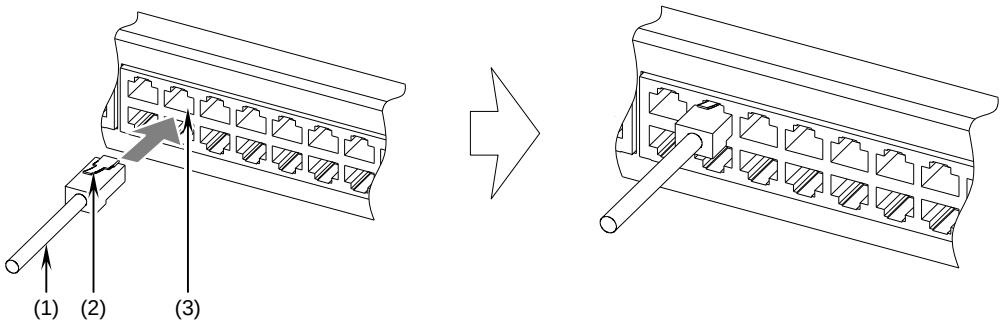
The explanation about connecting a UTP cable has been corrected as follows.

Correction:

(1) UTP cable

Push the connector until you hear a click.

Figure 4-34 Connecting a UTP cable



(1) UTP cable
(2) Tab
(3) Ethernet port

NOTE The above figure shows an example of inserting a UTP cable into the upper Ethernet port of the network interface unit. Use the same procedure to connect a UTP cable to the SFP-T transceiver.

NOTE To detach the cable, hold the tab down and pull out the connector.

5. Adding and Replacing Optional Modules

5.5 Adding or replacing a basic control unit

The explanation, notes, and figures in *(2) Installing a basic control unit* have been corrected as follows.

Correction:

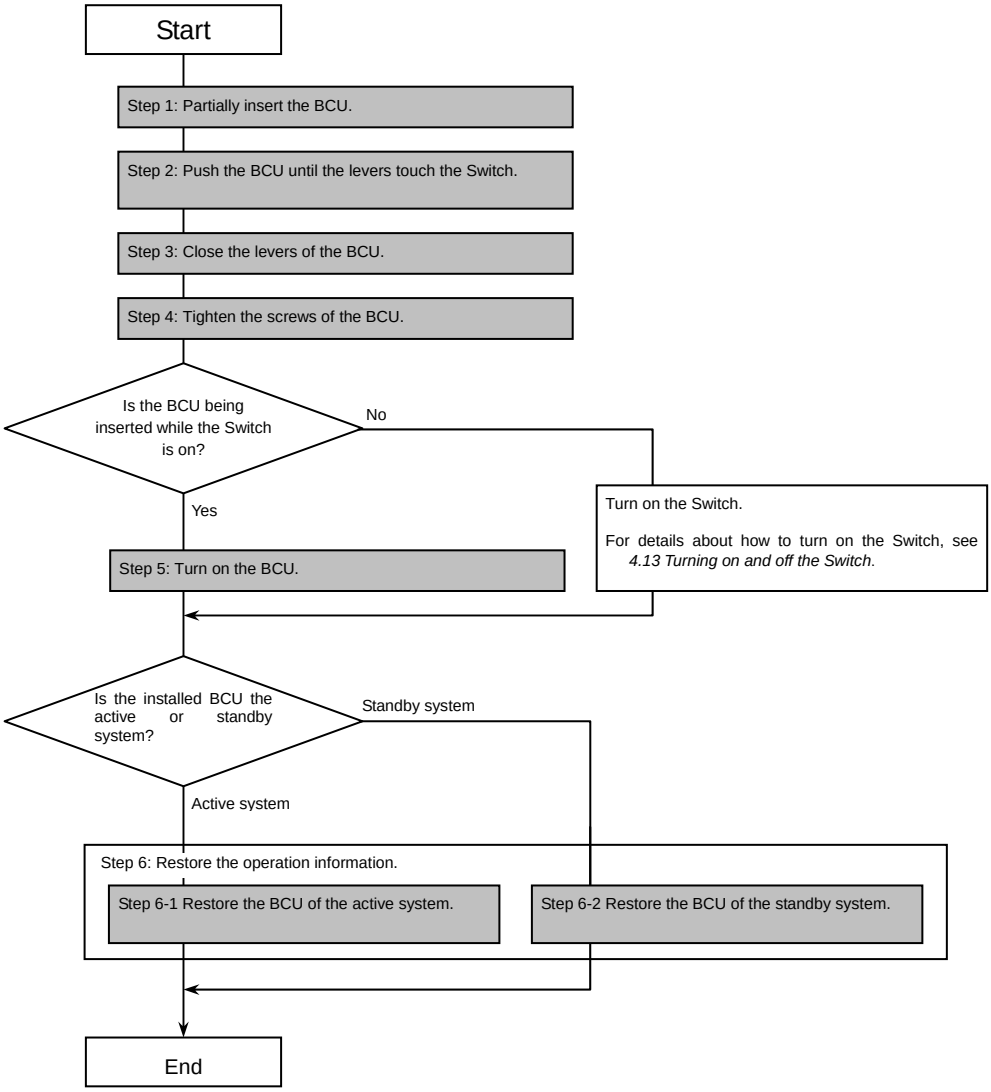
(2) Installing a basic control unit

A basic control unit can be installed while the Switch is on.
Note, however, that the procedure varies depending on whether the Switch is on or off.
In addition, the procedure also varies depending on whether the installed basic control unit is the active system or the standby system. Install the unit while referring to the following figure.

NOTE	When replacing both units with the Switch turned off in a dual configuration, first install the active system and restore the operating information (steps 1 to 6-1), and then install the standby system and restore the operating information (steps 1 to 6-2).

NOTE	For details about steps 1 to 6 in the figure, see the description of the steps that follow Figure *5-23 Installation overview*.

Figure 5-23 Installation overview



The description of (2) Installing a basic control unit (step 6) has been corrected as follows.

Correction:

Step 6

Restore the operation information. Because the restoration procedure is different for the active system and the standby system, make sure you perform the appropriate procedure.

6-1 Restoring the basic control unit of the active system

1. Restore the operating information from the file you have backed up. (Use the `restore` command.) To do this, use the backup file stored on a memory card or an ftp server.

NOTE

If you cannot find the backed up software in the backup file, see the *Software Update Guide* to install the software, and then execute the `restore` command.
For details about the `restore` command, see *9. Checking the Software Version and Switch Status* in the manual *Software Manual Operation Command Reference Vol. 1*.

NOTE

`BOOT INST OS` is displayed on the system operation panel of the basic control unit if the software is not installed. When the software is installed, `BOOT INST OS` disappears.

6-2 Restoring the basic control unit of the standby system

1. Install the software on the basic control unit of the standby system. (Use the `cd` command to move to the directory where the update file is stored, and then use the `ppupdate` command. Initially, the update file is named `k.img` and is saved in the `/usr/var/update` directory.)
2. Restart the basic control unit of the standby system. (Use the `reload standby` command.)
3. Synchronize the configuration, user account, password, and license key settings of the standby system with the settings of the active system. (Use the `synchronize` command.)
4. When an optional license is installed, restart the basic control unit of the standby system in order to apply the license key information. (Use the `reload standby` command.)

NOTE

If you cannot find the update file in `/usr/var/update`, see the *Software Update Guide* to transfer the update file to the Switch, and then execute the `ppupdate` command.

NOTE

For details about the commands to be used, see the following manuals:
`cd` command: *4. Operating the Configuration and Files* in the manual *Software Manual Operation Command Reference Vol. 1*
`ppupdate` command: *14. Software Management* in the manual *Software Manual Operation Command Reference Vol. 1*
`synchronize` command: *10. BCU/CSU/MSU Redundancy* in the manual *Software Manual Operation Command Reference Vol. 2*
`reload` command: *9. Checking the Software Version and Switch Status* in the manual *Software Manual Operation Command Reference Vol. 1*

NOTE

`BOOT INST OS` is displayed on the system operation panel of the basic control unit if the software is not installed. When the software is installed, `BOOT INST OS` disappears.