PASOLINK NEO
6-52 GHz PDH/SDH DIGITAL RADIO SYSTEM

Section IV APPENDIX

PASOLINK NEO LCT OPERATION

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1. Introduction

This Local Craft Terminal (LCT) Operation Manual intended to how to setup, manage, monitor and controls PASOLINK NEO PDH/SDH microwave radio systems.

User prepares the computer (PC), USB cable and necessary peripheral device used for equipment setup.

The following hardware and software for the PC are recommended. Use the softwares are recently updated version.

Hardware requirement

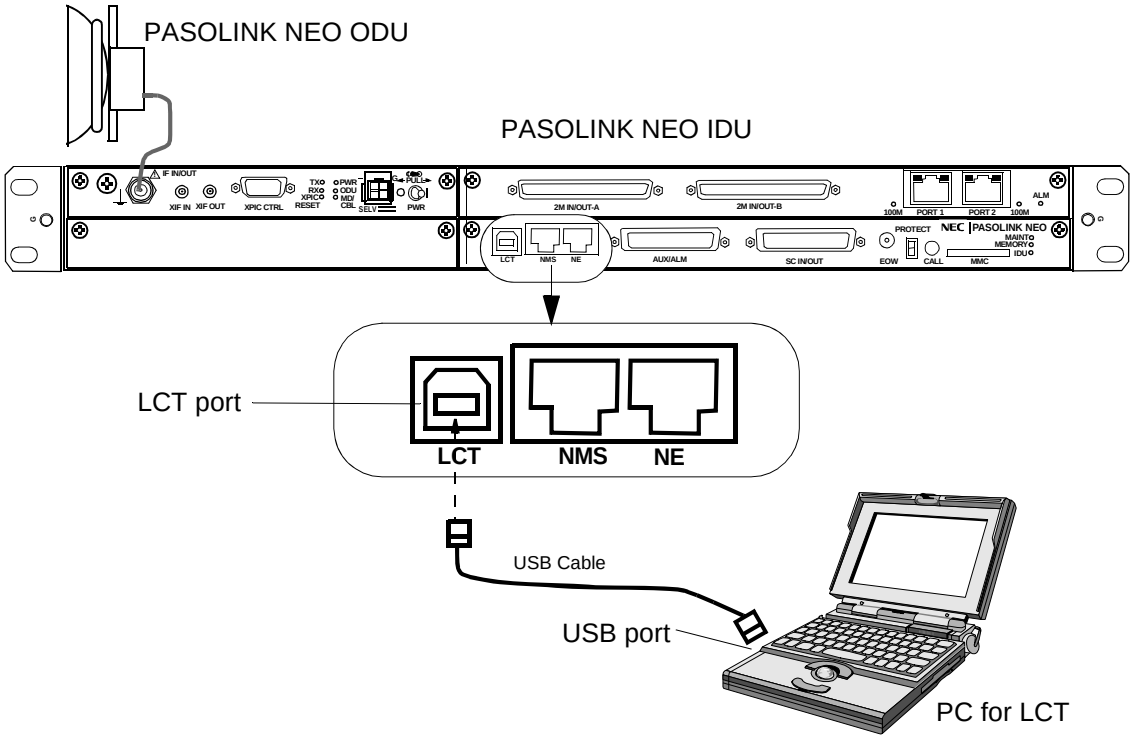
- HD: 100 MB or higher empty capacity
- RAM: 256 MB
- Display: LCD 1,024 × 768
- CD-ROM drive
- Serial port
- USB port
- USB cable with USB-B connector

Software requirement (English version)

- OS: Windows 2000/Xp
- IE6.0 SP2
- Java Runtime Environment V1.5.0_05 or higher
  (Refer to Chapter 12 for Java 2 Runtime installation.)

1.1 Accessing the PASOLINK NEO

1 Connect the Computer (PC) with a USB cable between the LCT port and the USB port,



LCT SETUP

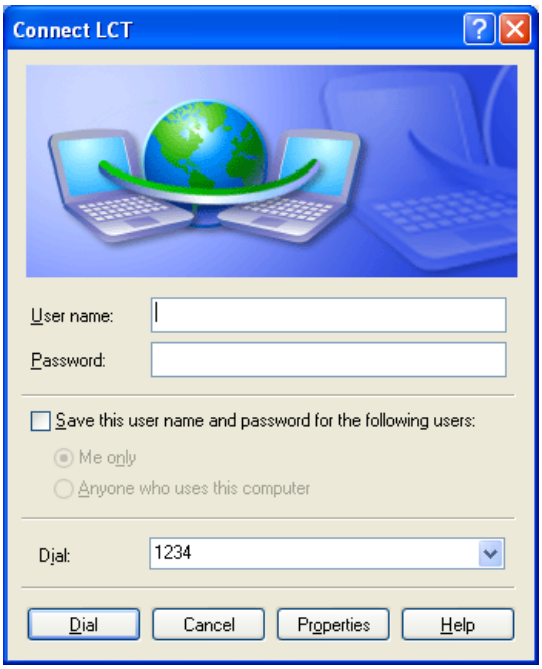
Note: 1. Before connecting the LCT, you need to start to install the USB Driver, Java 2 Runtime and the Dial-up. For the details, refer to Chapter 10 to Chapter 12.

2. Do not perform the dial-up setup before USB driver installation has not been completed.

2 Click on “START” menu button, select “Connect to”, “LCT”, then, “Connect LCT” dial-up dialog is appeared,

3 The dialog box “Connect LCT” appears,

4 Click on “Dial” button, then the PC is accessed to the IDU,



5 Open the Internet Explorer,

6 Enter URL address: **Http//172.17.254.253** of the Internet Explorer and press the “Enter” key,

7 Enter User ID and password in User/Password entry fields and press the “Login” button,

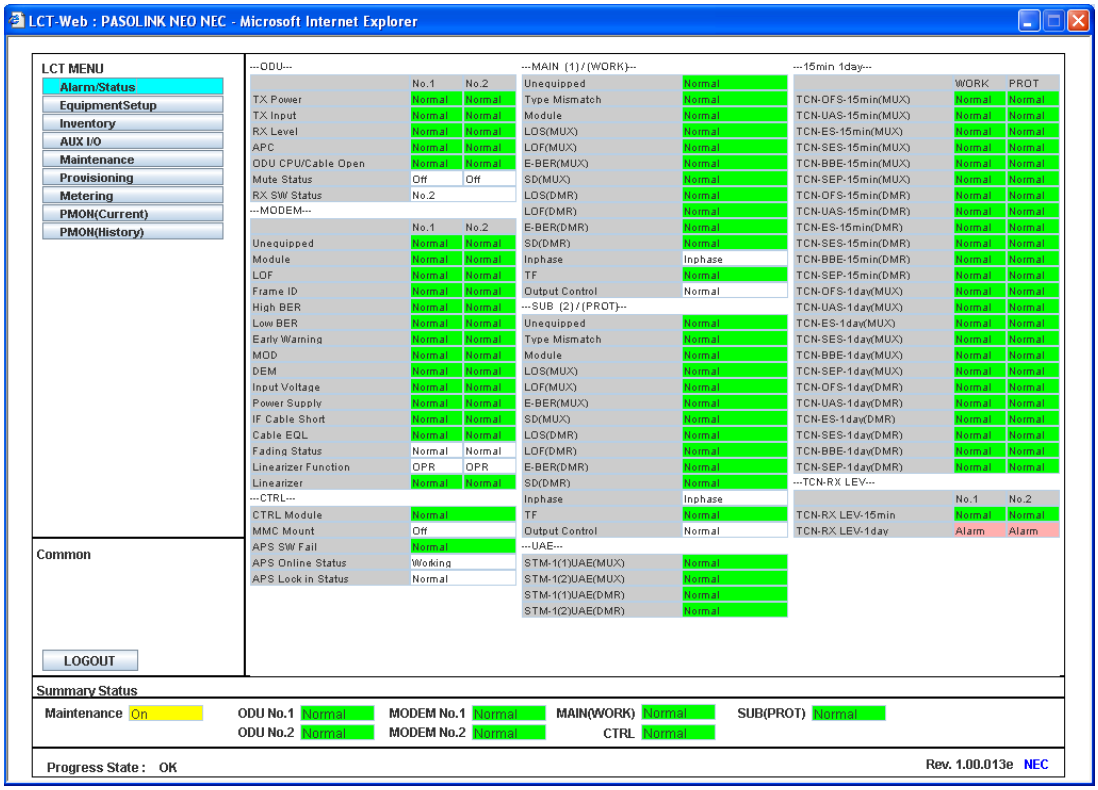
Default password of Admin is defined as “12345678”

User ID	Pass Word	Privilege
Admin	********	Access to the LCT and control
User	(non password)	Access to the LCT (monitor only)

The password can be changed by Administrator privilege. The LCT operator must have the security system privilege to control of PASOLINK NEO systems. (The password change is described in Chapter 6.3 Maintenance 2)

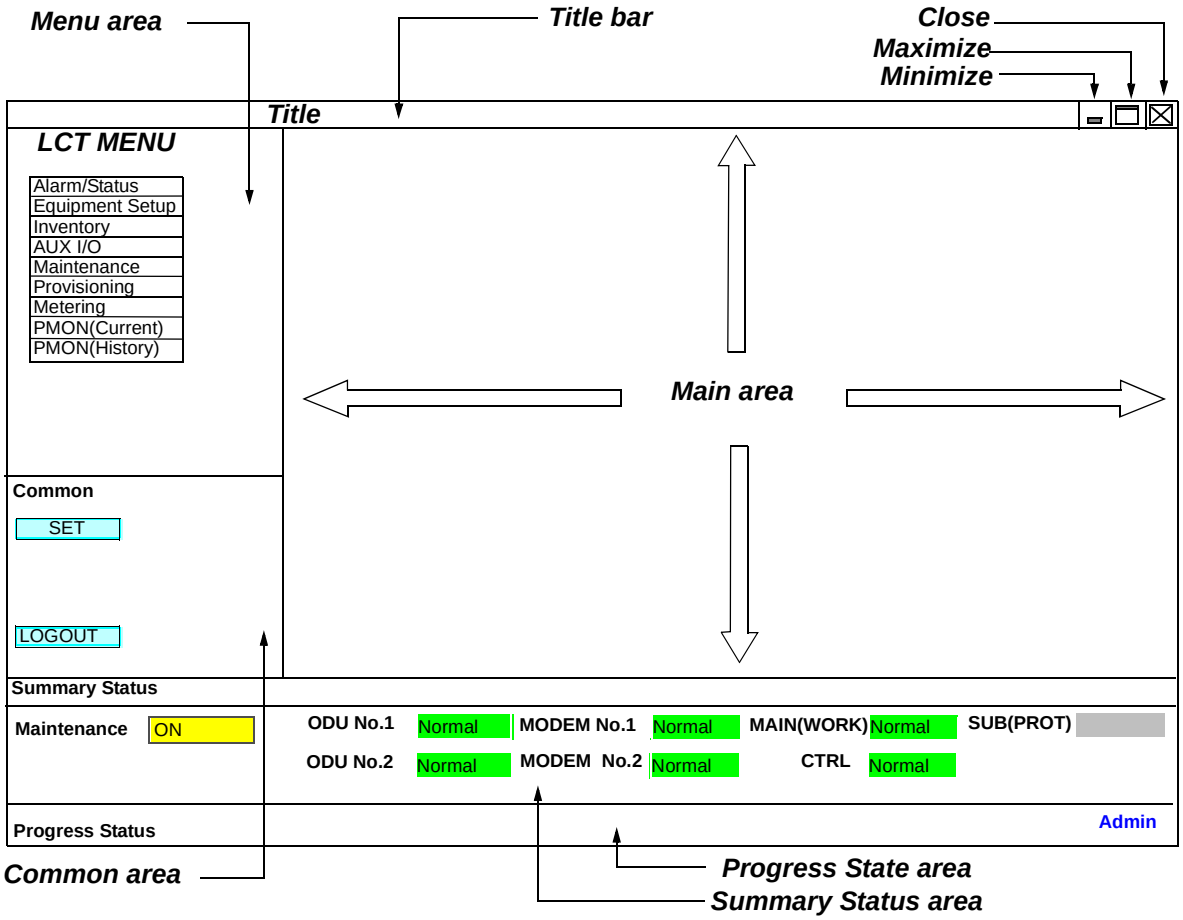
8 Following LCT Open View is displayed,
(Cascaded Alarm/Status items are displayed in Main area by default.)

PASOLINK NEO LCT Open View (Example)



Symbols in the Open View are described as follows.

Description of the LCT MENU Conventions



LCT MENU

"SET" button appears/disappears depending on the Menu item in **"LCT MENU"**.

LCT MENU	SET
Alarm/Status	disappear
Equipment Setup	appear
Inventory	disappear
AUX I/O	appear
Maintenance	disappear
Provisioning	appear
Metering	disappear
PMON (Current)	disappear
PMON (History)	disappear

Common

SET ——— Execute in a lump for the items are displayed in the Main area by **"**LCT MENU**"**.

LOGOUT ——— Displays confirmation box to Logout. Clicking OK button, close the LCT-Web screen and Login menu is displayed. Clicking Cancel button on the confirmation box, the LCT-Web screen is not changed.

RELOAD ——— Reload recent data to display.

Summary Status Area

Following summary items provide as operating status.

Item	Status Indication	
Maintenance	On (yellow)	Off (white)
ODU No.1	Normal (green)	Alarm (red)
ODU No.2	Normal (green)	Alarm (red)
MODEM No.1	Normal (green)	Alarm (red)
MODEM No.2	Normal (green)	Alarm (red)
MAIN (WORK)	Normal (green)	Alarm (red)
SUB (PROT)	Normal (green)	Alarm (red)
CTRL	Normal (green)	Alarm (red)

Note: When ODU No. 2, MODEM No. 2 or SUB (PROT) is not applied, corresponding item is colored gray.

Progress State Area

Following Response is displayed. When **"Set"** button is clicked.

SET Control	Response
OK - Response	OK
NG - Response	NG

Symbol:

▼ : Menu Button displays pull-down menu

○ : No Selected

● : Selected

Set : Execute control/setup for each item

1.2 LCT MENU Items

LCT MENU is consisted of the following table.

LCT MENU	BACKGROUND MENU		REMARKS
Alarm/Status			Refer to “2. Alarm/Status”
Equipment Setup			Refer to “3. Equipment Setup”
Inventory			Refer to “4. Inventory”
AUX I/O			Refer to “5. AUX. I/O”
Maintenance			Refer to “6. Maintenance”
	Maintenance1		
	Maintenance2		
Provisioning			Refer to “7. Provisioning”
	CH Setting		For PDH only
		Setting1	
		Setting2	
	BER Threshold Setting		
	SUB Interface		
	SC Assignment		
	LAN Port Setting		
	STM-1 Setting		For SDH only
	ALS Function		*1
	TX Power Control		
	Condition for TX/RX SW		*2
	Condition for APS		*3
	Relay Setting		
	TCN Threshold(15min)		
	TCN Threshold(1day)		
	PMON Select		
	Others		
Metering			Refer to “8. Metering”
PMON (Current)			Refer to “9. PMON”
	RX LEVEL		
	Total		*4
	RMON(Current)l		*4
	)	RMON(Line)(15min	*5
		RMON(Line)(1day)	*5
		RMON(DMR)(15min)	*5
		RMON(DMR)(1day)	*5
	DMR(W)		*3
	DMR(P)		*3
	MUX(W)		*3
	MUX(P)		*3

LCT MENU	BACKGROUND MENU		REMARKS
PMON (History)			Refer to “9. PMON”
	RX Level(24H/15min)		
	RX Level(7days/day)		
	Total(24H/15min)		*4
	Total(7days/day)		*4
	RMON(History)		*5
		RMON(Line)(24H/15min)	*5
		RMON(Line)(7days/day)	*5
		RMON(DMR)(24H/15min)	*5
		RMON(DMR)(7days/day)	*5
	DMR(W)(7days/day)		*3
	DMR(W)(24H/15min)		*3
	DMR(P)(7days/day)		*3
	DMR(P)(24H/15min)		*3
	MUX(W)(7days/day)		*3
	MUX(W)(24H/15min)		*3
	MUX(P)(7days/day)		*3
	MUX(P)(24H/15min)		*3

*Notes:*1 Only provides for SDH STM-1 OPT interface.*

2 Only provides for 1+1 configuration.

3 Only provides for APS in SDH for STM-1 OPT interface.

4 Only provides for PDH.

5 Only provides for LAN

2. Alarm/Status

2.1 Alarm/Status (PDH)

LCT MENU

Alarm/Status
Equipment Setup
Inventory
AUX I/O
Maintenance
Provisioning
Metering
PMON(Current)
PMON(History)

When click on "Alarm/Status" button in **"**LCT MENU**"**, following items/status (sample) are displayed in Main Area.

ALM items of PDH are listed in Table 2-1.

Alarm/Status items are displayed in Main area in default when accessing the LCT.

Note: Alarm/Status indication varies depending on the system configuration.

---ODU---

Item Status

	No.1	No. 2	
TX Power	Normal	Normal	
TX Input	Normal	Normal	
RX Level	Normal	Normal	
APC	Normal	Normal	
ODU CPU/Cable Open	Normal	Normal	
Mute Status	Normal	Normal	
TX SW Status	No.1		(*1)
RX SW Status	No.2		(*2)

*Notes: Item (*1) is displayed in Hot Standby configuration only.*
*Item (*2) is displayed in Hot Standby and Twinpath configuration.*

---MODEM---

Item Status

	No.1	No. 2
Unequipped	Normal	Normal
Module	Normal	Normal
LOF	Normal	Normal
Frame ID	Normal	Normal
High BER	Normal	Normal
Low BER	Normal	Normal
Early Warning	Normal	Normal
MOD	Normal	Normal
DEM	Normal	Alarm
Input Voltage	Normal	Normal
Power Supply	Normal	Normal
IF Cable Short	Normal	Normal
Cable EQL	Normal	Normal
Linearizer Function	OPR	NON OPR
Linearizer	Normal	Normal
ATPC Power Mode	Normal	Active

---CTRL---

Item	Status
CTRL Module	Normal
MMC Mount	Normal

---UAE---

Item	Status
UAE	Normal

---MAIN (1) (WORK)---

Item	Status	
Unequipped	Normal	
Type Mismatch	Normal	
Module	Normal	
Input LOS CH	Normal	(*1)
Usage Error CH	Normal	
AIS Generated CH	Normal	
AIS Received CH	Normal	
LAN Link	Normal	(*2)
LAN Collision	Normal	
LINK Loss Forwarding (LLF)	Normal	(only for LAN)
Speed & Duplex Port	Detail...	
Inphase	Inphase	

Click on corresponding item in status block (*1) details status for following “Alarm/Status (48CH)*” is displayed.

Click on corresponding item in status block (*2) details status for following LAN PORT is displayed.

---Alarm/Status(48CH)*---

CH No.	Status			
	Input LOS	Usage Error	AIS Generated	AIS Received
CH1	Normal	Normal	Normal	Normal
CH2	Normal	Normal	Normal	Normal
CH3	Normal	Normal	Normal	Normal
CH4	Normal	Normal	Normal	Normal
CH5	Normal	Normal	Normal	Normal
:	:	:	:	:
:	:	:	:	:
:	:	:	:	:
:	:	:	:	:
:	:	:	:	:
CH45	Normal	Normal	Normal	Normal
CH46	Normal	Normal	Normal	Normal
CH47	Normal	Normal	Normal	Normal
CH48	Normal	Normal	Normal	Normal

Close

Clicking “Close” button dismisses the “Alarm/Status” table.

Note: Maximum 48CH*

These items (*) are displayed LAN transmission is configured to the system only.
For the details, refer to Appendix LAN INTFC (10/100BASE-T(X)) Application and Setting in this Section IV.

Item Status

LAN Link	Normal	(*)
LAN Collision	Normal	(*)
Link Loss Forwarding (LLF)	Normal	(*)
Speed & Duplex	Detail..	(*)

Item Status

	Link	Collision	LLF	Speed&Duplex
PORT1	Normal	Normal	Normal	10M-Half(MDI)
PORT2	Normal	Normal	Normal	10M-Half(MDI)

Close

Clicking “Close” button dismisses the LAN PORT table.

---TCN-RX LEV---

Item Status

	No.1	No.2
TCN-RX LEV-15min	Normal	Normal
TCN-RX LEV-1day	Normal	Normal

Item Status

---15min 1day---

TCN-OFS-15min Total	Normal
TCN-UAS-15min Total	Normal
TCN-ES-15min Total	Normal
TCN-SES-15min Total	Normal
TCN-BBE-15min Total	Normal
TCN-SEP-15min Total	Normal
TCN-OFS-1day Total	Normal
TCN-UAS-1day Total	Normal
TCN-ES-1day Total	Normal
TCN-SES-1day Total	Normal
TCN-BBE-1day Total	Normal
TCN-SEP-1day Total	Normal

Notes: UAS: Unavailable Second
ES : Errored Second
SES : Severely Errored Second
BBE: Pull-down Block Error
SEP : Severely Errored Period

Table 2-1 ALM/STATUS List (PDH)

No.	ALM/STATUS ITEM	EVENT STATUS	SOURCE OF EVENT	Configuration		Criteria Default
				1+0	1+1	
1	ODU CPU/Cable Open ALM1	ODU1 CPU failure or IF cable is open	ODU No.1			Major
2	ODU CPU/Cable Open ALM2	ODU2 CPU failure or IF cable is open	ODU No.2	*1		Major
3	ODU ALM1	ODU1 total alarm	ODU No.1			Major
4	ODU ALM2	ODU2 total alarm	ODU No.2	*1		Major
5	TX PWR ALM1	ODU1 output power decreased	ODU No.1			Major
6	TX PWR ALM2	ODU2 output power decreased	ODU No.2	*1		Major
7	TX INPUT ALM1	ODU1 TX IF input level decreased	ODU No.1			Major
8	TX INPUT ALM2	ODU2 TX IF input level decreased	ODU No.2	*1		Major
9	APC ALM1	ODU1 LO OSC APC loop out of lock	ODU No.1			Major
10	APC ALM2	ODU2 LO OSC APC loop out of lock	ODU No.2	*1		Major
11	RX LEVEL ALM1	ODU1 Received level decreased	ODU No.1			Major
12	RX LEVEL ALM2	ODU2 Received level decreased	ODU No.2	*1		Major
13	IF CABLE SHORT ALM1	IF cable connected to ODU1short	MODEM No.1			Major
14	IF CABLE SHORT ALM2	IF cable connected to ODU2 short	MODEM No.2	*1		Major
15	MUTE STATUS1	ODU1 Mute status	ODU No.1			Status
16	MUTE STATUS2	ODU2 Mute status	ODU No.2	*1		Status
19	IDU ALM	IDU total alarm	CTRL			Major
20	IDU CPU ALM	IDU CPU failure	CTRL	*1	*2	Major
21	SV LINE ALM	PNMS is disconnected	CTRL			Major
22	MEMORY ALM	MMC memory error	CTRL			Major
23	ATPC PWR MODE1	No.1 ATPC failure, Hold/Minimum*3 power output	CTRL			Status
24	ATPC PWR MODE2	No.2 ATPC failure, Hold/Minimum*3 power output	CTRL	*1		Status
25	PS ALM1	No.1 power supply failure (only1+1)	MODEM No.1	*1		Major
26	PS ALM2	No.2 power supply failure (only1+1)	MODEM No.2	*1		Major
27	MOD ALM1	PLL APC unlock, output level down, CLK loss in MODEM1	MODEM No.1			Major
28	MOD ALM2	PLL APC unlock, output level down, CLK loss in MODEM2	MODEM No.2	*1		Major
29	DEM ALM1	Carrier/Frame Asynchronous at MODEM1	MODEM No.1			Major
30	DEM ALM2	Carrier/Frame Asynchronous at MODEM2	MODEM No.2	*1		Major
33	EARLY WARNING1	EARLY WARNING is detected in No.1 CH	MODEM No.1			Status
34	EARLY WARNING2	EARLY WARNING is detected in No.2 CH	MODEM No.2	*1		Status
35	HIGH BER ALM1	High BER (selectable) is detected in MODEM1	MODEM No.1			Major
36	HIGH BER ALM2	High BER (selectable) is detected inMODEM2	MODEM No.2	*1		Major
37	LOW BER ALM1	Low BER (selectable) is detected in MODEM1	MODEM No.1			Minor
38	LOW BER ALM2	Low BER (selectable) is detected in MODEM2	MODEM No.2	*1		Minor
39	LOF1	Loss of Radio frame synchronization in MODEM1	MODEM No.1			Major
40	LOF2	Loss of Radio frame synchronization in MODEM2	MODEM No.2	*1		Major
41	FRAME ID ALM1	ID is no coincidence in MODEM1	MODEM No.1			
42	FRAME ID ALM2	ID is no coincidence in MODEM2	MODEM No.2	*1		
43	CABLE EQL FAIL1	Cable EQL control is lost in MODEM1	MODEM No.1			Major
44	CABLE EQL FAIL2	Cable EQL control is lost in MODEM2	MODEM No.2	*1		Major
45	LINEARIZER FAIL1	BBLNZL control is lost in MODEM1	ODU No.1			Major
46	LINEARIZER FAIL2	BBLNZ control is lost in MODEM1	ODU No.2	*1		Major
55	INPAHSE	Main INTFC Inphase status	INTFC	*1		Status
84	LAN LINK	LAN LINK status	INTFC			Major
85	LAN COLLISION	LAN COLLISION occurred	INTFC			Minor
86	LAN RDI ALM	LAN RDI alarm occurred	INTFC			Minor
87	SPEED & DUPLEX	LAN Portables	INTFC			Status
95	MODEM ALM1	MODEM1 total alarm	MODEM			Major
96	MODEM ALM2	MODEM2 total alarm	MODEM	*1		Major
97	INTFC ALM	Main INTFC total alarm	INTFC			Major
99	CTRL ALM	CTRL UNIT total alarm	CTRL			Major
100	MODEM 1 UNEQUIP	MODEM1 is unequipped	CTRL			Minor
101	MODEM 2 UNEQUIP	MODEM2 is unequipped	CTRL			Minor
102	INTFC UNEQUIP	MAIN INTFC is unequipped	CTRL			Minor

**1. Not applied.*
**2. Not displayed on LCT.*
**3. Selectable*

2.2 Alarm/Status (SDH)

When click on “Alarm/Status” button in **“**LCT MENU**”**, following items/ status (sample) are displayed in Main Area.

ALM items of SDH are listed in Table 2-2.

Alarm/Status items are displayed in Main area in default when accessing the LCT.

Note: Alarm/Status indication varies depending on the system configuration.

---ODU---

Item Status

	No.1	No. 2	
TX Power	Normal	Normal	
TX Input	Normal	Normal	
RX Level	Normal	Normal	
APC	Normal	Normal	
ODU CPU/Cable Open	Normal	Normal	
Mute Status	OFF	OFF	
TX SW Status	No.1		(*1)
RX SW Status	No.2		(*2)

*Notes: Item (*1) is displayed in Hot Standby configuration only.*
*Item (*2) is displayed in Hot Standby and Twinpath configuration.*

---MODEM---

Item Status

	No.1	No. 2
Unequipped	Normal	Normal
Module	Normal	Normal
LOF	Normal	Normal
Frame ID	Normal	Normal
High BER	Normal	Normal
Low BER	Normal	Normal
Early Warning	Normal	Normal
MOD	Normal	Normal
DEM	Normal	Normal
Input Voltage	Normal	Normal
Power Supply	Normal	Normal
IF Cable Short	Normal	Normal
Cable EQL	Normal	Normal
Linearizer Function	OPR	NON OPR
Linearizer	Normal	Normal
ATPC Power Mode	Normal	Normal

---CTRL---

Item	Status
CTRL Module	Normal
MMC Mount	On
APS SW Fail	Normal
APS Online Status	Working
APS Lock in Status	Normal

---MAIN (WORK)---

Item	Status
Unequipped	Normal
Type Mismatch	Normal
Module	Normal
STM-1(1) LOS(MUX)	Normal
STM-1(1) LOF(MUX)	Normal
STM-1(1) E-BER(MUX)	Normal
STM-1(1) SD(MUX)	Normal
STM-1(1) LOS(DMR)	Normal
STM-1(1) LOF(DMR)	Normal
STM-1(1) E-BER(DMR)	Normal
STM-1(1) SD(DMR)	Normal
Inphase	Inphase
STM-1(1) TF	Normal

---SUB (PROT)---

Unequipped	Normal
Type Mismatch	Normal
Module	Normal
STM-1(2) LOS(MUX)	Normal
STM-1(2) LOF(MUX)	Normal
STM-1(2) E-BER(MUX)	Normal
STM-1(2) SD(MUX)	Normal
STM-1(2) LOS(DMR)	Normal
STM-1(21) LOF(DMR)	Normal
STM-1(2) E-BER(DMR)	Normal
STM-1(2) SD(DMR)	Normal
Inphase	Inphase
STM-1(2) TF	Normal

---TCN RX LEV---

Item	Status	
TCN-RX LEV-15min	Normal	Normal
TCN-RX LEV-1day	Normal	Normal

---UAE---

Item	Status
STM-1(1) UAE(DMR)	Normal
STM-1(2) UAE(DMR)	Normal
STM-1(1) UAE(MUX)	Normal
STM-1(2) UAE(MUX)	Normal

Item	Status	
---15min 1day ---	WORK	PROT
TCN-OFS-15min (DMR)	Normal	Normal
TCN-UAS-15min (DMR)	Normal	Normal
TCN-ES-15min (DMR)	Normal	Normal
TCN-SES-15min (DMR)	Normal	Normal
TCN-BBE-15min (DMR)	Normal	Normal
TCN-SEP-15min (DMR)	Normal	Normal
TCN-OFS-15min(MUX)	Normal	Normal
TCN-UAS-15min(MUX)	Normal	Normal
TCN-ES-15min(MUX)	Normal	Normal
TCN-SES-15min(MUX)	Normal	Normal
TCN-BBE-15min(MUX)	Normal	Normal
TCN-SEP-15min(MUX)	Normal	Normal
TCN-OFS-1day (DMR)	Normal	Normal
TCN-UAS-1day (DMR)	Normal	Normal
TCN-ES-1day (DMR)	Normal	Normal
TCN-SES-1day (DMR)	Normal	Normal
TCN-BBE-1day (DMR)	Normal	Normal
TCN-SEP-1day (DMR)	Normal	Normal
TCN-OFS-1day(MUX)	Normal	Normal
TCN-UAS-1day(MUX)	Normal	Normal
TCN-ES-1day(MUX)	Normal	Normal
TCN-SES-1day(MUX)	Normal	Normal
TCN-BBE-1day(MUX)	Normal	Normal
TCN-SEP-1day(MUX)	Normal	Normal

Notes: UAS: Unavailable Second
ES : Errored Second
SES : Severely Errored Second
BBE: Background Block Error
SEP : Severely Errored Period

Table 2-2 ALM/STATUS List (SDH) (1/2)

No.	ALM/STATUS ITEM	EVENT STATUS	SOURCE OF EVENT	Configuration		Criteria Default
				1+0	1+1	
1	ODU CPU/Cable Open ALM1	ODU1 CPU failure or IF Cable is open	ODU No.1			Major
2	ODU CPU/Cable Open ALM2	ODU2 CPU failure or IF Cable is open	ODU No.2	*1		Major
3	ODU ALM1	ODU1 total alarm	ODU No.1			Major
4	ODU ALM2	ODU2 total alarm	ODU No.2	*1		Major
5	TX PWR ALM1	ODU1 output power decreased	ODU No.1			Major
6	TX PWR ALM2	ODU2 output power decreased	ODU No.2	*1		Major
7	TX INPUT ALM1	ODU1 TX IF input level decreased	ODU No.1			Major
8	TX INPUT ALM2	ODU2 TX IF input level decreased	ODU No.2	*1		Major
9	APC ALM1	ODU1 LO OSC APC loop out of lock	ODU No.1			Major
10	APC ALM2	ODU2 LO OSC APC loop out of lock	ODU No.2	*1		Major
11	RX LEVEL ALM1	ODU1 Received level decreased	ODU No.1			Major
12	RX LEVEL ALM2	ODU2 Received level decreased	ODU No.2	*1		Major
13	IF CABLE SHORT ALM1	IF cable connected to ODU1short	MODEM No.1			Major
14	IF CABLE SHORT ALM2	IF cable connected to ODU2 short	MODEM No.2	*1		Major
15	MUTE STATUS1	ODU1 Mute Status	ODU No.1			Status
16	MUTE STATUS2	ODU2 Mute Status	ODU No.2	*1		Status
17	LO REF ALM1	ODU1 LO reference signal is lost	ODU No.1	*2	*2	Minor
18	LO REF ALM2	ODU2 LO reference signal is lost	ODU No.2	*1,*2	*2	Minor
19	IDU ALM	IDU total alarm	CTRL			Major
20	IDU CPU ALM	IDU CPU failure	CTRL	*1,*3	*3	Major
21	SV LINE ALM	PNMS is disconnected	CTRL			Major
22	MEMORY ALM	MMC memory error	CTRL			Major
23	ATPC PWR MODE1	No.1 ATPC failure, Hold/Minimum*5 power output	CTRL			Status
24	ATPC PWR MODE2	No.2 ATPC failure, Hold/Minimum*5 power output	CTRL	*1		Status
25	PS ALM1	No.1 power supply failure (only1+1)	MODEM No.1	*3		Major
26	PS ALM2	No.2 power supply failure (only1+1)	MODEM No.2	*1		Major
27	MOD ALM1	PLL APC unlock, output level down, CLK loss in MODEM1	MODEM No.1			Major
28	MOD ALM2	PLL APC unlock, output level down, CLK loss in MODEM2	MODEM No.2	*1		Major
29	DEM ALM1	Carrier/Frame Asynchronous at MODEM1	MODEM No.1			Major
30	DEM ALM2	Carrier/Frame Asynchronous at MODEM2	MODEM No.2	*1		Major
33	EARLY WARNING1	EARLY WARNING is detected in No.1 CH	MODEM No.1	*1		Status
34	EARLY WARNING2	EARLY WARNING is detected in No.2 CH	MODEM No.2	*1		Status
35	HIGH BER ALM1	High BER (selectable) is detected in MODEM1	MODEM No.1			Major
36	HIGH BER ALM2	High BER (selectable) is detected inMODEM2	MODEM No.2	*1		Major
37	LOW BER ALM1	Low BER (selectable) is detected in MODEM1	MODEM No.1			Minor
38	LOW BER ALM2	Low BER (selectable) is detected in MODEM2	MODEM No.2	*1		Minor
39	LOF1	Loss of Radio frame synchronization in MODEM1	MODEM No.1			Major
40	LOF2	Loss of Radio frame synchronization in MODEM2	MODEM No.2	*1		Major
41	FRAME ID ALM1	ID is no coincidence in MODEM1	MODEM No.1			
42	FRAME ID ALM2	ID is no coincidence in MODEM2	MODEM No.2	*1		
43	CABLE EQL FAIL1	Cable EQL control is lost in MODEM1	MODEM No.1			Major
44	CABLE EQL FAIL2	Cable EQL control is lost in MODEM2	MODEM No.2	*1		Major
45	LINEARIZER FAIL1	BBLNZL control is lost in MODEM1	ODU No.1			Major
46	LINEARIZER FAIL2	BBLNZ control is lost in MODEM1	ODU No.2	*1		Major
47	XPIC STATUS1	No. 1 XPIC function is off	MODEM No.1	*2	*2	Status
48	XPIC STATUS2	No. 2 XPIC function is off	MODEM No.2	*1,*2	*2	Status
49	XCTRL ALM1	No. 1 XPIC control failure	MODEM No.1	*2	*2	Major
50	XCTRL ALM2	No. 2 XPIC control failure	MODEM No.2	*2	*2	Major
51	XIF ALM1	No. 1 XIF signal is lost	MODEM No.1	*2	*2	Major
52	XIF ALM2	No. 2 XIF signal is lost	MODEM No.2	*1,*2	*2	Major
53	XREF ALM1	No. 1 XPIC reference CLK is lost	MODEM No.1	*2	*2	Minor
54	XREF ALM2	No. 2 XPIC reference CLK is lost	MODEM No.2	*1,*2	*2	Minor
55	INTFC(1) INPAHSE	Main INTFC inphase status	INTFC	*1		Status
56	INTFC(2) INPAHSE	Prot INTFC inphase status	STM-1 INTFC P	*1		Status
63	STM-1(1) UAE	No. 1 STM-1 INTFC UAS is generating	STM-1 INTFC W			Status

Table 2-2 ALM/STATUS List (SDH) (2/2)

No.	ALM/STATUS ITEM	EVENT STATUS	SOURCE OF EVENT	Configuration		Criteria Default
				1+0	1+1	
64	STM-1(2) UAE	No. 2 STM-1 INTFC UAS is generating	STM-1 INTFC P	*1		Status
65	STM-1(1) LOS(MUX)	No. 1 STM-1 from MUX, loss of signal is detected	STM-1 INTFC			Major
66	STM-1(2) LOS(MUX)	No. 2 STM-1 from MUX, loss of signal is detected	STM-1 INTFC	*1		Major
67	STM-1(1) LOF(MUX)	No. 1 STM-1 from MUX, loss of frame is detected	STM-1 INTFC			Major
68	STM-1(2) LOF(MUX)	No. 2 STM-1 from MUX, loss of frame is detected	STM-1 INTFC	*1		Major
69	STM-1(1) LOS(DMR)	No. 1 STM-1 from DMR, loss of signal is detected	STM-1 INTFC			Major
70	STM-1(2) LOS(DMR)	No. 2 STM-1 from DMR, loss of signal is detected	STM-1 INTFC			Major
71	STM-1(1) LOF(DMR)	No. 1 STM-1 from DMR, loss of frame is detected	STM-1 INTFC			Major
72	STM-1(2) LOF(DMR)	No. 2 STM-1 from DMR, loss of frame is detected	STM-1 INTFC	*1		Major
73	STM-1(1) E-BER(MUX)	No. 1 STM-1 from MUX, Excessive-BER is detected	STM-1 INTFC			Major
74	STM-1(2) E-BER(MUX)	No. 2 STM-1 from MUX, Excessive-BER is detected	STM-1 INTFC			Major
75	STM-1(1) SD(MUX)	No. 1 STM-1 from MUX, Signal Degrade is detected	STM-1 INTFC			Major
76	STM-1(2) SD(MUX)	No. 2 STM-1 from MUX, Signal Degrade is detected	STM-1 INTFC			Major
77	STM-1(1) E-BER(DMR)	No. 1 STM-1 from DMR, Excessive-BER is detected	STM-1 INTFC			Major
78	STM-1(2) E-BER(DMR)	No. 2 STM-1 from DMR, Excessive-BER is detected	STM-1 INTFC			Major
79	STM-1(1) SD(DMR)	No. 1 STM-1 from DMR, Signal Degrade is detected	STM-1 INTFC			Major
80	STM-1(2) SD(DMR)	No. 2 STM-1 from DMR, Signal Degrade is detected	STM-1 INTFC			Major
81	STM-1(1) TF ALM	No. 1 STM-1 output to MUX is failure	STM-1 INTFC			Major
82	STM-1(2) TF ALM	No. 2 STM-1 output to MUX is failure	STM-1 INTFC			Major
83	APS SW FAIL	APS switch is failure	CTRL	*4	*4	Major
95	MODEM ALM1	MODEM1 total alarm	MODEM			Major
96	MODEM ALM2	MODEM2 total alarm	MODEM	*1		Major
97	INTFC(1) ALM	Main INTFC total alarm	STM-1 INTFC			Major
98	INTFC(2) ALM	Main INTF Sub INTFC	STM-1 INTFC/ SUB INTFC			Major
99	CTRL ALM	CTRL UNIT total alarm	CTRL			Major
100	MODEM 1 UNEQUIP	MODEM1 is unequipped	CTRL			Minor
101	MODEM 2 UNEQUIP	MODEM2 is unequipped	CTRL			Minor
102	INTFC(1) UNEQUIP	MAIN INTFC is unequipped	CTRL			Minor
103	INTFC(2) UNEQUIP	SUB INTFC is unequipped	CTRL			Minor

**1. Not applied.*
**2. XPIC configuration only.*
**3. Not displayed on LCT.*
**4. APS configuration only.*
**5. Selectable.*

3. Equipment Setup

1 Click on “Equipment Setup” button in **“**LCT MENU**”**, then “Equipment Setup” menu is displayed,

LCT MENU

Alarm/Status
Equipment Setup
Inventory
AUX I/O
Maintenance
Provisioning
Metering
PMON(Current)
PMON(History)

2 Click on menu button of “User Interface” and select User Interface item,

Select PDH E1, PDH with LAN, PDH E3, PDH E3 with LAN for setup of the PDH system, then PDH items are to be setup will be followed.

Select SDH STM-1 for setup of the SDH system, then SDH items are to be setup will be followed.

User Interface	PDH E1 ▼	PDH ITEM
	PDH with LAN	
	SDH STM-1	SDH ITEM

3 Continue to Chapter 3.1 Equipment Setup (PDH) or Chapter 3.2 Equipment Setup (SDH).

3.1 Equipment Setup (PDH)

Note: Click on "SET" button in Common area after every setting items has been entered.

16E1 Equipment Setup (Sample)

User Interface	PDH E1 with LAN ▼
Redundancy Setting	1+1(Hot Standby TERM) ▼
MAIN(WORK)	16xE1 STANDARD PKG(E/W LAN) ▼
SUB(PROT)	▼
XPIC Usage	◯ Not Used ◯ Used(Main Master) ◯ Used(SUB Master) ▼
APS Function	◯ Unavailable ◯ Available ▼
Modulation Scheme	QPSK ▼
Transmission Capacity	40MB ▼

---ODU FREQ INFO---

TX Start Frequency[MHz]	5930.375
TX Stop Frequency[MHz]	6162.633
Frequency Step[MHz]	0.050
Shift Frequency[MHz]	252.040
Upper/Lower	LOWER
Sub Band	E

TX RF Frequency[MHz]	6048.975
RX RF Frequency[MHz]	6301.015
Frame ID	ID1 ▼
TX Power Control	◯ MTPC ● ATPC
LAN Port Usage	PORT1-2 SEPARATION(MAIN) ▼
LAN Capacity	40Mbps ▼

48E1 Equipment Setup (Sample)

User Interface	PDH E1 ▼
Redundancy Setting	1+1(Hot Standby TERM) ▼
Main(WORK)	48xE1 PKG ▼
SUB(PROT)	▼
XPIC Usage	◯ Not Used ◯ Used(Main Master) ◯ Used(SUB Master) ▼
APS Function	◯ Unavailable ◯ Available ▼
Modulation Scheme	16QAM ▼
Transmission Capacity	80MB ▼

---ODU FREQ INFO---

TX Start Frequency[MHz]	5930.375
TX Stop Frequency[MHz]	6162.633
Frequency Step[MHz]	0.050
Shift Frequency[MHz]	252.040
Upper/Lower	LOWER
Sub Band	E

TX RF Frequency[MHz]	6048.975
RX RF Frequency[MHz]	6301.015
Frame ID	ID1 ▼
TX Power Control	◯ MTPC ● ATPC
LAN Port Usage	PORT1-2 SEPARATION(MAIN) ▼
LAN Capacity	40Mbps ▼

User Interface
Redundancy Setting
Main(WORK)
SUB(PROT)
XPIC Usage
APS Function
Modulation Scheme
Transmission Capacity

1 Click on menu button “User Interface” and select corresponding item,

User Interface

User Interface	PDH E1 ▼
	PDH with LAN

2 Click on menu button “Redundancy Setting” and select corresponding item,

The selectable items vary depending on the selected item from “User Interface” to down order.

3 Setup can be performed by clicking the menu button to select setup item from pull-down menu, clicking setting button or entering values, then click on “SET” button in Common area after completed the setup and confirmation,

Redundancy Setting

Redundancy Setting	1+0(TERM) ▼
	1+1(Hot Standby TERM)
	1+1(Twinpath TERM)

Main(WORK)

Main(WORK)	16×E1 Standard PKG(E/W LAN) ▼
	48×E1 PKG

Modulation Scheme

Modulation Scheme	▼

QPSK
16QAM
32QAM

The modulation scheme must be setup with relative transmission capacity. Refer to following Transmission Capacity item.

Transmission Capacity

For QPSK Modulation Scheme, following pull-down menu is displayed.

Transmission Capacity	10MB	▼
	20MB	
	40MB	

For 16 QAM Modulation Scheme, following pull-down menu is displayed.

Transmission Capacity	10MB	▼
	20MB	
	40MB	
	80MB	

For 32 QAM Modulation Scheme, following menu is displayed.

Transmission Capacity	100MB

Note: Select appropriate Modulation Scheme from pull-down menu for the transmission capacity from table below.

RF CH Separation	Modulation Scheme		
	QPSK	16 QAM	32 QAM
3.5 MHz	–	10 MB	–
7 MHz	10 MB	20 MB	–
14 (13.75)* MHz	20 MB	40 MB	–
28 (27.5)* MHz	–	80 MB	100 MB

*Note: * CH separation 13.75 and 27.5 MHz apply for 18 GHz band.*

ODU FREQ INFO

---ODU FREQ INFO---

TX Start Frequency [MHz]
TX Stop Frequency [MHz]
Frequency Step [MHz]
Shift Frequency [MHz]
Upper/Lower
Sub Band

TX RF Frequency [MHz]
RX RF Frequency [MHz]
Frame ID
TX Power Control
LAN Capacity

Notes: 1 Set different values for No.1 TX frequency and No.2 TX frequency in the Twinpath configuration.

2 The RF frequency is automatically decided by setting of TX frequency.

The TX RF frequency value should be indicated within Start and Stop frequency range of Sub-Band which is indicated on the Name Plate of each ODU. The details, refer to the Appendix RADIO FREQUENCY PLAN OF THE PASOLINK NEO in Section 1.

Caution: For the 6/7/8 GHz band, the BPF of TX and RX of the ODU are adjusted to each assigned frequency. Then, to change the RF channel frequency, both BPFs replacement and LCT setup are required.

TX Frequency and RF Frequency for No.1 and No.2 are displayed in Twinpath configuration.

---ODU FREQ INFO---

TX RF Frequency(No.1) [MHz]
TX RF Frequency(No.2) [MHz]
RX RF Frequency(No.1) [MHz]
RX RF Frequency(No.2) [MHz]

Frame ID

Frame ID(No.1)		▼
Frame ID(No.2)		▼

Note: Click menu button and set the frame ID in order to discriminate the signal. As a signal with a different ID cannot be received, the ID of the opposite station should be set the same. The number of IDs which can be set up is; ID1 through ID16.

TX Power Control

TX Power Control	○MTPC ○ATPC

Notes: 1 When MTPC is selected, TX output level can be controlled by 1 dB step within MTPC range.

When ATPC is selected, TX output level is automatically controlled by 1 dB step within ATPC range.

2 For details of ATPC, refer to the Chapter 3.5.3 Automatic Transmitter Power Control in Section 2.

3 No.1 and No.2 are indicated in Twinpath configuration.

LAN Port Usage

LAN Port Usage	NOT USED	▼
	Port1-2 SHARED/1PORT ONLY(MAIN)	
	PORT1-2 SEPARATED(MAIN)	
	PORT1-2 SHARED/1PORT ONLY(SC)	

Note: LAN Port Usage may be set when LAN is used. For the details, refer to Appendix LAN INTFC (10/100BASE-T(X)) Application and Setting in this Section IV.

LAN Capacity

LAN Capacity	48 Mbps	▼

Notes: 1. LAN Capacity may be set when LAN is used.
2. Selectable LAN capacity is depending on the main signal transmission capacity. For the details, refer to Appendix LAN INTFC (10/100BASE-T(X)) Application and Setting in this Section IV.

4 When every setup has been completed, confirm all setup values,

5 Click on “SET” button in Common area, then “OK” is displayed in Progress area when the setup is properly executed.

Note: “NG” and error message are displayed in Progress State area, if there is invalid setting in the Equipment Setup.

3.2 Equipment Setup (SDH)

Note: Click on "SET" button in Common area after every setting items has been entered.

STM-1 (OPTICAL) Equipment Setup (Sample)

User Interface	SDH STM-1 ▼
Redundancy Setting	1+1(Hot Standby TERM) ▼
Main(WORK)	STM-1(OPTICAL) ▼
SUB(PROT)	NOT USED ▼
XPIC Usage	○ Not Used ○ Used(Main Master) ○ Used(SUB Master)
APS Function	○ Unavailable ● Available
Modulation Scheme	128QAM ▼
Transmission Capacity	156MB ▼

---ODU FREQ INFO---

TX Start Frequency [MHz]	5930.375
TX Stop Frequency [MHz]	6162.633
Frequency Step [MHz]	0.050
Shift Frequency [MHz]	252.040
Upper/Lower	LOWER
SUB Band	E

TX RF Frequency [MHz]	6048.975
RX RF Frequency [MHz]	6301.015
Frame ID	ID1 ▼
TX Power Control	○ MTPC ● ATPC
LAN Port Usage	▼
LAN Capacity	▼

User Interface
Redundancy Setting
Main(WORK)
SUB(PROT)
XPIC Usage
APS Function
Modulation Scheme
Transmission Capacity

1 Click on menu button "User Interface" and select corresponding item,

User Interface

User Interface	SDH STM-1 ▼

2 Click on menu button “Redundancy Setting” and select corresponding item,

The selectable items vary depending on the selected item from “User Interface” menu to down menus.

3 Setup can be performed by clicking on menu button to select setup item from pull-down menu, clicking setting button or entering values, then click on “SET” button in Common area after completed set up and confirmation,

Redundancy Setting

Redundancy Setting	1+0(TERM) ▼
	1+1(Hot Standby TERM)
	1+1(Twinpath TERM)

Main(WORK)

Main(WORK)	STM-1(Optical) ▼
	STM-1(Electrical)

SUB(PROT)

SUB(PROT)	Not Used ▼
	STM-1 OPT for APS

Note: Select STM-1 OPT for APS, when APS is configured to the system

XPIC Usage

XPIC Usage	○ Not Used ○ Used (Main Master) ○ Used (SUB Master)

Note: When XPIC is configured to the system, polarization for Main Master/SUB Muster must not be setup crossed between two stations.

APS Function	○ Unavailable ○ Available

4 Click on “SET” button in a Common area to execute setup.

ODU FREQ INFO

---ODU FREQ INFO---

TX Start Frequency [MHz]
TX Stop Frequency [MHz]
Frequency Step [MHz]
Shift Frequency [MHz]
Upper/Lower
Sub Band

TX RF Frequency [MHz]
RX RF Frequency [MHz]
Frame ID
TX Power Control
LAN Port Usage
LAN Capacity

Notes: 1 Set different values for No.1 TX frequency and No.2 TX frequency in the Twinpath configuration.

2 The RF frequency is automatically decided by setting of TX frequency.

The TX RF frequency value should be indicated within Start and Stop frequency range of Sub-Band which is indicated on the Name Plate of each ODU. The details, refer to the Appendix RADIO FREQUENCY PLAN OF THE PASOLINK NEO in Section 1.

Caution: For the 6/7/8 GHz band, the BPF of TX and RX of the ODU are adjusted to each assigned frequency. Then, to change the RF channel frequency, both BPFs replacement and LCT setup are required.

TX Frequency and RF Frequency for No.1 and No.2 are displayed in Twinpath configuration.

---ODU FREQ INFO---

TX RF Frequency(No.1) [MHz]
TX RF Frequency(No.2) [MHz]
RX RF Frequency(No.1) [MHz]
RX RF Frequency(No.2) [MHz]

Frame ID(No.1)	▼
Frame ID(No.2)	▼

Note: The frame ID is set in order to discriminate the signal. As a signal with a different ID cannot be received, the ID of the opposite station should be set the same. The number of IDs which can be set up is; ID1 through ID16 (and ID17 through ID32 for XPIC configuration).

TX Power Control

TX Power Control	○MTPC ○ATPC

Notes: 1 When MTPC is selected, TX output level can be controlled by 1 dB step within MTPC range in Maintenance "On" state.

When ATPC is selected, TX output level is automatically controlled by 1 dB step within ATPC range.

2 For details of ATPC, refer to the 3.5.3 Automatic Transmitter Power Control in Section 2.

3 No. 1 and No. 2 are indicated in Twinpath configuration.

5 Click on "SET" button in Common area, then "OK" is displayed in Progress area when the setup is properly executed.

Note: "NG" and error message are displayed in Progress State area, if there is invalid setting in the Equipment Setup.

4. Inventory

1 Click on “Inventory” button in **“**LCT MENU**”** then Inventory Lists are displayed.

LCT MENU

Alarm/Status
Equipment Setup
Inventory
AUX I/O
Maintenance
Provisioning
Metering
PMON(Current)
PMON(History)

---ODU---

	Package Name	Code No.	Serial No.	Date	H/W Version	F/W Version
No.1	ODU	NWA-009034A	00001017	2005.12	210A	1.00
No.2	ODU	NWA-009034A	00001018	2005.12	210A	1.00

---IDU---

	Package Name	Code No.	Serial No.	Date	H/W Version	F/W Version
MODEM No.1	MODEM	MP0-0H2940-A000	00001073	2006.01	00.03	-
MODEM No.2	MODEM	MP0-0H2940-A000	00001074	2006.01	00.05	-
IDU(CTRL)	CTRL	MP0-0H2950-A000	00001010	2006.01	01.00	1.03
MAIN(WORK)	STM-1 INTFC(o)	MP0-0H2960-A000	00001053	2006.01	01.00	-

---FPGA---

	Package Name	Code No.	Version
MODEM No.1	-	-	01.00
MODEM No.2	-	-	01.00
CTRL	CTRL FPGA	NWA-P4061A-000	01.06
MAIN(WORK)	SDH-STM-1 FPGA	P4064A	01.04

---Modem Parameter Version---

MODEM No.1	11
MODEM No.2	11

---Internet Protocol Properties---

IP Address	
Subnet Mask	
Default Gateway	
MAC Address	00-00-00-00-00-00

5. AUX. I/O

Six input (photocoupler) and six output (relay) are provided in the IDU for external control and alarm outputs of Housekeeping and Cluster.

1 Click on “AUX I/O” button in **“**LCT MENU**”**.

LCT MENU

Alarm/Status
Equipment Setup
Inventory
AUX I/O
Maintenance
Provisioning
Metering
PMON(Current)
PMON(History)

---INPUT---

	CONDITION
INPUT1	Close
INPUT2	Close
INPUT3	Open
INPUT4	Open
INPUT5	Open
INPUT6	Open

---OUTPUT---

	Value
OUTPUT1	Open ▼
OUTPUT2	Open ▼
OUTPUT3	Open ▼
OUTPUT4	Open ▼
	Open
	Close

2 Click menu button of required number of OUTPUT,

3 Select “Open” or “Close” to decide output mode to apply for event output,

4 Click on “SET” button in a Common area to execute setup.

Note: From INPUT 1 to INPUT 6 can be assigned to HK1 to HK6 input.

From INPUT 3 to INPUT 6 can be used to Cluster IN 1 to IN 4.

From OUTPUT 1 to OUTPUT 4 can be assigned to HK3 to HK6 output.

From OUTPUT 1 to OUTPUT 4 can be used to Cluster OUT 1 to OUT 4.

Cluster can be used: IN + OUT ≤ 4

5 Click on “SET” button in Common area, then “OK” is displayed in Progress area when the setup is properly executed.

Note: “NG” and error message are displayed in Progress State area, if there is invalid setting in the Aux I/O.

6. Maintenance

1 Click on “Maintenance” button in **“**LCT MENU**”**,

LCT MENU

Alarm/Status
Equipment Setup
Inventory
AUX I/O
Maintenance
Provisioning
Metering
PMON(Current)
PMON(History)

Maintenance1
Maintenance2

2 Click on “Maintenance1” background menu to display control items,

3 Click on setting button “On” for Maintenance and click on “Set” button, then value field turns to “On”,

---Maintenance1---

Item	Value	Setting	
Maintenance	On	○Off ●On	Set

Maintenance1 of the PDH system is described in Chapter 6.1 Maintenance1 (PDH).

Maintenance1 of the SDH system is described in Chapter 6.2 Maintenance1(SDH).

4 Click on “Maintenance2” pull-down menu to upload/download program file or reset CPU,

Maintenance2 is described in Chapter 6.3 Maintenance2.

6.1 Maintenance1 (PDH)

Following control items are displayed in Maintenance1 menu (an example).

---Maintenance1---

Item	Value	Setting		
Maintenance	On	○Off ●On		Set
TX SW Manual Control	Auto	●Auto ○No.1 ○No.2		Set
RX SW Manual Control	Auto	●Auto ○No.1 ○No.2		Set
RX SW Maintenance Mode	Manual			
ATPC Manual Control(No.1)	On	○Off ●On	[dB]	Set
ATPC Manual Control(No.2)	Off	●Off ○On		Set
TX Mute Control(No.1)	Off	●Off ○On		Set
TX Mute Control(No.2)	Off	●Off ○On		Set
CW Control(No.1)	Off	●Off ○On		Set
CW Control(No.2)	Off	●Off ○On		Set
IF Loopback(No.1)	Off	●Off ○On		Set
IF Loopback(No.2)	Off	●Off ○On		Set
Main CH Loopback (Near End)	Off			Select
Main CH Loopback (Far End)	Off			Select
LAN Device Reset	---	INTFC(1)-Port1 ▼		Set
Linearizer Control(No.1)	Auto	●Auto ○Forced Reset		Set
Linearizer Control(No.2)	Auto	●Auto ○Forced Reset		Set

---Offline Maintenance---

DADE Adjust	---	●DADE ○Offset DADE ○DADE Off		Set
RF SUB Band Select(No.1)	---	A ▼		Set
RF SUB Band Select(No.2)	---	A ▼		Set
Antenna Alignment Mode(No.1)	Off	●Off ○On		Set
Antenna Alignment Mode(No.2)	Off	●Off ○On		Set

Note: Displayed items vary depending on system configuration.
No. 1 and No. 1 are displayed only 1+1 system.

TX SW Manual Control

---Maintenance1---

Item	Value	Setting	
Maintenance	On	○ Off ● On	Set
TX SW Manual Control	Auto	● Auto ○ No.1 ○ No.2	Set
RX SW Manual Control	Auto	● Auto ○ No.1 ○ No.2	Set

1 Click on setting button “On” of the “Maintenance” and click on “Set” button, then value field of the Maintenance turns from “Off” to “On”.

In Maintenance “On” mode, all external alarm outputs are masked and automatic control is inhibited.

Control operation using LCT must be performed in Maintenance “On” condition.

2 Click on setting button “Auto”, “No. 1” or “No. 2” TX SW to select TX SW control mode and click on “Set” button, then value field of the ATPC Manual Control ( ) turns to corresponding set mode.

Auto: Normal operation mode

No. 1 or No. 2: Manual control mode

ATPC Manual Control

---Maintenance1---

Item	Value	Setting		
Maintenance	On	○ Off ● On		Set
ATPC Manual Control(No.1)	On	○ Off ● On	[dB]	Set
ATPC Manual Control(No.2)	Off	● Off ○ On		Set

3 Click on setting button “On” and enter attenuation value within ATPC range, then click on “Set” button,

ATPC/MTPC Range (PDH)

Modulation Mode	Frequency Band (GHz)	6	7-8	11	13	15	18	23	26	28	32	38	52
QPSK	ATPC Range	0 to 25 dB*1								0 to 25 dB			0 to 10 dB
	MTPC Range	0 to 25 dB*1								0 to 25 dB			0 to 10 dB
16QAM	ATPC Range	0 to 24 dB											-
	MTPC Range	0 to 24 dB											-
32QAM	ATPC Range	0 to 23 dB*1											0 to 6 dB
	MTPC Range	0 to 23 dB*1											0 to 6 dB

*Note: *1 Additional attenuator from 0 to 5 dB can be added.*

TX Mute Control

4 Click on setting button “On” to select TX Mute Control,

5 Click on menu button and select TX Mute Control time is to be specified,

Caution: The control affects the radio link connection.

---Maintenance1---

Item	Value	Setting	
Maintenance	On	○ Off ● On	Set
TX Mute Control(No.1)	Off	● Off ○ On	Set
TX Mute Control(No.2)	Off	● Off ○ On	Set

CW Control

6 Click on setting button “On” to set CW Control ( ) and click on “Set” button, then value field turns to “On”,

Caution: The control affects the radio link connection.

---Maintenance1---

Item	Value	Setting	
Maintenance	On	○ Off ● On	Set
CW Control(No.1)	Off	● Off ○ On	Set
CW Control(No.2)	Off	● Off ○ On	Set

Note: When set to CW Control “On”, unmodulated RF signal is emitted.

IF Loopback

7 Click on setting button “On” for the IF Loopback ( ) and click on “Set” button, then value field turns to “On”,

Caution: The control affects the radio link connection.

---Maintenance1---

Item	Value	Setting	
Maintenance	On	○ Off ● On	Set
IF Loopback (No.1)	Off	● Off ○ On	Set
IF Loopback (No.2)	Off	● Off ○ On	Set

Note: The control applies to IF loopback in local MODEM.

Main CH Loopback Control

8 Click on setting button “On” of the required CH number is to be looped back and click “Set” button,

For all E1 channel loop back, click on “Select” button “On” in All Setting menu and click on “Set” button,

---Maintenance1---

Item	Value	Setting	
Maintenance	On	○Off ●On	Set
Main CH Loopback (Near End)	Off		Select
Main CH Loopback (Far End)	Off		Select

Note: The control applies to loopback in each E1 signal.

---Main CH Loopback(Near End)---

CH1-24

CH1	On	○Off ●On
CH2	Off	●Off ○On
CH3	Disable	●Off ○On
CH4	Off	●Off ○On
CH5	Off	●Off ○On
CH6	Off	●Off ○On
CH7	Off	●Off ○On
CH8	Off	●Off ○On
CH9	Off	●Off ○On
CH10	Off	●Off ○On
CH11	Off	●Off ○On
CH12	Off	●Off ○On
CH13	Off	●Off ○On
CH14	Off	●Off ○On
CH15	Off	●Off ○On
CH16	Off	●Off ○On
CH17	Off	●Off ○On
CH18	Off	●Off ○On
CH19	Off	●Off ○On
CH20	Off	●Off ○On
CH21	Off	●Off ○On
CH22	Off	●Off ○On
CH23	Off	●Off ○On
CH24	Off	●Off ○On

CH25-48

CH25	Off	●Off ○On
CH26	Off	●Off ○On
CH27	Off	●Off ○On
CH28	Off	●Off ○On
CH29	Off	●Off ○On
CH30	Off	●Off ○On
CH31	Off	●Off ○On
CH32	Off	●Off ○On
CH33	Off	●Off ○On
CH34	Off	●Off ○On
CH35	Off	●Off ○On
CH36	Off	●Off ○On
CH37	Off	●Off ○On
CH38	Off	●Off ○On
CH39	Off	●Off ○On
CH40	Off	●Off ○On
CH41	Off	●Off ○On
CH42	Off	●Off ○On
CH43	Off	●Off ○On
CH44	Off	●Off ○On
CH45	Off	●Off ○On
CH46	Off	●Off ○On
CH47	Off	●Off ○On
CH48	Off	●Off ○On

All Setting

●Off ○On	Select	Set	Close

Note: The control is available for E1 channel is set to used.

---Main CH Loopback(Far End)---

CH1-24

CH1	On	○Off ●On
CH2	Off	●Off ○On
CH3	Disable	●Off ○On
CH4	Off	●Off ○On
CH5	Off	●Off ○On
CH6	Off	●Off ○On
CH7	Off	●Off ○On
CH8	Off	●Off ○On
CH9	Off	●Off ○On
CH10	Off	●Off ○On
CH11	Off	●Off ○On
CH12	Off	●Off ○On
CH13	Off	●Off ○On
CH14	Off	●Off ○On
CH15	Off	●Off ○On
CH16	Off	●Off ○On
CH17	Off	●Off ○On
CH18	Off	●Off ○On
CH19	Off	●Off ○On
CH20	Off	●Off ○On
CH21	Off	●Off ○On
CH22	Off	●Off ○On
CH23	Off	●Off ○On
CH24	Off	●Off ○On

CH25-48

CH25	Off	●Off ○On
CH26	Off	●Off ○On
CH27	Off	●Off ○On
CH28	Off	●Off ○On
CH29	Off	●Off ○On
CH30	Off	●Off ○On
CH31	Off	●Off ○On
CH32	Off	●Off ○On
CH33	Off	●Off ○On
CH34	Off	●Off ○On
CH35	Off	●Off ○On
CH36	Off	●Off ○On
CH37	Off	●Off ○On
CH38	Off	●Off ○On
CH39	Off	●Off ○On
CH40	Off	●Off ○On
CH41	Off	●Off ○On
CH42	Off	●Off ○On
CH43	Off	●Off ○On
CH44	Off	●Off ○On
CH45	Off	●Off ○On
CH46	Off	●Off ○On
CH47	Off	●Off ○On
CH48	Off	●Off ○On

All Setting

●Off ○On	Select	Set	Close

Note: The control is available for E1 channel is set to used.

LAN Device Reset

9 Select corresponding LAN port is to be reset from pull-down menu, and click “Set” button,

---Maintenance1---

Item	Value	Setting	
Maintenance	On	○Off ●On	Set
LAN Device Reset	---	INTFC(1)-Port1 ▼	Set

INTFC(1)-Port1
INTFC(1)-Port2

Linearizer Control

10 Click on setting button “Forced Reset” and click on “Set” button to reset Linearizer ( ), then, selected mode appears in value field,

---Maintenance1---

Item	Value	Setting	
Maintenance	On	○ Off ● On	Set
Linearizer Control(No.1)	Auto	● Auto ○ Forced Reset	Set
Linearizer Control(No.2)	Auto	● Auto ○ Forced Reset	Set

DADE Adjust

11 Click on setting button “DADE”, “Off set DADE” or “DADE Off” and click on “Set” button,

---Offline Maintenance---

Item	Value	Setting	
Maintenance	On	○ Off ● On	Set
DADE Adjust	---	● DADE ○ Offset DADE ○ DADE Off	Set

Notes: 1. The DADE control applies in 1+1 configuration to adjust delay time for RX hitless switching when the INTFC status is indicated Outphase.

2. The DADE adjustment is needed in initial lineup or when the IF CABLE is replaced. It is not needed readjustment when the INTFC status is indicated In-phase. The setting conditions are as follows:

DADE: Automatically adjust delay time based on either No.1 signal or No.2 signal which it is selected by RX SW under the outphase condition of the INTFC status. The DADE control is processed assuring no interruption of traffic.

Offset DADE: Automatically adjust delay time based on either No.1 signal or No.2 signal which it is selected by RX SW under the outphase condition of the INTFC status. Since the offset memory minimizes the latency delay, traffic interruption occurs at that moment. This Offset DADE controls the delay time difference to a minimum than DADE control.

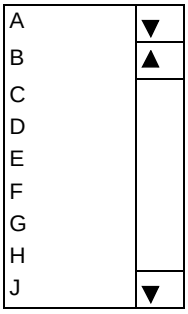
DADE off: Set when DADE function is not used. For particularly, when low bit rate (10 to 20 MB) transmission is applied to the system, the DADE control is not required.

RF SUB Band Select

12 Click on menu button, select required RF Sub-Band from pull-down menu, and click on “Set” button,

---Offline Maintenance---

Item	Value	Setting	
Maintenance	On	○ Off ● On	Set
RF SUB Band Select(No.1)	---	A ▼	Set
RF SUB Band Select(No.2)	---	A ▼	Set



Note: Refer to Appendix RF FREQUENCY PLAN in Section 1 for the details of Sub-Band versus Frequency Range.

Antenna Alignment Mode

13 Click on setting button “On”, and click on “Set” button, to apply Antenna Alignment Mode ( ), then, value field turns to On,

Notes: 1 The setting “On” is applied for antenna orientation or RX LEV reading when using PASOLINK Monitor unit.

2 For the antenna orientation, set the TX power to the required level by MTPC mode at the opposite site.

3 The Antenna Alignment Mode is used for extending the dynamic range of the PASOLINK Monitor unit. In order to measure in high range of AGC V, it is mandatory required to set Antenna Alignment Mode to ON. If not it set to ON, the indicated AGC voltage is not guaranteed value.

4 No. 1 and No. 2 apply for 1+1 configuration.

---Offline Maintenance---

Item	Value	Setting	
Maintenance	On	○ Off ● On	Set
Antenna Alignment Mode(No.1)	Off	● Off ○ On	Set
Antenna Alignment Mode(No.2)	Off	● Off ○ On	Set

6.2 Maintenance1(SDH)

---Maintenance1---

Item	Value	Setting		
Maintenance	On	○Off ●On		Set
TX SW Manual Control	Auto	●Auto ○No.1 ○No.2		Set
RX SW Manual Control	Auto	●Auto ○No.1 ○No.2		Set
RX SW Maintenance Mode	Manual			
ATPC Manual Control(No.1)	On	○Off ●On	[dB]	Set
ATPC Manual Control(No.2)	Off	●Off ○On		Set
TX Mute Control(No.1)	Off	●Off ○On		Set
TX Mute Control(No.2)	Off	●Off ○On		Set
CW Control(No.1)	Off	●Off ○On		Set
CW Control(No.2)	Off	●Off ○On		Set
APS Manual Control	Auto	●Auto ○Working ○Protection		Set
APS Maintenance Mode	Manual			
IF Loopback(No.1)	Off	●Off ○On		Set
IF Loopback(No.2)	Off	●Off ○On		Set
Main Loopback (Near End)	Off	●Off ○On-INTFC(1) ○On-INTFC(2)		Set
Main Loopback (Far End)	Off	●Off ○On-INTFC(1) ○On-INTFC(2)		Set
LAN Device Reset				Set
Linearizer Control(No.1)	Auto	●Auto ○Forced Reset		Set
Linearizer Control(No.2)	Auto	●Auto ○Forced Reset		Set
ALS Restart	---	●2sec ○90sec		Set
XPIC Control(No.1)	Auto	●Auto ○Forced Reset		Set
XPIC Control(No.2)	Auto	●Auto ○Forced Reset		Set

---Offline Maintenance---

DADE Adjust	---	●DADE ○Offset DADE ○DADE Off		Set
RF SUB Band Select(No.1)	---	A	▼	Set
RF SUB Band Select(No.2)	---	A	▼	Set
Antenna Alignment Mode(No.1)	Off	●Off ○On		Set
Antenna Alignment Mode(No.2)	Off	●Off ○On		Set

TX SW Manual Control

---Maintenance1---

Item	Value	Setting	
Maintenance	On	○ Off ● On	Set
TX SW Manual Control	Auto	● Auto ○ No.1 ○ No.2	Set
RX SW Manual Control	Auto	● Auto ○ No.1 ○ No.2	Set

1 Click on setting button “On” of the “Maintenance” and click on “Set” button, then value field of the Maintenance turns from “Off” to “On”.

In Maintenance “On” mode, all external alarm outputs are masked and automatic control is inhibited.

Control operation using LCT must be performed in Maintenance “On” condition.

2 Click on setting button “Auto”, “No. 1” or “No. 2” TX SW to select TX SW control mode and click on “Set” button, then value field of the ATPC Manual Control ( ) turns to corresponding set mode.

Auto: Normal operation mode

No. 1 or No. 2: Manual control mode

ATPC Manual Control

---Maintenance1---

Item	Value	Setting		
Maintenance	On	○ Off ● On		Set
ATPC Manual Control(No.1)	On	○ Off ● On	[dB]	Set
ATPC Manual Control(No.2)	Off	● Off ○ On		Set

3 Click on setting button “On” and enter attenuation value within ATPC range, then click on “Set” button,

ATPC/MTPC Range (SDH)

Modulation Mode	Frequency Band (GHz)	6	7-8	11	13	15	18	23	26	28	32	38
128QAM	ATPC Range	0 to 20 dB*1								0 to 20 dB		
	MTPC Range	0 to 20 dB*1								0 to 20 dB		

*Note *1 Additional attenuator from 0 to 5 dB can be added.*

TX Mute Control

4 Click on setting button “On” to select TX Mute Control,

5 Click on menu button and select TX Mute Control time is to be specified,

Caution: The control affects the radio link connection.

---Maintenance1---

Item	Value	Setting	
Maintenance	On	○ Off ● On	Set
TX Mute Control(No.1)	Off	● Off ○ On	Set
TX Mute Control(No.2)	Off	● Off ○ On	Set

CW Control

6 Click on setting button “On” to set CW Control ( ) and click on “Set” button, then value field turns to “On”,

Caution: The control affects the radio link connection.

---Maintenance1---

Item	Value	Setting	
Maintenance	On	○ Off ● On	Set
CW Control(No.1)	Off	● Off ○ On	Set
CW Control(No.2)	Off	● Off ○ On	Set

Note: When set to CW Control “On”, unmodulated RF signal is emitted.

APS Manual Control

7 Click on control button either “Working” or “Protection” of APS control and click on “Set” button, then value field turns to selected value,

Normal setting mode is “Auto”, set to this mode after maintenance operation has been completed.
“Working”: fix the Working INTFC (the INTFC card is installed in Slot (1)) to Online in Manual,
“Protection”: fix the Protection INTFC (the INTFC card is installed in Slot (2)) to Online in Manual.

The Maintenance Mode of “Manual” or “Forced” is displayed underneath that it is slected in “Provisioning”.

Note:The control applies only APS configuration.

---Maintenance1---

Item	Value	Setting	
Maintenance	On	○ Off ● On	Set
APS Manual Control	Auto	● Auto ○ Working ○ Protection	Set
APS Maintenance Mode	Manual		

IF Loopback

8 Click on setting button “On” for the IF Loopback ( ) and click on “Set” button, then value field turns to “On”,

Caution: The control interrupts all traffic between 2 stations.

---Maintenance1---

Item	Value	Setting	
Maintenance	On	○ Off ● On	Set
IF Loopback(No.1)	Off	● Off ○ On	Set
IF Loopback(No.2)	Off	● Off ○ On	Set

Note: The control applies to IF loopback in local MODEM.

Main Loopback

9 Click on setting button “On” of the required STM-1 INTFC is to be looped back and click on “Set” button, then controlled value appears in value field,

Caution: The control interrupts all traffic between 2 stations.

---Maintenance1---

Item	Value	Setting	
Maintenance	On	○ Off ● On	Set
Main Loopback (Near End)	Off	● Off ○ On-INTFC(1) ○ On-INTFC(2)	Set
Main Loopback (Far End)	Off	● Off ○ On-INTFC(1) ○ On-INTFC(2)	Set

DADE Adjust

10 Click on setting button “Off set DADE” or “DADE” Off and click on “Set” button,

---Maintenance1---

Item	Value	Setting	
Maintenance	On	○ Off ● On	Set
DADE Adjust	---	● DADE ○ Offset DADE ○ DADE Off	Set

Notes:1.The DADE control applies in 1+1 configuration to adjust delay time for RX hitless switching when the INTFC status is indicated Outphase.

2.The DADE adjustment is needed in initial lineup or when the IF CABLE is replaced. It is not needed readjustment when the INTFC status is indicated In-phase. The setting conditions are as follows:

DADE: Automatically adjust delay time based on either No.1 signal or No.2 signal which it is selected by RX SW under the outphase condition of the INTFC status. The DADE control is processed assuring no interruption of traffic.

Offset DADE: Automatically adjust delay time based on either No.1 signal or No.2 signal which it is selected by RX SW under the outphase condition of the INTFC status. Since the offset memory minimizes the latency delay, traffic interruption occurs at that moment. This Offset DADE controls the delay time difference to a minimum than DADE control.

DADE off: Set when DADE function is not used. For particularly, when low bit rate (10 to 20 MB) transmission is applied to the system, the DADE control is not required.

Linearizer Control

11 Click on setting button “Forced Reset” and click on “Set” button to reset Linearizer ( ), then, selected mode appears in value field,

---Maintenance1---

Item	Value	Setting	
Maintenance	On	○ Off ● On	Set
Linearizer Control(No.1)	Auto	● Auto ○ Forced Reset	Set
Linearizer Control(No.2)	Auto	● Auto ○ Forced Reset	Set

ALS Restart

12 Click on setting button to select value is to be specified and click on “Set” button,

---Maintenance1---

Item	Value	Setting	
Maintenance	On	○ Off ● On	Set
ALS Restart	---	● 2sec ○ 90sec	Set

Note: The details operation of the ALS refer to Chapter 3.5.1 Automatic Laser Shutdown Control in Section 2.

XPIC Control

13 Click on setting button “Forced Reset” and click on “Set” button to reset Linearizer ( ), then, selected mode appears in value field,

---Maintenance1---

Item	Value	Setting	
Maintenance	On	○ Off ● On	Set
XPIC Control(No.1)	Auto	● Auto ○ Forced Reset	Set
XPIC Control(No.2)	Auto	● Auto ○ Forced Reset	Set

Note: The control applies only to XPIC configuration when the propagation is deteriorated or either Main Master or SUB Master is failure.

RF SUB Band Select

14 Click on menu button, select required Sub-Band from pull-down menu, and click on “Set” button,

---Maintenance1---

Item	Value	Setting	
Maintenance	On	○ Off ● On	Set
RF SUB Band Select(No.1)	---	A ▼	Set
RF SUB Band Select(No.2)	---	A ▼	Set

A ▼
B ▲
C
D
E
F
G
H
J ▼

Note: Refer to Appendix RF FREQUENCY PLAN in Section 1 for the details of Sub-Band versus Frequency Range.

Antenna Alignment Mode

15 Click on setting button “On”, and click on “Set” button, to apply Antenna Alignment Mode ( ), then, value field turns to “On”,

Notes: 1 The setting “On” is applied for antenna orientation or RX LEV reading when using PASOLINK Monitor unit.

2 For the antenna orientation, set the TX power to the required level by MTPC mode at the opposite site.

3 The Antenna Alignment Mode is used for extending the dynamic range of the PASOLINK Monitor unit. In order to measure in high range of AGC V, it is mandatory required to set Antenna Alignment Mode to ON. If not it set to ON, the indicated AGC voltage is not guaranteed value.

4 No. 1 and No. 2 apply for 1+1 configuration.

---Maintenance1---

Item	Value	Setting	
Maintenance	On	○ Off ● On	Set
Antenna Alignment Mode(No.1)	Off	● Off ○ On	Set
Antenna Alignment Mode(No.2)	Off	● Off ○ On	Set

6.3 Maintenance2

1 Click on “Maintenance” button in **“**LCT MENU**”**.

LCT MENU

Alarm/Status
Equipment Setup
Inventory
AUX I/O
Maintenance
Provisioning
Metering
PMON(Current)
PMON(History)

Maintenance1
Maintenance2

2 Click on “Maintenance1” pull-down menu,

3 Click on setting button “On” for Maintenance item and click on “Set” button, then value field turns to “On”,

---Maintenance1---

Item	Value	Setting	
Maintenance	On	○ Off ●On	Set

4 Click on “Maintenance” button and select “Maintenance2” background menu,

Following control items are displayed in Main area on Maintenance2 menu.

--- Maintenance2 ---

---Control---

CPU Reset

---Download---

Configuration File
Program File
Equipment Config. File

---Upload---

Configuration File
Equipment Config. File

---Network---

NE Name Setting
Date/Time Setting

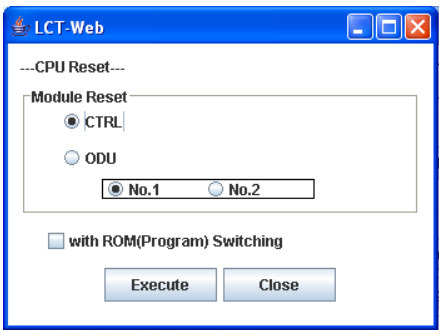
---Password---

Password Setting

Check that the “Maintenance” is “On” in the “Summary Status” area,

CPU Reset

5 Click on “CPU Reset” button,



6 Select on control button “CTRL” for IDU or “ODU” or “No. 1 or No. 2” (in 1+1 ODU only), and click “Execute” button in CPU Reset tab,

Caution: The control affects the radio link connection.

Check “with ROM (Program) Switching” control box when the program file for “CTRL” or “ODU” is newly down loaded and existing program file will be replaced with new one.

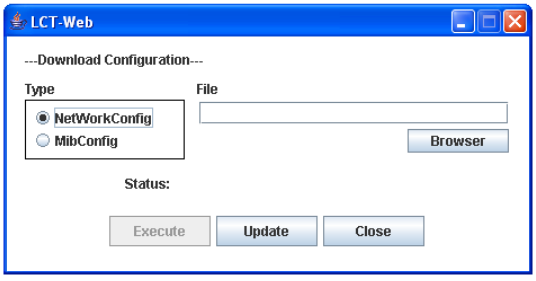
Note: When click on “Execute” button to reset CPU of the “CTRL”, then CTRL restarts, the LCT is disconnected.

Access the LCT to the PASOLINK NEO from the beginning.

7 Click on “Close” button to dismiss the “CPU Reset” tab,

Download Configuration File

8 Click on “Configuration File” button “Download” menu,



9 Select the file Type “Net Work Config” or “Mib Config”,

10 Enter the location of the Configuration file in File field or click on “Browser” button to display location in the hard disk or floppy disk,

11 Click on “Execute” button to start down load,

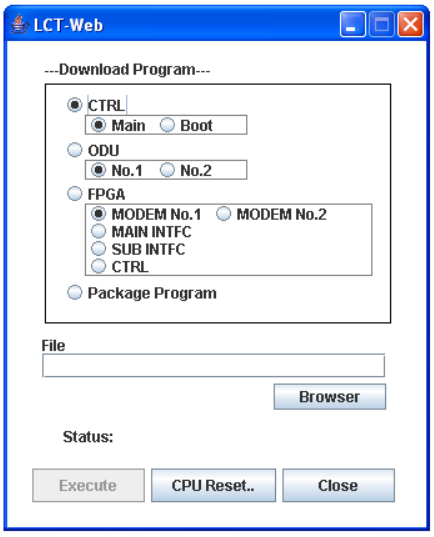
Caution: The control affects the radio link connection.

12 After download has been completed, click on “Update” button for the corresponding configuration will be operated with updated file,

13 Click on “Close” button to dismiss the “Download Configuration” tab,

Download Program

14 Click on “Program File” of “Download” menu,



15 Click on “CTRL”, “ODU”, “FPGA” or “Package Program” and corresponding Sub-item control button,

16 Enter the location of the Program File in File field or click on “Browser” to display location in the hard disk or floppy disk,

17 Click on “Execute” button to start the download of program file,

18 After download has been completed, click on “CPU Reset.” button,

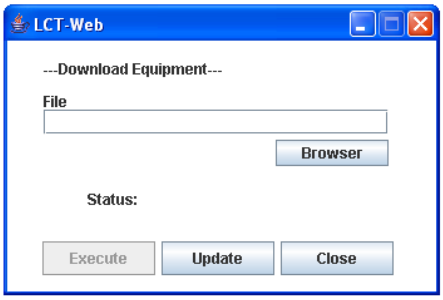
Caution: The control affects the radio link connection.

19 Select on control button “CTRL” for IDU or “ODU” or “No. 1 or No. 2” (in 1+1 ODU only), and click “Execute” button in CPU Reset tab,

20 Click on “Close” button to dismiss the “Download Configuration” tab,

Download Equipment

21 Click on “Equipment Config File” of “Download” menu,



22 Enter the location of the “Equipment Config File” in File field or click on “Browser” button to display location in the hard disk or floppy disk, click on “Execute” button to start the download,

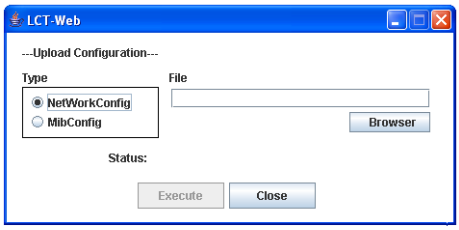
23 After download has been completed, click on “Update” button for the CTRL will be operated with updated config file,

Caution: The control affects the radio link connection.

24 Click on “Close” button to dismiss the “Download Equipment” tab,

Upload Configuration File

25 Click on “Configuration File” of “Upload” menu,



26 Select the file Type “Net Work Config” or “Mib Config”,

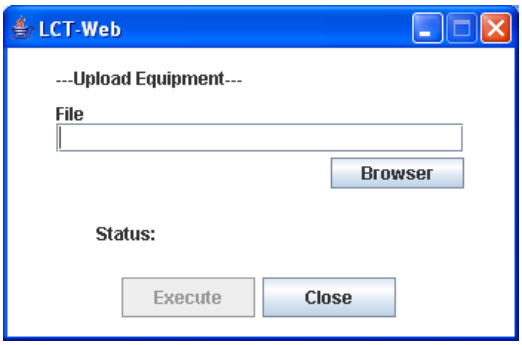
27 Enter the directory of the file name where the uploaded file will be saved,

28 Click on “Execute” button to start the uploading,

29 After Configuration File has been uploaded, click on “Close” button to dismiss the “Upload Configuration” tab,

Upload Equipment Config File

30 Click on “Equipment Config File” of “Upload” menu,



31 Select the file Type “Net Work Config” or “Mib Config”,

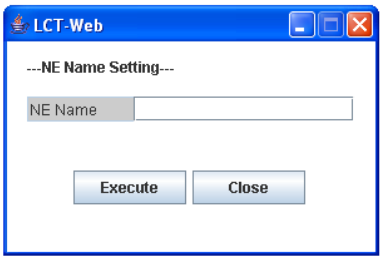
32 Enter the directory of the file name where the uploaded file will be saved,

33 Click on “Execute” button to start the uploading,

34 After Equipment Config File has been uploaded, click on “Close” button to dismiss the “Upload Configuration” tab,

NE Name Setting

35 Click on “NE Name Setting” button of “Network” menu,

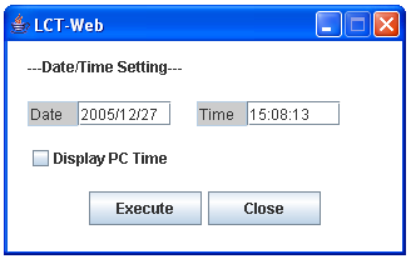


36 Enter proper NE name in the “NE Name” text entry field,

37 Click on “Execute” button and the click on “Close” button to dismiss the “NE Name Setting” tab,

Date/Time Setting

38 Click on “Date/Time Setting” button of “Network” menu,



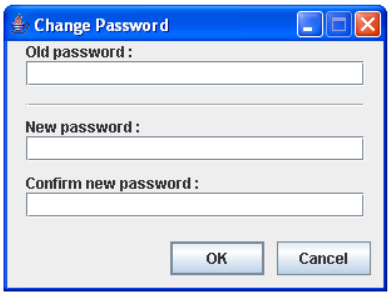
39 Click on “Display PC Time” button, then “Date”and “Time” are indicated in the fields,

40 Click on “Execute” button, then, Date/Time setting for the CTRL is performed,

41 Click on “Close” button to dismiss the “Date/Time Setting” tab,

Password Setting

42 Click on “Password Setting” button,



43 Enter the current password in “Old Password” entry field,

44 Enter the new password in “New Password” entry field,

45 Enter the same password written in “New Password” entry field in “Confirm new password” entry field,

46 Click on “OK” button after confirmed “New Password” and “Confirm new password”,

47 Click on Maintenance1, set Maintenance “Off” and click on “Set” button, then value field turns to “Off”.

7. Provisioning

LCT MENU

Alarm/Status
Equipment Setup
Inventory
AUX I/O
Maintenance
Provisioning
Metering
PMON(Current)
PMON(History)

When click on "Provisioning" button in **"**LCT MENU**"**, following Provisioning setup items are displayed in Main area.

Note: Provisioning setup must be performed after every setup items of the "Equipment Setup" has been completed. If it has any pending item or improper setting of the Equipment Setup, the "Provisioning Setup" will not be completed.

1 Click on "Provisioning" button in the **"**LCT MENU**"**,

2 Continue to Chapter 7.1 Provisioning Setup for PDH or Chapter 7.2 Provisioning Setup for SDH.

7.1 Provisioning Setup (PDH)

Note: To execute setup for each item, every time click on "SET" button in common area.

Channel Setting1

1 Click on "CH Setting1" button in Provisioning menu,

2 Click on either "Not Used" or "Used" channel setting button for all channels,

---Channel Setting---

CH1	○Not Used ●Used
CH2	○Not Used ●Used
CH3	○Not Used ●Used
CH4	○Not Used ●Used
CH5	○Not Used ●Used
CH6	○Not Used ●Used
CH7	○Not Used ●Used
CH8	○Not Used ●Used
CH9	○Not Used ●Used
CH10	○Not Used ●Used
CH11	○Not Used ●Used
CH12	○Not Used ●Used
CH13	○Not Used ●Used
CH14	○Not Used ●Used
CH15	○Not Used ●Used
CH16	○Not Used ●Used
CH17 LAN	○Not Used ○Used
CH18 LAN	○Not Used ○Used
CH19 LAN	○Not Used ○Used
CH20 LAN	○Not Used ○Used
CH21 LAN	○Not Used ○Used
CH22 LAN	○Not Used ○Used
CH23 LAN	○Not Used ○Used
CH24 LAN	○Not Used ○Used

CH25 LAN	○Not Used ○Used
CH26 LAN	○Not Used ○Used
CH27 LAN	○Not Used ○Used
CH28 LAN	○Not Used ○Used
CH29 LAN	○Not Used ○Used
CH30 LAN	○Not Used ○Used
CH31 LAN	○Not Used ○Used
CH32 LAN	○Not Used ○Used
CH33 LAN	○Not Used ○Used
CH34 LAN	○Not Used ○Used
CH35 LAN	○Not Used ○Used
CH36 LAN	○Not Used ○Used
CH37 LAN	○Not Used ○Used
CH38 LAN	○Not Used ○Used
CH39 LAN	○Not Used ○Used
CH40 LAN	○Not Used ○Used

Note: E1 channel numbers and LAN shares with E1 vary depending on the Transmission Capacities and LAN Capacities which are setup in "Equipment Setup".

All Setting

●Not Used ○Used	Select

Channel Setting2

3 Click on “CH Setting2” button in “Provisioning” background menu,

4 Click on either setting button for every items shown bellow,

CH Usage Error Report	○ Disabled ○ Enabled
AIS Activation Condition	◉ LOF + High BER ○ LOF
AIS Generated Report	○ Disabled ◉ Enabled
AIS Received Report	○ Disabled ◉ Enabled
AIS Received Condition	◉ Alarm ○ Status
E1 Port Impedance(CH1)	◉ 120[ohm] ○ 75[ohm]
E1 Port Impedance(CH2)	◉ 120[ohm] ○ 75[ohm]
E1 Port Impedance(CH3)	◉ 120[ohm] ○ 75[ohm]
E1 Port Impedance(CH4)	◉ 120[ohm] ○ 75[ohm]
E1 Port Impedance(CH5-8)	◉ 120[ohm] ○ 75[ohm]
E1 Port Impedance(CH9-16)	◉ 120[ohm] ○ 75[ohm]

Notes: 1. CH Usage Error Report:

Enabled:
In Main (Work) Interface Setting item, when E1 signal is applied into the channel which has chosen “Not Used”, alarm is displayed.

Disabled:
In Main Interface Setting item, even when E1 signal is applied into the channel which has chosen “Not Used”, alarm is not displayed.

2. AIS Activation Condition

LOF + High BER:
When the LOF ALM or High BER has occurred, E1 AIS signal is generated.

LOF:
When the LOF ALM has occurred, E1 AIS signal is generated.

3. AIS Generated (Received) Report

AIS Generated (Received) Report sets the whether AIS Generated (Received) for E1 is reported or not reported.

4. E1 Port impedance (CH)

E1 CH user interface impedance.

BER Threshold

5 Click on “BER Threshold Setting” button in “Provisioning” background menu,

6 Click on control button of required BER threshold level for “High BER Threshold” and “LOW BER Threshold”,

---BER Threshold Setting---

High BER Threshold	●1E-3 ○1E-4 ○1E-5
Low BER Threshold	●1E-6 ○1E-7 ○1E-8 ○1E-9

SC Assignment

7 Click on "SC Assignment" button in "Provisioning" background menu,

8 Click on menu button of SC1 to SC4 to assign SC channel interface, select item from pull-down menu,

---SC Assignment---

RS-232C-1	SC1 ▼	
RS-232C-2	SC2 ▼	
V-11-1	SC3 ▼	
V-11-2	SC4 ▼	
V-11-1 Direction Setting	○ Co-directional	● Contra-directional
V-11-2 Direction Setting	○ Co-directional	● Contra-directional

Not Used
SC1
SC2
SC3
SC4

LAN Port Setting

9 Click on "LAN Port Setting" button in "Provisioning" background menu,

10 Click on setting button of Switching Function,

11 Click on setting button of Port 1 and Port 2 usage,

Notes: 1. LAN Port Setting - Switchin function:

This is a setup if the use of Port1 and Port2 for the Switch Hub or no use when the signal domain of the radio link shares with the Port1 and Port2 (It can be used only Shared Mode, or not be used in the Separated Mode of the Port1 and Port2.)

Disabled: Use of Ports for the Switch Hub.
Enabled: No use of Ports for the Switch Hub.

2. *Port Usage: Use of LAN Port or no use.*

3. *Speed&Duplex:*

Setting for Port speed and Duplex.
Reffering to the following table, set the Port mode according to the associated equipment which it is to be connected. Note that if the setting mode differs from associated equipment, it may be caused performance degradation or link loss.

4. *Flow Control: Setting of effective or no-effective flow control.*

5. *Collision Report:*

In HALF-Duplex mode, it is selected that is reported or not reported about collision conditions at each port.

6. Link Loss Forwarding:

Setting of the Link Loss Forwarding mode is effectve or no effective. (See Link Loss Forwarding description in the Section II Operation)

	EXTERNAL EQUIPMENT						
SETTING POSITION / **IDU PORT SETTING POSITION**	**Auto Negotiation**	**10BASE-T/Half Duplex**	**10BASE-T/Full Duplex**	**100BASE-TX/Half Duplex**	**100BASE-TX/Full Duplex**	**10BASE-T/Half (FIX)**	**100BASE-TX/Half (FIX)**
Auto Negotiation (Auto MDI/MDI-X)	√	—	—	—	—	√	√
10BASE-T/Half Duplex (MDI/MDI-X*)	—	√	—	—	—	—	—
10BASE-T/Full Duplex (MDI/MDI-X*)	—	—	√	—	—	—	—
100BASE-TX/Half Duplex (MDI/MDI-X*)	—	—	—	√	—	—	—
100BASE-TX/Full Duplex (MDI/MDI-X*)	—	—	—	—	√	—	—

√ : A setup is possible.

** MDI/MDI-X is selected according to the cable type or terminal type to be used (straight or cross type).*

---LAN Port Setting---

Switching Function	○ Disabled ○ Enabled	

---Port1---

Port Usage	○ Not Used ○ Used	
Speed & Duplex	AUTONEG (Auto-MDI/MDIX)	▼
Flow Control	○ Off ○ On	
Collision Report	○ Not Report ○ Report	
Link Loss Forwarding	○ Disabled ○ Enabled	

---Port2---

Port Usage	○ Not Used ○ Used	
Speed & Duplex	AUTONEG (Auto-MDI/MDIX)	▼
Flow Control	○ Off ○ On	
Collision Report	○ Not Report ○ Report	
Link Loss Forwarding	○ Disabled ○ Enabled	

TX Power Control

12 Click on "TX Power Control" button in "Provisioning" background menu,

13 Enter required values in each control entry field within specified range,

(1) ATPC mode in 1+0 or Hot Standby configuration

---TX Power Control---		**Range**
ATPC Threshold Level [dBm]	-60.0	-85.0 to -30.0
Additional ATT [dB]	0	0 to 5
ATPC Range (MAX)[dB]	0	-24 to -0
ATPC Range (MIN)[dB]	-24	
ATPC Power Mode	◉Hold ○MIN	

(2) ATPC mode in Twinpath configuration

---TX Power Control---		**Range**
ATPC Threshold Level(No.1) [dBm]	-60.0	-85.0 to -30.0
ATPC Threshold Level(No.2) [dBm]	-60.0	-85.0 to -30.0
Additional ATT(No.1) [dB]	0	0 to 5
Additional ATT(No.2) [dB]	0	0 to 5
ATPC Range(MAX)(No.1) [dB]	0	-24 to -0
ATPC Range(MIN)(No.1) [dB]	-24	
ATPC Range(MAX)(No.2) [dB]	0	-24 to -0
ATPC Range(MIN)(No.2) [dB]	-20	
ATPC Power Mode	◉Hold ○MIN	

(3) MTPC mode in Twinpath configuration

---TX Power Control---		**Range**
MTPC TX Power(No.1) [dB]	-20	-24 to 0
MTPC TX Power(No.2) [dB]	-20	-24 to 0
ATPC Threshold Level(No.1) [dBm]	-60	-85 to -30
ATPC Threshold Level(No.2) [dBm]	-60	-85 to -30
Additional ATT(No.1) [dB]	0	0 to 5
Additional ATT(No.2) [dB]	0	0 to 5

Notes: 1 No.1 and No.2 are indicated in Twinpath configuration only.
2 For Hot Standby configuration, the TX Power Control effects both No. 1 and No. 2 ODUs.
3 ATPC/MTPC Range varies depending on RF frequency band and modulation scheme.
4 ATPC Threshold level Range varies depending on modulation scheme and RF signal channel separation.
5 ATPC power Mode:
Hold: Maintain the TX output level at current value.
MIN: Maintain the TX output level at ATPC minimum level.

Condition for TX/RX SW (only for 1+1 configuration)

14 Click on “Condition for TX/RX SW” button in “Provisioning” background menu,

15 Click on control button of required control mode for the TX SW and the RX SW,

----Condition for TX/RX SW---

TX SW Priority	●Non Priority ○ Priority No.1
RX SW Priority	●Non Priority ○ Priority No.1
RX SW Maintenance Mode	●Manual ○ Forced
RX SW Condition-Early Warning	●Included EW ○ Excluded EW

Notes: 1 TX SW control mode is applied only for Hot Standby configuration.

2 For TX and RX SW Priority, select Non Priority for Non-reverting operation at TX or RX alarm condition is restored.

3 Manual mode of RX SW Maintenance Mode disables the RX SW operation when either No. 1 or No. 2 RX route is alarm status.

4 Forced mode of RX SW Maintenance Mode enables the RX SW operation though either or both No. 1 and No. 2 RX route is alarm status.

5 Early Warning provides less than 1E-9.

Relay Setting

16 Click on “Relay Setting” button in “Provisioning” background menu,

17 Click on setting box crossed corresponding item and RL,

Note: From RL3 to RL6 can be assigned to CLUSTER1 to 4 OUTPUT but the same number of CLUSTER1 to 4 INPUT can not be assigned which number has been assigned to CLUSTER OUTPUT, or the CLUSTER can be assigned only for following condition.

Cluster can be used: IN + OUT ≤ 4

---Relay---

	RL01	RL02	RL03	RL04	RL05	RL06
HK OUT1						HK
HK OUT2					HK	
HK OUT3				HK		
HK OUT4			HK			
MAINT	Out	Mask	Mask	Mask	Mask	Mask
IDU CPU ALM		Out				
PS ALM1		Out				
PS ALM2		Out				
ODU ALM1			Out			
ODU ALM2						
ODU CPU ALM1				Out		
ODU CPU ALM2						
TX PWR ALM1						
TX PWR ALM2						
TX INPUT ALM1						
TX INPUT ALM2						
APC ALM1						
APC ALM2						
RX LEVEL ALM1						
RX LEVEL ALM2						
IF CABLE SHORT ALM1						
IF CABLE SHORT ALM2						
IDU ALM					Out	
MOD ALM1						

Cluster1 Input	●Disabled ○Enabled
Cluster2 Input	○Disabled ●Enabled
Cluster3 Input	○Disabled ● Enabled
Cluster4 Input	○Disabled ●Enabled

Note: When the selected item for RL assignment is invalid, “NG” and error message are displayed in Progress State area.

The following are assignable items for external alarm output in PDH system.

HK OUT1
HK OUT2
HK OUT3
HK OUT4
MAINT
IDU CPU ALM
PS ALM1
PS ALM2
ODU ALM1
ODU ALM2
ODU CPU ALM1
ODU CPU ALM2
TX PWR ALM1
TX PWR ALM2
TX INPUT ALM1
TX INPUT ALM2
APC ALM1
APC ALM2
RX LEVEL ALM1
RX LEVEL ALM2
IF CABLE SHORT ALM1
IF CABLE SHORT ALM2
IDU ALM
MOD ALM1
MOD ALM2
DEM ALM1
DEM ALM2
HIGH BER ALM1
HIGH BER ALM2
LOW BER ALM1
LOW BER ALM2
LOF1
LOF2
INPUT LOS 1-48
AIS RCVD 1-48
AIS GENERATED 1-48
CH USAGE ERROR 1-48
CLUSTER ALM OUT1
CLUSTER ALM OUT2
CLUSTER ALM OUT3
CLUSTER ALM OUT4

TCN Threshold (15min)

18 Click on “TCN Threshold (15min)” button in “Provisioning” background menu,

19 Enter required values in threshold OCR (Alarm Occur) and RCVR (Alarm Recover) fields of performance item,

----TCN Threshold (15min)---

	DMR	
	OCR	RCVR
OFS	900	90
UAS	900	90
ES	900	90
SES	900	90
BBE	65534	650
SEP	900	90

TCN Threshold (1day)

20 Click on “TCN Threshold (1day)” button in “Provisioning” background menu,

21 Enter required values in threshold OCR (Alarm Occur) and RCVR (Alarm Recover) fields of performance item,

----TCN Threshold (1day)---

	DMR	
	OCR	RCVR
OFS	65534	650
UAS	65534	650
ES	65534	650
SES	65534	650
BBE	65534	650
SEP	65534	650

PMON Select

22 Click on “PMON Select” button in “Provisioning” background menu,

23 Enter required “RX level TCN Threshold” level in text field,

24 Click on control button of “SES Activation Condition”,

---PMON Select---

RX Level TCN Threshold [dBm]	–82.0
SES Activation Condition	● 30[%] ○ 15[%]

Others

25 Click on “Others” button in “Provisioning” background menu,

26 Click on either “Normal” or “Invert” control button,

EOW2 External Setting

---EOW2 External Setting---

EOW2 External Setting	●Normal ○ Invert

Note: Select "Invert" or "Normal" to set appropriate calling system for the associated system as follows.
Set "Normal" when the NEO IDU is connected to PASOLINK IDU/NEO IDU.
Set "Invert" when the NEO IDU is connected to PASOLINK^{+} IDU or Mx IDU.

27 Click on either "On" or "Off" control button,

Alarm Correlation Capability

---Alarm Correlation Capability---

Alarm Correlation Capability	●Off ○ On

Note: Select "On" when really caused alarm is displayed.
Select "Off" when including derived alarm is displayed.

28 Click on "SET" button in Common area to define the setting.

7.2 Provisioning Setup (SDH)

Note: To execute setup for each item, every time click on "SET" button in common area.

BER Threshold

1 Click on "BER Threshold Setting" button in "Provisioning" background menu,

2 Click on control button of required BER threshold level for "High BER Threshold" and "LOW BER Threshold" of MODEM and E-BER (DMR)/E-BER (MUX) and SD (DMR)/ SD (MUX) of INTFC.

---BER Threshold Setting---

High BER Threshold	●1E-3 ○1E-4 ○1E-5
Low BER Threshold	●1E-6 ○1E-7 ○1E-8 ○1E-9
E-BER(DMR)	●1E-3 ○1E-4 ○1E-5
SD(DMR)	●1E-6 ○1E-7 ○1E-8 ○1E-9
E-BER(MUX)	●1E-3 ○1E-4 ○1E-5
SD(MUX)	●1E-6 ○1E-7 ○1E-8 ○1E-9

SC Assignment

3 Click on "SC Assignment" button in "Provisioning" background menu,

4 Click on menu button of SC1 to SC4 to assign SC channel interface,

---SC Assignment---

RS-232C-1	SC1	▼
RS-232C-2	SC2	▼
V-11-1	SC3	▼
V-11-2	SC4	▼
V-11-1 Direction Setting	○ Co-directional	● Contra-directional
V-11-2 Direction Setting	○ Co-directional	● Contra-directional

Not Used
SC1
SC2
SC3
SC4
E1(MUX)
F1(MUX)
E1(DMR)
F1(DMR)

*1

Not Used
SC1
SC2
SC3
SC4
E1(MUX)
F1(MUX)
DCCr(MUX)
E1(DMR)
F1(DMR)
DCCr(DMR)

*2

*Notes: *1 assignable SC for RS-232C-1, -2.*
**2 assignable SC for V-11-1, -2.*

STM-1 Setting

5 Click on “STM-1 Setting” button in “Provisioning” background menu,

6 Click on either “Disabled” or “Enabled” control button,

Note: Refer to Chapter “3.5.6 MS-AIS Generation” in Section 2 for the details.

7 Click on “Disabled” control button of the ALS,

Note: ALS “Enabled” applies only for ALS configuration.

8 Click on “Enabled” and required ALS interval control button when the ALS is configured in the system,

Note: Refer to Chapter “3.5.1 Automatic Laser Shutdown Control” in Section 2 for the details.

---MS-AIS Generation---

MS-AIS Generation	●Disabled ○Enabled
---ALS---	
ALS Function	●Disabled ○Enabled
ALS Interval	●60sec ○180sec ○300sec

TX Power Control

9 Click on “TX Power Control” button in “Provisioning” background menu,

10 Enter required values in each control entry field within specified range,

(1) ATPC mode in 1+0 or Hot Standby configuration

---TX Power Control---		**Range**
ATPC Threshold Level [dBm]	-60.0	-73.0 to -30.0
Additional ATT[dB]	0	0 to 5
ATPC Range(MAX)[dB]	0	-24 to -0
ATPC Range(MIN)[dB]	-24	
ATPC Power Mode	◉Hold ○MIN	

(2) ATPC mode in Twinpath configuration

---TX Power Control---		**Range**
ATPC Threshold Level(No.1) [dBm]	-60.0	-73.0 to -30.0
ATPC Threshold Level(No.2) [dBm]	-60.0	-73.0 to -30.0
Additional ATT(No.1) [dB]	0	0 to 5
Additional ATT(No.2) [dB]	0	0 to 5
ATPC Range(MAX)(No.1) [dB]	0	-20 to -0
ATPC Range(MIN)(No.1) [dB]	-20	
ATPC Range(MAX)(No.2) [dB]	0	-20 to -0
ATPC Range(MIN)(No.2) [dB]	-20	
ATPC Power Mode	◉Hold ○MIN	

(3) MTPC mode in Twinpath configuration

---TX Power Control---		**Range**
MTPC TX Power(No.1) [dB]	-20	-20 to 0
MTPC TX Power(No.2) [dB]	-20	-20 to 0
ATPC Threshold Level(No.1) [dBm]	-60	-73 to -30
ATPC Threshold Level(No.2) [dBm]	-60	-73 to -30
Additional ATT(No.1) [dB]	0	0 to 5
Additional ATT(No.2) [dB]	0	0 to 5

Notes: 1 No.1 and No.2 are indicated in Twinpath configuration only.

2 For Hot Standby configuration, the TX Power Control effects both No. 1 and No. 2 ODUs.

3 ATPC/MTPC Range varies depending on RF frequency band and modulation scheme.

4 ATPC Threshold level Range varies depending on modulation scheme and RF signal channel separation.

5 ATPC power Mode selects the ATPC activation when ATPC function has been failed:

Hold: Maintain the TX output level at the time of failure has occurred.

MIN: Maintain the TX output level at ATPC minimum level.

Condition for TX/RX SW (only for 1+1 configuration)

11 Click on “Condition for TX/RX SW” button in “Provisioning” background menu,

12 Click on control button of required control mode for the TX SW and the RX SW,

----Condition for TX/RX SW---

TX SW Priority	●Non Priority ○ Priority No.1
RX SW Priority	●Non Priority ○ Priority No.1
RX SW Maintenance Mode	●Manual ○ Forced
RX SW Condition-Early Warning	●Included EW ○ Excluded EW

Notes: 1 TX SW control mode is applied only for Hot Standby configuration.
2 For TX and RX SW Priority, select Non Priority for Non-revertive operation at TX or RX alarm condition is restored.
3 Manual mode of RX SW Maintenance Mode, disables the RX SW operation under either No. 1 or No. 2 RX route is alarmed.
4 Forced mode of RX SW Maintenance Mode, enables the RX SW operation through either or both No. 1 or No. 2 RX route is alarmed.
5 Early Warning provides less than $1E^{-9}$.

Condition for APS

13 Click on control button of required setting mode for the APS,

Note: For the details of Conditio for APS setting, see the Automatic Protection Switching (APS) in the Section II Operation.

----Condition for APS---

APS Maintenance Mode	● Manual ○ Forced	
APS Condition-SF(PROT)	● Priority High ○ Priority Low	
APS Condition-SD(B1)	○ Included SD ● Excluded SD	
Lock in Usage	○ Not Used ● Used	
Lock in Count (times)	4	1 to 255
Lock in Detect Time(min)	10	1 to 60
Lock in Hold Time(min)	24	1 to 48

Relay Setting

14 Click on “Relay Setting” button in “Provisioning” background menu,

15 Click on setting box crossed corresponding item and RL,

Note: From RL3 to RL6 can be assigned to CLUSTER1 to 4 OUTPUT but the same number of CLUSTER1 to 4 INPUT can not be assigned which number has been assigned to CLUSTER OUTPUT, or the CLUSTER can be assigned only for following condition.

Cluster can be used: IN + OUT ≤ 4

---Relay---

	RL01	RL02	RL03	RL04	RL05	RL06
HK OUT1						HK
HK OUT2					HK	
HK OUT3				HK		
HK OUT4			HK			
MAINT	Out	Mask	Mask	Mask	Mask	Mask
IDU CPU ALM		Out				
PS ALM1		Out				
PS ALM2		Out				
ODU ALM1			Out			
ODU ALM2						
ODU CPU ALM1				Out		
ODU CPU ALM2						
TX PWR ALM1						
TX PWR ALM2						
TX INPUT ALM1						
TX INPUT ALM2						
APC ALM1						
APC ALM2						
RX LEVEL ALM1						
RX LEVEL ALM2						
IF CABLE SHORT ALM1						
IF CABLE SHORT ALM2						
IDU ALM					Out	
MOD ALM1						

Cluster1 Input	●Disabled ○Enabled
Cluster2 Input	○Disabled ●Enabled
Cluster3 Input	○Disabled ● Enabled
Cluster4 Input	○Disabled ●Enabled

Note: When the selected item for RL assignment is invalid, “NG” and error message are displayed in Progress State area.

The following are assignable items for external alarm output in SDH system.

HK OUT1
HK OUT2
HK OUT3
HK OUT4
MAINT
IDU CPU ALM
PS ALM1
PS ALM2
ODU ALM1
ODU ALM2
ODU CPU ALM1
ODU CPU ALM2
TX PWR ALM1
TX PWR ALM2
TX INPUT ALM1
TX INPUT ALM2
APC ALM1
APC ALM2
RX LEVEL ALM1
RX LEVEL ALM2
IF CABLE SHORT ALM1
IF CABLE SHORT ALM2
IDU ALM
MOD ALM1
MOD ALM2
DEM ALM1
DEM ALM2
HIGH BER ALM1
HIGH BER ALM2
LOW BER ALM1
LOW BER ALM2
LOF1
LOF2
STM-1R LOS1-2
STM-1S LOS1-2
STM-1 TF ALM1-2
CLUSTER ALM OUT1
CLUSTER ALM OUT2
CLUSTER ALM OUT3
CLUSTER ALM OUT4

TCN Threshold (15min)

16 Click on “TCN Threshold (15min)” button in “Provisioning” background menu,

17 Enter required values in threshold OCR (Alarm Occur) and RCVR (Alarm Recover) fields of performance item,

----TCN Threshold (15min)---

	DMR		MUX	
	OCR	RCVR	OCR	RCVR
OFS	900	90	900	90
UAS	900	90	900	90
ES	900	90	900	90
SES	900	90	900	90
BBE	65534	650	65534	650
SEP	900	90	900	90

TCN Threshold (1day)

18 Click on “TCN Threshold (1day)” button in “Provisioning” background menu,

19 Enter required values in threshold OCR (Alarm Occur) and RCVR (Alarm Recover) fields of performance item,

----TCN Threshold (1day)---

	DMR		MUX	
	OCR	RCVR	OCR	RCVR
OFS	65534	650	65534	650
UAS	65534	650	65534	650
ES	65534	650	65534	650
SES	65534	650	65534	650
BBE	65534	650	65534	650
SEP	65534	650	65534	650

PMON Select

20 Click on “PMON Select” button in “Provisioning” background menu,

21 Enter required “RX level TCN Thresholdt” level in text field,

22 Click on control button of “SES Activation Condition”,

---PMON Select---

RX Level TCN Threshold [dBm]	–82.0
SES Activation Condition	● 30[%] ○ 15[%]

Others

23 Click on “Others” button in “Provisioning” background menu,

24 Click on either “Normal” or “Invert” control button,

EOW2 External Setting

---EOW2 External Setting---

EOW2 External Setting	●Normal ○ Invert

Note: Select “Invert” or “Normal” to set appropriate calling system for the associated system as follows.
Set “Normal” when the NEO IDU is connected to PASOLINK IDU/NEO IDU.
Set “Invert” when the NEO IDU is connected to PASOLINK^{+} IDU or Mx IDU.

25 Click on either “On” or “Off” control button,

---Alarm Correlation Capability---

Alarm Correlation Capability	●Off ○ On

Note: Select “On” when really caused alarm is displayed.
Select “Off” when including derived alarm is displayed.

26 Click on “SET” button in Common area to define the setup.

8. Metering

1 Click on “Metering” in “LCT MENU”,

LCT MENU

Alarm/Status
Equipment Setup
Inventory
AUX I/O
Maintenance
Provisioning
Metering
PMON(Current)
PMON(History)

2 Check the values indicated in metering text fields for each metering item,

Notes: 1. No.1 and No.2 are indicated only for 1+1 configuration.
2. Both TX Power values of No.1 and No.2 are indicated in Twinpath configuration only.
*3. TX Power value * is indicated for standby ODU in Hot Standby configuration.*
4. Power Supply voltage of the ODU DC input varies depending on IF cable length.
5. During total number of erroneous bits and total number of correctly received bits are calculating, “Calculating” is displayed.

----Metering---

	No.1	No.2
TX Power[dBm]	+0.7	*
RX Level[dBm]	-65.2	-70.0
Power Supply[V]	-45	-45
BER	*.*E-10	Calculating

9. PMON

9.1 PMON (PDH)

9.1.1 PMON (Current)

1 Click on “PMON (Current)” in “LCT MENU”,

LCT MENU

Alarm/Status
Equipment Setup
Inventory
AUX I/O
Maintenance
Provisioning
Metering
PMON(Current)
PMON(History)

For PDH

RX LEVEL
Total

2 Click on “RELOAD” button in Common area,

RX Level

3 Click on “RX LEVEL” button in “PMON (Current)” background menu,

Notes: 1. No.1 and No.2 are indicated only for 1+1 configuration.
2. When the RX Level ( ) is not decided, is indicated in text field.*

---RX Level(15min)---

Status	
Minimum(No.1)[dBm]	-59.3
Maximum(No.1)[dBm]	-58.3
Minimum(No.2)[dBm]	-60.2
Maximum(No.2)[dBm]	-59.4

---RX Level(1day)---

Status	
Minimum(No.1)[dBm]	-99.9
Maximum(No.1)[dBm]	-55.0
Minimum(No.2)[dBm]	-99.9
Maximum(No.2)[dBm]	-55.5

Total

4 Click on “Total” button in “PMON (Current)” background menu,

---Total---

	15min	1day
Status		Invalid
OFS	0	0
SEP	0	0
BBE	0	0
ES	0	0
SES	0	0
UAS	0	76

9.1.2 PMON (History)

1 Click on “PMON (History)” in “LCT MENU”,

LCT MENU

Alarm/Status
Equipment Setup
Inventory
AUX I/O
Maintenance
Provisioning
Metering
PMON(Current)
PMON(History)

RX Level(7days/day)
RX Level(24H/15min)
Total(7days/day)
Total(24H/15min)

2 Click on “RELOAD” button in Common area,

RX Level(7days/day)

3 Click on “RX LEVEL(7days/day)” button in “PMON (History)” background menu,

---RX Level (day)---

Date	Status	MIN(No.1)	MAX(No.1)	MIN(No.2)	MAX(No.2)
2006/01/01		-59.7	-58.6	-59.3	-58.1
2006/01/02		-59.8	-58.7	-58.7	-58.2
2006/01/03		-59.5	-59.0	-58.7	-58.2
2006/01/04		-59.5	-59.0	-58.7	-58.2
2006/01/05		-59.5	-59.0	-71.2	-58.2
2006/01/06		-74.2	-55.8	-58.8	-54.1
2006/01/07		-59.5	-57.9	-58.8	-58.1

RX Level(24H/15min)

4 Click on “RX LEVEL(24H/15min)” button in “PMON (History)” background menu,

---RX Level (15min)---

Date	Time	Status	MIN(No.1)	MAX(No.1)	MIN(No.2)	MAX(No.2)
2006/01/05	15:30-15:45		-59.7	-58.6	-59.3	-58.1
2006/01/05	15:45-16:00		-59.8	-58.7	-58.7	-58.2
2006/01/05	16:00-16:15		-59.5	-59.0	-58.7	-58.2
2006/01/05	16:15-16:30		-59.5	-59.0	-58.7	-58.2
2006/01/05	16:30-16:45		-59.5	-59.0	-71.2	-58.2
2006/01/05	16:45-17:00		-74.2	-55.8	-58.8	-54.1
2006/01/05	17:00-17:15		-59.5	-57.9	-58.8	-58.1

Total(7days/day)

5 Click on “Total(7days/day)” button in “PMON (History)” background menu,

---Total(1day)---

Date	Status	OFS	SEP	BBE	ES	SES	UAS
2006/01/01		0	0	0	0	0	0
2006/01/02		0	0	0	0	0	0
2006/01/03		0	0	0	0	0	0
2006/01/04		0	0	0	0	0	0
2006/01/05		0	0	0	0	0	0
2006/01/06		0	0	0	0	0	0
2006/01/07		0	0	0	0	0	0

Total(24H/15min)

6 Click on “Total(24H/15min)” button in “PMON (History)” background menu,

---Total(15min)----

Date	Time	Status	OFS	SEP	BBE	ES	SES	UAS
2006/01/05	15:30-15:45		0	0	0	0	0	0
2006/01/05	15:45-16:00		0	0	0	0	0	0
2006/01/05	16:00-16:15		0	0	0	0	0	0
2006/01/05	16:15-16:30		0	0	0	0	0	0
2006/01/05	16:30-16:45		0	0	0	0	0	0
2006/01/05	16:45-17:00		0	0	0	0	0	0
2006/01/05	17:00-17:15		0	0	0	0	0	0

9.1.3 RMON (Current)

7 Click on “RMON(Line)(15min)” button in “PMON (Current)” background menu,

RMON(Line)(15min)

---RMON(Line)(15min)---

	Port1	Port2
Status	Invalid	Invalid
RX UNICAST	0	0
RX BROADCAST	0	0
RX MULTICAST	0	0
RX PAUSE	0	0
RX CEC ERR	0	0
RX ALIGNMENT ERR	0	0
RX SYMBOL ERR	0	0
RX UNDERSIZE	0	0
RX FRAGMENTS	0	0
RX 64	0	0
RX 65-127	0	0
RX 128-255	0	0
RX 256-511	0	0
RX 512-1023	0	0
RX 1024-1536	0	0
RX 1537-MAX	0	0
RX JABBERS	0	0
TX UNICAST	0	0
TX BROADCAST	0	0
TX MULTICAST	0	0
TX PAUSE	0	0
TX COLLISION	0	0

RMON(Line)(1day)

8 Click on “RMON(Line)(1day)” button in “PMON (Current)” background menu,

---RMON(Line)(1day)---

	Port1	Port2
Status	Invalid	Invalid
RX UNICAST	0	0
RX BROADCAST	0	0
RX MULTICAST	0	0
RX PAUSE	0	0
RX CEC ERR	0	0
RX ALIGNMENT ERR	0	0
RX SYMBOL ERR	0	0
RX UNDERSIZE	0	0
RX FRAGMENTS	0	0
RX 64	0	0
RX 65-127	0	0
RX 128-255	0	0
RX 256-511	0	0
RX 512-1023	0	0
RX 1024-1536	0	0
RX 1537-MAX	0	0
RX JABBERS	0	0
TX UNICAST	0	0
TX BROADCAST	0	0
TX MULTICAST	0	0
TX PAUSE	0	0
TX COLLISION	0	0

RMON(DMR)(15min)

9 Click on “RMON(DMR)(15min)” button in “PMON (Current)” background menu,

---RMON(DMR)(15min)---

	Port1	Port2
Status	Invalid	
RX UNICAST	0	
RX BROADCAST	0	
RX MULTICAST	0	
RX PAUSE	0	
RX CEC ERR	2	
RX FRAGMENTS	3	
RX 64	0	
RX 65-127	0	
RX 128-255	0	
RX 256-511	0	
RX 512-1023	0	
RX 1024-1536	0	
RX 1537-MAX	0	
RX JABBERS	1	
TX UNICAST	0	
TX BROADCAST	0	
TX MULTICAST	0	
TX PAUSE	0	

RMON(DMR)(1day)

10 Click on “RMON(DMR)(1day)” button in “PMON (Current)” background menu,

---RMON(DMR)(1day)---

	Port1	Port2
Status	Invalid	
RX UNICAST	0	
RX BROADCAST	0	
RX MULTICAST	0	
RX PAUSE	0	
RX CEC ERR	512	
RX FRAGMENTS	768	
RX 64	0	
RX 65-127	0	
RX 128-255	0	
RX 256-511	0	
RX 512-1023	0	
RX 1024-1536	0	
RX 1537-MAX	0	
RX JABBERS	256	
TX UNICAST	0	
TX BROADCAST	0	
TX MULTICAST	0	
TX PAUSE	0	

9.1.4 RMON (History)

RMON(Line)(15min)

11 Click on "RMON(Line)(24H/15min)" button in "PMON (History)" background menu,

---RMON(Line)(15min)---

Port1 ▼

Date	Time	Status	1	2	3	4	5
2006/01/05	00:00-00:15						
2006/01/05	00:15-00:30						
2006/01/05	00:30-00:45						
2006/01/05	00:45-01:00						
2006/01/05	01:00-01:15						
2006/01/05	01:15-01:30						
2006/01/05	01:30-01:45						
2006/01/05	01:45-02:00						
2006/01/05	02:00-02:15						
2006/01/05	02:15-02:30						
2006/01/05	02:30-02:45						
2006/01/05	02:45-03:00						
2006/01/05	03:00-03:15						
2006/01/05	03:15-03:30						
2006/01/05	03:30-03:45						
2006/01/05	03:45-04:00						
2006/01/05	04:00-04:15						
2006/01/05	04:15-04:30						
2006/01/05	04:30-04:45						
2006/01/05	04:45-05:00						
2006/01/05	05:00-05:15						

1: RX UNICAST
2: RX BROADCAST
3: RX MULTICAST
4: RX PAUSE
5: RX CEC ERR
6: RX ALIGNMENT ERR
7: RX SYMBOL ERR
8: RX UNDERSIZE
9: RX FRAGMENTS
10: RX 64
11: RX 65-127
12: RX 128-255
13: RX 256-511
14: RX 512-1023
15: RX 1024-1536
16: RX 1537-MAX
17: RX JABBERS
18: TX UNICAST
19: TX BROADCAST
20: TX MULTICAST
21: TX PAUSE
22: TX COLLISION

RMON(Line)(1day)

12 Click on “RMON(Line)(7days/day)” button in “PMON (History)” background menu,

---RMON(Line)(1day)---

Port1 ▼

Date	Time	Status	1	2	3	4	5	6

1: RX UNICAST
2: RX BROADCAST
3: RX MULTICAST
4: RX PAUSE
5: RX CEC ERR
6: RX ALIGNMENT ERR
7: RX SYMBOL ERR
8: RX UNDERSIZE
9: RX FRAGMENTS
10: RX 64
11: RX 65-127
12: RX 128-255
13: RX 256-511
14: RX 512-1023
15: RX 1024-1536
16: RX 1537-MAX
17: RX JABBERS
18: TX UNICAST
19: TX BROADCAST
20: TX MULTICAST
21: TX PAUSE
22: TX COLLISION

RMON(DMR)(15min)

13 Click on "RMON(DMR)(24H/15min)" button in "PMON (History)" background menu,

---RMON(DMR)(15min)---

Port1 ▼

Date	Time	Status	1	2	3	4	5
2006/01/05	00:00-00:15						
2006/01/05	00:15-00:30						
2006/01/05	00:30-00:45						
2006/01/05	00:45-01:00						
2006/01/05	01:00-01:15						
2006/01/05	01:15-01:30						
2006/01/05	01:30-01:45						
2006/01/05	01:45-02:00						
2006/01/05	02:00-02:15						
2006/01/05	02:15-02:30						
2006/01/05	02:30-02:45						
2006/01/05	02:45-03:00						
2006/01/05	03:00-03:15						
2006/01/05	03:15-03:30						
2006/01/05	03:30-03:45						
2006/01/05	03:45-04:00						

1: RX UNICAST
2: RX BROADCAST
3: RX MULTICAST
4: RX PAUSE
5: RX CEC ERR
6: RX FRAGMENTS
7: RX 64
8: RX 65-127
9: RX 128-255
10: RX 256-511
11: RX 512-1023
12: RX 1024-1536
13: RX 1537-MAX
14: RX JABBERS
15: TX UNICAST
16: TX BROADCAST
17: TX MULTICAST
18: TX PAUSE

RMON(DMR)(1day)

14 Click on "RMON(DMR)(7days/day)" button in "PMON (History)" background menu,

---RMON(DMR)(1day)---

Port1 ▼

Date	Time	Status	1	2	3	4	5	6

1: RX UNICAST
2: RX BROADCAST
3: RX MULTICAST
4: RX PAUSE
5: RX CEC ERR
6: RX FRAGMENTS
7: RX 64
8: RX 65-127
9: RX 128-255
10: RX 256-511
11: RX 512-1023
12: RX 1024-1536
13: RX 1537-MAX
14: RX JABBERS
15: TX UNICAST
16: TX BROADCAST
17: TX MULTICAST
18: TX PAUSE

9.2 PMON (SDH)

9.2.1 PMON (Current)

1 Click on “PMON (Current)” in “LCT MENU”,

LCT MENU

Alarm/Status
Equipment Setup
Inventory
AUX I/O
Maintenance
Provisioning
Metering
PMON(Current)
PMON(History)

For SDH

RX LEVEL
DMR(W)
MUX(W)

2 Click on “RELOAD” button in Common area,

RX Level

3 Click on “RX LEVEL” button in “PMON (Current)” background menu,

Notes: 1. No.1 and No.2 are indicated only for 1+1 configuration.
2. When the RX Level ( ) is not decided, is indicated in text field.*

---RX Level(15min)---

Status	
Minimum(No.1)[dBm]	-59.3
Maximum(No.1)[dBm]	-58.3
Minimum(No.2)[dBm]	-60.2
Maximum(No.2)[dBm]	-59.4

---RX Level(1day)---

Status	
Minimum(No.1)[dBm]	-99.9
Maximum(No.1)[dBm]	-55.0
Minimum(No.2)[dBm]	-99.9
Maximum(No.2)[dBm]	-55.5

DMR(W)

4 Click on “DMR(W)” button in “PMON (Current)” background menu,

---DMR(W)---

	15min	1day
Status		Invalid
OFS	0	0
SEP	0	0
BBE	0	0
ES	0	0
SES	0	0
UAS	0	76

MUX(W)

5 Click on “MUX(W)” button in “PMON (Current)” background menu,

---MUX(W)---

	15min	1day
Status		Invalid
OFS	0	0
SEP	0	0
BBE	0	0
ES	0	0
SES	0	0
UAS	0	76

9.2.2 PMON (History)

1 Click on “PMON (History)” in “LCT MENU”,

LCT MENU

Alarm/Status
Equipment Setup
Inventory
AUX I/O
Maintenance
Provisioning
Metering
PMON(Current)
PMON(History)

RX Level(7days/day)
RX Level(24H/15min)
DMR(W)(7days/day)
DMR(W)(24H/15min)
MUX(W)(7days/day)
MUX(W)(24H/15min)

2 Click on “RELOAD” button in Common area,

RX Level(7days/day)

3 Click on “RX LEVEL(7days/day)” button in “PMON (History)” background menu,

---RX Level (day)---

Date	Status	MIN(No.1)	MAX(No.1)	MIN(No.2)	MAX(No.2)
2006/01/01		-59.7	-58.6	-59.3	-58.1
2006/01/02		-59.8	-58.7	-58.7	-58.2
2006/01/03		-59.5	-59.0	-58.7	-58.2
2006/01/04		-59.5	-59.0	-58.7	-58.2
2006/01/05		-59.5	-59.0	-71.2	-58.2
2006/01/06		-74.2	-55.8	-58.8	-54.1
2006/01/07		-59.5	-57.9	-58.8	-58.1

RX Level(24H/15min)

4 Click on “RX LEVEL(24H/15min)” button in “PMON (History)” background menu,

---RX Level (15min)---

Date	Time	Status	MIN(No.1)	MAX(No.1)	MIN(No.2)	MAX(No.2)
2006/01/05	15:30-15:45		-59.7	-58.6	-59.3	-58.1
2006/01/05	15:45-16:00		-59.8	-58.7	-58.7	-58.2
2006/01/05	16:00-16:15		-59.5	-59.0	-58.7	-58.2
2006/01/05	16:15-16:30		-59.5	-59.0	-58.7	-58.2
2006/01/05	16:30-16:45		-59.5	-59.0	-71.2	-58.2
2006/01/05	16:45-17:00		-74.2	-55.8	-58.8	-54.1
2006/01/05	17:00-17:15		-59.5	-57.9	-58.8	-58.1

DMR(W)(day)

5 Click on “DMR(W)(7days/day)” button in “PMON (History)” background menu,

---DMR(W)(1day)---

Date	Status	OFS	SEP	BBE	ES	SES	UAS
2006/01/01		0	0	0	0	0	0
2006/01/02		0	0	0	0	0	0
2006/01/03		0	0	0	0	0	0
2006/01/04		0	0	0	0	0	0
2006/01/05		0	0	0	0	0	0
2006/01/06		0	0	0	0	0	0
2006/01/07		0	0	0	0	0	0

DMR(W)(24H/15min)

6 Click on “DMR(W)(24H/15min)” button in “PMON (History)” background menu,

---DMR(W)(15min)----

Date	Time	Status	OFS	SEP	BBE	ES	SES	UAS
2006/01/05	15:30-15:45		0	0	0	0	0	0
2006/01/05	15:45-16:00		0	0	0	0	0	0
2006/01/05	16:00-16:15		0	0	0	0	0	0
2006/01/05	16:15-16:30		0	0	0	0	0	0
2006/01/05	16:30-16:45		0	0	0	0	0	0
2006/01/05	16:45-17:00		0	0	0	0	0	0
2006/01/05	17:00-17:15		0	0	0	0	0	0

MUX(W)(7days/day)

7 Click on “MUX(W)(7days/day)” button in “PMON (History)” background menu,

---MUX(W)(day)---

Date	Status	OFS	SEP	BBE	ES	SES	UAS
2006/01/01		0	0	0	0	0	0
2006/01/02		0	0	0	0	0	0
2006/01/03		0	0	0	0	0	0
2006/01/04		0	0	0	0	0	0
2006/01/05		0	0	0	0	0	0
2006/01/06		0	0	0	0	0	0
2006/01/07		0	0	0	0	0	0

MUX(W)(24H/15min)

8 Click on “MUX(W)(24H/15min)” button in “PMON (History)” background menu,

---MUX(W)(15min)----

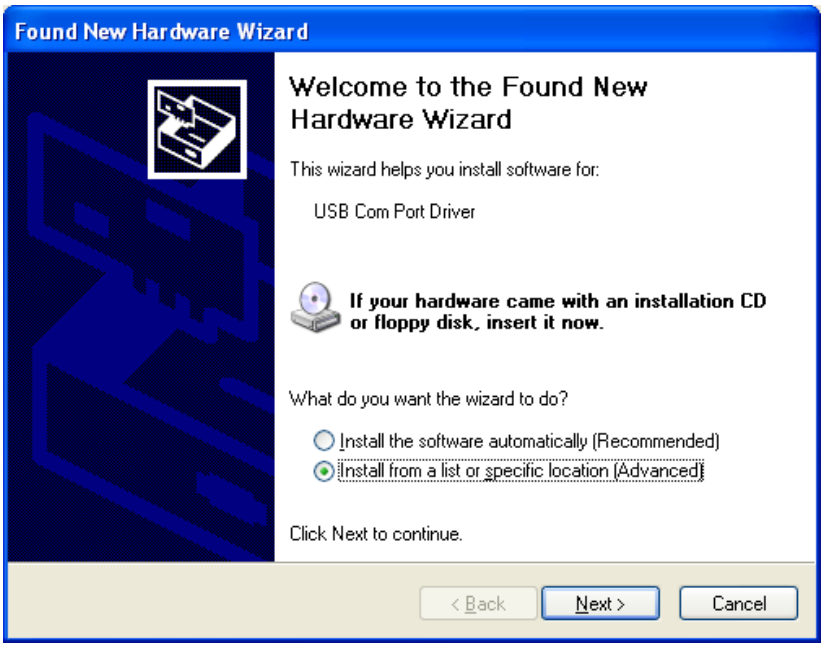
Date	Time	Status	OFS	SEP	BBE	ES	SES	UAS
2006/01/05	15:30-15:45		0	0	0	0	0	0
2006/01/05	15:45-16:00		0	0	0	0	0	0
2006/01/05	16:00-16:15		0	0	0	0	0	0
2006/01/05	16:15-16:30		0	0	0	0	0	0
2006/01/05	16:30-16:45		0	0	0	0	0	0
2006/01/05	16:45-17:00		0	0	0	0	0	0
2006/01/05	17:00-17:15		0	0	0	0	0	0

10. Installation of USB

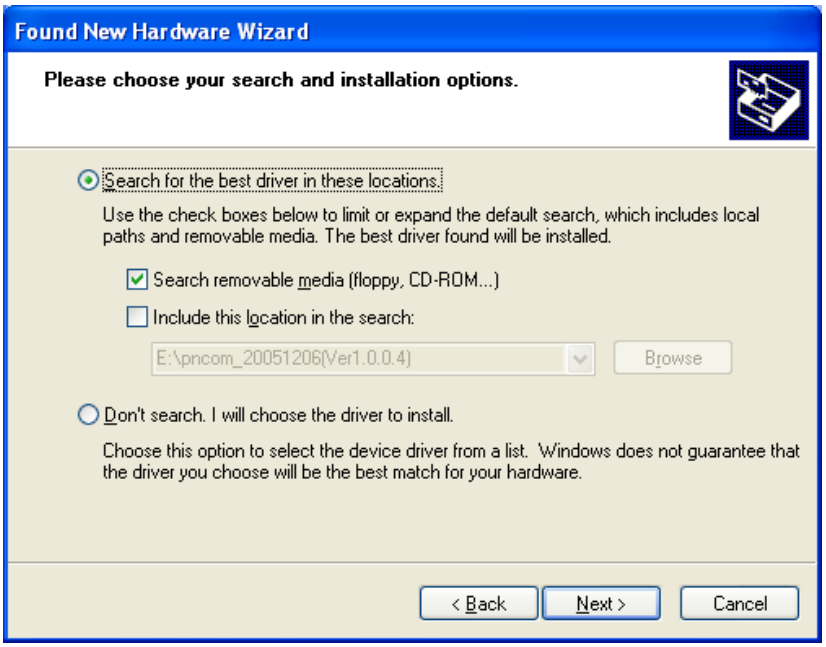
Following procedure explains when the USB Driver is installed to the PC on Windows Xp.

1. Connect the PC with a USB cable between the LCT port and the USB port,

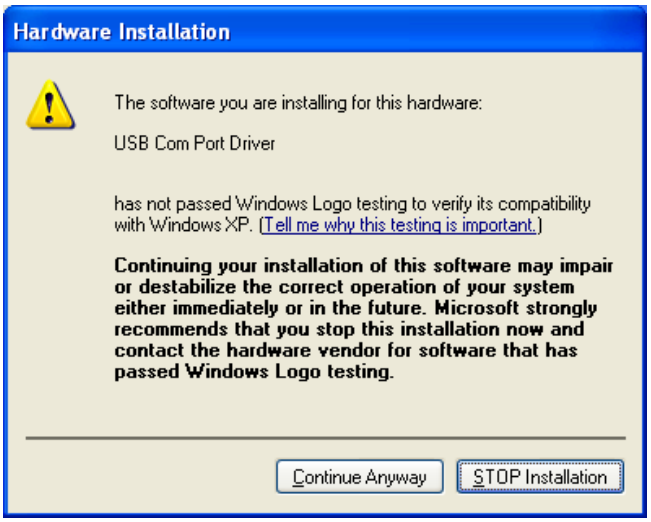
2. Select **"**Install from a list or specific location [Advanced]**"** and click on **"**Next**"** button,



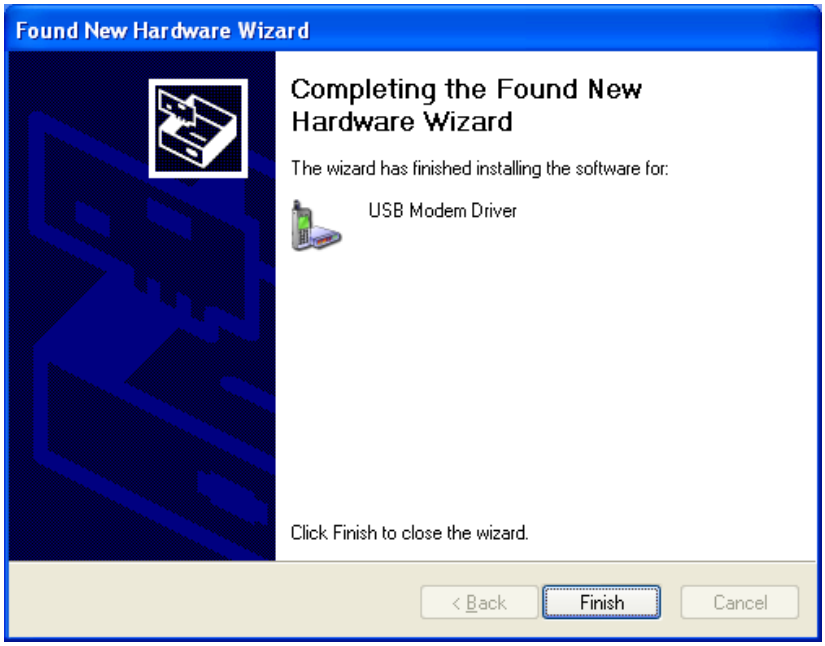
3. Insert the CD-ROM of the USB driver to the PC and select **"**Search for the best driver in these locations**"** and check **"**Search removal media [floppy, CD-ROM...],**"** then, click on **"**Next**"** button,



4. Click **"**Continue Anyway**"** button in the Hardware Installation alert pop-up,



5. USB driver installation will be started,

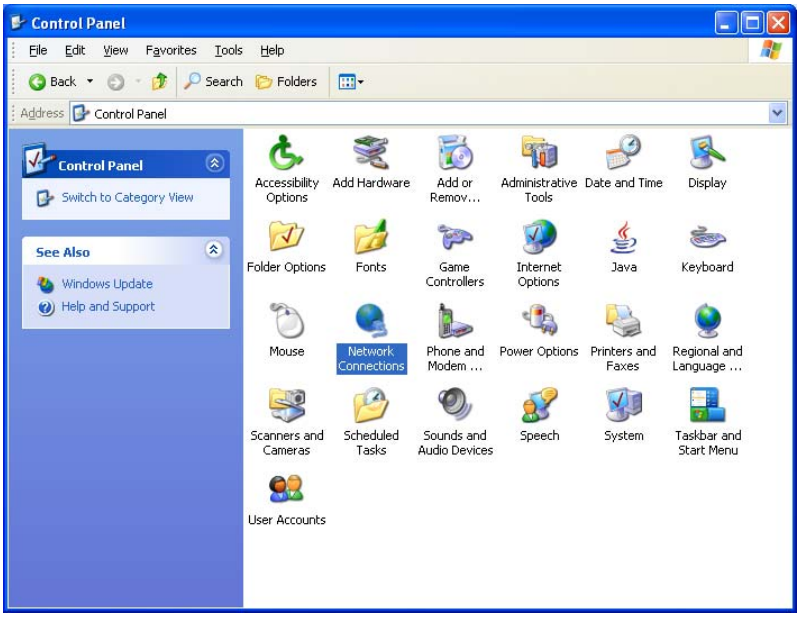


6. Click **"**Finish**"** button in the **"**Found New Hardware Wizard**"** after installation has been completed.

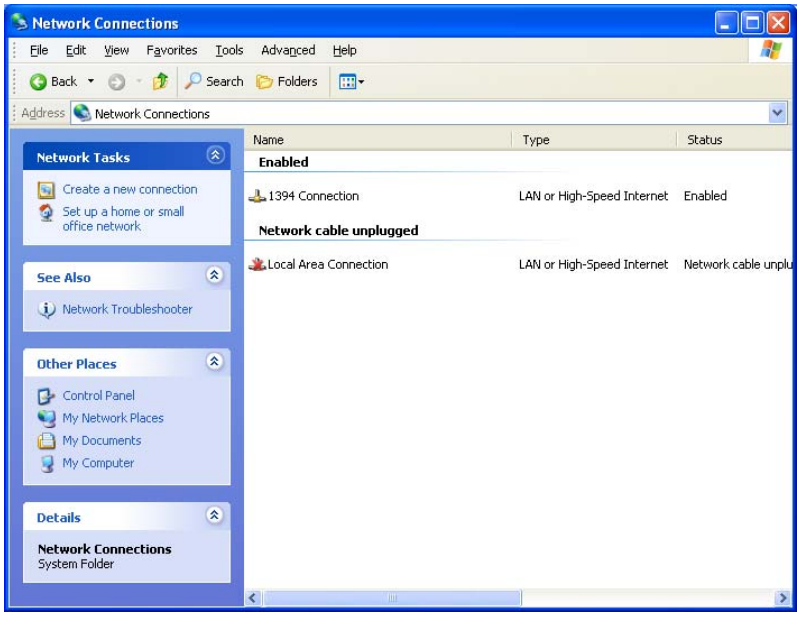
11. Dial-up Setting

Following procedure explains when the Dial-up is set to the PC on Windows Xp.

1. Click on **"Start"→"Setting"→"Control Panel"** and on **"Network Connections"** icon to start the Dialup setting.

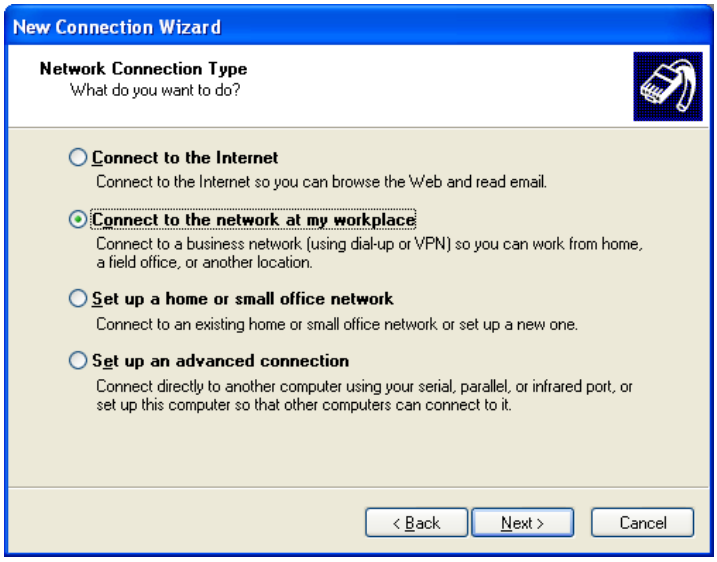


2. The **"Network Connections"** window appears. Click on **"Create a new connection"** in the **Network Tasks** category.

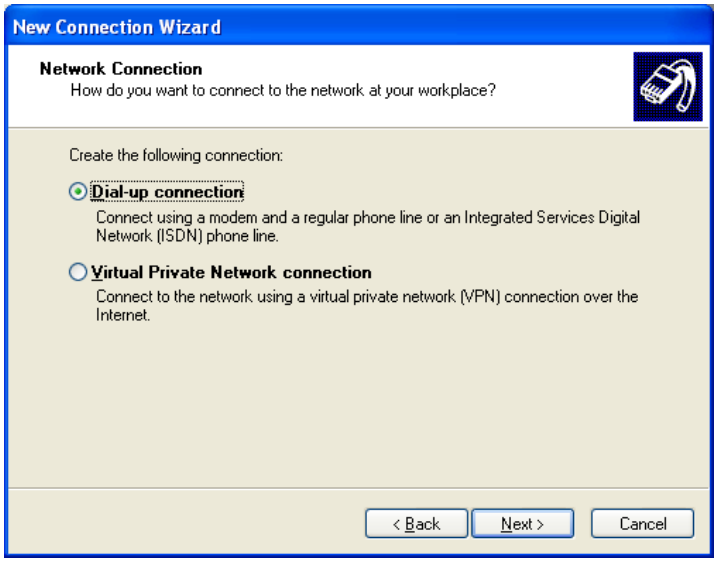


3. The **"Welcome to the New Connection Wizard"** window appears. Click on **"Next"** button to continue.

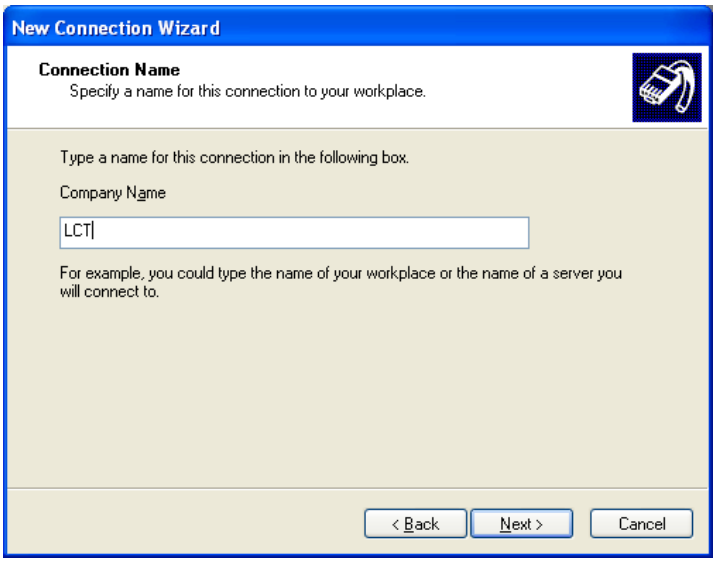
4. Select **"Connect to the network at my workplace"** and click on **"Next"** button to continue.



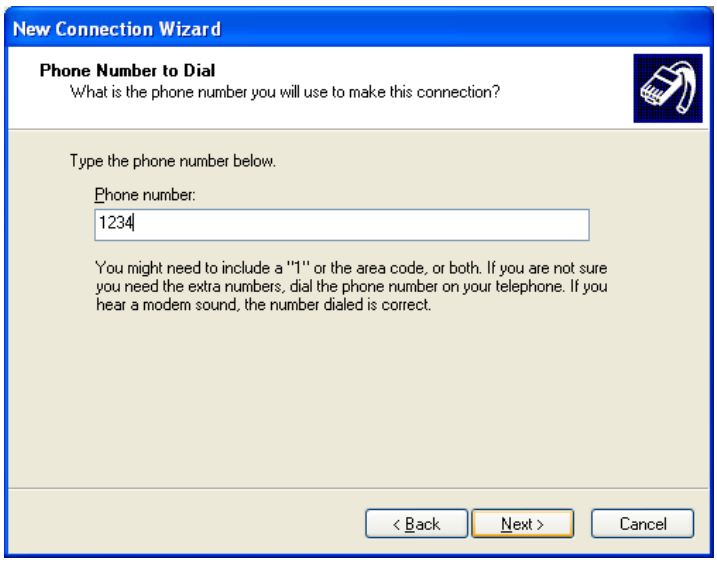
5. Select option **“Dial-up connection”** and click on **“Next”** button to continue.



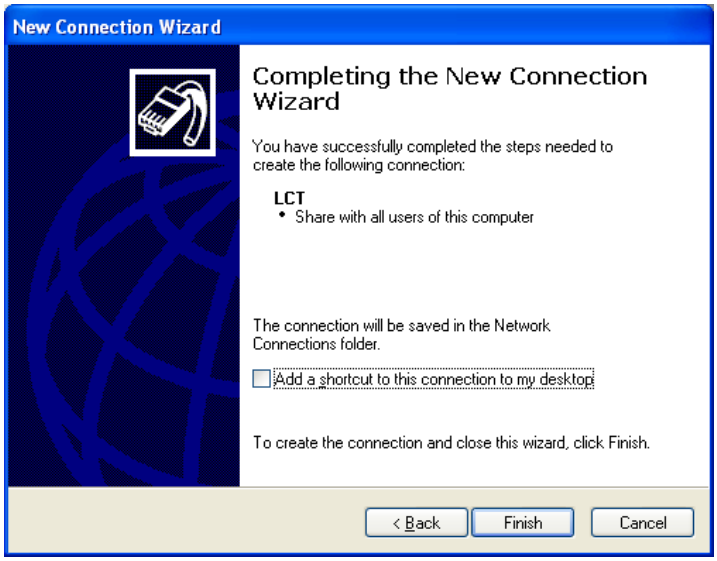
6. On the **“New Connection Wizard”** window, enter **“LCT”** in the **“Company Name”** entry field and click on **“Next”** button to continue.



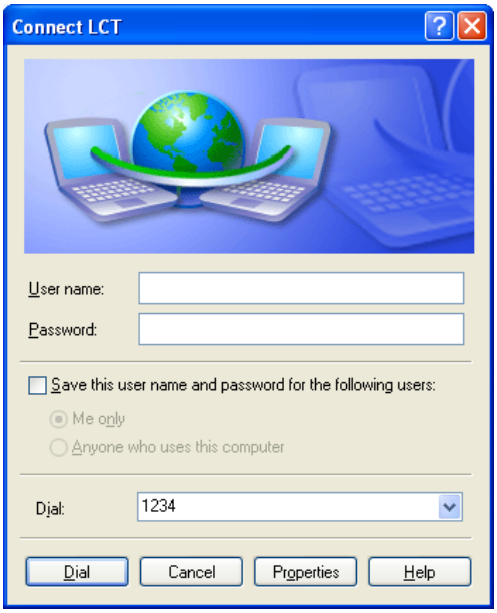
7. Enter phone number in the **"Phone number"** entry field and click on **"Next"** button to continue.



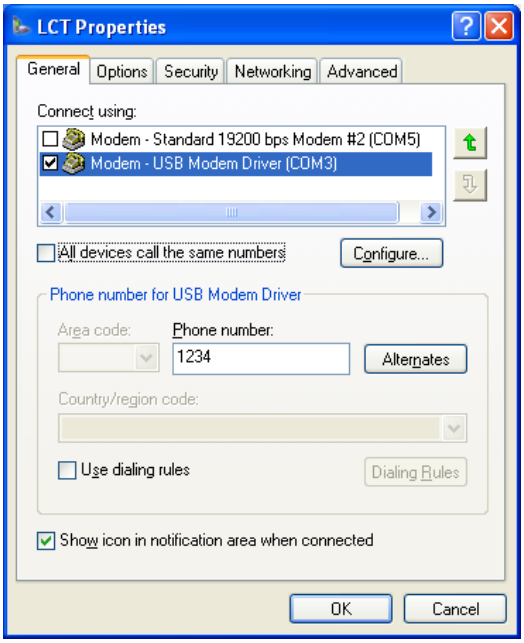
8. Verify that the connection **"LCT"** has displayed as the connection registered. You can also create a shortcut on your desktop if you need. Click on **"Finish"** button.



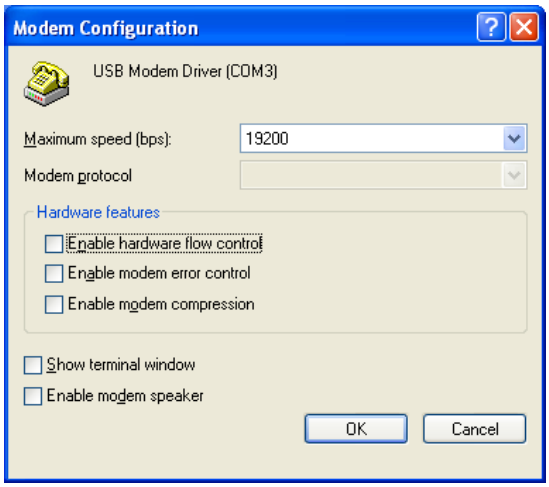
9. On **"**Connect LCT**"** dia-log, click **"Properties"**,



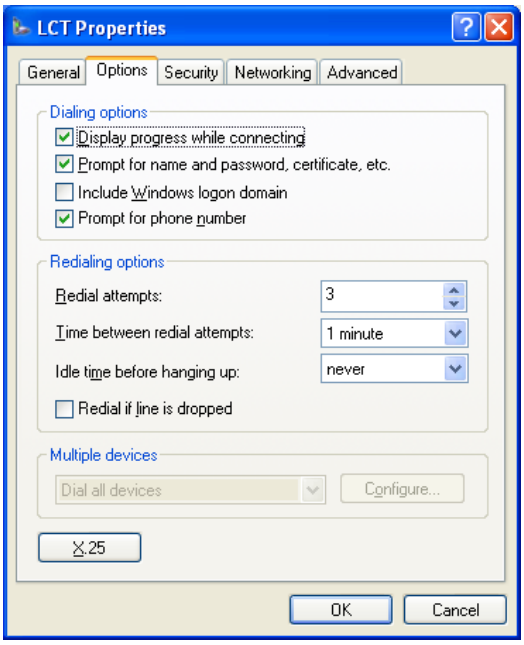
10. Verify that **"Modem-USB Modem Driver [COM(#)]"** is displayed on the General tab connect using check box, and select **"Show icon in notification area when connected"** in the LCT Properties dia-log. Then, click on **"Configure"** button.



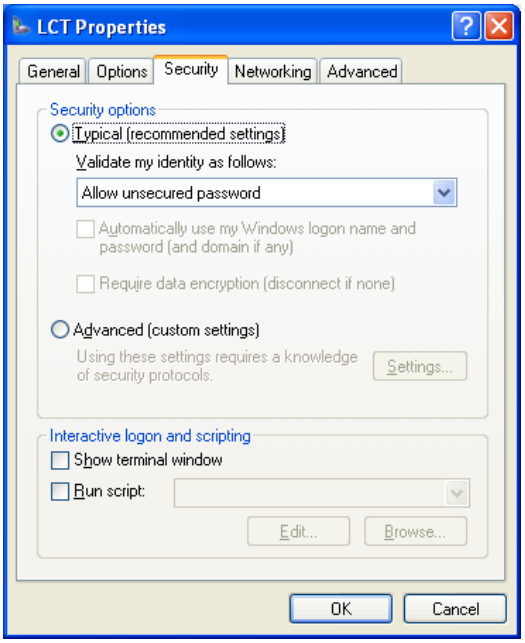
11. On **"Modem Configuration"** dia-log, check that unchecked all five boxes, then click on **"OK"** button,



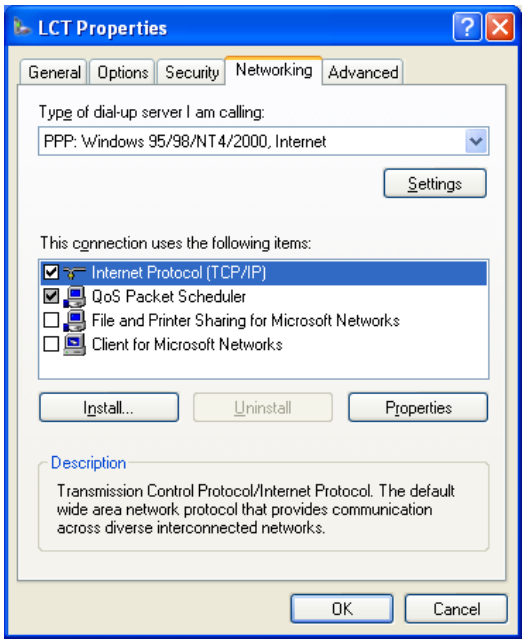
12. Retain the default setting on the **"Options"** tab, click the **"Security"** tab.



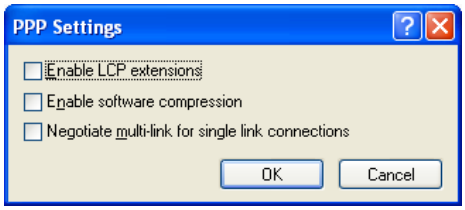
13. Retain the default setting on the **"Security"** tab, click the **"Networking"** tab.



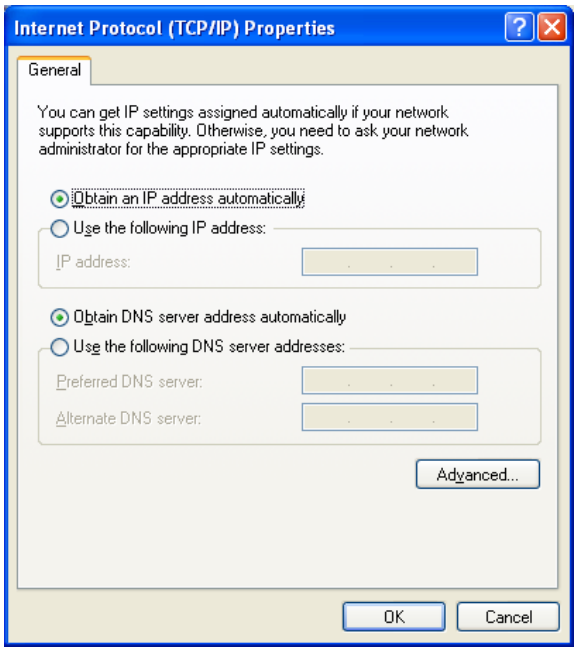
14. On the Networking tab, verify that PPP... is displayed in the **"Type of dial-up server I am calling"** setting field, unchecked "File and Printer... and Client for Microsoft....", "Client for Microsoft Networks".



15. Click **"Settings"** button, unchecked all the boxes in the **"**PPP Settings**"** dialog as shown below. Click **"OK"** to go back to the previous window. Point **"Internet Protocol (TCP/IP)"** and then click **"Properties"**.

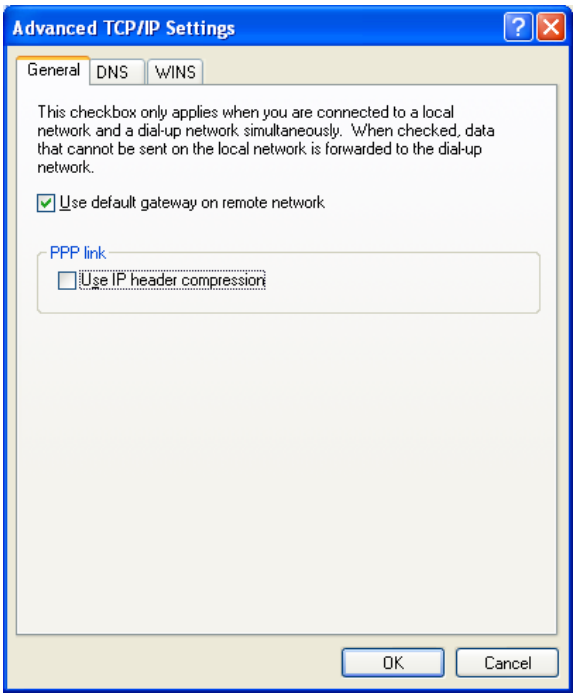


16. Verify that both **"Obtain an IP address automatically"** and **"Obtain DNS server address automatically"** are selected.

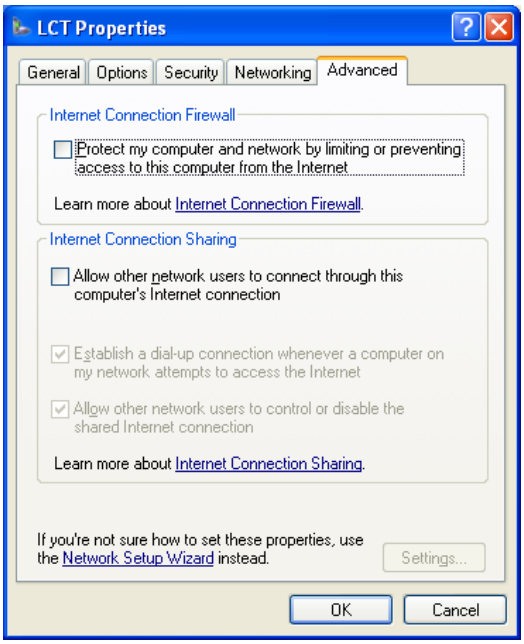


17. Click on **"Advanced"** button,

18. In the **"Advanced TCP/IP Settings"** dialog, mark check box of **"Use default gateway on remote network"** and for the PPP link is unchecked, then Click **"OK"**.



19. Retain the default setting on the **"Advanced"** tab and click **"OK"**.



12. Java Runtime Install

1. Install Java Runtime by double-click on the file name (highlighted below).