Loop-O9330
Fiber Optical Mux
User's Manual

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D Bitte führen Sie das Gerät am Ende seinerLewbensdauer den zue Verfügung stehended Rückgabeund Sammelsystemen zu.

GB At the end of the product's useful life, please dispose of it at appropriate collection points provided in your country

F Une fois le produit en fin devie, veuillez le déposer dans un point de recyclage approprié.

ES Para preservar el medio ambiente, al final dela vida útil de su producto, depositelo en los laguares destinado aello de acuerdo con la legislación vigente.

P No final de vida útil do producto, por favor coloque no ponto de recolha apropriado.

I Onde tutelare l'ambiente, non buttate l'apparecchio trai i normali rifiuti al termine della sua vita utile, ma portatelo presso i punti do taccolta specifici per questi rifiuti previsti dalla normativa vigente.

NL Wij raden u aan het apparant aan het einde van zijn nuttige levensduur, niet bij hey gewone huisafval te deponeren, maar op de dearvoor bestemde adressen.

DK Når produktet er udtjent, bor det børtskaffes via de sæ rlige indsamlingssteder i landet.

N Ved slutten av produktets levetid bør det avhendes på en kommunal miljøstasjon eller leveres til en elektroforhandler.

S Lämna vänligen in produkten på lämplig återvinningsstation när den är förbrukad.

FIN Hävitä tuote käytöiän päättyessä viemällä se asianmukaiseen keräyspisteeseen.

PL Gdy produkt nie nadaje sie juz do dalszego uzytku, nalezy zostawic go w jednym ze specjalnych punktów zajmujacych sie zbiórka zuzytych producktów w wybranych miejscach na terenie kraju.

CZ Po skončení jeho životnosti odložte prosím výrobek na přislušném sběrném místé zřízeném dle předpisů ve vaší zemi.

SK Po skončení jeho životnosti odovzdajte prosím zariadenie na príslušnom zbernom mieste podía platných miestnych predpisov a noriem.

SLO Ko se izdelku izteče življenska doba, ga odnesite na ustrezno zbirno mesto oziroma ga odvrzite v skladu z veljavnimi predpisi.

GR Στο Τέλος της λειτουργικής Ζωής του προϊόντος παρακαλώ Πετξτε το στα ειδικά σημεία που Παρέχονται οτη χωρα σας.

PRC 當產品使用壽命結束,請在你的國家所提供的適當地點做好回收處理

1   PRODUCT DESCRIPTION

1.1   Function Description

Loop Telecom's Loop-O Fiber Optical Mux product family provides ideal solutions for building fiber-based E1/T1 networks. As one of this family, the Loop-O9330 can transparently carry up to 16 channels E1/T1 or 8 channels V.35 DTE, and 100 Mbps Ethernet signals over a single fiber.

All services are transported point-to-point in a real static TDM manner, which includes a) 16 E1, 16 T1, or 8 V.35, b) 100M bps Ethernet, and c) management channel. The bandwidth is guaranteed for full configuration of the mentioned speeds for each channel / service.

To select protection level, users can choose either single pair or dual pair fiber. Either a single power supply or dual power supplies can be chosen.

Loop-O9330 offers management through console port, Ethernet port, Telnet and SNMP agents. It supports local control and diagnostics using 2-line by 16-character LCD display and keypads or console port. The unit also supports local and remote monitoring and diagnostics. Contacts for office alarms are available.

Applications for Loop-O include interconnections for LAN, WAN, SONET/SDH, ATM and DLC.

1.2   Features

Features for the Loop-O9330 are listed below:
- 1U height, full front access(ETSI unit) or front and back access(ANSI unit)
- Rack mount, wall mount, and stand-alone
- WAN Ports
  - Two hot-swappable optical cards. One optical interface each card
  - Optical interface 1+1 protection switching (max. 50 ms)
- Tributary ports
  - TDM Interface
    - 4 slots, each slot can be 4 E1, 4 T1 or 2 V.35 hot pluggable card
    - Up to 16 E1
    - Up to 16 T1
    - Up to 8 V.35
  - Up to 4 10/100Mbps Ethernet bridge hot- swappable card
- Power Modules
  - Hot-swappable DC plug-in modules
    (-48 Vdc: -36 to -75 Vdc), dual for redundancy
  - AC plug-in module (100 to 240 Vac), dual for redundancy
- Auto laser shutdown function is user configurable
- Loopbacks for optical link, each E1 and T1
- Office alarm contacts
- Firmware download to local unit and remote unit
- Management port and interface
  - Multicolor LED indicators
  - LCD and keypad on ANSI panel (optional)
  - Console port, VT100 menu-driven
  - SNMP port
  - Telnet via SNMP port
  - LoopView GUI EMS

1.2 Application

Tributary ports   WAN ports   Tributary ports
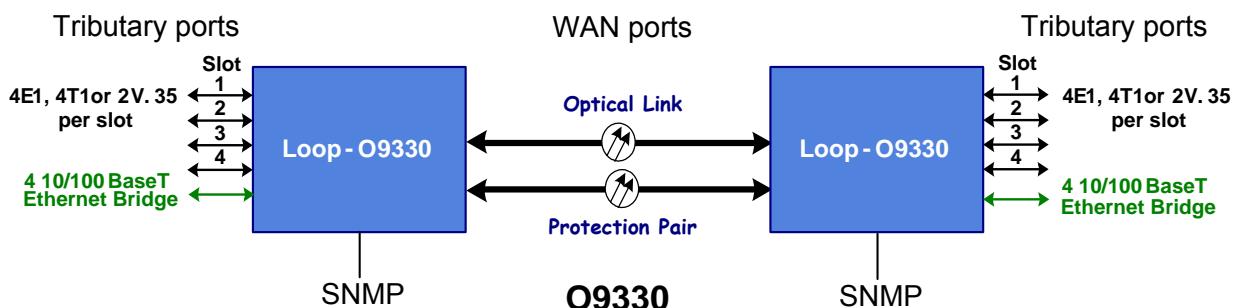
Figure 1-1 Application Illustration

1.3 Specifications

Optical Fiber Interface

Source	MLM Laser	System Gain	30 dB
Wavelength	1310 ± 50 nm, 1550 ± 40 nm	Line Code	Scrambled NRZ
Power	-26 or -8 dBm	Detector Type	PIN-FET
Receiver Sensitivity	-38 dBm at BER < 10^{-10}	Fiber Type	Single mode
Optical Line Rate	155.52M bps	Protection	Optional 1+1 APS
50 Km reach			

NOTE: Longer or shorter, 15 to 120 km, on special order.

Optical Fiber Interface Characteristics

Optical Module	Fiber Direction	Wavelength (nm)	Connector	Distance (km)	Power (dB)
SAA	Dual uni-directional	1310	SC (Subscriber Connector)	30	19
SBB	Dual uni-directional	1310	SC (Subscriber Connector)	50	30
SCC	Dual uni-directional	1310	FC (Fiber Connector)	30	20
SDD	Dual uni-directional	1550	SC (Subscriber Connector)	20	12
SEE	Dual uni-directional	1550	SC (Subscriber Connector)	100	30
SSM	Single bi-directional (master)	1310/1550	SC (Subscriber Connector)	30	20
SSS	Single bi-directional (slave)	1550/1310	SC (Subscriber Connector)	30	20

SFP Optical Module	Direction	Data Rate	Wavelength(nm)	Connector	Distance
MHBTW	Dual uni-directional fiber	155M	1310nm	LC without DDM	2 Km
PHB3W	Dual uni-directional fiber	155M	1310nm	LC without DDM	30 Km
PHB5W	Dual uni-directional fiber	155M	1310nm	LC without DDM	50 Km
PHC8W	Dual uni-directional fiber	155M	1550nm	LC without DDM	80 Km
PHCUW	Dual uni-directional fiber	155M	1550nm	LC without DDM	100 Km
PHCXW	Dual uni-directional fiber	155M	1550nm	LC without DDM	120 Km
PHB3D	Dual uni-directional fiber	155M	1310nm	LC with DDM	30 Km
PHB5D	Dual uni-directional fiber	155M	1310nm	LC with DDM	50 Km
PHC8D	Dual uni-directional fiber	155M	1550nm	LC with DDM	80 Km
PHCUD	Dual uni-directional fiber	155M	1550nm	LC with DDM	100 Km
PHCXD	Dual uni-directional fiber	155M	1550nm	LC with DDM	120 Km
PHCRD	Dual uni-directional fiber	155M	1550nm	LC with DDM	160 Km
PHCYD	Dual uni-directional fiber	155M	1550nm	LC with DDM	200 Km
PHCZD	Dual uni-directional fiber	155M	1550nm	LC with DDM	240 Km

Chapter 1 Product Description

E1 Line Interface
Number of E1 lines   Up to 16
Line Rate   2.048M bps ±50 ppm
Line Code   HDB3
Line Impedance   120Ω twisted pair, 75Ω for mini-BNC
Output Signal   ITU G.703
Clock   Transparent
Connector   120Ω RJ48C, 75Ω DB25, 120Ω DB25, 75Ω MiniBNC

T1 Line Interface
Line Rate   1.544M bps ± 50 bps
Line Code   AMI or B8ZS
Input Signal   ABAM cable length up to 655 feet
Output Signal   DSX1
Clock   Transparent
Connector   RJ48C

V.35 Interface
Data Port   2 ports per card, DCE
Data Rate   n X 64K bps, n= 1 to 32
Clock Mode   External, Internal, Received (Selectable)
Connector   SCSI 68, optional SCSI 68 Male to M34 Male (DCE) Conversion Cable

Bridge
10/ 100M bps half/ full duplex Ethernet bridging and 100M bps operation on the HDLC port
ANSI/ IEEE Std. 802.1D MAC Bridging capabilities (without spanning tree algorithm)
Automatic MAC table learning and aging
Support VLAN and extended Ethernet frame support

SNMP Port
Protocol   Telnet
Connector   RJ45

Console
Electrical   RS232 interface
Protocol   Menu driven VT-100 terminal
Baud Rate   9600, 19200, 38400, 57600, 115200 bps asynchronous
Connector   DB9, female, DCE

Switches and Contacts
Power, Alarm Cut-Off, and ENTER for command execute.
Major and Minor alarm contact closures, DB9F connector.

Diagnostics Test
Optical Fiber   Local and remote loopbacks
E1/T1 Lines   Local and remote loopbacks

Power
AC Power   100-240 Vac, 50/ 60 Hz
DC Power   -48 Vdc: -36 to -75 Vdc
Power Consumption   < 20 Watts

Physical and Environment
Dimensions for 1U   432 x 44 x 226 mm (W x H x D)
Mounting   Stand-alone, 19 or 23 inch rack mount, wall mount
Temperature Range   0°C to 55°C
Humidity   5% - 90% RH (non-condensing)

Compliance
EMI/EMC   EN55022, EN55024, FCC15
ITU   G.703, G.706, G.732, G.823
Safety   IEC60950

2 INSTALLATION

2.1 Site Selection

The following list indicates a site selection guideline. Follow this guideline to select a proper installation site.

- Location of the Loop-O9330 unit should be part of the central office equipment layout design. Considerations should be given to entrance cable routing.
- The installation site should provide proper room for adequate ventilation and cable routing. Reserve at least 0.5 m at the rear of the unit for human access, cables, and air flow.
- The site should provide a stable environment. The operating area should be clean and free from extremes of temperature, humidity, shock, and vibration.
- Relative humidity should stay between 0 and 95%.

2.2 Mechanical Installation

Loop-O9330 is a desktop unit, with two slots for power cards. Three options of power module are available for plug-in: (1) single AC, (2) -24Vdc single DC, (3) -48Vdc single DC. Users are allowed to use one or two plug-in power supplies in this unit. That means this unit can have single power supply or dual power supply (for redundancy).

Front Panel

Plug-in power supply (AC, -24Vdc, -48Vdc)

Plug-in power supply (AC, -24Vdc, -48Vdc)
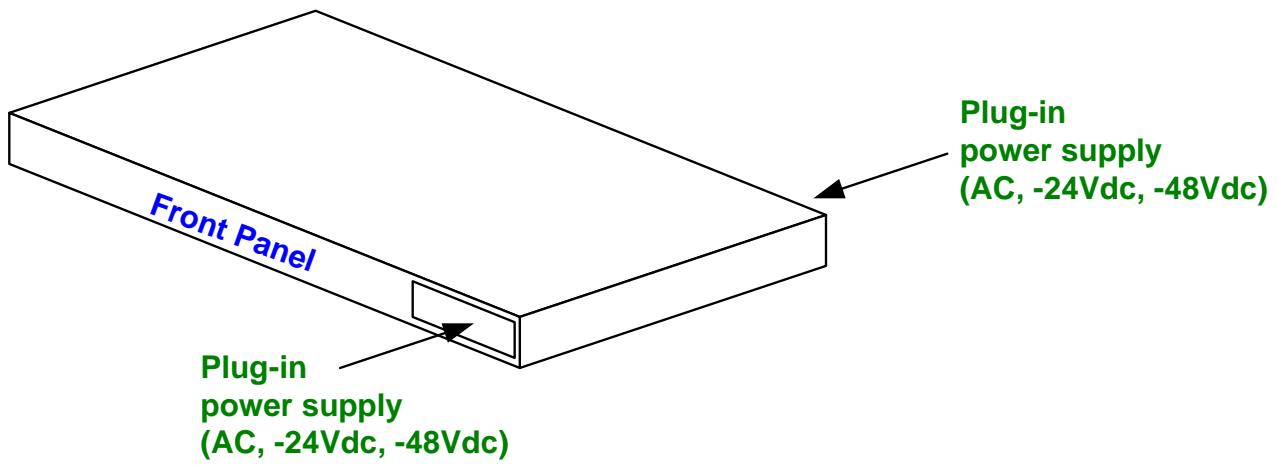
Figure 2-1 Illustration for Main Unit with Plug-in Power Supplies

Chapter 2 Installation

The front panel and the rear panel are shown in the following figures.

Figure 2-2 Front Panel View
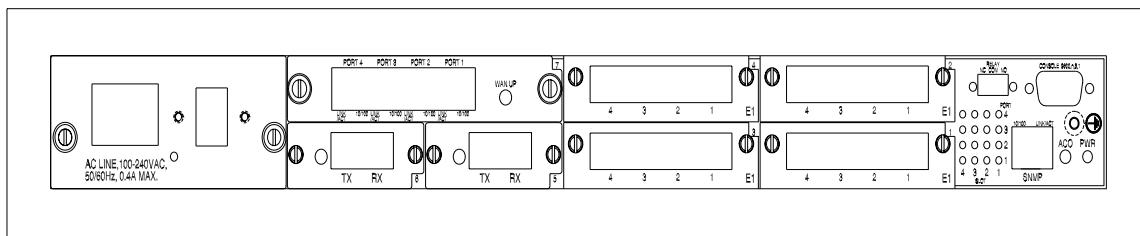
Figure 2-3 O9330 rear panel with AC Power
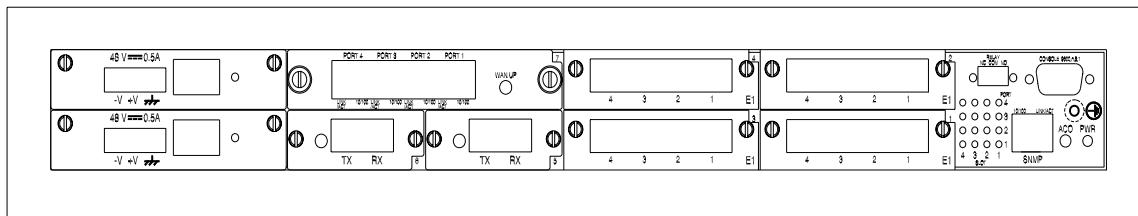
Figure 2-4 O9330 rear panel with DC Power

Chassis Grounding

The chassis is grounded when rack mounted. However, for stand alone units or extra grounding protection for rack mounted units, a dedicated chassis ground screw and lock washer is provided. The chassis ground screw is located on the right-hand side of the rear panel.

When attaching a ground wire to the chassis ground screw, please follow these instructions.
• Use copper grounding conductors of 18 AWG.
• Conductors should not be of dissimilar metals.
• The bare conductors should be coated with anti-oxidant before crimp connections are made.
• Unplated connection surfaces, connectors, braided strap and bus bars must be bought to a bright finish and coated with anti-oxidant before connections are made.
• Listed connectors and fastening hardware must be used.

2.2.1   E1/T1/V.35/Ethernet/Optical Card Description

O9330 can carry up to four E1/T1/V.35 plug-in cards in Slot 1 to Slot 4. Slot 5 and Slot 6 are used for Optical module plug-in cards. Slot 7 is used for a quad Ethernet plug-in card.
Note: All plug-in cards are hot-pluggable.
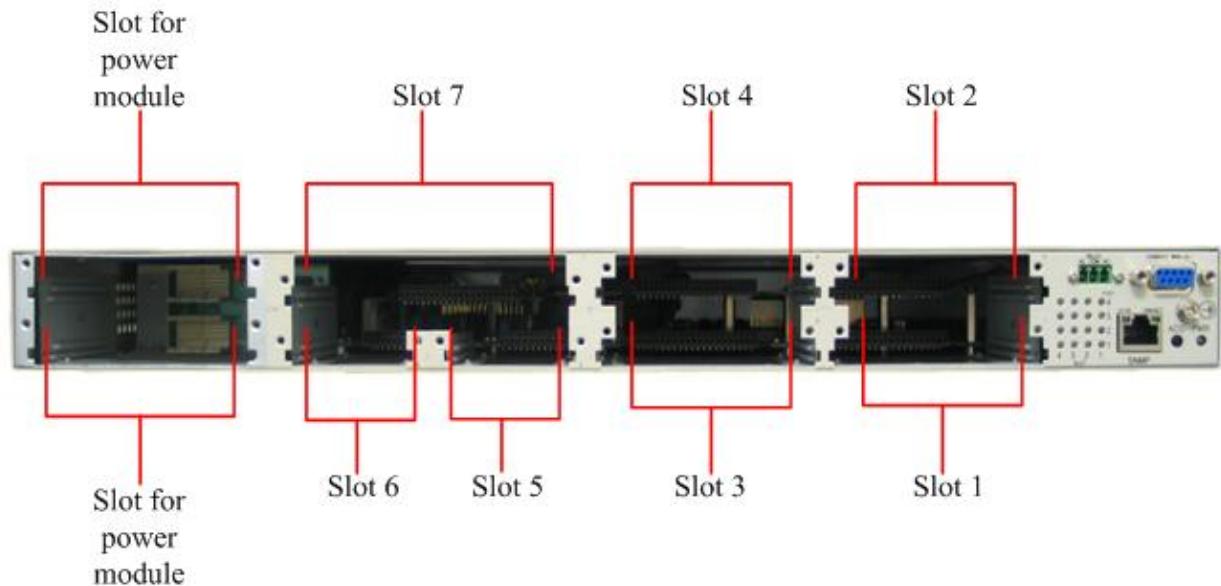
Figure 2-5 O9330 Slot location

Figure 2-6 Quad E1 card (RJ48C) panel view

Figure 2-7 Quad T1 card (RJ48C) panel view

Figure 2-8 Quad E1 card (Mini-BNC connecter) panel view

Figure 2-9 Quad E1 card (DB25 with 75 ohm connecter) panel view

Figure 2-10 Quad E1 card (DB25 with 120 ohm connector) panel view

Figure 2-11 Dual V.35 card (SCSI68 connector) panel view

Figure 2-12 Optical module panel view
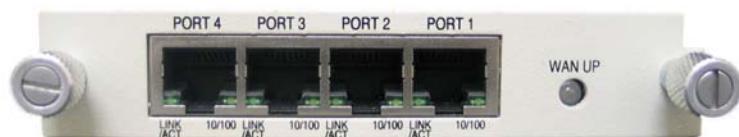
Figure 2-13 Quad Ethernet card panel view

The console port can be connected via RS232 interface to a configuration device a VT100 terminal or equivalent. Pin definition and pin connection of the console port are listed in the following table.

Table 2-1 DB9S Console Port Pin Assignment

Pin Number	Signal	Description
1	Data Carrier Detect	Output from O9330
2	Receive Data	Output from O9330
3	Transmit Data	Input to O9330
4	Unassigned	
5	Signal Ground	
6	Data Set Ready	Output from O9330
7	Unassigned	
8	Clear to send	Output from O9330
9	Unassigned	

Table 2-2 Ethernet Port

Pin Number	Signal	Description
1	TPTX+	TP Driver Output
2	TPTX-	
3	TPRX+	TP Receive Input
6	TPRX-	
7	Chassis GND	
8	Chassis GND	

Table 2-3 Quad E1/T1 Port with RJ48C connector

Pin Number	Signal	Description
1	Receive Ring	From E1 Network
2	Receive Tip	From E1 Network
3	Unassigned	
4	Transmit Ring	To E1 Network
5	Transmit Tip	To E1 Network
6	Unassigned	
7	Unassigned	
8	Unassigned	

Table 2-4 Quad E1 DB25 Connector Pin Definition

Pin Number	Signal	Source
1	Transmit Data TIP_Port 1	
2	Receive Data TIP_Port 1	
3	Unassigned	
4	Transmit Data TIP_Port 2	
5	Receive Data TIP_Port 2	
6	Unassigned	
7	Transmit Data TIP_Port 3	
8	Receive Data TIP_Port 3	
9	Unassigned	
10	Transmit Data TIP_Port 4	
11	Receive Data TIP_Port 4	
12	Unassigned	
13	Unassigned	
14	Transmit Data RING_Port 1	
15	Receive Data RING_Port 1	
16	Unassigned	
17	Transmit Data RING_Port 2	
18	Receive Data RING_Port 2	
19	Unassigned	
20	Transmit Data RING_Port 3	
21	Receive Data RING_Port 3	
22	Unassigned	
23	Transmit Data RING_Port 4	
24	Receive Data RING_Port 4	
25	Unassigned	

Table 2-5 V.35/ SCSI68 Port Pin Definition

Pin Number	Signal	Source
1	Port1 Receive Data Return	DCE
2	Port1 Transmit Clock Return	DCE
3	Port1 Receive Data	DCE
4	Port1 Transmit Clock	DCE
5	Port1 Receive Clock	DCE
6	Port1 Request To Send	DTE
7		X
8	Port1 Cable Shield	
9	Port1 Receive Clock Return	DCE
10	Port1 Transmit Data	DTE
11	Port1 Data Carrier Detect	DCE
12		X
13	Port2 Transmit Clock	DCE
14	Port1 Transmit Data Return	DTE
15		X
16	Port1 External Clock	DTE
17	Port2 Transmit Clock Return	DCE
18	Port1 Signal Ground	
19	Port2 Request To Send	DTE
20	Port1 External Clock Return	DTE
21	Port2 Receive Data	DCE
22	Port2 Transmit Data	DTE
23		X
24	Port2 Cable Shield	
25	Port2 Receive Data Return	DCE
26	Port2 Transmit Data Return	DTE
27	Port2 Data Carrier Detect	DCE
28	Port2 External Clock	DTE
29	Port2 Receive Clock	DCE
30		X
31		X
32	Port2 External Clock Return	DTE
33	Port2 Receive Clock Return	DCE
34	Port2 Signal Ground	
35~68		X

Table 2-6 Alarm Relay Connector

Pin Number	Signal	Description
1	Alarm Fuse	Normal Close
2	Alarm Fuse	Common
3	Alarm Fuse	Normal Open

Table 2-7 Power Connector

Pin Number	Signal	Description
1	-V	-DC 24 or 48 Volts
2	+V	+DC Return
3	⏚	Chassis Ground

Table 2-8 E1/ RJ48C Line Connector

Pin Number	Signal	Signal Direction
1	Receive Ring	Input to O9330
2	Receive Tip	Input to O9330
4	Transmit Ring	Output from O9330
5	Transmit Tip	Output from O9330
7	Unassignment	
8	Unassignment	

Table 2-9 Default Software Configuration

Configuration		Option	Default
Console port	Baud rate	9600, 19200, 38400, 57600, 115200	9600
	Data length	8-bits, 7-bits	8-bits
	Stop bits	1-bit, 2-bits	1-bit
	Parity	NONE, EVEN, ODD	NONE
Password	Lock	DISABLE, ENABLE	DISABLE
	Password		LOOP
Network management	IP interface	ETHERNET_PORT, EOC_PORT	ETHERNET_PORT
	IP address		0.0.0.0
	Subnet mask		0.0.0.0
	Gateway IP		0.0.0.0
SNMP	Trap IP		255.255.255.255
	Community name		Public
	Device name		LOOP O9330
Network cascade		DISABLE, ENABLE	DISABLE

Table 2-10 Default Alarm Configuration

Alarm			Option	Default
System	Alarm cut off		DISABLE, ENABLE	DISABLE
	Protection switch		DISABLE, ENABLE	DISABLE
	Relay		DISABLE, ENABLE	DISABLE
Optical	LOF		DISABLE, ENABLE	DISABLE
	ES	Alarm	DISABLE, ENABLE	DISABLE
		Threshold	1-900	1
	SES	Alarm	DISABLE, ENABLE	DISABLE
		Threshold	1-900	1
	UAS	Alarm	DISABLE, ENABLE	DISABLE
		Threshold	1-900	1
E1/T1	LOS		DISABLE, ENABLE	DISABLE
	AIS		DISABLE, ENABLE	DISABLE
	BPV	Alarm	DISABLE, ENABLE	DISABLE
		Threshold	1~16383	1
	ES	Alarm	DISABLE, ENABLE	DISABLE
		Threshold	1-900	1
	SES	Alarm	DISABLE, ENABLE	DISABLE
		Threshold	1-900	1
	UAS	Alarm	DISABLE, ENABLE	DISABLE
		Threshold	1-900	1

3 OPERATION

This chapter describes the Loop-O9330 configuration options and operational functions. User should refer to CHAPTER 5: FRONT PANEL OPERATION, and CHAPTER 6: TERMINAL OPERATION for detailed operation.

3.1 Quick Start for Loop-O9330

After installation, the user may want to familiarize with the equipment immediately. The following abbreviated instructions will give the user a quick start.

3.1.1 Power On

Turn power on by attaching power cable at the rear of the unit. On the LCD, unit will first display SELF TEST followed by the main menu.
Return to Default Setting.
The unit is shipped with factory default setting.

3.2 Self Test

If password is enabled, users must enter the password when logging in to gain the privilege to change system configurations on the terminal. The default condition is password disabled. The default password is LOOP. To change the password for the first time, enter the default password when prompted for the old password.
If the password is forgotten, the only recourse is to return to the factory setting of LOOP. To restore the factory default configuration, press ACO key during power up and then press the ENTER key while LCD displays "TEST... PASS". If the operation is successful, the LCD will show "LOAD DEFAULT CONFIGURATION". All user configuration settings will be lost. For terminal screen operation, see also section 6.20 for the details.
To use the front panel to configure the unit, use the four keys to the right of the LCD. The menu is tree structured, with the main menu at the root of the tree. The ESC key brings the user towards to root. The ENTER key is used (a) to descend to branches of the menu, or (b) to confirm a selection. The left and right arrow keys are used to move the selection left or right.

3.3 Review of Default Settings

All the default settings can be reviewed or changed. This is done by selecting the menu item. Either a sub-menu is shown or the selected setting is indicated with an asterisk.

3.4 Using the Front Panel

To use the front panel to configure the unit, use the four keys to the right of the LCD. The menu is tree structured, with the main menu at the root of the tree. The ESC key brings the user towards to root. The ENTER key is used (a) to descend to branches of the menu, or (b) to confirm a selection. The left and right arrow keys are used to move the selection left or right. For more detail information, see also the chapter 5 in this menu.

3.5 Using a VT-100 Terminal

Management from a Telnet or Network Management System (NMS) can be effected through a LAN. Use the DB9S console port of O9330's front panel to connect a VT100 terminal to configure the unit. The VT100 terminal can be a PC running a VT100 emulator software.
Upon connection, press ENTER and ESC alternately to bring the main menu into view.
Press O (Log On) to see the full menu.
Press S (System Setup) to review or change the configuration.
For more detail information, see also the chapter 6 in this menu.

3.6   System Configuration

3.6.1 Console Port

The console port allows the user either to use a local VT-100 terminal or use a remote VT-100 terminal via modem for system configuration, diagnostics, polling status reports, etc. The console port Baud rate, data bit length, stop bit length, and parity bit length are defaulted, as shown below.

Table 3-1 Console Port Setting

Item	Fixed Setting
Baud	9600
Data Length	8
Stop Bit	1
Parity	NONE

3.7   ALS (Auto Laser Shutdown Logic)

O9330 provides ALS function to prevent wasting energy when no optical signal is received. If ALS function is not enabled, laser will always on; if ALS function is enabled, both laser modules will operate synchronously. See below for the details.

 Stage 0 - Laser on 500ms, go to stage 1.

 Stage 1 - Detect receiver every 500ms for 9.5 seconds, if received go to stage 2, else back to stage 0.

 Stage 2 - Laser on 2 seconds, then go to stage 3.

 Stage 3 - Detect receiver every 1 second, if optical loss, go to stage 0.

Example 1 — *No optical signal*

O 9330 #A

Tx

Tx: On
Tx: Off

0   1   0   1

0.5 Sec.   9.5 Sec.

Rx: No signal

Example 2 — *Optical signal less 500ms, loss below 10 sec.*

O 9330 #A   Tx   O 9330 #B

Rx

Tx: On
Tx: Off

0   1 2   3   0   1

0.5 Sec.   2 Sec.   0.5 Sec.

Rx:
Receive signal

receive signal   line break

Tx : Transmit   Rx : Receive   0 : Stage 0   1 : Stage 1   2 : Stage 2   3 : Stage 3
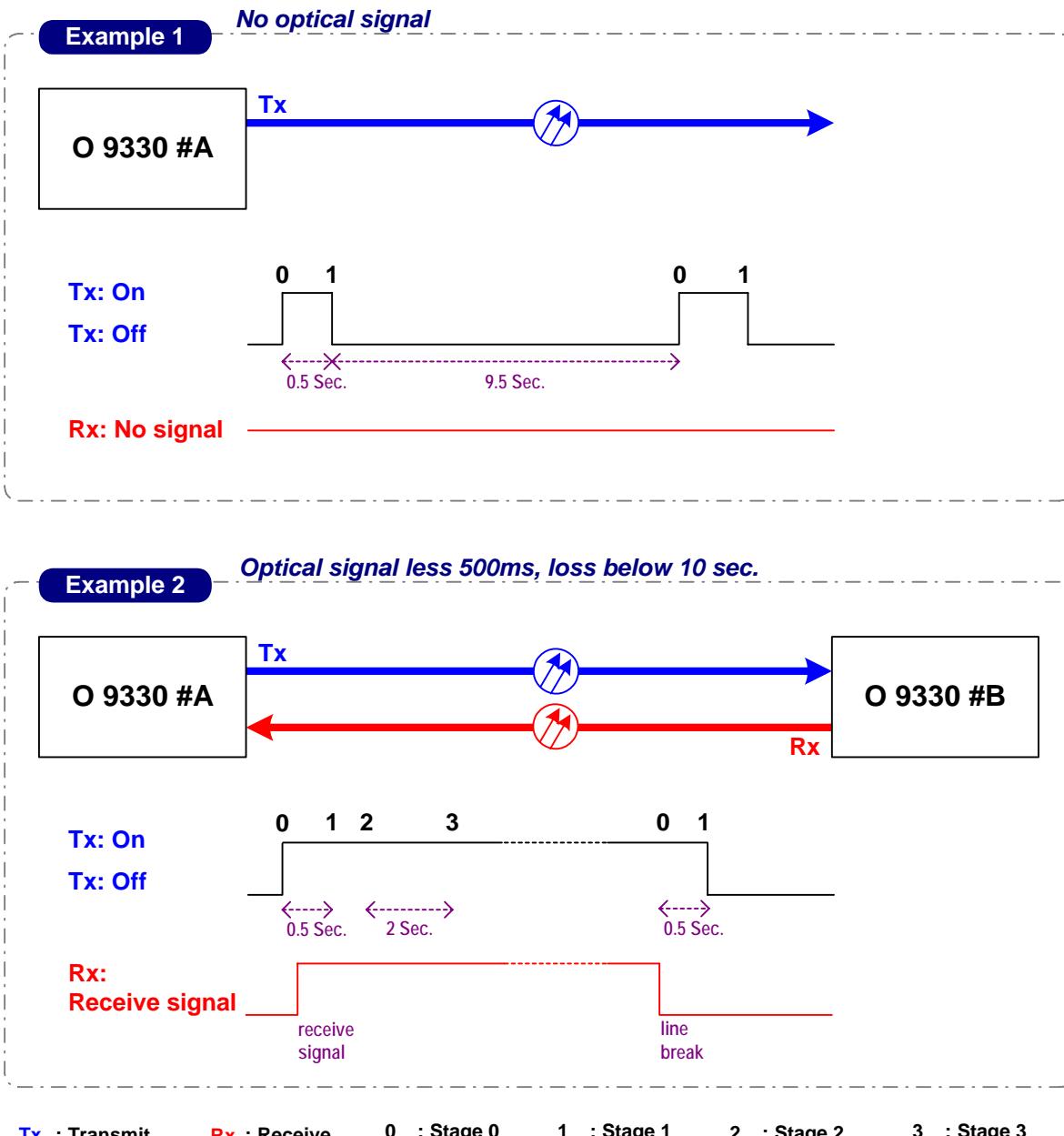
Figure 3-1 Auto Laser Shutdown Diagram

3.8   Alarm

When the Loop-O9330 reports an alarm condition, such as loss of synchronization, the ALARM will cause the LED on the front panel to light. Each alarm can be individually enabled or disabled. The alarm types are listed in the table as below.

Table 3-2 Alarm Type Table

Alarm			Option	Default
System	Alarm cut off		DISABLE, ENABLE	DISABLE
	Protection switch		DISABLE, ENABLE	DISABLE
	Power Fail		DISABLE, ENABLE	DISABLE
	Relay		DISABLE, ENABLE	DISABLE
Optical	LOF		DISABLE, ENABLE	DISABLE
	ES	Alarm	DISABLE, ENABLE	DISABLE
		Threshold	1-900	1
	SES	Alarm	DISABLE, ENABLE	DISABLE
		Threshold	1-900	1
	UAS	Alarm	DISABLE, ENABLE	DISABLE
		Threshold	1-900	1
E1/T1	LOS		DISABLE, ENABLE	DISABLE
	AIS		DISABLE, ENABLE	DISABLE
	BPV	Alarm	DISABLE, ENABLE	DISABLE
		Threshold	1~16383	1
	ES	Alarm	DISABLE, ENABLE	DISABLE
		Threshold	1-900	1
	SES	Alarm	DISABLE, ENABLE	DISABLE
		Threshold	1-900	1
	UAS	Alarm	DISABLE, ENABLE	DISABLE
		Threshold	1-900	1

3.9 Reports

For DS1 line receiver, Loop-O9330 has three sets of performance registers. These are line, user, and far-end. The line performance register tracks the DS1 line receiver performance status. The user performance register tracks the DS1 line receiver as well, but user may clear at any time. The far-end performance register tracks the far-end DS1 receiver status. The performance parameters are listed in the following tables.

Each performance parameter has ninety six sets of registers to record 24 hours history in 15 minute intervals.

Table 3-3 Performance Parameter List – Optical

Performance Parameter	Description	Definition
ES	Error Second	BPV≥1, OOF≥1, or CS≥1.
SES	Severe Error Second	BPV ≥ 2048, or OOF ≥ 1
UAS	Unavailable Second	≥ 10 consecutive SES

Table 3-4 Performance Parameter List - E1

Performance Parameter	Description	Definition
ES	Error Second	BPV≥1, OOF≥1, or CS≥1.
SES	Severe Error Second	BPV ≥ 2048, or OOF ≥ 1
UAS	Unavailable Second	≥ 10 consecutive SES
BPV	Bipolar Violation	Bipolar Error Count

Table 3-5 Performance Parameter List - DS1

Performance Parameter	Description	Definition
ES	Error Second	BPV≥1, OOF≥1, or CS≥1.
SES	Severe Error Second	BPV ≥ 2048, or OOF ≥ 1
UAS	Unavailable Second	≥ 10 consecutive SES
BPV	Bipolar Violation	Bipolar Error Count

The Performance Reoort Options Table, below, lists the types of reports available, performance parameters provided by each report, and the reset commands for each report.

Table 3-6 Performance Report Options

Report Type [Menu Command]	Category	Report		
		ES	**SES**	**BPV**
Front Panel Reports	USER [Network]	Y	Y	Y
1-Hour Terminal Reports Menu Option [1]	USER [Network]	Y	Y	Y
	LINE [Network]	N/C	N/C	N/C
	FAR-END	N/C	N/C	—
24-Hour Terminal Reports Menu Option [2]	USER [Network]	Y	Y	Y
	LINE [Network]	N/C	N/C	N/C
	FAR-END	N/C	N/C	—

Y = Report available and can be cleared by front panel "RESET" or admin terminal command "Y".

X = Report available and can be cleared by front panel "RESET" or admin terminal command "X".

N/C = No clear. Report available, but counts cannot be cleared by the user.

– = Report not available.

3.10 LED

The front panel of the Loop-O9330 has mulit-color LEDs for operation and error indications. The indication is either off, steady on, or flickering. The following table lists each LED and its color and the meaning it represents.

Note that when powering up and selftest is in progress, the unit front panel LEDs are also used to indicate fault conditions.

Table 3-7 LED Status

LED		Color	Indication
POWER		Off	Power off, self-test failure
		Flashing Green	Normal operation
		Flashing Red	Alarm indication
Slot 1~4	E1/T1/ Port 1~4	Off	Not exist or disabled
		Red	Unsync
		Green	Sync
		Flashing Green	Loopback testing
Slot 1~4	V.35	Off	Not exist or disabled
		Green	Active
		Flashing Green	Loopback testing
Optical #n (1-2)		Off	Not exist or disabled
		Red	Unsync
		Green	Sync
		Flashing Green	Loopback testing
Bridge	WAN up	Off	Link down
		Green	Link up
	Slot 7	Off	Card does not exist
		Green	Card exist
SNMP	10/100	Off	10M
		Green	100M
	Link/Act	Off	Link down
		Green	Link up
		Flashing Green	Transmit or receive data

3.11 Error Messages

Loop-O9330 provides various error messages on the LCD display to indicate abnormal conditions as listed in the following table.

Table 3-8 Error Message Table

ERR01: No response
ERR02: LCD operation is locked
ERR03: Line unsync
ERR04: A loopback is in effect
ERR05: A test is in progress
ERR06: Illegal Date/Time format
ERR07: Time out
ERR08: EOC is not ready
ERR09: Illegal value

Note**:** If error displayed is not listed above, call factory for service.

4   MAINTENANCE

4.1   Self-Test

When the Loop-O9330 is powered up, a complete self-test routine is run to check all I/O ports, read/write memory, and data paths to validate system integrity. During system self test, "TESTING" message and testing code are shown on the VT100 terminal screen. If any error is found, a testing code is shown on the VT100 terminal display. Various system diagnostic methodology can be found in the following paragraphs.

4.2   Near End Loopback

The near end loopbacks such as analogic local loopback, digital local loopback, and line loopback are activated by the Loop-O9330. The loopbacks are at the near end facility. The following paragraph describes each loopback in detail.

4.2.1 E1/ T1 Analog Local Loopback

Analog loopback is a loopback in either direction that is associated with the line side of a DCE piece of equipment.

4.2.2 E1/ T1 Digital Local Loopback

Digital loopback is a loopback in either direction that is associated with the **DTE** port of a DCE piece of equipment.

4.2.3 E1/ T1 Line Loopback

Line loopback is illustrated in Figure 4-1. The incoming DS1 line signal is loopback to the outgoing DS1 signal before the DS1 transceiver framer. This loopback is used to isolate the local equipment from a troubled DS1 transmission line. Line loopback test can be activated from the terminal.

4.2.4 Optical Local Loopback

Optical local loopback is illustrated in Figure 4-1. The outgoing optical signal is looped back through the optical PCM transceiver. All its channels are looped back to the receiver path. This loopback test is activated by the test command.

① E1 / T1 Analog Local Loopback
② E1 / T1Line Loopback (LLB)
③ E1/ T1 Digital Local Loopback
④ Optical Local Loopback
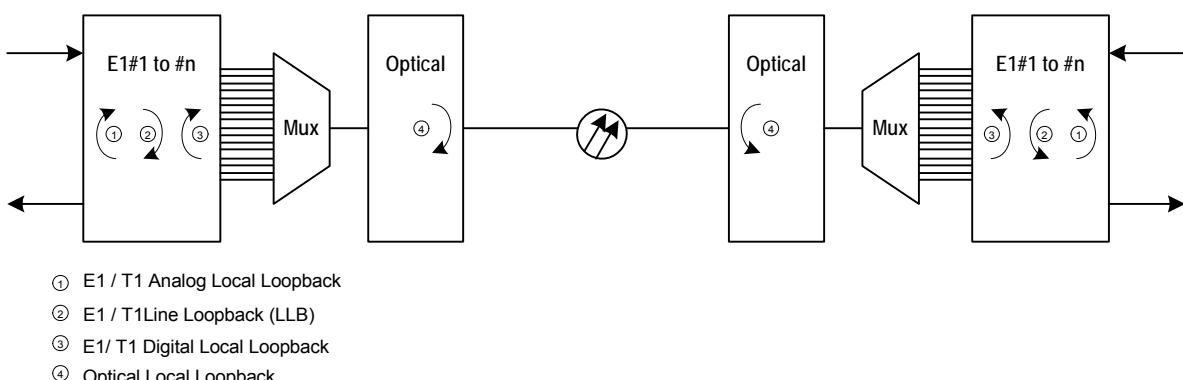
Figure 4-1 Loopback Block Diagram

4.3   Network Cascade Setup

Loop-O9330 can also allow remote management through console port as the application illustration below shows.
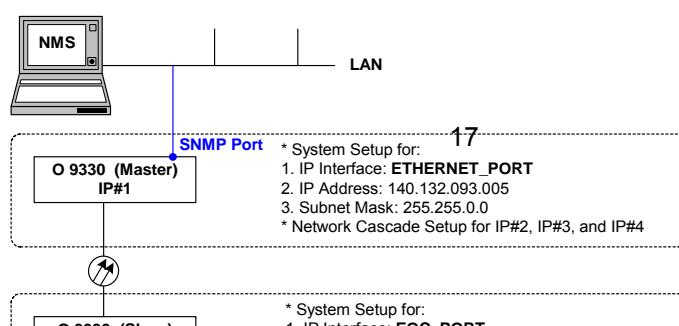
Figure 4-2 Remote Management

NOTE: See the following screens for setup details.
First, press "S" from the main menu to enter into the system setup submenu.

```
FOM                         === Main Menu ===           21:06:21 02/06/2008


Serial Number   : 126215              Device Name : LOOP O9330
Hardware Version: Ver.D               Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008 Start Time  : 22:55:05 02/01/2008

[DISPLAY]                             [SETUP]
1 -> 1 Hour Perf. Report              P -> Password Setup
2 -> 24 Hour Perf. Report             S -> System Setup
C -> System Configuration             M -> System Alarm Setup
Q -> Alarm Queue                      T -> Loopback Test
H -> Alarm History                    L -> File Transfer
I -> Information Summary               V -> Store/Retrieve Configuration


[LOG]                                 [MISC]
F -> Log Off [SETUP],[MISC] Menu      A -> Alarm Cut Off
O -> Log On  [SETUP],[MISC] Menu      K -> Clear Performance Data
R -> Connect to Remote Terminal       X -> Clear Alarm Queue and History
                                      Y -> Return to Default
                                      Z -> System Reset


>>SPACE bar to refresh or enter a command ===>
```

Under the submenu, press "A" to setup IP interface, IP address, and subnet mask address for each O9330.

```
FOM                         === System Setup ===        21:04:18 02/06/2008



                        A -> System
                        B -> Network Cascade
                        C -> Command Line
                        D -> Optical & T1/E1 Option
                        S -> SNTP Setup
                        V -> V.35 Card
                        R -> Bridge Setup












<< Press ESC key to return to Main Menu or enter a command >>
```

The IP interface for master unit should be set as ETHERNET_PORT, and the IP interface for slave unit should be set as EOC_PORT. Please note that subnet mask IP address for each unit should be the same address.

```
FOM                      === System Setup ===            21:04:18 02/06/2008
ARROW KEYS: CURSOR MOVE, Please Input: hh:mm:ss mm/dd/yyyy, BACKSPACE to edit
[System]
Time/Date       : 03:30:22 07/01/2007
IP Interface    : ETHERNET_PORT
IP Address      : 000.000.000.000
Subnet Mask     : 000.000.000.000       Gateway IP      : 000.000.000.000
Trap IP Address: 255.255.255.255        Community Name : public
Device Name     : LOOP O9330
System Location: 8F, No.8 Hsin Ann Rd.
                 Science-Based Industrial Park
                 Hsinchu, 30077 Taiwan

System Contact : Name:FAE  Tel:+886-3-5787696  Fax:+886-3-5787695
                 E-mail:FAE@loop.com.tw


[CONSOLE port]
Baud Rate       : 115200
Data Length     : 8-Bits
Stop Bit        : 1-Bit
Parity          : NONE

<< Press ESC key to return to previous menu >>
```

In the master O9330 (IP#1), press "B" to done the network cascade setup for slave O9330 (IP#2 and IP#4) and master O9330 (IP#3). Then repeat the same step in the salve O9330 (IP#4) to done the network cascade setup for slave O9330 (IP#4).

For O9330 (Master) IP#1:

```
FOM                        === Network Cascade ===           21:04:18 02/06/2008
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS

Network Cascade: ENABLE

[Routing Table]
IP Address 1   : 140.132.085.008
IP Address 2   : 140.132.091.010
IP Address 3   : 140.132.078.006
IP Address 4   : 000.000.000.000













<< Press ESC key to return to previous menu >>
```

For O9330 (Slave) IP#2:

```
FOM                        === Network Cascade ===           21:04:18 02/06/2008
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS

Network Cascade: DISABLE

[Routing Table]
IP Address 1   : 000.000.000.000
IP Address 2   : 000.000.000.000
IP Address 3   : 000.000.000.000
IP Address 4   : 000.000.000.000













<< Press ESC key to return to previous menu >>
```

For O9330 (Master) IP#3:

```
FOM                        === Network Cascade ===           21:04:18 02/06/2008
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS

Network Cascade: ENABLE

[Routing Table]
IP Address 1   : 140.132.078.006
IP Address 2   : 000.000.000.000
IP Address 3   : 000.000.000.000
IP Address 4   : 000.000.000.000
```

```
<< Press ESC key to return to previous menu >>
```

For O9330 (Slave) IP#4:

```
FOM                        === Network Cascade ===          21:04:18 02/06/2008
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS

Network Cascade: DISABLE

[Routing Table]
IP Address 1    : 000.000.000.000
IP Address 2    : 000.000.000.000
IP Address 3    : 000.000.000.000
IP Address 4    : 000.000.000.000




















<< Press ESC key to return to previous menu >>
```

5 FRONT PANEL OPERATION

The front panel LCD utilizes a 2-line by 16-character display and four keys labeled ESC, ENTER, left arrow '<', and right arrow '>', as shown in Figure 5-1. The ENTER key is to enable a selection, while the left and right arrow keys move the cursor to the left and right respectively. The ESC key returns to the next higher level of selection or to the main menu without performing any operation. When the menu selected has no further sub-menus, the current item selected is indicated by "*".

NOTE: For each selection or change, ENTER key must be pressed to confirm.
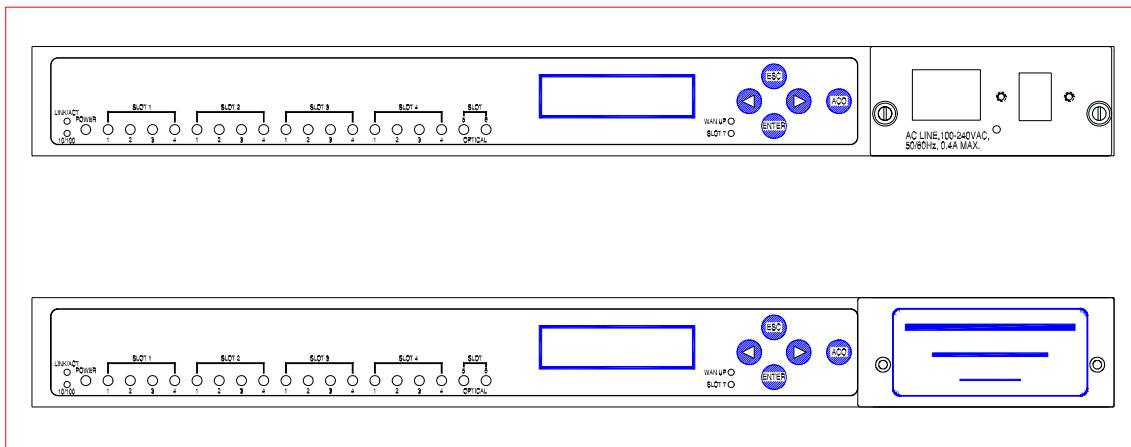
Figure 5-1 Front Panels

The entire LCD menu tree is shown below. By successively selecting the menu item at each level, the desired operation or display can be obtained. Use left or right key to select the desired main menu branch and press ENTER.
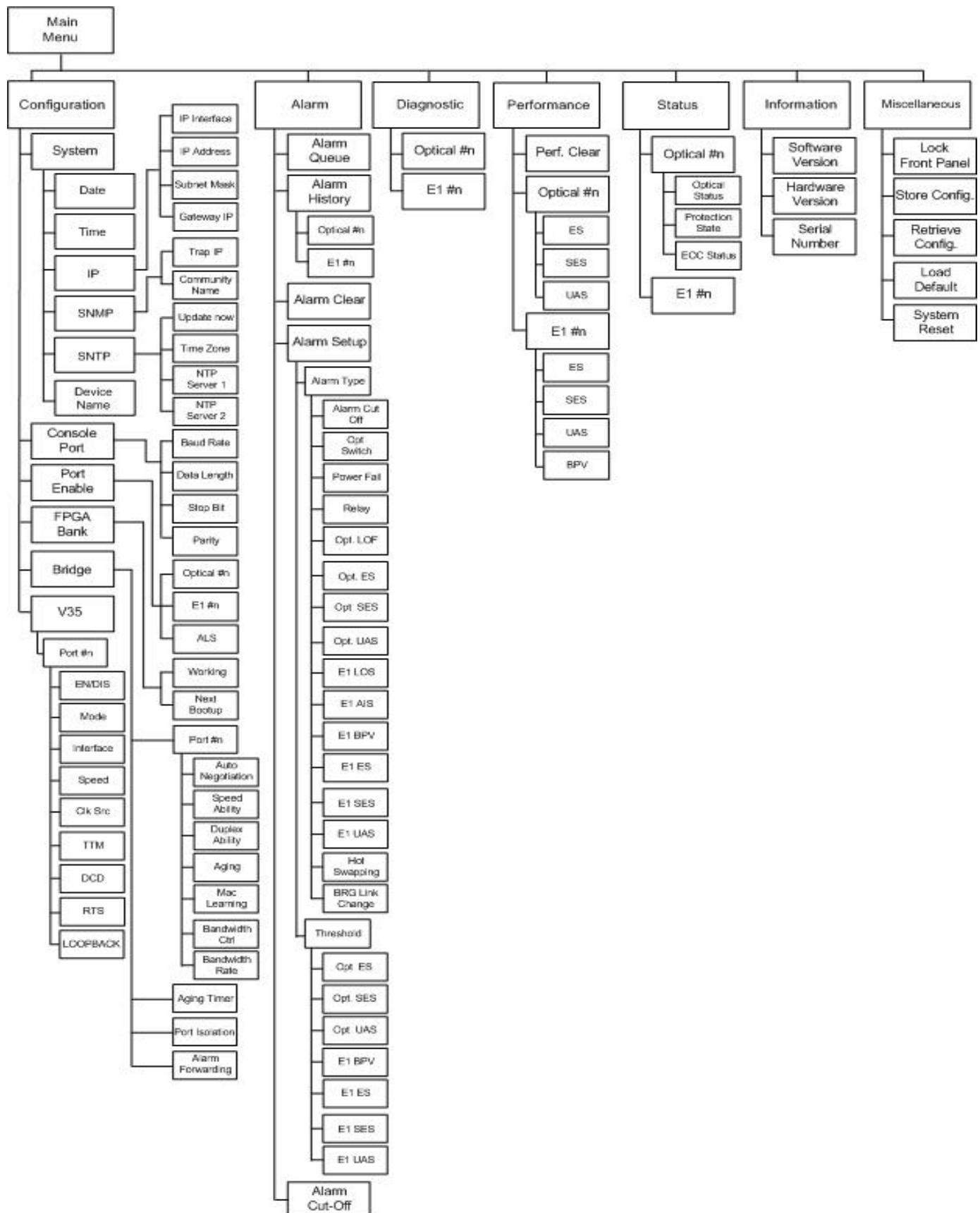
Figure 5-2 LCD Menu Tree

5.1 Configuration

Configuration group includes System and Console Port menus.

```
Configuration
```

5.1.1 System

Press ENTER from the above menu to enter into the System menu, which includes Date, Time, IP, and SNMP submenus.

```
Configuration
System
```
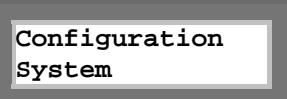
5.1.1.1   Date

Press ENTER from the System menu. Use arrow keys to select Date, then press ENTER. The Date menu is used to set a new real time clock date. To change the date, move the cursor at the digital position, and press ENTER to cycle through the desired numbers. This operation must be concluded by moving the cursor to OK position, and press ENTER to enable the change.

```
System
Date
```

```
Date
*09/01/2004   OK
```

5.1.1.2   Time

The operation for Time menu is same as the above Date menu.

```
System
Time
```

```
Time
*23:58:59    OK
```

5.1.1.3   IP

The IP menu allows modification of device IP address, IP address for Subnet Mask and Gateway, and IP interface. Each IP address can be modified by moving the cursor to the desired position and selecting a number. After making all changes, select YES to save the changes.

```
System
IP
```

Physical interfaces can be selected as ETHERNET_PORT or EOC_PORT.

```
IP Interface
ETHERNET_PORT
```

```
IP Address    OK
*140.132.093.001
```

```
Subnet Mask   OK
*255.255.000.000
```

```
Gateway IP    OK
*140.132.001.001
```
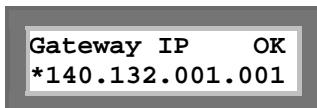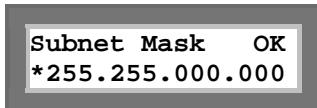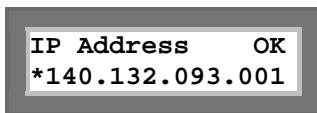
5.1.1.4   SNMP

The SNMP group includes Trap IP and Community Name.

```
Configuration
SNMP
```
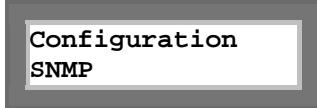
The Trap IP Address menu shows the current destination IP address the Loop-V 4200 uses to send an SNMP trap. The default Trap IP address is a broadcast address (255.255.255.255).

```
SNMP
Trap IP
```

To change the Trap IP address, use the arrow keys to cycle through to the position, and press **ENTER** to cycle through the numbers. This operation must be concluded by moving the cursor to OK position and pressing **ENTER** to enable the changes.

```
Trap IP       OK
*255.255.255.255
```
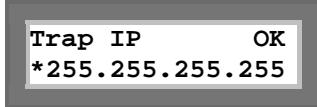
This menu is used to have a name for community. To rename it, use arrow keys to select a desired number or character, press ENTER. Then move the cursor at OK, press ENTER to enable the community name.

```
Community Name
public
```
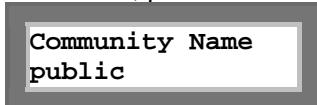
5.1.1.5   SNTP
The SNTP group includes Update now, Time Zone, NTP Server 1 and NTP Server 2.

Update now
To update the time from the server press the **ENTER** button.

```
SNTP
Update now
```

The following prompt will appear. Press the **ENTER** button to proceed with the time update.

```
Update now
*Update?
```

Time Zone
To select a time zone press the **ENTER** button.

```
SNTP
Time Zone
```

Use your arrow keys to scroll in the setting you desire (ie. place the cursor besides the setting you want). Press the **ENTER** button.

```
Time Zone
*+0
```

NTP Server 1
To select NTP Server 1 press the **ENTER** button.

```
SNTP
NTP Server 1
```

Use your arrow keys to scroll in the IP address. After the correct address is entered move your cursor to **OK**. Press the **ENTER** button.

```
NTP Server 1  OK
*000.000.000.000
```

NTP Server 2
To select NTP Server 2 press the **ENTER** button.

```
SNTP
NTP Server 2
```

Use your arrow keys to scroll in the IP address. After the correct address is entered move your cursor to **OK**. Press the **ENTER** button.

```
NTP Server 2  OK
*000.000.000.000
```

5.1.1.6   Device Name

This menu is used to name the main unit.

```
Configuration
Device Name
```

To rename the device name, use arrow keys to select a desired number or character, press ENTER. Then move the cursor at OK, press ENTER to enable the device name.

```
Device Name
LOOP O9330
```

5.1.2 Console Port

The menus are used to configure console port to select Baud rate, data bits, stop bits, and parity bit. Under Configuration menu, use left or right key to select Console Port menu. Press ENTER to enter into its submenus.

```
Configuration
Console Port
```

5.1.2.1   Baud Rate

Move the cursor to select Baud Rate, press ENTER.

```
Console Port
Baud Rate
```

To change data speed, use left and right arrow key to cycle through to a desired selection and press ENTER. The current selection will be highlighted by an asterisk (*).

```
Baud Rate
*38400
```

5.1.2.2   Data Length

Move the cursor to select Data Length, press ENTER.

```
Console Port
Data Length
```

To change data bits, use left and right arrow key to cycle through to a desired selection and press ENTER. The current selection will be highlighted by an asterisk (*).

```
Data Length
*8-bits
```

5.1.2.3   Stop Bit

Move the cursor to select Stop Bit, press ENTER.

```
Console Port
Stop Bit
```
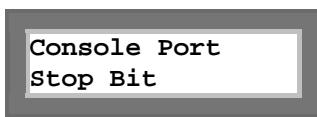
To change stop bits, use left and right arrow key to cycle through to a desired selection and press ENTER. The current selection will be highlighted by an asterisk (*).

```
Stop Bit
*1-Bit
```
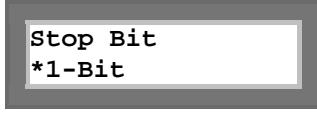
5.1.2.4　Parity

Move the cursor to select Parity, press ENTER.

```
Console Port
Parity
```
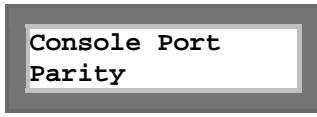
To change data parity, use left and right arrow key to cycle through to a desired selection and press ENTER.

```
Parity
*NONE
```

5.1.3 Port Enable
This menu is used to enable or disable optical ports or E1 ports. Under Configuration menu, use left or right key to select Port Enable menu. Press ENTER to enter into its submenus. The current setting will be highlighted by an asterisk (*).

```
Configuration
Port Enable
```

```
Port Enable
Optical #1
```

```
Optical #1
*ENABLE
```

```
Port Enable
E1 #16
```

```
E1 #16
*ENABLE
```
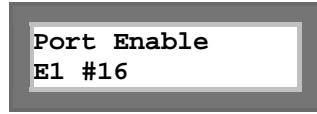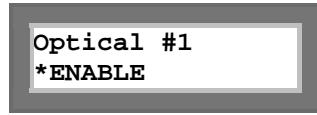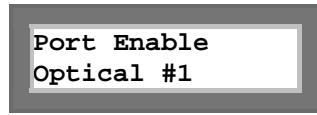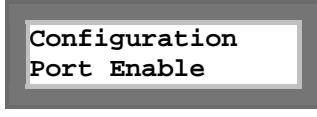
5.1.4 FPGA bank

This menu is used to setup FPGA functions. Under Configuration menu, use left or right key to select FPGA bank menu. Press ENTER to enter into its submenus. The current setting will be highlighted by an asterisk (*).

```
Configuration
FPGA Bank
```

Working

```
FPGA Bank
Working
```

Next Bootup

```
FPGA Bank
Next Bootup
```
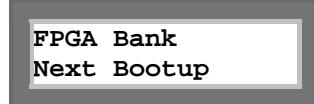
5.1.5 Bridge

This menu is used to setup different functions for Bridge. Under Configuration menu, use left or right key to select Bridge menu. Press ENTER to enter into its submenus. The current setting will be highlighted by an asterisk (*).

```
Configuration
Bridge
```

```
Bridge
Port #01
```
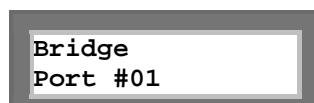
Auto Negotiation

User can enable or disable Auto Negotiation option.

```
Port #01
Auto Negotiation
```
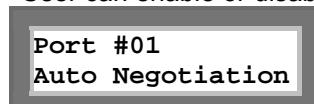
Speed Ability

User can select 10 Mbps or 100 Mbps for Speed Ability.

```
Port #01
Speed Ability
```
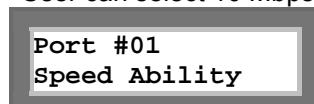
Duplex Ability

User can select Half or Full for Duplex Ability option.

```
Port #01
Duplex Ability
```
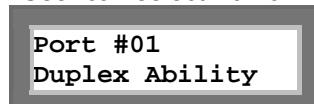
Aging

User can enable or disable Aging option.

```
Port #01
Aging
```

Mac Learning
User can enable or disable Mac Learning option.

```
Port #01
Mac Learning
```

Bandwidth Ctrl
User can enable or disable Bandwidth Control option.

```
Port #01
Bandwidth Ctrl
```

Bandwidth Rate
User can enable or disable Bandwidth Rate option.

```
Port #01
Bandwidth Rate
```

Aging Timer
User can select 300 Sec, 75 Sec, 18 Sec and 1 Sec for Aging Timer.

```
Bridge
Aging Timer
```

Port Isolation
User can enable or disable Port Isolation option.

```
Bridge
Port Isolation
```

Alarm Forwarding
User can enable or disable Alarm Forwarding option.

```
Bridge
Alarm Forwarding
```

5.1.6 V.35
This menu is used to setup different functions for V.35. Under Configuration menu, use left or right key to select V.35 menu. Press ENTER to enter into its submenus. The current setting will be highlighted by an asterisk (*).

```
Configuration
V35
```

```
V35
Port #01
```

EN/DIS

User can enable or disable port for V.35 ports.

```
Port #01
EN/DIS
```

```
EN/DIS
*ENABLE
```

Mode

User can set up the mode of V.35 interface as DCE mode.

```
Port #01
Mode
```

```
Mode
DCE
```

Interface

```
Port #01
Interface
```

```
Interface
V.35
```

Speed

User can select unframed, 01 ~ 31 as speed.

```
Port #01
Speed
```

```
Speed
*unframe
```

ClkSrc

User can select clock source as Internal, Line and DTE.

```
Port #01
ClkSrc
```

```
ClkSrc
*Internal
```

TTM

TTM: (Terminal Timing Mode)

```
Port #01
TTM
```

```
TTM
OFF
```

DCD
DCD: Data Carrier Detect.

```
Port #01
DCD
```

```
DCD
ON
```

RTS
RTS: Request To Send. User can select Permanent or Active in RTS option.

```
Port #01
RTS
```

```
RTS
*PERM.
```
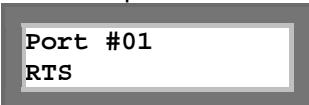
LOOPBACK
User can select Local, Line or Off for Loopback option.

```
Port #01
LOOPBACK
```

```
LOOPBACK
*OFF
```
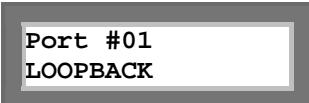
5.2   Alarm

The Alarm menu is used to view the alarm queue and alarm history, to clear the alarm queue, alarm history, and alarm relay, as well as setup alarm threshold, etc..

```
O-9300 E1/T1-FOM
Alarm
```
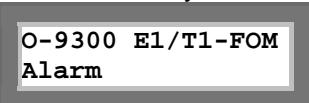
5.2.1 Alarm Queue

The Alarm Queue menu is used to view the alarm queue. From the Alarm menu, use the arrow keys to select Alarm Queue menu. Then press ENTER.

```
Alarm
Alarm Queue
```

The alarm queue is a list of the latest 40 alarms from the unit selected. The upper right shows the alarm sequence and the total number of alarms. The lower left is the alarm type number. The lower right is the date and time of the alarm.

```
Alarm Queue
01 E1#8 UAS
```

```
01 E1#8 UAS
00:01:30 10/02
```
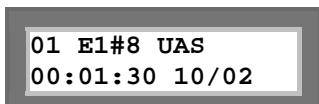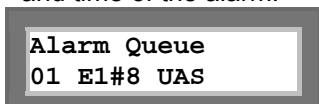
5.2.2 Alarm History
Alarm History menu is used to view alarm history. Under Alarm menu, use left or right key to select Alarm History menu.

```
Alarm
Alarm History
```

5.2.2.1   Optical #n
Use arrow keys to select Optical and press ENTER to view its alarm history.

```
Alarm History
Optical #1
```

```
Opt. #1 LOF
DIS   OK   0000
```
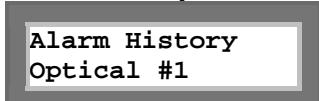
5.2.2.2   E1 #n
Use arrow keys to select E1 and press ENTER to view its alarm history.

```
Alarm History
E1#01 LOS
```

```
E1#01 LOS
ENB   ALM   0001
```
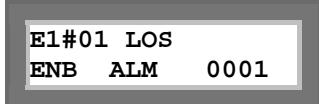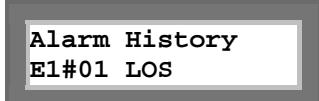
5.2.3 Alarm Clear

Alarm Clear menu is used to clear alarm queue and history. Under Alarm menu, use left or right key to select Alarm Clear menu.

```
Alarm
Alarm Clear
```
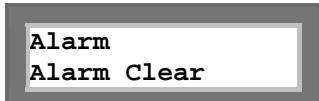
Press ENTER to confirm the clear.

```
Alarm Clear
Confirm ?
```
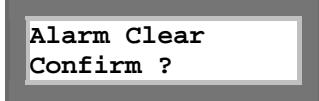
```
Alarm Clear
Clearning...OK
```

5.2.4 Alarm Setup

The Alarm Setup menu is used to set up the threshold level of each alarm type, and enable alarm relay and auto dial out function. Some types of alarm do not have threshold levels. From the Alarm menu, use the arrow keys to select Alarm Setup menu.

```
Alarm
Alarm Setup
```

5.2.4.1   Alarm Type

Press ENTER to enter into the submenu.

```
Alarm Setup
Alarm Type
```

Use arrow keys to select the desired alarm type.

```
Alarm Type
Alarm Cut Off
```

```
Alarm Cut Off
*ENABLE
```

```
Alarm Type
Opt. Switch
```

```
Opt. Switch
*ENABLE
```

```
Alarm Type
Power Fail
```

```
Power Fail
*ENABLE
```

```
Alarm Type
Relay
```

```
Relay
*ENABLE
```

```
Alarm Type
Opt. LOF
```

```
Opt. LOF
*ENABLE
```

```
Alarm Type
Opt. ES
```

```
Opt. ES
*ENABLE
```

```
Alarm Type
Opt. SES
```

```
Opt. SES
*ENABLE
```

```
Alarm Type
Opt. UAS
```

```
Opt. UAS
*ENABLE
```

```
Alarm Type
E1 LOS
```

```
E1 LOS
*ENABLE
```

```
Alarm Type
E1 AIS
```

```
E1 AIS
*ENABLE
```

```
Alarm Type
E1 BPV
```

```
E1 BPV
*ENABLE
```

```
Alarm Type
E1 ES
```

```
E1 ES
*ENABLE
```

```
Alarm Type
E1 SES
```

```
E1 SES
*ENABLE
```

```
Alarm Type
E1 UAS
```

```
E1 UAS
*ENABLE
```

```
Alarm Type
Hot Swapping
```

```
Hot Swapping
*ENABLE
```

```
Alarm Type
BRG Link Change
```

```
BRG Link Change
*ENABLE
```
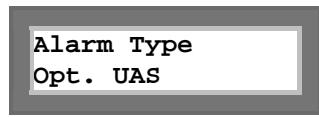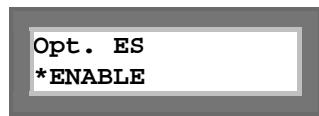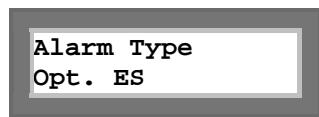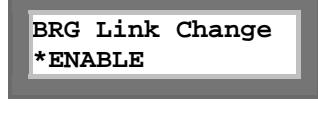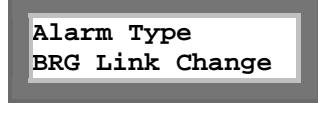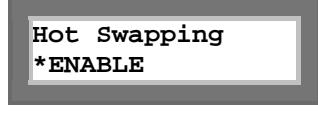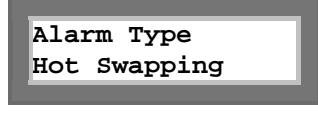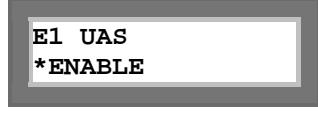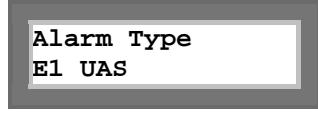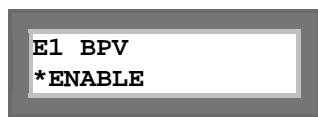
5.2.4.2   Threshold

To setup ES, SES, UAS, and BPV is similar. For example, to setup E1 Line Bipolar Violation threshold level and press ENTER.

```
Alarm Setup
Threshold
```

```
Threshold
Opt. ES
```
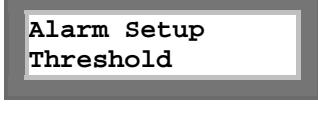
To change threshold level of BPV (or ES, SES, UAS), use left or right arrow key to cycle through to the digit position, and press ENTER key to cycle through the number. This operation must be concluded by moving left or right arrow key to OK position and press ENTER to enable the changes.

```
Opt. ES        OK
*900      (1-900)
```

5.2.5 Alarm Cut-Off
This menu is used to cut off alarm queue and history.

```
Alarm
Alarm Cut-Off
```

```
Alarm Cut-Off
Confirm ?
```

Press ENTER from the above menu.

```
Alarm Cut-Off
ACO...OK
```
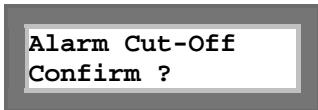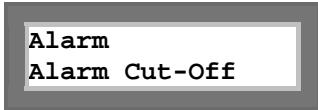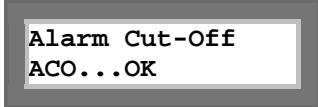
5.3   Diagnostic

Diagnostic group includes local loopback for optical and analogic local loopback, digital local loopback, and line loopback for DS1.

```
O-9300 E1/T1-FOM
Diagnostic
```
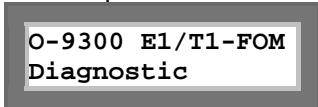
5.3.1 Optical

Use arrow keys to select Optical option, press ENTER.

```
Diagnostic
Optical
```
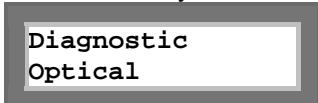
Two options, Off and Local Loopback, are available for Optical. Move the cursor to the desired option, then press ENTER to confirm it. The current selection will be highlighted by an asterisk (*).

```
Optical
*Off
```

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5.3.2 E1 #n

Use arrow keys to select E1 #1, press ENTER.

```
Diagnostic
E1 #1
```

Four options are available for DS1: Off, Analogic Local Loopback, Digital Local Loopback, and Line Loopback. Move the cursor to the desired option, then press ENTER to confirm it. The current selection will be highlighted by an asterisk (*).

```
E1 #1
*Off
```

5.4 Performance

Performance group includes clear performance, optical performance, and DS1 performance.

```
O-9300 E1/T1-FOM
Performance
```
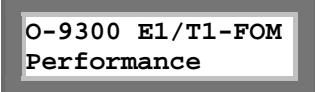
5.4.1 Performance Clear

Use arrow keys to select Perf. Clear to clear performance.

```
Performance
Perf. Clear
```

```
Perf. Clear
Confirm ?
```
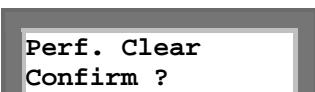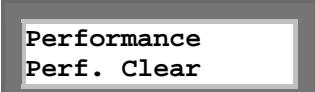
Press ENTER from the above menu to confirm it.

```
Perf. Clear
Clearing...OK
```
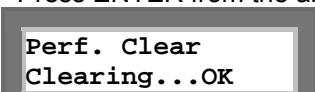
5.4.2 Optical #n

This menu is used to display performance report for optical.
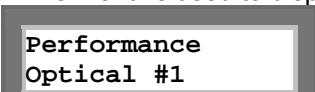
```
Performance
Optical #1
```

Use arrow keys to switch the desired performance parameters.

```
Optical #1
ES
```

Press ENER from the above menu to view the detail information.

```
Cur.15m Cur.24h
     000     00000
```

```
last    2    3    4
 000 000 000 000
```

5.4.3 E1 #n

This menu is used to display performance report for DS1.
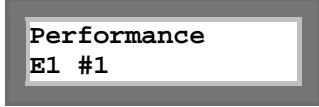
```
Performance
E1 #1
```

Use arrow keys to switch the desired performance parameters.

```
E1 #1
ES
```

Press ENER from the above menu to view the detail information.

```
Cur.15m   Cur.24h
   000      00000
```

```
last last 2   last
3   last 4
000 000   000   000
```
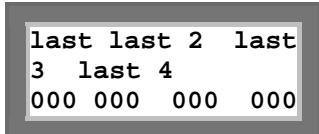
5.5   Status

The Status menus are used to browser protection status, EOC status, optical status, and DS1 status.

```
O-9300 E1/T1-FOM
Status
```
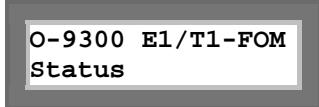
5.5.1 Optical #n

Use arrow keys to select Optical #n, press ENTER to enter into its submenu.

```
Status
Optical #1
```

5.5.1.1   Protection Status

This menu is used to check the protection function enable or disable.

```
Optical #1
Protection Status
```

```
Protection Status
Working
```
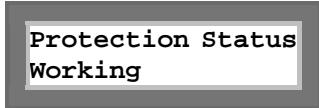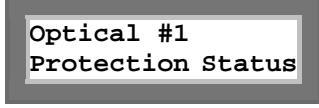
5.5.1.2 EOC (Embedded Operation Channel) Status

This menu is used to check the embedded operation channel is ready or not.

```
Optical #1
EOC Status
```

Press ENTER from the above menu to display its status.

```
EOC Status
Ready
```

5.5.1.3 Optical Status

This menu is used to display the detail information for optical status.

```
Optical #1
Optical Status
```

Press ENTER from the above menu.

```
Optical Status
LOF QRSS ES
```

```
LOF QRSS  ES
NO   00000 00000
```

5.5.2 E1 #n

This menu is used to display the detail information for DS1.

```
Status
E1 #1
```

```
E1 #1
LOF  AIS
```

```
LOF  AIS
YES  NO
```

```
BPV   ES
00000 00000
```

5.6 Information

The information menu provides detail information for software, hardware, and serial numbers.

```
O-9300 E1/T1-FOM
Information
```

5.6.1 Software Version

This menu displays the system software version and date.

```
Information
Software Version
```

Press ENTER from the above menu.

```
Software Version
V1.05  05/04/2004
```

5.6.2 Hardware Version

This menu displays the system hardware version and date.

```
Information
Hardware Version
```

Press ENTER from the above menu.

```
Hardware Version
Ver.E  01/2003
```

5.6.3 Serial Number

This menu displays the unit's serial number.

```
Information
Serial Number
```

Press ENTER from the above menu.

```
Serial Number
1123354
```

5.7 Miscellaneous

The Miscellaneous group includes: lock front panel, store configuration, retrieve configuration, load default, and reset system.

```
O-9300 E1/T1-FOM
Miscellaneous
```

5.7.1 Lock Front Panel

This menu is used to control LCD panel operation. Normally, configuration can be changed from the front panel. Front panel configuration changes can be disabled by selecting this menu. With a locked front panel, read only configuration information and line status can be obtained.

```
Miscellaneous
Lock front panel
```

To disable the function, a password must be entered.

```
Lock front panel
*DISABLE
```

Use arrow keys to select a desired number or character, press ENTER. Then move the cursor at OK, press ENTER to enable the password. Password modification can only be done by using terminal operation.

```
PW:_____   OK
0123456789ABCDEF
```

5.7.2 Store Configuration

This menu is used to store system configuration.

```
Miscellaneous
Store Config.
```

```
Store Config.
Confirm ?
```

Press ENTER from the above menu to done the saving.

```
Store Config.
Saving...OK
```

5.7.3 Retrieve Configuration

This menu is used to retrieve system configuration.

```
Miscellaneous
Retrieve Config.
```

```
Retrieve Config.
Confirm ?
```
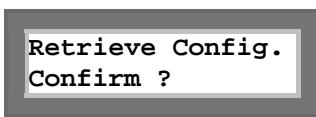
Press ENTER from the above menu to done the retrieving.

```
Retrieve Config.
Retrieving...OK
```
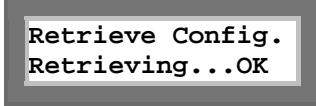
5.7.4 Load Default

This menu is used to download default.

```
Miscellaneous
Load Default
```

```
Load Default
Confirm ?
```
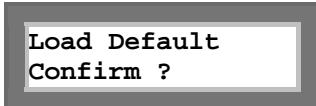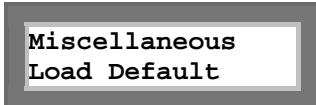
Before loading default, a password must be entered.

```
PW:XXXX_____ OK
0123456789ABCDEF
```
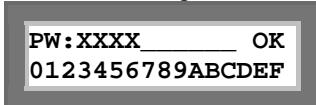
Press ENTER from the above menu to confirm the download.

```
Load Default.
Waiting...OK
```
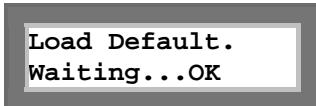
5.7.5 System Reset

This menu is used to reset the system.

```
Miscellaneous
System Reset
```

Two way for system reset are available: warm restart or cold restart. Use arrow key to select the desired way for resetting.

```
System Reset
Warm Restart
```

Press ENTER from the above menu.

```
Warm Restart
Confirm ?
```
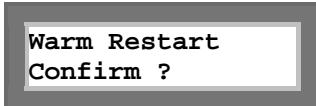
Before restarting the system, a password must be entered.

```
PW:XXXX_____  OK
0123456789ABCDEF
```

Use arrow keys to select a desired number or character, press ENTER. Then move the cursor at OK, press ENTER to enable the password. Password modification can only be done by using terminal operation.

```
PW:XXXX_____  OK
Reset Now...
```

6   TERMINAL OPERATION

The Loop-O9330 provides comprehensive and enhanced configuration and test capability through the console port. A VT-100 type terminal or a modem can be connected to the console port on the front of the Loop-O9330. By use of single-character commands and arrow keys, the Loop-O9330 can be configured and tested. The single-character commands are not case sensitive. On each screen, the available commands and the configurable fields are highlighted.

When a VT-100 terminal is connected to the CONSOLE port of the Loop-O9330, a main menu is displayed on the VT-100 monitor. The main menu consists of four groups of commands, DISPLAY, LOG, SETUP, and MISC. All commands are detailed in the VT-100 Controller Menu Tree illustrations below.
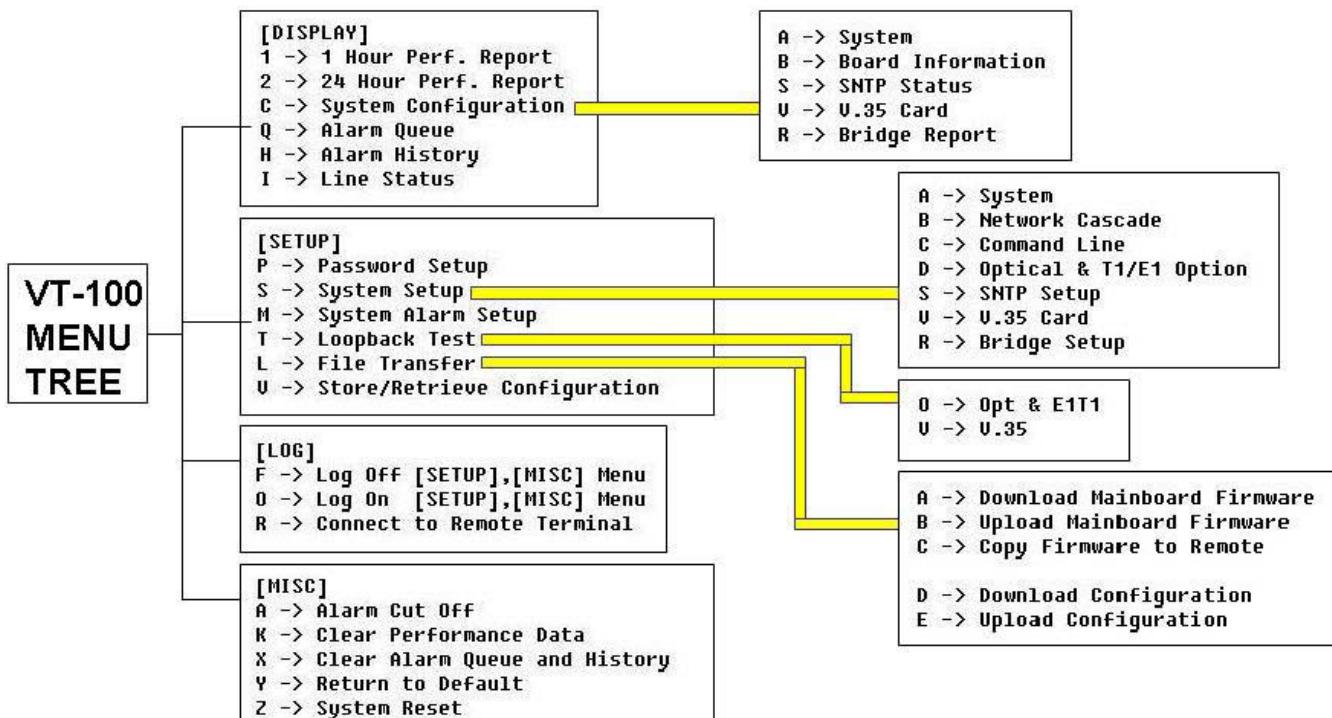
Figure 6-1 VT-100 Menu Tree Overview

6.1   Log On and Password Setup

6.1.1   Log On/off

When the Loop-O9330 is powered on, the screen will show as below. If the terminal screen is illegible, press the **Enter** and **Esc** key alternatively to bring up the main menu. This is particularly needed if the terminal is connected to the controller while the power is already applied. If the main menu still fails to appear, check to see that the terminal is configured as 9600, 8, n, 1, and that a proper null modem or a null modem cable is used.

The main menu appears like following screen after the O9330 is powered on.

```
FOM                          === Main Menu ===            21:06:21 02/06/2008

Serial Number  : 126215                  Device Name : LOOP O9330
Hardware Version: Ver.D                   Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008   Start Time  : 22:55:05 02/01/2008

[DISPLAY]                               [SETUP]
1 -> 1 Hour Perf. Report
2 -> 24 Hour Perf. Report
C -> System Configuration
Q -> Alarm Queue
H -> Alarm History
I -> Line Status


[LOG]                                   [MISC]
F -> Log Off [SETUP],[MISC] Menu
O -> Log On  [SETUP],[MISC] Menu
R -> Connect to Remote Terminal



>>SPACE bar to refresh or enter a command ===>
```

Press **O** to logon.

```
FOM                          === Main Menu ===            21:06:21 02/06/2008

Serial Number  : 126215                  Device Name : LOOP O9330
Hardware Version: Ver.D                   Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008   Start Time  : 22:55:05 02/01/2008

[DISPLAY]                               [SETUP]
1 -> 1 Hour Perf. Report                P -> Password Setup
2 -> 24 Hour Perf. Report               S -> System Setup
C -> System Configuration               M -> System Alarm Setup
Q -> Alarm Queue                        T -> Loopback Test
H -> Alarm History                      L -> File Transfer
I -> Line Status                        V -> Store/Retrieve Configuration


[LOG]                                   [MISC]
F -> Log Off [SETUP],[MISC] Menu        A -> Alarm Cut Off
O -> Log On  [SETUP],[MISC] Menu        K -> Clear Performance Data
R -> Connect to Remote Terminal         X -> Clear Alarm Queue and History
                                        Y -> Return to Default
                                        Z -> System Reset


>>SPACE bar to refresh or enter a command ===>
```

To logoff, press **F**.

```
FOM                            === Main Menu ===             21:06:21 02/06/2008


Serial Number  : 126215                 Device Name : LOOP O9330
Hardware Version: Ver.D                  Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008  Start Time  : 22:55:05 02/01/2008

[DISPLAY]                               [SETUP]
1 -> 1 Hour Perf. Report
2 -> 24 Hour Perf. Report
C -> System Configuration
Q -> Alarm Queue
H -> Alarm History
I -> Line Status


[LOG]                                   [MISC]
F -> Log Off [SETUP],[MISC] Menu
O -> Log On  [SETUP],[MISC] Menu
R -> Connect to Remote Terminal




>>SPACE bar to refresh or enter a command ===>
```

6.2   1 Hour Peformance Report

The full menu path for 1 Hour Performance Report is as follows:
O > Log On
1 > 1 Hour Perf. Report

To view 1 hour performance report, press "**1**" from Main Menu.

```
FOM                           === Main Menu ===          21:06:21 02/06/2008

Serial Number  : 126215               Device Name : LOOP O9330
Hardware Version: Ver.D               Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008 Start Time  : 22:55:05 02/01/2008

[DISPLAY]                             [SETUP]
1 -> 1 Hour Perf. Report              P -> Password Setup
2 -> 24 Hour Perf. Report             S -> System Setup
C -> System Configuration             M -> System Alarm Setup
Q -> Alarm Queue                      T -> Loopback Test
H -> Alarm History                    L -> File Transfer
I -> Line Status                      V -> Store/Retrieve Configuration


[LOG]                                 [MISC]
F -> Log Off [SETUP],[MISC] Menu      A -> Alarm Cut Off
O -> Log On  [SETUP],[MISC] Menu      K -> Clear Performance Data
R -> Connect to Remote Terminal       X -> Clear Alarm Queue and History
                                      Y -> Return to Default
                                      Z -> System Reset


>>SPACE bar to refresh or enter a command ===>
```


The screen will show as below. Use **TAB** key to roll the desired option.

```
FOM                     === 1 Hour Performance Report ===    21:06:21 02/06/2008
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS

Performance Port : Optical#1
Performance Type : USER


















<< Press ESC key to abort, ENTER key to show Perf. Report >>
```

Press **ENTER** from the above screen to show the detail performance report as below shows.

```
FOM                      === 1 Hour Performance Report ===    21:06:21 02/06/2008
Optical#1 USER

-- Valid Seconds in Current 15-Min Interval : 898 seconds
                                 (ES)     (SES)    (UAS)
   Current 15-Min Interval    :     0        0        0
   1st Nearest 15-Min Interval :    0        0        0
   2nd Nearest 15-Min Interval :    0        0        0
   3rd Nearest 15-Min Interval :    0        0        0
   4th Nearest 15-Min Interval :    0        0        0

-- Valid 15-Min Intervals in Current 24-Hour Interval: 59
                                 (ES)     (SES)    (UAS)
   Current 24-Hour Interval   :     4        4        0
   09/30/2002                 : -----    -----    -----
   09/29/2002                 : -----    -----    -----
   09/28/2002                 : -----    -----    -----
   09/27/2002                 : -----    -----    -----
   09/26/2002                 : -----    -----    -----
   09/25/2002                 : -----    -----    -----
   09/24/2002                 : -----    -----    -----


<< ESC key to return to previous menu, SPACE bar to refresh >>
```

```
FOM                      === 1 Hour Performance Report ===    21:06:21 02/06/2008
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS

Performance Port : DS1#01
Performance Type : USER
```
```
<< Press ESC key to abort, ENTER key to show Perf. Report >>
```

```
FOM                                                        21:06:21 02/06/2008
DS1#01    USER

-- Valid Seconds in Current 15-Min Interval : 18 seconds
                                (ES)    (SES)   (UAS)   (BPV)
   Current 15-Min Interval   :     0       0      18       0
   1st Nearest 15-Min Interval :   0       0     900       0
   2nd Nearest 15-Min Interval :   0       0     900       0
   3rd Nearest 15-Min Interval :   0       0     900       0
   4th Nearest 15-Min Interval :   0       0     900       0

-- Valid 15-Min Intervals in Current 24-Hour Interval: 60
                                (ES)    (SES)   (UAS)   (BPV)
   Current 24-Hour Interval  :     0       0   53880       0
   09/30/2002                : -----   -----   -----   -------
   09/29/2002                : -----   -----   -----   -------
   09/28/2002                : -----   -----   -----   -------
   09/27/2002                : -----   -----   -----   -------
   09/26/2002                : -----   -----   -----   -------
   09/25/2002                : -----   -----   -----   -------
   09/24/2002                : -----   -----   -----   -------


<< ESC key to return to previous menu, SPACE bar to refresh >>
```

6.3 24 Hour Peformance Report
The full menu path for 24 Hour Performance Report is as follows:
O > Log On
2 > 24 Hour Perf. Report

Under Main Menu, press "**2**" to display 24 hours performance report.

```
FOM                       === Main Menu ===        21:06:21 02/06/2008

Serial Number   : 126215            Device Name : LOOP O9330
Hardware Version: Ver.D             Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008  Start Time  : 22:55:05 02/01/2008

[DISPLAY]                           [SETUP]
1 -> 1 Hour Perf. Report            P -> Password Setup
2 -> 24 Hour Perf. Report           S -> System Setup
C -> System Configuration           M -> System Alarm Setup
Q -> Alarm Queue                    T -> Loopback Test
H -> Alarm History                  L -> File Transfer
I -> Line Status                    V -> Store/Retrieve Configuration


[LOG]                               [MISC]
F -> Log Off [SETUP],[MISC] Menu    A -> Alarm Cut Off
O -> Log On  [SETUP],[MISC] Menu    K -> Clear Performance Data
R -> Connect to Remote Terminal     X -> Clear Alarm Queue and History
                                    Y -> Return to Default
                                    Z -> System Reset


>>SPACE bar to refresh or enter a command ===>
```

Use **TAB** key to select the desired option.

```
FOM                      === 24 Hours Performance Report ===   21:06:21 02/06/2008
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS

Performance Port : Optical#1
Performance Type : USER
Performance Regs : ES

















<< Press ESC key to abort, ENTER key to show Perf. Report >>
```

To view the detail performance report, press **ENTER** from the above screen. Then the following screen will show up.

```
FOM                      === 24 Hours Performance Report ===   21:06:21 02/06/2008
Optical#1 USER
-- Valid Seconds in Current 15-Min Interval : 35 seconds
-- Valid 15-Min Intervals in Current 24-Hour Interval: 60
                                 (ES)     (SES)    (UAS)
   Current 15-Min Interval    :     0        0        0
   Current 24-Hour Interval   :     4        4        0

-- USER, ES , Last 96 15-Min Interval :
   01-08 >   0     0     0     0     0     0     0     0
   09-16 >   0     0     0     0     0     0     0     0
   17-24 >   0     0     0     0     0     0     0     0
   25-32 >   0     0     0     0     0     0     0     0
   33-40 >   0     0     0     0     0     0     0     0
   41-48 >   0     0     0     0     0     0     0     0
   49-56 >   0     0     0     0     0     0     0     0
   57-64 >   0     0     0     4    ----- ----- ----- -----
   65-72 > ----- ----- ----- ----- ----- ----- ----- -----
   73-80 > ----- ----- ----- ----- ----- ----- ----- -----
   81-88 > ----- ----- ----- ----- ----- ----- ----- -----
   89-96 > ----- ----- ----- ----- ----- ----- ----- -----


<< ESC key to return to previous menu, SPACE bar to refresh >>
```

```
FOM                     === 24 Hours Performance Report ===   21:06:21 02/06/2008
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS

Performance Port : DS1#01
Performance Type : USER
Performance Regs : ES
















<< Press ESC key to abort, ENTER key to show Perf. Report >>
```

```
FOM                                                          21:06:21 02/06/2008
DS1#01   USER
-- Valid Seconds in Current 15-Min Interval : 47 seconds
-- Valid 15-Min Intervals in Current 24-Hour Interval: 60
                                    (ES)    (SES)   (UAS)    (BPV)
    Current 15-Min Interval    :      0       0      47        0
    Current 24-Hour Interval   :      0       0    53880       0

-- USER, ES , Last 96 15-Min Interval :
    01-08 >   0     0     0     0     0     0     0     0
    09-16 >   0     0     0     0     0     0     0     0
    17-24 >   0     0     0     0     0     0     0     0
    25-32 >   0     0     0     0     0     0     0     0
    33-40 >   0     0     0     0     0     0     0     0
    41-48 >   0     0     0     0     0     0     0     0
    49-56 >   0     0     0     0     0     0     0     0
    57-64 >   0     0     0     0   ----- ----- ----- -----
    65-72 > ----- ----- ----- ----- ----- ----- ----- -----
    73-80 > ----- ----- ----- ----- ----- ----- ----- -----
    81-88 > ----- ----- ----- ----- ----- ----- ----- -----
    89-96 > ----- ----- ----- ----- ----- ----- ----- -----


<< ESC key to return to previous menu, SPACE bar to refresh >>
```

6.4 System Configuration

The full menu path for System Configuration is as follows:
O > Log On
C > System Configuration

To display system configuration, press "**C**" from the Main Menu.

```
FOM                          === Main Menu ===            21:06:21 02/06/2008

Serial Number  : 126215              Device Name : LOOP O9330
Hardware Version: Ver.D               Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008  Start Time  : 22:55:05 02/01/2008

[DISPLAY]                            [SETUP]
1 -> 1 Hour Perf. Report             P -> Password Setup
2 -> 24 Hour Perf. Report            S -> System Setup
C -> System Configuration            M -> System Alarm Setup
Q -> Alarm Queue                     T -> Loopback Test
H -> Alarm History                   L -> File Transfer
I -> Line Status                     V -> Store/Retrieve Configuration


[LOG]                                [MISC]
F -> Log Off [SETUP],[MISC] Menu     A -> Alarm Cut Off
O -> Log On  [SETUP],[MISC] Menu     K -> Clear Performance Data
R -> Connect to Remote Terminal      X -> Clear Alarm Queue and History
                                     Y -> Return to Default
                                     Z -> System Reset


>>SPACE bar to refresh or enter a command ===>
```

The submenu for System Configuration will show as below. Press **A**.

```
FOM                       === System Configuration ===     21:03:47 02/06/2008




                      A -> System
                      B -> Board Information
                      S -> SNTP Status
                      V -> V.35 Card
                      R -> Bridge Report













<< Press ESC key to return to Main Menu or enter a command >>
```

6.4.1 System

Press "**A**" from the above menu, the detail information about system configuration will show up.

```
FOM                          === System Configuration ===      21:03:47 02/06/2008

[System]
IP Interface   : ETHERNET_PORT
IP Address     : 140.132.093.005
Subnet Mask    : 255.255.000.000      Gateway IP      : 000.000.000.000
Trap IP Address: 255.255.255.255      Community Name : xxxxxx
Device Name    : LOOP O9330
System Location: 8F, No.8 Hsin Ann Rd.
                 Science-Based Industrial Park
                 Hsinchu, 30077 Taiwan

System Contact : Name:FAE  Tel:+886-3-5787696  Fax:+886-3-5787695
                 E-mail:FAE@loop.com.tw


[CONSOLE port]
Baud Rate      : 38400
Data Length    : 8-Bits
Stop Bit       : 1-Bit
Parity         : NONE


<< ESC key to return to previous menu, SPACE bar to refresh >>
```

6.4.2 Board Information

To view Board Information, press "**B**" from System Configuration Menu.

The full menu path for Board Information is as follows:
O > Log On
C > System Configuration
B > Board Information

Press "**C**" from the Main Menu, the detail information about unit status will show as below.

```
FOM                          === Main Menu ===            21:06:21 02/06/2008

Serial Number   : 126215              Device Name : LOOP O9330
Hardware Version: Ver.D                Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008  Start Time  : 22:55:05 02/01/2008


[DISPLAY]                             [SETUP]
1 -> 1 Hour Perf. Report              P -> Password Setup
2 -> 24 Hour Perf. Report             S -> System Setup
C -> System Configuration             M -> System Alarm Setup
Q -> Alarm Queue                      T -> Loopback Test
H -> Alarm History                    L -> File Transfer
I -> Line Status                      V -> Store/Retrieve Configuration



[LOG]                                 [MISC]
F -> Log Off [SETUP],[MISC] Menu      A -> Alarm Cut Off
O -> Log On  [SETUP],[MISC] Menu      K -> Clear Performance Data
R -> Connect to Remote Terminal       X -> Clear Alarm Queue and History
                                      Y -> Return to Default
                                      Z -> System Reset


>>SPACE bar to refresh or enter a command ===>
```

```
FOM                        === System Configuration ===      21:03:47 02/06/2008


                             A -> System
                             B -> Board Information
                             S -> SNTP Status
                             V -> V.35 Card
                             R -> Bridge Report












<< Press ESC key to return to Main Menu or enter a command >>
```

```
FOM                          === Board Information ===        21:03:47 02/06/2008

[Optical #01]                           [Optical #02]
Type               : Dual               Type               : NA
Outline            : SC                 Outline            : NA
Wavelength Tx      : 1310 nm            Wavelength Tx      : NA
Wavelength Rx      : 1310 nm            Wavelength Rx      : NA

[slot #01]                              [slot #02]
V.35Line Type      :                    Line Type          : E1 Unframed
                                        Blackplace         : RJ48C

[slot #03]                              [slot #04]
Line Type          : Not Exist         Line Type          : Not Exist
Blackplace         : Not Exist         Blackplace         : Not Exist

[Power Back below] : DC-FAIL
[Power Back above] : NONE
[Power Front]      : AC-OK

[FPGA]             : Standard, E1 Backward Compatible, Ver.0x2


<< ESC key to return to previous menu, SPACE bar to refresh >>
```

NOTE:
1. The type shown **Dual** is dual unidirectional fiber optical module card with SC connector; the type shown **Single** is single bi-directional fiber optical module card with SC connector. The type shown **SFP** is SFP optical housing plug-in card without SFP optical module.
2. When the optical module card is not available, the type, outline, wavelength Tx and wavelength Rx of the associated SFP will be shown as NA. See Optical #01 shows below.
3. When the optical module card exist but with no SFP, the outline, wavelength Tx and wavelength Rx of possible SFP will be shown as NA and type will be shown as Not Exist. See optical #02 shows below

```
FOM                          === Board Information ===        00:03:14 04/01/2010

[Optical #01]                           [Optical #02]
Type               : NA                 Type               : Not Exist
Outline            : NA                 Outline            : NA
Wavelength Tx      : NA                 Wavelength Tx      : NA
Wavelength Rx      : NA                 Wavelength Rx      : NA
```

6.4.3 SNTP Status

To view SNTP Status, press "**S**" from System Configuration Menu.

The full menu path for Board Information is as follows:
O > Log On
C > System Configuration
S > SNTP Status

Press "**C**" from the Main Menu, the detail information about unit status will show as below.

```
FOM                          === Main Menu ===           21:06:21 02/06/2008

Serial Number   : 126215              Device Name : LOOP O9330
Hardware Version: Ver.D               Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008 Start Time  : 22:55:05 02/01/2008

[DISPLAY]                             [SETUP]
1 -> 1 Hour Perf. Report              P -> Password Setup
2 -> 24 Hour Perf. Report             S -> System Setup
C -> System Configuration             M -> System Alarm Setup
Q -> Alarm Queue                      T -> Loopback Test
H -> Alarm History                    L -> File Transfer
I -> Line Status                      V -> Store/Retrieve Configuration


[LOG]                                 [MISC]
F -> Log Off [SETUP],[MISC] Menu      A -> Alarm Cut Off
O -> Log On  [SETUP],[MISC] Menu      K -> Clear Performance Data
R -> Connect to Remote Terminal       X -> Clear Alarm Queue and History
                                      Y -> Return to Default
                                      Z -> System Reset

>>SPACE bar to refresh or enter a command ===>
```

Press "**S**" from the System Configuration to display SNTP (Simple Network Time Protocol) server status.

```
FOM                     === System Configuration ===      21:03:47 02/06/2008


                        A -> System
                        B -> Board Information
                        S -> SNTP Status
                        V -> V.35 Card
                        R -> Bridge Report

















<< Press ESC key to return to Main Menu or enter a command >>
```

This scrren will show up the current IP addresses of SNTP servers, SNTP timezone, and the last update time.
See also below screen.

NOTE: The range for SNTP timezone is -12 to +12.

```
FOM                          === SNTP status ===              21:03:47 02/06/2008


SNTP server 1 : 140.113.001.003
SNTP server 2 : 000.000.000.000

SNTP timezone : +8
SNTP update period (hours) : 000, (0 to disable)



Current SNTP server : 140.113.001.003
Last update time at : 10:47:20 01/17/2005




<< ESC key to return to previous menu, SPACE bar to refresh >>
```

6.4.4   V.35 Card

To view V.35 Card, press "**V**" from System Configuration Menu.

The full menu path for V.35 Card is as follows:
O > Log On
C > System Configuration
V > V.35 Card

Press "**C**" from the Main Menu, the detail information about unit status will show as below.

```
FOM                          === Main Menu ===               21:06:21 02/06/2008

Serial Number  : 126215                Device Name : LOOP O9330
Hardware Version: Ver.D                Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008  Start Time  : 22:55:05 02/01/2008

[DISPLAY]                              [SETUP]
1 -> 1 Hour Perf. Report               P -> Password Setup
2 -> 24 Hour Perf. Report              S -> System Setup
C -> System Configuration              M -> System Alarm Setup
Q -> Alarm Queue                       T -> Loopback Test
H -> Alarm History                     L -> File Transfer
I -> Line Status                       V -> Store/Retrieve Configuration


[LOG]                                  [MISC]
F -> Log Off [SETUP],[MISC] Menu       A -> Alarm Cut Off
O -> Log On  [SETUP],[MISC] Menu       K -> Clear Performance Data
R -> Connect to Remote Terminal        X -> Clear Alarm Queue and History
                                       Y -> Return to Default
                                       Z -> System Reset


>>SPACE bar to refresh or enter a command ===>
```

Chapter 6 Terminal Operation

Press "**V**" from the System Configuration to display V.35 Card status.

```
FOM                     === System Configuration ===      21:03:47 02/06/2008



                           A -> System
                           B -> Board Information
                           S -> SNTP Status
                           V -> V.35 Card
                           R -> Bridge Report












<< Press ESC key to return to Main Menu or enter a command >>
```

```
FOM                        === V.35 Card Status===         21:04:00 02/06/2008


              [EN/DIS]  [Mode]  [Intf]  [Speed]   [ClkSrc]  [TTM]  [DCD]  [RTS]
P01(S1P1)     ENABLE    DCE      V.35    unframe   Internal  OFF    ON     PERM.
P02(S1P2)     ENABLE    DCE      V.35    unframe   Line      ON     ON     PERM.
P03(S1P3)     N/A
P04(S1P4)     N/A
P05(S2P1)     N/A
P06(S2P2)     N/A
P07(S2P3)     N/A
P08(S2P4)     N/A
P09(S3P1)     N/A
P10(S3P2)     N/A
P11(S3P3)     N/A
P12(S3P4)     N/A
P13(S4P1)     N/A
P14(S4P2)     N/A
P15(S4P3)     N/A
P16(S4P4)     N/A



<< ESC key to return to previous menu, SPACE bar to refresh >>
```

6.4.5 Bridge Report
To view Bridge Report, press "**R**" from System Configuration Menu.

The full menu path for Bridge Report is as follows:
O > Log On
C > System Configuration
R > Bridge Report

Press "**C**" from the Main Menu, the detail information about unit status will show as below.

```
FOM                        === Main Menu ===            21:06:21 02/06/2008

Serial Number  : 126215              Device Name : LOOP O9330
Hardware Version: Ver.D              Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008  Start Time  : 22:55:05 02/01/2008

[DISPLAY]                            [SETUP]
1 -> 1 Hour Perf. Report             P -> Password Setup
2 -> 24 Hour Perf. Report            S -> System Setup
C -> System Configuration            M -> System Alarm Setup
Q -> Alarm Queue                     T -> Loopback Test
H -> Alarm History                   L -> File Transfer
I -> Line Status                     V -> Store/Retrieve Configuration


[LOG]                                [MISC]
F -> Log Off [SETUP],[MISC] Menu     A -> Alarm Cut Off
O -> Log On  [SETUP],[MISC] Menu     K -> Clear Performance Data
R -> Connect to Remote Terminal      X -> Clear Alarm Queue and History
                                     Y -> Return to Default
                                     Z -> System Reset


>>SPACE bar to refresh or enter a command ===>
```

```
FOM                  === System Configuration ===     21:03:47 02/06/2008




                     A -> System
                     B -> Board Information
                     S -> SNTP Status
                     V -> V.35 Card
                     R -> Bridge Report
















<< Press ESC key to return to Main Menu or enter a command >>
```

Press "**R**" from the System Configuration menu to access the Bridge Report.

```
FOM                       === Bridge Report ===        21:03:47 02/06/2008

[Port 1]                              [Port 2]
Link Status         : Down            Link Status         : Down
Auto Negotiation    : ENABLE          Auto Negotiation    : ENABLE
Speed               : 10 Mbps         Speed               : 10 Mbps
Duplex Mode         : Half            Duplex Mode         : Half
Aging               : ENABLE          Aging               : ENABLE
MAC Learning        : ENABLE          MAC Learning        : ENABLE
Bandwidth Control   : DISABLE         Bandwidth Control   : DISABLE

[Port 3]                              [Port 4]
Link Status         : Down            Link Status         : Down
Auto Negotiation    : ENABLE          Auto Negotiation    : ENABLE
Speed               : 10 Mbps         Speed               : 10 Mbps
Duplex Mode         : Half            Duplex Mode         : Half
Aging               : ENABLE          Aging               : ENABLE
MAC Learning        : ENABLE          MAC Learning        : ENABLE
Bandwidth Control   : DISABLE         Bandwidth Control   : DISABLE
>> All Ports Setting <<
Aging Timer         : 300 Sec
Port Isolation      : Enable
Bridge Port1        : Disable
<< ESC key to return to previous menu, SPACE bar to refresh >>
```

6.5   Alarm Queue

The full menu path for Alarm Queue is as follows:
O > Log On
Q > Alarm Queue

To view Alarm Queue, press "**Q**" from Main Menu.

```
FOM                       === Main Menu ===          21:06:21 02/06/2008

Serial Number   : 126215          Device Name : LOOP O9330
Hardware Version: Ver.D           Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008  Start Time  : 22:55:05 02/01/2008

[DISPLAY]                         [SETUP]
1 -> 1 Hour Perf. Report          P -> Password Setup
2 -> 24 Hour Perf. Report         S -> System Setup
C -> System Configuration         M -> System Alarm Setup
Q -> Alarm Queue                  T -> Loopback Test
H -> Alarm History                L -> File Transfer
I -> Line Status                  V -> Store/Retrieve Configuration


[LOG]                             [MISC]
F -> Log Off [SETUP],[MISC] Menu  A -> Alarm Cut Off
O -> Log On  [SETUP],[MISC] Menu  K -> Clear Performance Data
R -> Connect to Remote Terminal   X -> Clear Alarm Queue and History
                                  Y -> Return to Default
                                  Z -> System Reset


>>SPACE bar to refresh or enter a command ===>
```

The Alarm Queue Summary will show as below.

```
FOM                     === Alarm Queue Summary ===      21:06:21 02/06/2008
  1 -- E1-8 : LOS, Line-----------------------23:16:23 09/01/2004
  2 -- E1-7 : LOS, Line-----------------------23:16:23 09/01/2004
  3 -- E1-6 : LOS, Line-----------------------23:16:23 09/01/2004
  4 -- E1-5 : LOS, Line-----------------------23:16:23 09/01/2004
  5 -- E1-4 : LOS, Line-----------------------23:16:23 09/01/2004
  6 -- E1-3 : LOS, Line-----------------------23:16:23 09/01/2004
  7 -- E1-2 : LOS, Line-----------------------23:16:23 09/01/2004
  8 -- E1-1 : LOS, Line-----------------------23:16:23 09/01/2004




















<< SPACE bar to refresh or ESC key return to main menu >>
```

```
FOM                 === Alarm Queue Summary ===          21:06:21 02/06/2008
  1 -- T1-16 : UAS, Line-----------------------05:15:01 09/01/2004
  2 -- T1-15 : UAS, Line-----------------------05:15:01 09/01/2004
  3 -- T1-14 : UAS, Line-----------------------05:15:01 09/01/2004
  4 -- T1-13 : UAS, Line-----------------------05:15:01 09/01/2004
  5 -- T1-12 : UAS, Line-----------------------05:15:01 09/01/2004
  6 -- T1-11 : UAS, Line-----------------------05:15:01 09/01/2004
  7 -- T1-10 : UAS, Line-----------------------05:15:01 09/01/2004
  8 -- T1-9 : UAS, Line-----------------------05:15:01 09/01/2004
  9 -- T1-8 : UAS, Line-----------------------05:15:01 09/01/2004
 10 -- T1-7 : UAS, Line-----------------------05:15:01 09/01/2004
 11 -- T1-6 : UAS, Line-----------------------05:15:01 09/01/2004
 12 -- T1-5 : UAS, Line-----------------------05:15:01 09/01/2004
 13 -- T1-4 : UAS, Line-----------------------05:15:01 09/01/2004
 14 -- T1-3 : UAS, Line-----------------------05:15:01 09/01/2004
 15 -- T1-2 : UAS, Line-----------------------05:15:01 09/01/2004
 16 -- T1-1 : UAS, Line-----------------------05:15:01 09/01/2004
 17 -- Optical-2 : UAS, Line-------------------05:15:01 09/01/2004
 18 -- T1-16 : UAS, Line-----------------------05:07:40 09/01/2004
 19 -- T1-15 : UAS, Line-----------------------05:07:40 09/01/2004
 20 -- T1-14 : UAS, Line-----------------------05:07:40 09/01/2004


<< SPACE bar to change page or ESC key return main menu >>
```

6.6   Alarm History

The full menu path for Alarm History is as follows:
O > Log On
H > Alarm History

To view Alarm History, press "**H**" from Main Menu.

```
FOM                            === Main Menu ===              21:06:21 02/06/2008

Serial Number  : 126215                Device Name : LOOP O9330
Hardware Version: Ver.D                 Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008  Start Time  : 22:55:05 02/01/2008

[DISPLAY]                              [SETUP]
1 -> 1 Hour Perf. Report              P -> Password Setup
2 -> 24 Hour Perf. Report             S -> System Setup
C -> System Configuration             M -> System Alarm Setup
Q -> Alarm Queue                      T -> Loopback Test
H -> Alarm History                    L -> File Transfer
I -> Line Status                      V -> Store/Retrieve Configuration


[LOG]                                  [MISC]
F -> Log Off [SETUP],[MISC] Menu      A -> Alarm Cut Off
O -> Log On  [SETUP],[MISC] Menu      K -> Clear Performance Data
R -> Connect to Remote Terminal       X -> Clear Alarm Queue and History
                                      Y -> Return to Default
                                      Z -> System Reset


>>SPACE bar to refresh or enter a command ===>
```

The screen will show as below. Then use **TAB** key to select the desired port.

```
FOM                            === Alarm History ===         21:03:47 02/06/2008
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS

Select Port :      Optical















<< Press ESC key to abort, ENTER key to continue >>
```

After done the port selection, press **ENTER** to show up the detail alarm history for it.

```
FOM                      === Alarm History ===            21:03:47 02/06/2008

= Optical #1 =                             = Optical #2 =
[Alarm Type] [Curr State] [Count]          [Alarm Type] [Curr State] [Count]
 LOF, Line      Disable         0           LOF, Line      Disable         0
 ES,  Line      Disable         0           ES,  Line      Disable         0
 SES, Line      Disable         0           SES, Line      Disable         0
 UAS, Line      Disable         0           UAS, Line      Disable         0

















<< ESC key to return to previous menu, SPACE bar to refresh >>
```

```
FOM                      === Alarm History ===            21:03:47 02/06/2008

= E1 #1 =                                  = E1 #2 =
[Alarm Type] [Curr State] [Count]          [Alarm Type] [Curr State] [Count]
 LOS, Line      Disable         0           LOS, Line      Disable         0
 AIS, Line      Disable         0           AIS, Line      Disable         0
 BPV, Line      Disable         0           BPV, Line      Disable         0
 ES,  Line      Disable         0           ES,  Line      Disable         0
 SES, Line      Disable         0           SES, Line      Disable         0
 UAS, Line      Disable         0           UAS, Line      Disable         0


= E1 #3 =                                  = E1 #4 =
[Alarm Type] [Curr State] [Count]          [Alarm Type] [Curr State] [Count]
 LOS, Line      Disable         0           LOS, Line      Disable         0
 AIS, Line      Disable         0           AIS, Line      Disable         0
 BPV, Line      Disable         0           BPV, Line      Disable         0
 ES,  Line      Disable         0           ES,  Line      Disable         0
 SES, Line      Disable         0           SES, Line      Disable         0
 UAS, Line      Disable         0           UAS, Line      Disable         0



<< ESC key to return to previous menu, SPACE bar to refresh >>
```

6.7 Line Status

To view Line Status, press "I" from Main Menu.

The full menu path for Board Information is as follows:
O > Log On
I > Line Status

To review the line status for fiber optical interface and E1/T1 interface, press "I" from the Main Menu.

```
FOM                          === Main Menu ===              21:06:21 02/06/2008

 Serial Number   : 126215              Device Name : LOOP O9330
 Hardware Version: Ver.D               Connect Port: SUPV_PORT
 Firmware Version: V1.06.01 09/02/2008 Start Time  : 22:55:05 02/01/2008

 [DISPLAY]                             [SETUP]
 1 -> 1 Hour Perf. Report              P -> Password Setup
 2 -> 24 Hour Perf. Report             S -> System Setup
 C -> System Configuration             M -> System Alarm Setup
 Q -> Alarm Queue                      T -> Loopback Test
 H -> Alarm History                    L -> File Transfer
 I -> Line Status                      V -> Store/Retrieve Configuration


 [LOG]                                 [MISC]
 F -> Log Off [SETUP],[MISC] Menu      A -> Alarm Cut Off
 O -> Log On  [SETUP],[MISC] Menu      K -> Clear Performance Data
 R -> Connect to Remote Terminal       X -> Clear Alarm Queue and History
                                       Y -> Return to Default
                                       Z -> System Reset


 >>SPACE bar to refresh or enter a command ===>
```


The screen will show as below.

```
FOM                         === Line Status ===            21:03:47 02/06/2008

= Fiber Optical Interface =
#1   State        : Working          #2   State        : Stand by
#1   LOF          : YES              #2   LOF          : YES
#1   Framing error : 0               #2   Framing error : 0
#1   Checksum error : 0              #2   Checksum error : 0
#1   ES error count : 0              #2   ES error count : 0
#1   EOC Status    : Not Ready       #2   EOC Status    : Not Ready



= E1 Interface =
[No]    [LOS] [RxAIS/Tx] [BPV]  [ES]      [No]   [LOS] [RxAIS/Tx] [BPV]  [ES]
#01 E1  YES   NO    YES  0000000  00000  #09 Not Exist
#02 E1  YES   NO    YES  0000000  00000  #10 Not Exist
#03 E1  YES   NO    YES  0000000  00000  #11 Not Exist
#04 E1  YES   NO    YES  0000000  00000  #12 Not Exist
#05 E1  YES   NO    YES  0000000  00000  #13 Not Exist
#06 E1  YES   NO    YES  0000000  00000  #14 Not Exist
#07 E1  YES   NO    YES  0000000  00000  #15 Not Exist
#08 E1  YES   NO    YES  0000000  00002  #16 Not Exist


<< ESC key to return to previous menu, SPACE bar to refresh >>
```

6.8 Password Setup

The full menu path for Password Setup is as follows:
O > Log On
P > Password Setup

To change a password, press "P" from the Main Menu.

```
FOM                         === Main Menu ===            21:06:21 02/06/2008

 Serial Number   : 126215                Device Name : LOOP O9330
 Hardware Version: Ver.D                 Connect Port: SUPV_PORT
 Firmware Version: V1.06.01 09/02/2008   Start Time  : 22:55:05 02/01/2008

 [DISPLAY]                               [SETUP]
 1 -> 1 Hour Perf. Report                P -> Password Setup
 2 -> 24 Hour Perf. Report               S -> System Setup
 C -> System Configuration               M -> System Alarm Setup
 Q -> Alarm Queue                        T -> Loopback Test
 H -> Alarm History                      L -> File Transfer
 I -> Line Status                        V -> Store/Retrieve Configuration


 [LOG]                                   [MISC]
 F -> Log Off [SETUP],[MISC] Menu        A -> Alarm Cut Off
 O -> Log On  [SETUP],[MISC] Menu        K -> Clear Performance Data
 R -> Connect to Remote Terminal         X -> Clear Alarm Queue and History
                                         Y -> Return to Default
                                         Z -> System Reset


 >>SPACE bar to refresh or enter a command ===>
```


This menu is used to enable, disable, and change password. Use TAB key to roll up the desired options, then press ENTER to confirm the setting.

```
FOM                       === Password Setup (System) ===    21:03:47 02/06/2008
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS


      Enable Password : YES
      Change Password : NO















<< Press ESC key to return to previous menu >>
```

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6.9   System Setup - For E1

6.9.1   System

The full menu path for System is as follows:

O > Log On

S > System Setup

A > System

Press "**C**" from the Main menu, the detail information about unit status will show as below.

```
FOM                         === Main Menu ===              21:06:21 02/06/2008

Serial Number  : 126215              Device Name : LOOP O9330
Hardware Version: Ver.D              Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008  Start Time  : 22:55:05 02/01/2008

[DISPLAY]                            [SETUP]
1 -> 1 Hour Perf. Report             P -> Password Setup
2 -> 24 Hour Perf. Report            S -> System Setup
C -> System Configuration            M -> System Alarm Setup
Q -> Alarm Queue                     T -> Loopback Test
H -> Alarm History                   L -> File Transfer
I -> Line Status                     V -> Store/Retrieve Configuration


[LOG]                                [MISC]
F -> Log Off [SETUP],[MISC] Menu     A -> Alarm Cut Off
O -> Log On  [SETUP],[MISC] Menu     K -> Clear Performance Data
R -> Connect to Remote Terminal      X -> Clear Alarm Queue and History
                                     Y -> Return to Default
                                     Z -> System Reset


>>SPACE bar to refresh or enter a command ===>
```

Chapter 6 Terminal Operation

To setup system configuration, press "**S**" from the Main Menu. Then the submenu for system setup will show up as below.

```
FOM                       === System Setup ===          21:03:47 02/06/2008



                         A -> System
                         B -> Network Cascade
                         C -> Command Line
                         D -> Optical & T1/E1 Option
                         S -> SNTP Setup
                         V -> V.35 Card
                         R -> Bridge Setup












<< Press ESC key to return to Main Menu or enter a command >>
```

Press "**A**" from the above menu to get into the system setup submenu as below. Use arrow keys to move the cursor and **BACKSPACE** key to edit the setting. This menu is used to setup the configuration for system and console port.

```
FOM                       === System Setup ===          21:03:47 02/06/2008
ARROW KEYS: CURSOR MOVE, Please Input: hh:mm:ss mm/dd/yyyy, BACKSPACE to edit
[System]
Time/Date      : 01:55:51 08/01/2007
IP Interface   : ETHERNET_PORT
IP Address     : 000.000.000.000
Subnet Mask    : 000.000.000.000        Gateway IP     : 000.000.000.000
Trap IP Address: 255.255.255.255        Community Name : public
Device Name    : LOOP O9330
System Location: 8F, No.8 Hsin Ann Rd.
                 Science-Based Industrial Park
                 Hsinchu, 30077 Taiwan

System Contact : Name:FAE  Tel:+886-3-5787696  Fax:+886-3-5787695
                 E-mail:FAE@loop.com.tw


[CONSOLE port]
Baud Rate      : 115200
Data Length    : 8-Bits
Stop Bit       : 1-Bit
Parity         : NONE

<< Press ESC key to return to previous menu >>
```

6.9.2   Network Cascade

The full menu path for Network Cascade is as follows:
O > Log On
S > System Setup
B > Network Cascade

Press "**S**" from the Main menu.

```
FOM                            === Main Menu ===              21:06:21 02/06/2008

Serial Number  : 126215              Device Name : LOOP O9330
Hardware Version: Ver.D              Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008  Start Time  : 22:55:05 02/01/2008

[DISPLAY]                            [SETUP]
1 -> 1 Hour Perf. Report             P -> Password Setup
2 -> 24 Hour Perf. Report            S -> System Setup
C -> System Configuration            M -> System Alarm Setup
Q -> Alarm Queue                     T -> Loopback Test
H -> Alarm History                   L -> File Transfer
I -> Line Status                     V -> Store/Retrieve Configuration


[LOG]                                [MISC]
F -> Log Off [SETUP],[MISC] Menu     A -> Alarm Cut Off
O -> Log On   [SETUP],[MISC] Menu    K -> Clear Performance Data
R -> Connect to Remote Terminal      X -> Clear Alarm Queue and History
                                     Y -> Return to Default
                                     Z -> System Reset


>>SPACE bar to refresh or enter a command ===>
```

To enable or disable the Network Cascade for Loop-O series devices, press "**B**" from the System Setup submenu to enter into the following screen.

```
FOM                       === System Setup ===         21:04:18 02/06/2008



                    A -> System
                    B -> Network Cascade
                    C -> Command Line
                    D -> Optical & T1/E1 Option
                    S -> SNTP Setup
                    V -> V.35 Card
                    R -> Bridge Setup












<< Press ESC key to return to Main Menu or enter a command >>
```

Use **TAB** key to switch options, then press **ENTER**. This menu is also used to setup IP addresses for master or slave devices.

```
FOM                           === Network Cascade ===        21:04:36 02/06/2008
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS

Network Cascade: ENABLE

[Routing Table]
IP Address 1   : 140.132.093.001
IP Address 2   : 140.132.042.137
IP Address 3   : 000.000.000.000
IP Address 4   : 000.000.000.000











<< Press ESC key to return to previous menu >>
```

Table 6-1 Network Cascade Setting Option

Configuration	Option	Default
Network Cascade	Enable, Disable	Disable
IP Address 1	Setup server IP address 1 by user	000.000.000.000
IP Address 2	Setup server IP address 2 by user	000.000.000.000
IP Address 3	Setup server IP address 3 by user	000.000.000.000
IP Address 4	Setup server IP address 4 by user	000.000.000.000

6.9.3   Command Line
The full menu path for Command Line is as follows:
O > Log On
S > System Setup
C > Command Line

Press "**S**" from the Main menu.

```
FOM                           === Main Menu ===             21:04:36 02/06/2008

Serial Number  : 126215              Device Name : LOOP O9330
Hardware Version: Ver.D              Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008  Start Time  : 22:55:05 02/01/2008

[DISPLAY]                            [SETUP]
1 -> 1 Hour Perf. Report             P -> Password Setup
2 -> 24 Hour Perf. Report            S -> System Setup
C -> System Configuration            M -> System Alarm Setup
Q -> Alarm Queue                     T -> Loopback Test
H -> Alarm History                   L -> File Transfer
I -> Line Status                     V -> Store/Retrieve Configuration


[LOG]                                [MISC]
F -> Log Off [SETUP],[MISC] Menu     A -> Alarm Cut Off
O -> Log On  [SETUP],[MISC] Menu     K -> Clear Performance Data
R -> Connect to Remote Terminal      X -> Clear Alarm Queue and History
                                     Y -> Return to Default
                                     Z -> System Reset


>>SPACE bar to refresh or enter a command ===>
```

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Chapter 6 Terminal Operation

To view Loop-O series commands, press "**C**" from the System Setup submenu to enter into the following screen.

```
FOM                       === System Setup ===        21:04:36 02/06/2008



                          A -> System
                          B -> Network Cascade
                          C -> Command Line
                          D -> Optical & T1/E1 Option
                          S -> SNTP Setup
                          V -> V.35 Card
                          R -> Bridge Setup











<< Press ESC key to return to Main Menu or enter a command >>
```

Then, key in a question mark "?" after "O9330@21:04:36 >>?" to get command descriptions.

```
                                          21:04:36 Jun 02/08   Replace
Press ? get help or QUIT return.
LOOP O9330@21:04:36 >>?
Available Commands:
  quit            help            arp             clrarp          ping
  eoc             ver
LOOP O9330@21:04:36 >>help
Commands Support:
  quit ----------------> Leave field support.
  arp/clrarp -----------> Print/Clear ARP table.
  ping ip --------------> Ping an ip address.
  eoc ------------------> Display EOC statistics.
LOOP O9330@21:04:36 >>






```

Key in a command, like ping, after "O9330@21:04:36 >>?",then press **ENTER** to display the detail of this command. See also below screen. To return to previous screen, key in "**QUIT**".

```
                                          21:04:36 Jun 02/08   Replace
Press ? get help or QUIT return.
LOOP O9330@21:04:36 >>ping 10.2.12.1
IP address: 010.002.012.001   id = 1   time = 0ms.
IP address: 010.002.012.001   id = 2   time = 0ms.
IP address: 010.002.012.001   id = 3   time = 0ms.
IP address: 010.002.012.001   id = 4   time = 0ms.
IP address: 010.002.012.001   id = 5   time = 0ms.
Total send 5 ICMP echo request. Received 5 (100.0%) echo response.
LOOP O9330@21:04:36 >>


```

6.9.4 Optical & E1 Port Enable/Disable

The full menu path for Optical & E1 Port Enable/Disable is as follows:
O > Log On
S > System Setup
D > Optical & E1 Port Enable/Disable

Press "**S**" from the Main menu.

```
FOM                          === Main Menu ===            21:06:21 02/06/2008

Serial Number  : 126215              Device Name : LOOP O9330
Hardware Version: Ver.D              Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008  Start Time  : 22:55:05 02/01/2008


[DISPLAY]                            [SETUP]
1 -> 1 Hour Perf. Report             P -> Password Setup
2 -> 24 Hour Perf. Report            S -> System Setup
C -> System Configuration            M -> System Alarm Setup
Q -> Alarm Queue                     T -> Loopback Test
H -> Alarm History                   L -> File Transfer
I -> Line Status                     V -> Store/Retrieve Configuration



[LOG]                                [MISC]
F -> Log Off [SETUP],[MISC] Menu     A -> Alarm Cut Off
O -> Log On   [SETUP],[MISC] Menu    K -> Clear Performance Data
R -> Connect to Remote Terminal      X -> Clear Alarm Queue and History
                                     Y -> Return to Default
                                     Z -> System Reset



>>SPACE bar to refresh or enter a command ===>
```

To view Loop-O9330 series commands, press "**D**" from the System Setup submenu to enter into the following screen.

```
FOM                     === System Configuration ===    21:03:47 02/06/2008




                    A -> System
                    B -> Network Cascade
                    C -> Command Line
                    D -> Optical & T1/E1 Option
                    S -> SNTP Setup
                    V -> V.35 Card
                    R -> Bridge Setup













<< Press ESC key to return to Main Menu or enter a command >>
```

This menu is used to enable or disable optical ports, E1 ports and T1 ports. Use arrow keys to move the cursor at the desired position, and TAB key to roll options.

```
FOM                    === Optical & E1 Option ===        17:51:53 02/02/2008
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS

FPGA : E1/T1, T1 Backward Compatible    Auto Laser Shutdown : DISABLE
Optical Port  # 1 : ENABLE
Optical Port  # 2 : N/A
T1 Port # 1(S1P1) : ENABLE-AMI
T1 Port # 2(S1P2) : ENABLE-AMI
T1 Port # 3(S1P3) : ENABLE-AMI
T1 Port # 4(S1P4) : ENABLE-AMI
E1 Port # 5(S2P1) : ENABLE-AMI
E1 Port # 6(S2P2) : ENABLE-AMI
E1 Port # 7(S2P3) : ENABLE-AMI
E1 Port # 8(S2P4) : ENABLE-AMI
T1 Port # 9(S3P1) : EN-HDB3/B8ZS
T1 Port #10(S3P2) : EN-HDB3/B8ZS
T1 Port #11(S3P3) : EN-HDB3/B8ZS
T1 Port #12(S3P4) : EN-HDB3/B8ZS
E1 Port #13(S4P1) : EN-HDB3/B8ZS
E1 Port #14(S4P2) : EN-HDB3/B8ZS
E1 Port #15(S4P3) : EN-HDB3/B8ZS
E1 Port #16(S4P4) : EN-HDB3/B8ZS

<< Press ESC key to return to previous menu >>
```

Table 6-2 Optical & E1 Setting Option

Configuration	Option	Default
FPGA	E1/T1, T1 Backward Compatible, Standard, E1 Backward Compatible	E1/T1, T1 Backward Compatible
Auto Laser Shutdown	ENABLE, DISABLE	ENABLE
Optical Port	ENABLE, DISABLE	ENABLE
T1 Port	EN-HDB3/B8ZS, ENABLE-AMI, DISABLE	EN-HDB3/B8ZS
E1 Port	EN-HDB3/B8ZS, ENABLE-AMI, DISABLE	EN-HDB3/B8ZS

6.9.5   SNTP Setup

The full menu path for SNTP Setup is as follows:
O > Log On
S > System Setup
S > SNTP Setup

Press "**S**" from the Main menu.

```
FOM                          === Main Menu ===            21:06:21 02/06/2008

Serial Number  : 126215               Device Name : LOOP O9330
Hardware Version: Ver.D               Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008  Start Time  : 22:55:05 02/01/2008

[DISPLAY]                             [SETUP]
1 -> 1 Hour Perf. Report              P -> Password Setup
2 -> 24 Hour Perf. Report             S -> System Setup
C -> System Configuration             M -> System Alarm Setup
Q -> Alarm Queue                      T -> Loopback Test
H -> Alarm History                    L -> File Transfer
I -> Line Status                      V -> Store/Retrieve Configuration


[LOG]                                 [MISC]
F -> Log Off [SETUP],[MISC] Menu      A -> Alarm Cut Off
O -> Log On  [SETUP],[MISC] Menu      K -> Clear Performance Data
R -> Connect to Remote Terminal       X -> Clear Alarm Queue and History
                                      Y -> Return to Default
                                      Z -> System Reset


>>SPACE bar to refresh or enter a command ===>
```

Press "**S**" from the system setup submenu to set up SNTP (Simple Network Time Protocol).

```
FOM                          === System Setup ===        21:06:21 02/06/2008



                     A -> System
                     B -> Network Cascade
                     C -> Command Line
                     D -> Optical & T1/E1 Option
                     S -> SNTP Setup
                     V -> V.35 Card
                     R -> Bridge Setup













<< Press ESC key to return to Main Menu or enter a command >>
```

Use arrow keys to move the cursor at the desired position, and **BACKSPACE** key to input IP address for SNTP servers and SNTP timezone. See also below screen.

NOTE: The range for SNTP timezone is -12 to +12.

```
FOM                        === SNTP setup ===              21:06:21 02/06/2008
ARROW KEYS: CURSOR MOVE, Please Input: nnn.nnn.nnn.nnn, BACKSPACE to edit

SNTP server 1 : 140.113.001.003
SNTP server 2 : 000.000.000.000

SNTP timezone : +0
SNTP update period (hours) : 000   (0 to disable)

















<< Press ESC key to return to previous menu >>
```

Table 6-3 SNTP Setting Option

Configuration	Option	Default
SNTP server 1	Setup SNTP server 1 by user	000.000.000.000
SNTP server 2	Setup SNTP server 2 by user	000.000.000.000
SNTP timezone	+0 to +12, -12 to -1	+0
SNTP update period (hours)	0~255	0

Press **ESC** key from the above screen, then the system will ask for re-syncing SNTP server. Press "**Y**" to re-sync or "**N**" to abort. See also below screen.

```
FOM                        === SNTP setup ===              21:06:21 02/06/2008
ARROW KEYS: CURSOR MOVE, Please Input: nnn.nnn.nnn.nnn, BACKSPACE to edit

SNTP server 1 : 140.113.001.003
SNTP server 2 : 000.000.000.000

SNTP timezone : +0
SNTP update period (hours) : 000   (0 to disable)


Re-sync NTP server now (Y/N)? Y


Current SNTP server : 140.113.001.003
Last update time at : 10:47:20 01/17/2005








<< Press ESC key to return to previous menu >>
```

6.9.6   V.35 Card

The full menu path for V.35 Card is as follows:
O > Log On
S > System Setup
V > V.35 Card

Press "**S**" from the Main menu.

```
FOM                         === Main Menu ===          21:06:21 02/06/2008

Serial Number  : 126215             Device Name : LOOP O9330
Hardware Version: Ver.D             Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008  Start Time  : 22:55:05 02/01/2008

[DISPLAY]                            [SETUP]
1 -> 1 Hour Perf. Report             P -> Password Setup
2 -> 24 Hour Perf. Report            S -> System Setup
C -> System Configuration            M -> System Alarm Setup
Q -> Alarm Queue                     T -> Loopback Test
H -> Alarm History                   L -> File Transfer
I -> Line Status                     V -> Store/Retrieve Configuration


[LOG]                                [MISC]
F -> Log Off [SETUP],[MISC] Menu     A -> Alarm Cut Off
O -> Log On  [SETUP],[MISC] Menu     K -> Clear Performance Data
R -> Connect to Remote Terminal      X -> Clear Alarm Queue and History
                                     Y -> Return to Default
                                     Z -> System Reset


>>SPACE bar to refresh or enter a command ===>
```

Press "**V**" from the system setup submenu to V.35 Card.

```
FOM                       === System Setup ===        21:06:21 02/06/2008




                   A -> System
                   B -> Network Cascade
                   C -> Command Line
                   D -> Optical & T1/E1 Option
                   S -> SNTP Setup
                   V -> V.35 Card
                   R -> Bridge Setup













<< Press ESC key to return to Main Menu or enter a command >>
```

```
FOM                         === V.35 Card Setup ===        21:04:36 02/06/2008
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS


            [EN/DIS]  [Mode]  [Intf]  [Speed]   [ClkSrc]  [TTM]  [DCD]  [RTS]
P01(S1P1)   ENABLE    DCE     V.35    unframe   Internal  OFF    ON     PERM.
P02(S1P2)   ENABLE    DCE     V.35    unframe   Line      ON     ON     PERM.
P03(S1P3)   N/A
P04(S1P4)   N/A
P05(S2P1)   N/A
P06(S2P2)   N/A
P07(S2P3)   N/A
P08(S2P4)   N/A
P09(S3P1)   N/A
P10(S3P2)   N/A
P11(S3P3)   N/A
P12(S3P4)   N/A
P13(S4P1)   N/A
P14(S4P2)   N/A
P15(S4P3)   N/A
P16(S4P4)   N/A




<< Press ESC key to return to previous menu >>
```

Table 6-4 V.35 Card Setting Option

Configuration	Option	Default
EN/DIS	Enable, Disable	Enable
Mode	DCE	DCE
Intf	V.35	V.35
Speed	unframed, 1 to 31	unframe
ClkSrc	Internal, Line, DTE	Internal
TTM	OFF	OFF
DCD	OFF	OFF
RTS	PERM., Active	PERM.

6.9.7 Bridge Setup

The full menu path for Bridge Setup is as follows:

O > Log On
S > System Setup
R > Bridge Setup

Press "**S**" from the Main menu.

```
FOM                      === Main Menu ===            21:06:21 02/06/2008


Serial Number  : 126215            Device Name : LOOP O9330
Hardware Version: Ver.D            Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008  Start Time  : 22:55:05 02/01/2008

[DISPLAY]                          [SETUP]
1 -> 1 Hour Perf. Report           P -> Password Setup
2 -> 24 Hour Perf. Report          S -> System Setup
C -> System Configuration          M -> System Alarm Setup
Q -> Alarm Queue                   T -> Loopback Test
H -> Alarm History                 L -> File Transfer
I -> Line Status                   V -> Store/Retrieve Configuration


[LOG]                              [MISC]
F -> Log Off [SETUP],[MISC] Menu   A -> Alarm Cut Off
O -> Log On  [SETUP],[MISC] Menu   K -> Clear Performance Data
R -> Connect to Remote Terminal    X -> Clear Alarm Queue and History
                                   Y -> Return to Default
                                   Z -> System Reset


>>SPACE bar to refresh or enter a command ===>
```

Press "**R**" from the System Setup Menu.

```
FOM                     === System Setup ===         21:06:21 02/06/2008




                    A -> System
                    B -> Network Cascade
                    C -> Command Line
                    D -> Optical & T1/E1 Option
                    S -> SNTP Setup
                    V -> V.35 Card
                    R -> Bridge Setup












<< Press ESC key to return to Main Menu or enter a command >>
```

The following Bridge Setup screen will appear. Use **TAB** key to roll up the desired options, then press **ENTER** to confirm the setting.

```
FOM                      === Bridge Setup ===         21:06:21 02/06/2008



Select Port >>     *Port-1  Port-2  Port-3  Port-4
```

The following screen will appear. Configuration can be changed by moving the asterisk (*) to your desired setting. Press the **Enter** key to activate the new settings.

```
FOM                      === Bridge Setup ===       21:04:53 02/06/2008



Select Port >>     *Port-1  Port-2  Port-3  Port-4
Port-1 Links Down
Auto Negotiation    DISABLE *ENABLE
Speed               10 Mbps *100 Mbps
Duplex Mode         Half *Full
Aging               DISABLE *ENABLE
MAC Learning        DISABLE *ENABLE
Bandwidth Control  *DISABLE  ENABLE      Max Rate: 000 Mbps


>> All Ports Setup <<
Aging Timer        *300 Sec  75 Sec  18 Sec  1 Sec
Port Isolation      Disable  *Enable
Alarm forwording   *Disable  Enable
```

Table 6-5 Bridge Setting Option

Configuration	Option	Default
Select Port	Port-1, Port-2, Port-3, Port-4	Port-1
Auto Negotiation	Enable, Disable	Enable
Speed	10 Mbps, 100 Mbps	10 Mbps
Duplex Mode	Half, Full	Half
Aging	Enable, Disable	Enable
MAC Learning	Enable, Disable	Enable
Bandwidth Control	Enable, Disable	Disable
Aging Timer	300 Sec, 75 Sec, 18 Sec, 1 Sec	300 Sec
Port Isolation	Enable, Disable	Disable
Alarm forwarding	Enable, Disable	Disable

6.10   System Alarm Setup

The full menu path for System Alarm Setup is as follows:
O > Log On
M > System Alarm Setup

To Access System Alarm Setup, press "**M**" from Main Menu.

```
FOM                           === Main Menu ===          21:06:21 02/06/2008

Serial Number  : 126215                Device Name : LOOP O9330
Hardware Version: Ver.D                Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008  Start Time  : 22:55:05 02/01/2008

[DISPLAY]                              [SETUP]
1 -> 1 Hour Perf. Report               P -> Password Setup
2 -> 24 Hour Perf. Report              S -> System Setup
C -> System Configuration              M -> System Alarm Setup
Q -> Alarm Queue                       T -> Loopback Test
H -> Alarm History                     L -> File Transfer
I -> Line Status                       V -> Store/Retrieve Configuration


[LOG]                                  [MISC]
F -> Log Off [SETUP],[MISC] Menu       A -> Alarm Cut Off
O -> Log On  [SETUP],[MISC] Menu       K -> Clear Performance Data
R -> Connect to Remote Terminal        X -> Clear Alarm Queue and History
                                       Y -> Return to Default
                                       Z -> System Reset


>>SPACE bar to refresh or enter a command ===>
```


Then the screen will show up as below. This menu is used to enable or disable alarm, alarm cut-off, relay, and protection switch functions. Users are also allowed to setup alarm threshold for optical interface and E1/T1 interface. Use **TAB** key to roll up the desired options, then press **ENTER** to confirm the setting.

```
FOM                       === Alarm Setup ===        21:06:21 02/06/2008
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS

[Control]
Alarm Cut Off     : DISABLE          Relay            : DISABLE
Protection switch : DISABLE          Card Hot Swapping : DISABLE
Power Fail        : DISABLE          Bridge Link Change: DISABLE



[E1/T1]    [THRESHOLD] [ALARM]       [OPTICAL]  [THRESHOLD]  [ALARM]
LOS, Line :            DISABLE       LOF, Line :             DISABLE
AIS, Line :            DISABLE       ES,  Line :      001    DISABLE
BPV, Line :   00001    DISABLE       SES, Line :      001    DISABLE
ES,  Line :    001     DISABLE       UAS, Line :      001    DISABLE
SES, Line :    001     DISABLE
UAS, Line :    001     DISABLE







<< Press ESC key to return to previous menu >>
```

Table 6-6 Alarm Setting Option

Configuration	Option	Default
Alarm Cut Off	Enable, Disable	Disable
Relay	Enable, Disable	Disable
Protection switch	Enable, Disable	Disable
Card Hot Swapping	Enable, Disable	Disable
Power Fail	Enable, Disable	Disable
Bridge Link Change	Enable, Disable	Disable
Bandwidth Control	Enable, Disable	Disable

Configuration	Option		Default	
	THRESHOLD	ALARM	THRESHOLD	ALARM
E1/T1 Los, Line	None	Enable, Disable	None	Disable
E1/T1 AIS, Line	None	Enable, Disable	None	Disable
E1/T1 BPV, Line	1 to 16383	Enable, Disable	00001	Disable
E1/T1 ES, Line	1 to 900	Enable, Disable	001	Disable
E1/T1 SES, Line	1 to 900	Enable, Disable	001	Disable
E1/T1 UAS, Line	1 to 900	Enable, Disable	001	Disable
Optical LOF, Line	None	Enable, Disable	None	Disable
Optical ES, Line	1 to 900	Enable, Disable	001	Disable
Optical SES, Line	1 to 900	Enable, Disable	001	Disable
Optical UAS, Line	1 to 900	Enable, Disable	001	Disable

6.11   Loopback Test

6.11.1   Opt & E1T1

The full menu path for Opt & E1T1 is as follows:
O > Log On
T > Loopback Test
O > Opt & E1T1

Under the Main Menu, press "**T**" to do the loopback test for optical interface and E1 interface.

```
FOM                         === Main Menu ===           21:06:21 02/06/2008

Serial Number  : 126215              Device Name : LOOP O9330
Hardware Version: Ver.D              Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008 Start Time  : 22:55:05 02/01/2008


[DISPLAY]                            [SETUP]
1 -> 1 Hour Perf. Report             P -> Password Setup
2 -> 24 Hour Perf. Report            S -> System Setup
C -> System Configuration            M -> System Alarm Setup
Q -> Alarm Queue                     T -> Loopback Test
H -> Alarm History                   L -> File Transfer
I -> Line Status                     V -> Store/Retrieve Configuration



[LOG]                                [MISC]
F -> Log Off [SETUP],[MISC] Menu     A -> Alarm Cut Off
O -> Log On  [SETUP],[MISC] Menu     K -> Clear Performance Data
R -> Connect to Remote Terminal      X -> Clear Alarm Queue and History
                                     Y -> Return to Default
                                     Z -> System Reset


>>SPACE bar to refresh or enter a command ===>
```

Press "**O**" to enter Opt & E1T1.

```
FOM                      === Loopback Setup ===           21:05:42 02/06/2008



                         O -> Opt & E1T1
                         V -> V.35
















<< Press ESC key to return to Main Menu or enter a command >>
```

Chapter 6 Terminal Operation

Use arrow keys to move the cursor and **ENTER** key to select the desired items. Then press **ENTER** to confirm the new setting. The current selection will be highlighted by an asterisk (*).

ALoc: analogic local loopback

Dloc: digital local loopback

LineLB: line loopback

```
FOM                  === Opt & E1T1 Loopback Setup ===   21:05:42 02/06/2008
ARROW KEYS : CURSOR MOVE , ENTER KEY : ITEM SELECT




Optical: *Off  Local
T1 #01 : *Off  ALoc  DLoc  LineLB        T1 #09 : *Off  ALoc  DLoc  LineLB
T1 #02 : *Off  ALoc  DLoc  LineLB        T1 #10 : *Off  ALoc  DLoc  LineLB
T1 #03 : *Off  ALoc  DLoc  LineLB        T1 #11 : *Off  ALoc  DLoc  LineLB
T1 #04 : *Off  ALoc  DLoc  LineLB        T1 #12 : *Off  ALoc  DLoc  LineLB
T1 #05 : *Off  ALoc  DLoc  LineLB        T1 #13 : *Off  ALoc  DLoc  LineLB
T1 #06 : *Off  ALoc  DLoc  LineLB        T1 #14 : *Off  ALoc  DLoc  LineLB
T1 #07 : *Off  ALoc  DLoc  LineLB        T1 #15 : *Off  ALoc  DLoc  LineLB
T1 #08 : *Off  ALoc  DLoc  LineLB        T1 #16 : *Off  ALoc  DLoc  LineLB





<< Press ESC key to return to previous menu >>
```

Table 6-7 Opt & E1T1 Loopback Setting Option

Configuration	Option	Default
Optical	Off, Local	Off
T1	Off, ALoc, DLoc, LineLB	Off
E1	Off, ALoc, DLoc, LineLB	Off

6.11.2   V.35

The full menu path for V.35 is as follows:

O > Log On
T > Loopback Test
V > V.35

Under the Main Menu, press "**T**" to do the loopback test for v.35 interface.

```
FOM                        === Main Menu ===            21:06:21 02/06/2008


Serial Number  : 126215              Device Name : LOOP O9330
Hardware Version: Ver.D               Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008  Start Time  : 22:55:05 02/01/2008

[DISPLAY]                            [SETUP]
1 -> 1 Hour Perf. Report             P -> Password Setup
2 -> 24 Hour Perf. Report            S -> System Setup
C -> System Configuration            M -> System Alarm Setup
Q -> Alarm Queue                     T -> Loopback Test
H -> Alarm History                   L -> File Transfer
I -> Line Status                     V -> Store/Retrieve Configuration


[LOG]                                [MISC]
F -> Log Off [SETUP],[MISC] Menu     A -> Alarm Cut Off
O -> Log On  [SETUP],[MISC] Menu     K -> Clear Performance Data
R -> Connect to Remote Terminal      X -> Clear Alarm Queue and History
                                     Y -> Return to Default
                                     Z -> System Reset


>>SPACE bar to refresh or enter a command ===>
```

Press "**V**" to enter V.35.

```
FOM                        === Loopback Setup ===        21:05:42 02/06/2008



                    O -> Opt & E1T1
                    V -> V.35
















<< Press ESC key to return to Main Menu or enter a command >>
```

The screen will show up as below.

```
FOM                    === V.35 Loopback Setup ===      21:06:06 02/06/2008
ARROW KEYS : CURSOR MOVE , ENTER KEY : ITEM SELECT

V35 #01 :    *Off  DTE_to_DTE  DTE_to_Line
V35 #02 :    *Off  DTE_to_DTE  DTE_to_Line
V35 #03 :    *Off
V35 #04 :    *Off
V35 #05 :    *Off
V35 #06 :    *Off
V35 #07 :    *Off
V35 #08 :    *Off
V35 #09 :    *Off
V35 #10 :    *Off
V35 #11 :    *Off
V35 #12 :    *Off
V35 #13 :    *Off
V35 #14 :    *Off
V35 #15 :    *Off
V35 #16 :    *Off




<< Press ESC key to return to previous menu >>
```

Table 6-8 V.35 Loopback Setting Option

Configuration	Option	Default
V.35	Off, DTE_to_DTE, DTE_to_Line	Off

6.12 File Transfer

The full menu path for File Transfer is as follows:
O > Log On
L > File Transfer

Under the Main Menu, press "**L**" to do file transfer.

```
FOM                         === Main Menu ===            21:06:21 02/06/2008

Serial Number  : 126215               Device Name : LOOP O9330
Hardware Version: Ver.D                Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008  Start Time  : 22:55:05 02/01/2008

[DISPLAY]                             [SETUP]
1 -> 1 Hour Perf. Report              P -> Password Setup
2 -> 24 Hour Perf. Report             S -> System Setup
C -> System Configuration             M -> System Alarm Setup
Q -> Alarm Queue                      T -> Loopback Test
H -> Alarm History                    L -> File Transfer
I -> Line Status                      V -> Store/Retrieve Configuration


[LOG]                                 [MISC]
F -> Log Off [SETUP],[MISC] Menu      A -> Alarm Cut Off
O -> Log On   [SETUP],[MISC] Menu     K -> Clear Performance Data
R -> Connect to Remote Terminal       X -> Clear Alarm Queue and History
                                      Y -> Return to Default
                                      Z -> System Reset


>>SPACE bar to refresh or enter a command ===>
```

Then the submenu for file transfer will show up as below.

```
FOM                         === File Transfer ===        21:03:47 02/06/2008



                    A -> Download Mainboard Firmware
                    B -> Upload Mainboard Firmware
                    C -> Copy Firmware to Remote

                    D -> Download Configuration
                    E -> Upload Configuration














<< Press ESC key to return to Main Menu or enter a command >>
```

6.12.1   Download Mainboard Firmware
The full menu path for Download Mainboard Firmware is as follows:
O > Log On
L > File Transfer
A > Download Mainboard Firmware

Press "A" from the above menu to download the mainboad firmware. Use **TAB** key to roll up the desired options, press **ENTER** to confirm it.

```
FOM                      === Download Firmware ===        21:03:47 02/06/2008
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS

Firmware 1 Version   : V1.04.01 01/22/2008
Firmware 2 Version   : V1.04.01 01/23/2008
Current Firmware Bank: 2
Next Boot Firmware   : 2
Transfer Protocol    : TFTP
Firmware File Name   :
TFTP Server IP       : 000.000.000.000













<< Press ESC key to return to previous menu >>
```

6.12.2   Upload Mainboard Firmware
The full menu path for Upload Mainboard Firmware is as follows:
O > Log On
L > File Transfer
B > Upload Mainboard Firmware

Press "**B**" from the File Transfer submenu to upload the mainboad firmware.

```
FOM                        === File Transfer ===          21:03:47 02/06/2008


                    A -> Download Mainboard Firmware
                    B -> Upload Mainboard Firmware
                    C -> Copy Firmware to Remote

                    D -> Download Configuration
                    E -> Upload Configuration













<< Press ESC key to return to Main Menu or enter a command >>
```
Use arrow keys to move the cursor at the desired position, **BACKSPACE** key to edit, **ENTER** key to continue the upload, and **ESC** key to abort the upload.

```
FOM                     === Upload Firmware ===           21:03:47 02/06/2008
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS


Firmware 1 Version    : V1.04.01 01/22/2008
Firmware 2 Version    : V1.04.01 01/23/2008
Current Firmware Bank: 1
Transfer Protocol     : TFTP
Firmware File Name    : _____
TFTP Server IP        : 000.000.000.000
Firmware Bank Number : 1

















<< Press ESC key to abort, ENTER key to continue >>
```

6.12.3   Copy Firmware to Remote

The full menu path for Copy Firmware to Remote is as follows:

O > Log On
L > File Transfer
C > Copy Firmware to Remote

Press "**C**" from the File Transfer submenu to enter into the following screen.

```
FOM                         === File Transfer ===           21:03:47 02/06/2008



                        A -> Download Mainboard Firmware
                        B -> Upload Mainboard Firmware
                        C -> Copy Firmware to Remote

                        D -> Download Configuration
                        E -> Upload Configuration















<< Press ESC key to return to Main Menu or enter a command >>
```

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This menu is used to copy firmware to remote side. Press "**Y**" to confirm the copy, "**N**" to abort the copy, "**W**" to warm reset the system after the transfer is done, and "**C**" to cold reset the system after the transfer is done.

```
FOM                            === Firmware Copy ===           21:03:47 02/06/2008



[Remote]
Firmware 1 Version   : V1.04.01 01/22/2008
Firmware 2 Version   : V1.04.01 01/23/2008

Current Firmware Bank: 1

Really want to copy ? (Y/N/W/C)
(Y=yes, N=no, W=warm reset after transfer completed, C=cold reset..)












<< Press ESC key to return to previous menu >>
```

6.12.4   Download Configuration
The full menu path for Download Configuration is as follows:
O > Log On
L > File Transfer
D > Download Configuration

To download system configuration, press "**D**" from the File Transfer submenu.

```
FOM                            === File Transfer ===           21:03:47 02/06/2008



                        A -> Download Mainboard Firmware
                        B -> Upload Mainboard Firmware
                        C -> Copy Firmware to Remote

                        D -> Download Configuration
                        E -> Upload Configuration











<< Press ESC key to return to Main Menu or enter a command >>
```

Press **ENTER** key to continue the download and **ESC** key to abort it.

```
FOM                       === Download Configuration ===       21:03:47 02/06/2008
ARROW KEYS: CURSOR MOVE, BACKSPACE to edit, ESC to abort


```

```
Transfer Protocol    : TFTP
Firmware File Name   : O9330.cfg_____
TFTP Server IP       : 140.132.001.123




<< Press ESC key to abort, ENTER key to continue >>
```

6.12.5   Upload Configuration
The full menu path for Upload Configuration is as follows:
O > Log On
L > File Transfer
E > Upload Configuration

To upload system configuration, press "**E**" from the File Transfer submenu.

```
FOM                      === File Transfer ===           21:03:47 02/06/2008



                    A -> Download Mainboard Firmware
                    B -> Upload Mainboard Firmware
                    C -> Copy Firmware to Remote

                    D -> Download Configuration
                    E -> Upload Configuration








<< Press ESC key to return to Main Menu or enter a command >>
```

Press **ENTER** key to continue the upooad and **ESC** key to abort it.

```
FOM                   === Upload Configuration ===        21:03:47 02/06/2008
ARROW KEYS: CURSOR MOVE, BACKSPACE to edit, ESC to abort




Transfer Protocol    : TFTP
Config File Name     : O9330.cfg_____
TFTP Server IP       : 140.132.001.123









<< Press ESC key to abort, ENTER key to continue >>
```

6.13   *Store/ Retrieve Configuration*

The full menu path for Store/ Retrieve Configuration is as follows:
O > Log On
V > Store/ Retrieve Configuration

To store or retrieve system configuration, press "**V**" from the Main Menu.

```
FOM                        === Main Menu ===              21:06:21 02/06/2008

Serial Number  : 126215              Device Name : LOOP O9330
Hardware Version: Ver.D               Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008  Start Time  : 22:55:05 02/01/2008

[DISPLAY]                            [SETUP]
1 -> 1 Hour Perf. Report             P -> Password Setup
2 -> 24 Hour Perf. Report            S -> System Setup
C -> System Configuration            M -> System Alarm Setup
Q -> Alarm Queue                     T -> Loopback Test
H -> Alarm History                   L -> File Transfer
I -> Line Status                     V -> Store/Retrieve Configuration


[LOG]                                [MISC]
F -> Log Off [SETUP],[MISC] Menu     A -> Alarm Cut Off
O -> Log On  [SETUP],[MISC] Menu     K -> Clear Performance Data
R -> Connect to Remote Terminal      X -> Clear Alarm Queue and History
                                     Y -> Return to Default
                                     Z -> System Reset


>>SPACE bar to refresh or enter a command ===>
```

Move the cursor at the desired option, STORE or RETRIEVE, then press **ENTER** to confirm it. The current selection will be highlighted by an asterisk (*).

```
FOM                    ===Store/Retrieve Configuration===    21:06:21 02/06/2008

















>> Select ?   *STORE      RETRIEVE
```

6.14   Connect to Remote Terminal
The full menu path for Connect to Remote Terminal is as follows:
O > Log On
R > Connect to Remote Terminal

To Connect to Remote Terminal, press "**R**" from Main Menu.

```
FOM                           === Main Menu ===           21:06:21 02/06/2008

Serial Number  : 126215                 Device Name : LOOP O9330
Hardware Version: Ver.D                  Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008    Start Time  : 22:55:05 02/01/2008

[DISPLAY]                                [SETUP]
1 -> 1 Hour Perf. Report                 P -> Password Setup
2 -> 24 Hour Perf. Report                S -> System Setup
C -> System Configuration                M -> System Alarm Setup
Q -> Alarm Queue                         T -> Loopback Test
H -> Alarm History                       L -> File Transfer
I -> Line Status                         V -> Store/Retrieve Configuration


[LOG]                                    [MISC]
F -> Log Off [SETUP],[MISC] Menu         A -> Alarm Cut Off
O -> Log On  [SETUP],[MISC] Menu         K -> Clear Performance Data
R -> Connect to Remote Terminal          X -> Clear Alarm Queue and History
                                         Y -> Return to Default
                                         Z -> System Reset


>>SPACE bar to refresh or enter a command ===>
```

The following screen will show. Enter the local password for system's request.

```
EOC is ready, require your local password.
==>> Enter password : XXXX
```

6.15   *Alarm Cut-Off*

The full menu path for Alarm Cut-Off is as follows:
O > Log On
A > Alarm Cut-Off

To cut off alarm, press "**A**" from the Main Menu.

```
FOM                           === Main Menu ===            21:06:21 02/06/2008


Serial Number   : 126215            Device Name : LOOP O9330
Hardware Version: Ver.D             Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008   Start Time  : 22:55:05 02/01/2008

[DISPLAY]                           [SETUP]
1 -> 1 Hour Perf. Report            P -> Password Setup
2 -> 24 Hour Perf. Report           S -> System Setup
C -> System Configuration           M -> System Alarm Setup
Q -> Alarm Queue                    T -> Loopback Test
H -> Alarm History                  L -> File Transfer
I -> Line Status                    V -> Store/Retrieve Configuration



[LOG]                               [MISC]
F -> Log Off [SETUP],[MISC] Menu    A -> Alarm Cut Off
O -> Log On  [SETUP],[MISC] Menu    K -> Clear Performance Data
R -> Connect to Remote Terminal     X -> Clear Alarm Queue and History
                                    Y -> Return to Default
                                    Z -> System Reset


>>SPACE bar to refresh or enter a command ===>
```

Then press "**Y**" to confirm or "**N**" to abort.

```
FOM                          === Main Menu ===           21:06:21 02/06/2008

Serial Number  : 126215                 Device Name : LOOP O9330
Hardware Version: Ver.D                  Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008  Start Time  : 22:55:05 02/01/2008
[DISPLAY]                              [SETUP]
1 -> 1 Hour Perf. Report               P -> Password Setup
2 -> 24 Hour Perf. Report              S -> System Setup
C -> System Configuration              M -> System Alarm Setup
Q -> Alarm Queue                       T -> Loopback Test
H -> Alarm History                     L -> File Transfer
I -> Line Status                       V -> Store/Retrieve Configuration


[LOG]                                  [MISC]
F -> Log Off [SETUP],[MISC] Menu       A -> Alarm Cut Off
O -> Log On  [SETUP],[MISC] Menu       K -> Clear Performance Data
R -> Connect to Remote Terminal        X -> Clear Alarm Queue and History
                                       Y -> Return to Default
                                       Z -> System Reset



>> Cut off alarm - are you sure (Y/N)?
```

6.16   Clear Performance Data

The full menu path for Clear Performance Data is as follows:
O > Log On
K > Clear Performance Data

Press "**K**" from the Main Menu to clear performance data.

```
FOM                          === Main Menu ===           21:06:21 02/06/2008

Serial Number  : 126215                 Device Name : LOOP O9330
Hardware Version: Ver.D                  Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008  Start Time  : 22:55:05 02/01/2008

[DISPLAY]                              [SETUP]
1 -> 1 Hour Perf. Report               P -> Password Setup
2 -> 24 Hour Perf. Report              S -> System Setup
C -> System Configuration              M -> System Alarm Setup
Q -> Alarm Queue                       T -> Loopback Test
H -> Alarm History                     L -> File Transfer
I -> Line Status                       V -> Store/Retrieve Configuration



[LOG]                                  [MISC]
F -> Log Off [SETUP],[MISC] Menu       A -> Alarm Cut Off
O -> Log On  [SETUP],[MISC] Menu       K -> Clear Performance Data
R -> Connect to Remote Terminal        X -> Clear Alarm Queue and History
                                       Y -> Return to Default
                                       Z -> System Reset


>>SPACE bar to refresh or enter a command ===>
```

Then press "**Y**" to confirm or "**N**" to abort.

```
FOM                          === Main Menu ===            21:06:21 02/06/2008

Serial Number  : 126215                  Device Name : LOOP O9330
Hardware Version: Ver.D                   Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008  Start Time  : 22:55:05 02/01/2008


[DISPLAY]                            [SETUP]
1 -> 1 Hour Perf. Report             P -> Password Setup
2 -> 24 Hour Perf. Report            S -> System Setup
C -> System Configuration            M -> System Alarm Setup
Q -> Alarm Queue                     T -> Loopback Test
H -> Alarm History                   L -> File Transfer
I -> Line Status                     V -> Store/Retrieve Configuration


[LOG]                                [MISC]
F -> Log Off [SETUP],[MISC] Menu     A -> Alarm Cut Off
O -> Log On   [SETUP],[MISC] Menu    K -> Clear Performance Data
R -> Connect to Remote Terminal      X -> Clear Alarm Queue and History
                                     Y -> Return to Default
                                     Z -> System Reset


>> Clear Performance Data ? [Y/N]
```

6.17   Clear Alarm Queue and History

The full menu path for Clear Alarm Queue and History is as follows:
O > Log On
X > Clear Alarm Queue and History

Press "X" from the Main Menu to Clear Alarm Queue and History.

```
FOM                          === Main Menu ===            21:06:21 02/06/2008

Serial Number  : 126215                  Device Name : LOOP O9330
Hardware Version: Ver.D                   Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008  Start Time  : 22:55:05 02/01/2008

[DISPLAY]                            [SETUP]
1 -> 1 Hour Perf. Report             P -> Password Setup
2 -> 24 Hour Perf. Report            S -> System Setup
C -> System Configuration            M -> System Alarm Setup
Q -> Alarm Queue                     T -> Loopback Test
H -> Alarm History                   L -> File Transfer
I -> Line Status                     V -> Store/Retrieve Configuration


[LOG]                                [MISC]
F -> Log Off [SETUP],[MISC] Menu     A -> Alarm Cut Off
O -> Log On   [SETUP],[MISC] Menu    K -> Clear Performance Data
R -> Connect to Remote Terminal      X -> Clear Alarm Queue and History
                                     Y -> Return to Default
                                     Z -> System Reset


>>SPACE bar to refresh or enter a command ===>
```

Then press "**Y**" to confirm or "**N**" to abort.

```
FOM                          === Main Menu ===            21:06:21 02/06/2008

Serial Number   : 126215                 Device Name : LOOP O9330
Hardware Version: Ver.D                   Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008  Start Time  : 22:55:05 02/01/2008

[DISPLAY]                           [SETUP]
1 -> 1 Hour Perf. Report            P -> Password Setup
2 -> 24 Hour Perf. Report           S -> System Setup
C -> System Configuration           M -> System Alarm Setup
Q -> Alarm Queue                    T -> Loopback Test
H -> Alarm History                  L -> File Transfer
I -> Line Status                    V -> Store/Retrieve Configuration

[LOG]                               [MISC]
F -> Log Off [SETUP],[MISC] Menu    A -> Alarm Cut Off
O -> Log On  [SETUP],[MISC] Menu    K -> Clear Performance Data
R -> Connect to Remote Terminal     X -> Clear Alarm Queue and History
                                    Y -> Return to Default
                                    Z -> System Reset


>> Clear alarm queue - are you sure (Y/N)?
```

6.18 Return to Default

The full menu path for Return to Default is as follows:
O > Log On
Y > Return to Default

Press "**Y**" from the Main Menu to return the default.

```
FOM                          === Main Menu ===            21:06:21 02/06/2008

Serial Number   : 126215                 Device Name : LOOP O9330
Hardware Version: Ver.D                   Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008  Start Time  : 22:55:05 02/01/2008

[DISPLAY]                           [SETUP]
1 -> 1 Hour Perf. Report            P -> Password Setup
2 -> 24 Hour Perf. Report           S -> System Setup
C -> System Configuration           M -> System Alarm Setup
Q -> Alarm Queue                    T -> Loopback Test
H -> Alarm History                  L -> File Transfer
I -> Line Status                    V -> Store/Retrieve Configuration


[LOG]                               [MISC]
F -> Log Off [SETUP],[MISC] Menu    A -> Alarm Cut Off
O -> Log On  [SETUP],[MISC] Menu    K -> Clear Performance Data
R -> Connect to Remote Terminal     X -> Clear Alarm Queue and History
                                    Y -> Return to Default
                                    Z -> System Reset


>>SPACE bar to refresh or enter a command ===>
```

Then press "**Y**" to confirm or "**N**" to abort.

```
FOM                       === Main Menu ===            21:06:21 02/06/2008

Serial Number  : 126215              Device Name : LOOP O9330
Hardware Version: Ver.D              Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008  Start Time  : 22:55:05 02/01/2008

[DISPLAY]                            [SETUP]
1 -> 1 Hour Perf. Report             P -> Password Setup
2 -> 24 Hour Perf. Report            S -> System Setup
C -> System Configuration            M -> System Alarm Setup
Q -> Alarm Queue                     T -> Loopback Test
H -> Alarm History                   L -> File Transfer
I -> Line Status                     V -> Store/Retrieve Configuration

[LOG]                                [MISC]
F -> Log Off [SETUP],[MISC] Menu     A -> Alarm Cut Off
O -> Log On  [SETUP],[MISC] Menu     K -> Clear Performance Data
R -> Connect to Remote Terminal      X -> Clear Alarm Queue and History
                                     Y -> Return to Default
                                     Z -> System Reset


>> Return to default - are you sure ? [Y/N]
```

6.19   System Reset

The full menu path for System Reset is as follows:
O > Log On
Z > System Reset

To reset the system, press "**Z**" from the Main Menu.

```
FOM                       === Main Menu ===            21:06:21 02/06/2008

Serial Number   : 126215             Device Name : LOOP O9330
Hardware Version: Ver.D              Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008  Start Time  : 22:55:05 02/01/2008

[DISPLAY]                            [SETUP]
1 -> 1 Hour Perf. Report             P -> Password Setup
2 -> 24 Hour Perf. Report            S -> System Setup
C -> System Configuration            M -> System Alarm Setup
Q -> Alarm Queue                     T -> Loopback Test
H -> Alarm History                   L -> File Transfer
I -> Line Status                     V -> Store/Retrieve Configuration


[LOG]                                [MISC]
F -> Log Off [SETUP],[MISC] Menu     A -> Alarm Cut Off
O -> Log On  [SETUP],[MISC] Menu     K -> Clear Performance Data
R -> Connect to Remote Terminal      X -> Clear Alarm Queue and History
                                     Y -> Return to Default
                                     Z -> System Reset


>>SPACE bar to refresh or enter a command ===>
```

After done the selection for reset site and reset mode, key in system password. Then press "**Y**" to confirm or "**N**" to abort.

```
FOM                             === Main Menu ===              21:06:21 02/06/2008

Serial Number   : 126215                     Device Name : LOOP O9330
Hardware Version: Ver.D                       Connect Port: SUPV_PORT
Firmware Version: V1.06.01 09/02/2008   Start Time  : 22:55:05 02/01/2008


[DISPLAY]                                [SETUP]
1 -> 1 Hour Perf. Report                 P -> Password Setup
2 -> 24 Hour Perf. Report                S -> System Setup
C -> System Configuration                M -> System Alarm Setup
Q -> Alarm Queue                         T -> Loopback Test
H -> Alarm History                       L -> File Transfer
I -> Line Status                         V -> Store/Retrieve Configuration


[LOG]                                    [MISC]
F -> Log Off [SETUP],[MISC] Menu         A -> Alarm Cut Off
O -> Log On   [SETUP],[MISC] Menu        K -> Clear Performance Data
R -> Connect to Remote Terminal          X -> Clear Alarm Queue and History
                                         Y -> Return to Default
                                         Z -> System Reset
>> Reset Site ?   *Local    Remote
>> Restart Mode ?   *Warm Restart    Cold Restart
==>> Enter password : XXXX
```

6.20   Load Default

Power on the Loop-O9330 unit. When the system shows the message: `Press ACO key to load default configuration …3…`, press the ACO button from O9330's front panel to load default for controller unit and all plug-in cards. See also below screen for the details.

```
';;'
 ;;              ,'''''      ,'''''    ,,, ,,,,
 ;;           ,;'    ';,   ,;'    ';,   ;;;'  ';,
 ;;          ,;'      ';, ,;'      ';,  ;;     ';,
 ;;          ;;        ;; ;;        ;;  ;;      ;;
 ;;        , ;;        ;; ;;        ;;  ;;,    ;;
 ;;       ,; ;;        ;; ;;        ;;  ;;'';,,;'
,;;,,,,,,;;;   ';,,,;'     ';,,,;'     ;;
                                        ;;
             T e l e c o m          ,;;,


     --- Loop-O9330 E1/T1 FOM ---


Init System Configuration.....
Press ACO key to load default configuration...3...
```

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