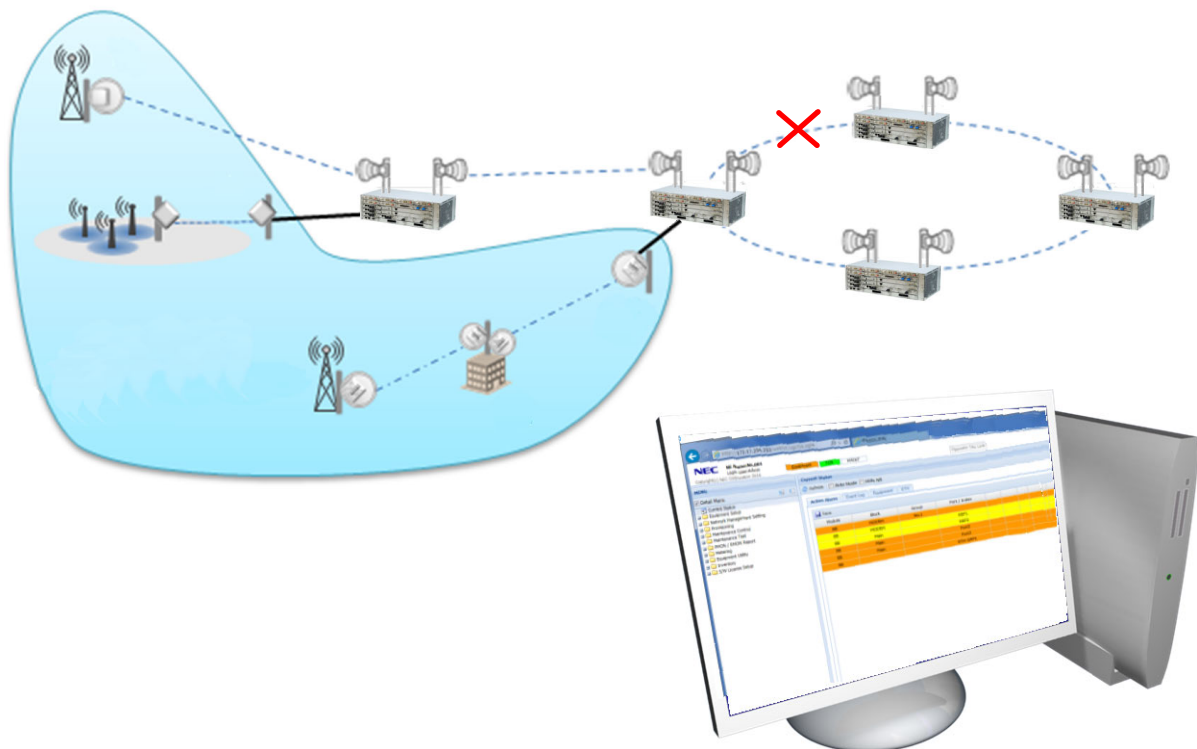


iPASOLINK EX **Advanced** **OPERATION &** **MAINTENANCE**



NEC Corporation

7-1, Shiba 5-Chome, Minato-Ku, Tokyo 108-8001, Japan

GG-000548-13E

© 2016 – 2023 by NEC Corporation

Printed in Japan

GG-000548-13E

iPASOLINK EX Advanced **OPERATION & MAINTENANCE**

CONTENTS

1. GENERAL	1-1
-------------------	------------

2. PRECAUTION	2-1
----------------------	------------

3. ROUTINE MAINTENANCE	3-1
-------------------------------	------------

3.1 Overview	3-1
3.2 Current Metering	3-2
3.2.1 Metering Items	3-2
3.2.2 View/Change Current Metering Setting	3-3
3.3 Performance Monitoring	3-5
3.3.1 View PM Reports	3-5
3.3.2 MODEM PMON Report	3-6
3.3.2.1 PM Items	3-6
3.3.2.2 Monitoring Points	3-7
3.3.3 ETH RMON Report	3-9
3.3.3.1 PM Items	3-10
3.3.4 VLAN Counter Report — VLAN Counter	3-12
3.3.4.1 PM Items	3-13
3.3.4.2 Monitoring Points	3-13
3.3.5 VLAN Counter Report — Shaper Group Counter	3-14
3.3.5.1 PM Items	3-14
3.3.6 PM Counter Ranges	3-15
3.3.6.1 MODEM PM Counter Range	3-15
3.3.6.2 Ethernet Interface PM Counter Range	3-15
3.3.7 TCN Threshold	3-17
3.3.7.1 MODEM TCN Threshold	3-17

3.3.7.2	MODEM RX Level TCN Default Threshold	3-17
3.3.7.3	MODEM RF BBE TCN Threshold	3-18
3.3.7.4	SFP TCN Threshold	3-20
3.3.7.5	Ethernet Interface TCN Threshold	3-20

4. CONTROL ITEMS

4-1

4.1	Overview	4-1
4.1.1	Maintenance Control Menu	4-1
4.2	Before Starting Maintenance Operation	4-3
4.2.1	Change to Maintenance Mode (for WebLCT Operation)	4-3
4.3	Loopback Operation	4-4
4.3.1	L2 Loopback Control	4-4
4.3.2	Link OAM Loopback	4-8
4.4	Switching Control	4-12
4.4.1	Manual Switch Operation	4-12
4.4.2	RSTP/MSTP Control	4-13
4.4.3	ERP Control	4-15
4.4.3.1	Execute ERP Switching Operation	4-15
4.4.3.2	Execute Loop Detection	4-18
4.4.4	LAG Revert Control	4-21
4.4.5	Service Forced Switch Control	4-23
4.4.6	Timing Source Switch Control	4-26
4.4.6.1	Unlock the Mode	4-26
4.4.6.2	Switch Timing Sources	4-29
4.5	MODEM Maintenance Control (Radio Control)	4-31
4.5.1	ATPC Manual Control	4-33
4.5.2	TX Mute Control	4-36
4.5.2.1	TX Mute Control on Local Site	4-36
4.5.2.2	TX Mute Control Operation on Remote Site	4-39
4.5.3	CW Control	4-42
4.5.4	Carrier Search	4-45
4.5.5	Reset XPIC	4-50
4.6	Laser Shutdown Control	4-52

4.6.1	Laser Shutdown Control	4-53
4.6.2	ALS Manual Switch Control	4-55
4.7	Equipment Reset	4-57
4.7.1	Reset H/W	4-57
4.7.2	Reset F/W	4-60
4.7.2.1	Reset CPU (BB)	4-60
4.7.2.2	Reset CPU (RF)	4-62
4.8	Maintenance Test	4-64
4.9	Equipment Utility	4-72
4.9.1	Backup Database [Export (NE --> Storage) Utility]	4-73
4.9.2	Update Database [Update (Storage --> NE) Utility]	4-76
4.9.2.1	Update Program File — BB Firmware	4-78
4.9.2.2	Update Program File — RF Firmware	4-83
4.9.2.3	Update FPGA Data	4-89
4.9.2.4	Update Configuration Data	4-94
4.9.2.5	Update Controller Data	4-99
4.9.2.6	Update MODEM Parameter Data	4-104
4.9.2.7	Update SSL Certificate	4-110
4.9.3	Switch (Swap) Program ROM	4-117
4.9.3.1	Switch (Swap) BB ROM	4-117
4.9.3.2	Switch RF ROM	4-119
4.9.4	Check USB Memory Utility	4-121
4.9.5	Log Clear Function	4-122
4.9.6	Restore Factory Default Settings	4-123
4.10	Inventory	4-125
4.10.1	Equipment Inventory Information	4-125
4.10.2	Software License Key Information	4-129
4.10.3	User Description	4-131

5. CORRECTIVE MAINTENANCE

5-1

5.1	Equipment Conditions	5-1
5.1.1	Reporting Procedure	5-1
5.1.2	Alarm Status	5-1

5.2 View Current Status	5-3
5.2.1 Overview	5-3
5.2.2 Display Current Status Window	5-3
5.2.2.1 Active Alarm Tab	5-4
5.2.2.2 Event Log Tab	5-7
5.2.2.3 Equipment Tab and List of Conditions	5-8
5.2.2.4 ETH Tab and List of Conditions	5-11
5.2.3 Save the Displayed Information	5-13
5.3 Alarm Lights	5-15
5.3.1 iPASOLINK EX/A Controls and Indicators	5-15
5.3.1.1 iPASOLINK EX/A	5-15
5.3.1.2 iPASOLINK EX/A Dual	5-15
5.4 Troubleshooting Flow	5-16
5.4.1 BB Section	5-16
5.4.2 RX Section	5-17
5.4.3 TX Section	5-18
5.5 Trouble Clearing	5-19
5.5.1 Overview	5-19
5.5.2 Making Contact with NEC	5-19
5.5.3 Objects and Their Condition Types	5-19
5.5.4 Clearing Procedures	5-23
ALS	5-23
AMBR Range Mismatch	5-23
ATPC Power Mode	5-23
CLK Drift	5-23
CLK FAIL	5-24
CLK Status Changed	5-24
Clock Class	5-25
Clock ID	5-25
Clock Status	5-25
Compression Setting Mismatch	5-25
Current Status	5-26
Early Warning	5-26
Equipment Start-up Status	5-26
ETH LF	5-26
ETH LOS	5-27
ETH RF	5-27
ETH TF	5-28
ETH-BN LOC	5-28
ETH-BN UNL	5-29
ETH-BN UNP	5-30

ETH-OAM LOC	5-30
ETH-OAM Mismatch	5-31
ETH-OAM RDI	5-32
ETH-OAM Unexpected MEP	5-32
ETH-Ring Cause	5-33
ETH-Ring Multi RPL Owner Detect	5-33
ETH-Ring Port0 Loop Detect	5-33
ETH-Ring Port0 R-APS Timeout	5-33
ETH-Ring Port0 Status	5-33
ETH-Ring Port1 Loop Detect	5-34
ETH-Ring Port1 R-APS Timeout	5-34
ETH-Ring Port1 Status	5-34
ETH-Ring Status	5-34
FDB Full	5-34
Flow Control	5-34
Forwarding Mode Mismatch	5-35
Frame ID	5-35
Grandmaster / Clock ID	5-35
Grandmaster / Clock Priority 1	5-36
Grandmaster / Clock Priority 2	5-36
Grandmaster / Clock Quality Accuracy	5-36
Grandmaster / Clock Quality Class	5-36
Grandmaster / Port ID	5-36
High BER	5-36
LACP Status	5-37
LAG LINK	5-37
LAG LLF Status	5-37
LAG Port Loop Detect	5-37
LAG Port Status	5-38
LAN Link	5-38
License Mismatch	5-38
Link OAM Down	5-39
LLF	5-39
LLF Message Timeout	5-39
LLF OAM Received	5-39
LOF	5-40
Loss Announce	5-40
Low BER	5-41
LTI	5-41
Maintenance	5-41
MDI/MDI-X	5-41
Module	5-42
Module-BB	5-42
Multi Traffic Aggregation Encapsulation Error	5-42
Multi Traffic Aggregation Link	5-42
Multi Traffic Aggregation Port Status	5-43
Multi Traffic Aggregation Setting Mismatch	5-43
Mute Status	5-43
Own Clock ID	5-43
PTP Clock Quality Level	5-44

<i>PTP Mode Setting Mismatch</i>	5-44
<i>PTP Radio Clock Status</i>	5-44
<i>PTP Source Status</i>	5-45
<i>PTP Sync. Time</i>	5-45
<i>Quality Level</i>	5-45
<i>RDI</i>	5-45
<i>Remote Critical Event</i>	5-46
<i>Remote Dying Gasp</i>	5-46
<i>Remote Errored Frame</i>	5-46
<i>Remote Errored Frame Period</i>	5-47
<i>Remote Errored Frame Seconds Summary</i>	5-47
<i>Remote Errored Frame Symbol Period</i>	5-47
<i>Remote Link Fault</i>	5-47
<i>RX Level</i>	5-47
<i>RX Modulation</i>	5-48
<i>SFP Port Type</i>	5-48
<i>SFP Removed</i>	5-48
<i>SFP Type Mismatch</i>	5-49
<i>Speed & Duplex</i>	5-49
<i>SSM Fail</i>	5-49
<i>Temperature</i>	5-50
<i>Total FDB Full</i>	5-50
<i>Trap Suppression Status</i>	5-50
<i>TX Modulation</i>	5-50
<i>TX Power</i>	5-51
<i>UAE</i>	5-51
<i>Unlocked</i>	5-51
<i>XPIC Pair Mute Mode Mismatch</i>	5-52

1. GENERAL

This chapter provides information regarding the routine and corrective maintenance for the iPASOLINK EX Advanced (hereinafter iPASOLINK EX/A) of the 71-76 / 81-86 GHz Packet Digital Radio System.

The information includes the following instructions and procedures:

- ♦ **Precautions for maintenance**
- ♦ **Procedures for routine maintenance tasks**
- ♦ **Procedures for switching control operation**
- ♦ **Descriptions and procedures for corrective maintenance tasks**

This page is intentionally left blank.

2. PRECAUTION

The maintenance personnel should report his/her arrival and departure from a station to the relevant station. Following precautions should be carefully observed during maintenance.

◆ Warning

1. Do not turn off the power until the start-up process is complete. Repeated turning the power on and off within a short interval may cause the equipment failure.
2. Contact NEC before downloading programs using WebLCT. Equipment may not function correctly if the download takes place improperly.

◆ Caution

1. Before starting the maintenance work, the equipment should be set into the Maintenance Mode through WebLCT.
2. Information on the maintenance and the control such as Mute, CW, LB, etc. is released if the power is turned off.
3. If each setup item of NE SETUP or SYSTEM OPERATION is changed during operation, traffic will be momentarily interrupted.
4. After the equipment starts up, allow the equipment to warm up for at least 30 minutes.

This page is intentionally left blank.

3. ROUTINE MAINTENANCE

3.1 Overview

Following procedures are provided for the routine maintenance and checks, which ensures the equipment to operate properly, and prevents the equipment and system from being damaged.

Before starting these checking procedures, carefully observe the precautions described in the [2. PRECAUTION](#) section.

3.2 Current Metering

3.2.1 Metering Items

Following items can be measured:

Item		Description
MODEM	TX Power	Indicates the RF output power level.
	RX Level	Indicates the RF input power level.
	Power Supply	Indicates the voltage level of Power Supply.
	BER	Indicates the value of BER measurement.
	TX Modulation	Indicates the current TX Modulation.
	RX Modulation	Indicates the current RX Modulation.
	XPD	Indicates the current XPD Value.
SFP	SFP TX Power	Indicates the optical output power of SFP.
	SFP RX Power	Indicates the optical input power of SFP.

3.2.2 View/Change Current Metering Setting

NOTE: *ETH Port3 is not available for Current Metering Setting when equipment is in Transparent Mode. Refer 4.2.2 Set Equipment Mode in the Set Network and System Provisioning manual.*

Procedure 3-1

1. Launch and log in to **WebLCT**.
2. In the **MENU** frame on the left, expand **Metering** to select **Current Metering**.
3. The **Current Metering** window appears. To view or change the metering setting, click the link of target object.

Figure 3-1 Current Metering Window

The screenshot shows the NEC WebLCT interface. The top bar includes the NEC logo, NE Name: No.001, Login User: Admin, and tabs for Equipment, TCN, and MAINT. The left menu has 'Current Metering' selected under the 'Metering' category. The main content area is titled 'Metering - Current Metering' and contains two tables.

Radio

	1+0 XPIC	
	No.1	No.2
TX Power [dBm]	+00.0	+00.1
RX Level [dBm]	-36.1	-34.4
Power Supply [V]	-43	-43
BER	0.0E-10	0.0E-10
TX Modulation	8PSK	8PSK
RX Modulation	8PSK	8PSK
XPB [dB]	44	34

SFP Optical Power

	Port02	Port03	Port04
SFP TX Power [dBm]	-05.7	-02.5	-02.2
SFP RX Power [dBm]	-05.7	-01.1	-02.8

The **Current Metering** option window appears.

- Click the **Normal Speed / High Speed** radio button provided for the **Refresh Cycle** option to specify the period of retrieving data:

Figure 3-2 Current Metering Option Window (MODEM)

	XPIC GRP1 (MODEM) (Slot01/02)	
	1+0 XPIC	
	No.1	No.2
TX Power [dBm]	+00.0	-00.1
RX Level [dBm]	-36.1	-34.4
Power Supply [V]	-43	-43
BER	0.0E-10	0.0E-10
TX Modulation	8PSK	8PSK
RX Modulation	8PSK	8PSK
XPD [dB]	44	34

Figure 3-3 Current Metering Option Window (SFP)

	Port		
	Port02	Port03	Port04
SFP TX Power [dBm]	-05.7	-02.5	-02.2
SFP RX Power [dBm]	-05.8	-01.1	-02.8

Table 3-1 Current Metering Parameter

Parameter	Value	Description
Refresh Cycle	Normal Speed (10sec)	Refreshes measured value every 10 seconds.
	High Speed (3sec)	Refreshes measured values every 3 seconds.

NOTES:

- If a parameter indicates the abnormal value, check the **Current Status** and the performance monitor (**Current/History PMON/RMON Report**), and perform the loopback test to isolate the alarmed sections from the normal sections.
 - RX LEVEL** varies depending on the received RF signal level.
 - Power Supply** voltage varies depending on the length of cable.
- Click the **Cancel** button on the option window.
This step ends the procedure.

3.3 Performance Monitoring

The Performance Monitoring (PM) is used to identify and isolate the problem if occurred at a particular line or path. This function also monitors the quality of lines and paths. All Performance Monitoring parameters are collected every minute and accumulated to 15-minute and 24-hour (1 day) statistics.

- ♦ Red-colored field indicates the value of TCN report.
- ♦ Yellow-colored field indicates that the system is in the Maintenance Mode.
- ♦ A value with an asterisk (*) is invalid, which could not appropriately be obtained due to the failed condition (alarm), etc.

3.3.1 View PM Reports

Procedure 3-2

1. Launch and log in to **WebLCT**.
2. In the **MENU** frame on the left, expand **PMON/RMON Report** to select the desired object. Example below selects **MODEM PMON Report**.

Figure 3-4 PMON/RMON Report — MODEM PMON Report Window

NEC NE Name: No.001
Login User: Admin
Copyright(c) NEC Corporation 2016

Equipment TCN MAINT Opposite Site Links

MENU

- Detail Menu
- Current Status
- Equipment Setup
- Network Management Setting
- Provisioning
- Maintenance Control
- Maintenance Test
- PMON / RMON Report
 - MODEM PMON Report
 - ETH RMON Report
 - VLAN Counter Report
- Metering
- Equipment Utility
- Inventory
- S/W License Setup

PMON / RMON Report - MODEM PMON Report

Refresh

	MODEM (Slot01)		MODEM (Slot02)	
	15min	1day	15min	1day
RF BBE	39	*4666	597	*5915
RF ES	9	*42	47	*149
RF SES	0	*11	0	*0
RF SEP	0	*1	0	*0
RF UAS	0	*908	0	*1346
RF OFS	0	*4	0	*3
RX Level (MAX) [dBm]	-88.4	*-88.4	-88.9	*-88.9
RX Level (MIN) [dBm]	-93.7	*-94.4	-93.7	*-94.4
TX Power (MAX) [dBm]	-12.1	*-11.7	-10.2	*-10.2
TX Power (MIN) [dBm]	-14.0	*-14.6	-14.1	*-14.7
TX Modulation	512QAM	*512QAM	512QAM	*512QAM
RX Modulation	512QAM	*512QAM	512QAM	*512QAM

3.3.2 MODEM PMON Report

- ◆ Clicking the link opens its detailed data.

Figure 3-5 MODEM PM Report

PMON / RMON Report - MODEM PMON Report				
Refresh				
	MODEM (Slot01)		MODEM (Slot02)	
	15min	1day	15min	1day
RF BBE	39	*4666	597	*5915
RF ES	9	*42	47	*149
RF SES	0	*11	0	*0
RF SEP	0	*1	0	*0
RF UAS	0	*908	0	*1346
RF OFS	0	*4	0	*3
RX Level (MAX) [dBm]	-88.4	*-88.4	-88.9	*-88.9
RX Level (MIN) [dBm]	-93.7	*-94.4	-93.7	*-94.4
TX Power (MAX) [dBm]	-12.1	*-11.7	-10.2	*-10.2
TX Power (MIN) [dBm]	-14.0	*-14.6	-14.1	*-14.7
TX Modulation	512QAM	*512QAM	512QAM	*512QAM
RX Modulation	512QAM	*512QAM	512QAM	*512QAM

3.3.2.1 PM Items

Table 3-2 PM Items for MODEM

Monitor Type		Description	Spec.
RF BBE	Background Block Error	The sum of the background block error.	ITU-T G.826
RF ES	Errored Second	The cumulative time in which more than one block error per second was detected.	ITU-T G.826
RF SES	Severely Errored Second	The cumulative time in which the BER of a one second period exceeded a set percentage (30%).	ITU-T G.826
RF SEP	Severely Errored Period	The cumulative time in which the BER of a one second period exceeded 10E-3.	ITU-T G.826
RF UAS	Unavailable Second	The cumulative time in which the unit remained inoperative.	ITU-T G.826
RF OFS	Out of Frame Second	The total number of seconds of Out of Frame condition, which is generated in 15 minute-blocks. (OFS is applied to the Total only).	ITU-T G.826
RX Level (MAX)		The minimum and maximum reception level.	ITU-T G.826
RX Level (MIN)			
TX Power (MAX)		The minimum and maximum output power.	—
TX Power (MIN)			—
TX Modulation		Modulating value at radio transmission.	—
RX Modulation		Modulating value at radio reception.	—

3.3.2.2 Monitoring Points

Figure 3-6 Monitoring Point and Range for Line Failure

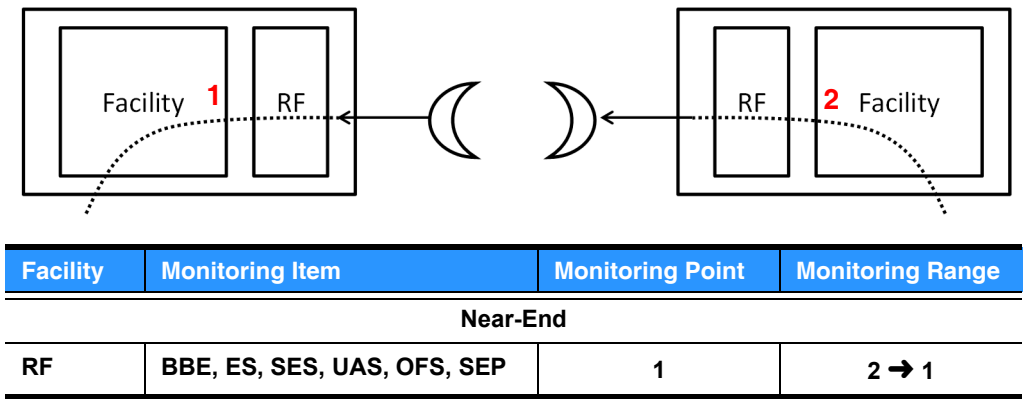


Figure 3-7 Monitoring Point and Range for Receiving Level

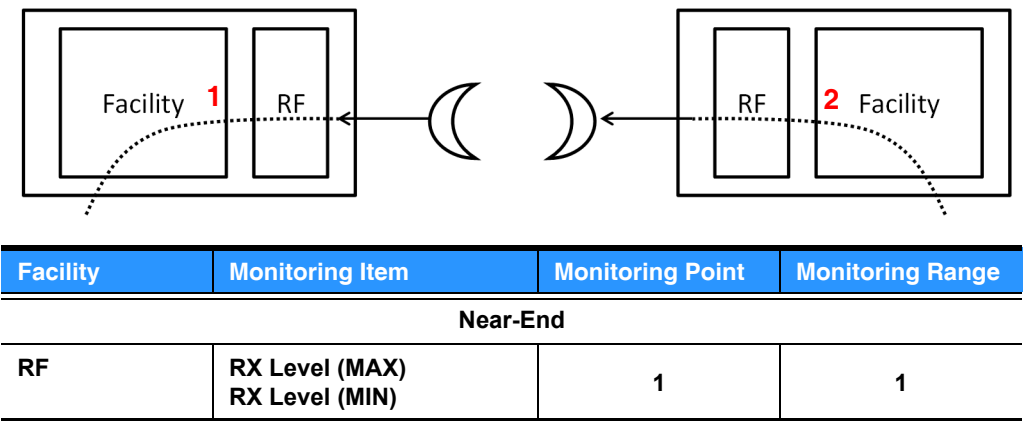


Figure 3-8 Monitoring Point and Range for Transmitting Level

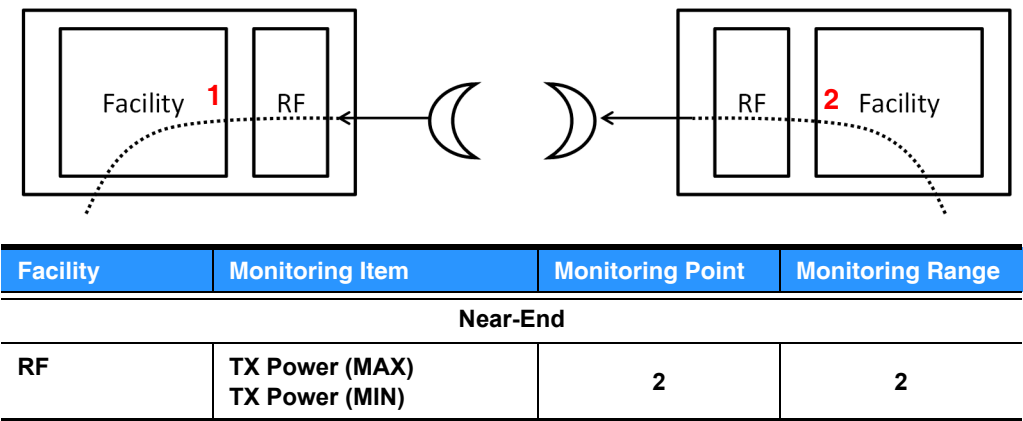
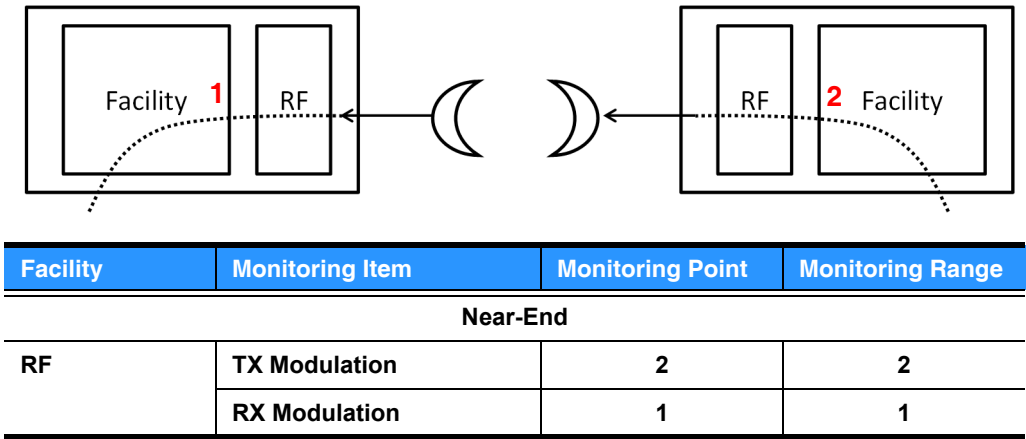


Figure 3-9 Monitoring Point and Range for Modulating Level



3.3.3 ETH RMON Report

- ◆ Clicking the link opens its detailed data.

NOTE: *ETH Port3 is not available in ETH RMON Report when equipment is in Transparent Mode. Refer 4.2.2 Set Equipment Mode in the Set Network and System Provisioning manual.*

Figure 3-10 Ethernet Interface PM Report

PMON / RMON Report - ETH RMON Report						
Refresh						
Main	MODEM (Slot01)	MODEM (Slot02)	ETH LAG	Multi LAG		
	Port02		Port03		Port04	
	15min	1day	15min	1day	15min	1day
RX Octs	*0	*4608753	0	*10243374794800	0	*704620950912
TX Octs	*0	*3855245	0	*3747063783720	0	*704335846144
RX Pkts	*0	*57252	0	*33515551370	0	*5504851021
TX Pkts	*0	*40133	0	*23173003550	0	*5502623680
RX Drop Events	*0	*1439	0	*0	0	*9
RX Undersize Pkts	*0	*0	0	*0	0	*0
RX Fragments	*0	*0	0	*0	0	*0
RX 64Octs	*0	*28627	0	*0	0	*0
TX 64Octs	*0	*56	0	*0	0	*0
RX 65 to 127Octs	*0	*28625	0	*0	0	*0
TX 65 to 127Octs	*0	*40077	0	*0	0	*0
RX 128 to 255Octs	*0	*0	0	*29176350018	0	*5504850988
TX 128 to 255Octs	*0	*0	0	*22603820344	0	*5502623640
RX 256 to 511Octs	*0	*0	0	*0	0	*0
TX 256 to 511Octs	*0	*0	0	*0	0	*0
RX 512 to 1023Octs	*0	*0	0	*0	0	*0
TX 512 to 1023Octs	*0	*0	0	*0	0	*0
RX 1024 to 1518Octs	*0	*0	0	*4339201244	0	*0
TX 1024 to 1518Octs	*0	*0	0	*569183174	0	*0
RX CRC Alignment Errors	*0	*0	0	*0	0	*0
RX Oversize Pkts	*0	*0	0	*0	0	*0
TX Oversize Pkts	*0	*0	0	*1	0	*0
RX Jabbers	*0	*0	0	*0	0	*0
RX Multicast Pkts	*0	*57252	0	*0	0	*502
TX Multicast Pkts	*0	*29846	0	*0	0	*507
RX Broadcast Pkts	*0	*0	0	*706206606	0	*0
TX Broadcast Pkts	*0	*0	0	*569668689	0	*0
TX Collisions	*0	*0	0	*0	0	*0
RX Unknown TPID	*0	*0	0	*0	0	*9
RX Unknown VID	*0	*1451	0	*0	0	*0
RX MAC Limit	*0	*0	0	*0	0	*0
RX Filter Discard	*0	*0	0	*0	0	*0
TX Filter Discard	0	*0	0	*0	0	*0
RX QoS Discard	*0	*0	0	*0	0	*0
TX Queue0 Discard	*0	*39	0	*0	0	*0
TX Queue1 Discard	*0	*0	0	*0	0	*0
TX Queue2 Discard	*0	*0	0	*0	0	*0
TX Queue3 Discard	*0	*0	0	*0	0	*0
TX Queue4 Discard	*0	*0	0	*0	0	*0
TX Queue5 Discard	*0	*0	0	*0	0	*0
TX Queue6 Discard	*0	*0	0	*0	0	*0
TX Queue7 Discard	*0	*0	0	*0	0	*0
SFP RX Power (MIN) [dBm]	-06.7	*-06.7	-02.2	*-02.2	-02.2	*-02.3
SFP TX Power (MIN) [dBm]	-02.2	*-02.2	-02.6	*-02.6	-02.4	*-02.4

3.3.3.1 PM Items

Table 3-3 PM Items for Ethernet Interface (Sheet 1 of 2)

Monitor Type	Description	Spec.
RX Octs	The total number of octets of data, including those in bad packets, received on this network.	RFC2819
TX Octs	The total number of octets transmitted out of the interface.	RFC2819
RX Pkts	The total number of octets received including bad packets, all Unicast packets, Broadcast packets, and Multicast packets.	RFC2819
TX Pkts	The total number of packets transmitted including all Unicast packets, Broadcast packets, and Multicast packets.	RFC2819
RX Drop Events	The total number of events in which packets are dropped. <i>NOTE: This item is also counted up when untagged frame such as L2CP is received on C-Bridge port.</i>	RFC2819
RX Undersize Pkts	The total number of received packets that are less than 64 octets long and were otherwise well formed.	RFC2819
RX Fragments	Total number of received packets that are less than 64 octets in length and had a bad FCS.	RFC2819
RX 64Octs	The total number of received packets (including bad packets) that are 64 octets in length.	RFC2819
TX 64Octs	The total number of transmitted packets that are 64 octets in length.	RFC2819
RX 65 to 127Octs	The total number of received packets (including bad packets) that are between 65 and 127 octets in length.	RFC2819
TX 65 to 127Octs	The total number of transmitted packets that are between 65 and 127 octets in length.	RFC2819
RX128 to 255Octs	The total number of received packets (including bad packets) that are between 128 and 255 octets in length.	RFC2819
TX128 to 255Octs	The total number of transmitted packets that are between 128 and 255 octets in length.	RFC2819
RX 256 to 511Octs	The total number of received packets (including bad packets) that are between 256 and 511 octets in length.	RFC2819
TX 256 to 511Octs	The total number of transmitted packets that are between 256 and 511 octets in length.	RFC2819
RX 512 to 1023Octs	The total number of received packets (including bad packets) that are between 512 and 1023 octets in length.	RFC2819
TX 512 to 1023Octs	The total number of transmitted packets that are between 512 and 1023 octets in length.	RFC2819
RX 1024 to 1518Octs	The total number of received packets (including bad packets) that are between 1024 and 1518 octets in length.	RFC2819

Table 3-3 PM Items for Ethernet Interface (Sheet 2 of 2)

Monitor Type	Description	Spec.
TX 1024 to 1518Octs	The total number of transmitted packets that are between 1024 and 1518 octets in length.	RFC2819
RX CRC Alignment Errors	The total number of received packets that are between 64 and 1518 octets in length, and have bad FCS.	RFC2819
RX Oversize Pkts	The total number of received packets that are longer than 1518 octets, and are otherwise well formed.	RFC2819
TX Oversize Pkts	The total number of transmitted packets that are longer than 1518 octets and are otherwise well formed.	RFC2819
RX Jabbers	The total number of received packets that are longer than 1518 octets and have bad FCS.	RFC2819
RX Multicast Pkts	The total number of received good packets that are directed to a Multicast address.	RFC2819
TX Multicast Pkts	The total number of packets that higher-level protocols requested to be transmitted to a multicast address.	RFC2819
RX Broadcast Pkts	The total number of received good packets that are directed to the broadcast address.	RFC2819
TX Broadcast Pkts	The total number of transmitted good packets that are directed to the broadcast address.	RFC2819
TX Collisions	The best estimate of the total number of collisions on this Ethernet segment.	RFC2819
RX Unknown TPID	The total number of dropped packets at the reception due to the unspecified TPID or the Broadcast Storm Control function.	RFC2819
RX Unknown VID	The total number of dropped packets at the reception side due to the unspecified VID. <i>NOTE: This item is also counted up when untagged frame such as L2CP is received on C-Bridge port.</i>	RFC2819
RX MAC Limit	The total number of discarded packets at the reception side due to the MAC Learning Limit.	RFC2819
RX Filter Discard	The total number of discarded packets at the reception side by the input filtering function.	RFC2819
TX Filter Discard	The total number of discarded packets at the transmission side by the output filtering function.	RFC2819
RX QoS Discard	The total number of dropped packets at the reception side by the Policing function.	RFC2819
TX Queue# Discard	The total number of discarded QoS packets at the transmission side due to having the transmission Queue# to discard. [# denotes the queue level 0 to 7.] <i>NOTE: TX Queue# Discard does not include Ageout Drop.</i>	RFC2819
SFP RX Power (MIN)	The minimum received power at SFP Port.	—
SFP TX Power (MIN)	The minimum transmitted power at SFP Port.	—

3.3.4 VLAN Counter Report — VLAN Counter

- ◆ Clicking the link opens its detailed data.

Figure 3-11 VLAN Counter PM Report (1/2: on the leftmost)

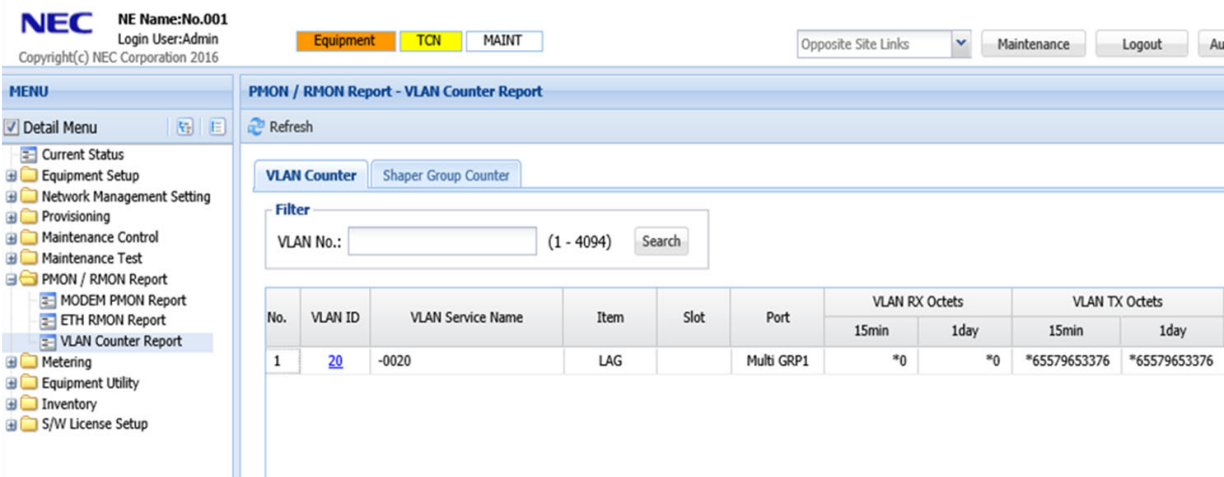
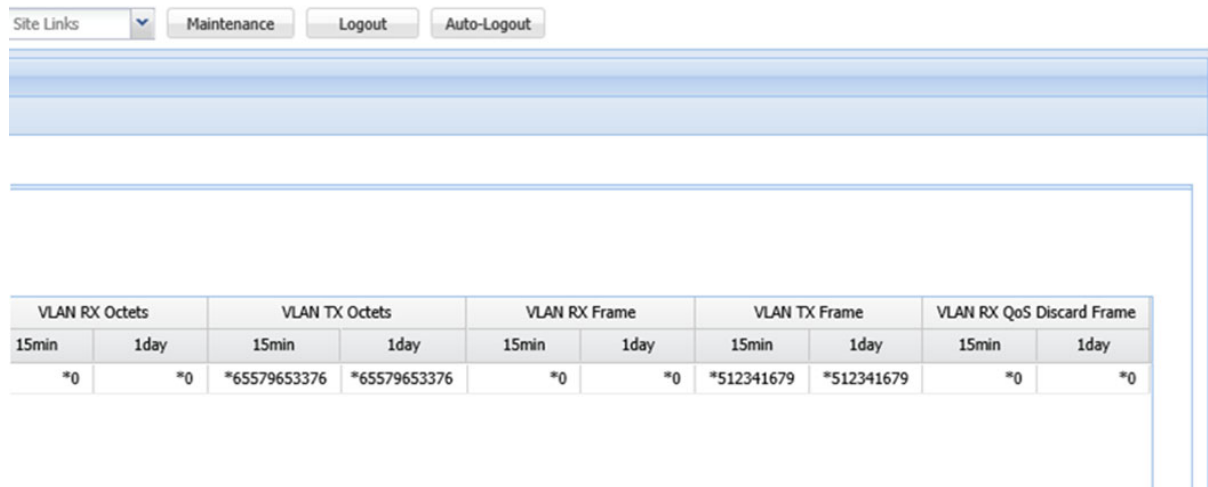


Figure 3-12 VLAN Counter PM Report (2/2: to the rightmost)



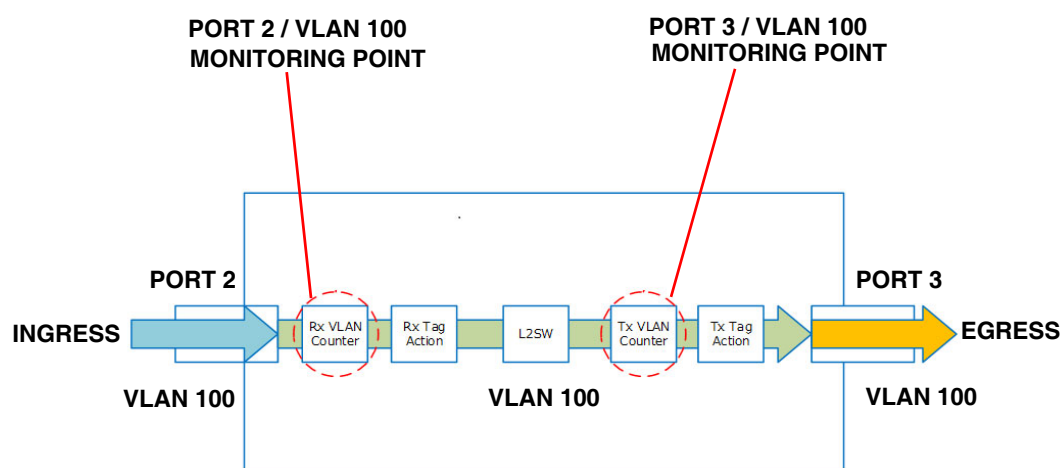
3.3.4.1 PM Items

Table 3-4 PM Items for Ethernet Interface

Monitor Type	Description	Spec.
VLAN TX Octets	The total number of octets transmitted on the interface.	—
VLAN RX Octets	The total number of octets received on the interface.	—
VLAN TX Frame	The total number of transmitted VLAN frames.	—
VLAN RX Frame	The total number of received VLAN frames.	—
VLAN RX QoS Discard Frame	The total number of received VLAN frames that have been discarded by the policing function per VLAN.	—

3.3.4.2 Monitoring Points

Figure 3-13 Monitoring Point for VLAN Counter



NOTE: When ingress port receive untagged frames or unknown TPID/VID frames, Rx VLAN counter does not count up. Because monitoring point is before tag action block in the equipment.

3.3.5 VLAN Counter Report — Shaper Group Counter

- ♦ Clicking the link opens its detailed data.

Figure 3-14 Shaper Group Counter PM Report (1/2: on the leftmost)

No.	Shaper Group ID	Item	Slot	Port	TX Octets		TX Frame		TX Queue0 Discard Frame		TX Queue1 Discard Frame		TX Queue2 D
					15min	1day	15min	1day	15min	1day	15min	1day	
1	Group 5	MODEM	Slot01	Port01	*117	*217	113	213	*91	*91	*123	*223	*125
2	Group 1	Main		Port02	118	218	114	214	92	92	124	224	126

Figure 3-15 Shaper Group Counter PM Report (2/2: to the rightmost)

TX Queue2 Discard Frame		TX Queue3 Discard Frame		TX Queue4 Discard Frame		TX Queue5 Discard Frame		TX Queue6 Discard Frame		TX Queue7 Discard Frame	
15min	1day	15min	1day	15min	1day	15min	1day	15min	1day	15min	1day
*125	*225	*127	*227	*131	*231	*133	*233	*135	*235	*137	*237
126	226	128	228	132	232	134	234	136	236	138	238

3.3.5.1 PM Items

Table 3-5 PM Items for Ethernet Interface

Monitor Type	Description	Spec.
TX Octets	The total number of transmitted octets. The octets are converted using the L1 count, which is different from the Ethernet frame size.	—
TX Frame	The total number of transmitted frames.	—
TX Queue # Discard Frame	The total number of QoS discarded frames that are leveled to Queue # per VLAN. [# denotes the queue level 0 to 7]	—

3.3.6 PM Counter Ranges

3.3.6.1 MODEM PM Counter Range

Table 3-6 MODEM PM Counter Range

Monitor Type	15 Min PM Counter Range	24H PM Counter Range
RF OFS	0 to 900	0 to 86400
RF BBE	<i>Value depends on radio setting (CS and Modulation).</i>	<i>Value depends on radio setting (CS and Modulation).</i>
RF ES	0 to 900	0 to 86400
RF SES	0 to 900	0 to 86400
RF SEP	0 to 900	0 to 86400
RF UAS	0 to 900	0 to 86400

3.3.6.2 Ethernet Interface PM Counter Range

Table 3-7 Ethernet Interface PM Counter Range (Sheet 1 of 2)

Monitor Type	15 Min PM Counter Range	24H PM Counter Range
RX Octs	0 to 18446744073709551615	0 to 18446744073709551615
TX Octs	0 to 18446744073709551615	0 to 18446744073709551615
RX Pkts	0 to 18446744073709551615	0 to 18446744073709551615
TX Pkts	0 to 18446744073709551615	0 to 18446744073709551615
RX Drop Events	0 to 133929000	0 to 4294967294
RX Undersize Pkts	0 to 133929000	0 to 4294967295
RX Fragments	0 to 133929000	0 to 4294967295
RX 64Octs	0 to 18446744073709551615	0 to 18446744073709551615
TX 64Octs	0 to 18446744073709551615	0 to 18446744073709551615
RX 65 to 127Octets	0 to 18446744073709551615	0 to 18446744073709551615
TX 65 to 127Octets	0 to 18446744073709551615	0 to 18446744073709551615
RX 128 to 255Octets	0 to 18446744073709551615	0 to 18446744073709551615
TX 128 to 255Octets	0 to 18446744073709551615	0 to 18446744073709551615
RX 256 to 511Octets	0 to 18446744073709551615	0 to 18446744073709551615
TX 256 to 511Octets	0 to 18446744073709551615	0 to 18446744073709551615
RX 512 to 1023Octets	0 to 18446744073709551615	0 to 18446744073709551615
TX 512 to 1023Octets	0 to 18446744073709551615	0 to 18446744073709551615

Table 3-7 Ethernet Interface PM Counter Range (Sheet 2 of 2)

Monitor Type	15 Min PM Counter Range	24H PM Counter Range
RX Pkts 1024 to 1518Octets	0 to 18446744073709551615	0 to 18446744073709551615
TX Pkts 1024 to 1518Octets	0 to 18446744073709551615	0 to 18446744073709551615
RX CRC Alignment Errors	0 to 133929000	0 to 4294967294
RX Oversize Pkts	0 to 133929000	0 to 4294967294
TX Oversize Pkts	0 to 4294967294	0 to 4294967274
RX Jabbers	0 to 4294967294	0 to 4294967294
RX Multicast Pkts	0 to 4294967294	0 to 4294967294
TX Multicast Pkts	0 to 4294967294	0 to 4294967294
RX Broadcast Pkts	0 to 4294967294	0 to 4294967294
TX Broadcast Pkts	0 to 4294967294	0 to 4294967294
TX Collisions	0 to 133929000	0 to 4294967294
RX Unknown TPID	0 to 18446744073709551615	0 to 18446744073709551615
RX Unknown VID	0 to 18446744073709551615	0 to 18446744073709551615
RX MAC Limit	0 to 18446744073709551615	0 to 18446744073709551615
RX Filter Discard	0 to 18446744073709551615	0 to 18446744073709551615
TX Filter Discard	0 to 18446744073709551615	0 to 18446744073709551615
RX QoS Discard	0 to 18446744073709551615	0 to 18446744073709551615
TX Queue0 Discard	0 to 18446744073709551615	0 to 18446744073709551615
TX Queue1 Discard	0 to 18446744073709551615	0 to 18446744073709551615
TX Queue2 Discard	0 to 18446744073709551615	0 to 18446744073709551615
TX Queue3 Discard	0 to 18446744073709551615	0 to 18446744073709551615
TX Queue4 Discard	0 to 18446744073709551615	0 to 18446744073709551615
TX Queue5 Discard	0 to 18446744073709551615	0 to 18446744073709551615
TX Queue6 Discard	0 to 18446744073709551615	0 to 18446744073709551615
TX Queue7 Discard	0 to 18446744073709551615	0 to 18446744073709551615
SFP RX Power	-40.0 to +8.1	-40.0 to +8.1
SFP TX Power	-40.0 to +8.1	-40.0 to +8.1

3.3.7 TCN Threshold

3.3.7.1 MODEM TCN Threshold

Table 3-8 MODEM TCN Threshold

Monitor Type	15 Min TCN Threshold			24H TCN Threshold		
	Range	Default Threshold		Range	Default Threshold	
		Occur	Recovery		Occur	Recovery
RF OFS	1 to 900	900	90	1 to 86400	65534	650
RF BBE	Values depend on the radio setting (CS and Modulation).			Values depend on the radio settings (CS and Modulation).		
RF ES	1 to 900	900	90	1 to 86400	65534	650
RF SES	1 to 900	900	90	1 to 86400	65534	650
RF SEP	1 to 900	900	90	1 to 86400	65534	650
RF UAS	1 to 900	900	90	1 to 86400	65534	650
RX LEV	-99 to -30	Values depend on the radio setting (CS and Modulation).		-99 to -30	Values depend on the radio setting (CS and Modulation).	

3.3.7.2 MODEM RX Level TCN Default Threshold

Table 3-9 MODEM RX LEV TCN Default Threshold

No.	Modulation Type	RSL (dBm)							
		CS = 62.5 M	CS = 125 M	CS = 250 M	CS = 500M	CS = 750 M	CS = 1000M	CS = 1500M	CS = 2000M
0	QPSK 1/4	-88	-85	-82	-79	-77	-76	-74	-73
1	QPSK 1/2	-85	-82	-79	-76	-74	-73	-71	-70
2	QPSK 1/1	-82	-79	-76	-73	-71	-70	-68	-67
3	8PSK 1/1	-79	-76	-73	-70	-68	-67	-65	-64
4	16QAM 1/1	-76	-73	-70	-67	-65	-64	-62	-61
5	32QAM	-73	-70	-67	-64	-62	-61	-59	-58
6	64QAM	-70	-67	-64	-61	-59	-58	-56	-55
7	128QAM	-67	-64	-61	-58	-56	-55	-53	-52
8	256QAM	-64	-61	-58	-55	-53	-52	-50	-49
9	512QAM	-61	-58	-55	-52	-50	-49	-47	-46

3.3.7.3 MODEM RF BBE TCN Threshold

Table 3-10 MODEM RF BBE TCN Threshold (Sheet 1 of 3)

Modulation Type		15 Min TCN Threshold			24H TCN Threshold		
CS	Modulation	Range	Default Threshold		Range	Default Threshold	
			Detect	Recovery		detect	Recovery
62.5 MHz	QPSK	1 to 6671000	66710	6671	1 to 640416000	6404160	640416
	8PSK	1 to 10006000	100060	10006	1 to 960576000	9605760	960546
	16QAM	1 to 13342000	133420	13342	1 to 1280832000	12808320	1280832
	32QAM	1 to 16677000	166770	16677	1 to 1600992000	16009920	1600992
	64QAM	1 to 20013000	200130	20013	1 to 1921248000	19212480	1921248
	128QAM	1 to 23349000	233490	23349	1 to 22415040	22415040	2241504
	256QAM	1 to 26684000	266840	26684	1 to 2561664000	25616640	2561664
	512QAM	—	—	—	—	—	—
125 MHz	QPSK	1 to 13265000	132650	13256	1 to 1273440000	12734400	1273440
	8PSK	1 to 19898000	198980	19898	1 to 1910208000	19102080	1910208
	16QAM	1 to 26531000	265310	26531	1 to 2546976000	25469760	2546976
	32QAM	1 to 33164000	331640	33164	q to 3183744000	31837440	3183744
	64QAM	1 to 39797000	397970	39797	1 to 3820512000	38205120	3820512
	128QAM	1 to 46430000	464300	46430	1 to 4457280000	44572800	4457280
	256QAM	1 to 53062000	530620	53062	1 to 5093952000	50939520	5093652
	512QAM	1 to 59695000	596950	59695	1 to 5730720000	57307200	5730720
250 MHz	QPSK	1 to 26563000	265630	36563	1 to 2550048000	25500480	2550048
	8PSK	1 to 39845000	398450	39845	1 to 3825120000	38251200	3825120
	16QAM	1 to 53126000	531260	53126	1 to 5100096000	51000960	5100096
	32QAM	1 to 66408000	664080	66408	1 to 6375168000	63751680	6375168
	64QAM	1 to 79690000	796900	79690	1 to 7650240000	76502400	7650240
	128QAM	1 to 92971000	929710	92971	1 to 8925216000	89252160	8925216
	256QAM	1 to 106253000	1062530	106253	1 to 10200288000	102002880	12022088
	512QAM	1 to 119535000	1195350	119535	1 to 11475360000	114753600	11475360

Table 3-10 MODEM RF BBE TCN Threshold (Sheet 2 of 3)

Modulation Type		15 Min TCN Threshold			24H TCN Threshold		
CS	Modulation	Range	Default Threshold		Range	Default Threshold	
			Detect	Recovery		detect	Recovery
500 MHz	QPSK	q to 53306000	533060	53306	1 to 5117376000	51173760	5117376
	8PSK	1 to 79959000	799590	79959	1 to 7676064000	76760640	7676064
	16QAM	1 to 106612000	1066120	106612	1 to 10234752000	102347520	10234752
	32QAM	1 to 133265000	1332650	133265	1 to 12793440000	127934400	12793440
	64QAM	1 to 159918000	1599180	159918	1 to 15352128000	153521280	15352128
	128QAM	1 to 186572000	1865720	186572	1 to 17910912000	179109120	17910912
	256QAM	1 to 213225000	2132250	213225	1 to 20469600000	204696000	20469600
	512QAM	1 to 239878000	2398780	239878	1 to 23028288000	230282880	23028288
750 MHz	QPSK	1 to 80753000	807530	80753	1 to 7752288000	77522880	7752288
	8PSK	1 to 121130000	1211300	121130	1 to 11628480000	116284800	11628480
	16QAM	1 to 161507000	1615070	161507	1 to 15504672000	155046720	15504672
	32QAM	1 to 201884000	2018840	201884	1 to 19380864000	193808640	19380864
	64QAM	1 to 242261000	2422610	242261	1 to 23257056000	232570560	23257056
	128QAM	1 to 282638000	2826380	282638	1 to 27133248000	271332480	27133248
	256QAM	1 to 323015000	3230150	323015	1 to 31009440000	310094400	31009440
	512QAM	—	—	—	—	—	—
1000 MHz	QPSK	1 to 108921000	1089210	108921	1 to 1045646000	104564160	10456416
	8PSK	1 to 163381000	1633810	163381	1 to 15684576000	156845760	15684576
	16QAM	1 to 217842000	2178420	217842	1 to 20912832000	209128320	20912832
	32QAM	1 to 272302000	2723020	272302	1 to 26140992000	261409920	26140992
	64QAM	1 to 326763000	3267630	326763	1 to 31369248000	313692480	31369248
	128QAM	1 to 381224000	3812240	381224	1 to 36597504000	365975040	36597504
	256QAM	1 to 435684000	4356840	435684	1 to 41825664000	418256640	41825664
	512QAM	—	—	—	—	—	—

Table 3-10 MODEM RF BBE TCN Threshold (Sheet 3 of 3)

Modulation Type		15 Min TCN Threshold			24H TCN Threshold		
CS	Modulation	Range	Default Threshold		Range	Default Threshold	
			Detect	Recovery		detect	Recovery
1500 MHz	QPSK	1 to 163394000	1633940	163394	1 to 15685824000	156858240	15685824
	8PSK	1 to 245092000	2450920	245092	1 to 23528832000	235288320	23528832
	16QAM	1 to 326789000	3267890	326789	1 to 31371744000	313717440	31371744
	32QAM	1 to 408487000	4084870	408487	1 to 39214752000	392147520	39214752
	64QAM	1 to 490184000	4901840	490184	1 to 47057664000	470576640	47057664
	128QAM	1 to 571881000	5718810	571881	1 to 54900576000	549005760	54900576
	256QAM	—	—	—	—	—	—
	512QAM	—	—	—	—	—	—
2000 MHz	QPSK	1 to 198878000	1988780	198878	1 to 19092288000	190922880	19092288
	8PSK	1 to 298317000	2983170	298317	1 to 28638432000	286384320	28638432
	16QAM	1 to 397757000	3977570	397757	1 to 38184672000	381846720	38184672
	32QAM	1 to 497196000	4971960	497196	1 to 47730816000	477308160	47730816
	64QAM	1 to 596635000	5966350	596635	1 to 57276960000	572769600	57276960
	128QAM	1 to 696074000	6960740	696074	1 to 66823104000	668231040	66823104
	256QAM	—	—	—	—	—	—
	512QAM	—	—	—	—	—	—

3.3.7.4 SFP TCN Threshold

Table 3-11 SFP TCN Threshold

Monitor Type	15 Min TCN Threshold		24H TCN Threshold	
	Range	Default Threshold	Range	Default Threshold
Rx Power (MIN)	−40.0 to +8.1	−40.0	−40.0 to +8.1	−40.0
Tx Power (MIN)	−40.0 to +8.1	−40.0	−40.0 to +8.1	−40.0

3.3.7.5 Ethernet Interface TCN Threshold

Table 3-12 Ethernet Interface TCN Threshold

Monitor Type	15 Min TCN Threshold		24H TCN Threshold	
	Range	Default Threshold	Range	Default Threshold
RX Drop Event	1 to 133929000	133929000	0 to 4294967294	4294967294
RX Undersize Packets	1 to 133929000	133929000	0 to 4294967294	4294967294
Rx Fragment Packets	1 to 133929000	133929000	0 to 4294967294	4294967294
RX CRC Alignment Error	1 to 133929000	133929000	0 to 4294967294	4294967294
RX Oversize Packets	1 to 133929000	133929000	0 to 4294967294	4294967294
TX Collisions	1 to 133929000	133929000	0 to 4294967294	4294967294

This page is intentionally left blank.

4. CONTROL ITEMS

4.1 Overview

Followings are the control items available by the WebLCT, which can be executed only in the Maintenance mode. Note that executing these control items may cause a traffic interruption if the system is in service.

Followings are the Maintenance items provided by **WebLCT**:

4.1.1 Maintenance Control Menu

WebLCT Menu	Section Providing the Description/Procedure
Loopback Control	4.3 Loopback Operation
L2 Loopback Control (Loopback 1 / Loopback 2)	4.3.1 L2 Loopback Control
Link OAM Loop Back Control	4.3.2 Link OAM Loopback
Protection Control	4.4 Switching Control
RSTP/MSTP Control	4.4.2 RSTP/MSTP Control
ERP Control	4.4.3 ERP Control
LAG Revert Control	4.4.4 LAG Revert Control
Service Forced Switch Control	4.4.5 Service Forced Switch Control
Timing Source Switch Control	4.4.6 Timing Source Switch Control
MODEM Maintenance Control	4.5 MODEM Maintenance Control (Radio Control)
	4.5.1 ATPC Manual Control
	4.5.2 TX Mute Control
	4.5.3 CW Control
	4.5.4 Carrier Search
	4.5.5 Reset XPIC
Laser Shutdown Control	4.6 Laser Shutdown Control
	4.6.1 Laser Shutdown Control
	4.6.2 ALS Manual Switch Control
H/W F/W Reset Control	4.7 Equipment Reset
H/W Reset Control	4.7.1 Reset H/W
F/W Reset Control	4.7.2 Reset F/W

WebLCT Menu	Section Providing the Description/Procedure
Maintenance Test	4.8 Maintenance Test
ETH OAM LB / LT / DM / LM Control	
PMON/RMON Report	3.3 Performance Monitoring
MODEM PMON Report	3.3.2 MODEM PMON Report
ETH RMON Report	3.3.3 ETH RMON Report
VLAN Counter Report	3.3.4 VLAN Counter Report — VLAN Counter 3.3.5 VLAN Counter Report — Shaper Group Counter
Metering	3.2 Current Metering
Current Metering	
Equipment Utility	4.9 Equipment Utility
Export (NE → Storage) Utility	4.9.1 Backup Database [Export (NE → Storage) Utility]
Update (Storage → NE) Utility	4.9.2 Update Database [Update (Storage → NE) Utility]
Program ROM Switching	4.9.3 Switch (Swap) Program ROM
USB Memory Utility	4.9.4 Check USB Memory Utility
Log Clear Function	4.9.5 Log Clear Function
Shipment	4.9.6 Restore Factory Default Settings
Inventory	4.10 Inventory
Equipment Inventory Information	4.10.1 Equipment Inventory Information
S/W License Information	4.10.2 Software License Key Information
User Description	4.10.3 User Description
S/W License Setup	See 2.1 <i>Setup Software License</i> in the <i>Set Network and System Provisioning</i> manual.

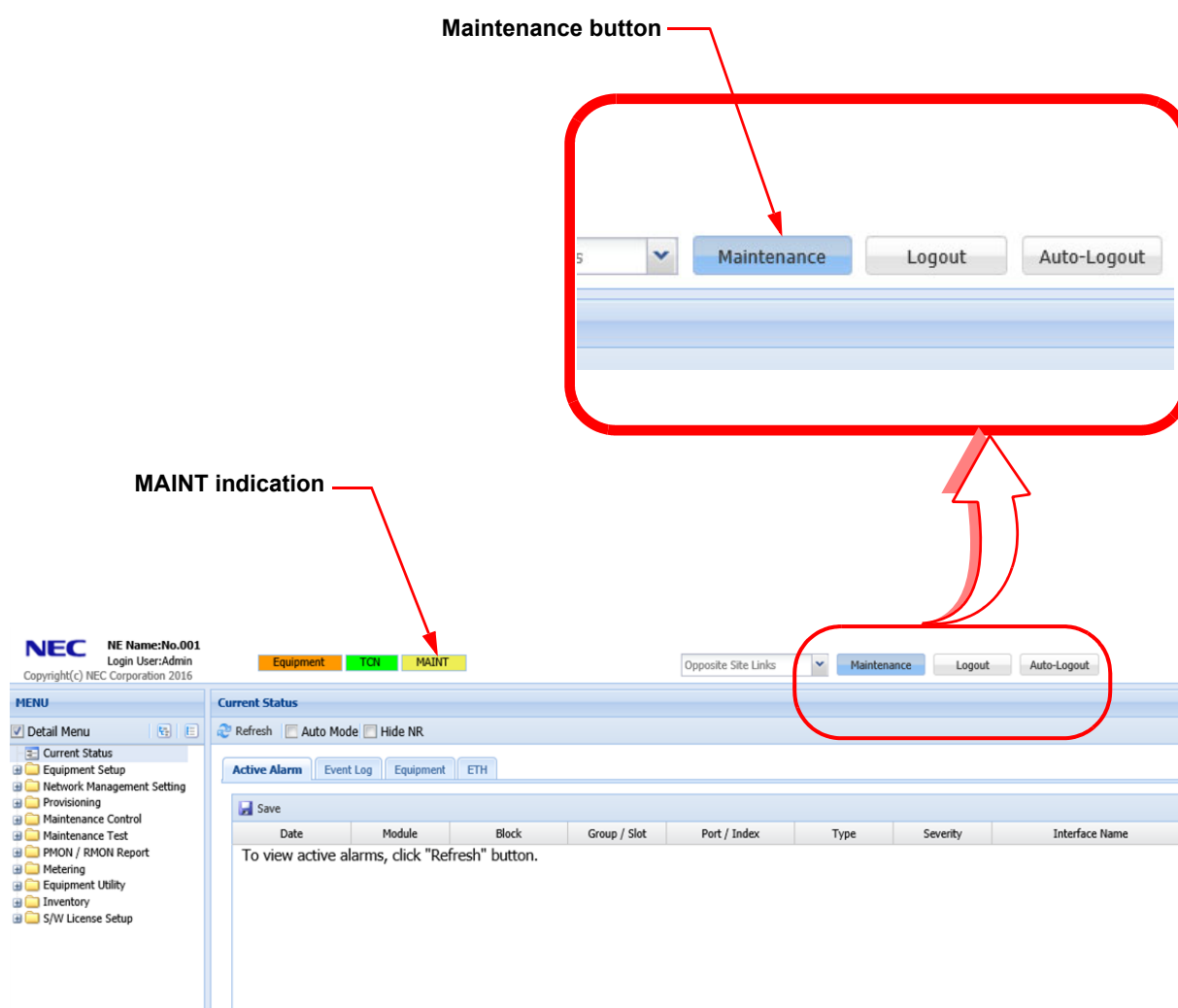
4.2 Before Starting Maintenance Operation

4.2.1 Change to Maintenance Mode (for WebLCT Operation)

Procedure 4-1

1. Launch the **WebLCT**.
2. Click the **Maintenance** button on the tool bar of **WebLCT** window.

Figure 4-1 WebLCT Main Window



3. Confirm that the **MAINT** indication on the upper side of WebLCT window turns orange. This step ends the procedure.

4.3 Loopback Operation

To execute the loopback control, set the system into the Maintenance mode.

Important:

To operate the **Loopback Control**, the system should be set into the Maintenance mode.

4.3.1 L2 Loopback Control

This operation carries out the loopbacks for Layer 2 level. Incoming Layer 2 frames are looped to the source direction with MAC Destination and Source Address Swap. iPASOLINK EX/A provides two modes for L2 Loopback Control:

- ♦ **Loopback 1 Mode:** Loops frames back at near side of the L2SW.
- ♦ **Loopback 2 Mode:** Loops frames back at far side of the L2SW. The selected ports should be operative. In this mode, the following points need to be noted. Consider substituting Loopback 1 according to the purpose of execution.
 - ♦ The available frame size to operate the L2 Loopback is the maximum frame size minus 16 bytes. The maximum frame size is specified by the **8.2.2 Max Frame Size Setting** in the *Set Network and System Provisioning* manual.
 - ♦ Loopback bandwidth is not a non-blocking, when 10GbE interface or several GbE interface bundled.

Procedure 4-2

1. Click the **Maintenance** tool button on the tool bar of the **WebLCT** to put the system into the Maintenance Mode. The **MAINT** indicator on the tool bar changes to orange.
2. In the **MENU** frame on the left, expand the **Maintenance Control**, then its submenu **Loopback Control** to select **L2 Loopback Control**.

The **L2 Loopback Control** window appears.

3. Click **Loopback Control**.

Figure 4-2 L2 Loopback Control Window

NEC NE Name:No.001
Login User:Admin
Copyright(c) NEC Corporation 2016

Equipment TCN MAINT

Opposite Site Links

MENU

Detail Menu

- Current Status
- Equipment Setup
- Network Management Setting
- Provisioning
- Maintenance Control
 - Loopback Control
 - L2 Loopback Control
 - Link OAM Loopback Control
 - Protection Control
 - MODEM Maintenance Control
 - Laser Shutdown Control
 - H/W / F/W Reset Control
 - PTP Domain Control
- Maintenance Test
- PMON / RMON Report
- Metering
- Equipment Utility
- Inventory
- S/W License Setup

Maintenance Control - Loopback Control - L2 Loopback Control

Refresh

Loopback Control

Item	Slot	Port	Port Name
Main		Port02	
Main		Port03	
Main		Port04	
MODEM	Slot01	Port01	
MODEM	Slot02	Port01	

Diagram illustrating the L2 Loopback Control setup:

The diagram shows a network topology with three main components: ETH, L2 Switch, and MODEM. The ETH component has multiple VLANs (VLAN 1, VLAN 6, ..., VLAN n) connected to the L2 Switch. The L2 Switch has two loopback ports, LB1 and LB2, which are connected to the MODEM. The MODEM is connected to an RF component, which is then connected to an antenna.

L2 Loopback Control >> Step 1 option window appears.

4. Select a port to execute the Loopback operation, then click the **OK** button.

Figure 4-3 L2 Loopback Control >> Step 1 Option Window

L2 Loopback Control >> Step1

Item: MODEM (Slot02)

Port: Port01

Next> Cancel

L2 Loopback Control >> Step 2 option window appears.

NOTE: Only **Main Port4** and **LAG Multi GRP** are available for selection when equipment is in Transparent Mode. Refer **4.2.2 Set Equipment Mode** in the **Set Network and System Provisioning** manual.

5. Specify the parameters, then click the **OK** button.

Figure 4-4 L2 Loopback Control >> Step 2 Option Window

L2 Loopback Control >> Step2

Loopback Mode: VLAN Loopback

L2 Loopback: Loopback 1

Release Time: No Limit

Select	VLAN ID	VLAN Name
<input checked="" type="checkbox"/>	1	

OK Cancel

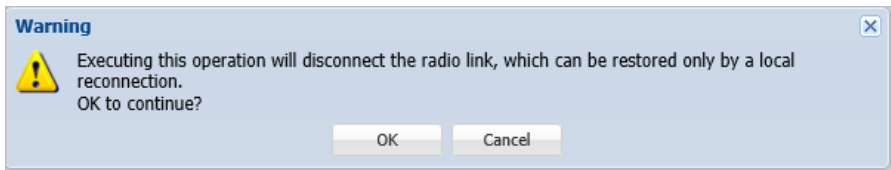
Table 4-1 L2 Loopback Control Parameters

Parameter	Value	Description
Loopback Mode	Port Loopback	Operates a port loopback.
	VLAN Loopback	Operates a VLAN loopback.
L2 Loopback	Loopback1	Loops back at the near side of the L2 Switch.
	Loopback2	Loops back at the far side of the L2 Switch. In this mode, the available frame size to loop back is the maximum size that is specified by Max Frame Size Setting (see 8.2.2 Max Frame Size Setting in the Set Network and System Provisioning manual) minus 16 bytes.
	OFF	To set L2 Loopback to OFF .
Release Time *	No Limit	Keeps L2 Loopback operations.
	90 [s]	Sets 90 seconds to wait before restoring.
	180 [s]	Sets 180 seconds to wait before restoring.
	300 [s]	Sets 300 seconds (5 minutes) to wait before restoring.
	60 [min]	Sets 60 minutes to wait before restoring.
	12 [h]	Sets 12 hours to wait before restoring.

NOTE: *Port Loopback* and *Loopback1* are selected by default when equipment is in *Transparent Mode*. Refer **4.2.2 Set Equipment Mode** in the **Set Network and System Provisioning Manual**.

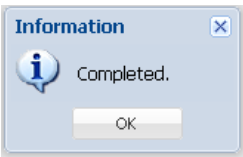
6. **Warning** dialog box appears. Click the **OK** button to proceed.

Figure 4-5 Warning Dialog Box



7. **Information** dialog box appears. Click the **OK** button to proceed.

Figure 4-6 Information Dialog Box



8. **L2 Loopback Control** window updates the information.

Figure 4-7 L2 Loopback Control Window

Maintenance Control - Loopback Control - L2 Loopback Control

Refresh

Loopback Control

Item	Slot	Port	Port Name	Loopback Mode	VLAN ID	Loopback Status
Main		Port02				Disable
Main		Port03				Disable
Main		Port04				Disable
MODEM	Slot01	Port01				Disable
MODEM	Slot02	Port01		VLAN Loopback	1	Loopback 1

The diagram illustrates the network configuration for L2 Loopback Control. On the left, an "ETH" block contains several VLANs (VLAN 1, VLAN 6, ..., VLAN n). These are connected to an "L2 Switch" block. The L2 Switch has two loopback ports, LB1 and LB2, which are connected to the "MODEM" block. The MODEM block is connected to an "RF" block, which is in turn connected to an antenna symbol.

9. When the loopback test ends, click **Maintenance** tool button on the **WebLCT** tool bar to exit from the Maintenance Mode.

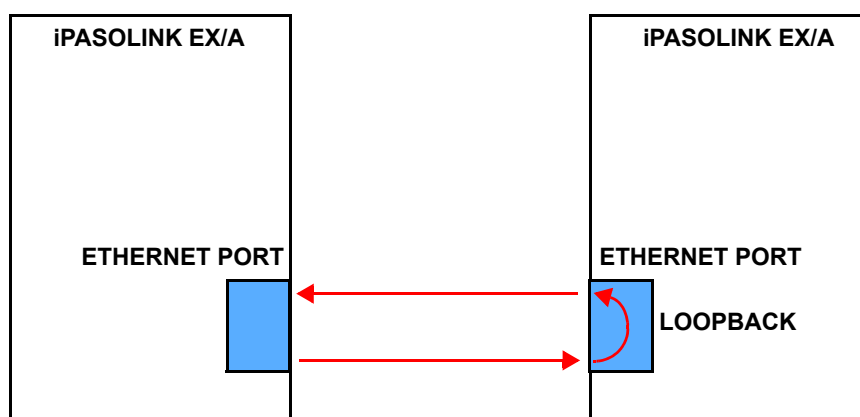
10. Confirm that the **MAINT** color turns from orange to white.

This step ends procedure.

4.3.2 Link OAM Loopback

To operate the Link OAM Loopback, the Link OAM Mode should be enabled and be active. Check or enable the Link OAM function referring to the **Set Network and System Provisioning** manual, **8.6.4 Link OAM Setting**.

Figure 4-8 Link OAM Loopback Configuration



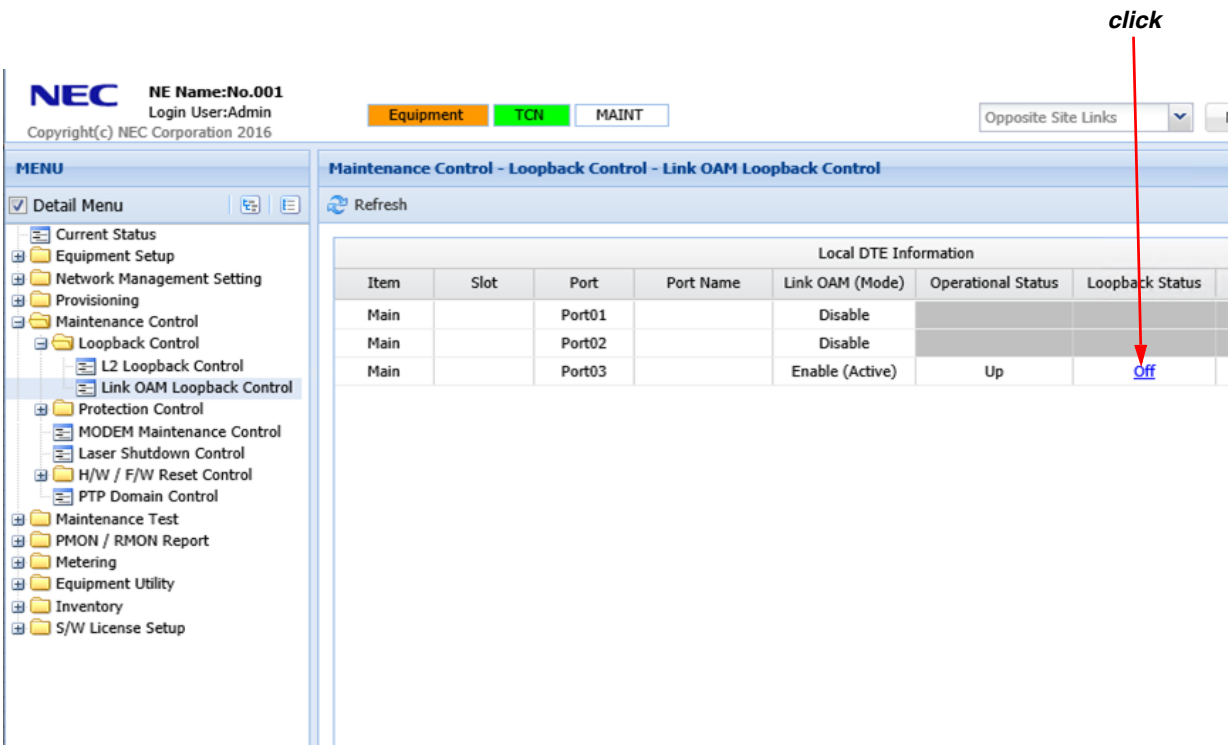
Procedure 4-3

1. Click the **Maintenance** tool button on the tool bar of the **WebLCT** to put the system into the Maintenance Mode. The **MAINT** indicator on the tool bar changes to orange.
2. In the **MENU** frame on the left, expand the **Maintenance Control**, then its submenu **Loopback Control** to select **Link OAM Loopback Control**.

The **Link OAM Loopback Control** window appears.

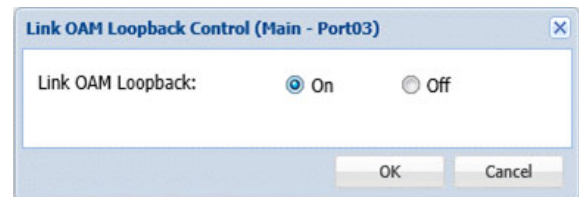
3. Click a linked **Off** in the **Loopback Status** field.

Figure 4-9 Link OAM Loopback Control Window



4. **Link OAM Loopback Control** option window appears. Click **On** radio button, then click the **OK** button.

Figure 4-10 Link OAM Loopback Control Option Box



5. When **Information** dialog box appears, click the **OK** button to proceed.

Figure 4-11 Information Dialog Box



6. The **Link OAM Loopback Control** window updates the information. Check that the status of the selected port indicates **On (Active)**.

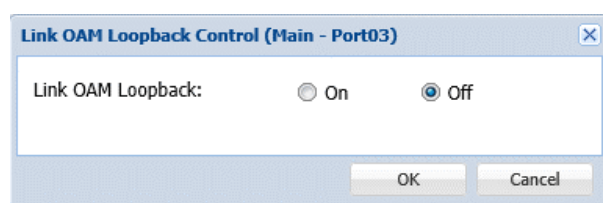
Figure 4-12 Link OAM Loopback Control Window

Maintenance Control - Loopback Control - Link OAM Loopback Control							
Refresh							
Local DTE Information							
Item	Slot	Port	Port Name	Link OAM (Mode)	Operational Status	Loopback Status	
Main		Port01		Disable			
Main		Port02		Disable			
Main		Port03		Enable (Active)	Up	<u>On (Active)</u>	

♦ **To End Link OAM Loopback Test**

7. Click the linked **On (Active)**. The **Link OAM Loopback Control** option window appears.
8. Select **Off**, then click the **OK** button.

Figure 4-13 Link OAM Loopback Control Option Window



9. **Information** dialog box appears. Click the **OK** button to proceed.

Figure 4-14 Information Dialog Box



10. The **Link OAM Loopback Control** window updates the information. Confirm that the selected port indicates **Off** now.

Figure 4-15 Link OAM Loopback Control Window

Maintenance Control - Loopback Control - Link OAM Loopback Control						
Refresh						
Local DTE Information						
Item	Slot	Port	Port Name	Link OAM (Mode)	Operational Status	Loopback Status
Main		Port01		Disable		
Main		Port02		Disable		
Main		Port03		Enable (Active)	Up	Off

11. When completed, click the **Maintenance** tool button on the **WebLCT** tool bar to exit from the Maintenance Mode.
12. Confirm that the **MAINT** indicator on the tool bar changes from orange to white.

This step ends the procedure.

4.4 Switching Control

Important:

While operating the Switching Control Operation, the system should be set into the **Maintenance** mode.

4.4.1 Manual Switch Operation

iPASOLINK EX/A supports the following types of Manual Switches:

- ♦ **RSTP/MSTP Control**
- ♦ **ERP Control**
- ♦ **LAG Revert Control**
- ♦ **Service Forced Switch Control**
- ♦ **Timing Source Switch Control**

4.4.2 RSTP/MSTP Control

This option clears the current STP information, and newly gets the protocol.

Procedure 4-4

1. Launch and log in to **WebLCT**.
2. Click the **Maintenance** button on the top of the **WebLCT** window to switch the state to the maintenance mode. See [4.2.1 Change to Maintenance Mode \(for WebLCT Operation\)](#) for operating steps.
3. In the **MENU** frame on the left, expand **Maintenance Control**, then its submenu **Protection Control** to select **RSTP/MSTP Control**. The **RSTP/MSTP Control** window appears.
4. Click the **RSTP Clear** or **MSTP Clear** tool button:

Figure 4-16 RSTP/MSTP Control Window (example: RSTP)

NEC NE Name:No.001
Login User:Admin
Copyright(c) NEC Corporation 2016

Equipment TCN MAINT Opposite Site Links

MENU

Detail Menu

- Current Status
- Equipment Setup
- Network Management Setting
- Provisioning
- Maintenance Control
 - Loopback Control
 - Protection Control
 - RSTP / MSTP Control**
 - ERP Control
 - LAG Revert Control
 - Service Forced Switch Control
 - Timing Source Switch Control
 - MODEM Maintenance Control
 - Laser Shutdown Control
 - H/W / F/W Reset Control
 - PTP Domain Control
- Maintenance Test
- PMON / RMON Report
- Metering
- Equipment Utility
- Inventory
- S/W License Setup

Maintenance Control - Protection Control - RSTP / MSTP Control

Refresh RSTP Clear

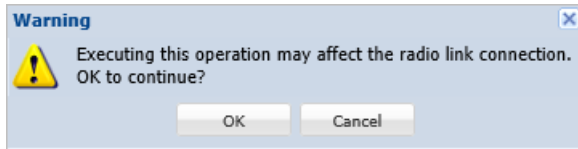
STP Mode	Root Bridge Priority / ID	Bridge Priority	STP Bridge MAX Age [s]	STP Bridge Hello Time [s]
RSTP	32768 / 02:E2:00:10:62:00	32768	20	2

Item	Slot	Port	Port Name	Status	STP Port Path Cost
Main		Port02			
Main		Port03			
Main		Port04			
MODEM	Slot01	Port01			
MODEM	Slot02	Port01			

Warning dialog box appears.

- Click the **OK** button of the dialog box.

Figure 4-17 Warning Dialog Box



- Information** dialog box appears. Click the **OK** button of the dialog box to proceed.

Figure 4-18 Information Dialog Box



- The **RSTP/MSTP Control** window updates the information. Confirm the displayed information:

Figure 4-19 RSTP/MSTP Control Window

Maintenance Control - Protection Control - RSTP / MSTP Control									
Refresh		RSTP Clear							
STP Mode	Root Bridge Priority / ID		Bridge Priority	STP Bridge MAX Age [s]	STP Bridge Hello Time [s]	STP Bridge Forward Delay [s]	STP TX Hold Count		
RSTP	32768 / 02:E2:00:10:62:00		32768	20	2	15	6		
Item	Slot	Port	Port Name	Status	STP Port Path Cost	STP Port Priority	Edge Port	Edge Port Status	
Main		Port02							
Main		Port03							
Main		Port04							
MODEM	Slot01	Port01							
MODEM	Slot02	Port01							

- Exit the Maintenance Mode by clicking the **Maintenance** button on the window.
- Check that the **MAINT** indication turns from orange to white.

This step ends the procedure.

4.4.3 ERP Control

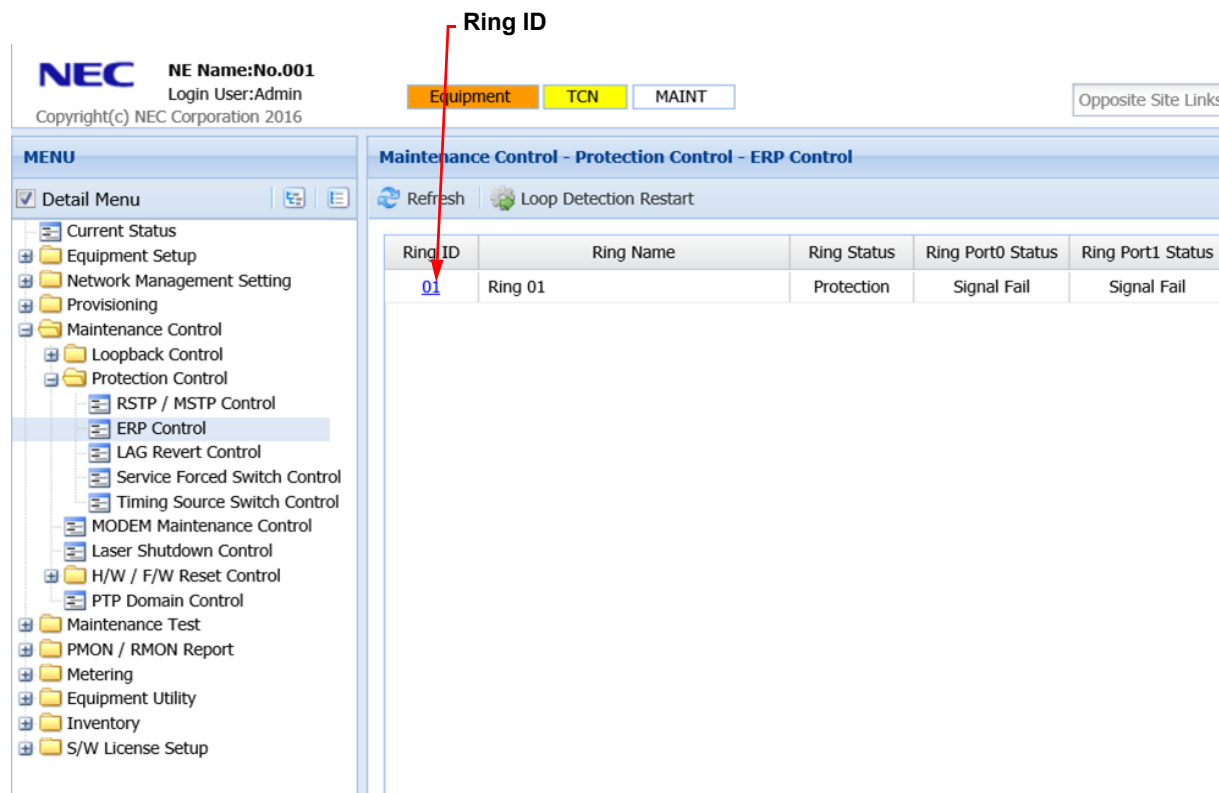
4.4.3.1 Execute ERP Switching Operation

Proceed with the followings to carry out the ERP Manual/Forced Switching Operation.

Procedure 4-5

1. Launch and log in to **WebLCT**.
2. Click the **Maintenance** button on the top of the **WebLCT** window to switch the state to the maintenance mode. See [4.2.1 Change to Maintenance Mode \(for WebLCT Operation\)](#) for operating steps.
3. In the **MENU** frame on the left, expand **Maintenance Control**, then its submenu **Protection Control** to select **ERP Control**. The **ERP Control** window appears.
4. Click the target Ring ID.

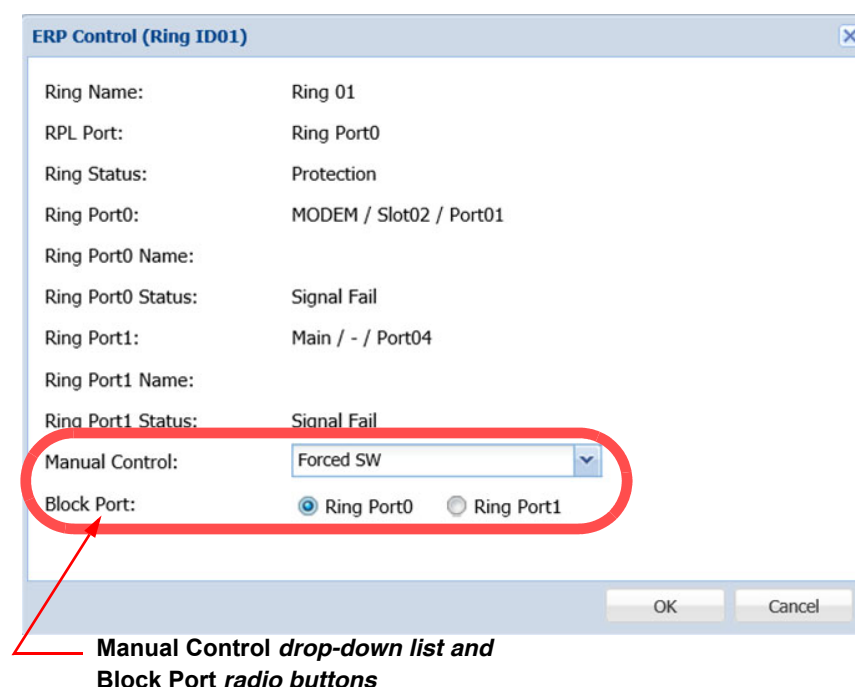
Figure 4-20 ERP Control Window



ERP Control (Ring IDn) option window appears.

5. Specify the following:

Figure 4-21 ERP Control Option Window



- ◆ Select the operation type from the **Manual Control** drop-down list.
- ◆ Assign a blocking port.

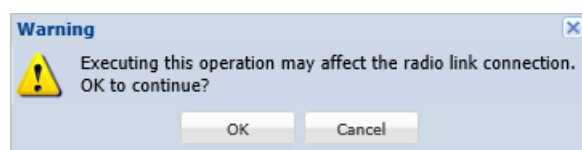
Table 4-2 ERP Control Parameters

Parameter	Value	Description
Manual Control	Forced SW	Executes switching operation forcibly.
	Manual SW	Executes switching operation according to the condition's priority.
	Clear	Clears the status placed by the executed command.
Block Port	Ring Port 0	Assigns a blocking port in the Ring.
	Ring Port 1	

6. When completed, click the **OK** button of the option window.

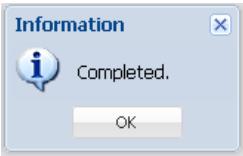
7. **Warning** dialog box appears. Click the **OK** button to proceed.

Figure 4-22 Warning Dialog Box



8. **Information** dialog box appears. Click the **OK** button of the dialog box to proceed.

Figure 4-23 Information Dialog Box



9. The ERP Control window updates the information. Confirm the displayed information.

Figure 4-24 ERP Control Window

Maintenance Control - Protection Control - ERP Control

Refresh Loop Detection Restart

Ring ID	Ring Name	Ring Status	Ring Port0 Status	Ring Port1 Status	Loop Detection Status	Ring Type	Upper Ring ID	Ring Port0
01	Ring 01	Forced	Forced Switch	Forwarding	None	Major (RPL)		MODEM / Slot02 / Port01

(leftmost field)

Protection Control - ERP Control

tion Restart [ERP Setting](#)

Upper Ring ID	Ring Port0	Ring Port0 Name	Ring Port1	Ring Port1 Name	Control VLAN ID	Traffic VLAN ID
	MODEM / Slot02 / Port01		Main / - / Port04		20	10

(rightmost field)

10. Exit the Maintenance Mode by clicking the **Maintenance** button on the window.
11. Check that the **MAINT** indication turns from orange to white.
- This step ends the procedure.

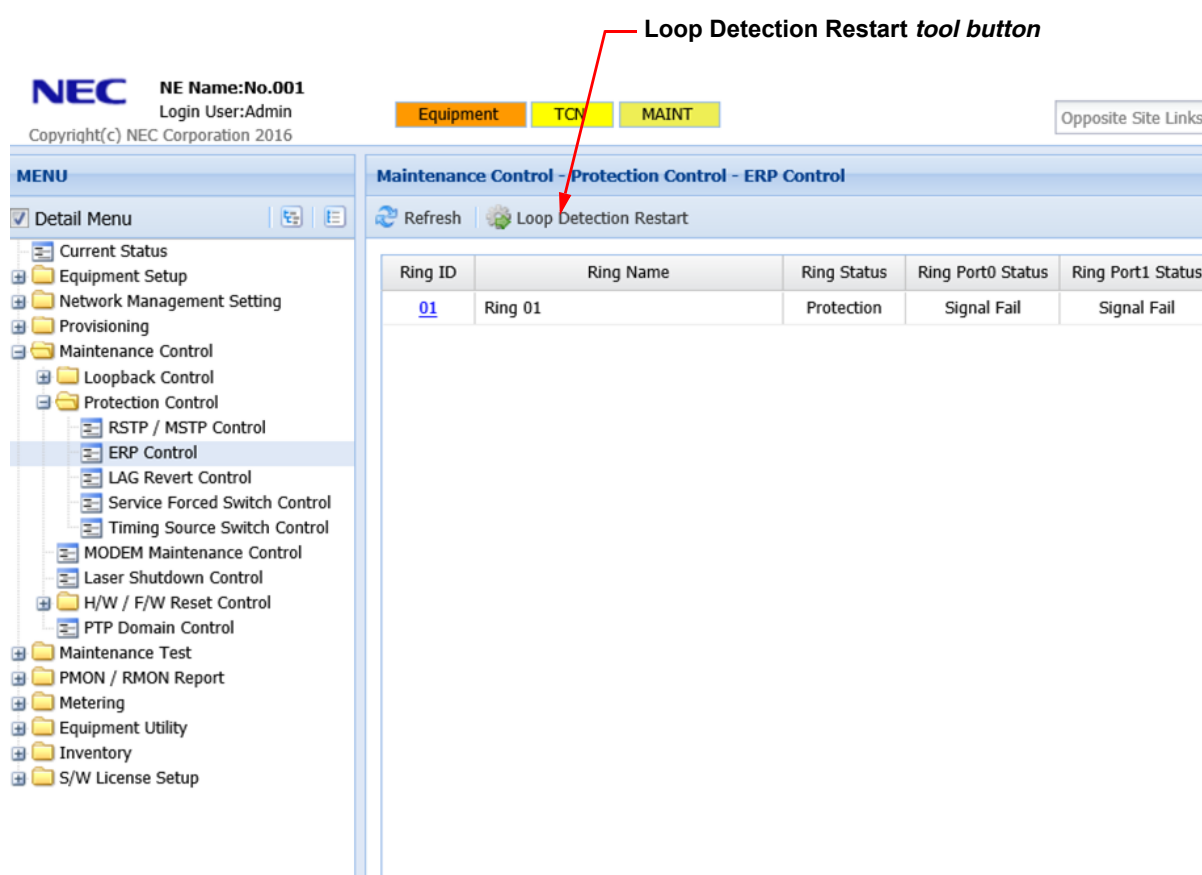
4.4.3.2 Execute Loop Detection

This option is used to confirm the registered ERP.

Procedure 4-6

1. Launch and log in to **WebLCT**.
2. Click the **Maintenance** button on the top of the **WebLCT** window to switch the state to the maintenance mode. See [4.2.1 Change to Maintenance Mode \(for WebLCT Operation\)](#) for operating steps.
3. In the **MENU** frame on the left, expand **Maintenance Control**, then its submenu **Protection Control** to select **ERP Control**. The **ERP Control** window appears.
4. Click the **Loop Detection Restart** tool button.

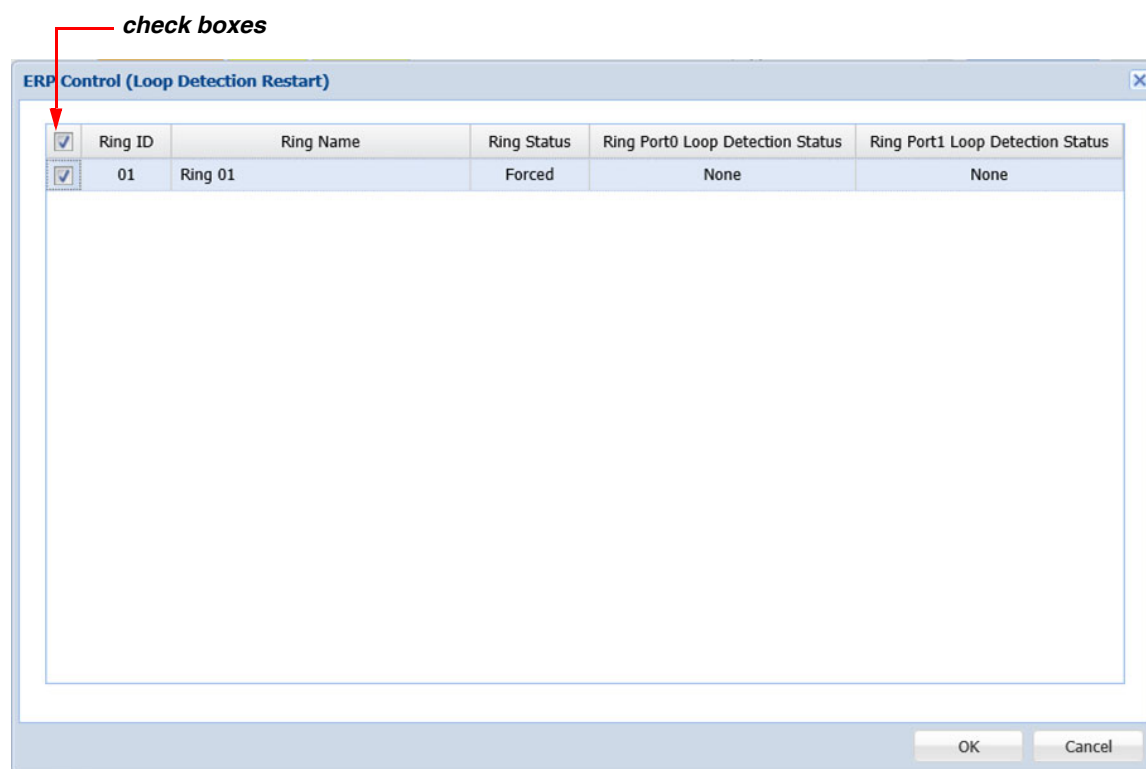
Figure 4-25 ERP Control Window



ERP Control (Loop Detection Restart) option window appears.

5. Tick a check box of the target Ring, then click the **OK** button. Clicking the check box on top selects all.

Figure 4-26 ERP Control (Loop Detection Restart) Option Window



6. The system starts checking the loop on the selected Ring. When completed, **Information** dialog box appears.
7. Click the **OK** button to proceed.

Figure 4-27 Information Dialog Box




The **ERP Control** window updates the window.

8. Check the result in the Loop Detection Status.

Figure 4-28 ERP Control Window

Loop Detection Status



Maintenance Control - Protection Control - ERP Control								
Refresh Loop Detection Restart								
Ring ID	Ring Name	Ring Status	Ring Port0 Status	Ring Port1 Status	Loop Detection Status	Ring Type	Upper Ring ID	Ring Port0
01	Ring 01	Forced	Forced Switch	Forwarding	Detected	Major (RPL)		MODEM / Slot02 / Port01

- ◆ This field normally indicates **None**.
 - ◆ If a loop is found, the field indicated **Detected**. Check the settings.
9. Exit the Maintenance Mode by clicking the **Maintenance** button on the window.
 10. Check that the **MAINT** indication turns from orange to white.
- This step ends the procedure.

4.4.4 LAG Revert Control

This option is used to put the original Active ETH Port back in service manually when recovered from the failure.

Procedure 4-7

1. Launch and log in to **WebLCT**.
2. Click the **Maintenance** button on the top of the **WebLCT** window to switch the state to the maintenance mode. See [4.2.1 Change to Maintenance Mode \(for WebLCT Operation\)](#) for operating steps.
3. In the **MENU** frame on the left, expand **Maintenance Control**, then its submenu **Protection Control** to select **LAG Revert Control**. The **LAG Revert Control** window appears.
4. Click the target group from the **LAG** column

Figure 4-29 LAG Revert Control

click to select a target

NEC NE Name:No.001
Login User:Admin
Copyright(c) NEC Corporation 2016

Equipment TCN MAINT Opposite Site Links

MENU
Detail Menu
Current Status
Equipment Setup
Network Management Setting
Provisioning
Maintenance Control
Loopback Control
Protection Control
RSTP / MSTP Control
ERP Control
LAG Revert Control
Service Forced Switch Control
Timing Source Switch Control
MODEM Maintenance Control
Laser Shutdown Control
H/W / F/W Reset Control
PTP Domain Control
Maintenance Test
PMON / RMON Report
Metering
Equipment Utility
Inventory
S/W License Setup

Maintenance Control - Protection Control - LAG Revert Control
Refresh

Link Aggregation Group

LAG	LAG Name	LAG Link Status	Mode	TX Interval
ETH GRP1	Eth Grp1	Link Down	LACP-Active	Short

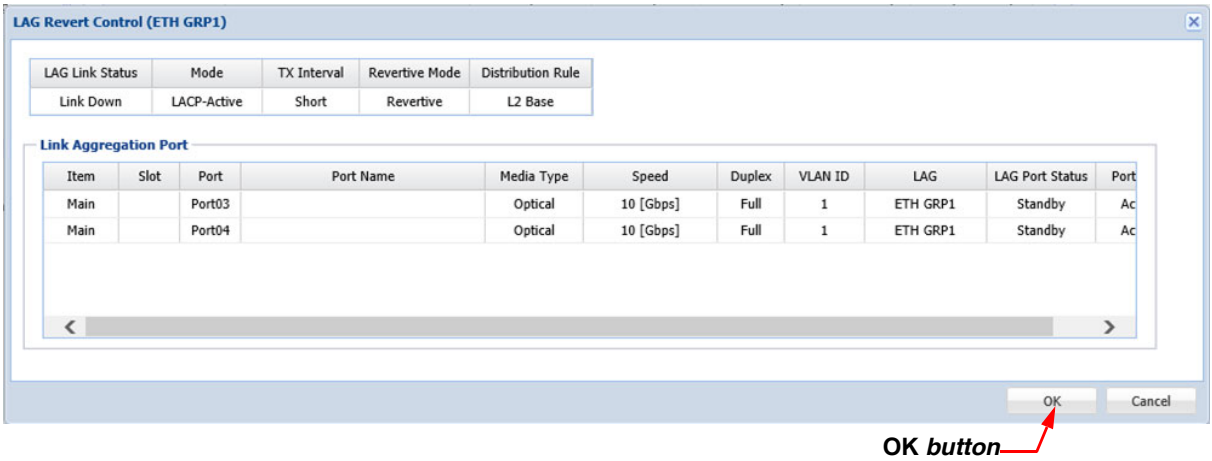
Link Aggregation Port

Item	Slot	Port	Port Name	Media Type	Speed
Main		Port02		Optical	Auto
Main		Port03		Optical	10 [Gbps]
Main		Port04		Optical	10 [Gbps]
MODEM	Slot01	Port01			
MODEM	Slot02	Port01			

LAG Revert Control option window appears.

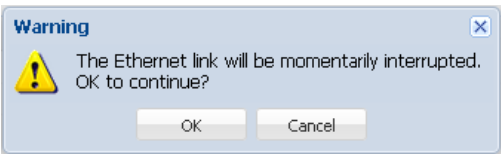
5. Click the **OK** button of the option window.

Figure 4-30 LAG Revert Control Option Window



6. **Warning** dialog box appears. Click the **OK** button to proceed.

Figure 4-31 Warning Dialog Box



The reverting command is executed.

7. When completed, **Information** dialog box appears. Click the **OK** button to end the procedure.

Figure 4-32 Information Dialog Box



This step ends the procedure.

4.4.5 Service Forced Switch Control

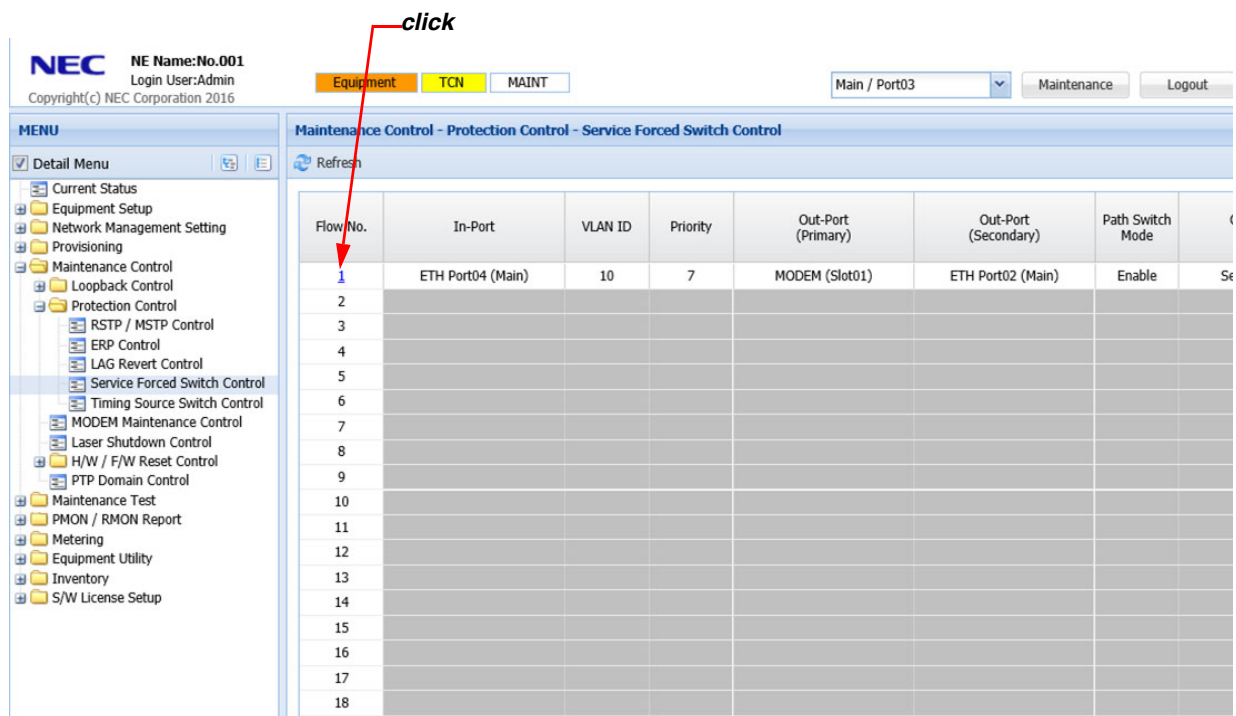
This option is used to forcibly switch service paths during maintenance operation carried out in the equipment.

Procedure 4-8

1. Launch and log in to **WebLCT**.
2. Click the **Maintenance** button on the top of the **WebLCT** window to switch the state to the maintenance mode. See [4.2.1 Change to Maintenance Mode \(for WebLCT Operation\)](#) for operating steps.
3. In the **MENU** frame on the left, expand **Maintenance Control**, then its submenu **Protection Control** to select **Service Forced Switch Control**. The **Service Forced Switch Control** window appears.
4. Click the desired **Flow No.** to execute forced path select:

NOTE: Only **Flow No.** with **Path Switch Mode** is set as **Enable**, can be clicked.

Figure 4-33 Service Forced Switch Control Window



Service Forced Switch Control option window appears.

5. From the **Forced Path Select** drop-down list, select an option, then click the **OK** button.

Figure 4-34 Service Forced Switch Control Option Window

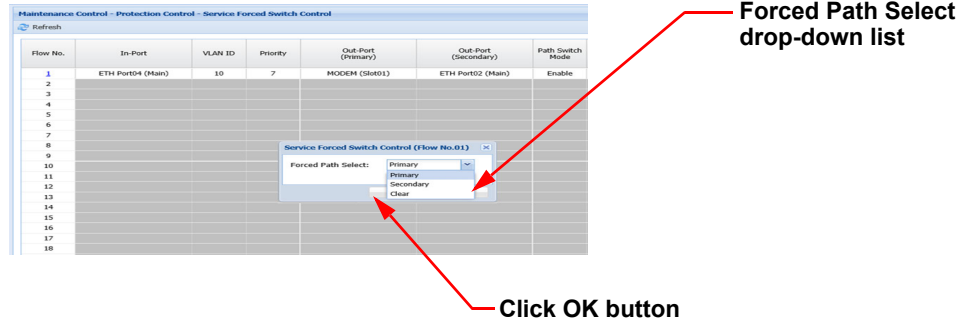
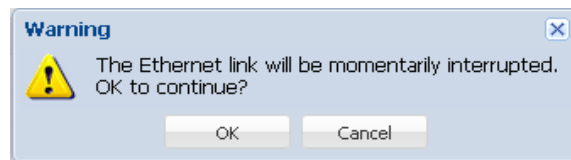


Table 4-3 Service Forced Switch Control Parameter

Parameter	Value	Description
Forced Path Select	Primary	Force Switch to the Primary path.
	Secondary	Force Switch to the Secondary path.
	Clear	Clears the executed switching command.

6. Warning dialog box appears. Click the **OK** button of the dialog box.

Figure 4-35 Warning Dialog Box



7. Information dialog box appears. Click the **OK** button of the dialog box to proceed.

Figure 4-36 Information Dialog Box



8. The **Service Forced Switch Control** window updates the information. Confirm the displayed information:

Figure 4-37 Service Forced Switch Control Window

Maintenance Control - Protection Control - Service Forced Switch Control									
Refresh									
Flow No.	In-Port	VLAN ID	Priority	Out-Port (Primary)	Out-Port (Secondary)	Path Switch Mode	Current Path	Bandwidth Threshold [Mbps]	Path Switch Hold Off [s]
1	ETH Port04 (Main)	10	7	MODEM (Slot01)	ETH Port02 (Main)	Enable	Primary (Forced)	1000	1
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

9. After releasing forced path select of all **Flow No.**, exit the Maintenance Mode by clicking the **Maintenance** button on the window.
10. Check that the **MAINT** indication turns from orange to white.
This step ends the procedure.

4.4.6 Timing Source Switch Control

4.4.6.1 Unlock the Mode

Operate the following [Procedure 4-9](#) if the equipment is in the Lockout mode. Otherwise, skip this procedure, and refer to [Procedure 4-10](#) provided in [4.4.6.2 Switch Timing Sources](#).

Procedure 4-9

1. Launch and log in to **WebLCT**.
2. Click the **Maintenance** button on the top of the **WebLCT** window to switch the state to the maintenance mode. See [4.2.1 Change to Maintenance Mode \(for WebLCT Operation\)](#) for operating steps.
3. In the **MENU** frame on the left, expand **Maintenance Control**, then its submenu **Protection Control** to select **Timing Source Switch Control**. The **Timing Source Switch Control** window appears.
4. If the target facility is locked (**Lock Out** indicates **On**), click the link. If it is not locked (**Lock Out** indicates **Off**), refer to [4.4.6.2 Switch Timing Sources](#)

Figure 4-38 Timing Source Switch Control Window

NEC NE Name:No.001
Login User:Admin
Copyright(c) NEC Corporation 2016

Equipment TCN MAINT

Opposite Site Links Maintenance Logout Auto-Logout

MENU

- Detail Menu
- Current Status
- Equipment Setup
- Network Management Setting
- Provisioning
- Maintenance Control
 - Loopback Control
 - Protection Control
 - RSTP / MSTP Control
 - ERP Control
 - LAG Revert Control
 - Service Forced Switch Control
 - Timing Source Switch Control
 - MODEM Maintenance Control
 - Laser Shutdown Control
 - H/W / F/W Reset Control
 - PTP Domain Control
 - Maintenance Test
 - PMON / RMON Report
 - Metering
 - Equipment Utility
 - Inventory
 - S/W License Setup

Maintenance Control - Protection Control - Timing Source Switch Control

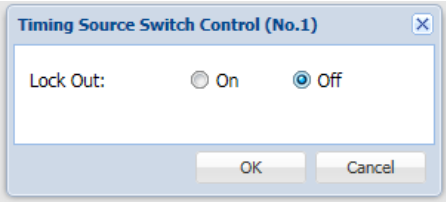
Refresh

No.	Timing Source	Slot	Port	Port Name	Timing Source SW Control	Lock-Out
1*	Line CLK (MODEM)	Slot02	Port01		Normal	On
2	Not Entry					
3	Not Entry					

Timing Source Switch Control option window appears.

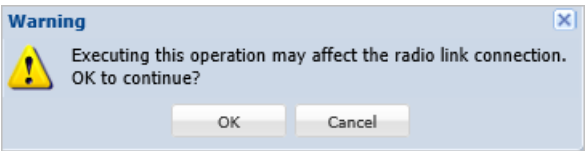
5. Click the **Off** radio button, then click the **OK** button.

Figure 4-39 Timing Source Switch Control Option Window



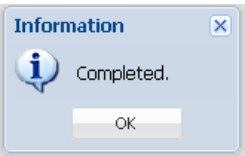
6. **Warning** dialog box appears. Click the **OK** button of the dialog box.

Figure 4-40 Warning Dialog Box



7. **Information** dialog box appears. Click the **OK** button of the dialog box to proceed.

Figure 4-41 Information Dialog Box



8. The **Timing Source Switch Control** window updates the information. Confirm that the **Lock Out** status of the target object indicates **Off** now.

Figure 4-42 Timing Source Switch Control Window

Maintenance Control - Protection Control - Timing Source Switch Control						
Refresh						
No.	Timing Source	Slot	Port	Port Name	Timing Source SW Control	Lock Out
1*	Line CLK (MODEM)	Slot02	Port01		Normal	Off
2	Not Entry					
3	Not Entry					

9. Operate one of the followings:

♦ To end the procedure:

- i) Exit the Maintenance Mode by clicking the **Maintenance** button on the window.
- ii) Check that the **MAINT** indication turns from orange to white. This step ends the procedure.

♦ To set Timing Source Switch, refer to [Procedure 4-10](#) in [4.4.6.2 Switch Timing Sources](#), Step [3](#).

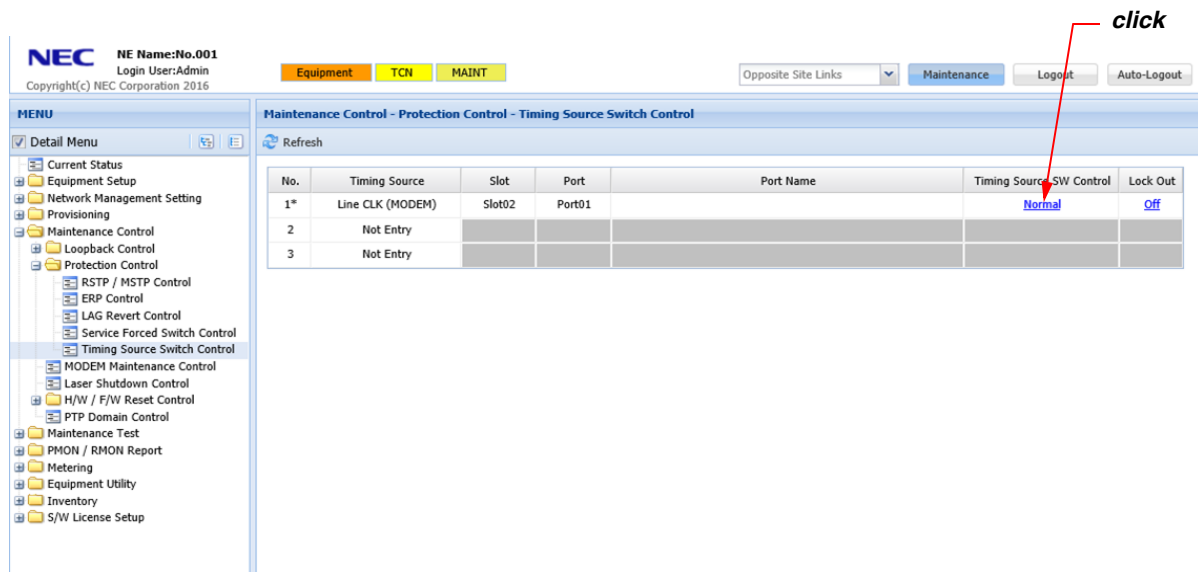
4.4.6.2 Switch Timing Sources

Procedure 4-10

1. Launch and log in to **WebLCT**.
2. Click the **Maintenance** button on the top of the **WebLCT** window to switch the state to the maintenance mode. See [4.2.1 Change to Maintenance Mode \(for WebLCT Operation\)](#) for operating steps.
3. In the **MENU** frame on the left, expand **Maintenance Control**, then its submenu **Protection Control** to select **Timing Source Switch Control**. The **Timing Source Switch Control** window appears.
4. Click a link in the Timing Source SW Control fields:

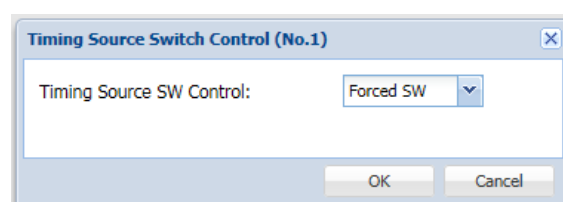
NOTE: The target object should NOT be in the Lockout mode.

Figure 4-43 Timing Source Switch Control Window



5. **Timing Source Switch Control** option window appears. Select a switching mode (**Manual SW** or **Forced SW**), then click the **OK** button.

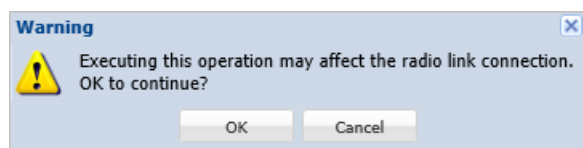
Figure 4-44 Timing Source Switch Control Option Window



Warning dialog box appears.

6. Click the **OK** button of the dialog box.

Figure 4-45 Warning Dialog Box



7. **Information** dialog box appears. Click the **OK** button of the dialog box to proceed.

Figure 4-46 Information Dialog Box



8. The **Timing Source Switch Control** window updates the information. Confirm that the selected switch control is indicated for the target object.

Figure 4-47 Timing Source Switch Control Window

Maintenance Control - Protection Control - Timing Source Switch Control						
Refresh						
No.	Timing Source	Slot	Port	Port Name	Timing Source SW Control	Lock Out
1*	Line CLK (MODEM)	Slot02	Port01		Forced SW	Off
2	Not Entry					
3	Not Entry					

9. Exit the Maintenance Mode by clicking the **Maintenance** button on the window.
10. Check that the **MAINT** indication turns from orange to white.

This step ends the procedure.

4.5 MODEM Maintenance Control (Radio Control)

There are several maintenance control items that can be set during Maintenance Mode.

The functions of each control are as follows; These functions are not enabled if the system is not in the Maintenance mode.

◆ ATPC Manual Control

If TX Power Control Mode is selected to ATPC Mode, execute temporally fixing control to Transmit Power. Select the value range described in () of ATPC Range that located in the Provisioning Menu (MODEM Function setting -> TX Power Setting) for Transmit Power. ATPC Manual Control can be selected from either Auto or Manual. If Transmit Power requires to temporally fixing control, select Manual then select fixed value (it will be fixed until Auto is selected).

NOTE: ATPC Manual Control is not effective if MTPC Mode is selected.

◆ TX Mute Control

TX Mute Control to ON will stop the transmit power of the RF despite the equipment configuration setting.

If Mute Control is set to OFF, it will cancel the Mute control.

NOTES:

1. If **Mute Control** is set to off and **Mute OFF** does not work due to uncontrollable factors, Mute status will remain on.
2. When **TX Mute** is remotely controlled, the setting of the automatic restoration time is possible.
3. TX Mute Release Time is set together with TX Mute Control by the item that becomes effective only when TX Mute Control is done from a higher-level device.

♦ CW Control

CW (no transmission modulation) is controlled.

CW Control is used when the frequency is measured with a frequency counter and when spurious is checked.

If you perform the CW control over a pre-made Mute ON, execute CW ON/OFF after Mute OFF. At this time, when there is a factor that the CW control is not turned ON it becomes CW control error.

In addition, in case of remote connection and operated Control CW, it may not be able to recover again. CW Control will restore automatically according to the TX Mute Release Time parameter.

♦ Carrier Search

Carrier Search measures the RSL to select the frequency channel with less interference waves.

When the parameter **TX mute (Opposite Site)** is set to **ON**, the transmit power of the RF at the opposite site is disabled while the Carrier Search is carried out or for 300 seconds at a maximum.

4.5.1 ATPC Manual Control

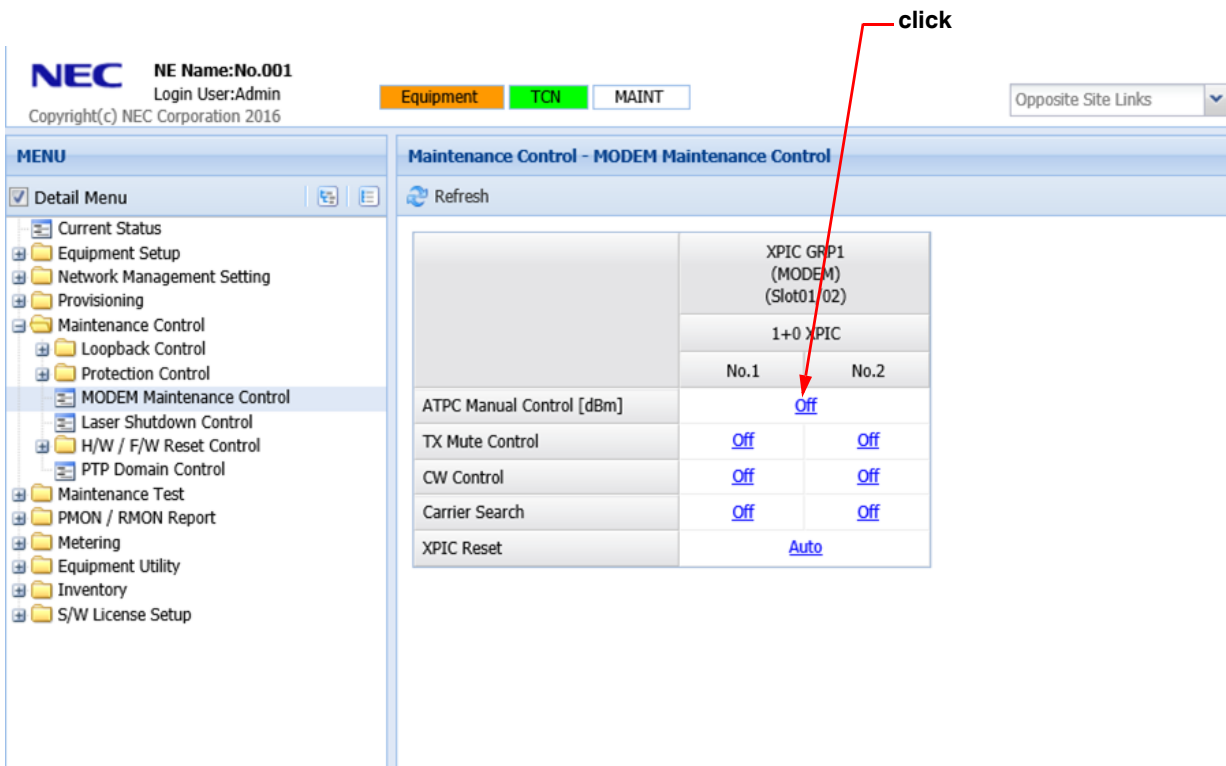
Performing this function (Manual Control) set the Maintenance Mode to ON.

However, in case of Auto setting and if Maintenance Mode is set to OFF, it will cancel the "auto setting."

Procedure 4-11

- 1. Click the **Maintenance** tool button on the tool bar of the **WebLCT** to put the system into the Maintenance Mode. The **MAINT** indicator on the tool bar changes to orange.
- 2. In the **MENU** frame on the left, expand the **Maintenance Control** to select **MODEM Maintenance Control**. The **MODEM Maintenance Control** window appears.
- 3. Click **Off** link in the **ATPC Manual Control** option.

Figure 4-48 MODEM Maintenance Control Window



The **MODEM Maintenance Control** option window appears.

4. Set the appropriate values, then click the **OK** button.

Figure 4-49 MODEM Maintenance Control Option Window

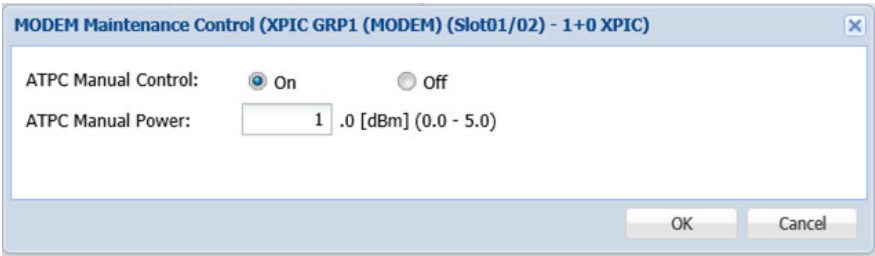
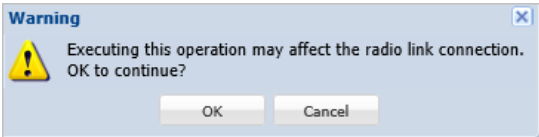


Table 4-4 ATPC Manual Control

Parameter	Value	Description
ATPC Manual Control	On	Enables ATPC Manual Control.
	Off	Disables ATPC Manual Control.
ATPC Manual Power	0.0 to 5.0	Set the transmit power value. [unit: dBm]

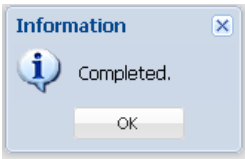
5. **Warning** dialog box appears. Click the **OK** button.

Figure 4-50 Warning Dialog Box



6. **Information** dialog box appears. Click the **OK** button.

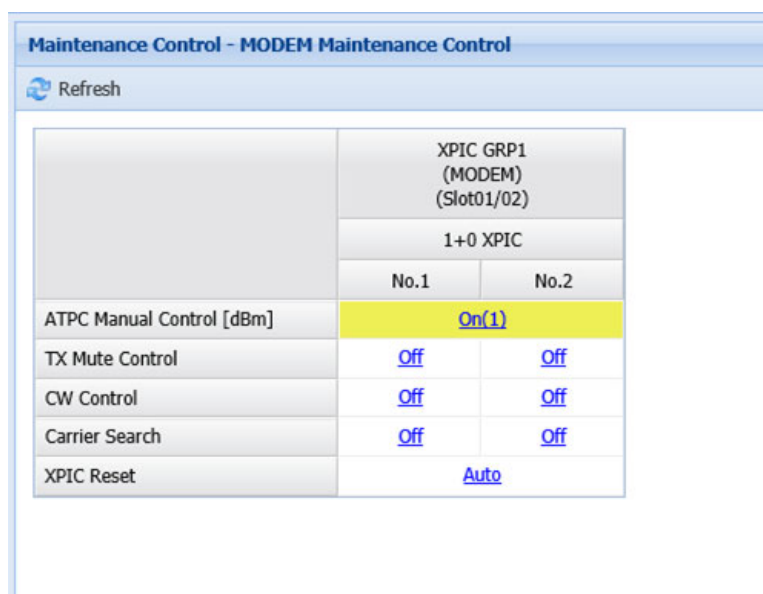
Figure 4-51 Information Dialog Box



The **MODEM Maintenance Control** window updates the information.

7. Confirm the displayed parameters.

Figure 4-52 MODEM Maintenance Control Window



	XPIC GRP1 (MODEM) (Slot01/02)	
	1+0 XPIC	
	No.1	No.2
ATPC Manual Control [dBm]	On(1)	
TX Mute Control	Off	Off
CW Control	Off	Off
Carrier Search	Off	Off
XPIC Reset	Auto	

8. After confirmation, click the **Maintenance** tool button on the **WebLCT** tool bar to exit from the Maintenance Mode.
9. Confirm that the **MAINT** indicator on the tool bar changes from orange to white.

This step ends the procedure.

4.5.2 TX Mute Control

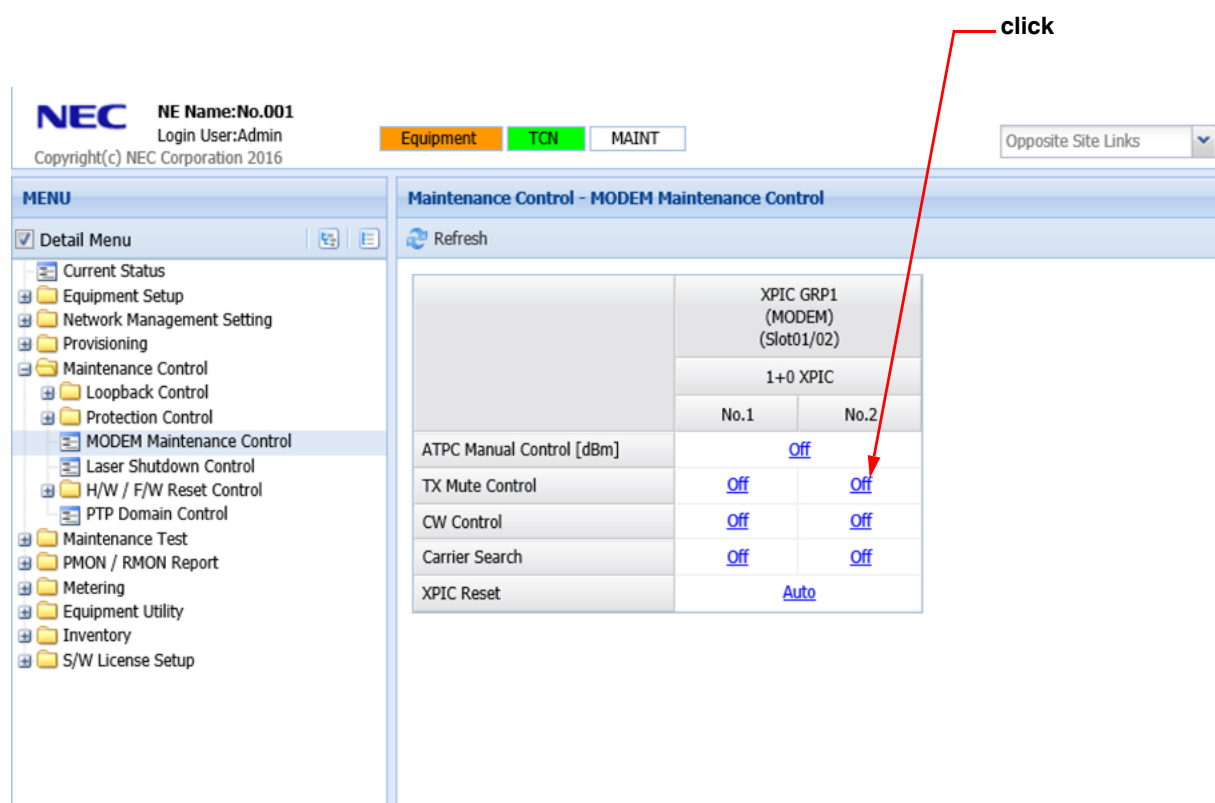
NOTE: TX mute **ON** in the XPIC configuration may cause radio errors in the other slot, but will recover immediately.

4.5.2.1 TX Mute Control on Local Site

Procedure 4-12

1. Click the **Maintenance** tool button on the tool bar of the **WebLCT** to put the system into the Maintenance Mode. The **MAINT** indicator on the tool bar changes to orange.
2. In the **MENU** frame on the left, expand the **Maintenance Control** to select **MODEM Maintenance Control**. The **MODEM Maintenance Control** window appears.
3. Select **Off** in the **TX Mute Control** option.

Figure 4-53 MODEM Maintenance Control Window



The **MODEM Maintenance Control** option window appears.

4. Set the appropriate values, then click the **OK** button.

Figure 4-54 MODEM Maintenance Control Box

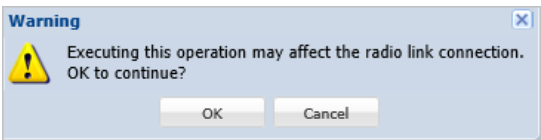


Table 4-5 TX MuteControl

Parameter	Value	Description
TX Mute Control	On	Executes the forced mute.
	Off	Releases the forced mute. [default]
Release Time	No Limit	No limitation to auto recovery. This option is not editable.

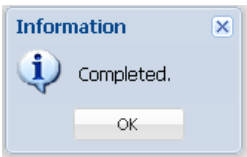
5. **Warning** dialog box appears. Click **OK** button.

Figure 4-55 Warning Dialog Box



6. **Information** dialog box appears. Click the **OK** button.

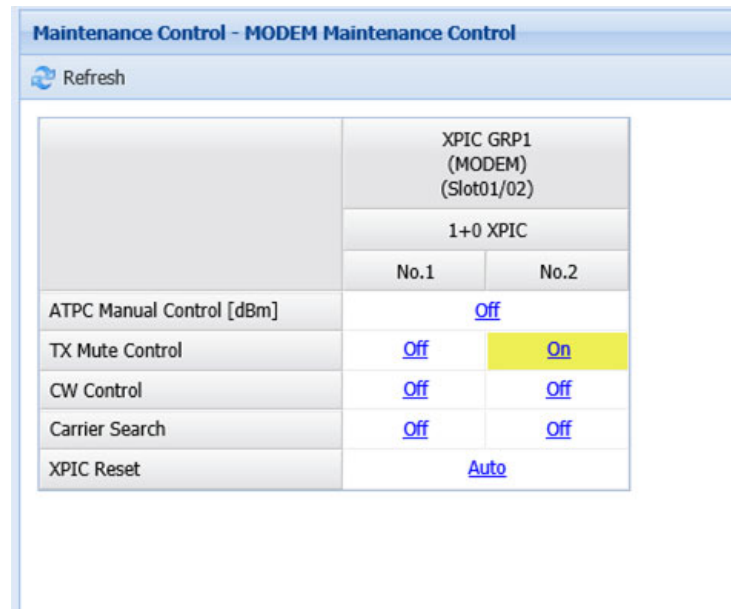
Figure 4-56 Information Dialog Box



The **MODEM Maintenance Control** window updates the information.

7. Confirm the displayed parameters.

Figure 4-57 MODEM Maintenance Control Window



Maintenance Control - MODEM Maintenance Control		
Refresh		
XPIC GRP1 (MODEM) (Slot01/02)		
1+0 XPIC		
	No.1	No.2
ATPC Manual Control [dBm]	Off	
TX Mute Control	Off	On
CW Control	Off	Off
Carrier Search	Off	Off
XPIC Reset	Auto	

8. After confirmation, click the **Maintenance** tool button on the **WebLCT** tool bar to exit from the Maintenance Mode.
9. Confirm that the **MAINT** indicator on the tool bar changes from orange to white.

This step ends the procedure.

4.5.2.2 TX Mute Control Operation on Remote Site

Procedure 4-13

1. Click the **Maintenance** tool button on the tool bar of the **WebLCT** to put the system into the Maintenance Mode. The **MAINT** indicator on the tool bar changes to orange.
2. In the **MENU** frame on the left, expand the **Maintenance Control** to select **MODEM Maintenance Control**. The **MODEM Maintenance Control** window appears.
3. Select **Off** in the **TX Mute Control** option.

Figure 4-58 MODEM Maintenance Control Window

NEC NE Name:No.001
Login User:Admin
Copyright(c) NEC Corporation 2016

Equipment TCN MAINT

Opposite Site Links

MENU

Detail Menu

- Current Status
- Equipment Setup
- Network Management Setting
- Provisioning
- Maintenance Control
 - Loopback Control
 - Protection Control
 - MODEM Maintenance Control**
 - Laser Shutdown Control
 - H/W / F/W Reset Control
 - PTP Domain Control
- Maintenance Test
- PMON / RMON Report
- Metering
- Equipment Utility
- Inventory
- S/W License Setup

Maintenance Control - MODEM Maintenance Control

Refresh

	XPIC GRP1 (MODEM) (Slot01/02)	
	1+0 XPIC	
	No.1	No.2
ATPC Manual Control [dBm]	Off	
TX Mute Control	Off	Off
CW Control	Off	Off
Carrier Search	Off	Off
XPIC Reset	Auto	

click

The **MODEM Maintenance Control** option window appears.

4. Set the appropriate values, then click the **OK** button.

Figure 4-59 MODEM Maintenance Control Box

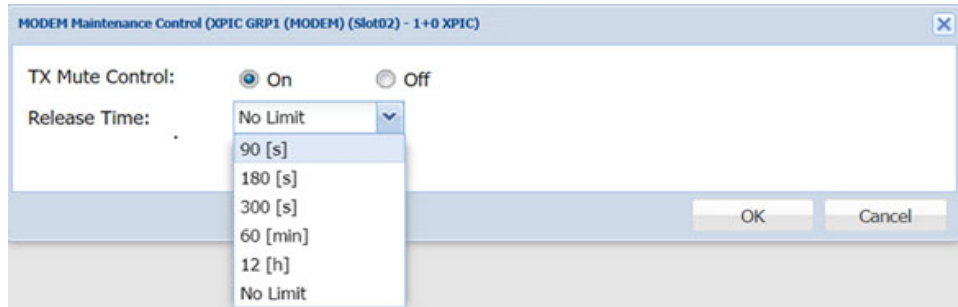


Table 4-6 TX Mute Control

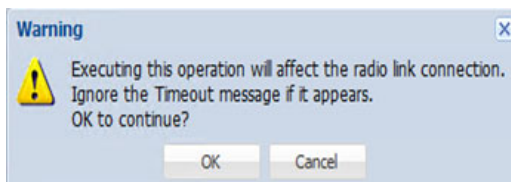
Parameter	Value	Description
TX Mute Control	On	Executes the forced mute.
	Off	Releases the forced mute. [default]
Release Time	90 [s]	Provides 90 seconds before executing the auto-recovery.
	180 [s]	Provides 180 seconds before executing the auto-recovery.
	300 [s]	Provides 300 seconds before executing the auto-recovery.
	60 [min]	Provides 60 minutes before executing the auto-recovery.
	12 [h]	Provides 12 hours before executing the auto-recovery.
	No Limit	Setting this option will not provide auto-recovery (Not Recommended). Require local connection for recovery.



CAUTION: *Executing this operation will disconnect the radio link, which can be restored only by a local connection when the value selected as "No Limit".*

5. **Warning** dialog box appears. Click the **OK** button.

Figure 4-60 Warning Dialog Box



6. **Information** dialog box appears. Click the **OK** button.

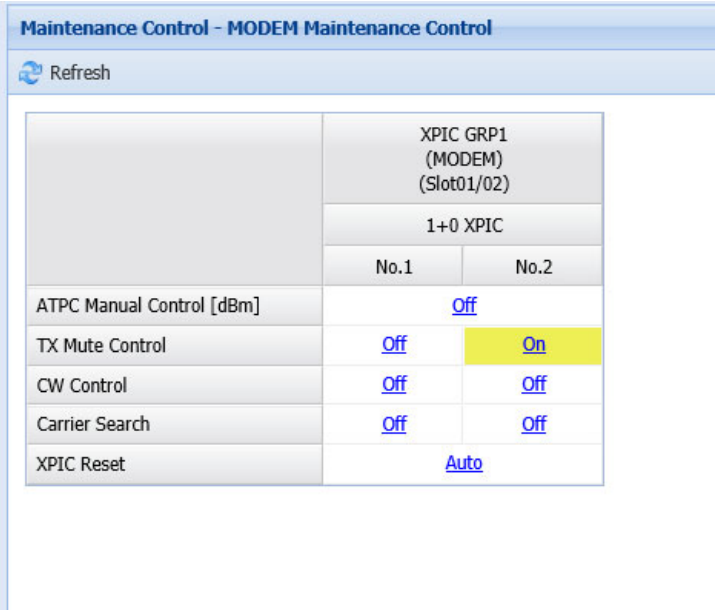
Figure 4-61 Information Dialog Box



The **MODEM Maintenance Control** window updates the information.

- 7. Confirm the displayed parameters.

Figure 4-62 MODEM Maintenance Control Window



- 8. After confirmation, click the **Maintenance** tool button on the **WebLCT** tool bar to exit from the Maintenance Mode.
- 9. Confirm that the **MAINT** indicator on the tool bar changes from orange to white.

This step ends the procedure.

4.5.3 CW Control

Procedure 4-14

NOTE: This function is not operative by the remote session.

1. Click the **Maintenance** tool button on the tool bar of the **WebLCT** to put the system into the Maintenance Mode. The **MAINT** indicator on the tool bar changes to orange.
2. In the **MENU** frame on the left, expand the **Maintenance Control** to select **MODEM Maintenance Control**. The **MODEM Maintenance Control** window appears.
3. Select **Off** in the **CW Control** option.

Figure 4-63 MODEM Maintenance Control Window

NEC NE Name:No.001
Login User:Admin
Copyright(c) NEC Corporation 2016

Equipment TCN MAINT

Opposite Site Links

MENU

Detail Menu

- Current Status
- Equipment Setup
- Network Management Setting
- Provisioning
- Maintenance Control
 - Loopback Control
 - Protection Control
 - MODEM Maintenance Control**
 - Laser Shutdown Control
 - H/W / F/W Reset Control
 - PTP Domain Control
- Maintenance Test
- PMON / RMON Report
- Metering
- Equipment Utility
- Inventory
- S/W License Setup

Maintenance Control - MODEM Maintenance Control

Refresh

	XPIC GRP1 (MODEM) (Slot01/02)	
	1+0 XPIC	
	No.1	No.2
ATPC Manual Control [dBm]	Off	
TX Mute Control	Off	Off
CW Control	Off	Off
Carrier Search	Off	Off
XPIC Reset	Auto	

The **MODEM Maintenance Control** option window appears.

4. Set the appropriate values, then click the **OK** button.

Figure 4-64 MODEM Maintenance Control Box

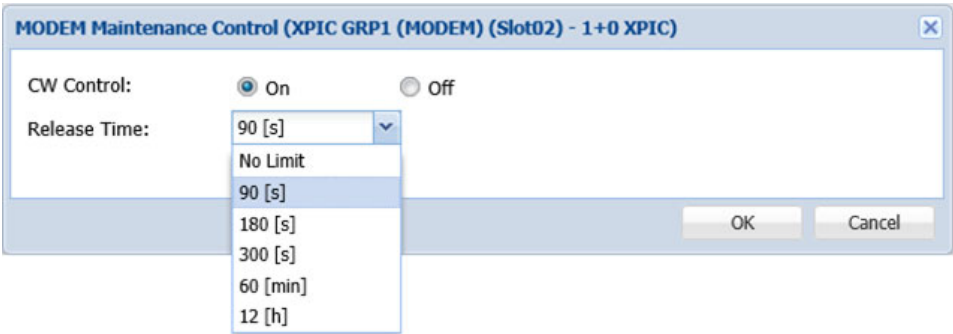
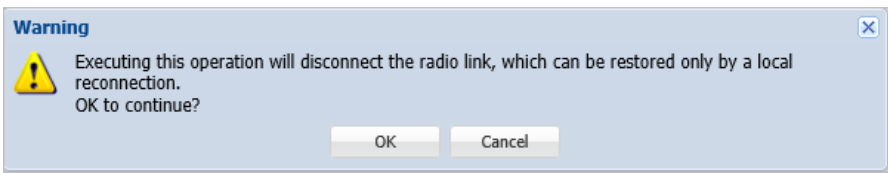


Table 4-7 CW Control Parameters

Parameter	Value	Description	
CW Control	On	Executes the controlling CW.	
	Off	Releases the controlling CW. [default]	
Release Time	No Limit	Specifies no limitation to auto recovery. (Not recommended.)	NOTE: These values are not available for the local connection.
	90 [s]	Provides 90 seconds before executing the auto-recovery.	
	180 [s]	Provides 180 seconds before executing the auto-recovery.	
	300 [s]	Provides 300 seconds before executing the auto-recovery.	
	60 [min]	Provides 60 minutes before executing the auto-recovery.	
	12 [h]	Provides 12 hours before executing the auto-recovery.	

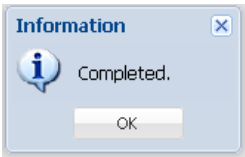
5. **Warning** dialog box appears. Click the **OK** button.

Figure 4-65 Warning Dialog Box



6. **Information** dialog box appears. Click **OK** button.

Figure 4-66 Information Dialog Box



7. The **MODEM Maintenance Control** window updates the information. Confirm the displayed parameters.

Figure 4-67 MODEM Maintenance Control Window

Maintenance Control - MODEM Maintenance Control		
Refresh		
	XPIC GRP1 (MODEM) (Slot01/02)	
	1+0 XPIC	
	No.1	No.2
ATPC Manual Control [dBm]	Off	
TX Mute Control	Off	Off
CW Control	Off	On
Carrier Search	Off	Off
XPIC Reset	Auto	

8. After confirmation, click the **Maintenance** tool button on the **WebLCT** tool bar to exit from the Maintenance Mode.
9. Confirm that the **MAINT** indicator on the tool bar changes from orange to white.

This step ends the procedure.

4.5.4 Carrier Search

iPASOLINK EX/A searches and fixes the available band by executing the **Carrier Search** function.

NOTES:

1. When executing the **Carrier Search** function, execute on one side of the radio link.
2. Wait at least 5 minutes before executing **Carrier Search** on the opposite site after executing **Carrier Search** on local site.

Procedure 4-15

1. Click the **Maintenance** tool button on the tool bar of the **WebLCT** to put the system into the Maintenance Mode. The **MAINT** indicator on the tool bar changes to orange.
2. In the **MENU** frame on the left, expand the **Maintenance Control** to select **MODEM Maintenance Control**. The **MODEM Maintenance Control** window appears.

3. Select **Off** in the **Carrier Search** option.

Figure 4-68 MODEM Maintenance Control Window

NEC NE Name:No.001
Login User:Admin
Copyright(c) NEC Corporation 2016

Equipment TCN MAINT

Opposite Site Links

MENU

Detail Menu

- Current Status
- Equipment Setup
- Network Management Setting
- Provisioning
- Maintenance Control
 - Loopback Control
 - Protection Control
 - MODEM Maintenance Control**
 - Laser Shutdown Control
 - H/W / F/W Reset Control
 - PTP Domain Control
- Maintenance Test
- PMON / RMON Report
- Metering
- Equipment Utility
- Inventory
- S/W License Setup

Maintenance Control - MODEM Maintenance Control

Refresh

	XPIC GRP1 (MODEM) (Slot01/02)	
	1+0 XPIC	
	No.1	No.2
ATPC Manual Control [dBm]	Off	
TX Mute Control	Off	Off
CW Control	Off	Off
Carrier Search	Off	Off
XPIC Reset	Auto	

The **Carrier Search** option window appears.

4. Set the appropriate values according to your system, then click the **Search** button.

Figure 4-69 Carrier Search Option Window

Carrier Search (Slot02)

Export CSV File

Channel Spacing:

62.5MHz

TX Mute (Opposite Site No.1):

Off

TX Mute (Opposite Site No.2):

Off

Equipment Information

Upper / Lower	Upper
Sub Band	C
TX Frequency	81125.000 [MHz]
RX Frequency	71125.000 [MHz]

Carrier Search Result

No.	TX Frequency	RX Frequency	RSL
02	81218.75 [MHz]	71218.75 [MHz]	-**.*
03	81281.25 [MHz]	71281.25 [MHz]	-**.*
04	81343.75 [MHz]	71343.75 [MHz]	-**.*
05	81406.25 [MHz]	71406.25 [MHz]	-**.*
06	81468.75 [MHz]	71468.75 [MHz]	-**.*
07	81531.25 [MHz]	71531.25 [MHz]	-**.*
08	81593.75 [MHz]	71593.75 [MHz]	-**.*
09	81656.25 [MHz]	71656.25 [MHz]	-**.*
10	81718.75 [MHz]	71718.75 [MHz]	-**.*
11	81781.25 [MHz]	71781.25 [MHz]	-**.*

Search

Cancel

Table 4-8 Carrier Search Parameters to Set (1 of 2)

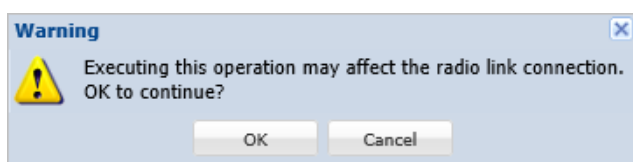
Parameter	Value	Description
Channel Spacing	62.5 MHz	Select the Channel Spacing.
	125 MHz	
	250 MHz	
	500 MHz	
	750 MHz	
	1000 MHz	
	1500 MHz	
	2000 MHz	

Table 4-8 Carrier Search Parameters to Set (2 of 2)

Parameter	Value	Description
TX mute (Opposite Site No.1)	Off	Disables the Mute Setting at the opposite site RF No.1(Vertical Polarization).
	On (Release Time: 300 [s])	Enables the Mute Setting at the opposite site RF No.1(Vertical Polarization).
TX mute (Opposite Site No.2)	Off	Disables the Mute Setting at the opposite site RF No.2(Horizontal Polarization).
	On (Release Time: 300 [s])	Enables the Mute Setting at the opposite site RF No.2(Horizontal Polarization).

5. **Warning** dialog box appears. Click the **OK** button to proceed.

Figure 4-70 Warning Dialog Box



6. The **Carrier Search** option window shows the search results.

Figure 4-71 Carrier Search Option Window

Carrier Search (Slot02)

Export CSV File

Channel Spacing: 62.5MHz

TX Mute (Opposite Site No.1): Off

TX Mute (Opposite Site No.2): Off

Equipment Information

Upper / Lower	Upper
Sub Band	C
TX Frequency	81125.000 [MHz]
RX Frequency	71125.000 [MHz]

Carrier Search Result

No.	TX Frequency	RX Frequency	RSL
01	81156.25 [MHz]	71156.25 [MHz]	-34.4 [dBm]
02	81218.75 [MHz]	71218.75 [MHz]	-39.5 [dBm]
03	81281.25 [MHz]	71281.25 [MHz]	-67.9 [dBm]
04	81343.75 [MHz]	71343.75 [MHz]	-76.1 [dBm]
05	81406.25 [MHz]	71406.25 [MHz]	-82.7 [dBm]
06	81468.75 [MHz]	71468.75 [MHz]	-82.1 [dBm]
07	81531.25 [MHz]	71531.25 [MHz]	-80.8 [dBm]
08	81593.75 [MHz]	71593.75 [MHz]	-80.0 [dBm]
09	81656.25 [MHz]	71656.25 [MHz]	-79.3 [dBm]
10	81718.75 [MHz]	71718.75 [MHz]	-78.8 [dBm]

Search Cancel

7. To finish viewing, click the **Cancel** button.
8. Click the **Maintenance** tool button on the **WebLCT** tool bar to exit from the Maintenance Mode.
9. Confirm that the **MAINT** indicator on the tool bar changes from orange to white.

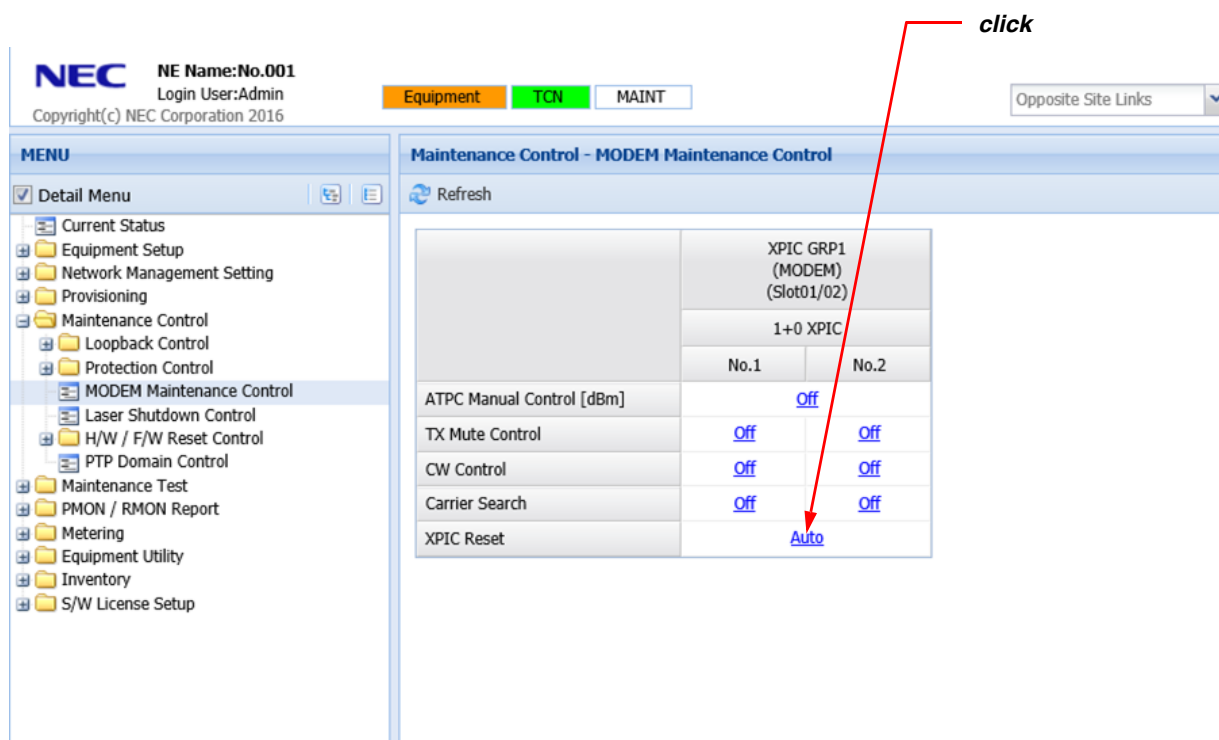
This step ends the procedure.

4.5.5 Reset XPIC

Procedure 4-16

1. Click the **Maintenance** tool button on the tool bar of the **WebLCT** to put the system into the Maintenance Mode. The **MAINT** indicator on the tool bar changes to orange.
2. In the **MENU** frame on the left, expand the **Maintenance Control** to select **MODEM Maintenance Control**. The **MODEM Maintenance Control** window appears.
3. Select an option from **XPIC Reset** operation.

Figure 4-72 MODEM Maintenance Control Window



4. The **MODEM Maintenance Control** option window appears. Select **Forced Reset** by clicking its radio button, then click the **OK** button.

Figure 4-73 MODEM Maintenance Control Option Window

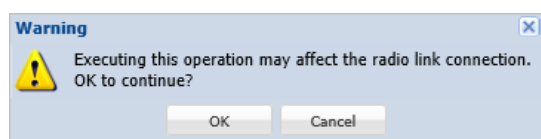


Table 4-9 XPIC Reset

Parameter	Value	Description
XPIC Reset	Forced Reset	Forcibly resets the XPIC function. In this state, a signal from RF is output as it is.
	Auto	[default]

5. **Warning** dialog box appears. Click the **OK** button.

Figure 4-74 Warning Dialog Box



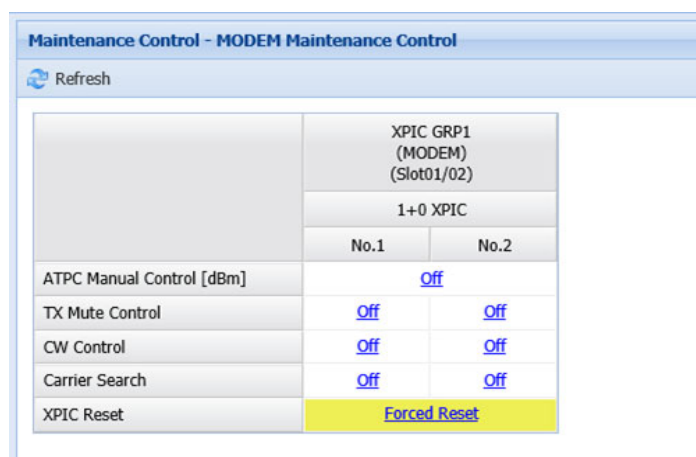
6. **Information** dialog box appears. Click the **OK** button.

Figure 4-75 Information Dialog Box



7. The **MODEM Maintenance Control** window updates the information.

Figure 4-76 MODEM Maintenance Control Window



8. After confirmation, click the **Maintenance** tool button on the **WebLCT** tool bar to exit from the Maintenance Mode.

9. Confirm that the **MAINT** indicator on the tool bar changes from orange to white.

This step ends the procedure.

4.6 Laser Shutdown Control

This subsection describes the procedures to set up the Laser Management functions.

Following Laser management items can be enabled using WebLCT:

- ◆ **Laser Shutdown Control**

Forcibly shuts down the optical outputs.

- ◆ **ALS Restart (for Remote Operation only)**

For optical interfaces, the ALS (Automatic Laser Shutdown) control performs the resumption of optical power for a definite period of time.

In addition, this function operates under ALS control execution (optical power shutdown). If ALS is not activated, this operation is not carried out.

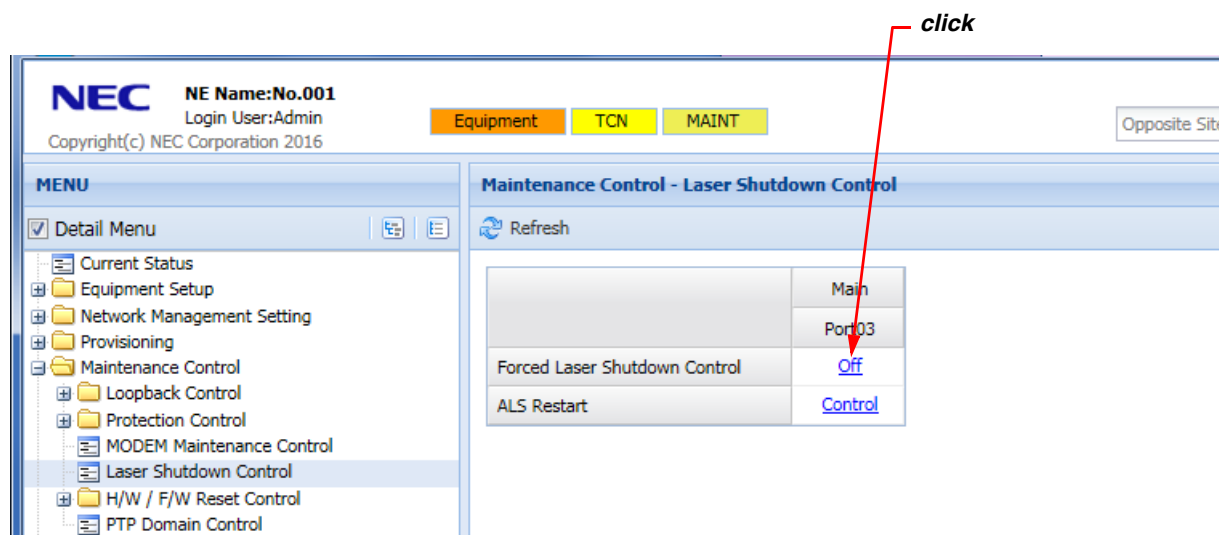
4.6.1 Laser Shutdown Control

NOTE: *ETH Port3 is not available for Laser Shutdown Control when equipment is in Transparent Mode. Refer 4.2.2 Set Equipment Mode in the Set Network and System Provisioning manual.*

Procedure 4-17

1. Click the **Maintenance** tool button on the tool bar of the **WebLCT** to put the system into the Maintenance Mode. The **MAINT** indicator on the tool bar changes to orange.
2. In the **MENU** frame on the left, expand the **Maintenance Control** to select **Laser Shutdown Control**. The **Laser Shutdown Control** window appears.
3. Select **Off** in the **Forced Laser Shutdown Control** option.

Figure 4-77 Laser Shutdown Control Window



4. **Laser Shutdown Control** option window appears. Set **On** or **Off** by clicking its radio button, then click the **OK** button.

Figure 4-78 Laser Shutdown Control Option Window

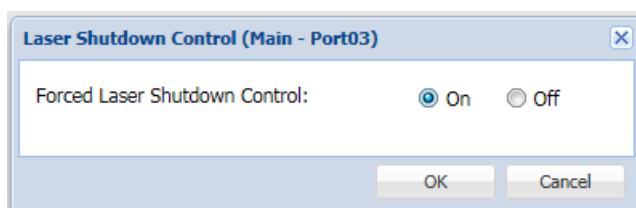
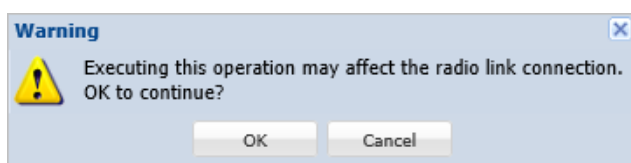


Table 4-10 Forced Laser Shutdown Control

Parameter	Value	Description
Forced Laser Shutdown Control	On	Forcibly shuts down the optical outputs.
	Off	Normal operation

5. **Warning** dialog box appears. Click the **OK** button.

Figure 4-79 Warning Dialog Box



6. **Information** dialog box appears. Click the **OK** button.

Figure 4-80 Information Dialog Box



7. The **Laser Shutdown Control** window updates the information. Confirm the displayed parameters.

Figure 4-81 Laser Shutdown Control Window



8. After confirmation, click the **Maintenance** tool button on the **WebLCT** tool bar to exit from the Maintenance Mode.

9. Confirm that the **MAINT** indicator on the tool bar changes from orange to white.

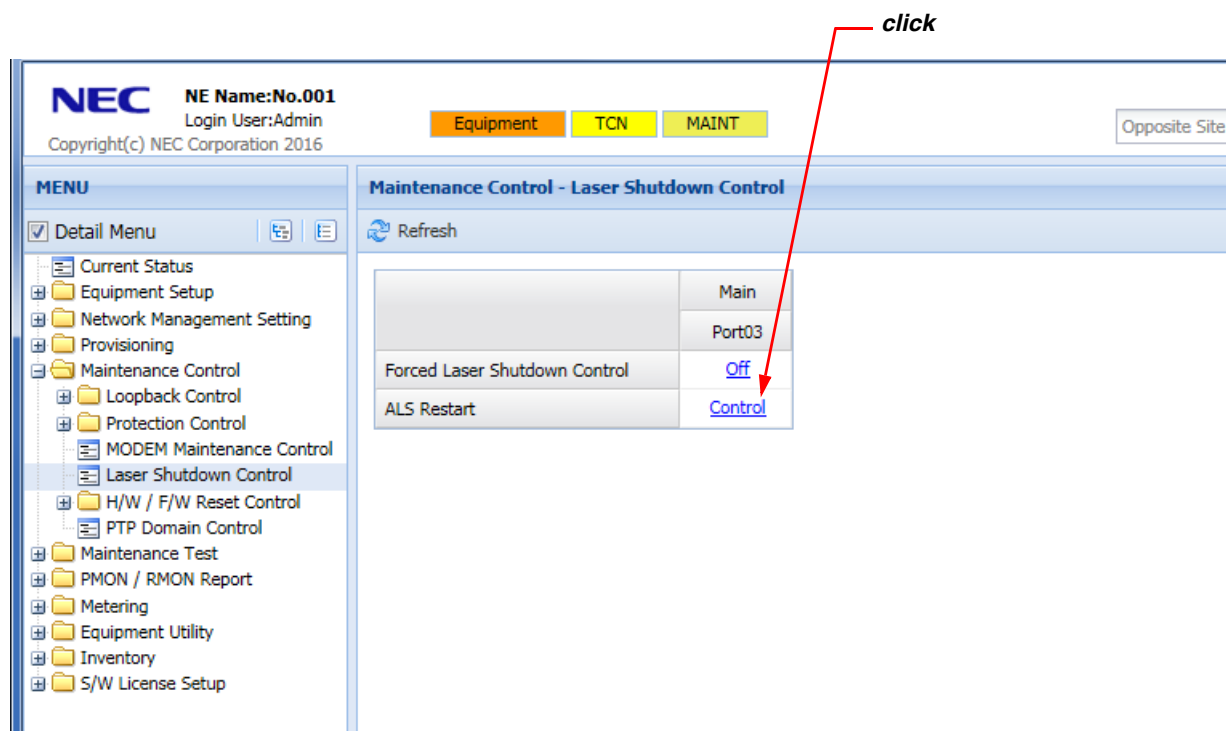
This step ends the procedure.

4.6.2 ALS Manual Switch Control

Procedure 4-18

1. Click the **Maintenance** tool button on the tool bar of the **WebLCT** to put the system into the Maintenance Mode. The **MAINT** indicator on the tool bar changes to orange.
2. In the **MENU** frame on the left, expand the **Maintenance Control** to select **Laser Shutdown Control**. The **Laser Shutdown Control** window appears.
3. Select **Control** in the **ALS Restart** option.

Figure 4-82 Laser Shutdown Control Window



4. **Laser Shutdown Control** option window appears. Select a proper value for the **ALS Restart** parameter, then click the **OK** button.

Figure 4-83 Laser Shutdown Control Option Window

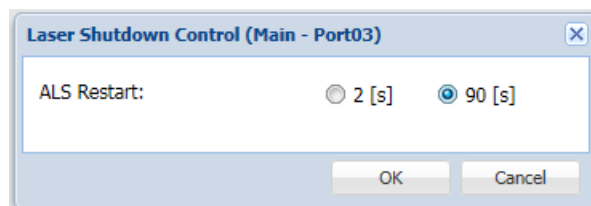
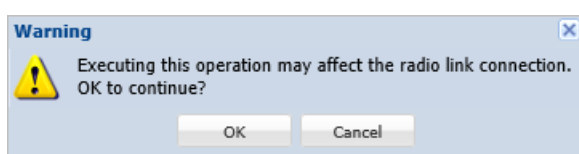


Table 4-11 ALS Restart

Parameter	Value	Description
ALS Restart	2s	Forcibly issues the optical output for 2 seconds where the ALS (Automatic Laser Shutdown) is executed.
	90s	Forcibly issues the optical output for 90 seconds where the ALS (Automatic Laser Shutdown) is executed.

5. **Warning** dialog box appears. Click the **OK** button.

Figure 4-84 Warning Dialog Box



6. **Information** dialog box appears. Click the **OK** button.

Figure 4-85 Information Dialog Box



7. The **Laser Shutdown Control** window updates the information. Confirm the displayed parameters.

Figure 4-86 Laser Shutdown Control



8. After confirmation, click the **Maintenance** tool button on the **WebLCT** tool bar to exit from the Maintenance Mode.
9. Confirm that the **MAINT** indicator on the tool bar changes from orange to white. This step ends the procedure.

4.7 Equipment Reset

Following describes the hardware (H/W) and firmware (F/W) Reset Control of iPASOLINK EX/A.

Reset control is available only when the system is set in the Maintenance mode. If it is not in the Maintenance mode, executing the reset control will result in the error response. Followings are the objects that are available to be reset, and some precautions:

Module		Description
H/W Reset Control	Equipment Reset	Resets the equipment hardware. Main Ethernet signal will be interrupted during the resetting process.
	CPU Reset (RF)	Resets CPU (Radio Frequency block F/W). Main signal will be interrupted during the resetting process.
F/W Reset Control	CPU Reset (BB)	Resets CPU (Baseband block F/W). Main Ethernet signals and NMS Communication will be interrupted when the resetting process.

4.7.1 Reset H/W

- ◆ The following procedure terminates the **WebLCT** and restarts iPASOLINK EX/A.

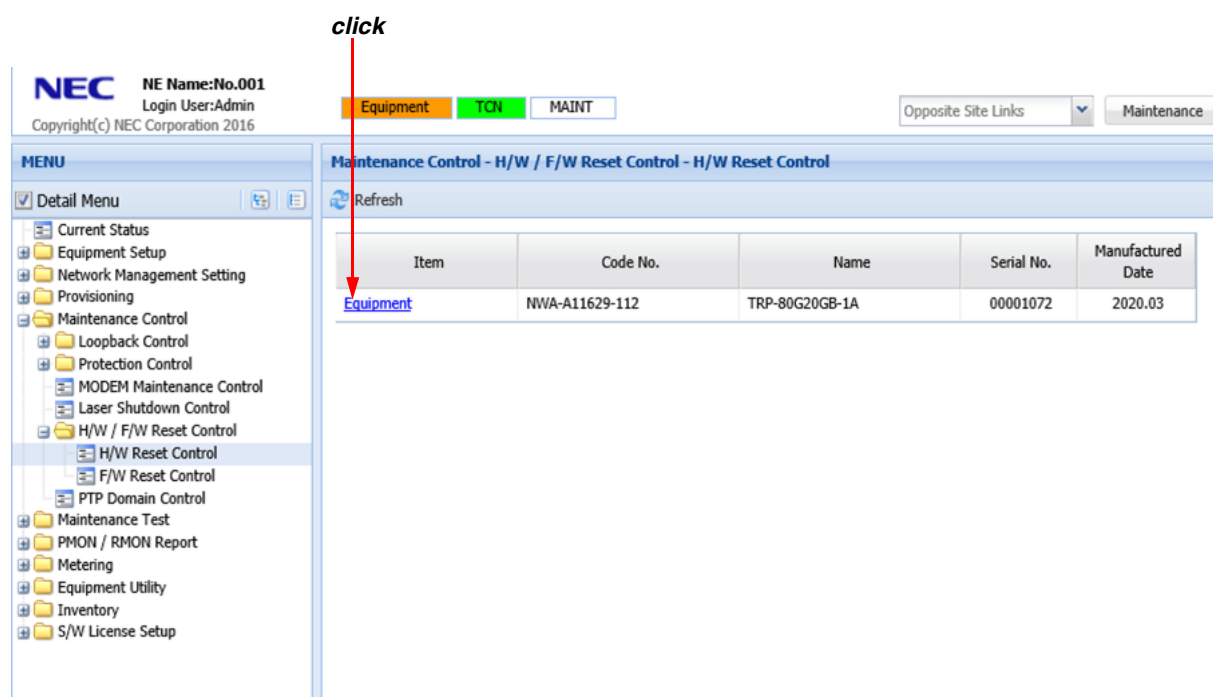
Procedure 4-19

1. Click the **Maintenance** tool button on the tool bar of the **WebLCT** to put the system into the Maintenance Mode. The **MAINT** indicator on the tool bar changes to orange.
2. In the **MENU** frame on the left, expand the **Maintenance Control**, then expand **H/W F/W Reset Control** to select **H/W Reset Control**.

The **H/W Reset Control** window appears.

- Click the target object link under the **Item** column.

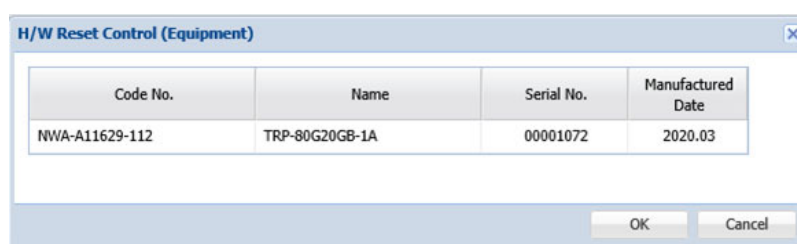
Figure 4-87 H/W Reset Control Window



H/W Reset Control option window for the selected object appears.

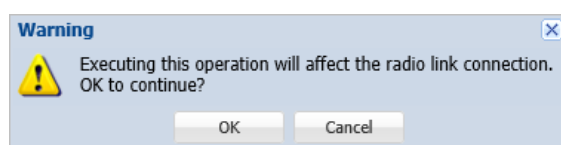
- Confirm the information, and click the **OK** button.

Figure 4-88 H/W Reset Control Option Window



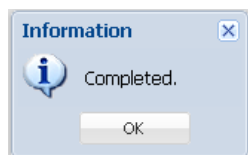
- Warning** dialog box appears. Click the **OK** button.

Figure 4-89 Warning Dialog Box



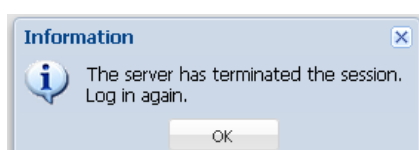
6. **Information** dialog box appears. Click the **OK** button.

Figure 4-90 Information Dialog Box



7. Another **Information** dialog box appears. Click the **OK** button to proceed.

Figure 4-91 Information Dialog Box



8. When the system is ready, launch the **WebLCT**, then log in to the system.

9. Open the **H/W Reset Control** window, and confirm the information.

Figure 4-92 H/W Reset Control Window

Maintenance Control - H/W / F/W Reset Control - H/W Reset Control				
Refresh		Program ROM Switching		
Item	Code No.	Name	Serial No.	Manufactured Date
Equipment	NWA-A11629-112	TRP-80G20GB-1A	00001072	2020.03

10. Release the Maintenance Mode if necessary.
This step ends the procedure.

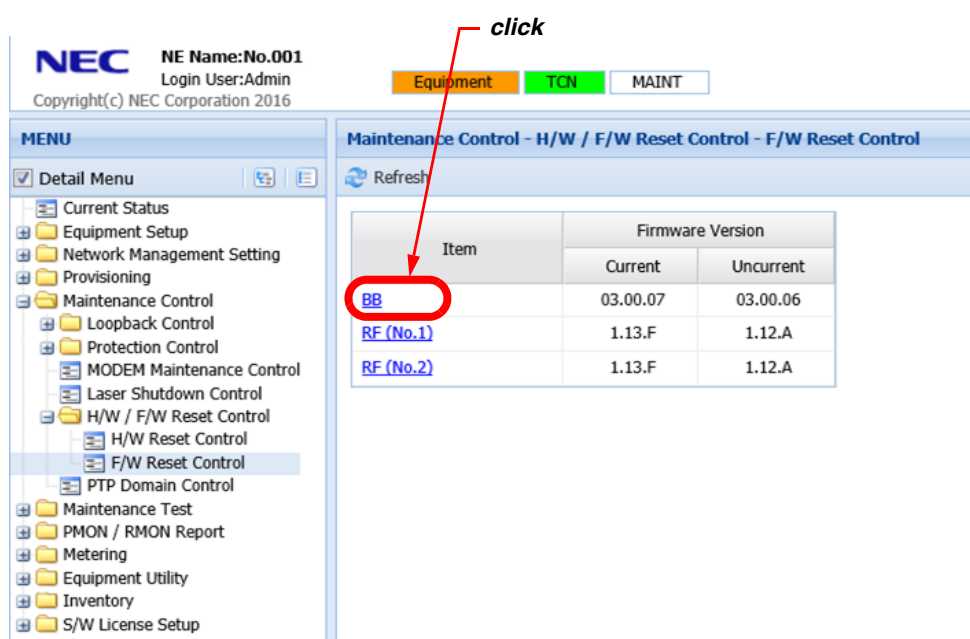
4.7.2 Reset F/W

4.7.2.1 Reset CPU (BB)

Procedure 4-20

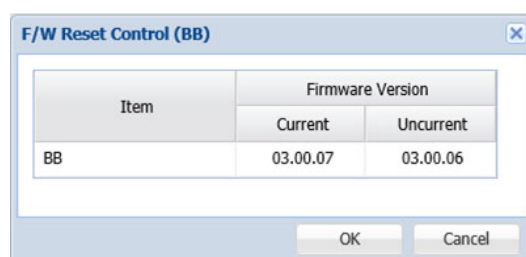
1. Click the **Maintenance** tool button on the tool bar of the **WebLCT** to put the system into the Maintenance Mode. The **MAINT** indicator on the tool bar changes to orange.
2. In the **MENU** frame on the left, expand the **Maintenance Control**, then expand **H/W_F/W Reset Control** to select **F/W Reset Control**.
3. The **F/W Reset Control** window appears. Click **BB** link in the **Item** field.

Figure 4-93 F/W Reset Control Window



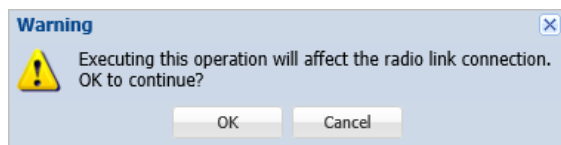
4. **F/W Reset Control (BB)** option window appears. Confirm the information then click **OK** button.

Figure 4-94 F/W Reset Control (BB) Option Window



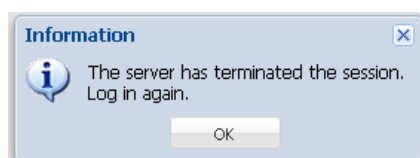
5. **Warning** dialog box appears. Click the **OK** button.

Figure 4-95 Warning Box



6. **Information** dialog box appears. Click the **OK** button.

Figure 4-96 Information Box



7. When the iPASOLINK EX/A restarts, launch the **WebLCT** and log in to the iPASOLINK EX/A again.
8. Confirm the information displayed in the **F/W Reset Control** window.

Figure 4-97 F/W Reset Control window

Maintenance Control - H/W / F/W Reset Control - F/W Reset Control		
Refresh		Program ROM Switching
Item	Firmware Version	
	Current	Uncurrent
BB	03.00.07	03.00.06
RF (No.1)	1.13.F	1.12.A
RF (No.2)	1.13.F	1.12.A

9. After confirmation, click the **Maintenance** tool button on the **WebLCT** tool bar to exit from the Maintenance Mode.
10. Confirm that the **MAINT** indicator on the tool bar changes from orange to white.

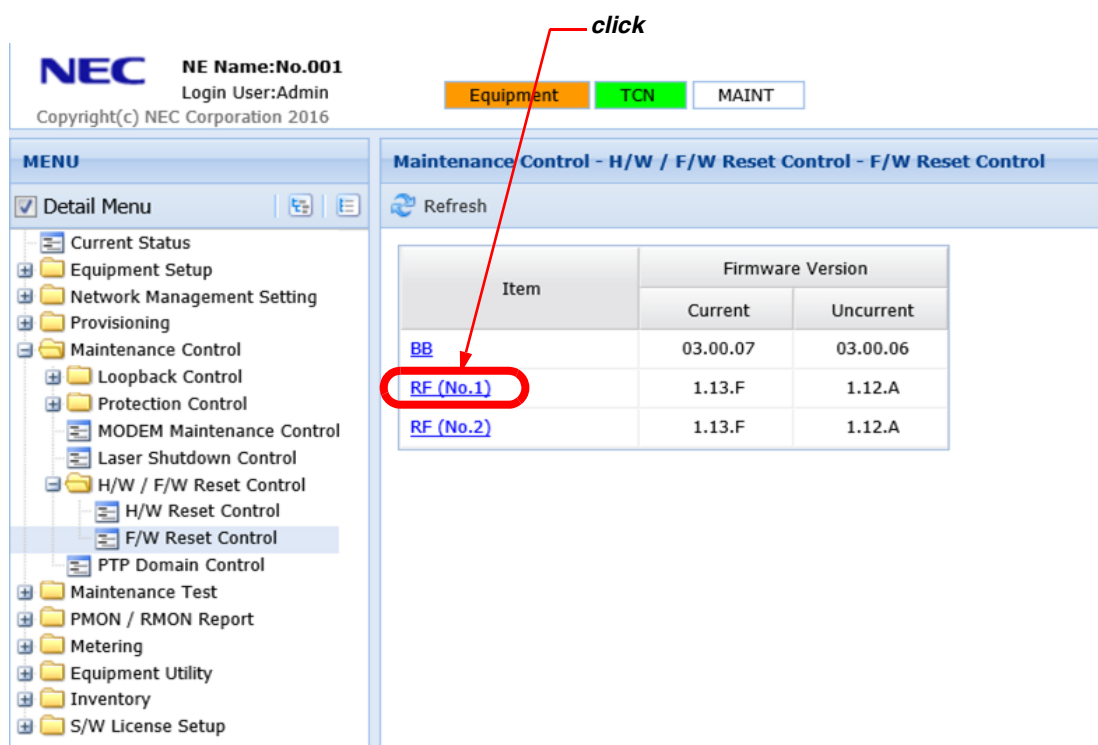
This step ends the procedure.

4.7.2.2 Reset CPU (RF)

Procedure 4-21

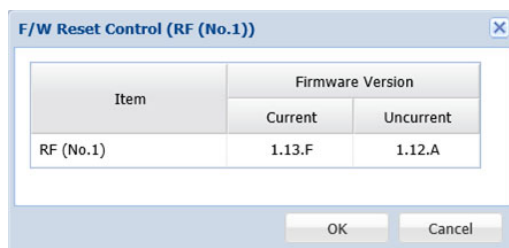
1. Click the **Maintenance** tool button on the tool bar of the **WebLCT** to put the system into the Maintenance Mode. The **MAINT** indicator on the tool bar changes to orange.
2. In the **MENU** frame on the left, expand the **Maintenance Control**, then expand **H/W_F/W Reset Control** to select **F/W Reset Control**. The **F/W Reset Control** window appears.
3. Click the target **RF** link in the **Item** field.

Figure 4-98 F/W Reset Control Window



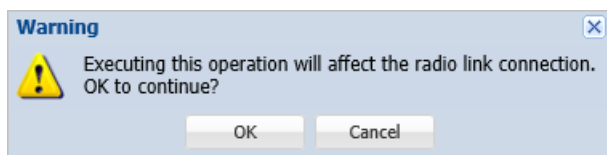
4. **F/W Reset Control** option window appears. Confirm the information then click the **OK** button.

Figure 4-99 F/W Reset Control (RF) Option Window



5. **Warning** message dialog box appears. Click the **OK** button.

Figure 4-100 Warning Dialog Box



6. **Information** dialog box appears. Click the **OK** button.

Figure 4-101 Information Dialog Box



The CPU Reset (RF) starts automatically.

7. When the RF is prepared, confirm the information displayed in the **F/W Reset Control** window.

Figure 4-102 F/W Reset Control Window

Maintenance Control - H/W / F/W Reset Control - F/W Reset Control		
Refresh		Program ROM Switching
Item	Firmware Version	
	Current	Uncurrent
BB	03.00.07	03.00.06
RF (No.1)	1.13.F	1.12.A
RF (No.2)	1.13.F	1.12.A

8. After confirmation, click the **Maintenance** tool button on the **WebLCT** tool bar to exit from the Maintenance Mode.
9. Confirm that the **MAINT** indicator on the tool bar changes from orange to white.

This step ends the procedure.

4.8 Maintenance Test

Perform this procedure to measure the link quality of Ethernet traffic. Prior to proceeding with the Maintenance Test, followings should be considered:

NOTES: When performing this **Maintenance Test** for **ETH OAM DM/LM**, proceed with the followings (1, 2 and 3) before starting the test:

1. Confirm and apply required FW version.
 - ◆ Before executing DM test between iPASOLINK EX/A, apply FW version R2.0b or above to both iPASOLINK EX/A, or else apply the previous version to both the iPASOLINK EX/A.
 - ◆ Before executing DM test between iPASOLINK EX/A and iPASOLINK VR, apply FW version R2.0b or above in iPASOLINK EX/A and FW version R5.0F2 or above in iPASOLINK VR, or else apply the previous version to both the iPASOLINK EX/A and iPASOLINK VR.
 - ◆ Before executing DM test between iPASOLINK EX/A and 3rd vendor device, apply FW version R2.0b or above in iPASOLINK EX/A.
2. Confirm the connectivity in both directions between the equipment to carry out the test and the targeted equipment to measure Delay/Loss using the ETH-CC frames.
3. Execute the Loss Measurement and Delay Measurement with the **Transmission Count** value **1** at the equipment to measure Delay/Loss against the equipment to carry out the test.

ATTENTION!

LM (Loss Measurement) is the function to monitor the traffic for its quality, loss sections and the loss rate in the state where no equipment alarm occurs due to the traffic failure.

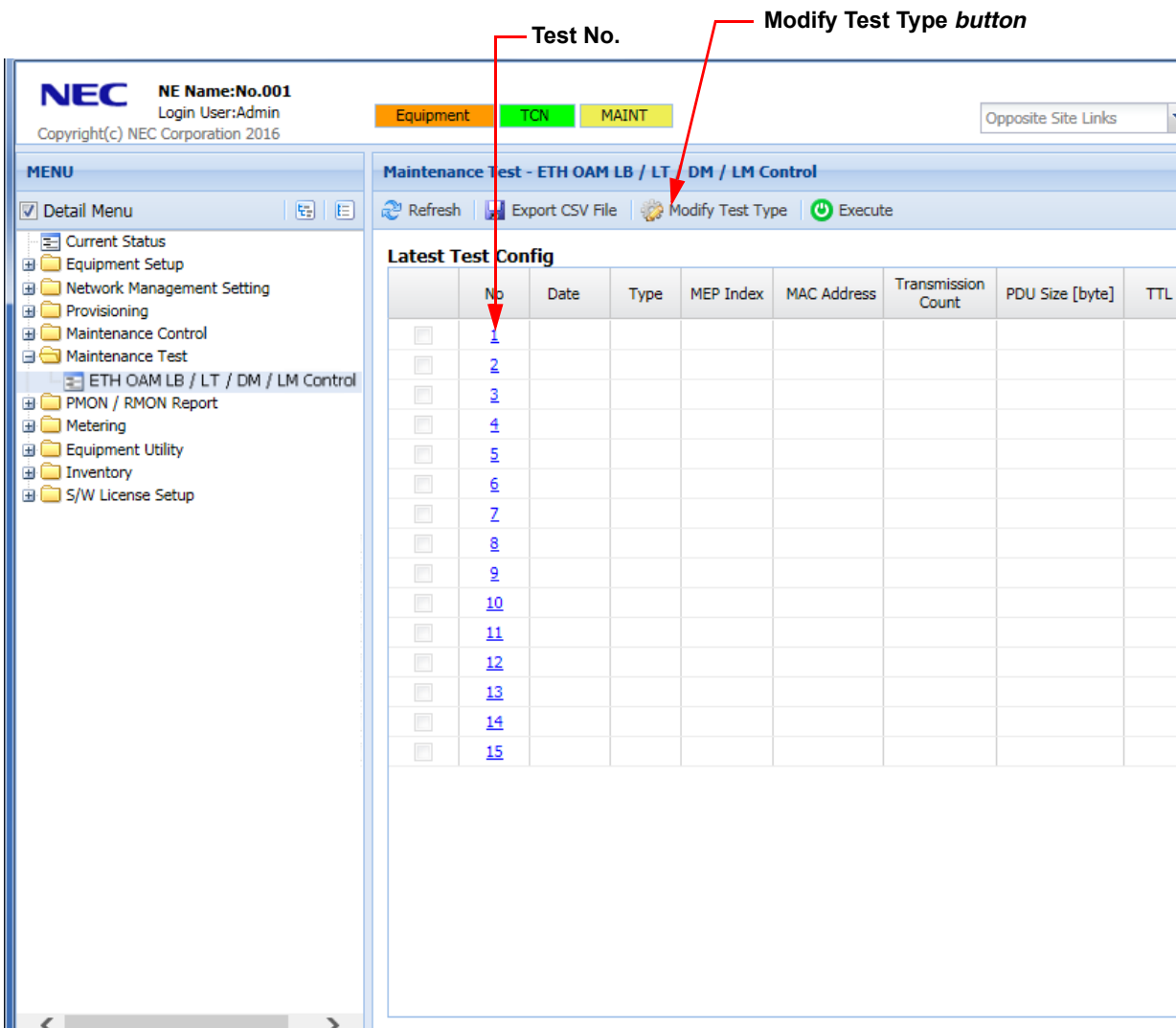
For a traffic failure or an equipment alarm, if occurs, do not use this function but check the causes of those failures. The results of this function under the traffic failure are not guaranteed.

If a traffic failure and/or an equipment alarm occur(s) during the **Maintenance Test**, quit the test and recover the traffic, then start over the test.

Procedure 4-22

- 1. Click the **Maintenance** tool button on the tool bar of the **WebLCT** to put the system into the Maintenance Mode. The **MAINT** indicator on the tool bar changes to orange.
- 2. In the **MENU** frame on the left, expand the **Maintenance Test** to select **ETH OAM LB/LT/DM/LM Control**. The **ETH OAM LB/LT/DM/LM Control** window appears.
- 3. Click the **Modify Test Type** tool button, or select the desired **Test No.**

Figure 4-103 ETH OAM LB/LT/DM/LM Control Window



ETH OAM LB/LT/DM/LM Control option window appears.

4. Assign a proper value for each parameter, then click the **OK** button:

- ♦ Clicking the **Modify Detail Test Parameter** tool button opens its detailed option window. Provided detailed parameters are:

- ♦ **Transmission Count**
- ♦ **Transmission Period**
- ♦ **PDU Size**
- ♦ **Priority**.

Figure 4-104 ETH OAM LB/LT/DM/LM Control Option Window

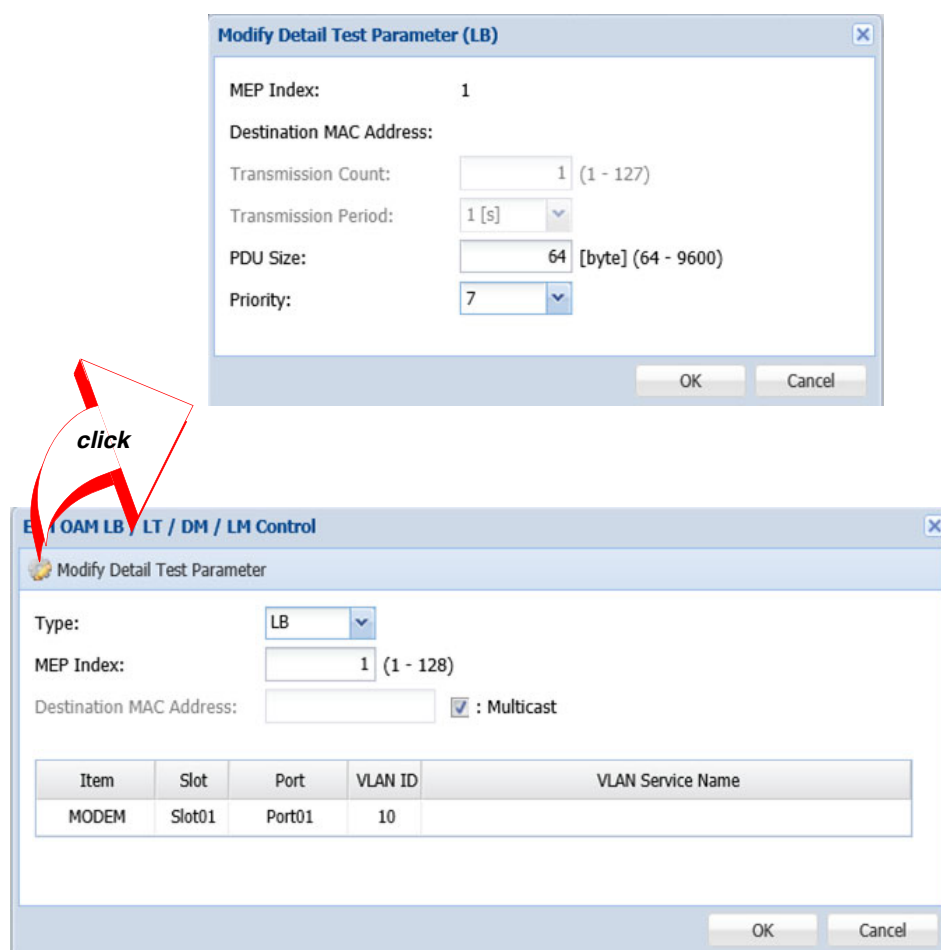


Table 4-12 Maintenance Test Options

Parameter	Value	Description
ETH OAM LB/LT/DM/LM Control		
Type	LB	Executes LB (Loopback) mode as Ethernet traffic test type.
	LT	Executes LT (Link Trace) mode as Ethernet traffic test type.
	DM	Executes DM (Delay Measurement) mode as Ethernet traffic test type.
	LM	Executes LM (Loss Measurement) mode as Ethernet traffic test type.
MEP Index	1 to 128	When started from Modify tool button, enter the MEP Index number. When started from selecting the item number, this field indicates the selected number.
Destination MAC Address or Target MAC Address	<i>xx.xx.xx.xx.xx.xx</i>	Enter the MAC Address.
	Multicast	Tick a box to select the Multicast address. LT Mode does not have this choice.
Modify Detail Test Parameter (for LB, DM or LM Mode)		
MEP Index	<i>(read only)</i>	Indicates the selected item's information.
Destination MAC Address	<i>(read only)</i>	
Transmission Count	1 to 127	Specifies the transmission count for the test.
Transmission Period	1 to 10	Specifies the transmission period for the test. Should be the positive integer. [unit: second]
PDU Size	64 to 9600	Specifies the PDU size for the test. This option is for LB mode only.
Priority	0 to 7	Specifies the priority.
Modify Detail Test Parameter (for LT Mode)		
MEP Index	<i>(read only)</i>	Indicates the selected item's information.
Target MAC Address	<i>(read only)</i>	
Transmission Count	1 to 127	Specifies the transmission count for the test.
TTL	1 to 255	Enter the Time to Live value.
Priority	0 to 7	Specifies the priority.

During the process, a progress bar appears.

The **Result** window appears.

5. The Result window appears. Confirm the displayed parameters:

Figure 4-105 LB Result Window (Example: LB Result)

The screenshot shows a window titled "LB Result" with a close button in the top right corner. Below the title bar is a button labeled "Export CSV File". The main area contains two tables.

MEP Index	1
Item	MODEM
Slot	Slot01
Port	Port01
VLAN ID	10
VLAN Service Name	
MAC Address	02:E2:00:10:62:04
Maintenance Domain Name	1
MEP ID	1
MEG Level	0
DA Type	Multicast LB
Success Count / LBR Count	1
FAIL Count	
Round Trip Time (MIN) [ms]	
Round Trip Time (MAX) [ms]	
Round Trip Time (Ave.) [ms]	
Round Trip Time (Mdev) [ms]	
Execution Time	07/18/2020 07:46:02

Replied MEP / MIP MAC Address	Round Trip Time [ms]	Result
02:E2:00:10:61:04		
00:00:00:00:00:00		
00:00:00:00:00:00		
00:00:00:00:00:00		

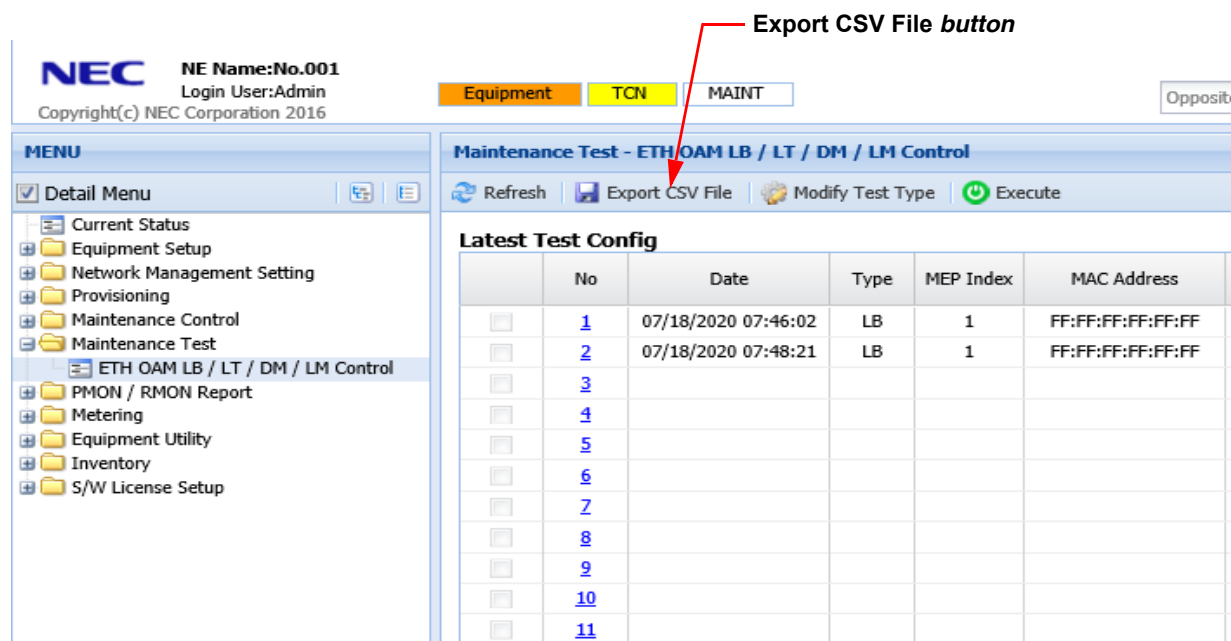
At the bottom right of the window is a "Close" button.

6. To save the History Information or Test Result in the local PC, operate the followings:

◆ History Information

To save the History Information, click the **Export CSV File** tool button on the tool bar of the **ETH OAM LB/LT/DM/LM Control** window.

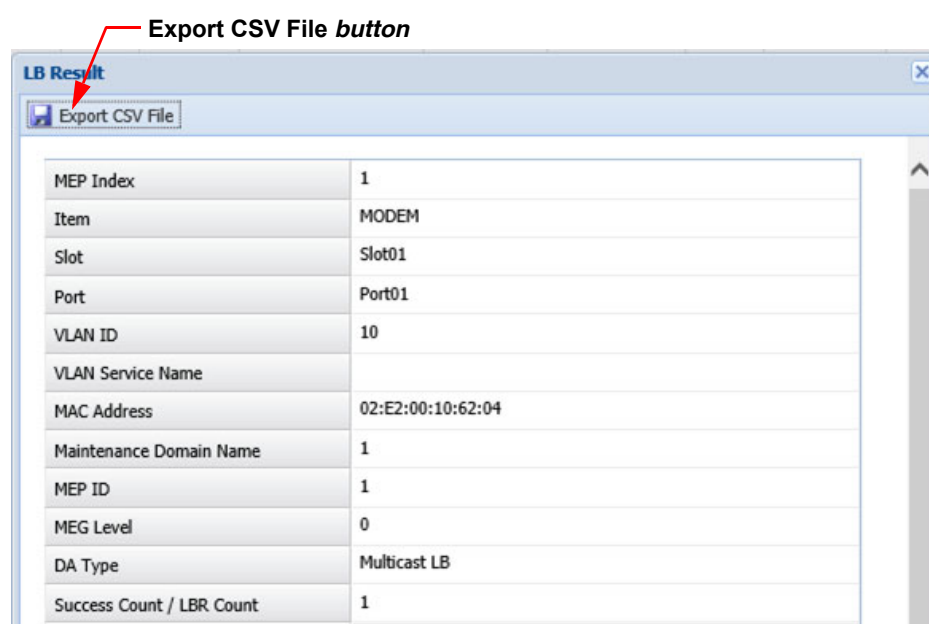
Figure 4-106 ETH OAM LB/LT/DM/LM Control Window



◆ Test Result

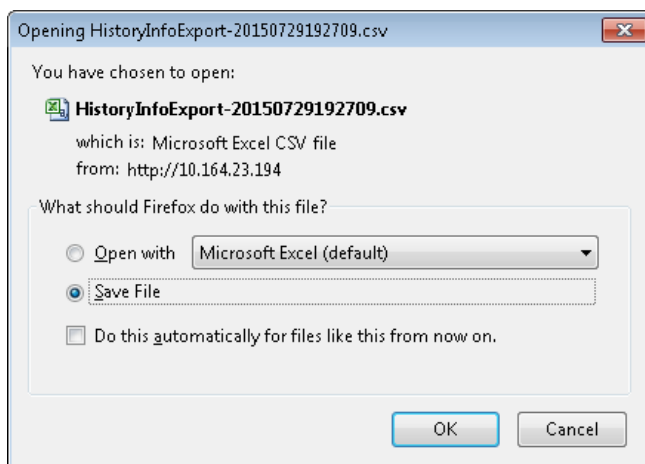
To save the test result, click the Export CSV File tool button on each result window.

Figure 4-107 Test Result Window (example: LB Result Window)



7. **File Download** option window appears. Click the **Save** button.

Figure 4-108 File Download Option Window



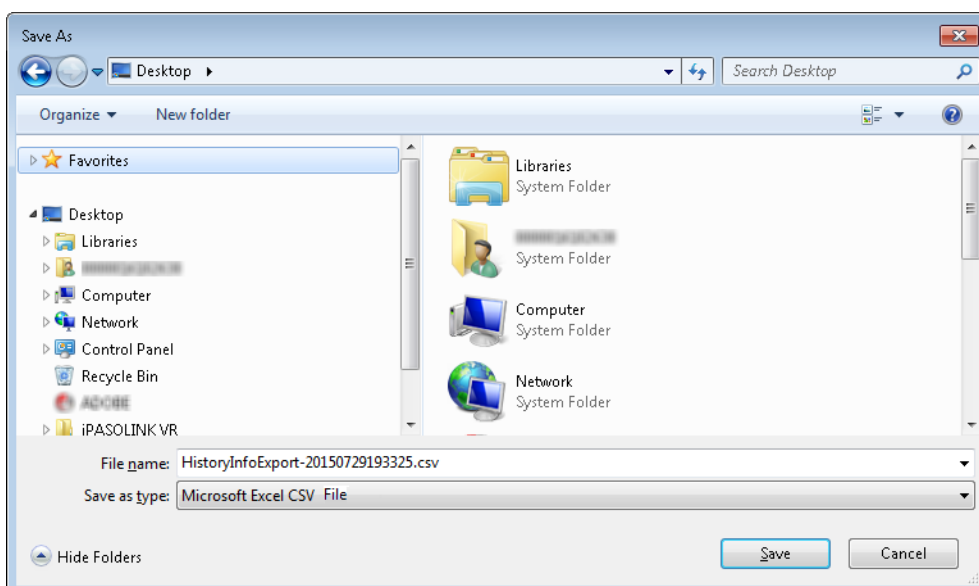
8. **Save As** option window appears. Select an appropriate folder of local PC and then click the **Save** button.

♦ Default file name:

History Information: HistoryInformationExport_YYYYMMDDhhmmss.csv

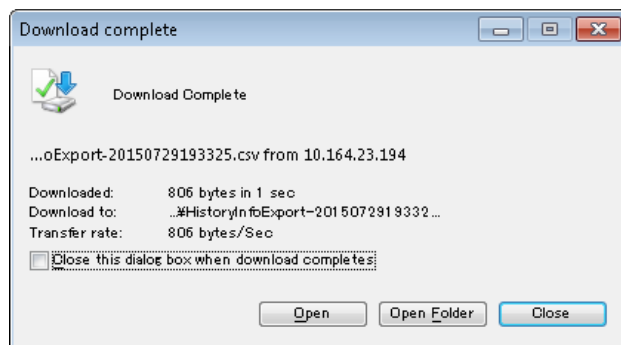
TestResult: TestResultExport-LB(or LT)_YYYYMMDDhhmmss.csv

Figure 4-109 Save As Option Window



9. When completed, **Download Complete** window appears. Click the **Close** button.

Figure 4-110 Download Complete Window



10. Confirm that the CSV file is saved in the selected folder.

This step ends the procedure.

4.9 Equipment Utility

Following lists the functions to Upload/Download Data:

- ◆ **Export (NE → Storage) Utility**

This function downloads the equipment configuration data, PMON/RMON History File, and Technical Support File from an NE to a local storage, such as local PC or USB memory device.

- ◆ **Update (Storage → NE) Utility**

This function uploads the Program File, FPGA Data, and Config Data from the local storage (local PC or USB memory device) to the NE.

- ◆ **Program ROM Switching**

This function switches (swaps) the F/W currently running and that of downloaded version (listed under Uncurrent).

- ◆ **USB Memory Utility**

This function shows the list of files stored in the USB memory device.

- ◆ **Log Clear Function**

This function deletes the Event Logs and PMON, RMON History data stored in the equipment.

- ◆ **Shipment**

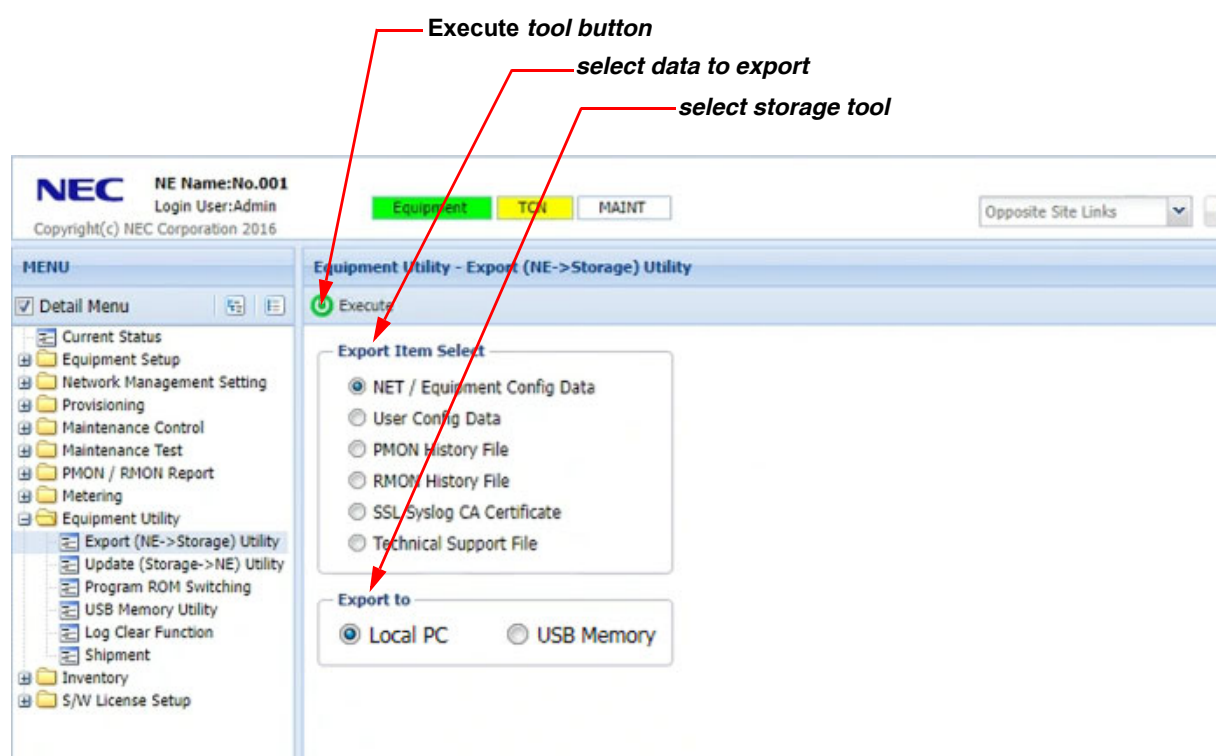
This function restores the factory default settings except for the Software Key setting.

4.9.1 Backup Database [Export (NE --> Storage) Utility]

Procedure 4-23

1. In the **MENU** frame on the left, expand the **Equipment Utility** to select **Export (NE->Storage) Utility**. The **Export (NE->Storage) Utility** window appears.
2. Select the **Config Data** and a storage tool (**Local PC** or **USB Memory**) by clicking their radio buttons, then click the **Execute** tool button.

Figure 4-111 Export (NE->Storage) Utility Window



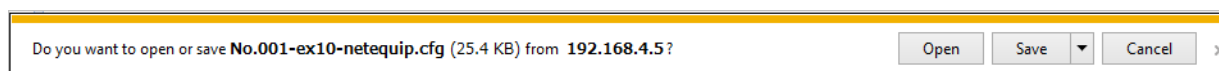
- ◆ Followings show their file paths when the storage is USB:

Table 4-13 Designated File Path

Item	File Path
NET/Equipment Configuration Data	/config/
User Configuration Data	/config/
PMON History File	/pmon/
RMON History File	/rmon/
Technical Support File	/log/

- Following inquiry message appears. Click the **Save** button.

Figure 4-112 Inquiry Message



Save As window appears.

- Select/Specify a directory to save the data, and click the **Save** button.

Figure 4-113 Save As Window

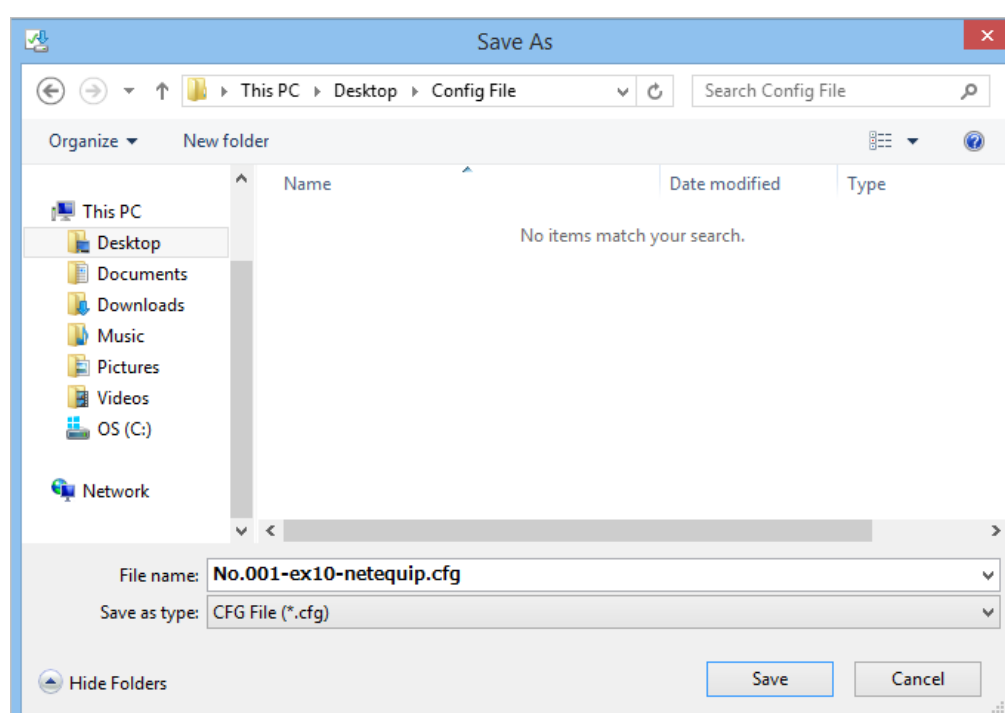


Table 4-14 Data Files

Item	Default File Name
NET/Equipment Configuration Data	*****-ex10-netequip.cfg
User Configuration Data	*****-ex10-user.cfg
PMON History File	ex10-pmon-history-*****.zip
RMON History File	ex10-rmon-history-*****.zip
Technical Support File	ex10-TechFile_HW_*****_ ex10-TechFile_SW_*****_

- When data saving process is completed, following message opens to inform that the download has completed. Click the **Open folder** button.

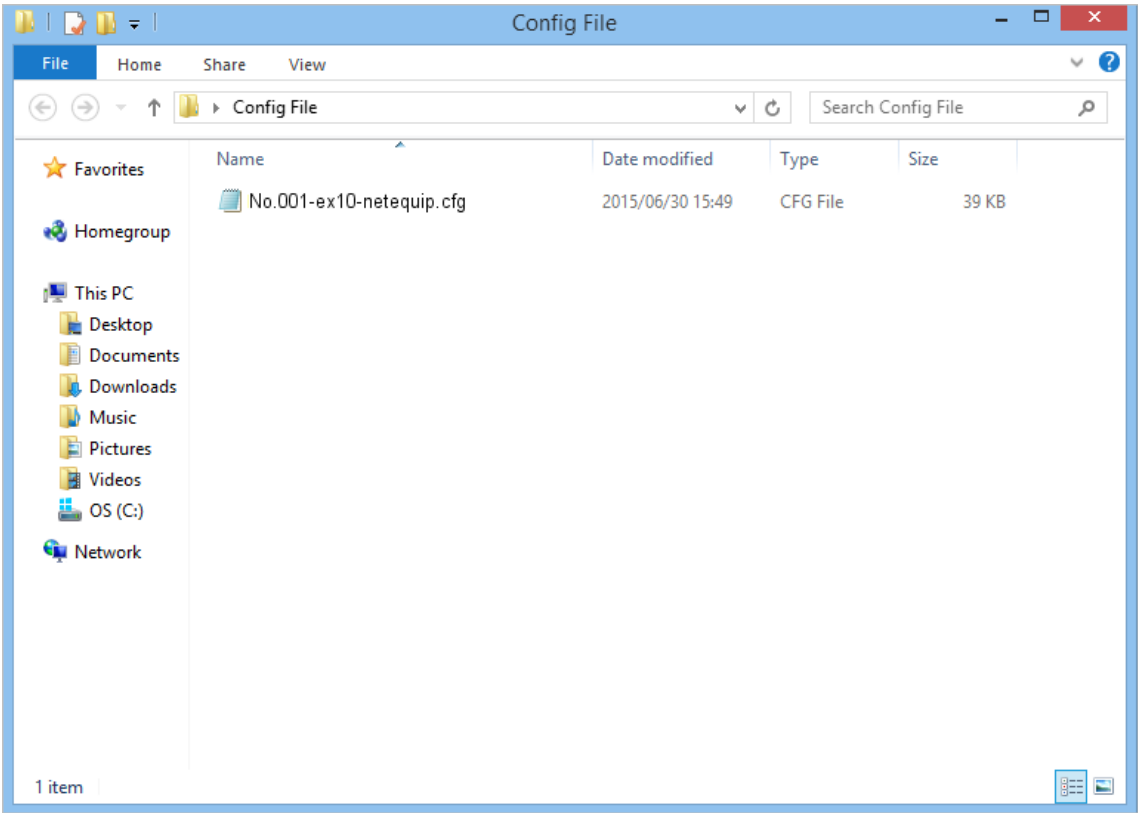
Figure 4-114 Message to Inform the State



The folder where files are downloaded opens.

- 6. Confirm that the data has been successfully saved.

Figure 4-115 Folder to Store Downloaded File (Example)



This step the ends the procedure.

4.9.2 Update Database [Update (Storage --> NE) Utility]

This function uploads the iPASOLINK EX/A software, firmware (Program File (*.bin)/FPGA), and equipment configuration files (*.cfg) from the local storage (local PC or USB memory device **NOTE**) to NE.

NOTES:

1. *Firmware downgrade cannot be guaranteed to work. If it is absolutely needed to downgrade the firmware version due to an accident, etc., perform "Shipment – All Clear w/o Software Key" first and downgrade the firmware. After downgrading the firmware, perform "Shipment – All Clear w/o Software Key" again. If the equipment which has the new firmware configuration database is downgraded, the equipment may not work with old firmware. It is recommended to save the back up of configuration data of old firmware before upgrade the firmware.*
2. *Connect USB memory device to the USB port at the iPASOLINK EX/A front when the data are stored on the USB, in which case, the data files should be located under the following paths:*

Table 4-15 Designated File Path

Item	File Path
Program File (BB)	/idu/
Program File (RF)	/odu/
FPGA	/fpga/
Controller	/controller/
NET/Equipment Configuration Data	/config/
User Configuration Data	/config/
MODEM Parameter	/mdprm/
SSL Server Certificate	/https/

Following lists the operations that are available using **Update (Storage -> NE) Utility**:

◆ Program File Download

This function downloads the F/W from the local PC or USB memory device to the targets. (BB, RF)

◆ FPGA Data File Download

This function downloads FPGA from the local PC or USB memory device to the target objects.

◆ Configuration Data File Download

This function downloads the configuration file (NET/Equipment, User) from the local PC or USB memory device to iPASOLINK EX/A.

◆ **Controller Data Download**

This function updates the Controller IC by downloading the data from the local PC or USB memory device to the target object.

◆ **MODEM Parameter File Download**

This function updates the MODEM parameter file on the MODEM module using the data stored in the local PC or in USB memory device.

◆ **SSL Certificate File Download**

This function downloads the SSL Server authentication file and SSL Syslog CA Certificate file.

4.9.2.1 Update Program File — BB Firmware

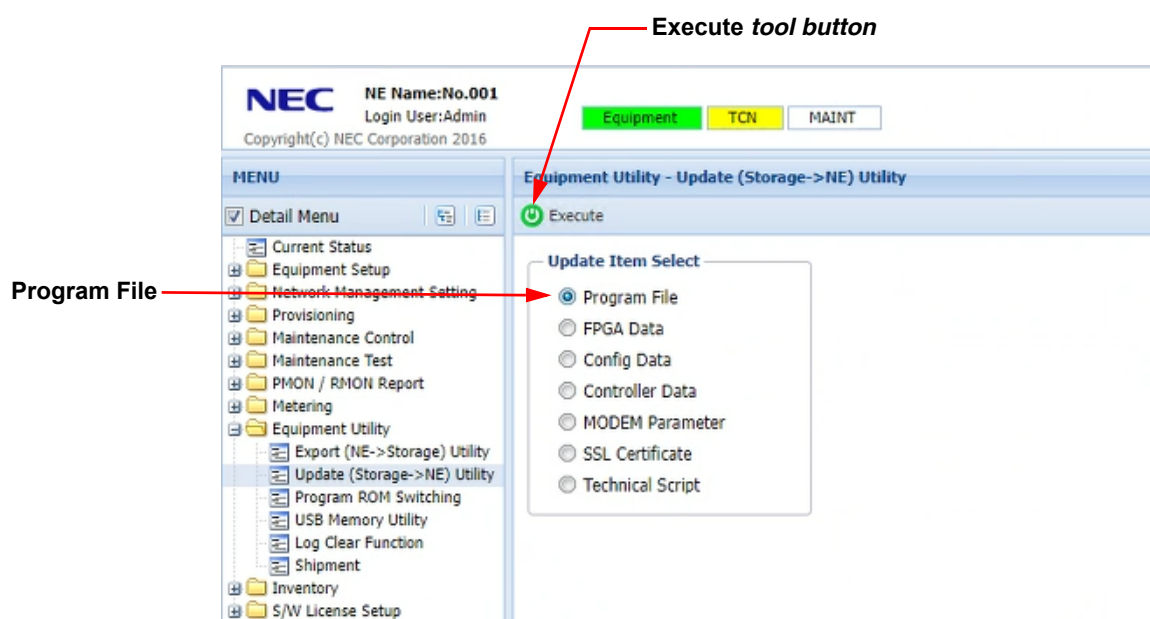
Important:

1. Ensure that the prepared Program File is supplied by NEC.
2. Check the current version of the Program using the **Equipment Inventory Information**.
3. Put the system into the Maintenance Mode before beginning to download the Program. Do not cancel the Maintenance Mode while the download is in progress.
 - ♦ The following procedure terminates the **WebLCT** and restarts iPASOLINK EX/A.

Procedure 4-24 BB Firmware

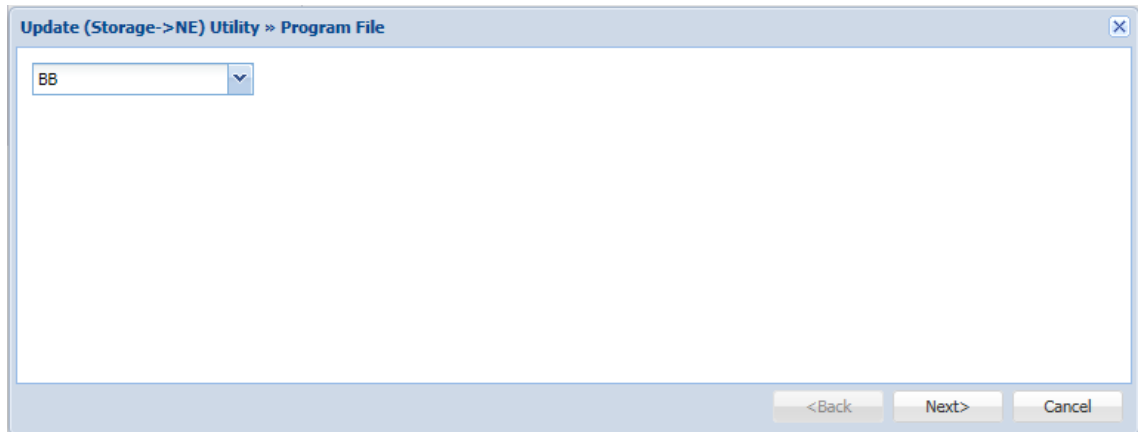
1. Click the **Maintenance** tool button on the tool bar of the **WebLCT** to put the system into the Maintenance Mode. The **MAINT** indicator on the tool bar changes to orange.
2. In the **MENU** frame on the left, expand the **Equipment Utility** to select **Update (Storage -> NE) Utility**. The **Update (Storage -> NE) Utility** window appears.
3. Select the **Program File** radio button and then click the **Execute** tool button.

Figure 4-116 Update (Storage -> NE) Utility Window



4. **Program File** option window to select an object appears. Select the **BB** from drop-down list and then click **Next** button.

Figure 4-117 Program File Option Window




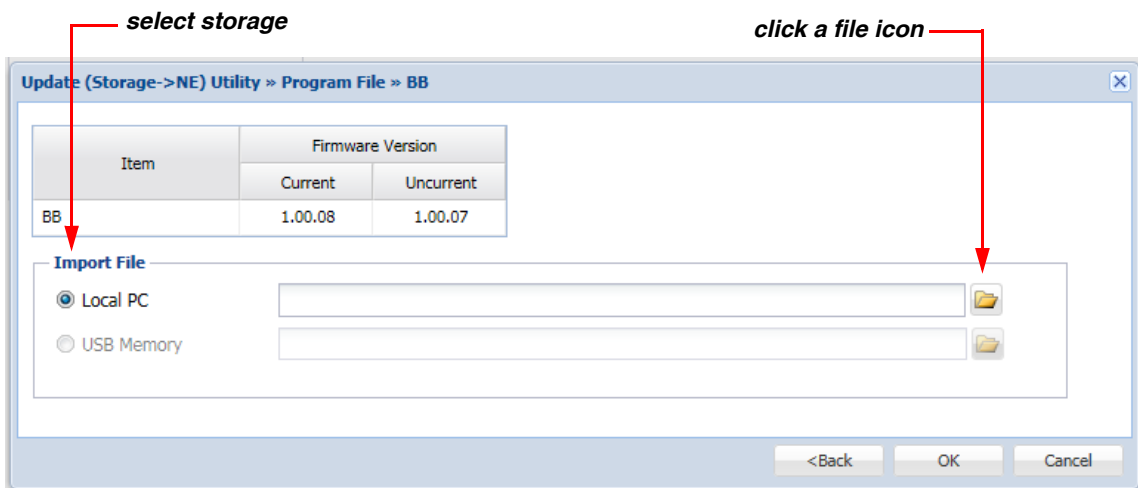
5. **Program File** window for selecting the destination appears. In the **Import File** option box, select the media (**Local PC** or **USB Memory**) from which the file is transferred, and then click the file icon button () of the selected storage.

Figure 4-118 Program File Option Window for BB

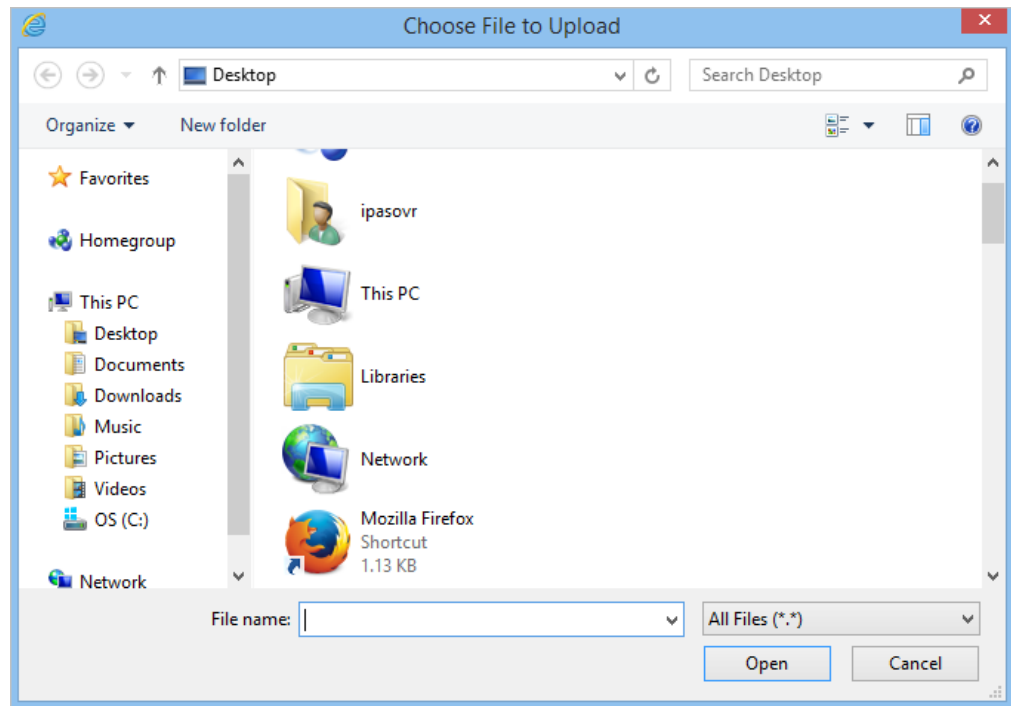


An option window for **Choosing File** appears.

6. Select the firmware for BB (see below for the file name), and then click the **Open** (or **OK**) button.

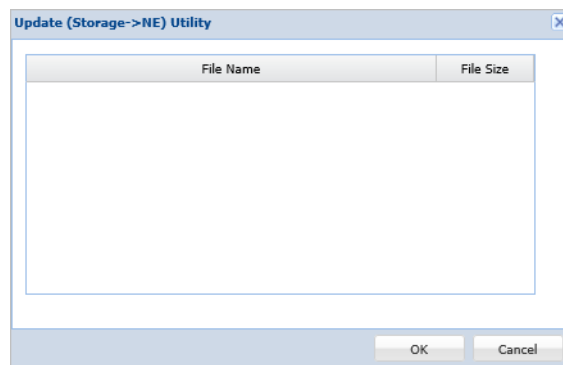
◆ **Option Window for Local PC**

Figure 4-119 Choose File to Upload Option Window



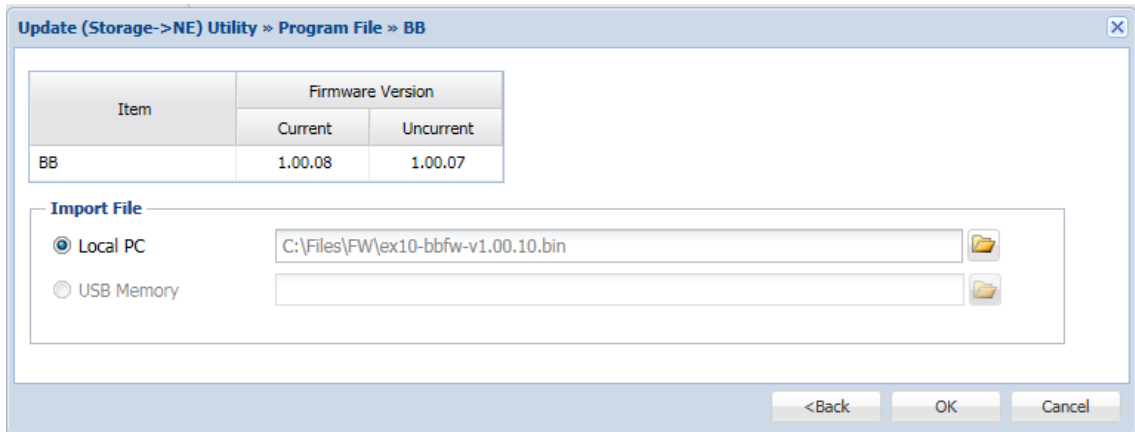
◆ **Option Window for USB Memory Device**

Figure 4-120 Update Utility Option Window



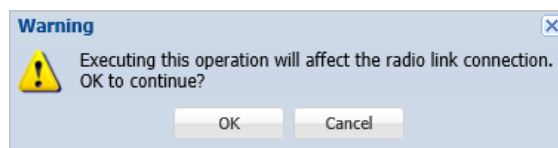
7. The **Program File** option window displays the selected directory. Click the **OK** button.

Figure 4-121 Source Selection Option Window



8. **Warning** message dialog box appears Click the **OK** button.

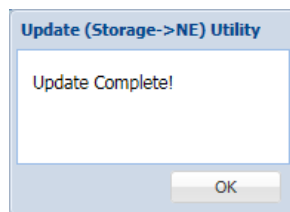
Figure 4-122 Warning Dialog Box



During the process, download progress bar appears.

9. When the download process is completed, the **Update Complete!** message dialog box appears. Check (leave a tick in) the Program ROM Switching check box, and then click the **OK** button.

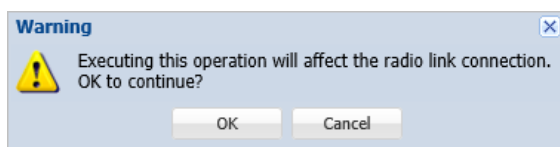
Figure 4-123 Update Complete! Dialog Box



Warning message dialog box appears.

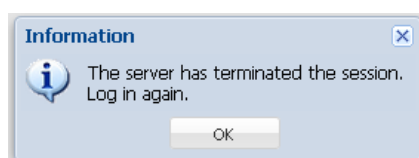
10. Click the **OK** button to proceed. iPASOLINK EX/A will be restarted automatically.

Figure 4-124 Warning Message Dialog Box



11. **Information** dialog box appears. Click the **OK** button. The **WebLCT** will shut down to restart automatically.

Figure 4-125 Information Box



12. When the iPASOLINK EX/A is restarted and prepared, log in to iPASOLINK EX/A again.
13. Select **Inventory** → **Equipment Inventory Information** from the **WebLCT** menu.
14. The **Equipment Inventory Information** window appears. Confirm the Current version (the version of newly running program) of BB.

Figure 4-126 Equipment Inventory Information Window

Inventory - Equipment Inventory Information				
Refresh Export Equipment Inventory Information				
Hardware Information				
Code No.	Name	Serial No.	Manufactured Date	Hardware Version
NWA-A11629-112	TRP-80G20GB-1A	00001044	2020.03	1.00 / 40A0 + 40A0
Firmware Information				
Item	Current Version	Uncurrent Version		
BB	01.00.10	01.00.08		
RF (No.1)	1.13.0	1.12.A		
RF (No.2)	1.13.0	1.12.A		
FPGA Information				
Code No.	Name	Version		
GFN-A11214-001	EX-CTRL2	5.14		
Controller Information				
Item	Current Version			
Main	3.00			

This step ends the procedure.

4.9.2.2 Update Program File — RF Firmware

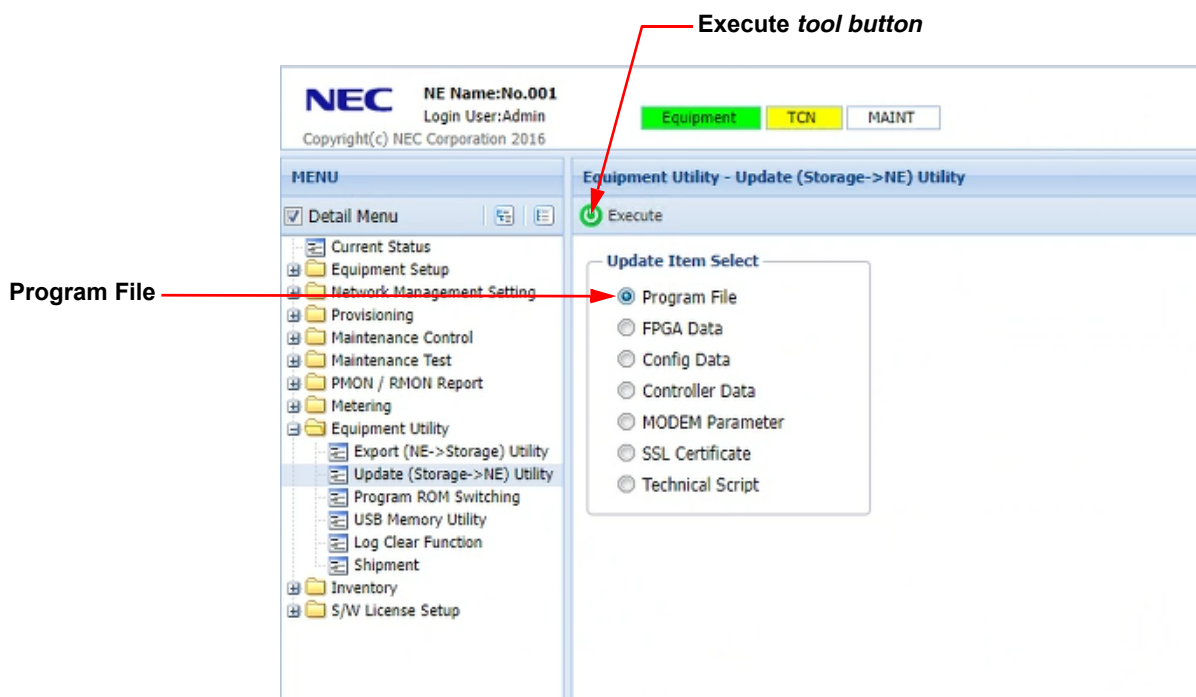
Important:

1. Ensure that the prepared Program File was supplied by NEC.
2. Check the current version of Program using the **Equipment Inventory Information** window.
3. Put the system into the Maintenance Mode before beginning to download the RF Program. Do not cancel the Maintenance mode while the download is in progress.

Procedure 4-25 RF

1. Click the **Maintenance** tool button on the tool bar of the **WebLCT** to put the system into the Maintenance Mode. The **MAINT** indicator on the tool bar changes to orange.
2. In the **MENU** frame on the left, expand the **Equipment Utility** to select **Update (Storage -> NE) Utility**. The **Update (Storage -> NE) Utility** window appears.
3. Select **Program File** by clicking its radio button, then click the **Execute** tool button.

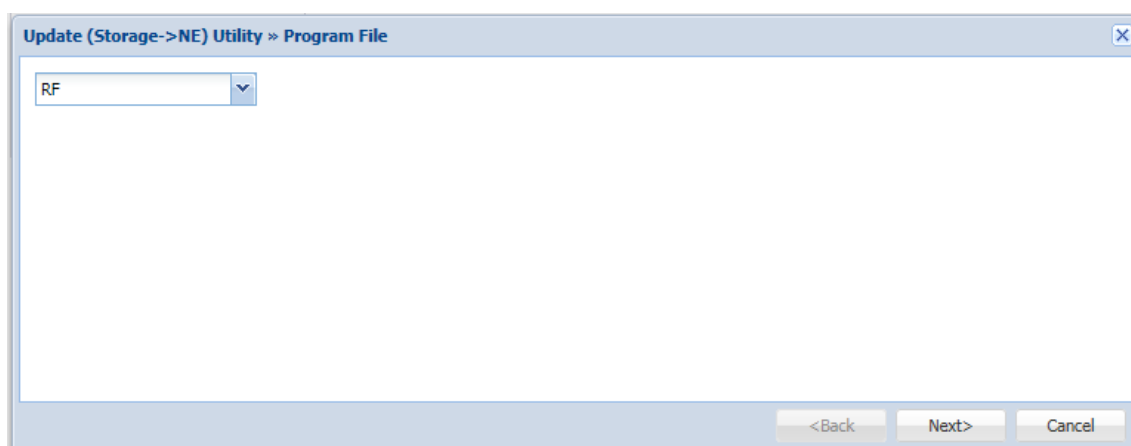
Figure 4-127 Update (Storage -> NE) Utility Window



Program File option window to select an object appears.

4. Select the object type (**RF**) from drop-down list, and then click the **Next** button.

Figure 4-128 Program File Option Window



5. Select **RF (No.1)** or **RF (No.2)** from dropdown list and then click the **Next** button

Figure 4-129 Program File Option Window




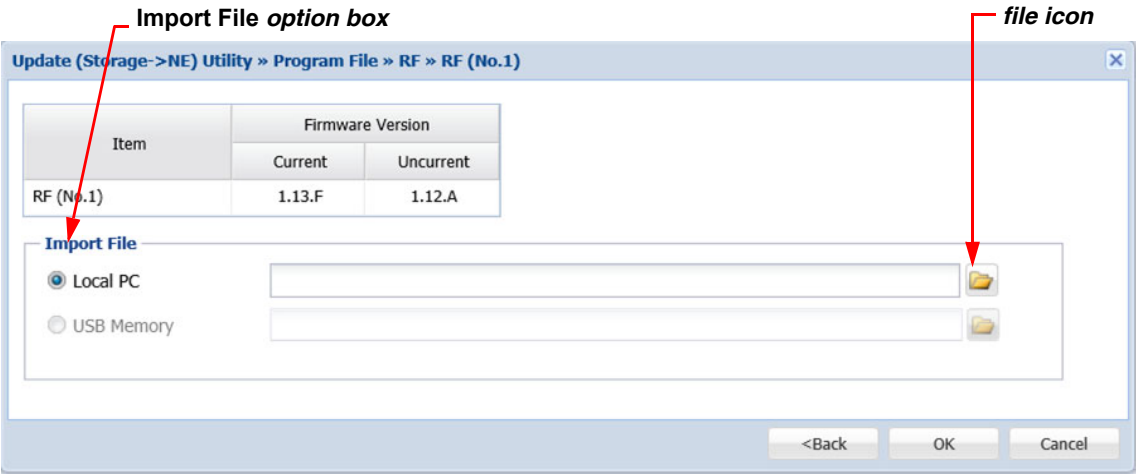
6. The **Program File** option window for selecting a source. In the **Import File** option box, select the media (**Local PC** or **USB Memory**) from which the file is transferred, and then click the file icon button ().

Figure 4-130 Program File Option Window

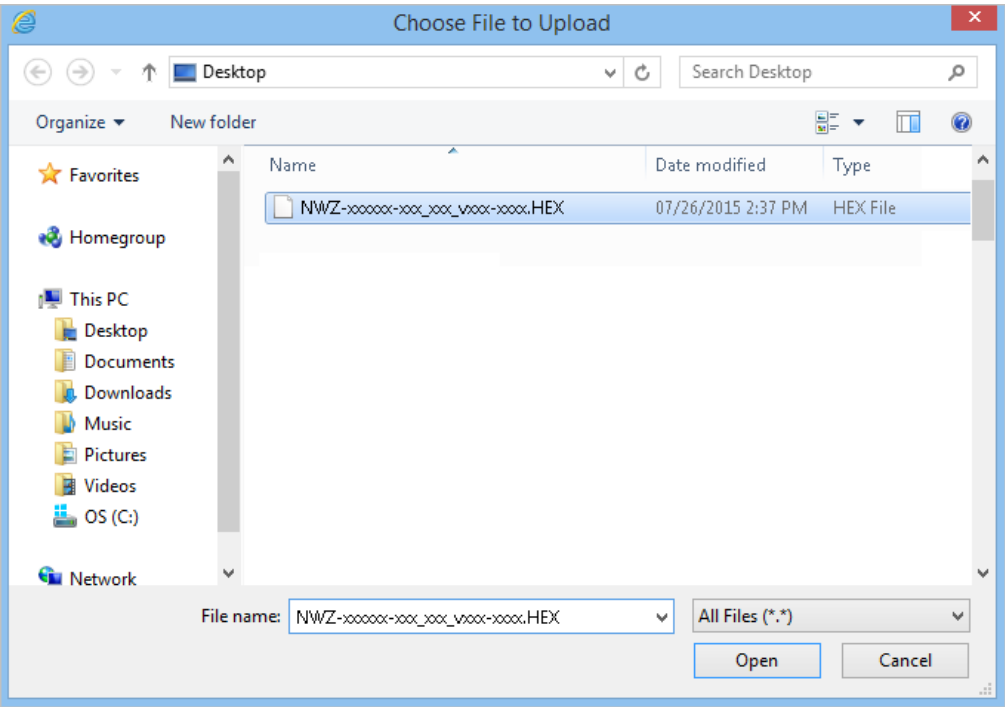


An option window to choose a file appears.

- 7. Select the RF firmware file (see below for the file name), and click the **Open** (or **OK**) button.

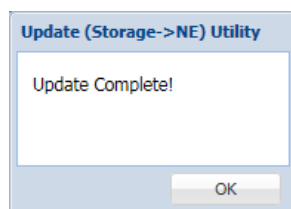
◆ Option Window for Local PC

Figure 4-131 Choose File to Upload Option Window



10. When completed, the **Update Complete!** message dialog box appears.

Figure 4-135 Update Complete! Dialog Box



11. Select **Inventory** → **Equipment Inventory Information** from the **WebLCT** menu.
12. The **Equipment Inventory Information** window appears. Confirm the current version that newly runs the program).

Figure 4-136 Equipment Inventory Information Window

Inventory - Equipment Inventory Information				
Refresh Export Equipment Inventory Information				
Hardware Information				
Code No.	Name	Serial No.	Manufactured Date	Hardware Version
NWA-A11629-112	TRP-80G20GB-1A	00001072	2020.03	1.00 / 40A0 + 40A0
Firmware Information				
Item	Current Version	Uncurrent Version		
BB	03.00.07	03.00.06		
RF (No.1)	1.13.C	1.13.F		
RF (No.2)	1.13.F	1.12.A		
FPGA Information				
Code No.	Name	Version		
GFN-A11214-001	EX-CTRL2	5.03		
Controller Information				
Item	Current Version			
Main	3.00			

13. After confirmation, click the **Maintenance** tool button on the **WebLCT** tool bar to exit from the Maintenance Mode.
14. Confirm that the **MAINT** indicator on the tool bar changes from orange to white.

This step ends the procedure.

4.9.2.3 Update FPGA Data

NOTE: The following procedure restarts the equipment, which terminates the WebLCT connection.

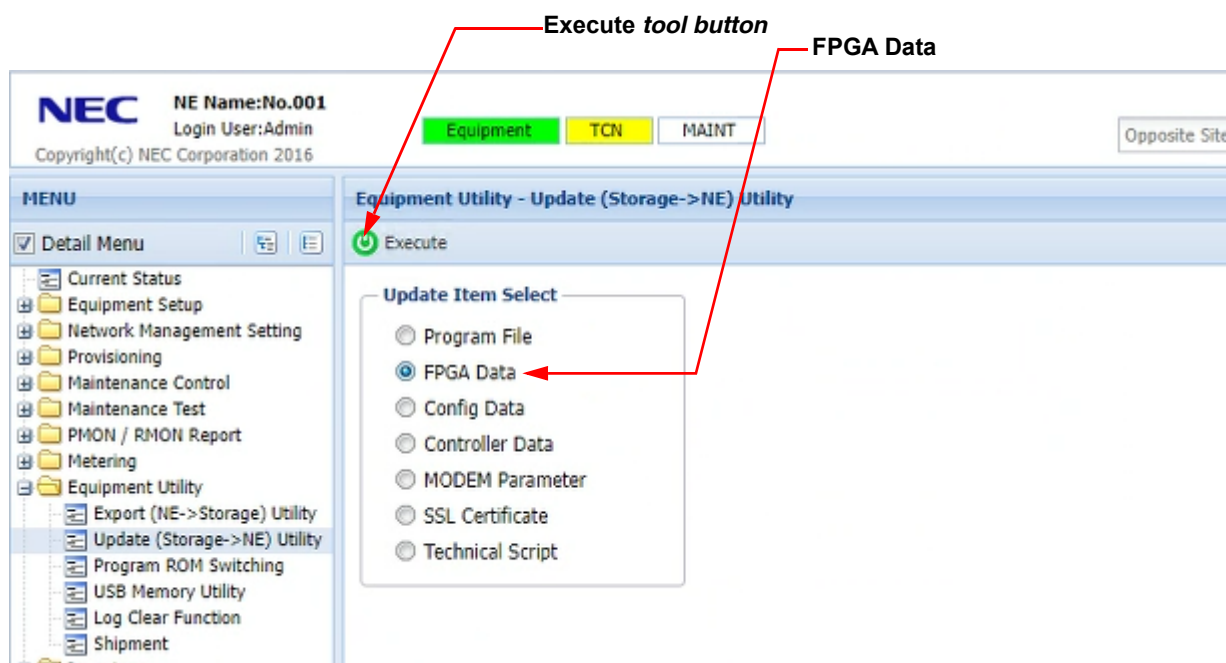
Important:

1. Ensure that the data file of FPGA from NEC is on hand.
2. Check the F/W versions using the **Equipment Inventory Information** window.
3. The system should be set into the Maintenance mode to download the FPGA data; Do not cancel the Maintenance mode while the download process is in progress.

Procedure 4-26

1. Click the **Maintenance** tool button on the tool bar of the **WebLCT** to put the system into the Maintenance Mode. The **MAINT** indicator on the tool bar changes to orange.
2. In the **MENU** frame on the left, expand the **Equipment Utility** to select **Update (Storage -> NE) Utility**. The **Update (Storage -> NE) Utility** window appears.
3. Select **FPGA Data** by clicking its radio button, and then click the **Execute** tool button.

Figure 4-137 Update (Storage -> NE) Utility Window




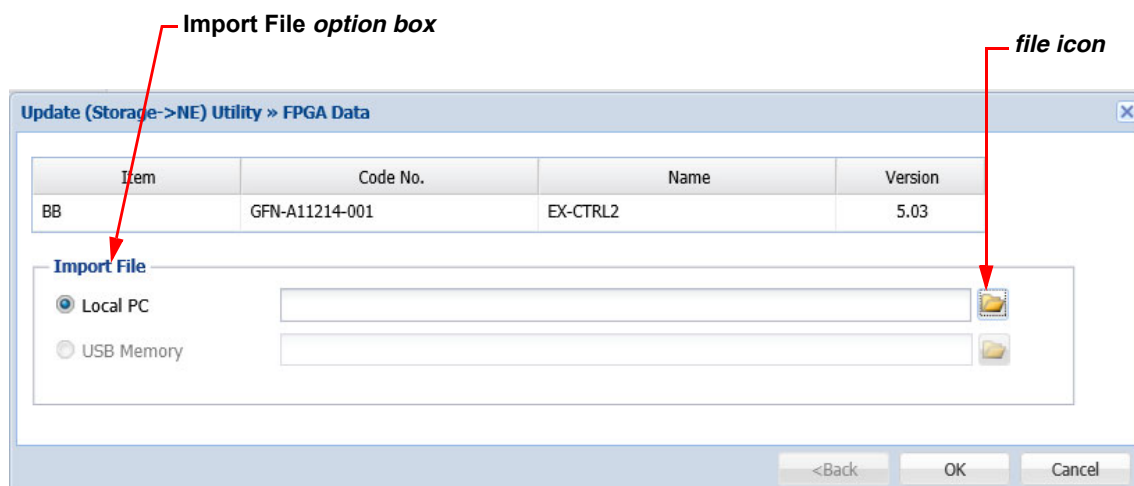
- The FPGA Data option window for selecting a source appears. In the **Import File** option box, select the media (**Local PC** or **USB Memory**) from which the file is transferred, and then click the file icon button ().

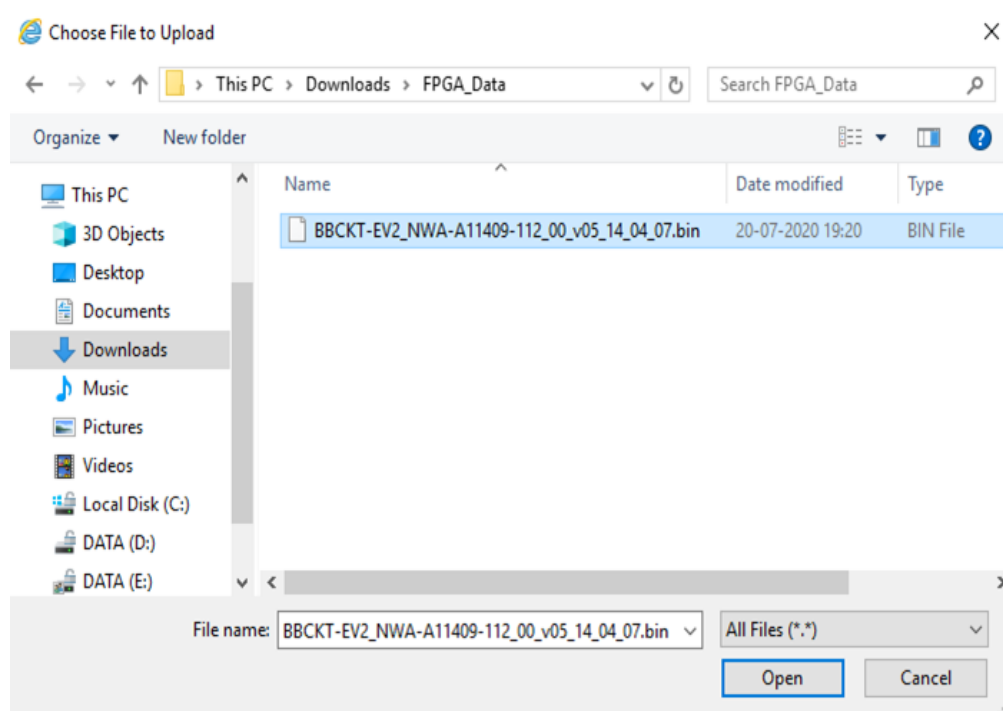
Figure 4-138 FPGA Data Option Window



- An option window for selecting a file appears. Select the FPGA Data file (see below for the file name), and click the **Open** (or **OK**) button.

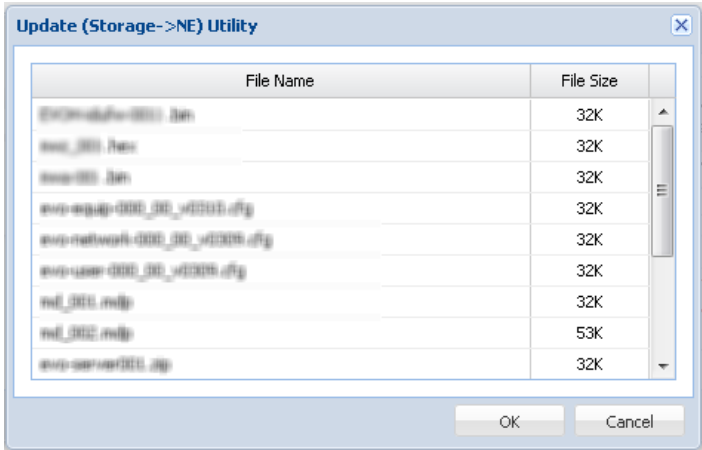
◆ Option Window for Local PC

Figure 4-139 Choose File to Upload Option Window



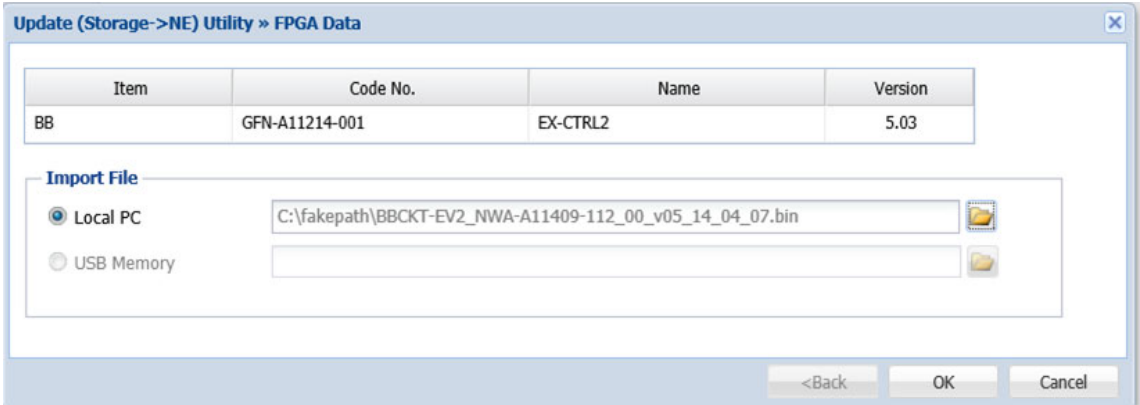
◆ Option Window for USB Memory Device

Figure 4-140 Update (Storage -> NE) Utility Option Window



6. The **Program File** option window displays the selected directory. Click the **OK** button.

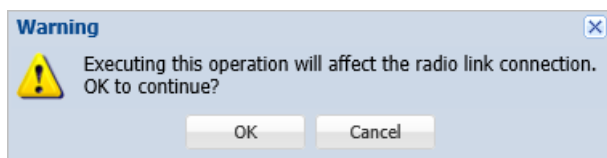
Figure 4-141 FPGA Data Option Window



Warning message dialog box appears.

7. Click the **OK** button.

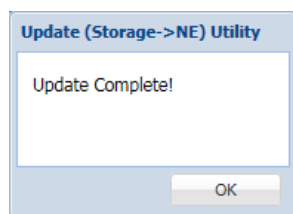
Figure 4-142 Warning Dialog Box



File downloading starts. During the downloading process, the progress bar shows up.

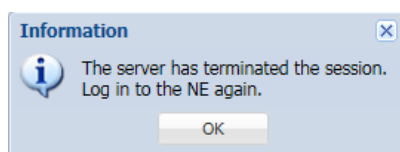
8. When completed, the **Update Complete!** message dialog box appears. Click the **OK** button to execute the auto-revert process.

Figure 4-143 Update Complete! Dialog Box



9. **Information** dialog box appears. Click the **OK** button to proceed.

Figure 4-144 Information Dialog Box



- i) Launch the **WebLCT**, and log in to the iPASOLINK EX/A again.
- ii) Select the **Inventory** → **Equipment Inventory Information** from the **WebLCT** menu.

10. In the **Equipment Inventory Information** window, confirm the information of newly running program.

Figure 4-145 Equipment Inventory Information Window

NEC NE Name:No.001
Login User:Admin
Copyright(c) NEC Corporation 2016

Equipment TCN MAINT

Opposite Site Links Maintenance Logout Auto-Logout

Inventory - Equipment Inventory Information

Refresh Export Equipment Inventory Information

Hardware Information

Code No.	Name	Serial No.	Manufactured Date	Hardware Version
NWA-A11629-112	TRP-80G20GB-1A	00001044	2020.03	1.00 / 40A0 + 40A0

Firmware Information

Item	Current Version	Uncurrent Version
BB	03.00.07	03.00.07
RF (No.1)	1.13.0	1.12.A
RF (No.2)	1.13.0	1.12.A

FPGA Information

Code No.	Name	Version
GFN-A11214-001	EX-CTRL2	5.14

Controller Information

Item	Current Version
Main	3.00

Parameter Information

Item	Current Version
MODEM	3.01

11. After confirmation, click the **Maintenance** tool button on the **WebLCT** tool bar to exit from the Maintenance Mode.
12. Confirm that the **MAINT** indicator on the tool bar changes from orange to white.

This step ends the procedure.

4.9.2.4 Update Configuration Data

- ♦ The following procedure terminates the **WebLCT** and restarts iPASOLINK EX/A.

NOTES:

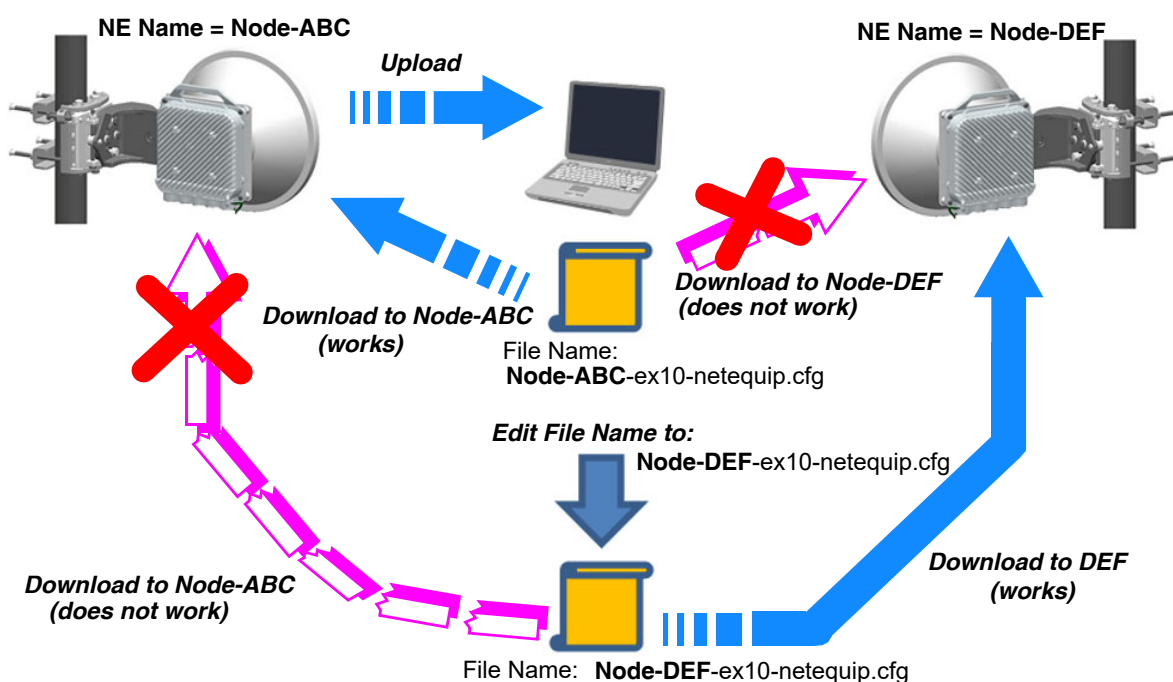
1. Do not store the downloaded data in the same folder with the existing Configuration Data File. Keep the data separate so that the data can be compared.
2. To download the Configuration Data, the system should be set into the Maintenance mode; Do not cancel the Maintenance mode while the process is in progress.
3. Any Configuration Data obtained from a name-assigned NE has the file name beginning with the NE name. See the table below (***** denotes the NE name). Configuration Data that has an NE name in its file name can be used to updated only the NE whose NE name is indicated by the file name.

Table 4-16 Configuration Data File Names (1)

Data File Type	Data File Name of Name-Assigned NE
NET/Equipment Configuration Data	*****-ex10-netequip.cfg
User Configuration Data	*****-ex10-user.cfg

4. When the specific NE's Configuration Data is required to update other NE, edit the file name by replacing the NE names.

Figure 4-146 Applicable File Name for NE



5. For an NE that does not have its NE name, remove an NE name part from the file name to use the data file. See the table below.

Table 4-17 Configuration Data File Names (2)

Data File Type	Data File Name of No Name-Assigned NE
NET/Equipment Configuration Data	ex10-netequip.cfg
User Configuration Data	ex10-user.cfg

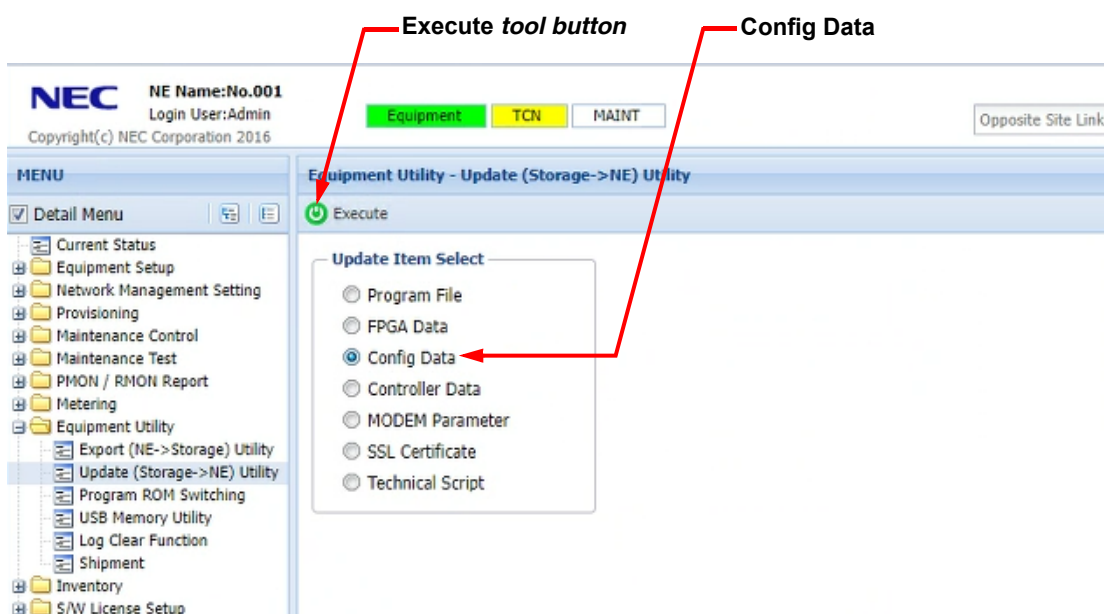
Procedure 4-27

1. Click the **Maintenance** tool button on the tool bar of the **WebLCT** to put the system into the Maintenance Mode. The **MAINT** indicator on the tool bar changes to orange.
2. In the **MENU** frame on the left, expand the **Equipment Utility** to select **Update (Storage -> NE) Utility**.

The **Update (Storage -> NE) Utility** window appears.

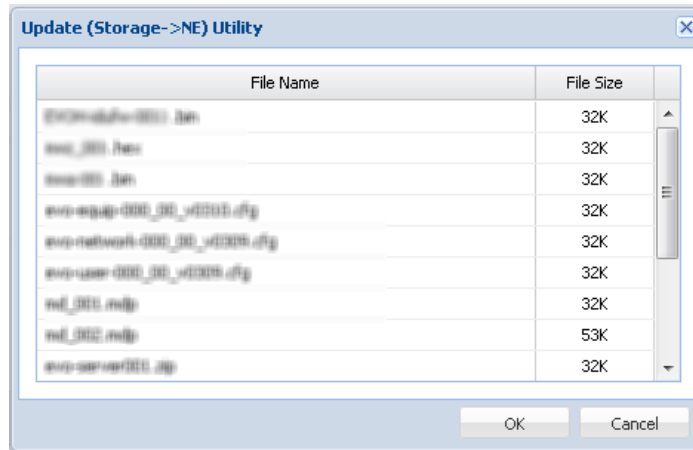
3. Select the **Config Data** by clicking its radio button, then click the **Execute** tool button.

Figure 4-147 Update (Storage -> NE) Utility Window



◆ Option Window for USB Memory Device

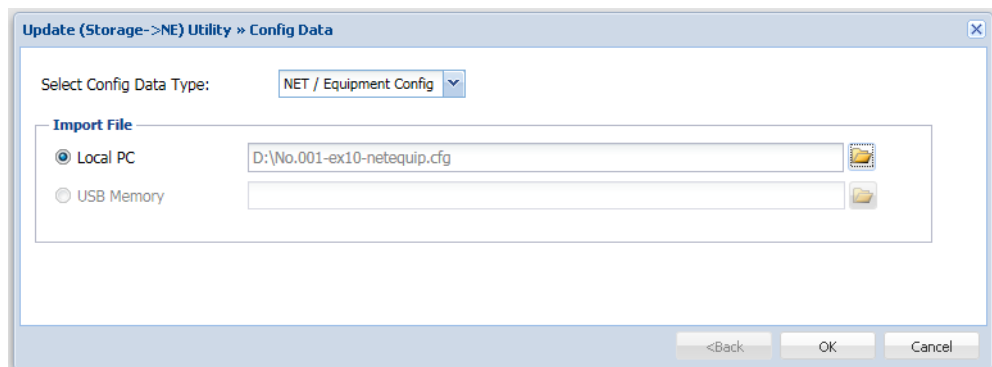
Figure 4-150 Update (Storage -> NE) Utility Option Window



7. Click the **Open** (or **OK**) button. The **Config Data** option window displays the selected directory.

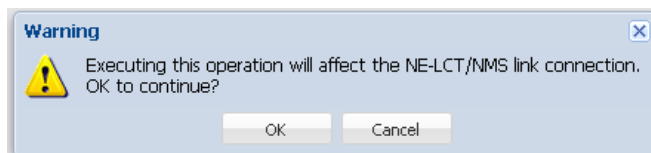
8. Click the **OK** button.

Figure 4-151 Config Data Option Window



9. **Warning** message dialog box appears. Click the **OK** button to proceed.

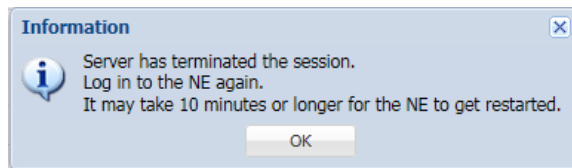
Figure 4-152 Warning Message Dialog Box



File downloading starts. During the downloading process, the progress bar shows up.

Information dialog box appears.

10. Click **OK** button. The **WebLCT** will shut down automatically.

Figure 4-153 Information Dialog Box

11. When the iPASOLINK EX/A restarts, log in to the iPASOLINK EX/A again.
12. Upload the Configuration Data File again, then acquire the Configuration Data.
13. Check the Configuration Data by comparing the latest Configuration Data with the previous data.
14. Confirm that the **MAINT** indicator on the tool bar changes from orange to white.

This step ends the procedure.

4.9.2.5 Update Controller Data

NOTE: The following procedure restarts the equipment, which terminates the **WebLCT** connection.

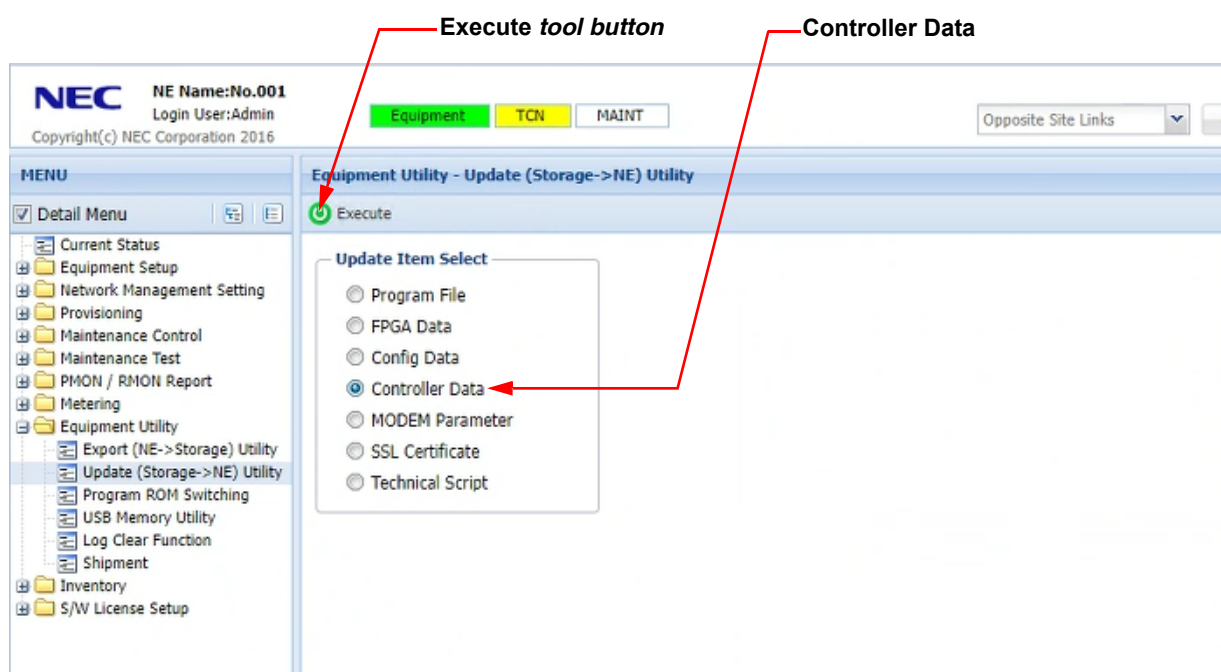
Important:

1. Ensure that the data file of Controller Data from NEC is on hand.
2. Check the F/W versions using the **Equipment Inventory Information** window.
3. To operate the Controller data, the system should be set into the Maintenance mode; Do not cancel the Maintenance mode while the download process is in progress.

Procedure 4-28

1. Click the **Maintenance** tool button on the tool bar of the **WebLCT** to put the system into the Maintenance Mode. The **MAINT** indicator on the tool bar changes to orange.
2. In the **MENU** frame on the left, expand the **Equipment Utility** to select **Update (Storage -> NE) Utility**.
3. The **Update (Storage -> NE) Utility** window appears. Select **Controller Data** by clicking its radio button, and then click the **Execute** tool button.

Figure 4-154 Update (Storage -> NE) Utility Window




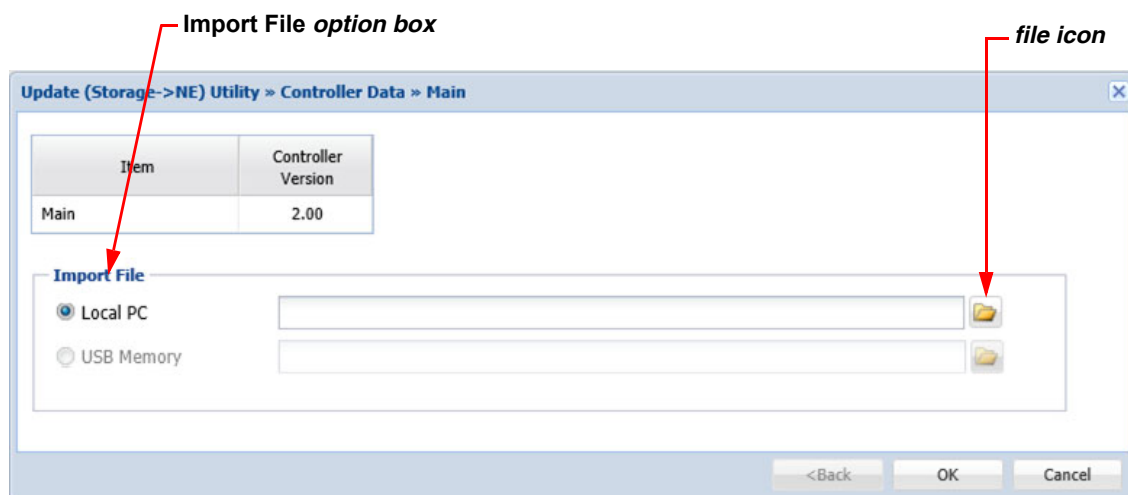
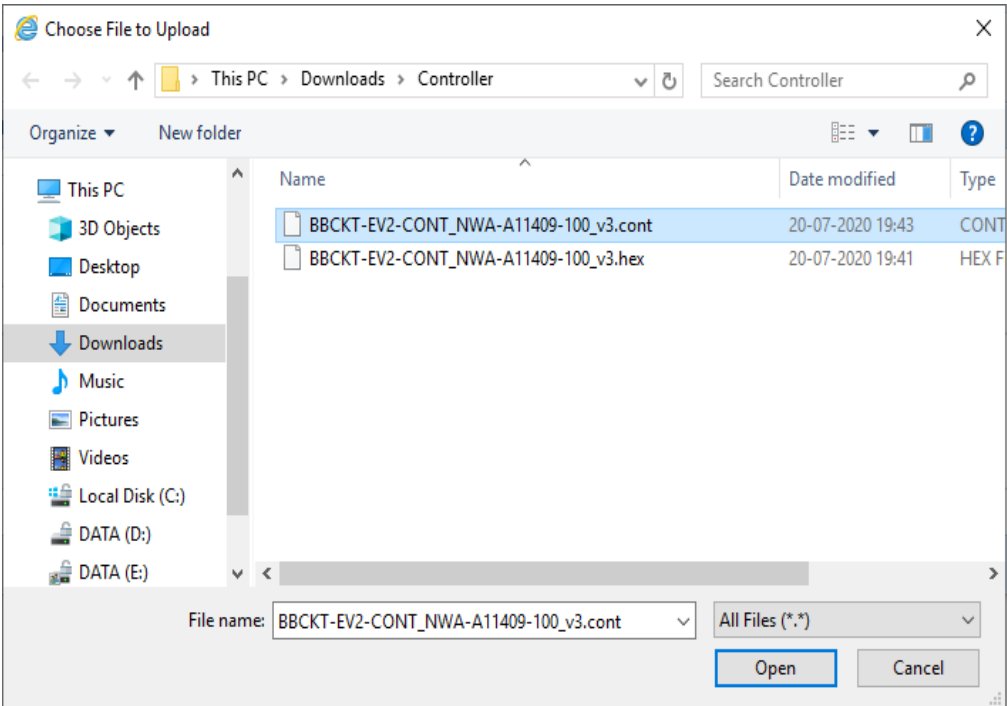
4. The **Controller Data** option window for selecting a source appears. In the **Import File** option box, select the media (**Local PC** or **USB Memory**) from which the file is transferred, and then click the file icon button ().

Figure 4-155 Controller Data Option Window



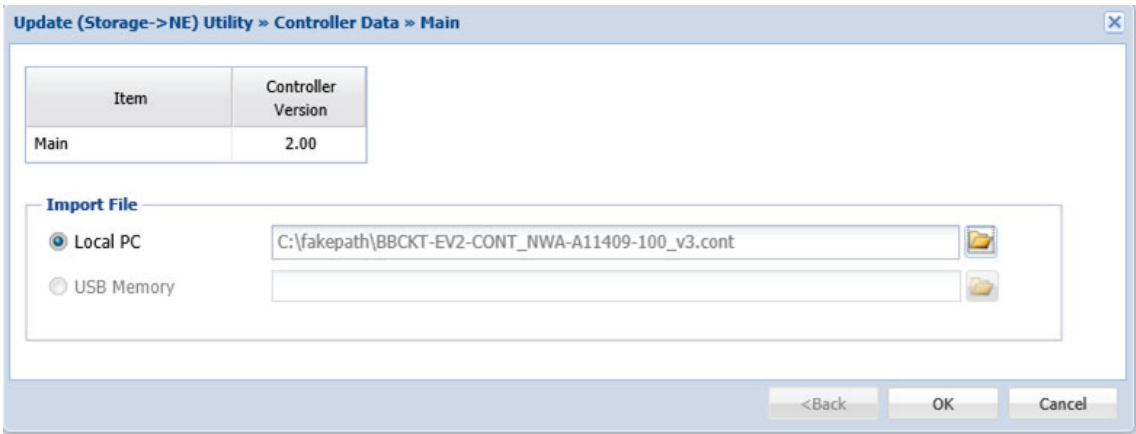
5. An option window for selecting a file appears. Select the Controller Data file (see below for the file name), and click the **Open** (or **OK**) button.
- ◆ File Name for EX/A : **BBCKT-EV-CONT_NWA-A01929-***_v**.cont**
 - ◆ File Name for EX/A Dual : **BBCKT-EV2-CONT_NWA-A11409-***_v**.cont**

Figure 4-156 Choose File to Upload Option Window



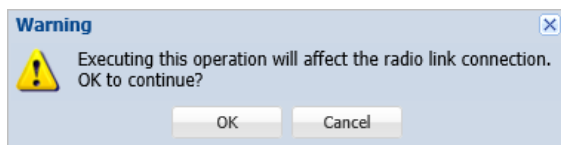
- 6. The **Program File** option window displays the selected directory. Click the **OK** button.

Figure 4-157 FPGA Data Option Window

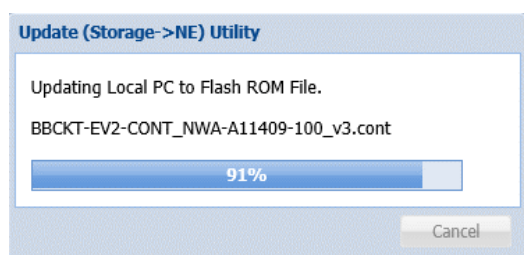


Warning message dialog box appears.

- 7. Click the **OK** button.

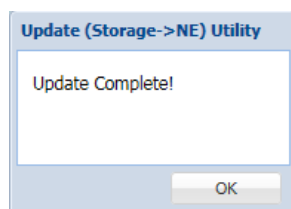
Figure 4-158 Warning Dialog Box

File downloading starts. During the downloading process, the progress bar shows up.

Figure 4-159 Progress Bar

When completed, the **Update Complete!** message dialog box appears.

8. Click the **OK** button to execute the auto-revert process.

Figure 4-160 Update Complete! Dialog Box

9. **Information** dialog box appears. Click the **OK** button to proceed.

Figure 4-161 Information Dialog Box

- i) Launch the **WebLCT**, and log in to the iPASOLINK EX/A again.
 - ii) Select the **Inventory** → **Equipment Inventory Information** from the **WebLCT** menu.
10. In the **Equipment Inventory Information** window, confirm the information of newly running program.

Figure 4-162 Equipment Inventory Information Window

NEC NE Name:No.001
Login User:Admin
Copyright(c) NEC Corporation 2016

Equipment TCN MAINT

Opposite Site Links Maintenance Logout Auto-Logout

MENU

- Detail Menu
 - Current Status
 - Equipment Setup
 - Network Management Setting
 - Provisioning
 - Maintenance Control
 - Maintenance Test
 - PMON / RMON Report
 - Metering
 - Equipment Utility
 - Inventory
 - Equipment Inventory Information
 - S/W License Information
 - User Description
 - S/W License Setup

Inventory - Equipment Inventory Information

Refresh Export Equipment Inventory Information

Hardware Information

Code No.	Name	Serial No.	Manufactured Date	Hardware Version
NWA-A11629-112	TRP-80G20GB-1A	00001044	2020.03	1.00 / 40A0 + 40A0

Firmware Information

Item	Current Version	Uncurrent Version
BB	03.00.07	03.00.07
RF (No.1)	1.13.0	1.12.A
RF (No.2)	1.13.0	1.12.A

FPGA Information

Code No.	Name	Version
GFN-A11214-001	EX-CTRL2	5.14

Controller Information

Item	Current Version
Main	3.00

Parameter Information

Item	Current Version
MODEM	3.01

- After confirmation, click the **Maintenance** tool button on the **WebLCT** tool bar to exit from the Maintenance Mode.
- Confirm that the **MAINT** indicator on the tool bar changes from orange to white.
This step ends the procedure.

4.9.2.6 Update MODEM Parameter Data

Important:

1. *Ensure that the Parameter File to update MODEM that was from NEC has already been on hand.*
2. *Check that the prepared Parameter File is for MODEM.*
3. *When the MODEM Parameter is downloaded the system should be set into the Maintenance mode; Do not cancel the Maintenance mode while the download process is in progress.*

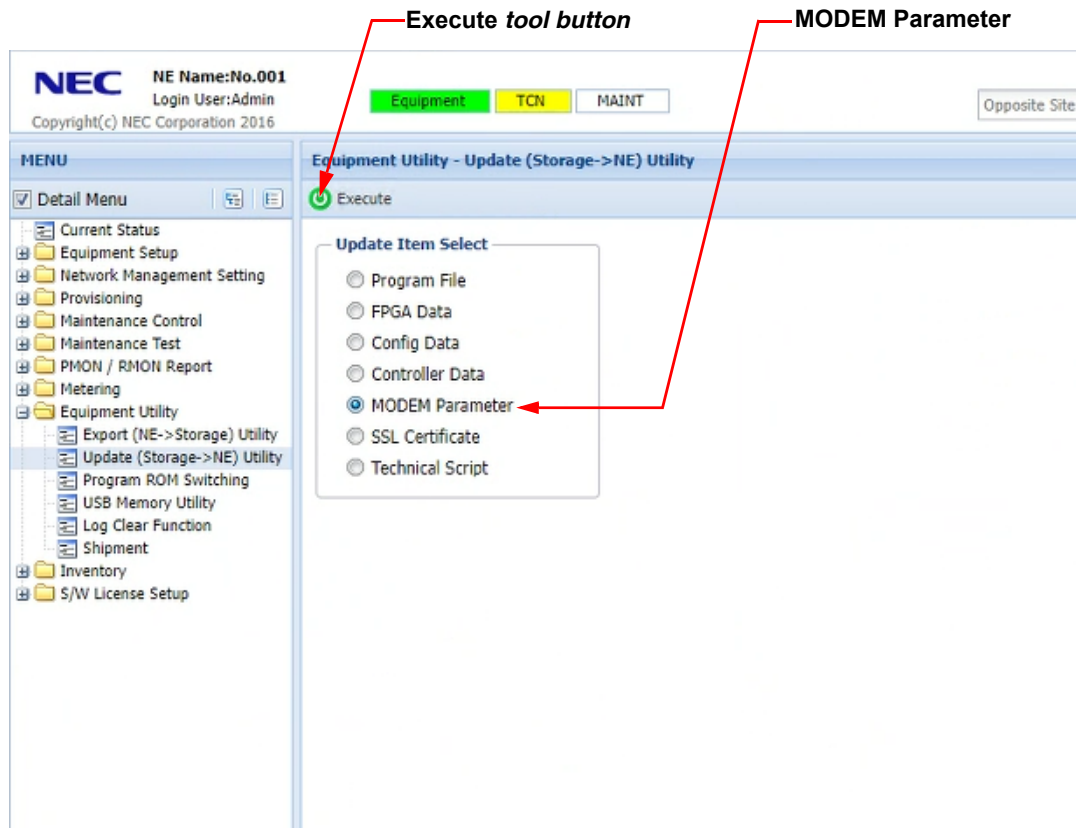
Procedure 4-29

1. Click the **Maintenance** tool button on the tool bar of the **WebLCT** to put the system into the Maintenance Mode. The **MAINT** indicator on the tool bar changes to orange.
2. In the **MENU** frame on the left, expand the **Equipment Utility** to select **Update (Storage -> NE) Utility**.

The **Update (Storage -> NE) Utility** window appears.

3. Select **MODEM Parameter** by clicking its radio button, and then click the **Execute** tool button.

Figure 4-163 Update (Storage -> NE) Utility Window




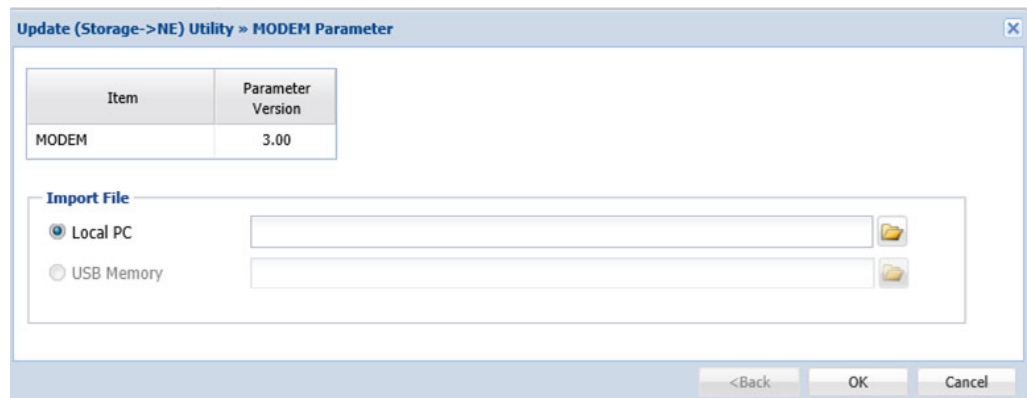
4. The **MODEM Parameter** option window for selecting source appears. In the **Import File** option box, select the media (**Local PC** or **USB Memory**) from which the file is transferred, and then click the file icon button ().

Figure 4-164 MODEM Parameter Option Window



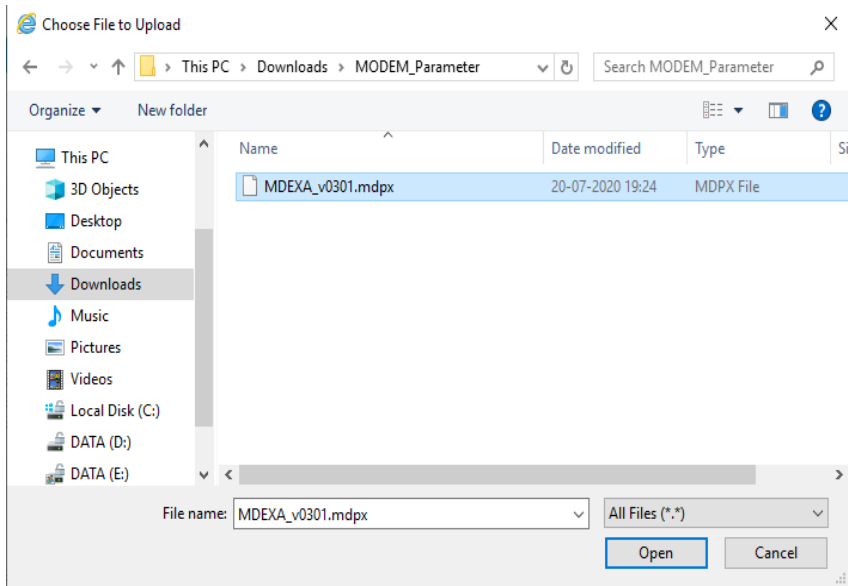
5. An option window for selecting a file appears. Select the MODEM

Parameter file (see below for the file name), and then click the **Open** (or **OK**) button.

- ◆ MODEM Parameter file name: **MDxxxxxx.mdp**

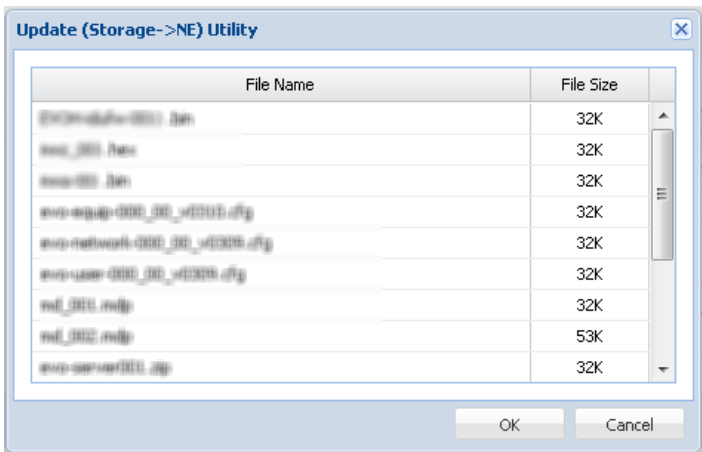
◆ Option Window for Local PC

Figure 4-165 Choose File to Upload Option Window



◆ Option Window for USB Memory Device

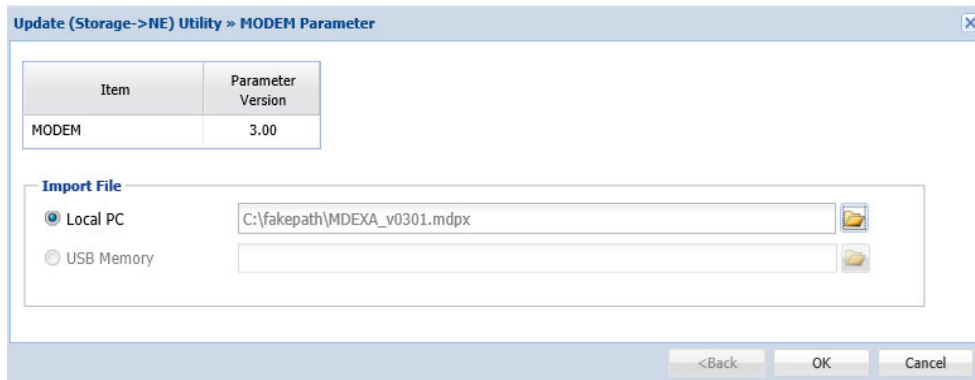
Figure 4-166 Update (Storage -> NE) Utility



The **MODEM Parameter** option window displays the specified information.

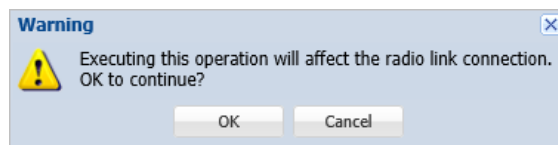
6. Click the **OK** button.

Figure 4-167 MODEM Parameter Option Window



7. **Warning** message dialog box appears. Click the **OK** button.

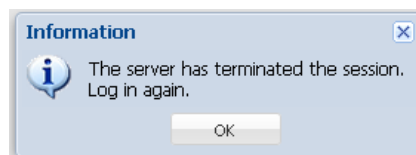
Figure 4-168 Warning Dialog Box



File downloading starts. During the downloading process, the progress bar shows up.

8. When completed, Information dialog box appears. Click the **OK** button to proceed.

Figure 4-169 Information Dialog Box



9. Launch and log in to the WebLCT.
10. From the **WebLCT** menu, select the **Inventory** → **Equipment Inventory Information** from the **WebLCT** menu.

The **Equipment Inventory Information** window appears.

11. Check the latest MODEM Parameter Data running by comparing the confirmed parameter of specified MODEM.

Figure 4-170 Equipment Inventory Information Window

NEC NE Name:No.001
Login User:Admin
Copyright(c) NEC Corporation 2016

Equipment TCN MAINT

Opposite Site Links Maintenance Logout Auto-Logout

MENU

- Detail Menu
 - Current Status
 - Equipment Setup
 - Network Management Setting
 - Provisioning
 - Maintenance Control
 - Maintenance Test
 - PMON / RMON Report
 - Metering
 - Equipment Utility
 - Inventory
 - Equipment Inventory Information
 - S/W License Information
 - User Description
 - S/W License Setup

Inventory - Equipment Inventory Information

Refresh Export Equipment Inventory Information

Hardware Information

Code No.	Name	Serial No.	Manufactured Date	Hardware Version
NWA-A11629-112	TRP-80G20GB-1A	00001044	2020.03	1.00 / 40A0 + 40A0

Firmware Information

Item	Current Version	Uncurrent Version
BB	03.00.07	03.00.07
RF (No.1)	1.13.0	1.12.A
RF (No.2)	1.13.0	1.12.A

FPGA Information

Code No.	Name	Version
GFN-A11214-001	EX-CTRL2	5.14

Controller Information

Item	Current Version
Main	3.00

Parameter Information

Item	Current Version
MODEM	3.01

(scroll)

12. After confirmation, click the **Maintenance** tool button on the **WebLCT** tool bar to exit from the Maintenance Mode.
13. Confirm that the **MAINT** indicator on the tool bar changes from orange to white.

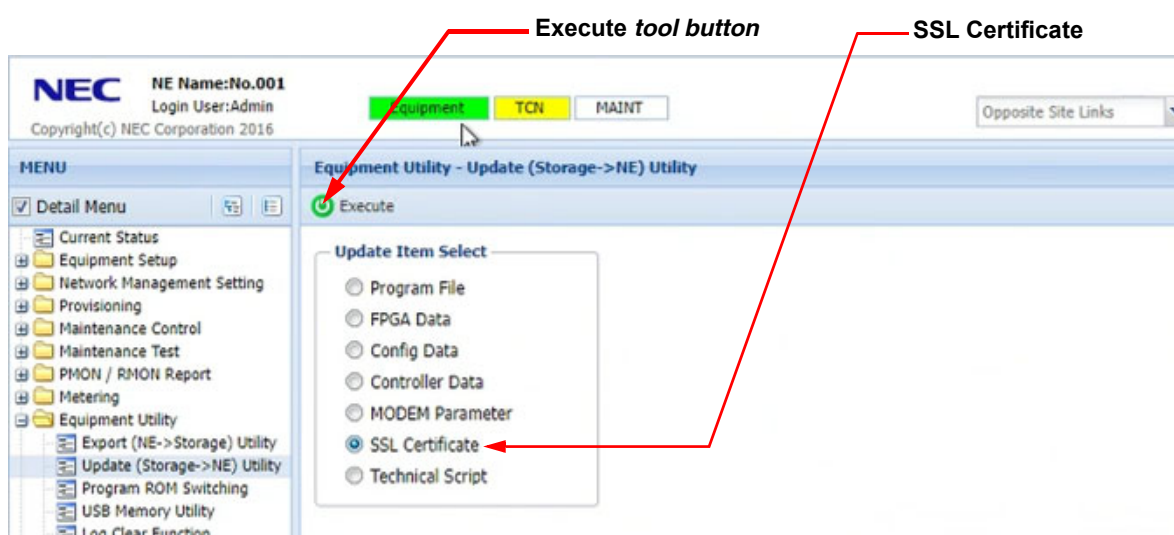
This step ends the procedure.

4.9.2.7 Update SSL Certificate

Procedure 4-30

1. Click the **Maintenance** tool button on the tool bar of the **WebLCT** to put the system into the Maintenance Mode. The **MAINT** indicator on the tool bar changes to orange.
2. In the **MENU** frame on the left, expand the **Equipment Utility** to select **Update (Storage -> NE) Utility**. The **Update (Storage -> NE) Utility** window appears.
3. Select **SSL Certificate** by clicking its radio button, and then click the **Execute** tool button.

Figure 4-171 Update (Storage -> NE) Utility Window



4. **SSL Certificate** option window appears. In the **SSL Certificate Type**, select the certificate type (**SSL Server Certificate** or **SSL Syslog CA Certificate**).

Figure 4-172 SSL Certificate Option Window



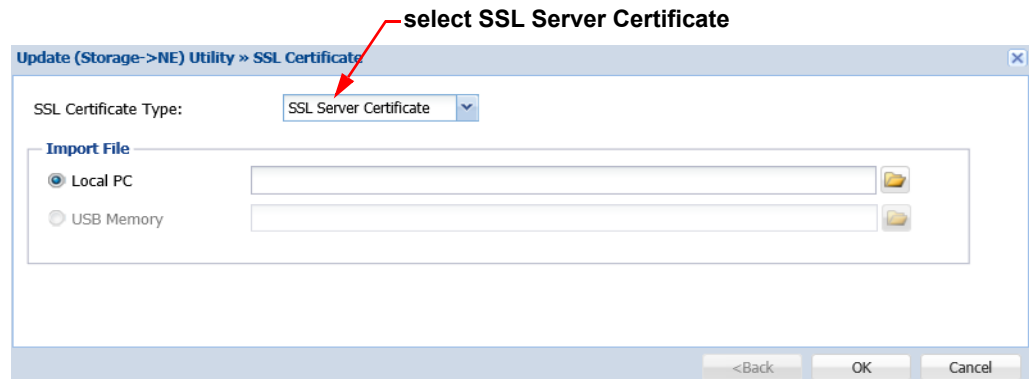
Choose File to Upload option window appears.

■ SSL Server Certificate

Procedure 4-31

1. In **SSL Certificate option window**, select the **SSL Server Certificate** type.

Figure 4-173 SSL Certificate Option Window




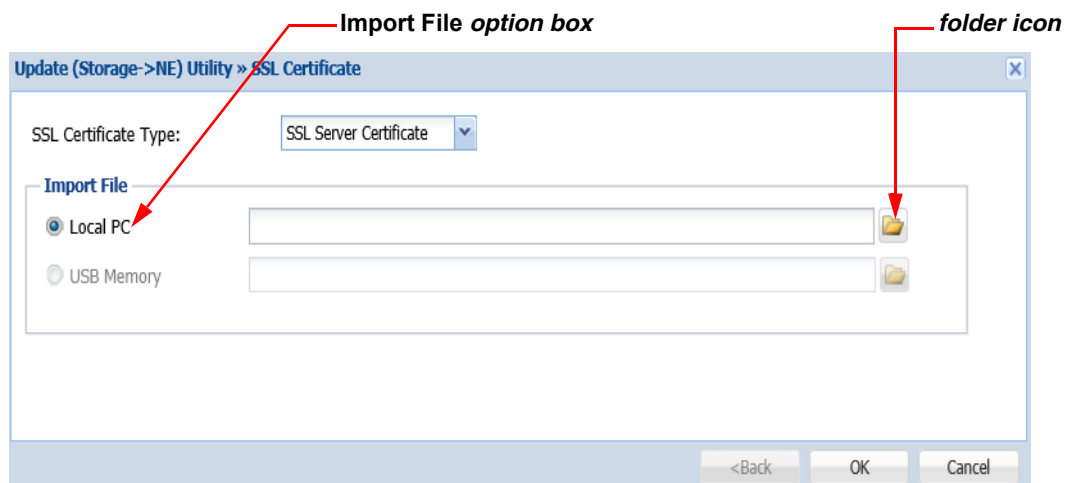
2. In the **Import File** option box, select the media (**Local PC** or **USB Memory**) from which the file is transferred, then click the folder tool button () to locate the certificate file.

Figure 4-174 SSL Certificate Option Window

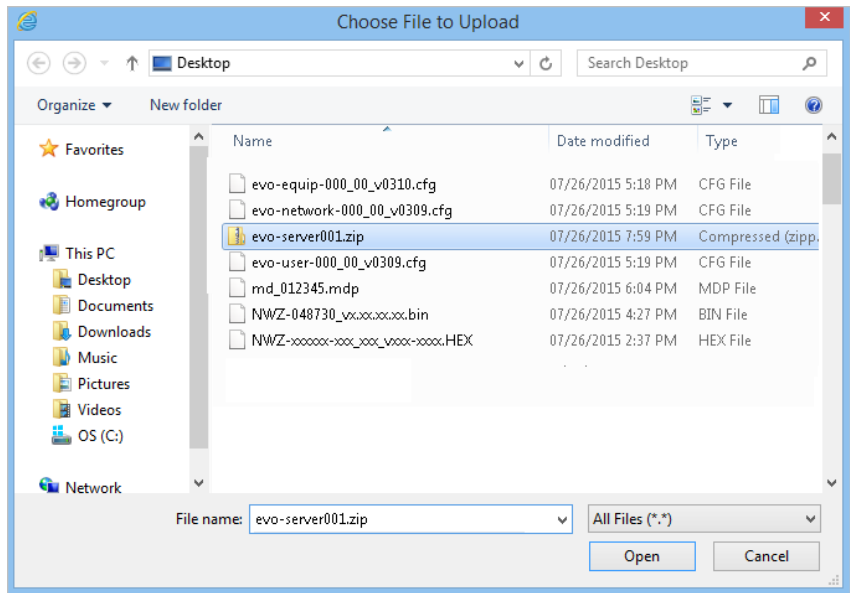


Choose File to Upload option window appears.

3. Select the file, and click the **Open** button. The valid file is compressed by the zip application.

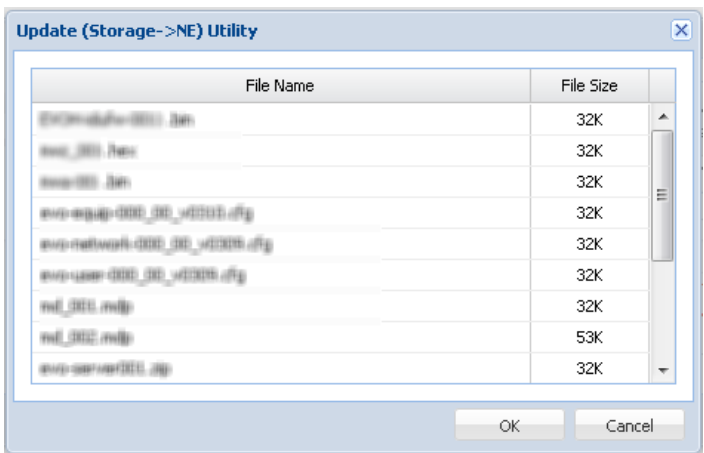
◆ Option Window for Local PC

Figure 4-175 Choose File to Upload Option Window



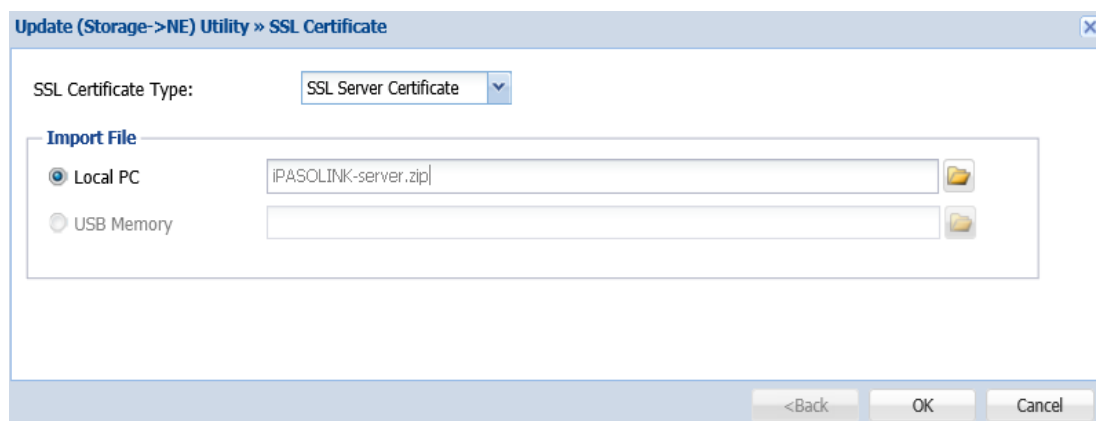
◆ Option Window for USB Memory

Figure 4-176 Update (Storage -> NE) Utility



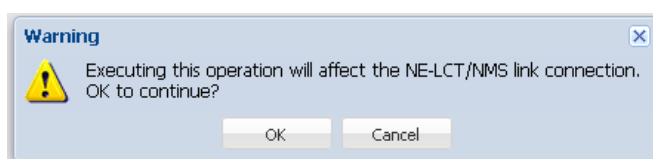
4. **SSL Server Certificate** option window indicates the selected file. Click the **OK** button to proceed.

Figure 4-177 SSL Certificate Option Window



5. **Warning** dialog box appears. Click the **OK** button to proceed.

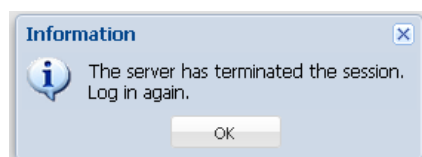
Figure 4-178 Warning dialog Box



During the process, a progress bar shows up.

6. When the process is completed, following Information dialog box appears. Click the **OK** button to proceed.

Figure 4-179 Information Dialog Box



The system starts updating SSL Server Certificate file.

- ◆ **WebLCT** is automatically logged off from the equipment.
- ◆ It may take a few minutes to 10 minutes (depending on your PC's capacity) for updating process, during which the equipment does not allow another logging in.

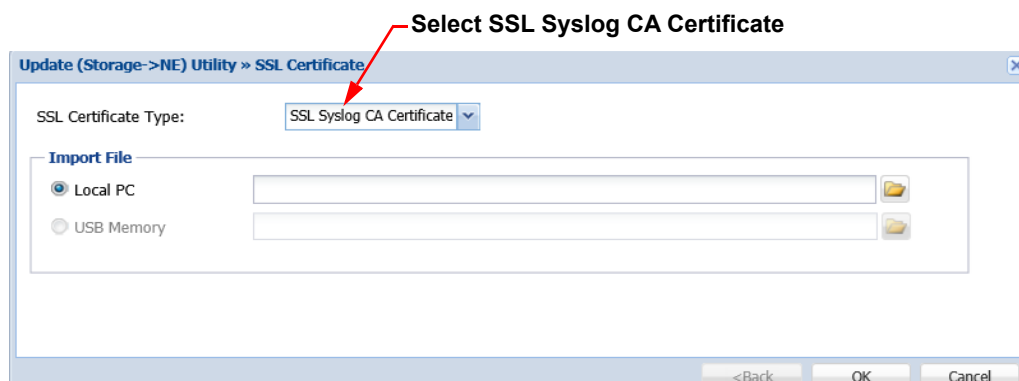
This step ends the procedure.

■ SSL Syslog CA Certificate

Procedure 4-32

1. In **SSL Certificate option window**, select the **SSL Syslog CA Certificate** type.

Figure 4-180 SSL Certificate Option Window




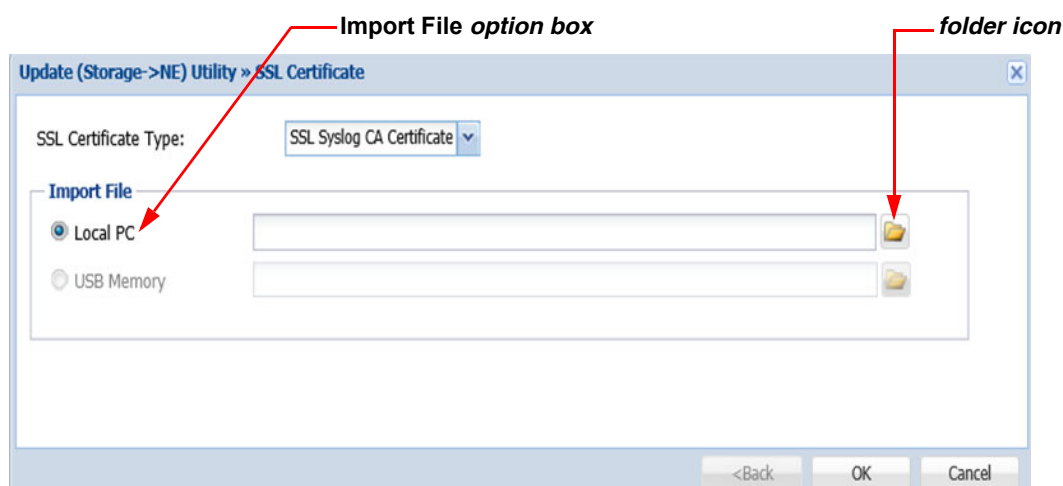
2. In the **Import File** option box, select the media (**Local PC** or **USB Memory**) from which the file is transferred, then click the folder tool button () to locate the certificate file.

Figure 4-181 SSL Certificate Option Window

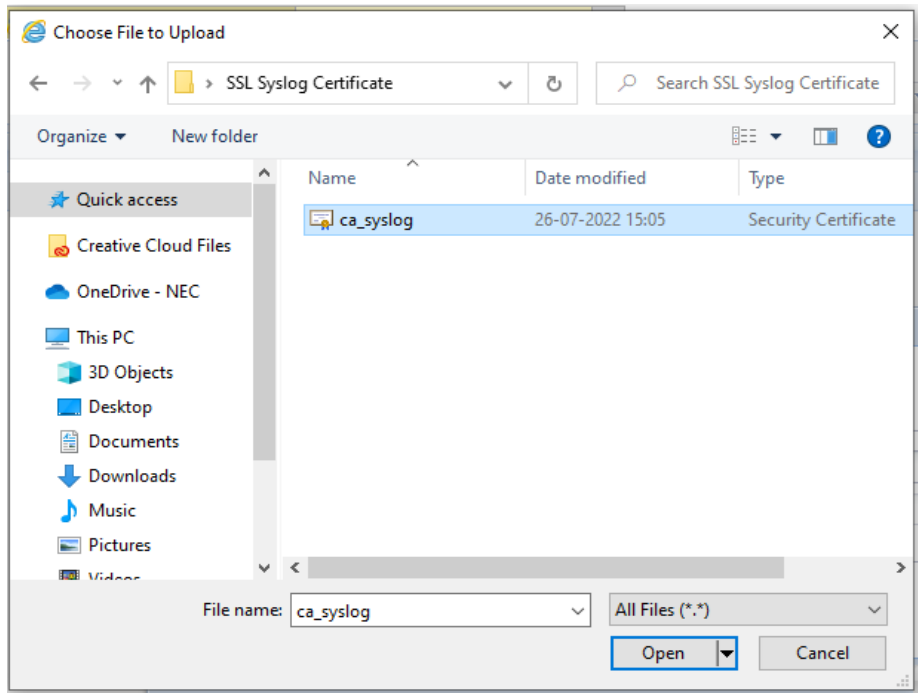


Choose File to Upload option window appears.

3. Select the file, and click the **Open** button.

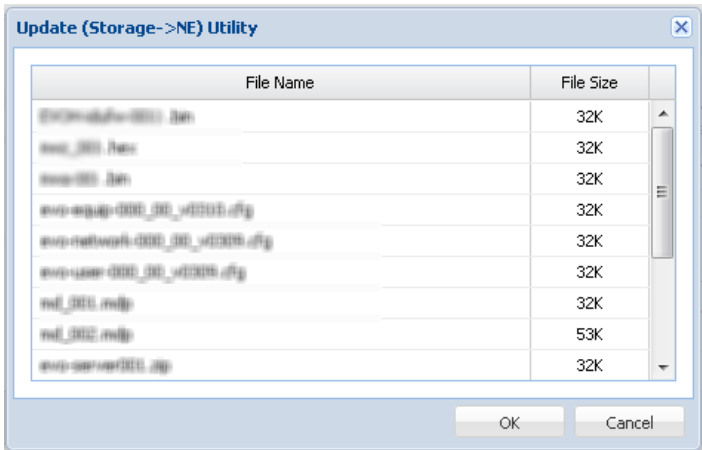
◆ Option Window for Local PC

Figure 4-182 Choose File to Upload Option Window



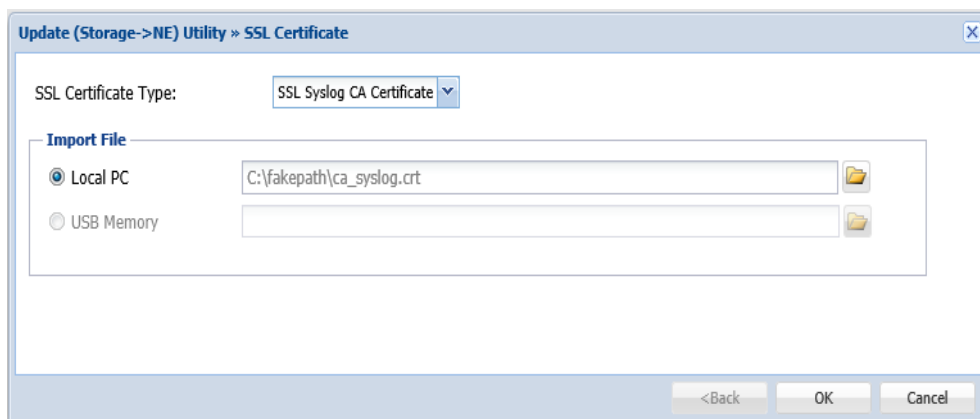
◆ Option Window for USB Memory

Figure 4-183 Update (Storage -> NE) Utility



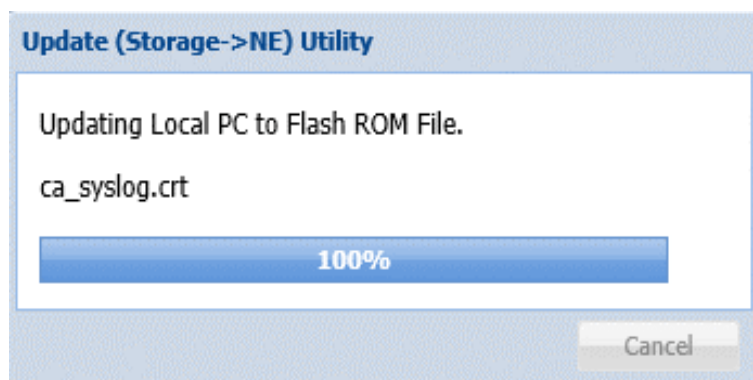
4. **SSL Syslog CA Certificate** option window indicates the selected file. Click the **OK** button to proceed.

Figure 4-184 SSL Certificate Option Window



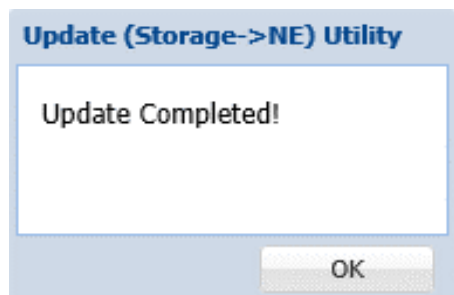
During the process, a progress bar shows up.

Figure 4-185 Update Progress Bar



5. When the process is completed, following Information dialog box appears. Click the **OK** button.

Figure 4-186 Information Dialog Box



This step ends the procedure.

4.9.3 Switch (Swap) Program ROM

4.9.3.1 Switch (Swap) BB ROM

- ♦ The following procedure terminates the **WebLCT** and restarts iPASOLINK EX/A.

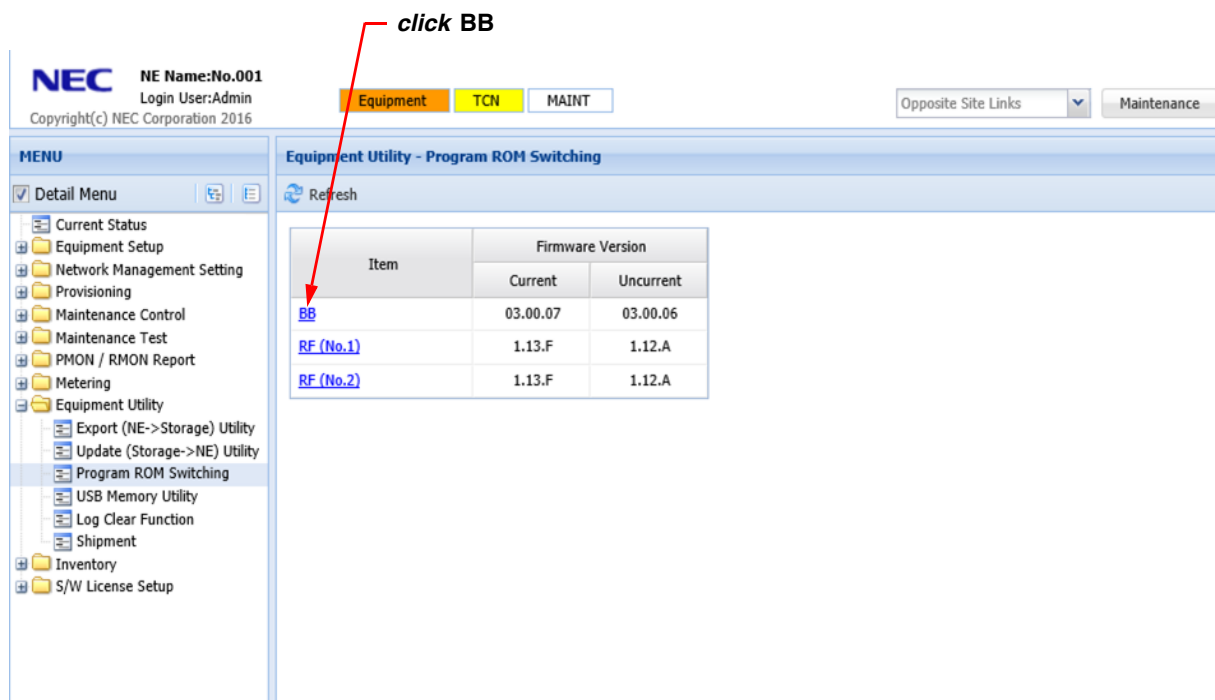
Important:

When operating the Program ROM Switching, the system should be set into the Maintenance mode; Do not cancel the Maintenance mode while controlling the switching operation.

Procedure 4-33

1. Click the **Maintenance** tool button on the tool bar of the **WebLCT** to put the system into the Maintenance Mode. The **MAINT** indicator on the tool bar changes to orange.
2. In the **MENU** frame on the left, expand the **Equipment Utility** to select **Program ROM Switching**. The **Program ROM Switching** window appears.
3. Click the **BB** link in the Item field.

Figure 4-187 Program ROM Switching Window



The screenshot shows the WebLCT interface with the 'Maintenance' mode active. The 'MENU' frame on the left shows 'Equipment Utility' expanded, with 'Program ROM Switching' selected. The main window displays a table with the following data:

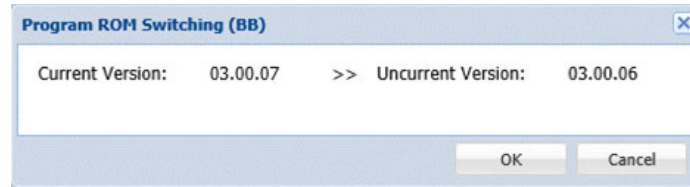
Item	Firmware Version	
	Current	Uncurrent
BB	03.00.07	03.00.06
RF (No.1)	1.13.F	1.12.A
RF (No.2)	1.13.F	1.12.A

A red arrow points to the 'BB' link in the 'Item' column, with the text 'click BB' above it.

The **Program ROM Switching (BB)** option window appears.

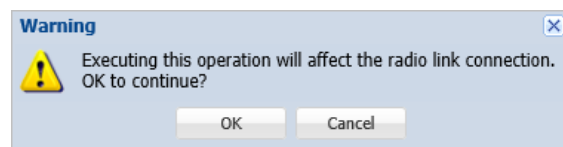
4. Confirm the information, then click the **OK** button.

Figure 4-188 Program ROM Switching (BB) Window



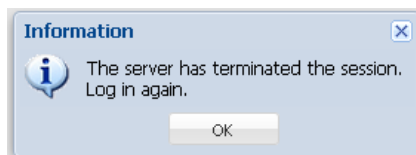
5. **Warning** message dialog box appears. Click the **OK** button to execute the auto-revert process.

Figure 4-189 Warning Message Dialog Box



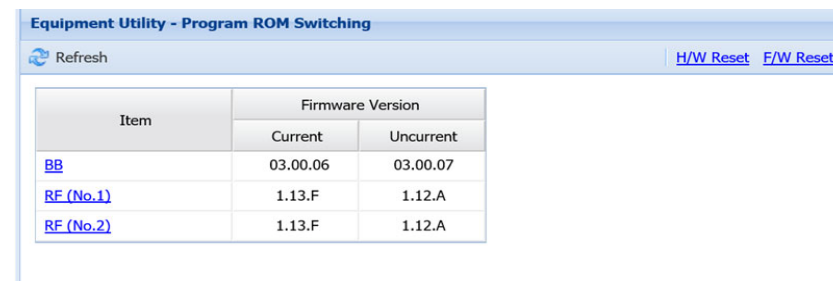
6. **Information** dialog box appears. Click the **OK** button. The **WebLCT** will shut down automatically.

Figure 4-190 Information Box



7. When the iPASOLINK EX/A restarts, launch the **WebLCT** and log in to the iPASOLINK EX/A again.
8. Select the **Equipment Utility** → **Program ROM Switching** from the **WebLCT** menu. The **Program ROM Switching** window appears.
9. Confirm the current version of the BB Firmware:

Figure 4-191 Program ROM Switching Window



10. After confirmation, click the **Maintenance** tool button on the **WebLCT** tool bar to exit from the Maintenance Mode.
11. Confirm that the **MAINT** indicator on the tool bar changes from orange to white.
This step ends the procedure.

4.9.3.2 Switch RF ROM

Important:

When operating the Program ROM Switching, the system should be set into the Maintenance mode; Do not cancel the Maintenance mode while controlling the switching operation.

Procedure 4-34

1. Click the **Maintenance** tool button on the tool bar of the **WebLCT** to put the system into the Maintenance Mode. The **MAINT** indicator on the tool bar changes to orange.

2. In the **MENU** frame on the left, expand the **Equipment Utility** to select **Program ROM Switching**.

The **Program ROM Switching** window appears.

3. Click the target **RF** link in the Item field.

Figure 4-192 Program ROM Switching Window

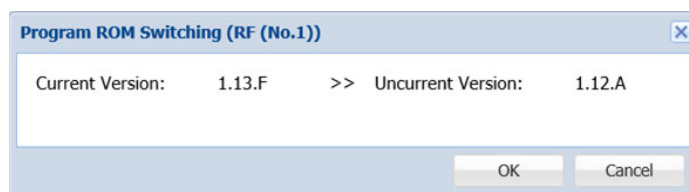
click RF

Item	Firmware Version	
	Current	Uncurrent
BB	03.00.07	03.00.06
RF (No.1)	1.13.F	1.12.A
RF (No.2)	1.13.F	1.12.A

The **Program ROM Switching (RF)** option window appears.

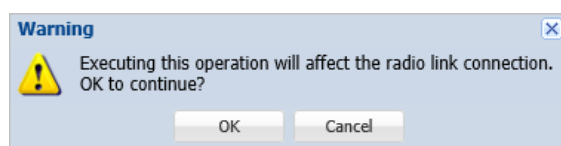
4. Confirm the information then click **OK** button.

Figure 4-193 Program ROM Switching (RF) Box



5. **Warning** message dialog box appears. Click the **OK** button to execute the auto-revert process.

Figure 4-194 Warning Box



6. **Information** dialog box appears. Click the **OK** button.

Figure 4-195 Information Box



7. The **Program ROM Switching** window updates the information. Confirm the current version of the RF Firmware.

Figure 4-196 Program ROM Switching Window

Equipment Utility - Program ROM Switching		
<div> Refresh H/W Reset F/W Reset </div>		
Item	Firmware Version	
	Current	Uncurrent
BB	03.00.07	03.00.06
RF (No.1)	1.12.A	1.13.F
RF (No.2)	1.13.F	1.12.A

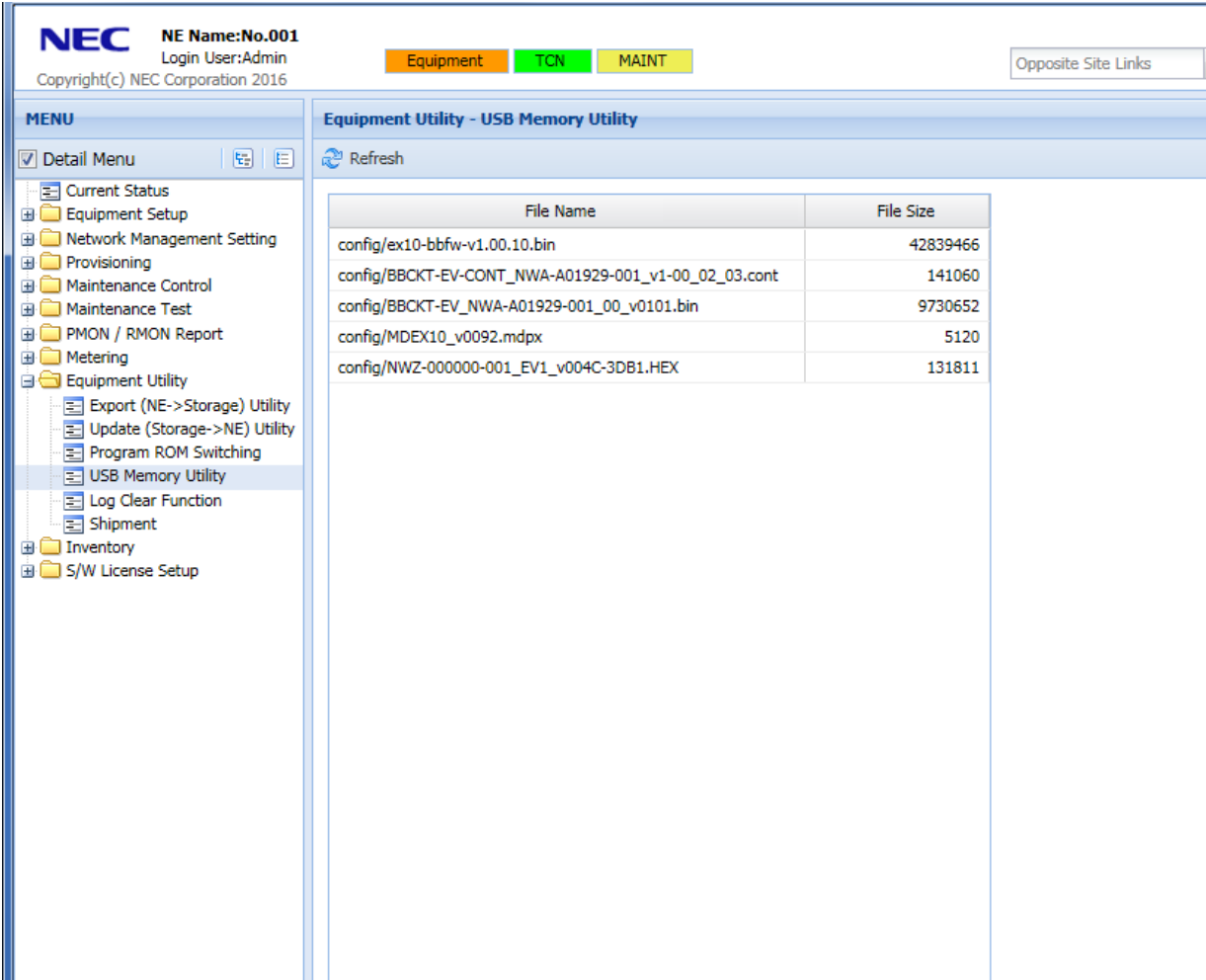
8. After confirmation, click the **Maintenance** tool button on the **WebLCT** tool bar to exit from the Maintenance Mode.
9. Confirm that the **MAINT** indicator on the tool bar changes from orange to white.
This step ends the procedure.

4.9.4 Check USB Memory Utility

Procedure 4-35

- 1. In the **MENU** frame on the left, expand the **Equipment Utility** to select **USB Memory Utility**. The **USB Memory Utility** window appears.
- 2. Click the **Refresh** tool button on the WebLCT tool bar.

Figure 4-197 USB Memory Utility Window



This step ends the procedure.

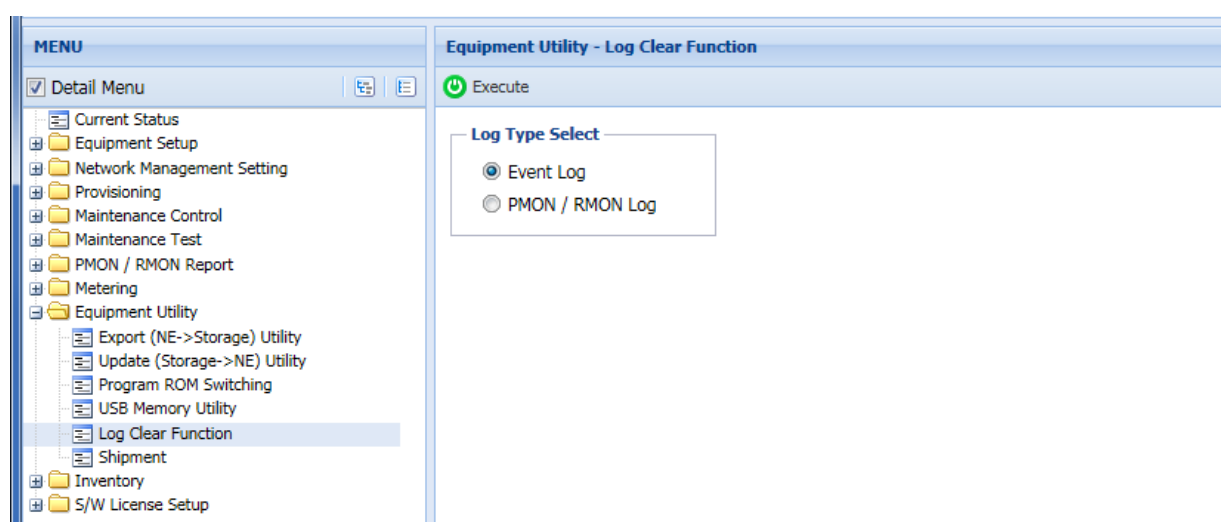
4.9.5 Log Clear Function

Event Logs, PMON Logs, and RMON Logs those are no longer necessary can be cleared from the system storage.

Procedure 4-36

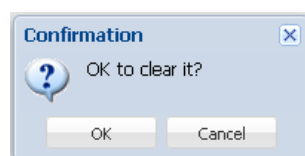
1. In the **MENU** frame on the left, expand the **Equipment Utility** to select **Log Clear Function**. The **Log Clear Function** window appears.
2. Select the log type (**Event Log** or **PMON/RMON Log**) by clicking its radio button.

Figure 4-198 USB Memory Utility Window



3. **Confirmation** dialog box appears. Click the **OK** button to proceed.

Figure 4-199 Confirmation Dialog Box



4. When completed, **Information** dialog box appears. Click the **OK** button to proceed. This step ends the procedure.

Figure 4-200 Information Dialog Box



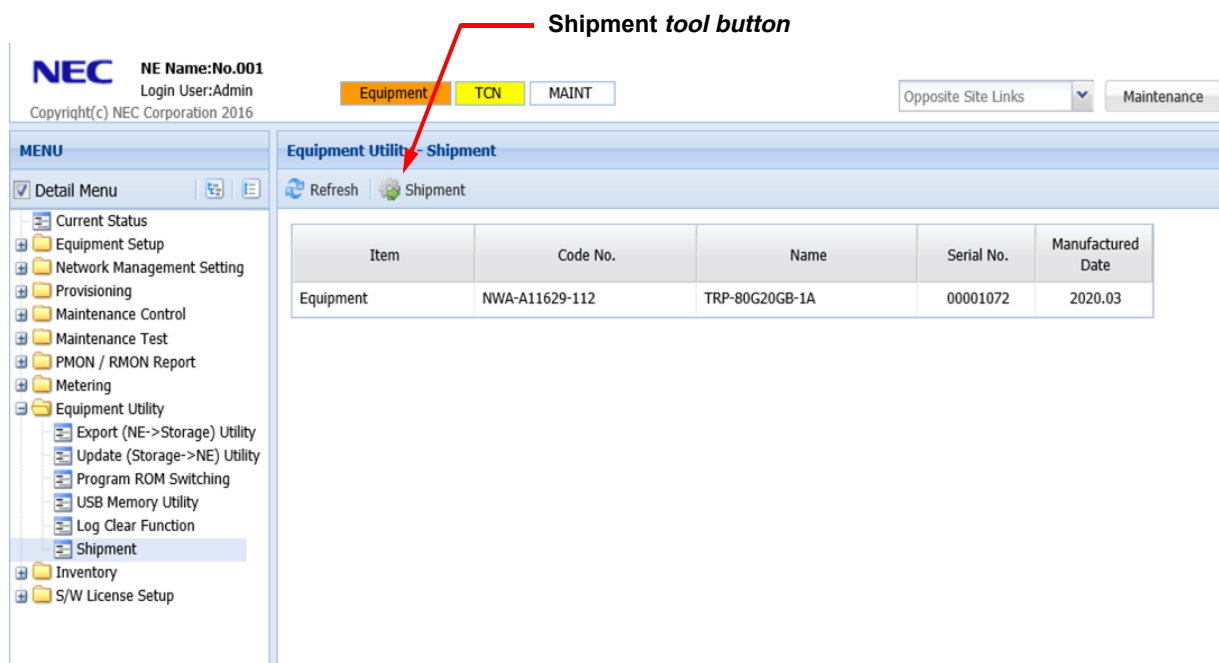
4.9.6 Restore Factory Default Settings

- ♦ The following procedure terminates the **WebLCT** and restarts iPASOLINK EX/A.

Procedure 4-37

1. Click the **Maintenance** tool button on the tool bar of the **WebLCT** to put the system into the Maintenance Mode. The **MAINT** indicator on the tool bar changes to orange.
2. In the **MENU** frame on the left, expand the **Equipment Utility** to select **Shipment**. The **Shipment** window appears.
3. Click the **Shipment** tool button.

Figure 4-201 Shipment Window



The **Shipment** option window appears.

4. Select the operation from the drop-down list, and click the **OK** button.

Figure 4-202 Shipment Option Window

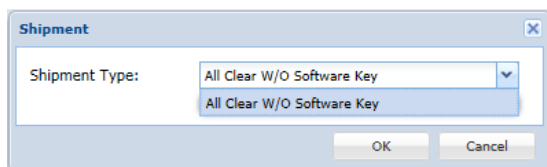
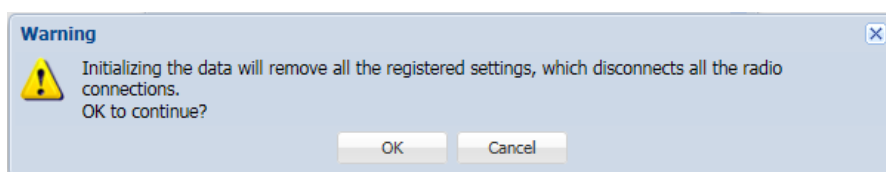


Table 4-18 Shipment Parameter

Parameter	Value	Description
Shipment Type	All Clear w/o Software Key	Restore all the data except Software Key.

5. **Warning** dialog box appears. Click the **OK** button.

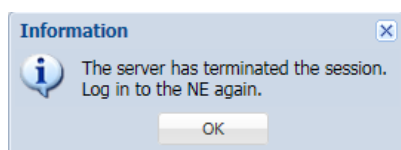
Figure 4-203 Warning Dialog Box



iPASOLINK EX/A will restart automatically.

6. Another **Information** dialog box appears. Click the **OK** button. The **WebLCT** will shut down automatically.

Figure 4-204 Information Dialog Box



7. When the iPASOLINK EX/A restarts, launch the **WebLCT** and log in to the iPASOLINK EX/A again.

This step ends the procedure.

4.10 Inventory

The **Inventory** retrieves and displays the information of hardware, firmware, network, and software license keys for the equipment.

4.10.1 Equipment Inventory Information

Procedure 4-38

1. In the **MENU** frame on the left, expand the **Inventory** to select **Equipment Inventory Information**. The **Equipment Inventory Information** window appears.

Figure 4-205 Equipment Inventory Information Window

NEC NE Name: No.001
Login User: Admin
Copyright(c) NEC Corporation 2016

Equipment TCN MAINT Opposite Site Links

MENU

- Detail Menu
- Current Status
- Equipment Setup
- Network Management Setting
- Provisioning
- Maintenance Control
- Maintenance Test
- PMON / RMON Report
- Metering
- Equipment Utility
- Inventory
 - Equipment Inventory Information
 - S/W License Information
 - User Description
 - S/W License Setup

Inventory - Equipment Inventory Information

Refresh Export Equipment Inventory Information

Hardware Information

Code No.	Name	Serial No.	Manufactured Date	
NWA-A11629-112	TRP-80G20GB-1A	00001044	2020.03	1.00 /

Firmware Information

Item	Current Version	Uncurrent Version
BB	03.00.07	03.00.07
RF (No.1)	1.13.0	1.12.A
RF (No.2)	1.13.0	1.12.A

FPGA Information

Code No.	Name	Version
GFN-A11214-001	EX-CTRL2	5.14

Controller Information

Item	Current Version
Main	3.00

Parameter Information

Item	Current Version
MODEM	3.01

See [Figure 4-206 Equipment Inventory Information](#) for the overall view.

Figure 4-206 Equipment Inventory Information

Inventory - Equipment Inventory Information

Refresh
Export Equipment Inventory Information

Hardware Information

Code No.	Name	Serial No.	Manufactured Date	Hardware Version
NWA-A11629-112	TRP-80G20GB-1A	00001044	2020.03	1.00 / 40A0 + 40A0

Firmware Information

Item	Current Version	Uncurrent Version
BB	03.00.07	03.00.07
RF (No.1)	1.13.0	1.12.A
RF (No.2)	1.13.0	1.12.A

FPGA Information

Code No.	Name	Version
GFN-A11214-001	EX-CTRL2	5.14

Controller Information

Item	Current Version
Main	3.00

Parameter Information

Item	Current Version
MODEM	3.01

SFP / SFP+ Information

Port	Type	Link Length [km]	Wavelength [nm]
Port02	10G BASE-SR		850
Port03	10G BASE-SR		850
Port04	10G BASE-SR		850

MAC Address Information M-Plane

Item	Port	MAC Address
Main	DCN Port	02:E2:00:10:44:00
Main	Inband Port	02:E2:00:10:44:00

MAC Address Information U-Plane

Item	Port	MAC Address
Main	Port01	02:E2:00:10:44:01
Main	Port02	02:E2:00:10:44:02
Main	Port03	02:E2:00:10:44:03
Main	Port04	02:E2:00:10:44:06
MODEM (Slot01)	Port01	02:E2:00:10:44:04
MODEM (Slot02)	Port01	02:E2:00:10:44:05

Frequency Information

Item	TX Start Frequency [MHz]	TX Stop Frequency [MHz]	RX Start Frequency [MHz]	RX Stop Frequency [MHz]	Frequency Step [MHz]	Shift Frequency [MHz]	Upper / Lower	TX Phase
RF (No.1)	81125.000	85875.000	71125.000	75875.000	001.250	10000.000	Upper	Forward
RF (No.2)	81125.000	85875.000	71125.000	75875.000	001.250	10000.000	Upper	Forward

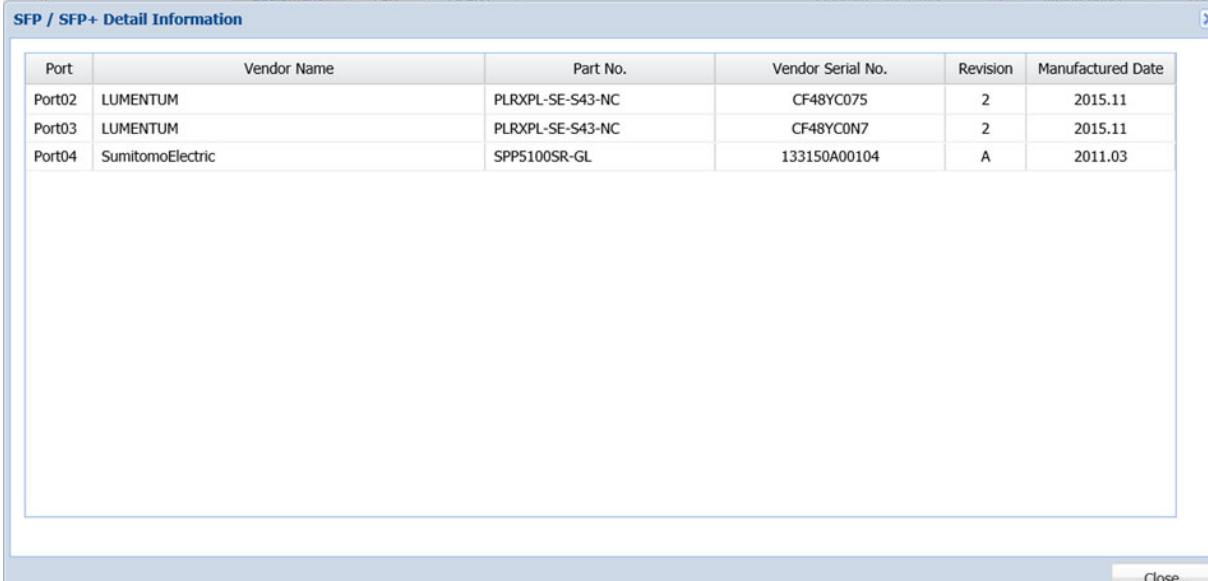
Figure 4-207

[Detail](#)

Table 4-19 Equipment Inventory Information

Parameter	Description
Hardware Information	Code No. (NEC Identification Number), Name, Serial No., Manufactured date and Hardware Version.
Firmware Information	Name, Current Version and Uncurrent Version.
FPGA Information	Code No. (NEC Identification Number), Name and Version.
Controller Information	Current Version
Parameter Information	Current Version
SFP/SFP+ Information	Port (registered port), Type (Ethernet category), Wavelength (nm) and Color. Refer to Figure 4-207 and Table 4-20 as well.
MAC Address Information M-Plane/U-Plane	Port and MAC Address.
Frequency Information	RF running status (Sub-Band usage) that includes: TX Start/Stop Frequency, RX Start/Stop Frequency, Frequency Step, Shift Frequency, Higher or Lower Band, and TX/RX Phase.

Figure 4-207 SFP/SFP+ Detailed Information



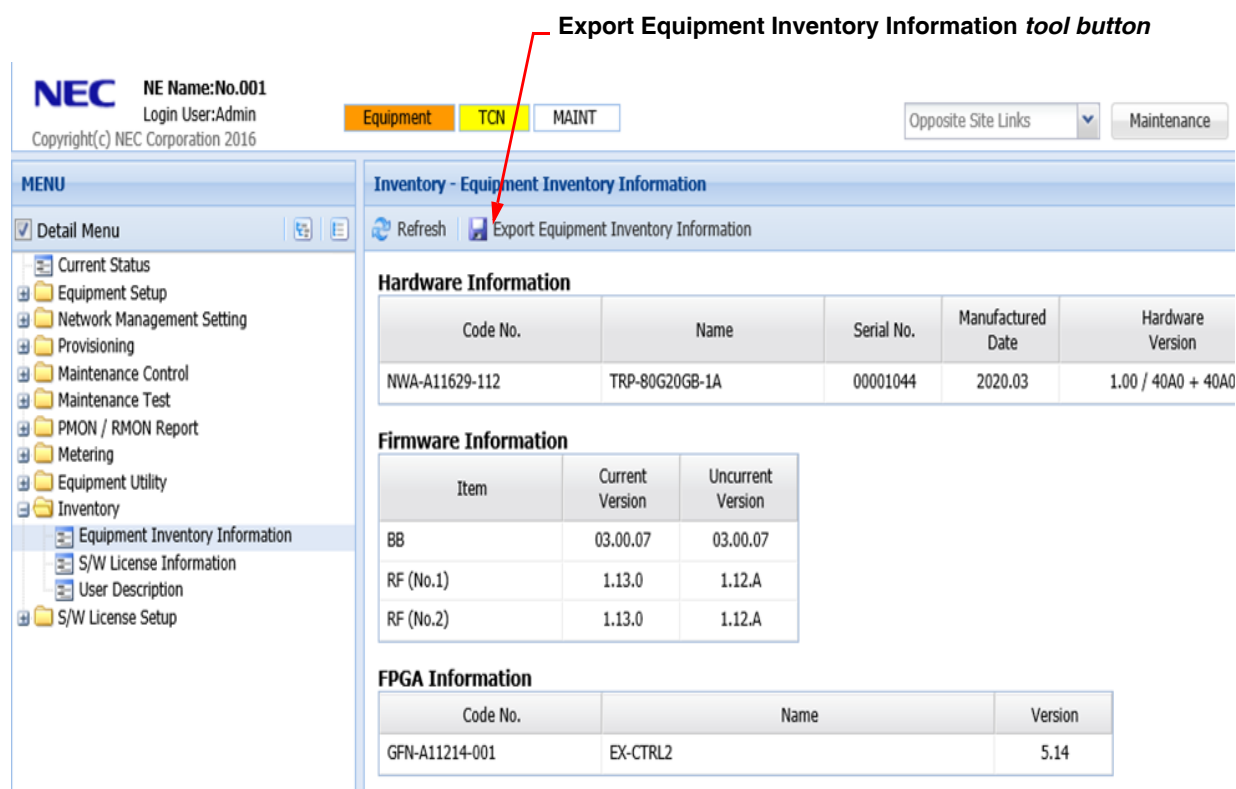
Port	Vendor Name	Part No.	Vendor Serial No.	Revision	Manufactured Date
Port02	LUMENTUM	PLRXPL-SE-S43-NC	CF48YC075	2	2015.11
Port03	LUMENTUM	PLRXPL-SE-S43-NC	CF48YC0N7	2	2015.11
Port04	SumitomoElectric	SPP5100SR-GL	133150A00104	A	2011.03

Table 4-20 SFP/SFP+ Detailed Information

Parameter	Description
SFP/SFP+ Detail Information	Port (registered port), Vendor Name, Part No., Vendor Serial No., Revision, and Manufactured Date.

- To save the **Inventory Information**, click the **Export Equipment Inventory Information** tool button, if required.

Figure 4-208 Location of Export Tool Button



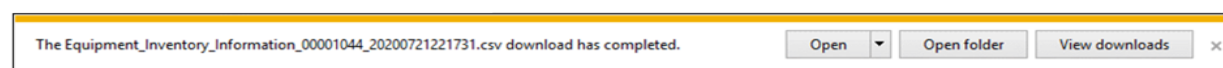
- The **File Download** option window appears. Click the **Save** button.

Figure 4-209 File Download Window



- When completed, **Download Complete** window appears. Click the **Close** button.

Figure 4-210 Download Complete Window



- Confirm that the Inventory Information file is saved in the selected folder.
This step ends the procedure.

4.10.2 Software License Key Information

Following describes how to confirm and export the Software License Key of the equipment.

Procedure 4-39

1. In the **MENU** frame on the left, expand the **Inventory** to select **S/W License Information**. The **S/W License Information** window appears.

Figure 4-211 S/W License Information Window

NEC NE Name:No.001
Login User:Admin
Copyright(c) NEC Corporation 2016

Equipment TCN MAINT

MENU

- Detail Menu
- Current Status
- Equipment Setup
- Network Management Setting
- Provisioning
- Maintenance Control
- Maintenance Test
- PMON / RMON Report
- Metering
- Equipment Utility
- Inventory
 - Equipment Inventory Information
 - S/W License Information**
 - User Description
 - S/W License Setup

Inventory - S/W License Information

Refresh Export S/W License Information

System

Category	Current State
Multi Traffic Aggregation	Multi
MODEM Activation	2xMODEM

Radio Function

Category	Current State
Radio Bit Rate	AMBR
High Modulation	Not Available
XPIC Function	Available (1 Pair)
Encryption	Available
TX Power Up	Not Available
Radio Capacity - 01	10000 [Mbps]
Radio Capacity - 02	10000 [Mbps]

Ethernet Function

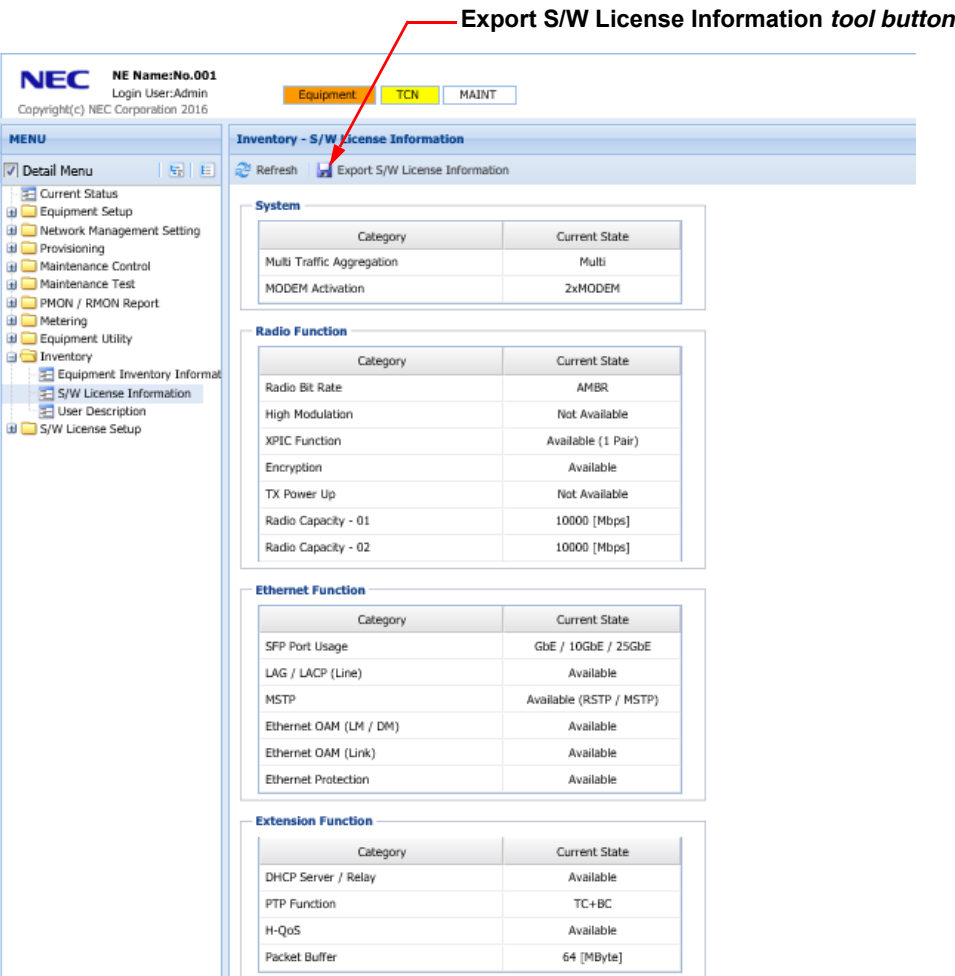
Category	Current State
SFP Port Usage	GbE / 10GbE / 25GbE
LAG / LACP (Line)	Available
MSTP	Available (RSTP / MSTP)
Ethernet OAM (LM / DM)	Available
Ethernet OAM (Link)	Available
Ethernet Protection	Available

Extension Function

Category	Current State
DHCP Server / Relay	Available
PTP Function	TC+BC
H-QoS	Available
Packet Buffer	64 [MByte]

2. To save the **Inventory Information**, click the **Export S/W License Information** tool button, if required.

Figure 4-212 Location of Export Button



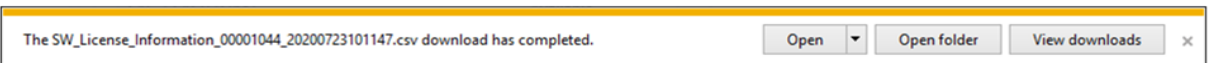
3. File Download option window appears. Click the **Save** button.

Figure 4-213 File Download Option Window



4. When completed, **Download Complete** window appears. Click the **Close** button.

Figure 4-214 Download Complete Window



5. Confirm that the License Information file is saved in the selected folder.
This step ends the procedure.

4.10.3 User Description

Some hardware cannot store their registration information. **User Description** is an option to store those objects' information manually. Following describes how to create memos onto WebLCT.

Characters to enter here are restricted. Followings are the list of the available characters:

b6-b4		0	1	10	11	100	101	110	111
b3-b0		0	1	2	3	4	5	6	7
0	0	—	—	Space (NOTE 2)	0	@	P	'	p
1	1	—	—	!	1	A	Q	a	q
10	2	—	—	"	2	B	R	b	r
11	3	—	—	#	3	C	S	c	s
100	4	—	—	\$	4	D	T	d	t
101	5	—	—	%	5	E	U	e	u
110	6	—	—	&	6	F	V	f	v
111	7	—	—	'	7	G	W	g	w
1000	8	—	—	(	8	H	X	h	x
1001	9	—	—	)	9	I	Y	i	y
1010	A	—	—	*	:	J	Z	j	z
1011	B	—	—	+	;	K	[	k	{
1100	C	—	—	,	<	L	\	l	|
1101	D	—	—	-	=	M	]	m	}
1110	E	—	—	.	>	N	^	n	~
1111	F	—	—	/	?	O	_	o	—

NOTE: Spaces can be used between other available characters only, not at the head or tail end.

Procedure 4-40

- 1. In the **MENU** frame on the left, expand the **Inventory** to select **User Description**. The **User Description** window appears.
- 2. Click a desired link, and enter the information.

Figure 4-215 User Description Window

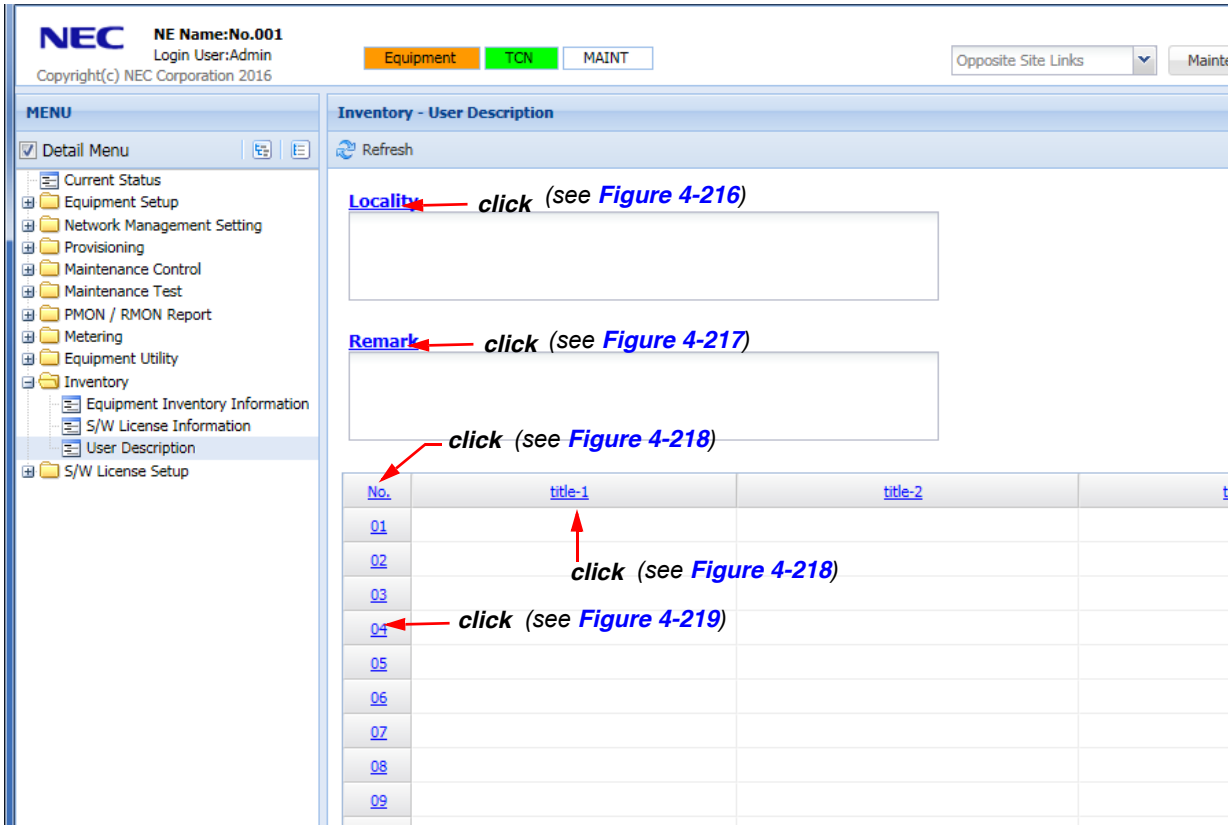


Figure 4-216 User Description (Locality) Option Window

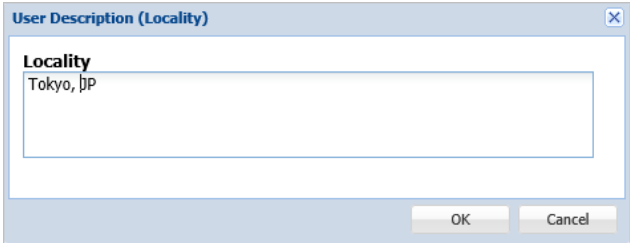
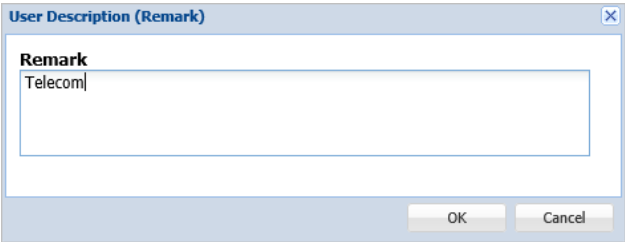


Figure 4-217 User Description (Remark) Option Window



A screenshot of a software window titled "User Description (Remark)". It features a text input field with the label "Remark" and the text "Telecom" entered. At the bottom right, there are "OK" and "Cancel" buttons.

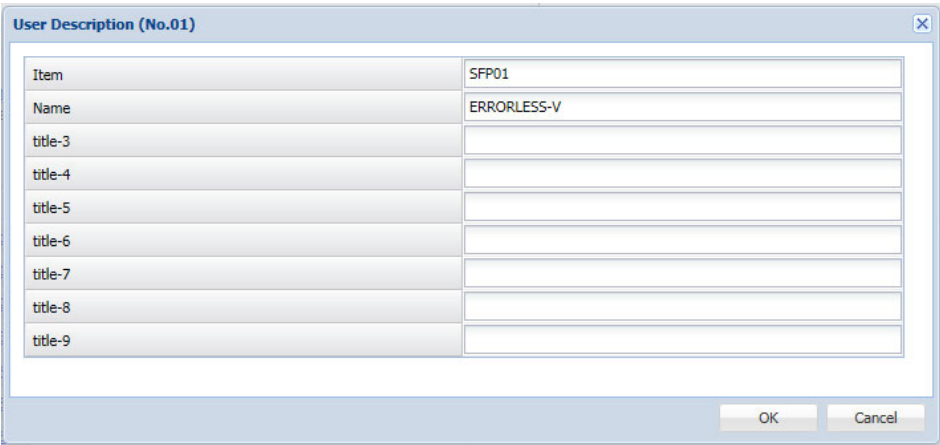
Figure 4-218 User Description (Title) Option Window



A screenshot of a software window titled "User Description (Title)". It contains a table with 9 rows. The first column lists titles from "title-1" to "title-9", and the second column lists corresponding items: "Item", "Name", "title-3", "title-4", "title-5", "title-6", "title-7", "title-8", and "title-9". At the bottom right, there are "OK" and "Cancel" buttons.

title-1	Item
title-2	Name
title-3	title-3
title-4	title-4
title-5	title-5
title-6	title-6
title-7	title-7
title-8	title-8
title-9	title-9

Figure 4-219 User Description (No. #) Option Window



A screenshot of a software window titled "User Description (No.01)". It contains a table with 9 rows. The first column lists labels: "Item", "Name", "title-3", "title-4", "title-5", "title-6", "title-7", "title-8", and "title-9". The second column contains the values: "SFP01", "ERRORLESS-V", and seven empty text boxes. At the bottom right, there are "OK" and "Cancel" buttons.

Item	SFP01
Name	ERRORLESS-V
title-3	
title-4	
title-5	
title-6	
title-7	
title-8	
title-9	

- 3. When completed, click the **OK** button. Clicking the **OK** button of each option window displays the **Information** dialog box.

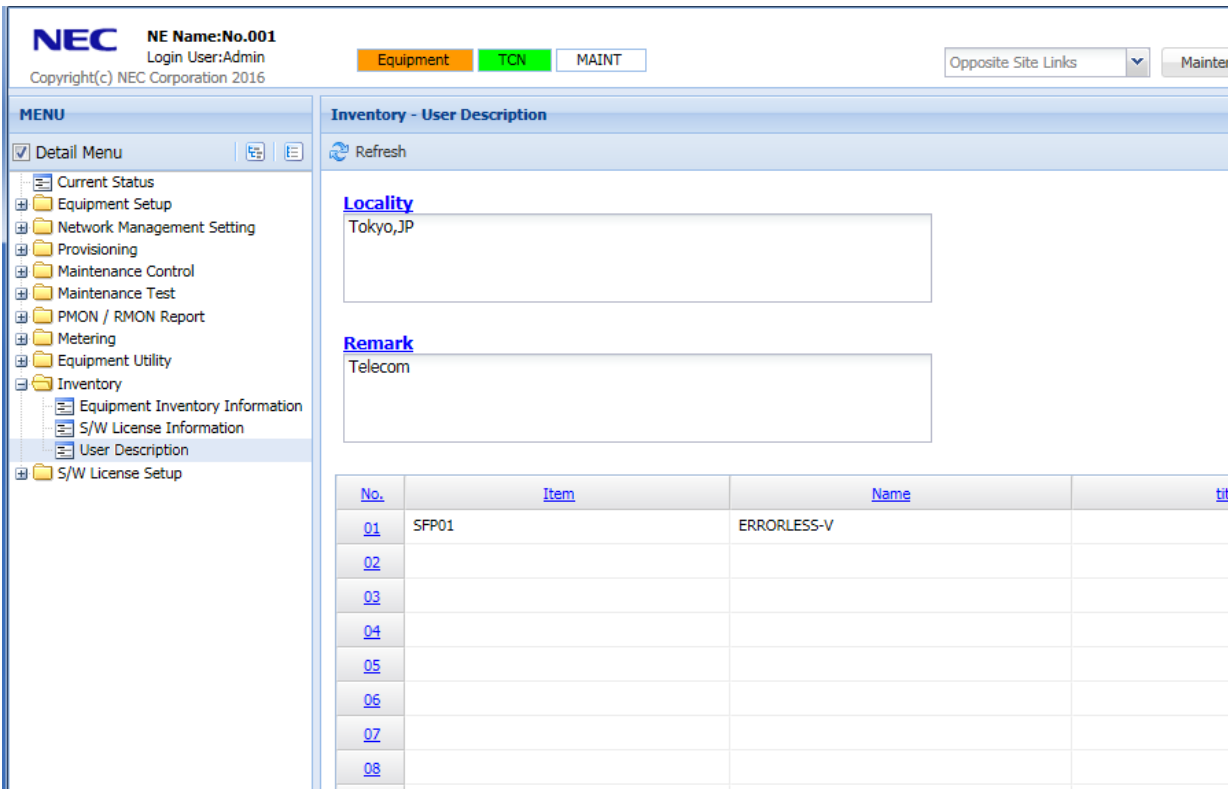
- 4. Click the **OK** button to proceed.

Figure 4-220 Information Dialog Box



- 5. The User Description window updates the information.

Figure 4-221 User Description Window



This step ends the procedure.

5. CORRECTIVE MAINTENANCE

5.1 Equipment Conditions

5.1.1 Reporting Procedure

Information of equipment condition can be obtained by the WebLCT. The condition is also visibly reported using indication lamps on the equipment. Following categories of alarm status are defined in iPASOLINK EX/A.

5.1.2 Alarm Status

♦ **CL [Cleared]:**

CL indicates that one or more previously reported alarms has/have been cleared. This state applies to all alarms detected for this managed object with the same alarm type, probable cause and specific problems (if given). Multiple associated notifications may be cleared by using the Correlated notifications parameter (defined below).

♦ **ID [Indeterminate]:**

ID indicates that the detected condition cannot be determined to classify the severity level.

♦ **CR [Critical]:**

CR indicates for the Critical Alarm that causes a service affecting failure, which requires an immediate corrective action. If this level of condition is reported, the managed object could totally go out of service, restoring its capability.

♦ **MJ [Major]:**

MJ indicates for the Major Alarm that causes a service affecting failure which requires an urgent corrective action. If this level of condition is reported, the capability of the managed object could be severely degraded, restoring its full capability.

♦ **MN [Minor]:**

MN indicates for the Minor Alarm that detects the existence of a non-service affecting condition, which requires the corrective action in order to prevent a more serious (such as a service affecting) failure. This condition does not degrade the capacity of the managed object.

♦ **WR [Warning]:**

WR indicates for the detection of a potential or impending service affecting fault, before any significant effects have been felt. Action should be taken to further diagnose (if necessary) and correct the problem in order to prevent a more serious failure, such as a service affecting fault.

♦ **NR [Not Report]:**

An event that is assigned to **NR** is not reported if it is detected.

5.2 View Current Status

5.2.1 Overview

Current Status window of the **WebLCT** displays the equipment status, event logs and alarms detected by the equipment. The window displays the view-only information; not editable.

5.2.2 Display Current Status Window

Procedure 5-1

- ♦ **From starting up the WebLCT:**

1. Launch and log in to **WebLCT**. The initial (main) window of the WebLCT displays the **Current Status** information.

- ♦ **From other task window:**

1. Click the **Current Status** on top of the **MENU** frame in the left. The main window in the right shows the **Current Status** information.

The Current Status window provides the information on the following objects separated by tabs on which their items are indicated:

- ♦ **Active Alarm**
- ♦ **Event Log**
- ♦ **Equipment**
- ♦ **ETH**

5.2.2.1 Active Alarm Tab

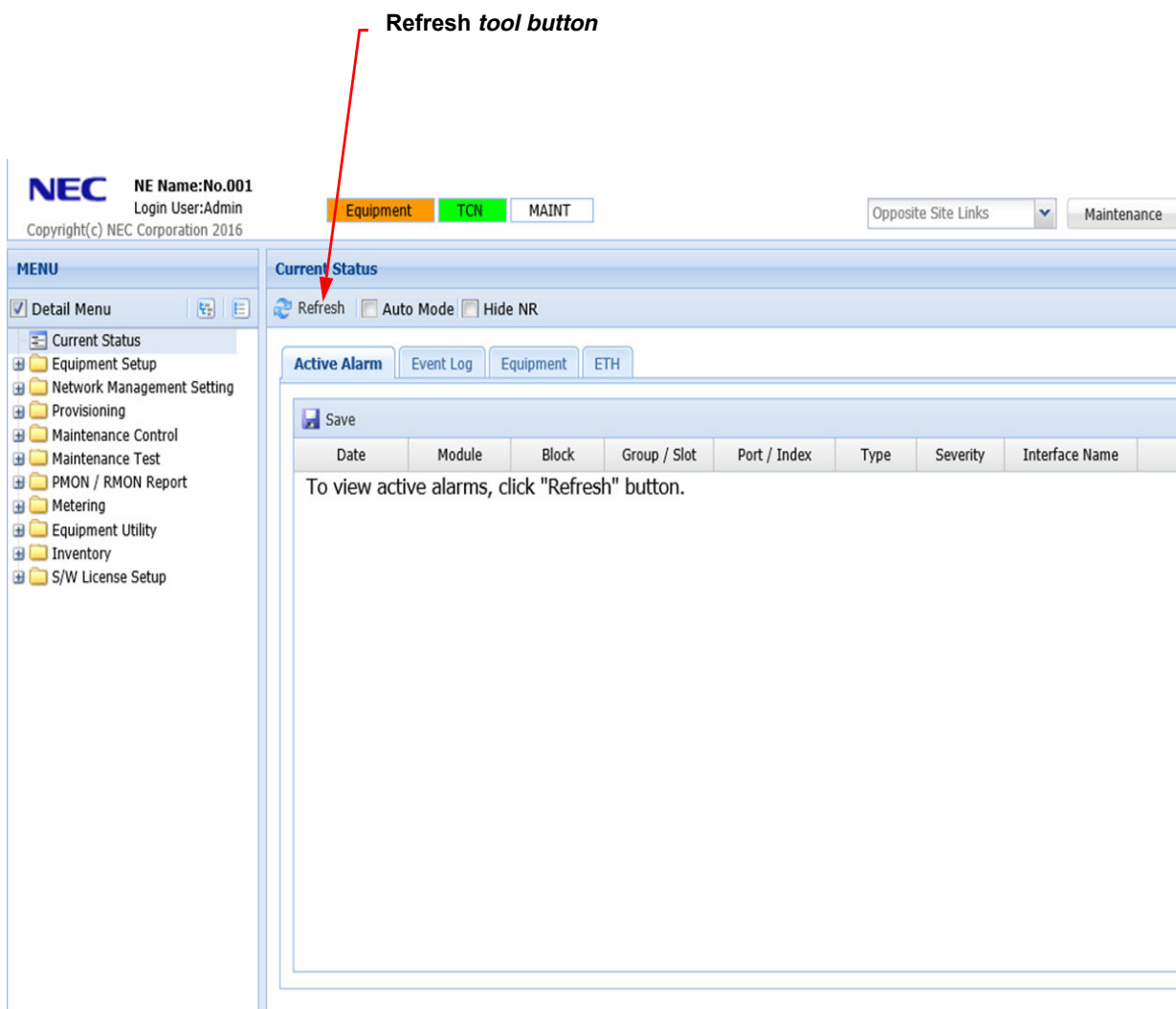
The **Active Alarm** tabbed window displays the list of current alarms that have been detected by the equipment.

◆ View Active Alarm

Procedure 5-2

1. Click the **Refresh** tool button to display the Active Alarms.

Figure 5-1 Current Status Window — Active Alarm Tab



The Active Alarm list is retrieved.

2. Click the link in the **Items** field.

Figure 5-2 Active Alarm Tab (Updated)

click

NEC

NE Name:No.001
Login User:Admin
Copyright(c) NEC Corporation 2016

EquipmentTCNMAINT

Opposite Site LinksMaintenanceLogoutAuto-Logout

MENU

Detail Menu

Current Status

Equipment Setup

Network Management Setting

Provisioning

Maintenance Control

Maintenance Test

PMON / RMON Report

Metering

Equipment Utility

Inventory

S/W License Setup

Current Status

RefreshAuto ModeHide NR

Active AlarmEvent LogEquipmentETH

Save

Date	Module	Block	Group / Slot	Port / Index	Type	Severity	Interface Name	Items
2020/07/17 22:12:47	BB	MODEM	Slot01			MJ		LOF
2020/07/17 22:12:55	BB	MODEM	Slot02			MJ		LOF
2020/07/17 22:18:52	BB	Main		Port4		MJ		ETH LOS
2020/07/17 22:21:18	BB	Main		Port3		MN		SFP Type Mismatch
2020/07/17 22:18:52	BB	Main		Port4		MJ		ETH LFE

3. Alarm Information window appears.

Figure 5-3 Alarm Information Window

Alarm Information

LOF

Description:
Loss of Frame at the Radio side

Restoration Procedure:
1. Check and correct the equipment configuration first.
2. Check the fading or/and interference if RX Level value by RSL monitor is appropriate.
3. Still if the alarm is not cleared, Please contact Technical support for further assistance.

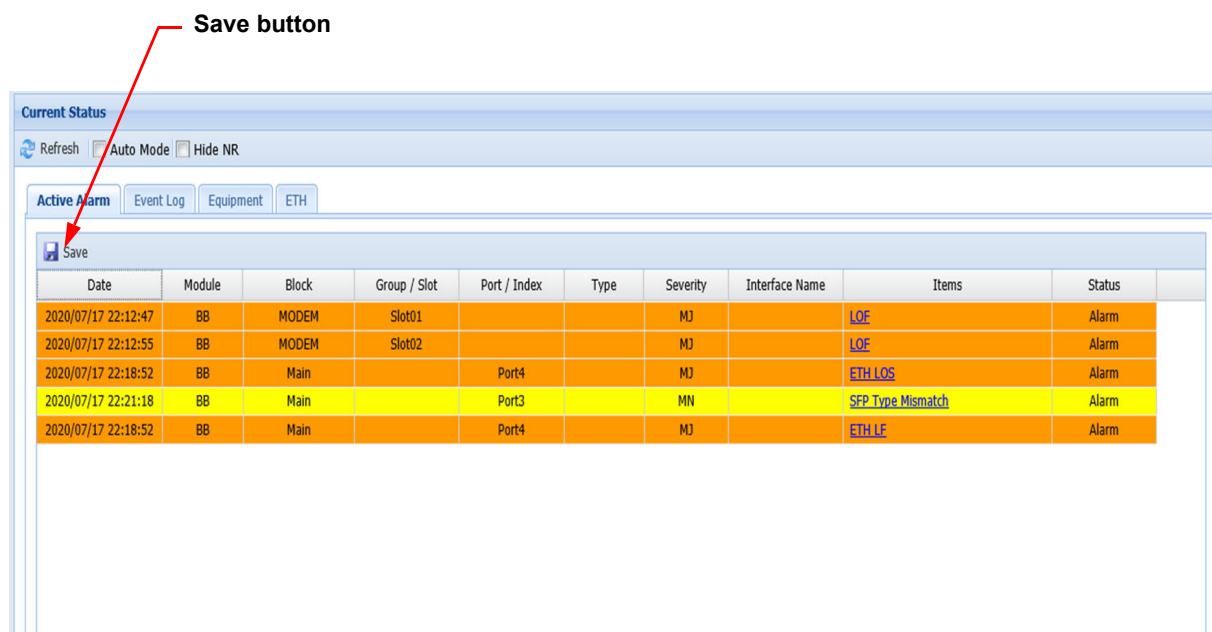
Close

◆ Save Active Alarms

The displayed information can be saved into the storage area of **WebLCT** PC. To save the information, click the **Save** button located within the **Active Alarm** list. See [5.2.3 Save the Displayed Information](#) for an example.

Figure 5-4 Current Status Window — Active Alarm Tab

Save button



The screenshot shows the 'Current Status' window with the 'Active Alarm' tab selected. A red arrow points to a 'Save' button (floppy disk icon) located above the alarm list table. The table contains the following data:

Date	Module	Block	Group / Slot	Port / Index	Type	Severity	Interface Name	Items	Status
2020/07/17 22:12:47	BB	MODEM	Slot01			MJ		LOF	Alarm
2020/07/17 22:12:55	BB	MODEM	Slot02			MJ		LOF	Alarm
2020/07/17 22:18:52	BB	Main		Port4		MJ		ETH LOS	Alarm
2020/07/17 22:21:18	BB	Main		Port3		MN		SFP Type Mismatch	Alarm
2020/07/17 22:18:52	BB	Main		Port4		MJ		ETH LE	Alarm

NOTE: Refer to the procedure provided in [5.2.3 Save the Displayed Information](#) for saving the alarm list.

5.2.2.2 Event Log Tab

The **Event Log** tabbed window displays the information of all the detected alarms and status, including any changes made to the Lines and the equipment configuration.

The displayed information can be saved into the storage area of **WebLCT** PC. To save the information, click the **Save** button located within the **Event Log** list.

Figure 5-5 Current Status Window — Event Log Tab

Save button

No.	Date	User ID	Module / Function	Block	Group / Slot	Port / Index	Type	Interface Name	Items	Status
05312	2020/07/17 17:13:05		BB	MODEM	MODEM	Multi GRP1			Multi Traffic Aggregation Encapsulati...	Occur
05311	2020/07/17 17:13:04		BB	MODEM	MODEM	Multi GRP1			Multi Traffic Aggregation Encapsulati...	Normal
05310	2020/07/17 17:12:53		BB	Main		Port3			ETH LF	Normal
05309	2020/07/17 17:12:53		BB	Main		Port3			ETH LOS	Normal
05308	2020/07/17 17:12:52		BB	Main		Port3			ETH LF	Alarm
05307	2020/07/17 17:12:52		BB	Main		Port3			ETH LOS	Alarm
05306	2020/07/17 17:12:01		BB	MODEM	MODEM	Multi GRP1			Multi Traffic Aggregation Encapsulati...	Occur
05305	2020/07/17 17:12:00		BB	MODEM	MODEM	Multi GRP1			Multi Traffic Aggregation Encapsulati...	Normal
05304	2020/07/17 17:11:59		BB	MODEM	MODEM	Multi GRP1			Multi Traffic Aggregation Encapsulati...	Occur
05303	2020/07/17 17:11:58		BB	MODEM	MODEM	Multi GRP1			Multi Traffic Aggregation Encapsulati...	Normal
05302	2020/07/17 17:11:57		BB	MODEM	MODEM	Multi GRP1			Multi Traffic Aggregation Encapsulati...	Occur
05301	2020/07/17 17:11:56		BB	MODEM	MODEM	Multi GRP1			Multi Traffic Aggregation Encapsulati...	Normal
05300	2020/07/17 16:36:22	Admin	ETH Function Setting	Equipment Setting	Common				FE MAX Frame Size	2000
05299	2020/07/17 16:36:22	Admin	ETH Function Setting	Equipment Setting	Common				10GbE / GbE MAX Frame Size	9000
05298	2020/07/17 16:30:02		BB			Multi GRP1	15min		RX CRC Alignment Errors	Normal
05297	2020/07/17 16:06:05		BB			Multi GRP1	15min		RX CRC Alignment Errors	Alarm

NOTE: Refer to the procedure provided in [5.2.3 Save the Displayed Information](#) for saving the log list.

5.2.2.3 Equipment Tab and List of Conditions

The **Equipment** tabbed window displays the information of status detected from MODEM and by equipment.

Figure 5-6 Current Status Window — Equipment Tab

Block	Group / Slot	Port / Index	Type	Items	Status
RF	No.1			Mute Status	On
RF	No.2			Mute Status	On
MODEM	Slot1			TX Modulation	QPSK
MODEM	Slot1			RX Modulation	Invalid
MODEM	Slot2			TX Modulation	QPSK
MODEM	Slot2			RX Modulation	Invalid
MODEM	Slot1	Port01		FDB Full	Not Reached
MODEM	Slot2	Port01		FDB Full	Not Reached
Main				Maintenance	Off
Main				Equipment Start-up Status	Power ON
Main				Trap Suppression Status	Off
BB				Total FDB Full	Not Reached
BB		VLAN ID1		FDB Full	Not Reached
Main				CLK Status Changed	Freerun

Table 5-1 List of Conditions for Equipment (1 of 3)

Status	Description
Mute Status	Indicates that the control status of the RF TX Power Output is set to MUTE.
ATPC Power Mode	Indicates that a failure of ATPC control signal (for 90 seconds), or a status of MAX Power (for 90 seconds) has been detected.
FDB Full	FDB Full indication is specified per VLAN.
RX Modulation	Indicates that the modulation system at the receiving side has been changed.
Total FDB Full	Dynamic Entry in L2Switch reaches the maximum number.
TX Modulation	Indicates that the modulation system of MODEM at the transmitting side has been changed.
CLK Status Changed	Indicates that a change is made to Reference Clock.
PTP Radio Clock Status	Indicates the PTP Radio Clock Status.

Table 5-1 List of Conditions for Equipment (2 of 3)

Status	Description
Maintenance	Indicates that the system is set into the Maintenance mode.
Equipment Start-up Status	Indicates that the equipment is started up, or rebooted, and reports the cause.
Trap Suppression Status	Indicates the state of Trap Suppression function.
ETH-Ring Status	Indicates the state of the ETH-Ring.
ETH-Ring Cause	Indicates the ETH-Ring State changes.
ETH-Ring Multi RPL Owner Detect	Indicates that the system detects the multiple settings of ETH-Ring RPL.
ETH-Ring Port0 Status	Indicates that the state changes of the Port configuring ETH-Ring.
ETH-Ring Port0 Loop Detect	Indicates that the system detects loops in ETH-Ring traffic.
ETH-Ring Port0 R-APS Timeout	Indicates that the time out for receiving R-APS message occurs at the node that configures ETH-Ring and has no locked-out ports.
ETH-Ring Port1 Status	Indicates that the state changes of the Port configuring ETH-Ring.
ETH-Ring Port1 Loop Detect	Indicates that the system detects loops in ETH-Ring traffic.
ETH-Ring Port1 R-APS Timeout	Indicates that the time out for receiving R-APS message occurs at the node that configures ETH-Ring and has no locked-out ports.
PTP Sync. Time	Indicates the time of synchronizing with Master when using the PTP function.
Clock Status	Indicates the status of Frequency and Time Synchronization on the PTP function block.
PTP Clock Quality Level	Indicates the level of PTP Clock Quality.
Own Clock ID	Indicates the PTP Clock of the equipment.
Grandmaster / Port ID	Indicates the Port ID of the opposite equipment that is connected with the Grandmaster (Top-level Master) to which the target equipment belongs.
Grandmaster / Clock ID	Indicates the Clock ID of Grandmaster (Top-level Master) to which the target equipment belongs.
Grandmaster / Clock Priority 1	Indicates the Clock Priority 1 of Grandmaster (Top-level Master) to which the target equipment belongs.
Grandmaster / Clock Priority 2	Indicates the Clock Priority 2 of Grandmaster (Top-level Master) to which the target equipment belongs.
Grandmaster / Clock Quality Class	Indicates the Clock Quality Class of Grandmaster (Top-level Master) to which the target equipment belongs.
Grandmaster / Clock Quality Accuracy	Indicates the Clock Quality Accuracy of Grandmaster (Top-level Master) to which the target equipment belongs.

Table 5-1 List of Conditions for Equipment (3 of 3)

Status	Description
Clock Class	Indicates the clock class of opposite node.
Clock ID	Indicates the clock ID of opposite node.
PTP Source Status	Indicates the selected (active) Master, when multiple Master exist, to which the PTP-BC function synchronizes.
Current Status	Indicates the current state of PTP logical ports.
Quality Level	Indicates the quality level of the timing clock.

5.2.2.4 ETH Tab and List of Conditions

The **ETH** tabbed window displays the information of alarms and status detected from GbE ports. Clicking the **ETH** tab adds another row of related tabs.

Figure 5-7 Current Status Window — ETH Tab

Current Status					
Refresh <input type="checkbox"/> Auto Mode <input type="checkbox"/> Hide NR					
Active Alarm Event Log Equipment ETH					
Block	Group / Slot	Port / Index	Type	Items	Status
Main		Port03		Speed & Duplex	10G-Full
Main		Port03		Flow Control	Disable
Main		Port03		LLF	Normal
Main		Port03		LLF OAM Received	Normal
Main		Port04		Speed & Duplex	Invalid
Main		Port04		Flow Control	Disable
Main		Port04		LLF	Normal
Main		Port04		LLF OAM Received	Normal
Main		Port03		SFP Port Type	Fiber
Main		Port04		SFP Port Type	Fiber
Main		Port03		FDB Full	Not Reached
Main		Port04		FDB Full	Not Reached

Table 5-2 List of Conditions for ETH

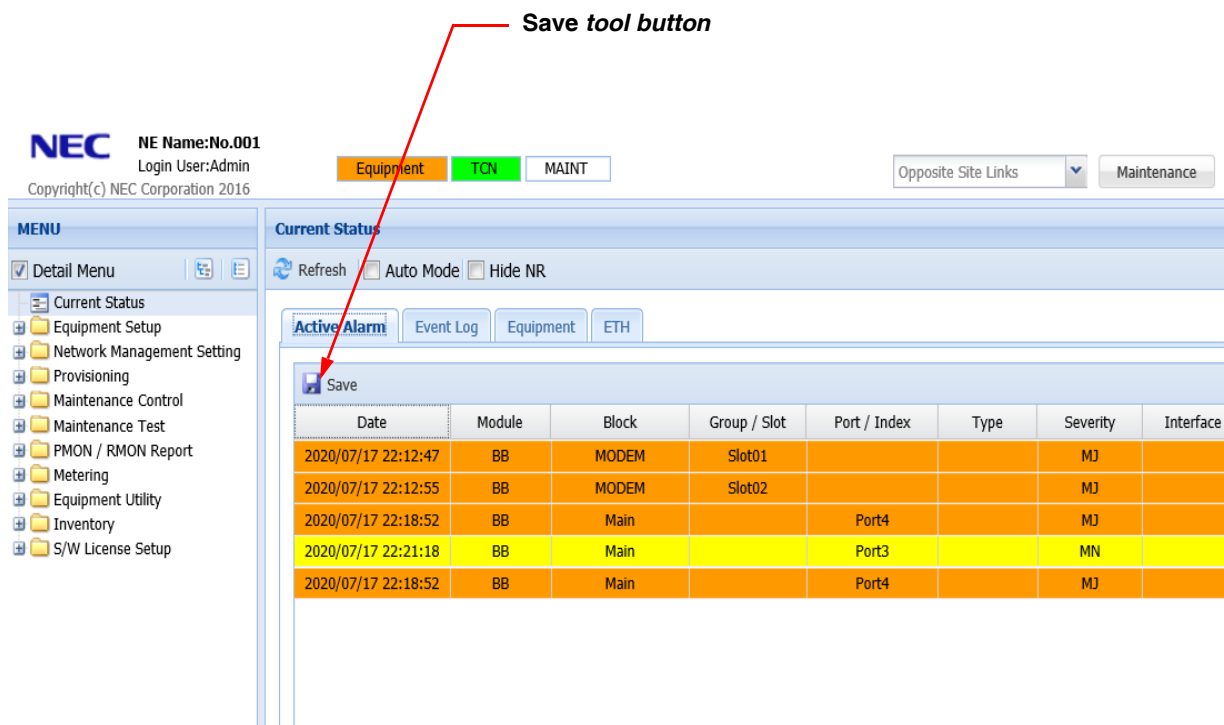
Status	Description
Flow Control	Indicates Flow Control status of the indicated port.
LACP Status	Indicates the current status of Link Aggregation Control Protocol.
LAG LLF Status	Indicates a LINKDOWN caused by Link Loss Forwarding. The Ethernet port that is set to the edge mode is having a LINKDOWN state.
LAG Port Loop Detect	Received LACP Frame has its own MAC Source Address for its Source Address.
LAG Port Status	Indicates the current status of LAG member ports; ACT (Active) or SBY (Standby).
LLF	Indicates the setting of Link Loss Forwarding.
LLF Message Timeout	Loss of a conditional signaling in which the LLF control signal should be received continuously from the opposite radio equipment.
LLF OAM Received	Indicates that the LINKDOWN control request caused by Link Loss Forwarding is issued at Dot3ah and LLF enabled LAN ports on the opposite site.
MDI/MDI-X	Indicates MDI status of the indicated Ethernet port.
Remote Errored Frame	Received a message that Errored Frame has been detected at the opposite site.
Remote Errored Frame Period	Received a message that Errored Frame Period has been detected at the opposite site.
Remote Errored Frame Seconds Summary	Received a message that Errored Frame Seconds Summary has been detected at the opposite site.
Remote Errored Frame Symbol Period	Received a message that Errored Symbol Period has been detected at the opposite site.
SFP Port Type	Indicates an SFP Port type, optic or electric.
Speed & Duplex	Indicates a specified LAN Port Setting on speed rate and duplex mode.
ALS	ALS has suspended the optical output at the indicated GbE/10GbE Port.

5.2.3 Save the Displayed Information

Procedure 5-3

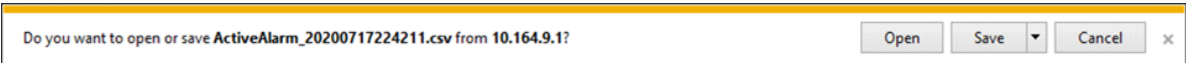
- 1. Click the **Save** button. Save File option window appears.

Figure 5-8 File Current Status Window



- 2. Click the **Save** button:

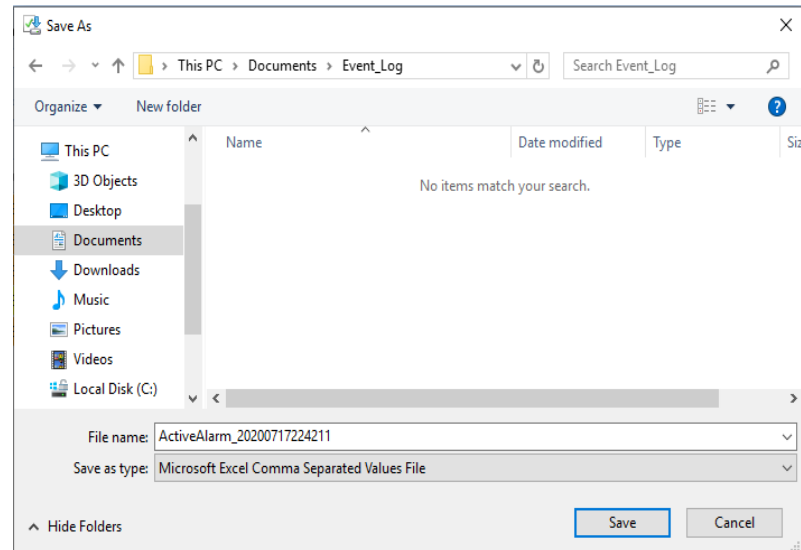
Figure 5-9 Save File Option Window



Save As option window appears.

3. Specify the directory to save the information, then click the **Save** button:

Figure 5-10 Save As Option Window



- ♦ A file name is specified by default using the name of information type and saving date, *e.g.*, an above example shows that the **Active Alarm** data is saved on October 8th, 2010 at 12:59:34 pm. [**ActiveAlarm_YYYYMMDDhhmmss.csv**, where **YYYY** indicates the year using four digits, **MM** indicates the month, **DD** indicates the day, **hh** indicates the hour, **mm** indicates the minute, and **ss** indicates the second.]
4. When the process is completed, the **Download complete** window appears. Click the **Close** button of the window.

Figure 5-11 Download completed Window



5. Check the specified directory for the data if they are properly saved.

This step ends the procedure.

5.3 Alarm Lights

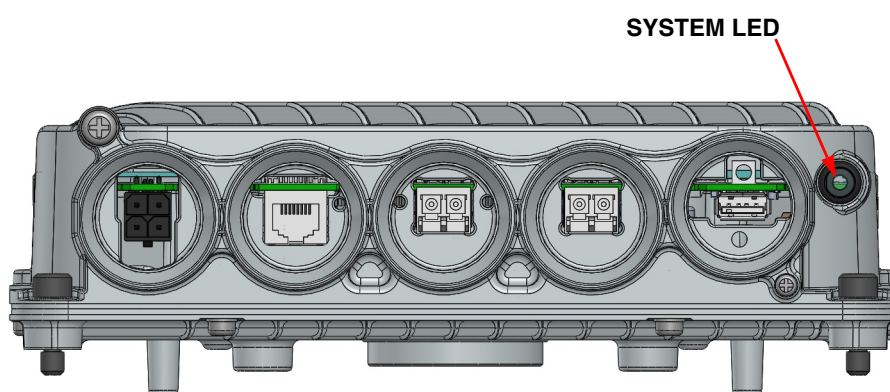
If an alarm is detected, its **SYSTEM** LED on the equipment bottom indicates the condition as well. A faulty part can be located by viewing the current alarm status on the **WebLCT**.

SYSTEM LED lights green when the system is started up. The LED turns red if an alarm is detected, then it turns back to green when the condition is recovered. Following show the locations of LEDs:

5.3.1 iPASOLINK EX/A Controls and Indicators

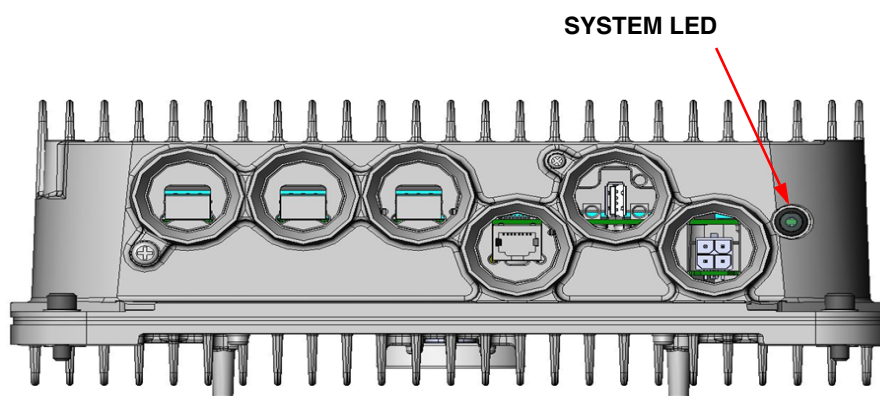
5.3.1.1 iPASOLINK EX/A

Figure 5-12 iPASOLINK EX/A Bottom View



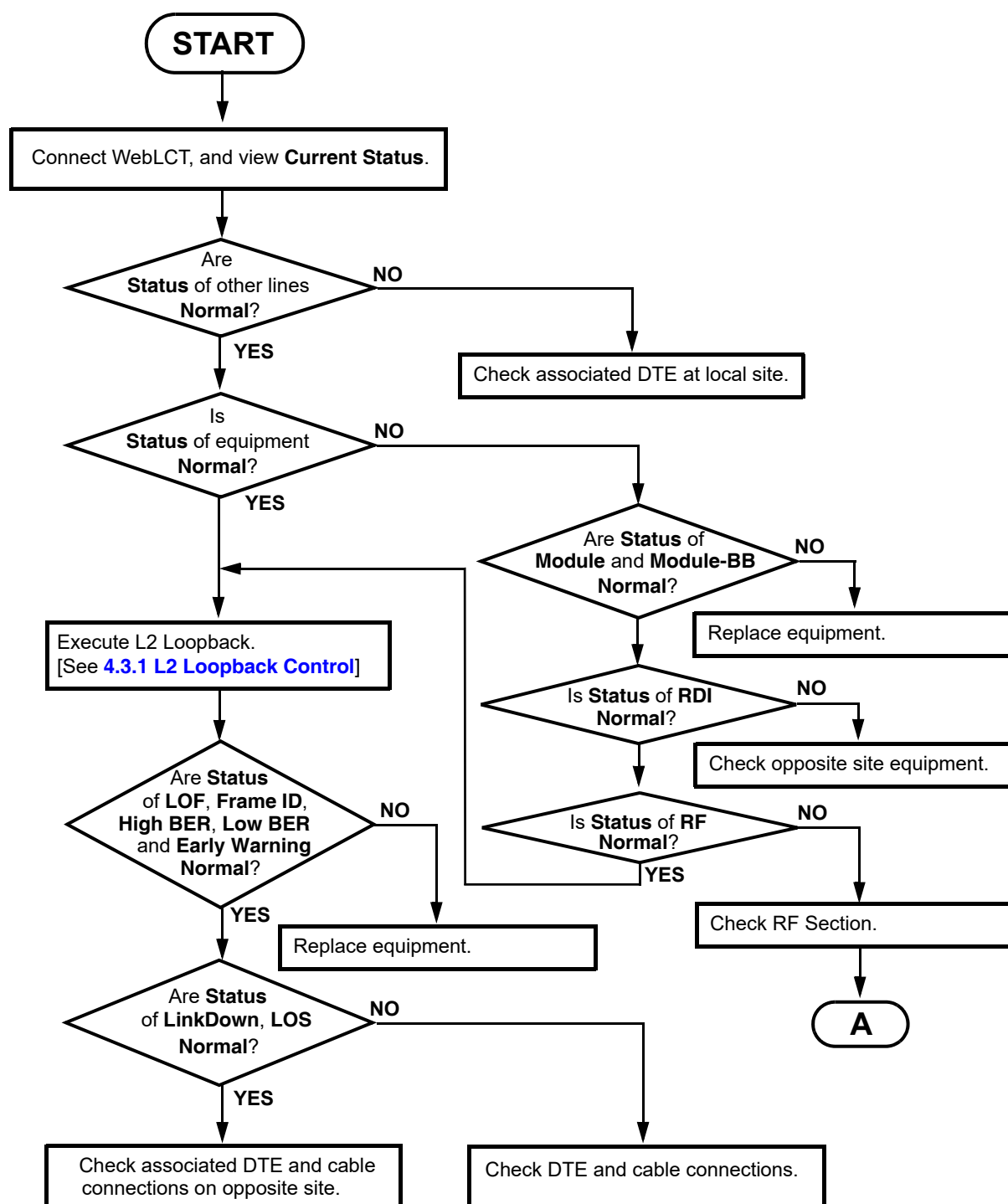
5.3.1.2 iPASOLINK EX/A Dual

Figure 5-13 iPASOLINK EX/A Dual Bottom View

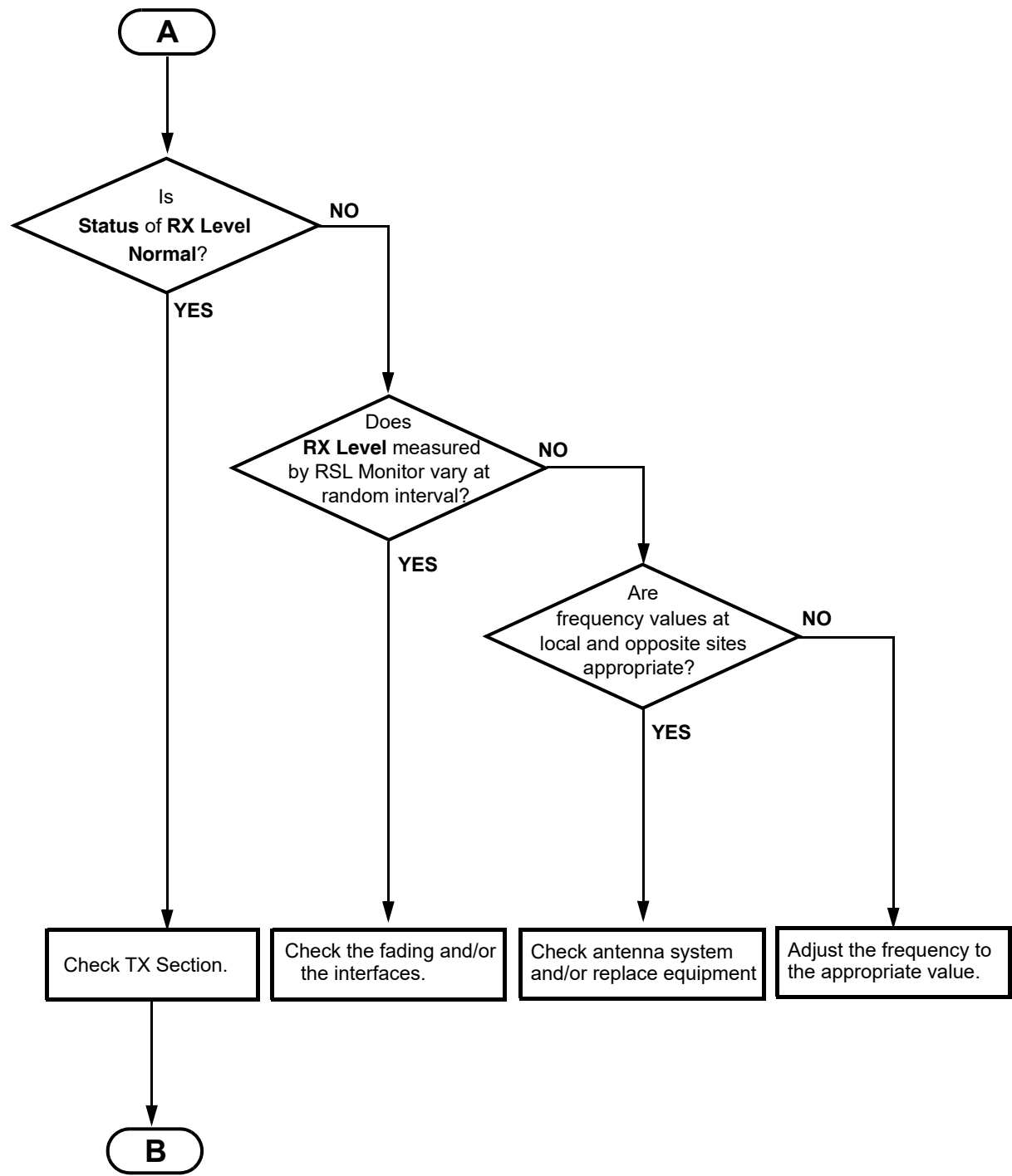


5.4 Troubleshooting Flow

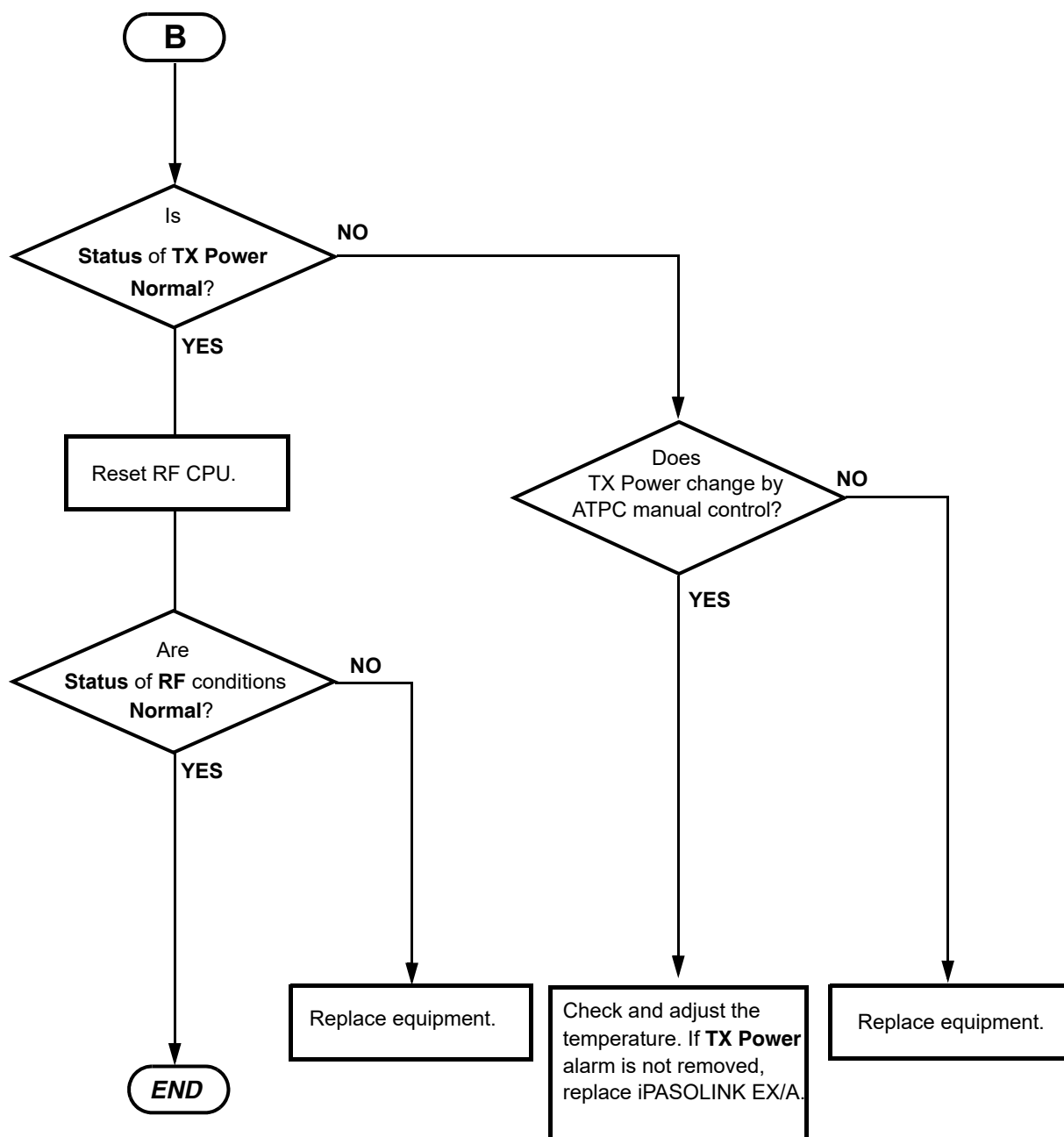
5.4.1 BB Section



5.4.2 RX Section



5.4.3 TX Section



5.5 Trouble Clearing

5.5.1 Overview

Followings are procedures to recover the equipment in case that it is in failure. Failed conditions are issued to LED on the equipment and to the status information on WebLCT. Refer to [5.1 Equipment Conditions](#), [5.2 View Current Status](#) and [5.3 Alarm Lights](#) for the indications.

5.5.2 Making Contact with NEC

For the technical assistance or information, contact your project contractor, or an NEC supporting office.

5.5.3 Objects and Their Condition Types

Descriptions and procedures for the trouble clearing are organized in the alphabetic order of indication messages. Alarm indication messages and their procedures to clear the conditions are provided as the following:

Table 5-3 iPASOLINK EX/A Condition Types (1 of 4)

INDICATION	Severity	Object	Procedure
ALS	—	ETH	<i>(Indicating the condition only.)</i>
AMBR Range Mismatch	MJ	MODEM	on Page 5-23
ATPC Power Mode	—	MODEM	<i>(Indicating the condition only.)</i>
CLK Drift	MN	Equipment	on Page 5-23
CLK FAIL	MN	Equipment	on Page 5-24
CLK Status Changed	—	Equipment	<i>(Indicating the condition only.)</i>
Clock Class	—	Equipment	<i>(Indicating the condition only.)</i>
Clock ID	—	Equipment	<i>(Indicating the condition only.)</i>
Clock Status	—	Equipment	<i>(Indicating the condition only.)</i>
Compression Setting Mismatch	MJ	MODEM	on Page 5-25
Critical Event	—	Equipment	<i>(Indicating the condition only.)</i>
Current Status	—	Equipment	<i>(Indicating the condition only.)</i>
Dying Gasp	—	Equipment	<i>(Indicating the condition only.)</i>

Table 5-3 iPASOLINK EX/A Condition Types (2 of 4)

INDICATION	Severity	Object	Procedure
Early Warning	NR	MODEM	on Page 5-26
Equipment Start-up Status	—	Equipment	(Indicating the condition only.)
ETH LF	MJ	ETH	on Page 5-26
ETH LOS	MJ	ETH	on Page 5-27
ETH RF	MJ	ETH	on Page 5-27
ETH TF	MJ	ETH	(Indicating the condition only.)
ETH-BN LOC	MJ	ETH	on Page 5-28
ETH-BN UNL	MN	ETH	on Page 5-29
ETH-BN UNP	MN	ETH	on Page 5-30
ETH-BN (TX) Current Bandwidth	—	ETH	(Indicating the condition only.)
ETH-BN (TX) Nominal Bandwidth	—	ETH	(Indicating the condition only.)
ETH-BN (RX) Current Bandwidth	—	ETH	(Indicating the condition only.)
ETH-OAM LOC	MJ	ETH	on Page 5-30
ETH-OAM Mismatch	MN	ETH	on Page 5-31
ETH-OAM RDI	MJ	ETH	on Page 5-32
ETH-OAM Unexpected MEP	MN	ETH	on Page 5-32
ETH-Ring Cause	—	ETH	(Indicating the condition only.)
ETH-Ring Multi RPL Owner Detect	—	ETH	(Indicating the condition only.)
ETH-Ring Port0 Loop Detect	—	ETH	(Indicating the condition only.)
ETH-Ring Port0 R-APS Timeout	—	ETH	(Indicating the condition only.)
ETH-Ring Port0 Status	—	ETH	(Indicating the condition only.)
ETH-Ring Port1 Loop Detect	—	ETH	(Indicating the condition only.)
ETH-Ring Port1 R-APS Timeout	—	ETH	(Indicating the condition only.)
ETH-Ring Port1 Status	—	ETH	(Indicating the condition only.)
ETH-Ring Status	—	ETH	(Indicating the condition only.)
FDB Full	—	ETH	(Indicating the condition only.)
Flow Control	—	ETH	(Indicating the condition only.)
Forwarding Mode Mismatch	MJ	Equipment	on Page 5-35
Frame ID	MJ	MODEM	on Page 5-35
Grandmaster / Clock ID	—	Equipment	(Indicating the condition only.)

Table 5-3 iPASOLINK EX/A Condition Types (3 of 4)

INDICATION	Severity	Object	Procedure
Grandmaster / Clock Priority 1	—	Equipment	(Indicating the condition only.)
Grandmaster / Clock Priority 2	—	Equipment	(Indicating the condition only.)
Grandmaster / Clock Quality Accuracy	—	Equipment	(Indicating the condition only.)
Grandmaster / Clock Quality Class	—	Equipment	(Indicating the condition only.)
Grandmaster / Port ID	—	Equipment	(Indicating the condition only.)
High BER	MJ	MODEM	(Indicating the condition only.)
LACP Status	—	ETH	(Indicating the condition only.)
LAG Link	MJ	ETH	(Indicating the condition only.)
LAG LLF Status	—	ETH	(Indicating the condition only.)
LAG Port Loop Detect	—	ETH	(Indicating the condition only.)
LAG Port Status	—	ETH	(Indicating the condition only.)
LAN Link	MJ	ETH	on Page 5-38
License Mismatch	MJ	MODEM	on Page 5-38
Link OAM Down	MJ	ETH	on Page 5-39
LLF	—	ETH	(Indicating the condition only.)
LLF Message Timeout	—	ETH	(Indicating the condition only.)
LLF OAM Received	—	ETH	(Indicating the condition only.)
LOF	MJ	MODEM	on Page 5-40
Loss Announce	MJ	Equipment	on Page 5-40
Low BER	MN	MODEM	on Page 5-41
LTI	MJ	Equipment	on Page 5-41
Maintenance	—	Equipment	(Indicating the condition only.)
MDI/MDI-X	—	ETH	(Indicating the condition only.)
Module	MJ	MODEM RF BB	on Page 5-42
Module – BB	MJ	Equipment	on Page 5-42
Multi Traffic Aggregation Encapsulation Error	—	MODEM	(Indicating the condition only.)
Multi Traffic Aggregation Link	MJ	MODEM	on Page 5-42
Multi Traffic Aggregation Port Status	—	MODEM	(Indicating the condition only.)
Multi Traffic Aggregation Setting Mismatch	MJ	MODEM	on Page 5-43
Mute Status	—	MODEM	(Indicating the condition only.)

Table 5-3 iPASOLINK EX/A Condition Types (4 of 4)

INDICATION	Severity	Object	Procedure
Own Clock ID	—	Equipment	(Indicating the condition only.)
Port ID	—	Equipment	(Indicating the condition only.)
PTP Clock Quality Level	—	Equipment	(Indicating the condition only.)
PTP Mode Setting Mismatch	MJ	MODEM	on Page 5-44
PTP Radio Clock Status	—	MODEM	(Indicating the condition only.)
PTP Source Status	—	MODEM	(Indicating the condition only.)
PTP Sync. Time	—	MODEM	(Indicating the condition only.)
Quality Level	—	Equipment	(Indicating the condition only.)
RDI	WR	MODEM	on Page 5-45
Remote Critical Event	MJ	ETH	on Page 5-46
Remote Dying Gasp	MJ	ETH	on Page 5-46
Remote Errored Frame	—	ETH	(Indicating the condition only.)
Remote Errored Frame Period	—	ETH	(Indicating the condition only.)
Remote Errored Frame Seconds Summary	—	ETH	(Indicating the condition only.)
Remote Errored Symbol Period	—	ETH	(Indicating the condition only.)
Remote Link Fault	MJ	ETH	on Page 5-47
RX Level	MJ	MODEM	on Page 5-47
RX Modulation	—	MODEM	(Indicating the condition only.)
SFP Port Type	—	ETH	(Indicating the condition only.)
SFP Removed	MJ	ETH	on Page 5-48
SFP Type Mismatch	MJ	ETH	on Page 5-49
Speed & Duplex	—	ETH	(Indicating the condition only.)
SSM FAIL	MN	Equipment	on Page 5-49
Temperature	MJ	Equipment	on Page 5-50
Total FDB Full	—	ETH	(Indicating the condition only.)
Trap Suppression Status	—	Equipment	(Indicating the condition only.)
TX Modulation	—	MODEM	(Indicating the condition only.)
TX Power	MJ	MODEM	on Page 5-51
UAE	WR	MODEM	on Page 5-51
Unlocked	MJ	Equipment	on Page 5-51
XPIC Pair Mute Mode Mismatch	MN	MODEM	on Page 5-52

5.5.4 Clearing Procedures

ALS

ETH

This condition is not an alarm. The message indicates that the ALS function has suspended optical outputs at indicated GbE/10GbE optical port.

AMBR Range Mismatch

MODEM

This condition indicates that the range of RX AMBR Modulation and that of TX AMBR Modulation do not match.

Procedure 5-4

1. Check and adjust the ranges of RX AMBR Modulation and TX AMBR Modulation.
2. Retrieve the **Current Status**, and check if the **AMBR Range Mismatch** alarm is cleared. If the alarm is not cleared, contact NEC for the further maintenance support.

This step ends the procedure.

ATPC Power Mode

MODEM

This condition is not an alarm. The message indicates that a failure of ATPC control signal (for 90 seconds), or a status of MAX Power (for 90 seconds) has been detected.

CLK Drift

Equipment

This condition indicates that the reference clock frequency of the incoming signal of the indicates facility is out of synchronized range. The problem of this condition pertains to the far-end NE.

Procedure 5-5

1. Check if any alarm(s) occur(s) to the equipment in the other site, and clear it/them.
2. Retrieve the **Current Status**, and check if the **CLK Drift** alarm is cleared.
3. Is the **CLK Drift** alarm cleared?
 - ♦ **YES:** This step ends the procedure.
 - ♦ **NO:** Go to Step **4**.
4. Check if any alarm(s) issued to the indicated port/line is/are cleared.
5. Is any alarm reported to the indicated port/line?
 - ♦ **YES:** Clear it/them, then go to Step **6**.
 - ♦ **NO:** Contact NEC for the further maintenance support.
6. Retrieve the **Current Status**, and check if the **CLK Drift** alarm is cleared. If the alarm is not cleared, contact NEC for the further maintenance support.

This step ends the procedure.

CLK FAIL**Equipment**

This condition indicates that the reference clock source failure is detected from the incoming signal of the indicated facility. The problem of this condition pertains to the optical fiber cable or electrical cable of the far-end NE.

Procedure 5-6

1. Check if any other alarm(s) is/are detected from/for the indicated facility or from the other site.
2. Clear the alarm(s).
3. Retrieve the **Current Status**, and check if the **CLK Fail** alarm is cleared. If the alarm is not cleared, contact NEC for the further maintenance support.

This step ends the procedure.

CLK Status Changed**Equipment**

This condition is not an alarm. The message indicates that a change is made to Reference Clock:

Clock Class**Equipment**

This condition is not an alarm. The message indicates the clock class that the opposite node uses.

Clock ID**Equipment**

This condition is not an alarm. The message indicates the Clock ID that the opposite node uses.

Clock Status**Equipment**

This condition is not an alarm. The message indicates the status of Frequency and Time Synchronization on PTP function block.

Compression Setting Mismatch**MODEM**

This condition indicates that the Header Compression settings at two opposite sites do not match.

Procedure 5-7

1. Launch WebLCT.
2. Check and match the settings of VLAN Mode, Header Compression Mode.
 - ◆ WebLCT Menu Path:
**Provisioning → MODEM Function Setting
→ MODEM Port Setting**
3. Retrieve the **Current Status**, and check if the **Compression Setting Mismatch** alarm is cleared.
4. Is **Compression Setting Mismatch** alarm cleared?
 - ◆ **YES:** This step ends the procedure.
 - ◆ **NO:** If the alarm is not cleared, contact NEC for the further maintenance support.
This step ends the procedure.

Current Status

Equipment

This condition is not an alarm. The message indicates the current state of PTP logical ports.

Early Warning

MODEM

This condition indicates that the system detects degradation of radio signals. (Early Warning threshold detection.)

Procedure 5-8

1. Launch the WebLCT.
 2. Display the **Current Metering** to check **RX Level**.
 - ♦ If the value is appropriate, replace the equipment.
 - ♦ If the value is inappropriate, proceed with the flowchart: [5.4 Troubleshooting Flow](#).
- This step ends the procedure.

Equipment Start-up Status

Equipment

This condition is not an alarm. The system reports that the equipment starts up, and the cause to start up or reboot.

ETH LF

ETH

This condition indicates that a failure is detected in 10G Ethernet Port on the local NE.

Procedure 5-9

1. Check that the Ethernet Cable connected to the target port is appropriately connected.
2. Retrieve the **Current Status**, and check if the **ETH LF** alarm is cleared.
3. Is **ETH LF** alarm cleared?
 - ♦ **YES:** This step ends the procedure.

- ◆ **NO:** Replace the cable, then proceed to the next step.
- 4. Retrieve the **Current Status**, and check if the **ETH LF** alarm is cleared.
 - ◆ **YES:** This step ends the procedure.
 - ◆ **NO:** Check the associated port of the opposite site as well, then proceed to the next step.
- 5. Retrieve the **Current Status**, and check if the **ETH LF** alarm is cleared. If the alarm is not cleared, contact NEC for the further maintenance support. This step ends the procedure.

ETH LOS

ETH

This condition indicates that the LOS (Loss of Signal) is detected from the incoming signal on the indicated Ethernet facility. The problem of this condition pertains to the optical fiber or to the far-end NE.

Procedure 5-10

1. Confirm that the cable connections are all appropriate.
2. Check if any alarm(s) is/are issued to the far-end NE. If any exist(s), clear it/ them.
3. Retrieve the **Current Status**, and check if the **ETH LOS** alarm is cleared. If the alarm is not cleared, contact NEC for the further maintenance support. This step ends the procedure.

ETH RF

ETH

This condition indicates that a failure is detected in 10G Ethernet Port on the remote NE.

Procedure 5-11

1. Check that the Ethernet Cables connected to the target port and its associated port of both local NE and its opposite NE are appropriately connected.
2. Retrieve the **Current Status**, and check if the **ETH RF** alarm is cleared.
3. Is **ETH LF** alarm cleared?
 - ◆ **YES:** This step ends the procedure.
 - ◆ **NO:** Replace the cables, then proceed to the next step.

4. Retrieve the **Current Status**, and check if the **ETH RF** alarm is cleared. If the alarm is not cleared, contact NEC for the further maintenance support.
This step ends the procedure.

ETH TF

ETH

This condition indicates that a failure is detected in an installed SFP module. The problem of this condition is likely to be caused by a defective SFP module.

Procedure 5-12

1. Replace the target SFP module.
2. Retrieve the **Current Status**, and check if the **ETH TF** alarm is cleared. If the alarm is not cleared, contact NEC for the further maintenance support.
This step ends the procedure.

ETH-BN LOC

ETH

This condition indicates that the LOC (Loss of Connectivity) is detected from the indicated MEP for bandwidth notification. The problem of this condition pertains to the far-end NE or the MEG/MEP Configuration Error in the WebLCT.

Procedure 5-13

1. Check if any alarm occurs to the far-end NE that is associated with the indicated MEP, and clear the condition(s).
2. Retrieve the **Current Status**, and check if the **ETH-BN LOC** alarm is cleared.
3. Is the **ETH-BN LOC** alarm cleared?
 - ◆ **YES:** This step ends the procedure.
 - ◆ **NO:** Check the MEG/MEP Configuration in the WebLCT, and go to Step [4](#).
4. Is the MEG/MEP Configuration appropriate?
 - ◆ **YES:** Go to Step [6](#).
 - ◆ **NO:** Correct the configuration, and go to Step [5](#).
5. Retrieve the **Current Status**, and check if the **ETH-BN LOC** alarm is cleared.
 - ◆ **YES:** This step ends the procedure.
 - ◆ **NO:** Go to Step [6](#).
6. Check the MEG/MEP Configuration on the far-end site.

7. Is MEG/MEP Configuration on the far-end site appropriate?
 - ♦ **YES:** Contact NEC.
 - ♦ **NO:** Correct them, and go to Step **8**.
 8. Retrieve the **Current Status**, and check if the **ETH-BN LOC** alarm is cleared. If the alarm is not cleared, contact NEC for the further maintenance support.
- This step ends the procedure.

ETH-BN UNL

ETH

This condition indicates that the Ethernet BN Unexpected MEG Level is detected from the indicated MEP. The problem of this condition pertains to the far-end NE or the MEG/MEP Configuration Error in the WebLCT.

Procedure 5-14

1. Check if any alarm occurs to the far-end NE that is associated with the indicated MEP, and clear the condition(s).
 2. Retrieve the **Current Status**, and check if the **ETH-BN UNL** alarm is cleared.
 3. Is the **ETH-BN UNL** alarm cleared?
 - ♦ **YES:** This step ends the procedure.
 - ♦ **NO:** Check the MEG/MEP Configuration in the WebLCT, and go to Step **4**.
 4. Is the MEG/MEP Configuration appropriate?
 - ♦ **YES:** Go to Step **6**.
 - ♦ **NO:** Correct the configuration, and go to Step **5**.
 5. Retrieve the **Current Status**, and check if the **ETH-BN UNL** alarm is cleared.
 - ♦ **YES:** This step ends the procedure.
 - ♦ **NO:** Go to Step **6**.
 6. Check the MEG/MEP Configuration on the far-end site.
 7. Is MEG/MEP Configuration on the far-end site appropriate?
 - ♦ **YES:** Contact NEC.
 - ♦ **NO:** Correct them, and go to Step **8**.
 8. Retrieve the **Current Status**, and check if the **ETH-BN UNL** alarm is cleared. If the alarm is not cleared, contact NEC for the further maintenance support.
- This step ends the procedure.

ETH-BN UNP**ETH**

This condition indicates that the Ethernet BN Unexpected Period is detected from the indicated MEP. The problem of this condition pertains to the far-end NE or the MEG/MEP Configuration Error in the WebLCT.

Procedure 5-15

1. Check if any alarm occurs to the far-end NE that is associated with the indicated MEP, and clear the condition(s).
2. Retrieve the **Current Status**, and check if the **ETH-BN UNP** alarm is cleared.
3. Is the **ETH-BN UNP** alarm cleared?
 - ♦ **YES:** This step ends the procedure.
 - ♦ **NO:** Check the MEG/MEP Configuration in the WebLCT, and go to Step 4.
4. Is the MEG/MEP Configuration appropriate?
 - ♦ **YES:** Go to Step 6.
 - ♦ **NO:** Correct the configuration, and go to Step 5.
5. Retrieve the **Current Status**, and check if the **ETH-BN UNP** alarm is cleared.
 - ♦ **YES:** This step ends the procedure.
 - ♦ **NO:** Go to Step 6.
6. Check the MEG/MEP Configuration on the far-end site.
7. Is MEG/MEP Configuration on the far-end site appropriate?
 - ♦ **YES:** Contact NEC.
 - ♦ **NO:** Correct them, and go to Step 8.
8. Retrieve the **Current Status**, and check if the **ETH-BN UNP** alarm is cleared. If the alarm is not cleared, contact NEC for the further maintenance support.

This step ends the procedure.

ETH-OAM LOC**ETH**

This condition indicates that the LOC (Loss of Connectivity) is detected from the indicated MEP. The problem of this condition pertains to the far-end NE or the MEG/MEP Configuration Error in the WebLCT.

Procedure 5-16

1. Check if any alarm occurs to the far-end NE that is associated with the indicated MEP, and clear the condition(s).
2. Retrieve the **Current Status**, and check if the **ETH-OAM LOC** alarm is cleared.
3. Is the **ETH-OAM LOC** alarm cleared?
 - ♦ **YES:** This step ends the procedure.
 - ♦ **NO:** Check the MEG/MEP Configuration in the WebLCT, and go to Step 4.
4. Is the MEG/MEP Configuration appropriate?
 - ♦ **YES:** Go to Step 6.
 - ♦ **NO:** Correct the configuration, and go to Step 5.
5. Retrieve the **Current Status**, and check if the **ETH-OAM LOC** alarm is cleared.
 - ♦ **YES:** This step ends the procedure.
 - ♦ **NO:** Go to Step 6.
6. Check the MEG/MEP Configuration on the far-end site.
7. Is MEG/MEP Configuration on the far-end site appropriate?
 - ♦ **YES:** Contact NEC.
 - ♦ **NO:** Correct them, and go to Step 8.
8. Retrieve the **Current Status**, and check if the **ETH-OAM LOC** alarm is cleared. If the alarm is not cleared, contact NEC for the further maintenance support.

This step ends the procedure.

ETH-OAM Mismatch**ETH**

This condition indicates that the received ETH-CC Frame matches to the MEP level, but with an incorrect maintenance ID. This may be caused by receiving the unexpected ETH-CC Frames from the far-end NE, or by the MEG/MEP Configuration error in WebLCT.

Procedure 5-17

1. Check the MEG/MEP Configuration, and correct it if it has any error.
2. Retrieve the **Current Status**, and check if the **ETH-OAM Mismatch** alarm is cleared.
3. Is the **ETH-OAM Mismatch** alarm cleared?
 - ♦ **YES:** This step ends the procedure.

- ♦ **NO:** Check the MEG/MEP Configuration of the far-end NE, and then go to Step [4](#).
- 4. Is MEG/MEP Configuration on the far-end site appropriate?
 - ♦ **YES:** Contact NEC.
 - ♦ **NO:** Correct them, and go to Step [5](#).
- 5. Retrieve the **Current Status**, and check if the **ETH-OAM Mismatch** alarm is cleared. If the alarm is not cleared, contact NEC for the further maintenance support.

This step ends the procedure.

ETH-OAM RDI

ETH

This condition indicates that the RDI (Remote Defect Indication) is detected from the received ETH-CC Frame on the indicated MEP. The problem of this condition pertains to alarms (failure) at the peer MEP.

Procedure 5-18

1. Check if any alarm is issued to an MEG of a peer MEP that is associated with the indicated MEP.
2. Is there any alarm occurring?
 - ♦ **YES:** Contact NEC.
 - ♦ **NO:** Clear it/them, and go to Step [3](#).
3. Retrieve the **Current Status**, and check if the **ETH-OAM RDI** alarm is cleared. If the alarm is not cleared, contact NEC for the further maintenance support.

This step ends the procedure.

ETH-OAM Unexpected MEP

ETH

This condition indicates that a mismatch of ETH-CC transmit period is detected from the indicated MEG. The problem is a mismatch between the MEG Configuration of local NE and that of far-end NE in WebLCT.

Procedure 5-19

1. Check the MEG Configuration, and correct it if it has any error.
2. Retrieve the **Current Status**, and check if the **ETH-OAM Unexpected MEP** alarm is cleared.

3. Is the **ETH-OAM Unexpected MEP** alarm cleared?
 - ◆ **YES:** This step ends the procedure.
 - ◆ **NO:** Check the MEG Configuration of the far-end NE, and go to Step 4.
4. Retrieve the **Current Status**, and check if the **ETH-OAM Unexpected MEP** alarm is cleared. If the alarm is not cleared, contact NEC for the further maintenance support.
This step ends the procedure.

ETH-Ring Cause

ETH

This condition is not an alarm. The message indicates the ETH-Ring State changes.

ETH-Ring Multi RPL Owner Detect

ETH

This condition is not an alarm. The message indicates that system detects the multiple settings of ETH-Ring RPL.

ETH-Ring Port0 Loop Detect

ETH

This condition is not an alarm. The message indicates that system detects loops in the indicated ETH-Ring traffic.

ETH-Ring Port0 R-APS Timeout

ETH

This condition is not an alarm. The message indicates that the time out for receiving R-APS message occurs at the node that configures ETH-Ring where there are no locked-out ports.

ETH-Ring Port0 Status

ETH

This condition is not an alarm. The message indicates the state changes of the port that configures the ETH-Ring.

ETH-Ring Port1 Loop Detect**ETH**

This condition is not an alarm. The message indicates that system detects loops in the indicated ETH-Ring traffic.

ETH-Ring Port1 R-APS Timeout**ETH**

This condition is not an alarm. The message indicates that the time out for receiving R-APS message occurs at the node that configures ETH-Ring where there are no locked-out ports.

ETH-Ring Port1 Status**ETH**

This condition is not an alarm. The message indicates the state changes of the port that configures the ETH-Ring.

ETH-Ring Status**ETH**

This condition is not an alarm. The message indicates the state of the ETH-Ring.

FDB Full**BB**

This condition is not an alarm. The message indicates that the FDB of the specified VLAN is full.

Flow Control**ETH**

This condition is not an alarm. The message indicates the status of indicates Ethernet port regarding its flow control.

Forwarding Mode Mismatch

Equipment

A mismatch of Forwarding Mode Setting between two opposite NEs or the FPGA version is not compliant with Forwarding Mode.

NOTE: *Forwarding Mode Mismatch Alarm is indicated only in the equipment which is in Transparent mode. Opposite site which is in switching mode indicates no alarm. Refer 4.2.2 Set Equipment Mode in the Set Network and System Provisioning Manual.*

Procedure 5-20

1. Check and match the FPGA version in the local NE.
2. Check and match the Forwarding Mode setting of alarmed NE and its opposite NE.
3. If the alarm is not cleared, contact Technical support for further assistance.

This step ends the procedure.

Frame ID

MODEM

This condition indicates that the Frame ID (route differentiation ID) and its expected value do not match.

Procedure 5-21

1. Check if the Frame ID value specified at local and that specified at the opposite site are identical.
2. If the specified Frame ID values are the same, replace the equipment.

This step ends the procedure.

Grandmaster / Clock ID

Equipment

This condition is not an alarm. The message indicates the PTP Clock of the equipment.

Grandmaster / Clock Priority 1**Equipment**

This condition is not an alarm. The message indicates the Clock Priority 1 of Grandmaster (Top-level Master) to which the target equipment belongs.

Grandmaster / Clock Priority 2**Equipment**

This condition is not an alarm. The message indicates the Clock Priority 2 of Grandmaster (Top-level Master) to which the target equipment belongs.

Grandmaster / Clock Quality Accuracy**Equipment**

This condition is not an alarm. The message indicates the Clock Quality Accuracy of Grandmaster (Top-level Master) to which the target equipment belongs.

Grandmaster / Clock Quality Class**Equipment**

This condition is not an alarm. The message indicates the Clock Quality Class of Grandmaster (Top-level Master) to which the target equipment belongs.

Grandmaster / Port ID**Equipment**

This condition is not an alarm. The message indicates the Port ID of the opposite equipment that is connected with the Grandmaster (Top-level Master) to which the target equipment belongs.

High BER**MODEM**

This condition indicates that the radio signals are significantly degraded, where the threshold is IE-4 (default value).

Procedure 5-22

1. Launch the WebLCT.
 2. Display the **Current Metering** to check **RX Level**.
 - ♦ If the value is appropriate, replace the equipment.
 - ♦ If the value is inappropriate, proceed with the flowchart: [5.4 Troubleshooting Flow](#).
- This step ends the procedure.

LACP Status**ETH**

This condition is not an alarm. The message indicates the current status of LACP (Link Aggregation Control Protocol).

LAG LINK**BB**

This condition indicates that all the member ports of Ethernet LAG (Link Aggregation Group) have failed. The problem of this condition pertains to the optical fiber cables or to the far-end NE.

Procedure 5-23

1. Check if any alarm(s) occur(s) in the opposite site, and clear it/them if exist(s).
 2. Retrieve the **Current Status**, and check if the **LAG LINK** alarm is cleared. If the alarm is not cleared, contact NEC for the further maintenance support.
- This step ends the procedure.

LAG LLF Status**BB**

This condition is not an alarm. The message indicates the settings of Link Aggregation Group - Link Loss Forwarding.

LAG Port Loop Detect**ETH**

This condition is not an alarm. The message indicates that the received LACP Frame has its own MAC Source Address for its Source Address.

LAG Port Status

ETH

This condition is not an alarm. The message indicates the Active/Standby status of LAG member ports.

LAN Link

ETH

This condition indicates that the Link-Down is detected from the indicated Ethernet port. The problem of this condition pertains to the optical fiber cables or to the far-end NE.

Procedure 5-24

1. Check the connections of optical fiber cables.
 - ◆ Connect optical fiber cables properly.
 - ◆ Replace optical fiber cables if required.
2. Retrieve the **Current Status**, and check if the **LAN LINK** alarm is cleared.
3. Is the alarm cleared?
 - ◆ **YES:** This step ends the procedure.
 - ◆ **NO:** Go to Step 4.
4. Check if any alarm(s) occur(s) to the far-end NE, and clear it/them if any exist(s).
5. Retrieve the **Current Status**, and check if the **LAN LINK** alarm is cleared. If the alarm is not cleared, contact NEC for the further maintenance support.
This step ends the procedure.

License Mismatch

BB

This condition indicates that registration(s) of unlicensed setting(s) is/are detected. This alarm may be issued if the system is downgraded by an inappropriate use of license, etc., leaving the settings registered under the previous (higher graded) license. To recover from this status, all the provisioning data should be removed.

Procedure 5-25

1. Launch WebLCT to display the **Shipment** window.
 - ◆ WebLCT Menu Path:
Equipment Utility → Shipment

2. Remove the provisioning data. Go to [4.9.6 Restore Factory Default Settings](#).
3. Is the alarm cleared?
 - ◆ **YES:** This step ends the procedure.
 - ◆ **NO:** Contact NEC.This step ends the procedure.

Link OAM Down

ETH

This condition indicates that the system detects Link OAM Keepalive Protocol Timeout. The problem of this condition pertains to Ethernet Link, configuration of Link OAM, hardware error, etc., of the far-end NE.

Procedure 5-26

1. Check if any error occurs to Link OAM Configuration, or to the equipment at the opposite site, and clear them.
 2. Retrieve the **Current Status**, and check if the **Link OAM Down** alarm is cleared. If the alarm is not cleared, contact NEC for the further maintenance support.
- This step ends the procedure.

LLF

ETH

This condition is not an alarm. The message indicates the status of Link Loss Forwarding.

LLF Message Timeout

ETH

This condition is not an alarm. The message indicates that the conditional signals for LLF control have repeatedly been received from the opposite radio equipment.

LLF OAM Received

ETH

This condition is not an alarm. The message indicates that the LINKDOWN Control request caused by the Link Loss Forwarding is issued at Dot3ah and LLF enabled LAN ports on the opposite site.

LOF**MODEM**

This message indicates that the Loss of Frame is detected at the Radio side.

Procedure 5-27

1. Launch the WebLCT, and display the **Current Metering** to check **RX Level**:
 - ◆ If the value is appropriate, go to Step **4**.
 - ◆ If the value is inappropriate, proceed with the flowchart: **5.4 Troubleshooting Flow**.
2. Retrieve the **Current Status**, and check if the **LOF** alarm is cleared.
3. Is the alarm cleared?
 - ◆ **YES**: This step ends the procedure.
 - ◆ **NO**: Go to Step **4**.
4. Replace the equipment.
5. Retrieve the **Current Status**, and check if the **LOF** alarm is cleared. If the alarm is not cleared, contact NEC for the further maintenance support.
This step ends the procedure.

Loss Announce**Equipment**

This condition indicates that the PTP Announce Packets from the Master are not received.

Procedure 5-28

1. Check the followings:
 - ◆ Cable connections to/from the Master are appropriate.
 - ◆ Ethernet Port Settings if it is enabled or disabled.
 - ◆ Settings of PTP LIF (selections of physical port, VLAN, Message Rate).
 - ◆ VLAN Settings (VID value)
 - ◆ Settings of PTP-BC function (**Profile**, **Transport Mode**, **Multicast Type**, and/or **Domain No.**) are identical with those of the Master.
2. Retrieve the **Current Status**, and check if the **Loss Announce** alarm is cleared. If the alarm is not cleared, contact NEC for the further maintenance support.
This step ends the procedure.

Low BER**MODEM**

This condition indicates that the radio signals are slightly degraded, where the threshold is 1E-7 (default value).

Procedure 5-29

1. Launch the WebLCT.
2. Display the **Current Metering** to check **RX Level**.
 - ♦ If the value is appropriate, replace the equipment.
 - ♦ If the value is inappropriate, proceed with the flowchart: [5.4 Troubleshooting Flow](#).

This step ends the procedure.

LTI**Equipment**

This condition indicates that the system detects LTI (Loss of Timing Inputs) where the equipment does not synchronize with any reference sources. The problem of this condition pertains to the optical fiber cables, electrical cables, or to the far-end NE.

Procedure 5-30

1. Check if any alarm regarding the reference clock occur. If any exist(s), clear it/them.
2. Retrieve the **Current Status**, and check if the **LTI** alarm is cleared. If the alarm is not cleared, contact NEC for the further maintenance support.

This step ends the procedure.

Maintenance**Equipment**

This condition is not an alarm. When the system is set into the Maintenance mode, the **Maintenance** indicates **On**.

MDI/MDI-X**ETH**

This condition is not an alarm. The message shows the operating type (MDI or MDI-X) of the indicated Ethernet port currently running.

Module**MODEM
BB
RF**

This condition indicates that the system detects the hardware error of the indicated equipment.

Procedure 5-31

1. Replace the object.
2. Retrieve the **Current Status**, and check if the **Module** alarm is cleared. If the alarm is not cleared, contact NEC for the further maintenance support.
This step ends the procedure.

Module-BB**Equipment**

This condition indicates that the system detects the equipment failure in the BB section. If this alarm occurs, contact NEC for the further maintenance support.

Multi Traffic Aggregation Encapsulation Error**MODEM**

This condition is not an alarm. However, if **Occur** is indicated, the message informs that the encapsulation packet error has been occurred.

Multi Traffic Aggregation Link**MODEM**

This condition indicates that all the member ports of Multi Traffic Aggregation Group have failed.

Procedure 5-32

1. Check if any alarm(s) occur(s) to Equipment. If any exist(s), correct it/them.
2. Retrieve the **Current Status**, and check if the **Multi Traffic Aggregation Link** is cleared. If the alarm is not cleared, contact NEC for the further maintenance support.

This step ends the procedure.

Multi Traffic Aggregation Port Status

MODEM

This condition is not an alarm. The **Status** indicates the current role of the port.

Multi Traffic Aggregation Setting Mismatch

MODEM

This condition indicates that MTA (Multi Traffic Aggregation) settings at the local and that of at its opposite site do not match, or the license is/are not compliant with the MTA function.

Procedure 5-33

1. At both the local and remote side, check the license of the Multi Traffic Aggregation Group that is issuing the alarm, and correct it/them if any is/are wrong.
2. Retrieve the **Current Status**, and check if the **Multi Traffic Aggregation Setting Mismatch** is cleared.
 - ♦ **YES:** This step ends the procedure.
 - ♦ **NO:** Check and correct the MTA Settings at both local and remote side.
3. If the alarm is not cleared, contact NEC for the further maintenance support.

This step ends the procedure.

Mute Status

RF

This condition is not an alarm. The message indicates if the RF TX Power Output is set to **Mute** or not.

Own Clock ID

Equipment

This condition is not an alarm. The message shows the PTP Clock of the equipment.

PTP Clock Quality Level

Equipment

This condition is not an alarm. The message indicates the level of PTP Clock Quality.

PTP Mode Setting Mismatch

MODEM

This condition indicates that the settings of PTP Mode at two opposite NEs do not match, or the firmware version at two opposite NEs do not match.

Procedure 5-34

1. Launch WebLCT to display **Inventory** window, and check if the BB firmware versions of NEs at both ends is identical.
2. Display the **PTP Mode Setting** window, and check if the **PTP Mode** is appropriate.
3. Display the **Equipment Clock Setting** window, and check if both the local NE and its opposite NE are synchronized.

If the alarm is not cleared, contact NEC for the further maintenance support.

This step ends the procedure.

PTP Radio Clock Status

Equipment

This condition is not an alarm. The message indicates the state of PTP Radio Clock. However, the state to be indicated should be verified according to the PTP Mode settings:

- ♦ When the **PTP Mode** is enabled (Boundary Clock or Transparent Clock is specified), the state should indicate **Locked**.
- ♦ When the **PTP Mode** is disabled, the state should indicate **Unlocked**.

It takes a while to change the state indication when the **PTP Mode Setting** procedure has just been done.

If the state does not indicate **Locked** where the **PTP Mode** is enabled, proceed with the following:

Procedure 5-35

- 1. Check if the modulation scheme settings at both the local and its opposite site are greater than QPSK. If not, adjust the settings.
◆ WebLCT Menu Path:
 Provisioning → Radio Configuration
- 2. Retrieve the **Current Status**, and check if the **PTP Radio Clock Status** indicates **Locked**.

If the state does not change to **Locked**, though the **PTP Mode** is enabled, contact NEC for the further maintenance support.

This step ends the procedure.

PTP Source Status

Equipment

This condition is not an alarm. The message indicates the selected Master to which the PTP-BC function synchronizes.

PTP Sync. Time

Equipment

This condition is not an alarm. The message indicates the time when synchronizing with Master using the PTP function. The indicated time does not show the date or time of Management.

Quality Level

Equipment

This condition is not an alarm. The message indicates the quality level of the Timing Clock.

RDI

MODEM

This condition indicates that RDI (Remote Defect Indication) signal is detected.

Procedure 5-36

- 1. Check if any alarm(s) occur(s) in the far-end NE. If any exist(s), correct it/them.

2. Retrieve the **Current Status**, and check if the **RDI** alarm is cleared. If the alarm is not cleared, contact NEC for the further maintenance support.

This step ends the procedure.

Remote Critical Event

ETH

This condition indicates that the hardware error is detected at the opposite site equipment, which is reported via the Ethernet link. This is an alarm regarding IEEE802.3ah, Link OAM.

Procedure 5-37

1. Replace the equipment at the opposite site.
2. Retrieve the **Current Status**, and check if the **Remote Critical Event** alarm is cleared. If the alarm is not cleared, contact NEC for the further maintenance support.

This step ends the procedure.

Remote Dying Gasp

ETH

This condition indicates that the equipment on the opposite site is in the reboot process. This is an alarm regarding the IEEE802.3ah, Link OAM.

Procedure 5-38

1. Check if any failures occur to the equipment on the opposite site, and if any exist, clear them.
2. Retrieve the **Current Status**, and check if the **Remote Dying Gasp** alarm is cleared. If the alarm is not cleared, contact NEC for the further maintenance support.

This step ends the procedure.

Remote Errored Frame

ETH

This condition is not an alarm. The system detects that an **Errored Frame** message is issued at the opposite site.

Remote Errored Frame Period

ETH

This condition is not an alarm. The system detects that an **Errored Frame Period** message is issued at the opposite site.

Remote Errored Frame Seconds Summary

ETH

This condition is not an alarm. The system detects that an **Errored Frame Seconds Summary** message is issued at the opposite site.

Remote Errored Frame Symbol Period

ETH

This condition is not an alarm. The system detects that an **Errored Symbol Period** message is issued at the opposite site.

Remote Link Fault

ETH

This condition indicates that Ethernet link failure at the opposite site is detected via the incoming port. This is an alarm regarding IEEE802.3ah, Link OAM.

Procedure 5-39

1. Check if any alarms occur to the equipment or cable connections at the opposite site, and if any exist, clear them.
2. Retrieve the **Current Status**, and check if the **Remote Link Fault** alarm is cleared. If the alarm is not cleared, contact NEC for the further maintenance support.

This step ends the procedure.

RX Level

RF

This condition indicates that the receiving level is lower than the threshold level (between -72 to -94 dBm according to the modulation system and bit rates).

Procedure 5-40

Go to [5.4 Troubleshooting Flow](#) for the procedure.

RX Modulation**MODEM**

This condition is not an alarm. The message informs that the modulation system at the receiving side has been changed.

SFP Port Type**ETH**

This condition is not an alarm. The message indicates if the SFP Port is optical or electrical.

SFP Removed**ETH**

This condition indicates that the system cannot detect the SFP Module on the indicated port. This condition is caused if the SFP is not properly plugged in, is not mounted, or is defective.

Procedure 5-41

1. Check if the SFP on the indicated port is properly and securely plugged in.
 - ♦ If the indicated port is vacant, mount an SFP Module into the appropriate port.
 - ♦ If an SFP module is mounted on the indicated port, dismount and remount it to ensure the mounted condition.
2. Retrieve the **Current Status**, and check if the **SFP Removed** alarm is cleared.
3. Is the alarm cleared?
 - ♦ **YES:** This step ends the procedure.
 - ♦ **NO:** Replace the SFP module.
4. Retrieve the **Current Status**, and check if the **SFP Removed** alarm is cleared. If the alarm is not cleared, contact NEC for the further maintenance support.

This step ends the procedure.

SFP Type Mismatch

ETH

This condition indicates that the provided SFP Port type and the mounted SFP Module do not match.

Procedure 5-42

1. Launch WebLCT, and display the **Inventory** window to check the port configuration. Correct the setting(s) if any inappropriate setting is found.
2. Retrieve the **Current Status**, and check if the **SFP Type Mismatch** alarm is cleared.
3. Is the **SFP Type Mismatch** alarm cleared?
 - ♦ **YES:** This step ends the procedure.
 - ♦ **NO:** Go to Step [4](#).
4. Check if the mounted SFP Module is the correct type for the port.
5. Is the type of SFP Module appropriate?
 - ♦ **YES:** Contact NEC.
 - ♦ **NO:** Replace SFP Module, and go to Step [6](#).
6. Retrieve the **Current Status**, and check if the **SFP Type Mismatch** alarm is cleared. If the alarm is not cleared, contact NEC for the further maintenance support.

This step ends the procedure.

Speed & Duplex

ETH

This condition is not an alarm. The message indicates that the current status of speed and duplex mode of the indicated port.

SSM Fail

Equipment

This condition indicates that the received Sync Status Message is in the unstable condition. The problem of this condition pertains to the input cable or to the external timing source.

Temperature

Equipment

This condition indicates that the temperature within equipment exceeds the operational limitation.

Procedure 5-43

1. Check the room temperature, and adjust it.
2. Retrieve the **Current Status**, and check if the **Temperature** alarm is cleared.
NOTE: *Wait at least for an hour in the adjusted air before checking the Current Status.*

If the alarm is not cleared, contact NEC for the further maintenance support.

This step ends the procedure.

Total FDB Full

BB

This condition is not an alarm. The message informs that the Dynamic Entry in L2 Switch has reached the maximum number.

Trap Suppression Status

MODEM

This condition is not an alarm. The message indicates the state of Trap Suppression function.

TX Modulation

MODEM

This condition is not an alarm. The message informs that the modulation system of MODEM at the transmitting side has been changed.

TX Power**RF**

This condition indicates that the transmitting power level of RF is lower than 3 dB.

Procedure 5-44

Go to [5.4 Troubleshooting Flow](#) for the procedure(s).

UAE**MODEM**

This condition indicates that the Unavailable Second Event is detected.

Procedure 5-45

1. Check the Current Alarms, and if any other alarms occur(s), clear it/them.
2. Retrieve the **Current Status**, and check if the **UAE** alarm is cleared. If the alarm is not cleared, contact NEC for the further maintenance support.

This step ends the procedure.

Unlocked**MODEM**

This condition indicates that the status of Wireless Synchronization at the local side is unstable (clock is not locked).

Procedure 5-46

1. Check the equipment clock setting at both local and remote site, and adjust it/them.
2. Retrieve the **Current Status**, and check if the **Unlocked** alarm is cleared. If the alarm is not cleared, contact NEC for the further maintenance support.

This step ends the procedure.

XPIC Pair Mute Mode Mismatch**MODEM**

This condition indicates that the settings of XPIC Pair Mute Mode at the local site and that at its opposite sites do not match.

Procedure 5-47

1. Launch WebLCT.
2. Check and match the settings of XPIC Pair Mode of the alarmed MODEM and its opposite MODEM:
 - ◆ WebLCT Menu Path:
**Provisioning → MODEM Function Setting
→ XPIC Setting**
3. Retrieve the **Current Status**, and check if the **XPIC Pair Mute Mode Mismatch** alarm is cleared. If the alarm is not cleared, contact NEC for the further maintenance support.

This step ends the procedure.