# HT705-OLP

Ver: 3.1

# **Optical Line Protection (OLP) System**

**User Manual** 

# **Safety Precautions**

Please read the following precautions carefully before installation and operation. Manufacture Inc is not responsible for any losses or damages due to any violation of the safety precautions.



The output of the media converter is invisible laser radiation. During the installation, operation and maintenance of this product, never aim the optical fiber connector connecting to the converter output port or optical fiber end at one's body to avoid burning the eyes or skin.



Avoid any damage from severe vibration or collision since precision photo devices are built-in. Shut down the power of the converter before connecting the output port of the media converter to the optical fiber connector.



No disassembly or maintenance is allowed because there are static sensitive components in the media converter. Disassembly or maintenance approved or guided by Ours Inc technicians should be carried out according to the static protection procedures.



Please contact us when there is anything wrong, and do not dismantle media converter without permission; otherwise it may cause irreversible damage. The company holds that anyone who dismantles it without permission gives up the rights of warranty automatically.



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# **Chapter 1. Optical Line Protection Equipment**

Optical Line Protection Equipment is developed by our company for the application of optical line backup protection system. It adopts the most advanced auto-switching optical line module, which is widely used for the interchange switch between main and backup lines and can automatically identify the signal from main line or backup line. With instantaneous interchange switch, it can keep the system run as normal as before when the main optical links completely break down, which improves the service quality of the network operator. OLP has been widely applied at trunk link protection between main line and backup line and optical link switching network system. It has the advantages of signals that can be directly converted for use within the optical line, small volumes, economy and data safety, so it has been widely used in optical transmission fields.



Optical Line Protection Equipment (OLP)

OLP adopts the design of 1 U-high and can be installed into a standard 19" metal chassis. It applies at 1+1 optical line backup system(1:1 optical line backup system). When the optical main line breaks down, It can maintain the signal transmission by automatically switch to backup line.



1+1 protection illustration:



- Indicator light shows the status of optical line at the port
- Switching threshold power and alarming threshold power can be set up by LCD screen or network management access
- Two kinds of operating mode available: automatically and manually return to main line.
- The main equipments at receiving site have three modes for switching: automatic, forced manual and remote control
- The automatic switch time is less than 20ms
- Dual hot redundancy power supply and hot-pluggable
- With CLI remote network management

# **Technical Parameter**

System Parameter		Technical Index	
Calibra	ation Wavelength	1310nm & 1550nm	
Insertion Loss at Transmitting side		< 4.0dB	
Insertion Loss at receiving side		< 1.5dB	
Return Loss		≥ 45dB	
lı	nterference	> 55dB	
Pola	arization Loss	<0.1dB	
Detecting Range of optical Power		-50~20dBm	
Sv	vitching time	< 20ms	
Auto-switching Threshold Power		-30dBm	
Switching Mode		Automatic, forced Manual, Remote	
Input/Output Optical Access Port		SC/APC、SC/PC、FC/APC、FC/PC	
Network Management Access Port		RJ45、RS232	
Network Management Mode		CLI	
Product's Dimension		19-inch standard metal chassis	
	Operating Temperature	-10℃ ~ 60℃	
Environmental Requirement	Storage Temperature	-40°C ~ 80°C	
	Relative Humidity	5% ~ 95% , no-condensing	



Power Supply (Standard)	220V/AC, 50Hz; -48V/DC (Optional)	
Safety and EMC	Compliant with FCC,UL,CE,TUV,CSA Standards	
Power Consumption	< 5W	

# 1:1 Protection Illustration



# **Functional Features**

- Indicator light shows the status of optical line at the port
- Switching threshold power and alarming threshold power can be set up by LCD screen or network management access
- The main equipments at receiving site have three modes for switching: automatic, forced manual and remote control
- The automatic switch time is less than 40ms
- Dual hot redundancy power supply and hot-pluggable
- With CLI remote network management

System Parameter	Technical Index	
Calibration Wavelength	1310nm &1550nm	
Insertion Loss at Transmitting side	< 1.5dB	
Insertion Loss at receiving side	< 1.5dB	
Return Loss	≥ 45dB	
Interference	> 55dB	

# **Technical Parameter**



Polarization Loss		<0.1dB	
Detecting Range of optical Power		-50~20dBm	
Switching time		< 40ms	
Auto-switching Threshold Power		-30dBm	
Switching Mode		Automatic, forced Manual, Remote	
Input/Output Optical Access Port		SC/APC、SC/PC、FC/APC、FC/PC	
Network Management Access Port		RJ45、RS232	
Network	Management Mode	CLI	
Product's Dimension		19-inch standard metal chassis	
	Operating Temperature	-10℃ ~ 60℃	
Environmental Requirement Storage Temperature		-40℃ ~ 80℃	
	Relative Humidity	5% ~ 95% no-condensing	
Power Supply (Standard)		220V/AC, 50Hz; -48V/DC (Optional)	
Safety and EMC		Compliant with FCC,UL,CE,TUV,CSA Standards	
Powe	er Consumption	< 5W	

# Chapter 2. Equipment's Outside Appearance & Components' functions

# 2.1 The Device's Control Panel Introduction



Pic 1(OLP control Panel)

#### (1) LCD Display Board:

Displaying the relevant information, such as the working Mode; Current Running Optical Line; Optical Power Value of the transmission device; Reverse conditions...etc

# (2) RJ45 Ethernet Interface; Console Interface:

RJ45 Ethernet Interface for access to the Ethernet network; remote management; supporting remote graphical window management;

Console interface adopts the physical RS-232, connected to the computer, and also adopts CISCO compatible Command-line Configuration.

#### (3) LED Indicator Light :

**PWR1. PWR2:** Indicates the current power working state. The light is ON, which indicates the power is normal; the light is OFF, which indicates the power is abnormal.

Auto: Indicates the current optical line protection working mode. The light is ON, which indicates the equipment is under the state of automatic working mode. The light is OFF, which indicates the equipment is in the state of manual mode.

**L1:** Indicates the device's optical working line status. The light is ON GREEN, which indicates the working line is on the main line; The light is OFF, which indicates the working line is on the back-up line;

**L2:** Indicates the device's optical working line status. The light is ON GREEN, which indicates the working line is on the back-up line; The light is OFF, which indicates the working line is on the main line;

**R1, R2:** Indicates optical power status of the main line and back-up line. The light is ON GREEN, which indicates the received optical power is normal; The light is ON RED, which indicates the received optical power is less than the setup switching optical power value.

**Tx:** Indicates the received optical power status of the device. The light is ON GREEN, which indicates the received optical power is normal. The light is ON RED, which indicates the received optical power is less than the setup warning optical power value.



The button to log in and log out of the LCD menu. Press it to exit the menu or to confirm; Long press to exit the menu or cancel the setting.

▲ ▼ : Use them to move-up and down or modify the parameters on the menu.

# (5) Face Panel Button:

Reset: The device reset Button, to restart the device. Buzzer : Buzzer warning clear button (owning Esc function). Buzzer warning function can be turned on or off in the LCD menu.

# (6) Optical interface introduction:

There are 6 optical interfaces on the device's control panel: TX, RX, T1, R1, T2, and R2. Tx interface shall be connected to the local device's RX; Rx (connected to the local device's TX) is the side interface of the equipment; T1 & R1 is for main line; T2 & R2 is for back-up line.

# 2. 2 Equipment Operating Instructions

# (1) Working Mode Setup

The Equipment provides two operating modes: one is Manual Mode and the other is Automatic Mode. Usually, Manual operating mode is for equipment commissioning and forced switchover.

The Equipment shall be set in the automatic operating mode after testing by the operator; otherwise the protection failure will be caused possibly.

# (2) Auto Switching Rules Setup

There are two options for auto switching rules setup, allowing the user to use them more flexibly.

# ① Working Fiber Priority:

The main line fiber enjoys the priority. As long as the main line fiber has the signal (The optical power value is bigger than the setup value), the working line shall be on the main line fiber.

### **2 Big Optical Power Priority:**

Between the main and backup line fiber, whose optical power value is bigger will be chosen as the transmission fiber.

Note: 1:1 Equipment doesn't have auto switching rules setup.

# (3) Operating Line Setting

# The Equipment provides two operating lines: Main Line & Backup Line

When Under the status of normal automatic operation mode, the equipment is working at the main line; when the main line fiber is in failure, it will automatically switch to the backup line. When under the status of Manual operating mode, it can automatically choose the main line



or backup line fiber according to the auto switching setup rules.

Note: When using the LCD display menu or Web Management to change the operating fiber, the equipment will be under the status of Manual operating Mode.

# (4) Working wavelength Setting

The Equipment provides two operating wavelength for option: 1310nm & 1550nm. User can choose the required wavelength for operating based on actual needs.

Note: The wavelength selection is for the adjustment of optical power value, which will have no any impact caused to the fiber channel. 1260-1650nm wavelength all can be accessed through the equipment.

### (5) R1 & R2 switching power value setup

The Equipment Initial switching optical power value is -28dBm. When there is no optical power output, the actual power value will be shown as around -50dBm. User can make the setup according to the actual needs (please make sure the whole system in normal transmission operating as the standard)

The equipment system will detect the fiber if in failure status or not according to the setup R1/R2 switching power value. When detecting the transmitting optical power is lower than the setup power value, the system will consider the transmission fiber in failure status, and then it will immediately switch to the backup line fiber.

Note: 1:1 Equipment requires manual operate to realize the switch back.

# (6) Line Switching Back Mode Setup

The definition of switching back: Under the automatic operating mode, the equipment switches back to the main line from the backup line. It can be setup as "auto switching back" or "non-auto switching back". Under the "non-auto switching back" operating mode, although all the conditions are met for switching back, the equipment won't switch back to the main line from the backup line. It will require the manual switch back.

# (7) Line Switching Back Time lag Setup

When the equipment under the status of "auto switching back "operating mode, and the optical working line is on the backup line with auto operating mode, the OLP equipment will be detecting the main line all the time. If the main line fiber is detected back to normal status within N time (0~999 mins), the OLP equipment will automatically switch back to the main line. When N = 0 min, it means no switch back time delay, which also means once the switching back conditions are all met, the switching back will occur.

Switching back time lag can be setup via LCD display menu or Web Management. The default value for switching back time lag is 0 min.

Note: 1:1 Equipment has no switching back time lag setup



# **Chapter 3. Network Management Functions**

For the user's easy use and maintenances of OLP optical line protection system, our Company launched a special Network Management Module, which adopts ARM 32 network processor, provides remote graphical management window and Local CLI management Mode.

# 3.1 Graphic Interface Management Function

### Installation Environment

Opti-River Integrated Network Management Platform, launched by our company, can realize the integrated management of all our optical network products. Opti-River can be applied to different size of network and can be the suitable solutions for all kinds of network operators and enterprises to build their own networks.

# Software Installation and Uninstall

### Installation

- Please make sure the system has already been installed with Microsoft.Net Framework 4.0 before installing this software. If not, please install them first.
- First installation, directly run the installer to start the installation. You can follow the guide step by step.
- If the Opti-River has already been installed in your system, please uninstall it first and then re-start the installation.

### Uninstall

On the Start menu, click on the "Uninstall' button, the uninstall program will automatically remove the Opti-River

### Start the software

1) Click the "Opti-River" on the desktop to enter the login screen. Shown as below:





2) Enter the correct user name and password. The default factory settings for the <u>user name:</u> <u>admin; password: admin. Then log into the software view window. Shown as below:</u>

	18	a device 2 Une sunage 2	Stop Step wairs 00000 0	9 0		
	Desca	-		-		
in the second fit	Device 1	vnet OLP111		Interf		
Pop 192.166.10.211	Center Center Lan	e Protection System	Enter Extended The first Extended Exten	L2 Auto Tx	T1 <mark>00</mark> T2 <mark>00</mark> R100 R200 8 <b>€</b> →0-08 <b>\$</b>	
	(1). <sup>(1)</sup>					
	Basic in	formation	Resource settings	Engine room info	mation	
	IP add	tress	Chassis name	Room name		
			Une number	Administrator		
		Part 5000	Container	Telephone		
	Device r	ume olp	Serial Number			
		Edt		Save		
n nie Alem name	Alam source	Seventy	alam tine	* Confirm up		Confirm time
Alarts name device online	Alam source 192168-10.211	Severity Tp	dam tree 2012-7-11 16:37:54	* Confirm us	<b>r</b>	Confirm time
ni rek Alem name device crime device crime	Alem source 192.166.10.211 192.166.10.211	Seventy To To	áinn tíne 2012-11 16:37:54 2012-14 16:37:54	▼ Confirm up	*	Confirm time
na nati Alem name device online device online device online	Alam 100/09 192.160.10.211 192.160.10.211 192.160.10.211 192.160.10.211	Severity To To	40m 5me 2012-11 16:3754 2012-11 16:3754 2012-11 16:0911 2012-11 16:0911	₹ Continn ua	v .	Confirm time
Alarm name device online device online device online Optical workth is forced to Detrical workth is forced to	Alam source 192 166 10 211 192 160 10 211 192 160 10 211 192 160 10 211	Severity TD TD TD TD TD	Jam time 2012-7-11 16:07:54 2012-7-11 16:07:54 2012-7-11 15:06:07 2012-7-11 15:06:07 2012-7-11 15:06:07	▼ Confirm us	*	Confirm time
Alem name device online device online device online Optical witch is forced to Optical witch is forced to Optical witch is forced to	Alam source 199:166:10:211 199:160:10:211 199:160:10:211 199:160:10:211 199:160:10:211	Sensity To To To To To	alam time 2012/111116/37/54 2012/11116/37/00 2012/11110/37/00 2012/111115/56/42 2012/111115/56/42	♥ Continn us	r	Confirm time
Alam name dence online dence on	Alam Source 190:164 10.211 192:160.10.211 192:160.10.211 192:160.10.211 192:160.10.211 192:160.10.211	Severity To To To To To To	alum time 2012-7-11 16:37:54 2012-7-11 16:37:54 2012-7-11 15:56:42 2012-7-11 15:56:42 2012-7-11 15:56:42 2012-7-11 15:56:42	▼ Continuo	¥ -	Confirm time
Alarminame denice online denice online denice online Optical switch is forced to Optical switch is forced to Optical switch is forced to Optical switch is forced to Optical switch is forced to	Alam tource 192,168,10,211 192,169,10,211 192,169,10,211 192,169,10,211 192,169,10,211 192,169,10,211 192,169,10,211 192,169,10,211	Severity To To To To To To To	Jam Sme 2012-711 Mc0754 2012-711 Mc0700 2012-711 Mc0700 2012-711 Mc5942 2012-711 Mc5942 2012-711 Mc5942 2012-711 Mc5942	₹ Confirm us	y	Confirm time

#### The use methods (take administrator privileges as the operator)

- (1) User Management function
- Select Menu "User management-> User management", it will pop up the user management dialog box, shown as below:

💎 User management		
<ul> <li>Lser table</li> <li>admin</li> <li>guest</li> </ul>	User info	
	user name	
	User permissions	<b>•</b>
	Explanation	

Right-click the user under the User table list, an action menu will be pop up. It can add, revise and delete user. Shown as below:



💎 User 💵 ana	gement 🛛 🛛
User tabl	e User info     Add user   Change user   Delete user   User permissions   Explanation     Explanation

 Select the menu "User Management -> User Switching" to bring up the login screen, Enter the new user name and password to login. Shown as below:



 Select the menu "User Management -> Password Change", it will pop-up the password change dialog box, enter your current password and new password, and then click "OK " button. Shown as below:



💎 Change password 🛛 🛛 🔀	
Current password	
New password	
Confirm password	
Ok Cancel	

 Select the menu "User Management -> Exit", then it will pop-up the program log out dialog box; click OK to exit the program, shown as below.

Logout 🔀
Sure you want to exit the program?
OK Cancel

- (2) Equipment Management function
- Select the menu "Device Management-> Add Device", or directly select the device name right-click to add device. It will pop up the ADD Device dialog box. Select the device name and enter the device's IP address and port number shown as below:

🕈 Add device	9	X
Туре	OLP Device 😽	
Address	192.168.1.100	
Port	5000	
Name		
Ok	Cancel	

Select the menu "Device Management -> Device Delete ", then the selected device can be



deleted; or directly selected the device right-click to remove it. Shown as below:



 Select the menu "Device Management -> "Set the poll time", it will pop up the dialog box of to set the poll time Shown as below: The unit is in seconds.

The management software will refresh all the online device data every 10 seconds. (The time range for setting the poll time is from 3 to 10 seconds)

🔻 Set the poll t	ine			
Settina line device scan time interval				
3	(second)	Ok		
	a			

 Select the menu "Device Management ->" Set the timeout ". It will pop up the dialog box of the time setup. The unit is in seconds. Shown as below:

The management software will refresh all the offline device data every 15 seconds. (The setting range for timeout is from 15 to 60 seconds)

💎 Set time	
Set the line equipm	ent scan time interval
15	(Second)

 Select the menu "Device Management -> initialize the database," it will pop-up a delete all data dialog box, shown as below:

This action will delete all the data in the database, so user please takes this action with cautions.

Delete all	data 🔣
Sure to delet	e all data.?
OK	Cancel

• The main interface view will display the device's basic information, shown as below:



Info					
Basic information		Resource settings		Engine room information	
IP address	192.168.10.211	Chassis name	GUANGZHOU TEL ···	Room name	GUANGZHOU TEL
		Line number	12	Administrator	Wang Xiao Dao
Port	5000	Container	25		
		index	JK-05	Telephone	020-6587845
Device name	OLP	Serial Number	OLP-265874587		
	edit		Save		

Double click anywhere on the "Device view" panel, it will pop-up a "olp configuration" dialog box.Select the device information; it will display the device configuration parameters as well as the running status information.

<b>Olp configuration</b>				Đ	R
Product Information Dev	ice info Device set Product m	naintenance			
Real-time optical power	optical power threshold	Operating parameters	5	Power and temperatu	
R1 power(dBm) -48.3	L1 Sw power(dBm) -28.0	Operating modes	Manual	Power1 type Not exist	
		Switching rules	Working fiber prio	Power2 type AC	
	L2 Sw power(dBm) -28.0	Optical switch position	Optical switches L		
R2 power(dBm) -48.3		Auto return mode	Manual return	Voltage 1 U.UUU (V)	
		Auto return time	0 (Min)	Voltage 2 5.209 (V)	
Tx power(dBm) -48.3	Tx Alarm power(dBm) -28.0	Buzzer	On	Temperature 25.8 (°C)	

- Click the "Device set ", which is for setting the device running parameters. It includes Optical power threshold, Working mode selection, Switch rule, Return mode, and Sound alarm
  - a) Optical power threshold includes the switch optical power setup and Alarm power setup, shown as below:

n 🛛 🔀
evice info Device set Product maintenance
Working mode selection   Switch rule   Return mode   Sound alarm
Im): -28.0
n): -28.0
-28.0 Set
Reflesh
m): -28.0 Set n): -28.0 Set -28.0 Set Reflesh

b) Working Mode Selection includes auto mode & manual mode (main line and backup line). Shown as below:



Volb couliguration	×
Product Information Device info Device set Product maintenance	
optical power threshold Working mode selection Switch rule Return mode Sound alarm	
Working mode selection	
O Automatic mode	
⊙ Set to the main mode (L1)	
🔿 Set Backup mode(L2)	
Set Reflesh	

c) Switch rule contains working fiber priority and optical power fiber priority. Shown as below: (it is not workable for 1:1 type OLP)

To the configuration
Product Information Device info Device set Product maintenance
optical power threshold Working mode selection Switch rule Return mode Sound alarm
Switch rule
<ul> <li>Working fiber priority</li> <li>Optical power fiber priority</li> </ul>
Set

d) Return Mode includes two types: manual return and automatically return (it is workable for 1+1 type OLP device). Shown as below:

	ļ
HOTCO	3

*COM	
💎 Olp configuration	×
Product Information Device info Device set Product maintenance	
optical power threshold Working mode selection Switch rule Return mode Sound alarm	
Return mode	
Manual return     Automatically return     Set     Reflesh	

e) Sound alarm includes the alarm sound to be turned on and off, shown as below:

♥ Olp configuration	
Product Information Device info Device set Product maintenance	
optical power threshold Working mode selection Switch rule Return mode	Sound alarm
Alarm sound	
Ooff	
⊙ On	
Clear sound Set Reflesh	

(3) Alarm Management function

 Select menu "Alarm Management -> Alarm configuration" (or right-click anywhere of the realtime alarm blank place; select the alarm configuration in the sub-menu), It will pop up the alarm filtering dialog box, shown as below:
 It can set the alarm severity, alarm invisible or not, alarm sound to be turned on or off, as well as the alarm times.

1-10	DTCOM	

1	🕈 Alarm filtering settings					
					Restore default	
	Alarm Name	Severity	Alarm Visible	Alarm Sound	Alarm Count	1
	Power supply module 1	🔴 Critical			One time	
	Power supply module 2	🔴 Critical	<b>V</b>	V	One time	
	Power supply module 1	🛑 Tip	V		One time	-
	Power supply module 2	🛑 Tip	V	V	One time	
	R1 Optical power on	🛑 Tip	V		One time	
	R1 Optical power abnor	🛑 Major	V	V	One time	
	R2 Optical power on	🛑 Tip	V		One time	
	R2 Optical power abnor	🛑 Major	V	V	One time	
	R3 Optical power on	🛑 Tip	V		One time	
	R3 Optical power abnor	🛑 Major	V		One time	
	R4 Optical power on	🛑 Tip	V		One time	
	R4 Optical power abnor	🔴 Major	V	V	One time	
	Optical switch is forced	🛑 Tip	V		One time	
	Optical switch is forced	🛑 Tip	V		One time	
	Automatic mode, Optica	🛑 Tip	V		One time	
	Automatic mode, Optica	🛑 Critical	V	V	One time	-

 Select the menu "Alarm Management -> "Historical Alarm", a historical alarm dialog box will be popped up, shown as below,

It can check the records of historical alarms, export the historical records in excel format and delete alarms.

🕈 Historical a	larn						
Engine room name	All rooms	¥	Alarr	m time m 2012-7-1	•	View	Delete
aevice type	All devices	<b>Y</b>		0 2012-7-11	•	Export E	xcel Delete All
Alarm source	Alarm name	Severity		alarm time		Confirm user	Confirm time
> 192.168.10.211	device online	🔵 Tip		2012-7-11		admin	2012-7-11

The bottom of the main interface is the real time alarm window, showing the current alarm information. Shown as below:
Alarma that have been confirmed and clear will go into the biotorical clear record.

Alarms that have been confirmed and clear will go into the historical alarm record.



Alarm name	Alarm so	urce	Severity	alarm time	Confirm user	Confirm time
device online	192.168.	10.211	🔵 Tip	2012-7-11 16:37:54		
device online	192.168.	.10.211	🔵 Tip	2012-7-11 16:37:03		
device online	192.168.	.10.211	🔵 Tip	2012-7-11 16:36:11		
Optical switch is forced	to 192.168.	.10.211	🛋 Tin	2012-7-11 15:56:42		
Optical switch is forced	to 192.1	Confirm alarm		2012-7-11 15:56:42		
Optical switch is forced	to 192.1	Confirm all alarm		2012-7-11 15:56:42		
Optical switch is forced	to 192.1	. 192.1 Clear alarm . 192.1 Portitioning equipment 192 188 10 211		2012-7-11 15:56:42		
Optical switch is forced	to 192.1			2012-7-11 15:56:42		
device online	192.1	and a second sec		2012-7-11 14:50:39		

The upper part of the main interface shows the number of various alarms. The emergency alarm shows in Red color; a serious warning in Orange; minor alarm in yellow; a message notice in Green, Shown as below:



Alarm warning message box will pop up during the real-time alarm. Different types of warnings will be shown in different colors, shown as below:



- (4) Security Log Function:
- Select menu "Security Log ", a Security Log dialog box will pop up, shown as below : The security log will record all the actions done to the software, which is convenient for maintenances in the future.

	User	Syslog time			operation selection	View	Delete
	· · · ·	From 20	) <u>12/7/2</u> - T	0 2012/7/12 -	· ·	Export	Delete all
	Time 🔻	User	Operation Met	Operation content			Operatio
>	2012/7/12 14:45:54	admin	Set type	Add device			System
	2012/7/12 14:45:42	admin	Starting the pr	Login			Business

(5) Help Function

- Select the menu "Help -> About" to pop-up software version number. It can be used to query version information.
- Select the menu "Help -> Help file" to pop-up help documentation. It can help the user how to use this software.

# 3.2 Functions of CLI management

CLI usually manage local device. For example, to configure an IP address, port numbers and gateway for devices, using the following steps:

The first step is to build up local configuration environment. You connect the PC(or terminal to serial port of Network Management Card with standard RS232 cable.

♦ The second step is to run terminal emulators(for example, Hyper Terminal) on the PC. Setting Communication parameters for the terminal to 9600 bps, no parity and flow control, 8 data bits, 1 stop bit. Select the correct COM Port.

♦ The second step is to power on, Network Management Module automatically carry out BootROM program. Then, the Computer monitor will appear the command-line prompt, and enters CLI configuration mode of Network Management Module by entering prompt help or other characters. Input the appropriate command to manage Network Management Module.

### (1) help

Grammar: help Display information as follows:

1	show	Display system information.
2	set	Setting system parameters.
3	date	Display or setting system date and time.
4	dev	Display device name, sn and date.
5	host	Setting ip address.



6	mask	Setting netmask.
7	gateway	Setting the default gateway.
8	reboot	Reset system.
9	ipcfg	Display networking interface parameters.
10	clr	Clear screen.
11	help	Display this menu.

## (2) show

Grammar: show Display information as follows: 1. show mac : Display ethernet MAC address and tcp port number 2. show sys : Display system runtime informartion

#### > show mac

Grammar: show mac Display information as follows: Mac address is: 00:50:c2:25:61:34 Tcp port number is: 10000

## show sys

Grammar: show sys Display information as follows:

1+1 OLP device type :

Device type: OLP 1+1	Optical switch status: Primary fiber(L1)
Optical power R1 =-48.3(dBm) Optical power R2 =-48.3(dBm) Optical power Tx =-48.3(dBm)	Working mode: Manual Switch rule: Primary fiber first Alarm sound: Turn on
L1 switch power =-28.0(dBm) L2 switch power =-28.0(dBm) Tx alarm power =-28.0(dBm)	Power 1 type: AC, voltage: 5.114V Power 2 type: Unkown Temperature: 32.4C Return mode: Manual

#### 1:1 OLP device type :

Device type: OLP 1:1	Optical switch status: Primary fiber(L1)
Optical power R1 =-9.59(dBm)	Working mode: Automatic
Optical power R2 =-48.3(dBm)	Alarm sound: Turn off
Optical power Tx =-4.24(dBm)	Power 1 type: Unkown



L1 switch power =-29.3(dBm) L2 switch power =-26.5(dBm) Tx alarm power =-28.9(dBm) Power 2 type: DC, voltage: 5.089V

Temperature: 29.4C

### (3) date

Grammar: date Display information as follows:

1.Date(Y/M/D):2011/ 1/ 1 2.Time(H/M/S):06:34:16 Grammar: date Y/M/D H/M/S date 2011/12/1 0 9:33:58 Display information as follows: Setup done !

#### (4) dev

Grammar: dev Display information as follows: Managable OLP System OLP-2144 P110710018 07/10/2011

X1-1000

#### (5) set

Grammar: set

Display information as follows:

- 1. set auto : set OLP device to auto mode.
- 2. set L1: Set OLP to manual mode and select the primary channel(L1).
- 3. set L2: Set OLP to manual mode and select the backup channel(L2).
- 4. set rule work/high : Set OLP switch rule. (1: 1 Not Applicable)
- 5. set r1 -xx.xx: Set R1 switch optical power.
- 6. set r2 -xx.xx: Set R2 switch optical power.
- 7. set tx -xx.xx: Set Tx alarm optical power.
- 8. set ret auto/man: Set OLP return mode. (1: 1 Not Applicable)
- 9. set retime 0~999: Set OLP return time. (1: 1 Not Applicable)
- 10. set buzz on/off/cls: Enable, disable or clean buzzer sound alarm.
- 11. set port 0~65535: set tcp port number.
- 12. set logo: Set cli prompt.
- 13. set def opmc/nmu: Set opmc/nmu to default.

Number	Grammar	Example
1	set auto	Input CLI: set auto
I	Sei auto	Display information as follows: Setup done!
2	set I1	Input CLI: set I1
		Display information as follows: setup done!
3	set 12	Input CLI: set I2
	36112	Display information as follows: setup done!
4	set rule work/ high	Input CLI: set rule work



		Display information as follows: setup done!
5	set r1 –xx.xx	Input CLI: set r1 -11.95
		Display information as follows: setup done!
6	set r2 –xx.xx	Input CLI: set r2 -12.95
0		Display information as follows: setup done!
7	set tx –xx.xx	Input CLI: set r2 -12.90
1		Display information as follows: setup done
8	set ret auto/man	Input CLI: set ret auto
0		Display information as follows: setup done!
9	set retime 0∽999	Input CLI: set retime 300
		Display information as follows: setup done!
10	set buzz on/off/cls	Input CLI: set buzz on
		Display information as follows: setup done!
11	set port 0∽65535	Input CLI: set port 1000
		Display information as follows: setup done!
12	act logo	Input CLI: set logo olp :
12	Set logo	Display information as follows: setup done!
13	set def opmc/pmu	Input CLI: set def opmc
15	set der opmc/nmu	Display information as follows: setup done!

#### (6) mask

Grammar: mask Display information as follows: SUBNET MASK: 255.255.255.0  $\triangleright$ mask Grammar: mask 255.255.0.0 Display information as follows: OLD SUBNET MASK: 255.255.255.0 NEW SUBNET MASK:255.255.0.0 (7) host Grammar: host Display information as follows: HOST IP ADDRESS: 192.168.10.230 host +IP address  $\triangleright$ Grammar: host 192.168.10.211 Display information as follows: OLD HOST IP ADDRESS: 192.168.10.230 NEW HOST IP ADDRESS:192.168.10.211 (8) gateway Grammar: gateway Display information as follows: GATEWAY IP ADDRESS: 192.168.10.1  $\triangleright$ gateway +IP address Grammar: gateway 192.168.10.2 Display information as follows: OLD GATEWAY IP ADDRESS: 192.168.10.1 NEW GATEWAY IP ADDRESS:192.168.10.2



### (10) ipcfg

Grammar: ipcfg Example: ipcfg Display information as follows: Config options: HOST IP ADDRESS: 192.168.10.211 GATEWAY IP ADDRESS: 192.168.10.2 SUBNET MASK: 255.255.25.0 (11) clr: Clr command Grammar: clr Example: clr

Display information as follows:

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