# Loop-O9310

# 4E1 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 aprc

**I** Onde tutelare l'ambiente, non buttate l'apparecchio trai i normali rifiuti al termi sua vita utile, ma portatelo presso i punti di raccolta specifici per questi rifiuti dalla normativa vigente.

**NL** Wij raden u aan het apparant aan het einde van zijn nuttige levensduur, niet 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 O 9310 4E1 Fiber Optical Mux provides point-to-point transport of 4 E1 signals on optical fiber. Loop-O 9310 offers two models: (1) SNMP manageable and (2) non-manageable.

SNMP manageable model has a master unit with CPU, used to manage a slave unit, and a slave unit without CPU, managed by the master unit through EOC.

Basic non-manageable model without CPU provides system setup and loopback by DIP switches setting.

## 1.2 Features

Below lists the features for Loop-O 9310:

- Supports multiple optical fiber transmission distances
- Supports single mode and multi-mode fiber modules
- Supports BNC or RJ45 connectors for 4 E1s (manufacture option)
- Supports console, Ethernet for SNMP management
- Supports SNMP management and LoopView management
- Slave remote unit can be managed through EOC
- Non-manageable model can be configured through DIP switches
- Supports alarm relay and alarm cut off (optional)
- Supports LED indicators

## 1.3 Application

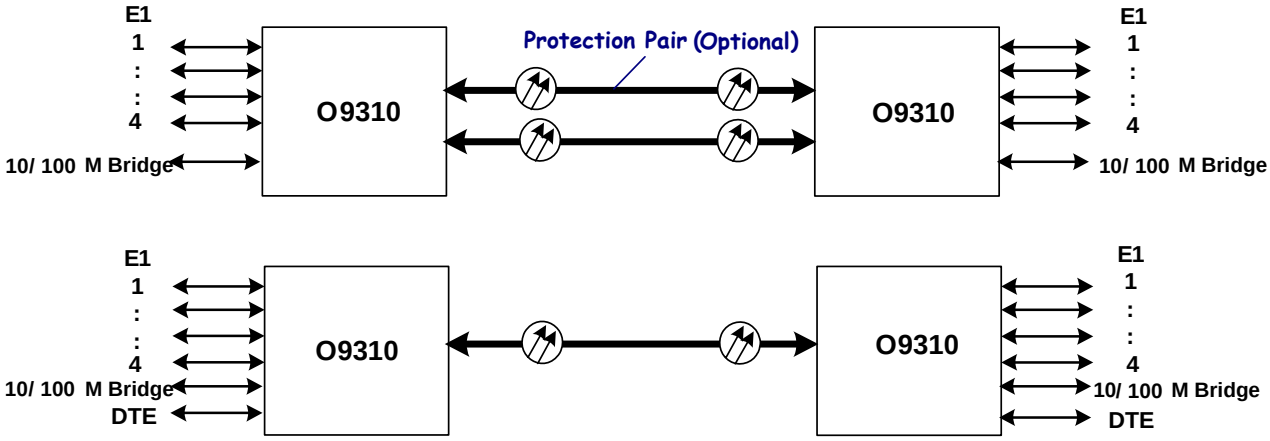



**Figure 1- 1 Application Illustration**

## 1.4 Specifications

## Loop-O9310 4E1 Fiber Optical Mux Product 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 |
| 50 Km reach | | | |

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

### *Optical Fiber Interface Characteristics*

| Optical Module | Fiber Direction | Wavelength (nm) | Connector | Distance (km) | Power (dB) |
|---|---|---|---|---|---|
| Single | Dual uni-direction | 1310 | SC (Subscriber Connector) | 30 | 20 |
| | | 1310 | SC (Subscriber Connector) | 50 | 30 |
| | | 1310 | FC (Fiber Connector) | 30 | 20 |
| | | 1550 | SC (Subscriber Connector) | 20 | 12 |
| | | 1550 | SC (Subscriber Connector) | 100 | 40 |
| Single | Single bi-direction (master) | 1310/1550 | SC (Subscriber Connector) | 30 | 20 |
| | Single bi-direction (slave) | 1310/1550 | SC (Subscriber Connector) | 30 | 20 |

**For discussion on whether to choose uni-directonal or bi-directional fiber option, see white paper with that title.**

### *E1 Line Interface*

| | | | |
|---|---|---|---|
| Number of E1 lines | 4 | Line Impedance | 120Ω twisted pair, 75Ω for BNC |
| Line Rate | 2.048 Mbps ±50 ppm | Connector | RJ48C, BNC |
| Line Code | HDB3 | Output Signal | ITU G.703 |

### *Bridge*

10/ 100 Mbps half/ full duplex ethernet bridging and 22Mbps 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

### *DTE interface*

| | | | |
|---|---|---|---|
| Port Number | 1 port | Connector | DB25S |
| Data Rate | Nx64kbps (N=1~32) | Clock Mode | External, Internal, Received (Selectable) |
| Type | Software-selectable V.35, X.21, RS449/V.36, RS232/V.28, EIA530 and EIA530A | | |

### *Clock*

| | |
|---|---|
| Source | IInternal, Line, E1 |

### *Console*

| | |
|---|---|
| Connector | DB9 at front panel |
| Electrical | RS232 interface |
| Protocol | Menu driven VT-100 terminal |
| Baud Rate | 9600, 19200, 38400, 57600, 115200 |

### *SNMP*

| | |
|---|---|
| Connector | RJ45 at front panel |
| Protocol | Telnet |

### *Physical/Electrical*

| | |
|---|---|
| Dimensions | 216 x 55 x 285 mm. (W x H x D) |
| Mounting | Stand-alone |
| Power Source (AC) | 100 to 240 Vac, 50/ 60 Hz |
| Power Source (DC) | 48Vdc : 36-72 Vdc |
| Power Consumption | < 10 W |
| Temperature Range | 0°C to 50°C |
| Humidity | 0% - 95% RH (non-condensing) |

### *Diagnostics Test*

| | |
|---|---|
| Optical Fiber | Local and remote loopbacks |
| E1 Lines | Local and remote loopbacks |

# 2 INSTALLATION

## 2.1 Site Selection

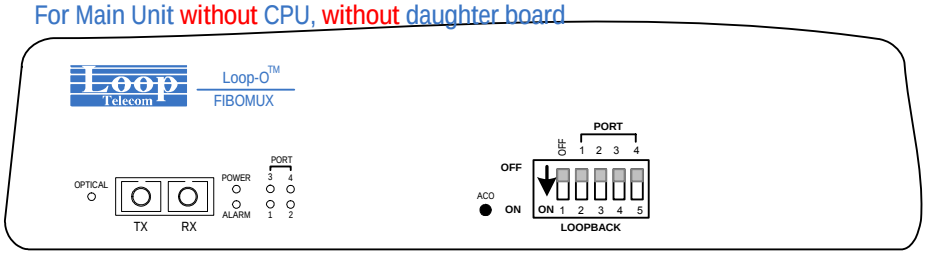
The following list indicates a site selection guideline. User need to follow this guideline to select a proper installation site.

- Location of the Loop-O 9310 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%.

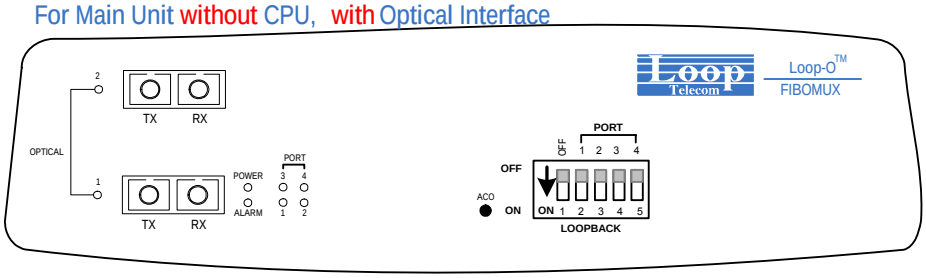
## 2.2 Mechanical Installation

Loop-O 9310 is a desktop unit, which offers two kinds of power supply: AC power supply or DC power supply, and also offers two knod of E1 line connectors: RJ48C or BNC. The views for front panel and rear panels are showed in the following figures. The figures 2-1 shows the Main Unit with CPU and with different daughter board, including DTE+Bridge, Bridge, DTE, Optical+Bridge and Optical interface. All with Opitional LCD Display.

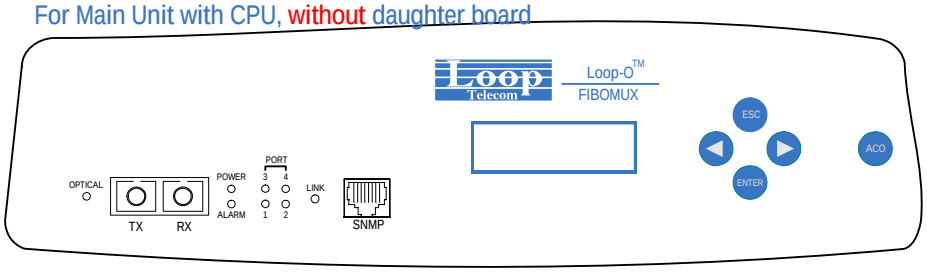
For Main Unit without CPU, without daughter board



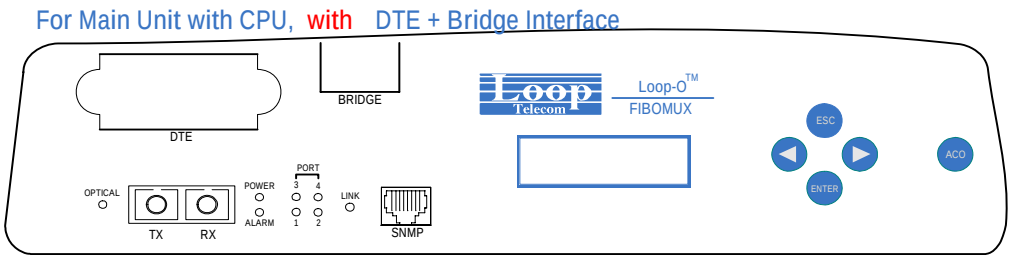

For Main Unit without CPU, with Optical Interface




For Main Unit with CPU, without daughter board




For Main Unit with CPU, with DTE + Bridge Interface



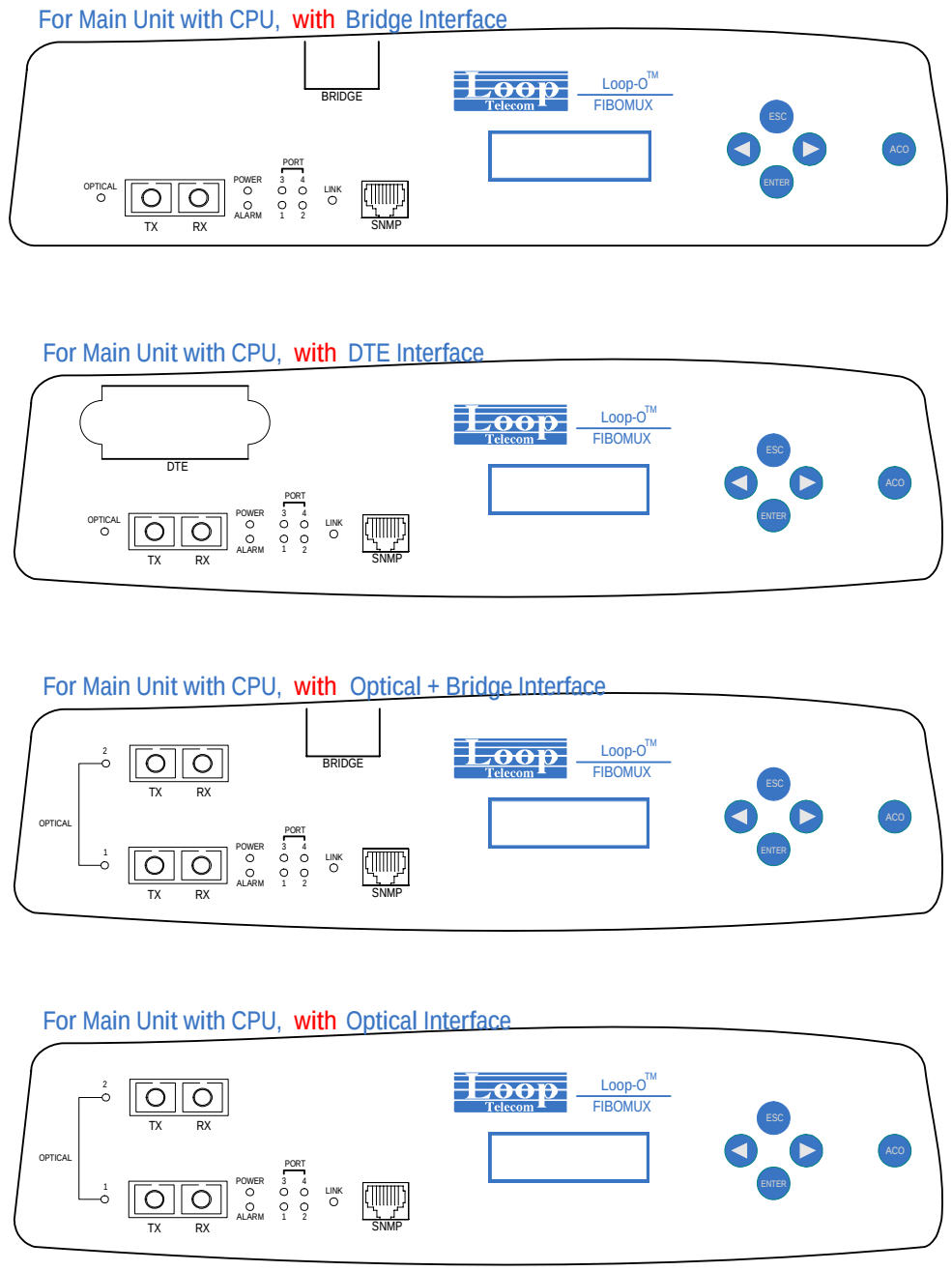
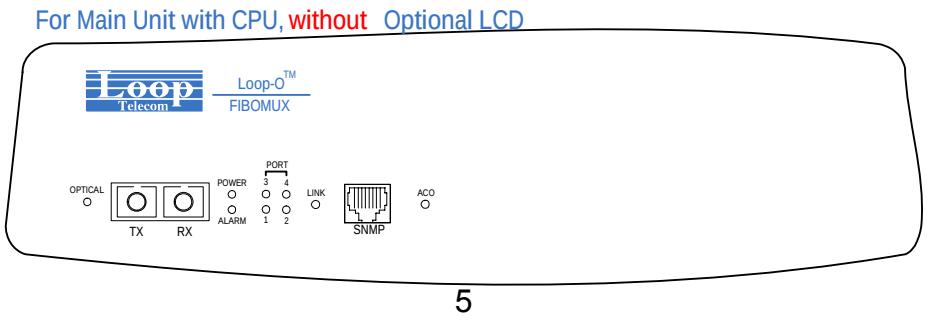



**Figure 2- 1 Front Panel View (1)**

The following figure shows the front panels without the optional purchased LCD display.



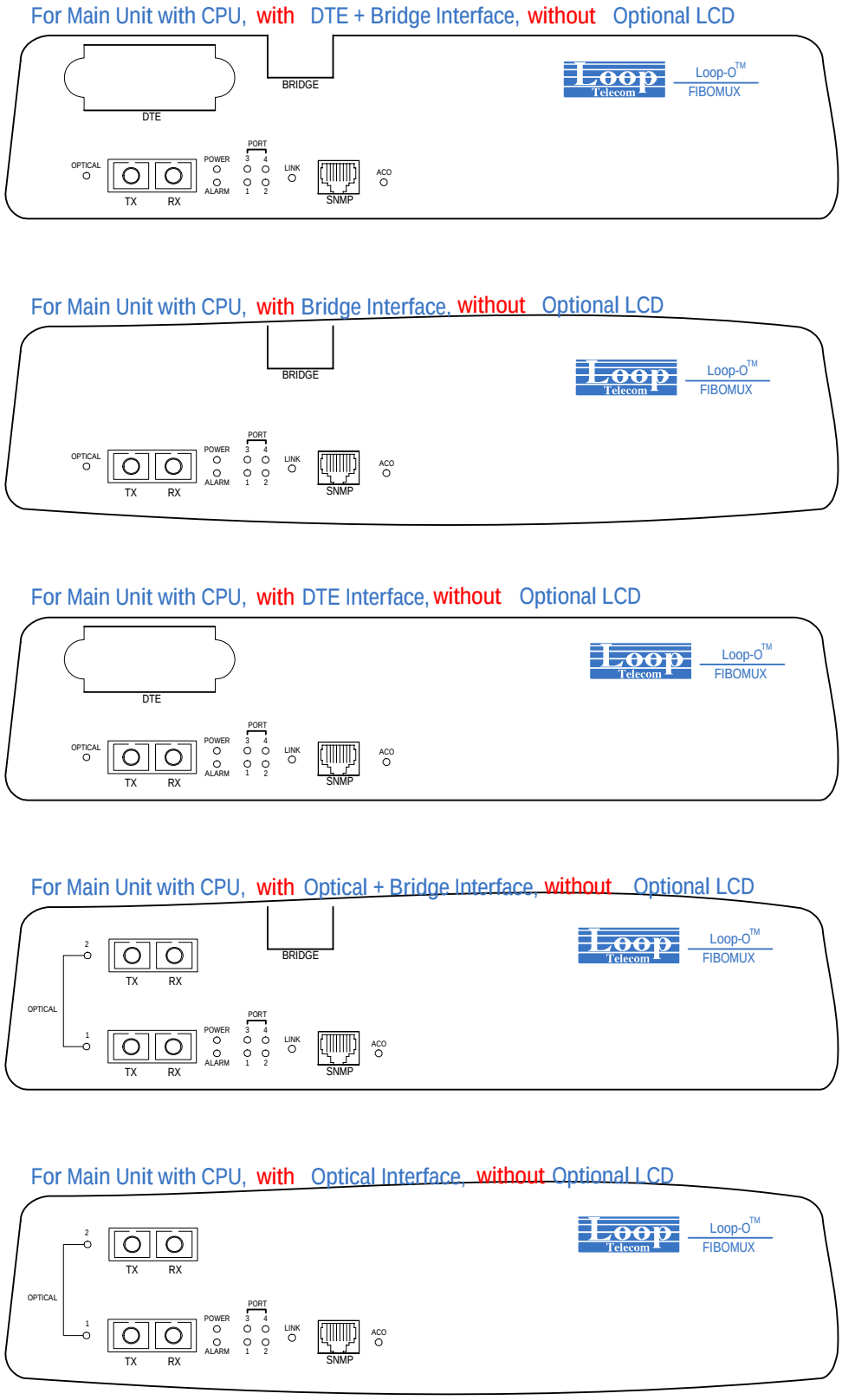



**Figure 2- 2 Front Panel View (2)**

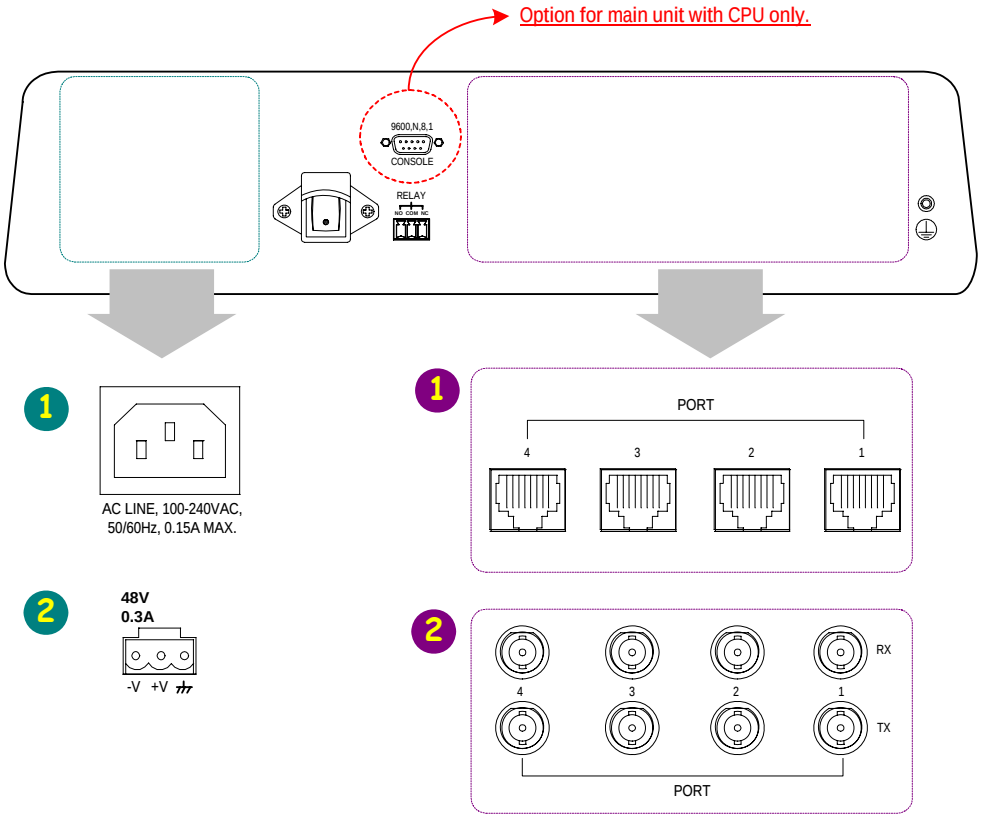


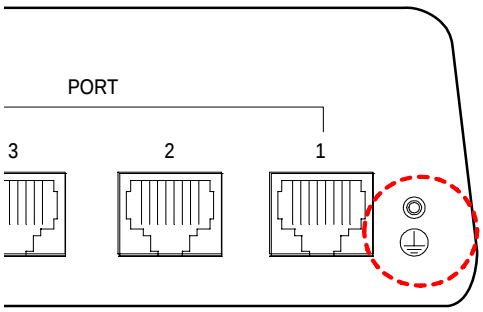

**Figure 2- 3 Rear Panel Views**

**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 rear side of the unit close to the power supply.

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.



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 | To DTE |
| 2 | Receive Data | To DTE |
| 3 | Transmit Data | From DTE |
| 4 | Unassigned | |
| 5 | Signal Ground | |
| 6 | Data Set Ready | To DTE |
| 7 | Unassigned | |
| 8 | Clear to send | To DTE |
| 9 | Unassigned | |

**Table 2-2 SNMP 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 Alarm Relay Connector**

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

**Table 2-4 Power Connector**

| Pin Number | Signal | Description |
|---|---|---|
| 1 | -V | -DC48 Volts |
| 2 | +V | +DC Return |
| 3 | ⏚ | Chassis Ground |

**Table 2-5 E1/ RJ48C Line Connector**

| Pin Number | Signal | Signal Direction |
|---|---|---|
| 1 | Receive Ring | From E1 Network |
| 2 | Receive Tip | From E1 Network |
| 4 | Transmit Ring | To E1 Network |
| 5 | Transmit Tip | To E1 Network |
| 7 | Unassignment | |
| 8 | Unassignment | |

**Table 2-6 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 |
| Network management | IP address | | 0.0.0.0 |
| | Subnet mask | | 0.0.0.0 |
| | Gateway IP | | 0.0.0.0 |
| SNMP | Trap IP | | 0.0.0.0 |
| | Community | | Public |
| | Device name | O9310 | O9310 |
| Password for ADMIN | | | LOOP |
| Password for Operator | | | LOOP |

**Table 2-7 V.35/DB25 DTE Port Pin Definition**

| Pin Number | Signal | Source |
|---|---|---|
| 1 | Cable Shield | |
| 2 | Transmit Data | DTE |
| 3 | Receive Data | DCE |
| 4 | Request To Send | DTE |
| 5 | Clear To Send | DCE |
| 6 | Data Set Ready | DCE |
| 7 | Signal Ground | |
| 8 | Data Carrier Detect | DCE |
| 9 | Receive Clock Return | DCE |
| 10 | Unassigned | |
| 11 | External Clock Return | DTE |
| 12 | Transmit Clock Return | DCE |
| 13 | Unassigned | |
| 14 | Transmit Data Return | DTE |
| 15 | Transmit Clock | DCE |
| 16 | Receive Data Return | DCE |
| 17 | Receive Clock | DCE |
| 18 | Local Loopback | DTE |
| 19 | Unassigned | |
| 20 | Data Terminal Ready | DTE |
| 21 | Remote Loopback | DTE |
| 22 | Unassigned | |
| 23 | Unassigned | |
| 24 | External Clock | DTE |
| 25 | Test Mode | DCE |

# 3 OPERATION

This chapter describes the Loop-O 9310 configuration options and operational functions.

## 3.1 Quick Start for Loop-O 9310

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

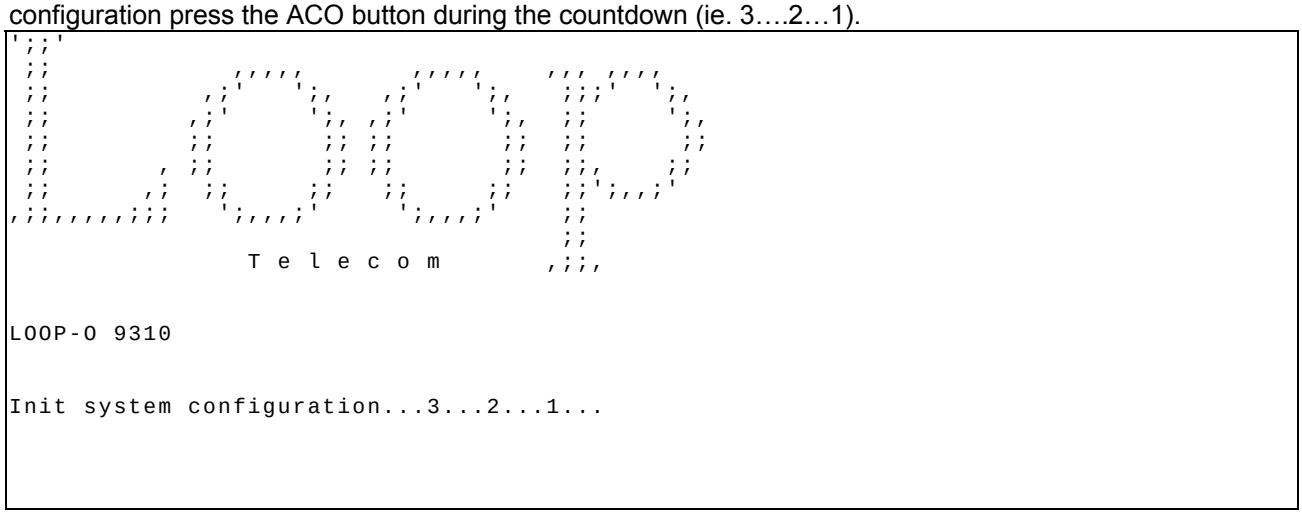
### 3.1.1 Power On

Turn power on by attaching power cable at the rear of the unit. Then the LED of POWER will be lighted in green.

### 3.1.2 Load Default

**NOTE: For Main Unit with CPU only.**

Upon initial power up you will see the following screen on your VT-100 monitor. The O9310 will automatically load the system hardware configuration stored in the flash memory. If you prefer to load the factory default configuration press the ACO button during the countdown (ie. 3….2…1).




## 3.2 Self Test

**For Main Unit without CPU:**

User can use DIP swtich to do O9310 self-testing. User can do E1 port loopback by adjusting the four DIP switchs (Switch 2 to Switch 5) to be ON, and do optical port loopback by adjusting the DIP switch of optical to be ON.

**Table 3-1 DIP Switch Indication**

| SW No. | Function | Direction | Indication |
|---|---|---|---|
| **SW1** | Optical Port | **↓ (ON)** | Optical port loopback testing |
| **SW2** | E1 Port #1 | **↓ (ON)** | The first E1 port loopback testing |
| **SW3** | E1 Port #2 | **↓ (ON)** | The second E1 port loopback testing |
| **SW4** | E1 Port #3 | **↓ (ON)** | The third E1 port loopback testing |
| **SW5** | E1 Port #4 | **↓ (ON)** | The fourth E1 port loopback testing |

**For Main Unit with CPU:**

Users must enter the password when logging in to gain the privilege to change system configurations on the terminal. Then key in a username and password to enter into the "Main Menu".

There are two usernames for user to log on the system. The authority for ADMIN and OPERATOR are different. By using ADMIN, user can view and modify system configuration. By using OPERATOR, user can view the current configuration only. Default passwords for ADMIN and OPERATOR are same: LOOP. To change password, press "P" from the "Main Menu". To change the password for the first time, enter the default password when prompted for the old password. See also the chapter 6 for the detail.

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. If the operation is successful, the VT100 will show "LOAD DEFAULT CONFIGURATION". All user configuration settings will be lost.

## 3.3 Using Terminal

**NOTE: For Main Unit with CPU only.**

Management from a Telnet or Network Management System (NMS) can be effected through a LAN. Use the DB9S console port of O9310's rear 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.

To see the full menu, press O (Log On) from the "Main Menu".

To review the current configuration, press "C" (System Configuration) from the "Main Menut".

To change the current configuration, press "S" (System Setup) from the "Main Menut". Then press "A" from the "System Setup" sub-menu to do system setup.

For more detail information, see also the chapter 6 in this manual.

## 3.4 Return to Default

**For Main Unit without CPU:**

After the unit being powered on, press ACO button to load default during the system is counting from 3 to 1.

**For Main Unit with CPU:**

Using VT100 to load default. Press "Y" command from the "Main Menu" to return to default.

```
 E1-FOM                          === Main Menu ===            01:44:24 06/01/2005

Serial Number   : 009310                Device Name :
Hardware Version: Ver.C 06/25/2005      Connect Port: SUPV_PORT
Firmware Version: S1.00 07/04/2005      Start Time  : 00:00:05 06/01/2005

[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]
```

## 3.5 System Configuration

### 3.5.1 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, XON_XOFF, and parity bit length are defaulted, as shown below.

**Table 3-2 Console Port Setting**

| Item | Fixed Setting |
|---|---|
| Baud | 9600 |
| Data Length | 8-Bits |
| Stop Bit | 1-Bits |
| XON_XOFF | X_OFF |
| Parity | NONE |

## 3.6 Alarm

When the O 9310 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 3-3 Alarm Default**

| Alarm Type | | Default |
|---|---|---|
| **System** | Alarm cut off | ENABLE |
| | Protection Switch | ENABLE |
| | Power Failed | ENABLE |
| | Relay | ENABLE |
| **Optical** | LOF (Loss of Frame) | DISABLE |
| | ES (Error Second) | DISABLE |
| | SES (severely errored second) | DISABLE |
| | UAS (Unavailable Second) | DISABLE |
| **E1/ T1** | LOS (Loss of Signal) | DISABLE |
| | AIS (Alarm Indication Signal) | DISABLE |
| | BPV (Bipolar Violation) | DISABLE |
| | ES (Error Second) | DISABLE |
| | SES (severely errored second) | DISABLE |
| | UAS (Unavailable Second) | DISABLE |

## 3.7 Reports

For Optical and E1 line receiver, O 9310 has the sets of performance registers. These are line and user. The line performance register tracks the Ethernet line receiver performance status. The user performance register tracks the Ethernet line receiver as well, but user may clear at any time. 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 3-4 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 3-5 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 |

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 | UAS |
| 1-Hour Terminal Reports Menu Option [1] | USER [Network] | Y | Y | Y |
| | LINE [Network] | N/C | N/C | N/C |
| 24-Hour Terminal Reports Menu Option [2] | USER [Network] | Y | Y | Y |
| | LINE [Network] | N/C | N/C | N/C |
| 7-Day Terminal Reports Menu Option [3] | USER [Network] | Y | Y | Y |
| | LINE [Network] | N/C | N/C | N/C |

Y = Report available and can be cleared by admin terminal command "Y".

X = Report available and can be cleared by admin terminal command "X".

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

## 3.8 LED

The front panel of the Loop-O 9310 has mulit-color LEDs for operation and error indications. The indication is either off, steady on, or flashing. The following tables list each LED and its color and the meaning it represents.

**For Main Unit without CPU:**

Please refer to Section 2.2 Mechanical Installation to view a complete arrray of front panel drawings.

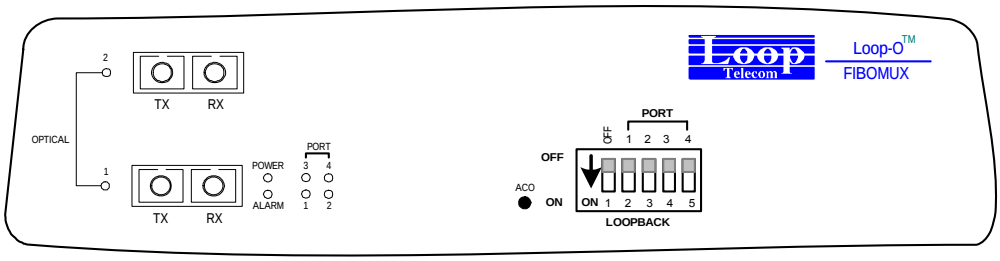
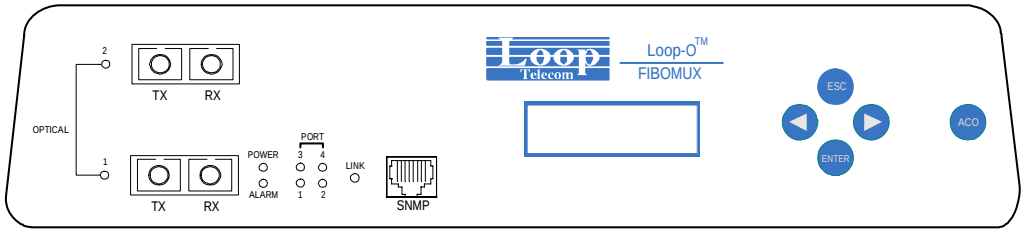



**Table 3-7 LED of Main Unit without CPU**

| Main Unit without CPU | | |
|---|---|---|
| **LED** | **Color** | **Indication** |
| POWER | Off<br>Green | Power off, self-test failure<br>Normal operation |
| PORT (1-4) | Red<br>Green<br>Flashing Green | LOS (Loss of Signal)<br>Sync<br>Loopback testing |
| OPTICAL(1-2) | Red<br>Green<br>Flashing Green<br>Flashing Amber | LOS (Loss of Signal)<br>Line in Sync<br>Loopback testing<br>Receive RAI |
| ALARM | Off<br>Red | No alarm<br>Alarm occurs |

**For Main Unit with CPU:**




Please refer to Section 2.2 Mechanical Installation to view a complete arrray of front panel drawings.

**Table 3-8 LED of Main Unit with CPU**

| Main Unit with CPU | | | |
|---|---|---|---|
| **LED** | | **Color** | **Indication** |
| POWER | | Off<br>Green | Power off, self-test failure<br>Normal operation |
| PORT (1-4) | | Red<br>Green<br>Flashing Green | LOS (Loss of Signal)<br>Sync<br>Loopback testing |
| OPTICAL(1-2) | | Red<br>Green<br>Flashing Green<br>Flashing Amber | LOS (Loss of Signal)<br>Line in Sync<br>Loopback testing<br>Receive RAI |
| ALARM | | Off<br>Red | No alarm<br>Alarm occurs |
| LINK | | Off<br>Green | No linking<br>A valid network connection on the RJ-45 SNMP port. |
| Bridge | Link/Act<br>(Left LED) | Green<br>Flashing Green | Link<br>Act |
| | 10/100<br>(Right LED) | Off<br>Green | 10 Mbps<br>100 Mbps |

# 4 MAINTENANCE

## 4.1 Self-Test

O9310 provides DIP swtich for users to do self-testing. For E1 ports' loopback testing, switch DIP Switch 2, 3, 4, or 5 to ON; For optical port loopback testing, switch DIP Switch 1 to ON.

## 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-O 9310. The loopbacks are at the near end facility. The following paragraph describes each loopback in detail.

### 4.2.1 E1 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.

### 4.2.2 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.

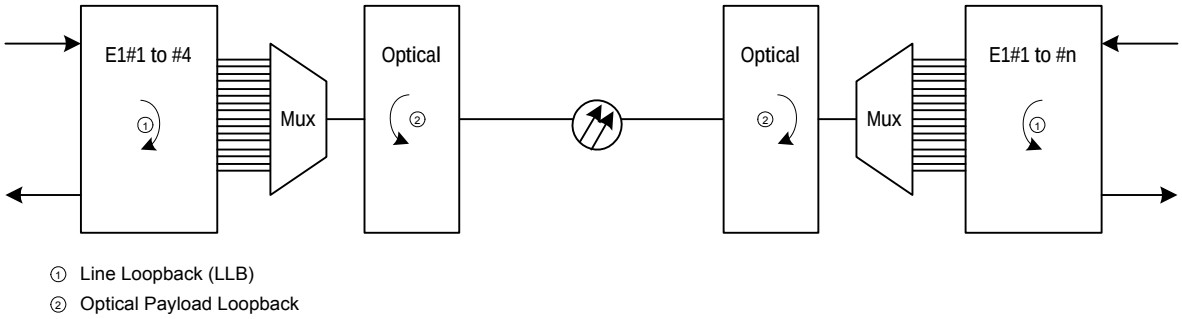



**Figure 4- 1 Loopback Block Diagram**

# 5 Front Panel Operation

The LCD operation is available only when the LCD option is purchased.

# 6 Terminal Operation

Loop-O 9310 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-O 9310. By use of single-character commands and arrow keys, the Loop-O 9310 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 the Loop-O 9310 is powered on, the screen will show as below. Press **O** to log into the Controller Menu. If the password is enabled (Path: Main Menu > (P) Password Setup), users have to key in the password to log in. The default password is LOOP. To change password, press **P** from the Controller Menu. See also the following sections for the detail. All commands are detailed in the VT-100 Controller Menu Tree illustrations below.

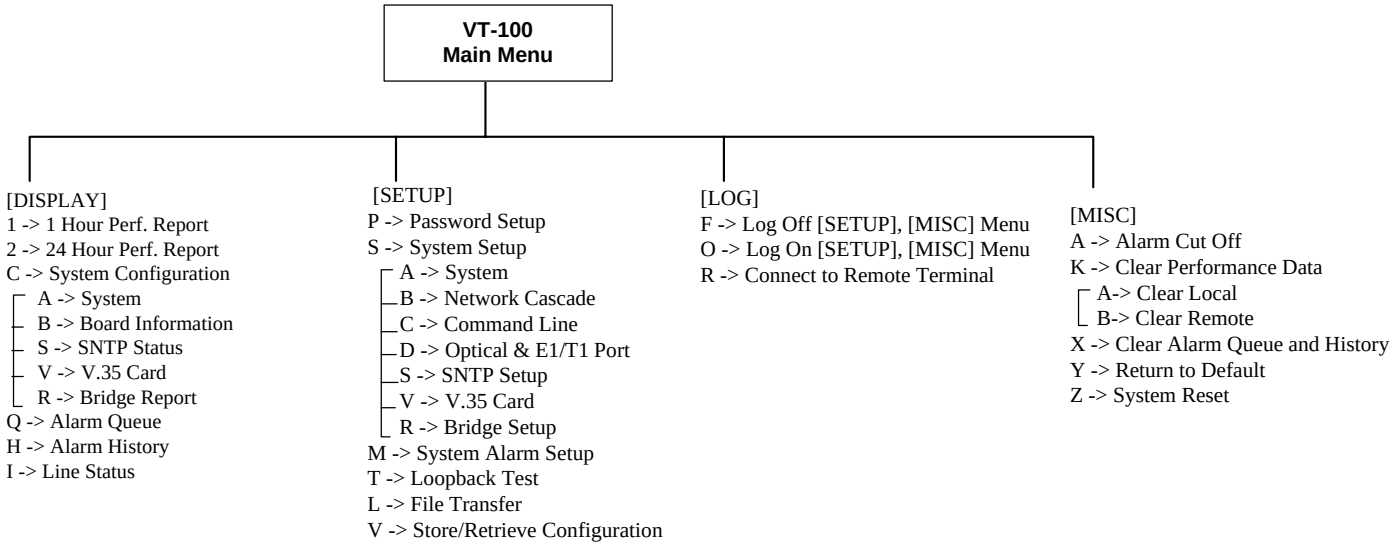



**Figure 6- 1 VT-100 Main Menu Tree Overview**

## 6.1 Main Menu / Log On / Log Off

At initial startup the Main Menu will appear as shown below. The main menu appears like following screen after the O9310 is powered on.

```
E1-FOM                        === Main Menu ===           01:21:30 01/01/2008

Serial Number   : 118835               Device Name : LOOP O9310
Hardware Version: Ver.F 07/2005        Connect Port: SUPV_PORT
Firmware Version: V1.02.07 04/09/2008  Start Time  : 00:00:05 01/01/2008

[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 log on. A full Main Menu will appear as shown below.

```
E1-FOM                          === Main Menu ===           01:21:30 01/01/2008

Serial Number   : 118835               Device Name : LOOP O9310
Hardware Version: Ver.F 07/2005        Connect Port: SUPV_PORT
Firmware Version: V1.02.07 04/09/2008  Start Time  : 00:00:05 01/01/2008

[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**.

```
E1-FOM                          === Main Menu ===            01:21:30 01/01/2008

Serial Number   : 118835                Device Name : LOOP O9310
Hardware Version: Ver.F 07/2005         Connect Port: SUPV_PORT
Firmware Version: V1.02.07 04/09/2008   Start Time  : 00:00:05 01/01/2008

[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 ===>
```

## 6.1 1-Hour Performance Report

This menu is used to display one-hour performance report about user-type or line type of optical port (Optical#1) and DS1 ports (DS1#01 to DS1#04).

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

```
E1-FOM                          === Main Menu ===            01:21:30 01/01/2008

Serial Number   : 118835                Device Name : LOOP O9310
Hardware Version: Ver.F 07/2005         Connect Port: SUPV_PORT
Firmware Version: V1.02.07 04/09/2008   Start Time  : 00:00:05 01/01/2008

[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 1 from the Main menu to access the 15min-1day performance report.

```
E1-FOM                === 1 Hour Performance Report ===    00:42:54 06/01/2005
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 >>
```

**For user type of optical port:**

```
E1-FOM                === 1 Hour Performance Report ===    00:50:09 06/01/2005
Optical#1 USER

-- Valid Seconds in Current 15-Min Interval : 309 seconds
                              (ES)    (SES)   (UAS)
   Current 15-Min Interval     :     0       0     309
   1st Nearest 15-Min Interval :     0       0     900
   2nd Nearest 15-Min Interval :     0       0     900
   3rd Nearest 15-Min Interval :     0       0     898
   4th Nearest 15-Min Interval : -----   -----   -----

-- Valid 15-Min Intervals in Current 24-Hour Interval: 3
                              (ES)    (SES)   (UAS)
   Current 24-Hour Interval    :     0       0    2698
   05/31/2005                  : -----   -----   -----
   05/30/2005                  : -----   -----   -----
   05/29/2005                  : -----   -----   -----
   05/28/2005                  : -----   -----   -----
   05/27/2005                  : -----   -----   -----
   05/26/2005                  : -----   -----   -----
   05/25/2005                  : -----   -----   -----


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

**For line type of DS1#01 port:**

```
E1-FOM                                                  00:51:36 06/01/2005
DS1#01    LINE

-- Valid Seconds in Current 15-Min Interval : 396 seconds
                              (ES)    (SES)   (UAS)   (BPV)
   Current 15-Min Interval     :      0       0     396       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     898       0
   4th Nearest 15-Min Interval : -----   -----   -----   -----

-- Valid 15-Min Intervals in Current 24-Hour Interval: 3
                              (ES)    (SES)   (UAS)   (BPV)
   Current 24-Hour Interval    :      0       0    2698         0
   05/31/2005                  : -----   -----   -----   -------
   05/30/2005                  : -----   -----   -----   -------
   05/29/2005                  : -----   -----   -----   -------
   05/28/2005                  : -----   -----   -----   -------
   05/27/2005                  : -----   -----   -----   -------
   05/26/2005                  : -----   -----   -----   -------
   05/25/2005                  : -----   -----   -----   -------


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

## 6.2 24-Hour Performance Report

This menu is used to display 24-hour performance report about user-type or line type of optical port (Optical#1) and DS1 ports (DS1#01 to DS1#04). Users are also allowed to select performance parameters (ES, SES, and UAS).

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

```
E1-FOM                        === Main Menu ===            01:21:30 01/01/2008

Serial Number   : 118835                Device Name : LOOP O9310
Hardware Version: Ver.F 07/2005         Connect Port: SUPV_PORT
Firmware Version: V1.02.07 04/09/2008   Start Time  : 00:00:05 01/01/2008

[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 "2" from the "Main Menu", and use TAB key to select a desired option.

```
E1-FOM              === 24 Hours Performance Report ===   00:52:32 06/01/2005
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS

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









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

Press ENTER from the above menu to display performance report as below.

```
E1-FOM              === 24 Hours Performance Report ===   00:53:47 06/01/2005
Optical#1 LINE
-- Valid Seconds in Current 15-Min Interval : 527 seconds
-- Valid 15-Min Intervals in Current 24-Hour Interval: 3
                              (ES)    (SES)   (UAS)
   Current 15-Min Interval     :     0       0     527
   Current 24-Hour Interval    :     0       0    2698

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


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

## 6.3 System Configuration

Press "C" from the "Main Menu" to display the current system setting. This menu provides sub-menus to display the current status for (1) system, (2) board information, and (3) SNTP (Simple Network Time Protocol).

```
E1-FOM                    === System Configuration ===      00:56:15 06/01/2005



                           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 >>
```

### 6.3.1 System

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

```
E1-FOM                          === Main Menu ===            01:21:30 01/01/2008

Serial Number   : 118835                Device Name : LOOP O9310
Hardware Version: Ver.F 07/2005         Connect Port: SUPV_PORT
Firmware Version: V1.02.07 04/09/2008   Start Time  : 00:00:05 01/01/2008

[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 "A" from the "System Configuration" to display the current status for system and console port.

```
E1-FOM                  === System Configuration ===      04:15:14 01/01/2008


                         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 >>
```

The screen for System Configuration will show as below.

```
E1-FOM                    === System Configuration ===      00:56:28 06/01/2005

[System]
IP Interface   : ETHERNET_PORT
IP Address     : 010.002.012.050
Subnet Mask    : 255.255.000.000        Gateway IP     : 010.002.254.254
Trap IP Address: 255.255.255.255        Community Name : public
Device Name    :
System Location:



System Contact :



[CONSOLE port]
Baud Rate      : 9600
Data Length    : 8-Bits
Stop Bit       : 1-Bit
Parity         : NONE


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

### 6.3.2 Board Information

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

```
E1-FOM                          === Main Menu ===            01:21:30 01/01/2008

Serial Number    : 118835                Device Name : LOOP O9310
Hardware Version: Ver.F 07/2005          Connect Port: SUPV_PORT
Firmware Version: V1.02.07 04/09/2008    Start Time  : 00:00:05 01/01/2008

[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 "B" from the "System Configuration" to display the current board information.

```
E1-FOM                  === System Configuration ===      04:15:14 01/01/2008



                         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 >>
```

The screen for Board Information will show as below.

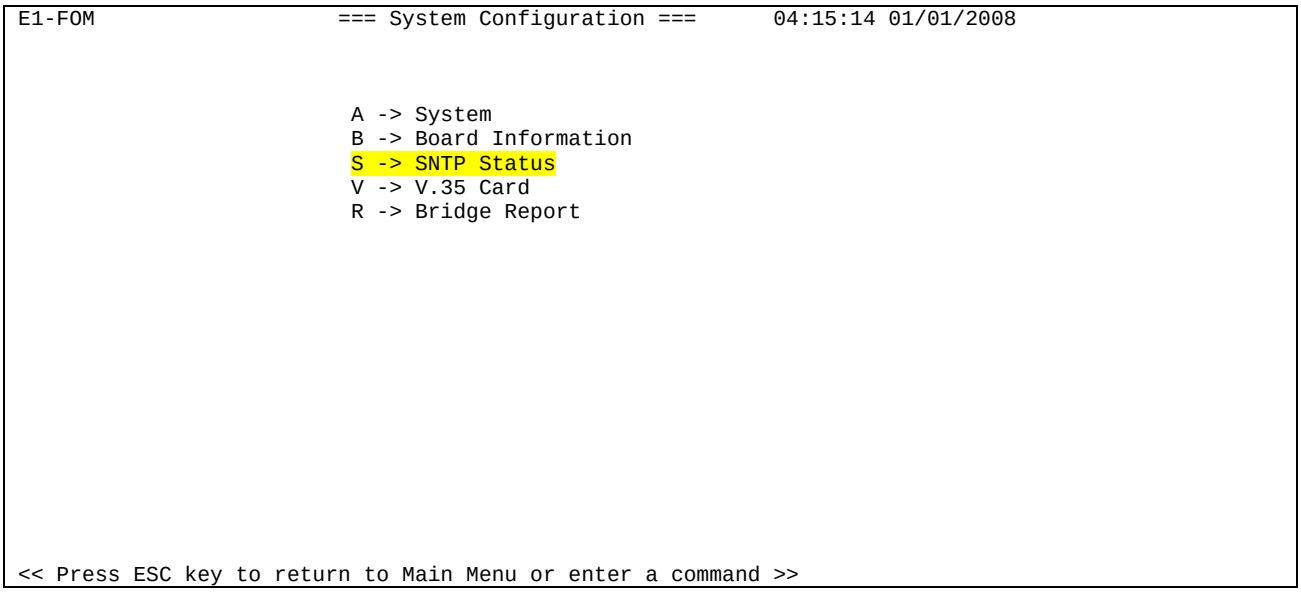
```
E1-FOM                    === Board Information ===        00:56:48 06/01/2005


Number of E1 Ports  : 4
Backplace           : Not Exist
V35 Card            : Not Exist
V35 Connector       : Not Exist
V35 Bridge          : Not Exist




[OPTICAL MODULE]
Optical Mode        : Multi Mode
Number of Ports     : 1
Connector Type      : SC Dual Fiber
Optical Wavelength  : 1310nm







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

### 6.3.3 SNTP Status

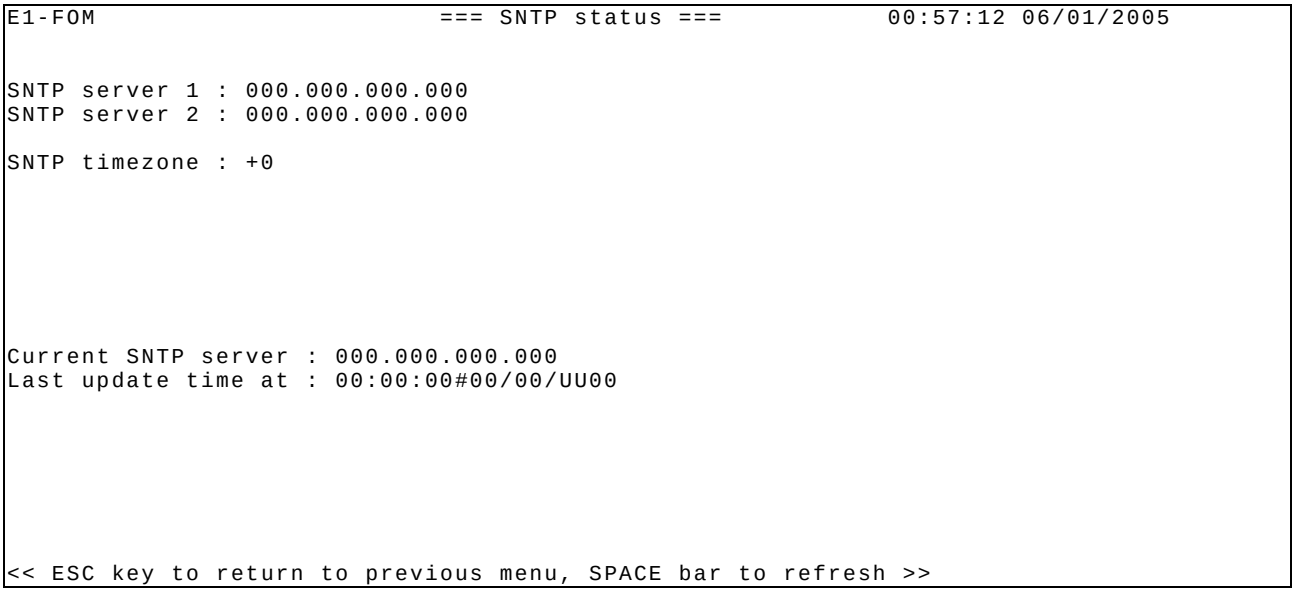
The full menu path for SNTP Status is as follows:
O > Log On
C > System Configuration
C > SNTP Status

```
E1-FOM                          === Main Menu ===            01:21:30 01/01/2008

Serial Number   : 118835                Device Name : LOOP O9310
Hardware Version: Ver.F 07/2005         Connect Port: SUPV_PORT
Firmware Version: V1.02.07 04/09/2008   Start Time  : 00:00:05 01/01/2008

[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 "C" from the "System Configuration" and then press “S” to display SNTP Status.




The screen for SNTP Status will show as below.



### 6.3.4 V.35 Card Configuration

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

```
E1-FOM                          === Main Menu ===            01:21:30 01/01/2008

Serial Number    : 118835                 Device Name : LOOP 09310
Hardware Version: Ver.F 07/2005           Connect Port: SUPV_PORT
Firmware Version: V1.02.07 04/09/2008     Start Time  : 00:00:05 01/01/2008

[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 Configuration menu to display V.35 system configuration. See also below screen. Note that this menu is available only when V.35 card is purchased.

```
E1-FOM                    === System Configuration ===      04:15:14 01/01/2008



                           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 >>
```

The screen for V.35 Card will show as below.

```
E1-FOM                          === V.35 Card ===            00:05:54 06/01/2005



Mode      : DTE

Interface : NotUsed
Channel   : unframe
ClkSrc    : Internal
TTM       : OFF
DCD       : OFF
CTS       : ON
DSR       : ON
TM        : ON
RI        : ON
RTS       : OFF
DTR       : OFF
RL        : OFF
LL        : Not Support



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

### 6.3.5 Bridge Report

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

```
E1-FOM                          === Main Menu ===            01:21:30 01/01/2008

Serial Number   : 118835                Device Name : LOOP O9310
Hardware Version: Ver.F 07/2005         Connect Port: SUPV_PORT
Firmware Version: V1.02.07 04/09/2008   Start Time  : 00:00:05 01/01/2008

[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 Configuration menu to display bridge system configuration. Note that this menu is available only when Bridge card is purchased.

```
E1-FOM                  === System Configuration ===      04:15:14 01/01/2008



                         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 >>
```

The screen for Bridge Report will show as below.

```
E1-FOM                       === Bridge Report ===          00:41:56 06/02/2008

= Ethernet Interface Status =
Link Alive              : Yes
Auto Negotiation        : ENABLE
Speed                   : 100 Mbps
Duplex Mode             : Full
Aging Timer             : 300 Sec
MAC Learning            : ENABLE



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

## 6.4 Alarm Queue

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

```
E1-FOM                          === Main Menu ===            01:21:30 01/01/2008

Serial Number   : 118835                Device Name : LOOP O9310
Hardware Version: Ver.F 07/2005         Connect Port: SUPV_PORT
Firmware Version: V1.02.07 04/09/2008   Start Time  : 00:00:05 01/01/2008

[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 display alarm queue, press "Q" from the "Main Menu". Then the system will show up a summary of alarm queue as below.

```
E1-FOM                    === Alarm Queue Summary ===       22:03:09 07/09/2005
  1 -- E1-2 : AIS, Line-------------------------22:03:03 07/09/2005
  2 -- E1-1 : AIS, Line-------------------------22:03:03 07/09/2005
  3 -- E1-3 : AIS, Line-------------------------22:03:00 07/09/2005
  4 -- E1-3 : ES,  Line-------------------------22:02:49 07/09/2005
  5 -- E1-3 : BPV, Line-------------------------22:02:49 07/09/2005
  6 -- E1-2 : ES,  Line-------------------------22:02:49 07/09/2005
  7 -- E1-2 : BPV, Line-------------------------22:02:49 07/09/2005
  8 -- E1-1 : ES,  Line-------------------------22:02:49 07/09/2005
  9 -- E1-1 : BPV, Line-------------------------22:02:49 07/09/2005









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

## 6.5 Alarm History

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

```
E1-FOM                        === Main Menu ===            01:21:30 01/01/2008

Serial Number   : 118835                Device Name : LOOP O9310
Hardware Version: Ver.F 07/2005         Connect Port: SUPV_PORT
Firmware Version: V1.02.07 04/09/2008   Start Time  : 00:00:05 01/01/2008

[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 "H" from the "Main Menu". This menu is used to display alarm history for optical port and DS1 ports. Use TAB key to select a desired port: "Optical" or "DS1#01~04".

**For Optical port:**

```
E1-FOM                      === Alarm History ===          00:59:21 06/01/2005
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS

Select Port :      Optical









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

Then press ENTER from the above menu to display alarm types, current state, and count numbers for the selected port.

```
E1-FOM                      === Alarm History ===          01:01:06 06/01/2005

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









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

**For DS1 ports:**

```
E1-FOM                      === Alarm History ===          00:59:21 06/01/2005
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS

Select Port :      DS1#01~04









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

```
E1-FOM                        === Alarm History ===          01:00:40 06/01/2005

= 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 >>
```

## 6.6 Line Status

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

```
E1-FOM                          === Main Menu ===            01:21:30 01/01/2008

Serial Number   : 118835                Device Name : LOOP O9310
Hardware Version: Ver.F 07/2005          Connect Port: SUPV_PORT
Firmware Version: V1.02.07 04/09/2008    Start Time  : 00:00:05 01/01/2008

[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 "I" from the "Main Menu". This menu is used to display line status for fiber optical interface and E1/T1 interface. The line status for fiber optical interface includes: active state, LOF, frame error, checksum error, ES error, and EOC status. The line status for four E1/T1 interface includes: LOS, AIS, BPV, and ES.

If Optical Module 1 is in use, the screen will appear as shown below.

```
E1-FOM                        === Line Status ===           01:01:33 06/01/2005

= Fiber Optical Interface =                 = Remote Status =
#1             State : Working              #1 O9310 with CPU
#1               LOF : YES                  #1              LOF : NO
#1    Framing error : 0                     #1    Framing error : 0
#1   Checksum error : 0                     #1   Checksum error : 0
#1   ES error count : 0
#1       EOC Status : Not Ready

= E1 Interface =                            = Remote E1 Interface =

[No]   [LOS] [RxAIS/Tx] [BPV]  [ES]         [No]   [LOS] [BPV]
#01 E1  YES    NO    YES  0000000  00000     01 E1   YES  0000000
#02 E1  YES    NO    YES  0000000  00000     02 E1   YES  0000000
#03 E1  YES    NO    YES  0000000  00000     03 E1   YES  0000000
#04 E1  YES    NO    YES  0000000  00000     04 E1   YES  0000000




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

If Optical Module 2 is in use, the screen will appear as shown below.

```
E1-FOM                        === Line Status ===           01:01:33 06/01/2005

= Fiber Optical Interface =                 = Remote Status =
#2             State : Working              #1 O9310 with CPU
#2               LOF : YES                  #1              LOF : NO
#2    Framing error : 0                     #1    Framing error : 0
#2   Checksum error : 0                     #1   Checksum error : 0
#2   ES error count : 0
#2       EOC Status : Not Ready

= E1 Interface =                            = Remote E1 Interface =

[No]   [LOS] [RxAIS/Tx] [BPV]  [ES]         [No]   [LOS] [BPV]
#01 E1  YES    NO    YES  0000000  00000     01 E1   YES  0000000
#02 E1  YES    NO    YES  0000000  00000     02 E1   YES  0000000
#03 E1  YES    NO    YES  0000000  00000     03 E1   YES  0000000
#04 E1  YES    NO    YES  0000000  00000     04 E1   YES  0000000




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

## 6.7 Password Setup

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

```
E1-FOM                        === Main Menu ===            01:21:30 01/01/2008

Serial Number   : 118835                Device Name : LOOP O9310
Hardware Version: Ver.F 07/2005         Connect Port: SUPV_PORT
Firmware Version: V1.02.07 04/09/2008   Start Time  : 00:00:05 01/01/2008

[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. Press "P" from the "Main Menu". Use arrow keys to move the cursor at the desired position and TAB key to roll up a desired opton.

```
E1-FOM                  === Password Setup (System) ===     01:01:54 06/01/2005
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS


       Enable Password : YES
       Change Password : NO









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

**For changing passowrd:**

To change password, use TAB key to select "YES" for "Change Password" item. Then key in old password, press ENTER.

```
E1-FOM                 === Password Setup (System) ===     01:01:54 06/01/2005
ARROW KEYS: CURSOR MOVE, BACKSPACE to edit, ESC to abort


       Enable Password : YES
       Change Password : YES
         Old  Password : __________









 >> Please input old password, then press ENTER .
```

## 6.8 System Setup

To do system setup, press "S" from the "Main Menu". This menu is used to set up system configuration and SNTP, enable or disable network cascade function, interfaces, and Auto Laser Shutdown, display descriptions of commands.

```
E1-FOM                          === System Setup ===          01:03:20 06/01/2005



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









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

### 6.8.1 System

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

```
E1-FOM                          === Main Menu ===            01:21:30 01/01/2008

Serial Number    : 118835                Device Name : LOOP O9310
Hardware Version: Ver.F 07/2005          Connect Port: SUPV_PORT
Firmware Version: V1.02.07 04/09/2008    Start Time  : 00:00:05 01/01/2008

[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 "A" from the above menu to do system setup.

```
E1-FOM                        === System Setup ===          05:21:26 01/01/2008



                          A -> System
                          B -> Network Cascade
                          C -> Command Line
                          D -> Optical & E1 Port
                          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 allowed users to set up the system and console port. Use arrow keys to move the cursor, TAB key to select a desired option, and BACKSPACE key to edit message.

For system setting, users are allowed to set up sytem time, IP interface (Ethernet-port or EOC-port), IP addresses, Trap IP addresses, IP addresses for subnet mask and Gateway. This menu also allowed users to edit message for system.

For Console port setting, users are allowed to set up baud rate (9600, 19200, 38400, 57600, or 115200), data length (8-bits or 7-bits), stop bit (1-bit or 2-bits), and parity (NONE, EVEN, or ODD).

```
E1-FOM                        === System Setup ===          01:03:52 06/01/2005
ARROW KEYS: CURSOR MOVE, Please Input: hh:mm:ss mm/dd/yyyy, BACKSPACE to edit
[System]
Time/Date      : 01:03:53 06/01/2005
IP Interface   : ETHERNET_PORT
IP Address     : 010.002.012.050
Subnet Mask    : 255.255.000.000        Gateway IP     : 010.002.254.254
Trap IP Address: 255.255.255.255        Community Name : public
Device Name    :
System Location:



System Contact :



[CONSOLE port]
Baud Rate      : 9600
Data Length    : 8-Bits
Stop Bit       : 1-Bit
Parity         : NONE

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

```
E1-FOM                        === System Setup ===          01:03:52 06/01/2005
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS
[System]
Time/Date      : 01:03:53 06/01/2005
IP Interface   : EOC_PORT
IP Address     : 010.002.012.050
Subnet Mask    : 255.255.000.000        Gateway IP     : 010.002.254.254
Trap IP Address: 255.255.255.255        Community Name : public
Device Name    :
System Location:



System Contact :



[CONSOLE port]
Baud Rate      : 9600
Data Length    : 8-Bits
Stop Bit       : 1-Bit
Parity         : NONE

>> Change configuration (Y/N)? (Note:to save,please use V-command)
```

### 6.8.2 Network Cascade

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

```
E1-FOM                          === Main Menu ===            01:21:30 01/01/2008

Serial Number    : 118835                 Device Name : LOOP O9310
Hardware Version: Ver.F 07/2005           Connect Port: SUPV_PORT
Firmware Version: V1.02.07 04/09/2008     Start Time  : 00:00:05 01/01/2008

[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 “B” to enter Network Cascade.

```
E1-FOM                        === System Setup ===          05:21:26 01/01/2008



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









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

Press "B" from the "System Setup" menu to enable or disable network cascade function. If the network cascade is enabled, IP addresses for routing are required to input.After done the setting press "Y" to confirm the new configuration or "N" to abort it. For saving this new configuration, press "v" from the "Main Menu".

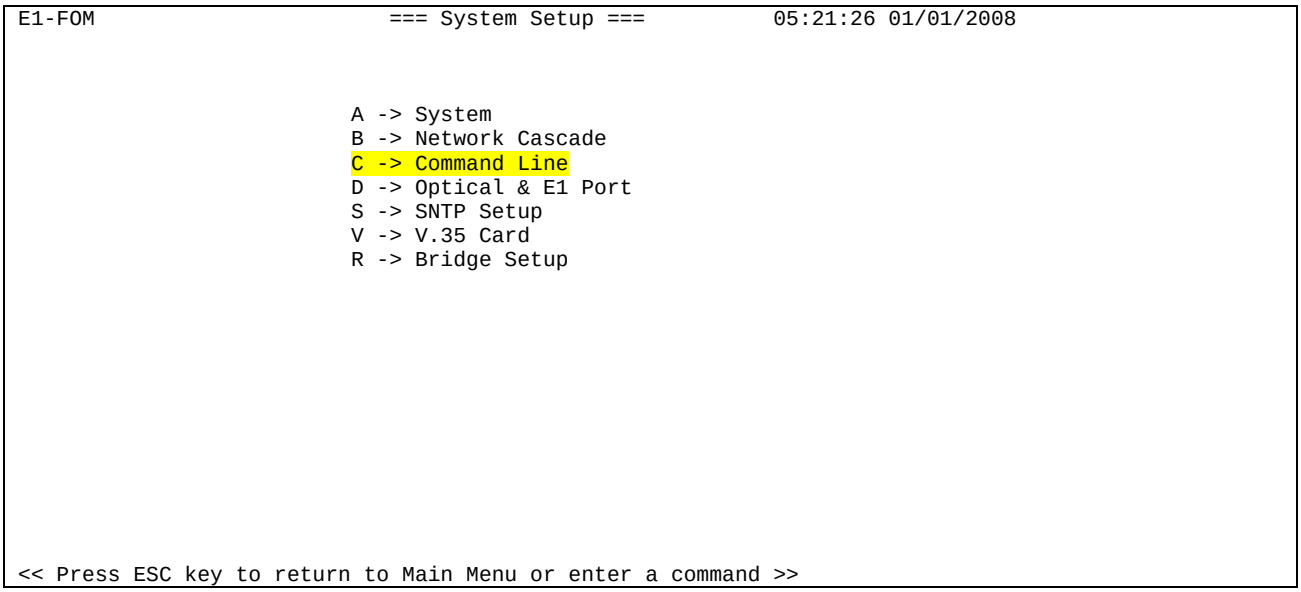
```
E1-FOM                    === Network Cascade ===          01:08:24 06/01/2005
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS

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
IP Address 5   : 000.000.000.000









>> Change configuration (Y/N)? (Note:to save,please use V-command)
```

### 6.8.3 Command Line

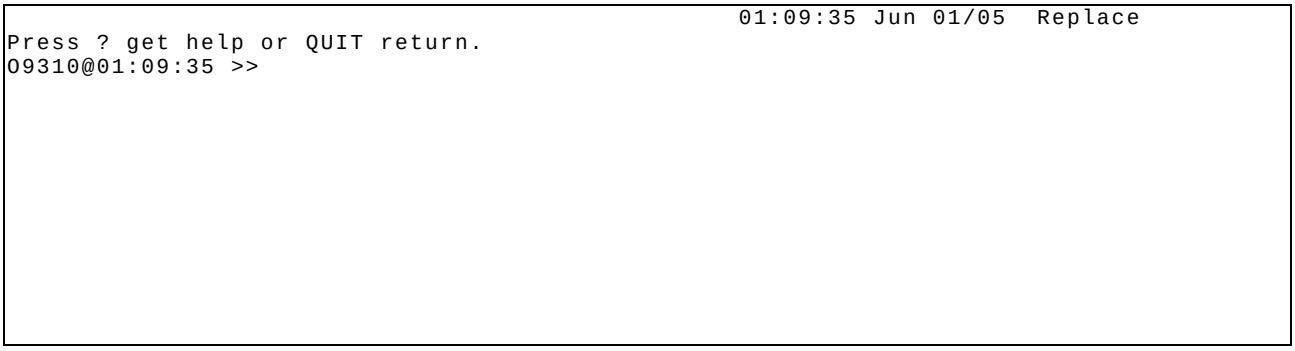
The full menu path for Command Line is as follows:
O > Log On
S > System Setup
C > Command Line

```
E1-FOM                          === Main Menu ===            01:21:30 01/01/2008

Serial Number   : 118835                Device Name : LOOP O9310
Hardware Version: Ver.F 07/2005         Connect Port: SUPV_PORT
Firmware Version: V1.02.07 04/09/2008   Start Time  : 00:00:05 01/01/2008

[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 ===>
```

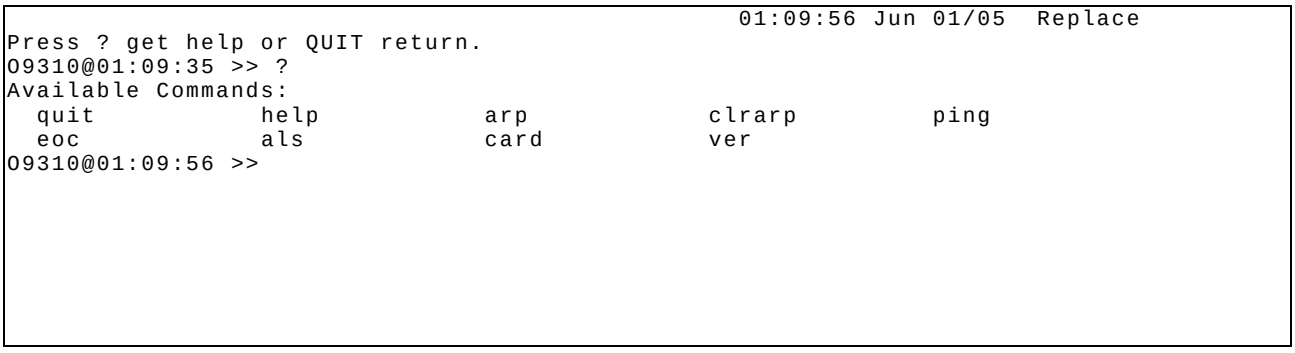
Press "C" from the "System setup" to enter command line.




The command line screen will show as below.




Key in a question mark (?) from the above menu to display all available commands. To exit from this screen, key in "quit".



Key in "help" to get commands' help. To exit from this screen, key in "quit".

```
                                                  05:31:32 Jan 01/08  Replace
Press ? get help or QUIT return.
LOOP O9310@05:31:00 >>?
Available Commands:
  quit           help           arp            clrarp         ping
  eoc            ver
LOOP O9310@05:31:08 >>  help
Commands Support:
  quit ------------------> Leave field support.
  arp/clrarp ------------> Print/Clear ARP table.
  ping ip ---------------> Ping an ip address.
  eoc -------------------> Display EOC statistics.
LOOP O9310@05:31:23 >>ver
SW version is V1.02.07.0032 04/09/2008

LOOP O9310@05:31:26 >>quit
```

### 6.8.4 Optical & E1/ T1 Port

The full menu path for Optical & E1/T1 is as follows:
O > Log On
S > System Setup
D > Optical & E1/T1

```
E1-FOM                          === Main Menu ===            01:21:30 01/01/2008

Serial Number   : 118835                Device Name : LOOP O9310
Hardware Version: Ver.F 07/2005         Connect Port: SUPV_PORT
Firmware Version: V1.02.07 04/09/2008   Start Time  : 00:00:05 01/01/2008

[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 "D" from the "System Setup" menu.

```
E1-FOM                        === System Setup ===          05:36:17 01/01/2008



                           A -> System
                           B -> Network Cascade
                           C -> Command Line
                           D -> Optical & E1 Port
                           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 and E1/T1 ports. Also users are allowed to enable or disable the auto laser shutdown function.

```
E1-FOM                    === Optical & E1/T1 Option ===     01:13:12 06/01/2005
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS

Optical Port # 1 : ENABLE                Auto Laser Shutdown : DISABLE
E1 Port      # 1 : ENABLE
E1 Port      # 2 : ENABLE
E1 Port      # 3 : ENABLE
E1 Port      # 4 : ENABLE









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

### 6.8.5 SNTP Setup

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

```
E1-FOM                          === Main Menu ===            01:21:30 01/01/2008

Serial Number    : 118835                 Device Name : LOOP O9310
Hardware Version: Ver.F 07/2005           Connect Port: SUPV_PORT
Firmware Version: V1.02.07 04/09/2008     Start Time  : 00:00:05 01/01/2008

[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" menu to do SNTP setup.

```
E1-FOM                        === System Setup ===          05:36:17 01/01/2008



                          A -> System
                          B -> Network Cascade
                          C -> Command Line
                          D -> Optical & E1 Port
                          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 set up IP addresses and timezone for SNTP servers. The range for SNTP timezone is +12 to -12. After done the setting, press "Y" to confirm the new configuration or "N" to abort it. For saving this new configuration, press "v" from the "Main Menu".

```
E1-FOM                          === SNTP setup ===          01:14:28 06/01/2005
ARROW KEYS: CURSOR MOVE, Please Input: nnn.nnn.nnn.nnn, BACKSPACE to edit

SNTP server 1 : 000.000.000.000
SNTP server 2 : 000.000.000.000

SNTP timezone : +0









>> Change configuration (Y/N)? (Note:to save,please use V-command)
```

### 6.8.6 V.35 Card Setup

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

```
E1-FOM                          === Main Menu ===           01:21:30 01/01/2008

Serial Number   : 118835                Device Name : LOOP O9310
Hardware Version: Ver.F 07/2005         Connect Port: SUPV_PORT
Firmware Version: V1.02.07 04/09/2008   Start Time  : 00:00:05 01/01/2008

[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 Configuration menu to setup V.35 system configuration.

```
E1-FOM                        === System Setup ===          05:36:17 01/01/2008



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









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

See also below screen. Note that this menu is available only when V.35 card is purchased.

```
E1-FOM                            === V.35 Card ===             00:05:54 06/01/2005



Mode      : DTE

Interface : NotUsed
Channel   : unframe
ClkSrc    : Internal
TTM       : OFF
DCD       : OFF
CTS       : ON
DSR       : ON
TM        : ON
RI        : ON
RTS       : OFF
DTR       : OFF
RL        : OFF
LL        : Not Support




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

### 6.8.7 Bridge Setup

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

```
E1-FOM                          === Main Menu ===            01:21:30 01/01/2008

Serial Number    : 118835                Device Name : LOOP O9310
Hardware Version: Ver.F 07/2005          Connect Port: SUPV_PORT
Firmware Version: V1.02.07 04/09/2008    Start Time  : 00:00:05 01/01/2008

[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 Configuration menu to display bridge system configuration.

```
E1-FOM                        === System Setup ===          05:36:17 01/01/2008



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









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

Note that this menu is available only when Bridge card is purchased

```
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS

Auto Negotiation       :ENABLE
Speed                  :100 Mbps
Duplex Mode            :Full
Aging Time             :30 Sec
MAC Learning & Filter  :ENABLE









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

## 6.9 System Alarm Setup

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

```
E1-FOM                          === Main Menu ===            01:21:30 01/01/2008

Serial Number   : 118835                Device Name : LOOP 09310
Hardware Version: Ver.F 07/2005         Connect Port: SUPV_PORT
Firmware Version: V1.02.07 04/09/2008   Start Time  : 00:00:05 01/01/2008

[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 "M" from the "Main Menu". This menu is allowed users to enable or disable these items: (1) alarm cut-off, (2) alarm relay, (3) protection switch, and (4) power fail. Also users are allowed to set up alarm type for optical and E1/ T1 interfaces.

The range of decimal number for BPV of E1/T1 is: 1 to16383.

The range of decimal number for ES/SES/UAS of E1/T is: 1 to 900.

The range of decimal number for ES/SES/UAS of Optical is: 1 to 900.

```
E1-FOM                        === Alarm Setup ===          00:03:19 01/01/2008
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS

[Control]
Alarm Cut Off     : DISABLE             Relay : 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 >>
```

## 6.10 Loopback Test

The full menu path for Loopback Test is as follows:

O > Log On

T > Loopback Test

```
E1-FOM                        === Main Menu ===            01:21:30 01/01/2008

Serial Number   : 118835              Device Name : LOOP O9310
Hardware Version: Ver.F 07/2005       Connect Port: SUPV_PORT
Firmware Version: V1.02.07 04/09/2008 Start Time  : 00:00:05 01/01/2008

[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 "T" from the "Main Menu" to do loopback test for a local unit and a remote unit.

**ALoc: Anolog Local Loopback**

**DLoc: Digital Local Loopback**

**LineLB: Line Loopback**

```
E1-FOM                        === Loopback Test ===          00:04:56 01/01/2008
ARROW KEYS : CURSOR MOVE , ENTER KEY : ITEM SELECT

==== Local ====
Optical :*Off  Local  Line
E1 #01 : *Off  ALoc  DLoc  LineLB
E1 #02 : *Off  ALoc  DLoc  LineLB
E1 #03 : *Off  ALoc  DLoc  LineLB
E1 #04 : *Off  ALoc  DLoc  LineLB
V35 :    *Off  Local  Line

==== Remote ====
Optical :*Off  Line
E1 #01 : *Off  ALoc  DLoc  LineLB
E1 #02 : *Off  ALoc  DLoc  LineLB
E1 #03 : *Off  ALoc  DLoc  LineLB
E1 #04 : *Off  ALoc  DLoc  LineLB


Status :



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

## 6.11 File Transfer

To do file transfer, press "L" from the "Main Menu". This menu is used to download or upload firmware and configuration. The function, to copy firmware to remote site, is also supported.

```
E1-FOM                        === File Transfer ===          05:55:28 01/01/2008



                           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 >>
```

### 6.11.1 Download Mainboard Firmware

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

```
E1-FOM                          === Main Menu ===            01:21:30 01/01/2008

Serial Number    : 118835                Device Name : LOOP O9310
Hardware Version: Ver.F 07/2005          Connect Port: SUPV_PORT
Firmware Version: V1.02.07 04/09/2008    Start Time  : 00:00:05 01/01/2008

[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 "A" from the "File Transfer" menu to download mainboard firmware.

```
E1-FOM                       === File Transfer ===          05:55:28 01/01/2008



                          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 >>
```

Two transferring protocols are available: TFTP or ZMODEM.

**1. Via TFTP transferring protocol:**

```
E1-FOM                    === Download Firmware ===        01:28:05 06/01/2005
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS

Firmware 1 Version    : S1.00 07/04/2005
Firmware 2 Version    : S1.00 07/01/2005
Current Firmware Bank: 1
Next Boot Firmware    : 1
Transfer Protocol     : TFTP
Firmware File Name    :
TFTP Server IP        : 010.002.012.001









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

**2. Via ZMODEM transferring protocol:**

```
E1-FOM                    === Download Firmware ===        01:28:05 06/01/2005
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS

Firmware 1 Version    : S1.00 07/04/2005
Firmware 2 Version    : S1.00 07/01/2005
Current Firmware Bank: 1
Next Boot Firmware    : 1
Transfer Protocol     : ZMODEM









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

Press ENTER from the above menu.

```
E1-FOM                    === Download Firmware ===        01:28:05 06/01/2005
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS

Firmware 1 Version   : S1.00 07/04/2005
Firmware 2 Version   : S1.00 07/01/2005
Current Firmware Bank: 1
Next Boot Firmware   : 1
Transfer Protocol    : ZMODEM



Really want to Download ?









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

Press "Y" from the above scrren.

```
E1-FOM                    === Upgrade Firmware ===        01:29:03 06/01/2005

System is ready to upgrade (to FIRMWARE 2).
Start ZMODEM sending command from your terminal emulator.
Waiting for ZMODEM packets ...
**B01000800257737
```

### 6.11.2 Upload Mainboard Firmware

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

```
E1-FOM                          === Main Menu ===            01:21:30 01/01/2008

Serial Number    : 118835                Device Name : LOOP O9310
Hardware Version: Ver.F 07/2005          Connect Port: SUPV_PORT
Firmware Version: V1.02.07 04/09/2008    Start Time  : 00:00:05 01/01/2008

[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 "B" from the "File Transfer" menu to Upload Mainboard Firmware.

```
E1-FOM                          === File Transfer ===        06:20:22 01/01/2008



                           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 >>
```

The Upload Firmware screen will show as below.

```
E1-FOM                    === Upload Firmware ===         01:35:11 06/01/2005
ARROW KEYS: CURSOR MOVE, BACKSPACE to edit, ESC to abort


Firmware 1 Version   : S1.00 07/04/2005
Firmware 2 Version   : S1.00 07/01/2005
Current Firmware Bank: 1
Transfer Protocol    : TFTP
Firmware File Name   : ____________________________________________________
TFTP Server IP       : 010.002.012.001
Firmware Bank Number : 1









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

### 6.11.3 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

```
E1-FOM                        === Main Menu ===            01:21:30 01/01/2008

Serial Number   : 118835                Device Name : LOOP O9310
Hardware Version: Ver.F 07/2005         Connect Port: SUPV_PORT
Firmware Version: V1.02.07 04/09/2008   Start Time  : 00:00:05 01/01/2008

[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 "C" from the "File Transfer" menu to Copy Firmware to Remote.

```
E1-FOM                        === File Transfer ===          06:20:22 01/01/2008



                            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 >>
```

This menu is used to copy firmware to remote site.

```
E1-FOM                        === Firmware Copy ===          09:36:17 07/11/2005



[Remote]
Firmware 1 Version   : S1.f0 07/26/2005
Firmware 2 Version   : V1.00 07/29/2005
Current Firmware Bank: 2

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 >>
```

Press "Y" from the above menu to confirm the transfer. The system will start to transfer firmware and show up the current transfer status. When the transfer is done, please press "W" to warm start the system or "C" to cold start the system. Then the system will be started with the new firmware.

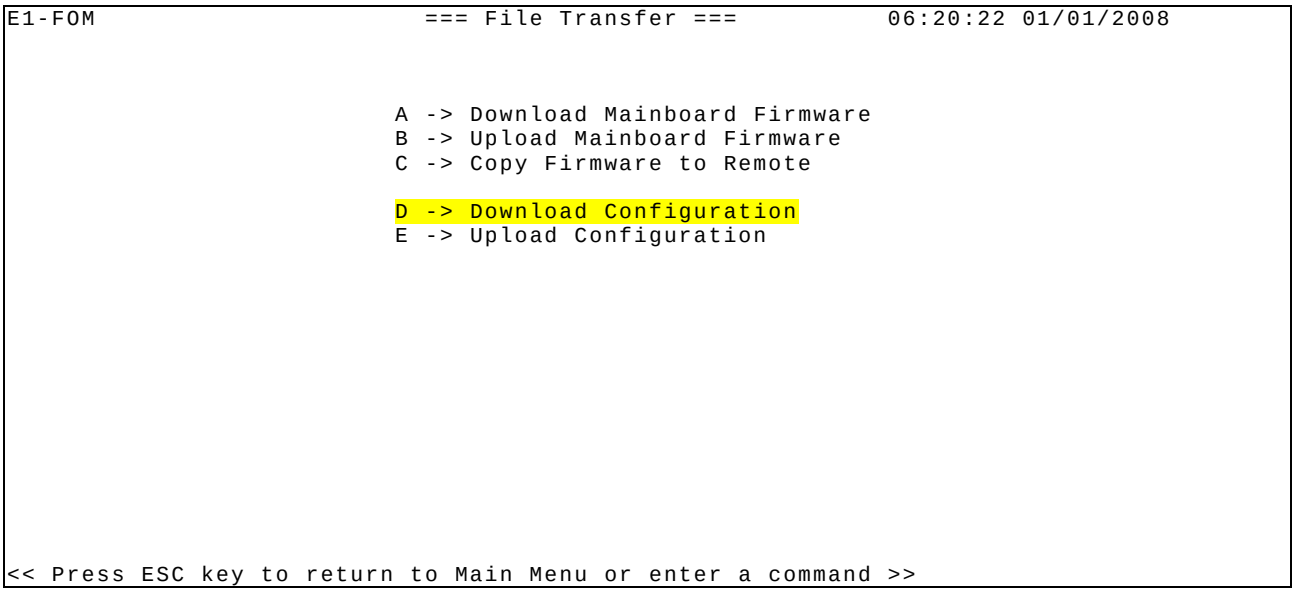
```
E1-FOM                        === Firmware Copy ===          09:36:17 07/11/2005



[Remote]
Firmware 1 Version    : S1.f0 07/26/2005
Firmware 2 Version    : V1.00 07/29/2005
Current Firmware Bank: 2

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

09:36:48 07/11/05  Starting transfer ...
09:36:48 07/11/05  Transfer Status : 10%









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

### 6.11.4 Download Configuration

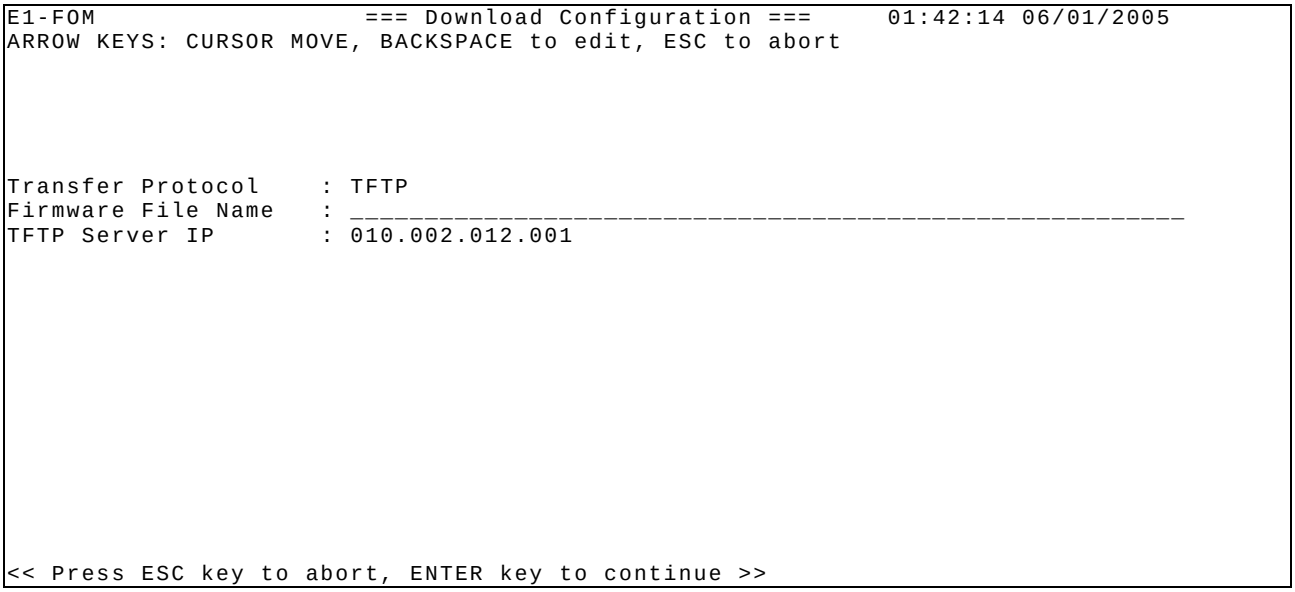
The full menu path for Download Configuration is as follows:
O > Log On
L > File Transfer
D> Download Configuration

```
E1-FOM                          === Main Menu ===            01:21:30 01/01/2008

Serial Number    : 118835                Device Name : LOOP O9310
Hardware Version: Ver.F 07/2005          Connect Port: SUPV_PORT
Firmware Version: V1.02.07 04/09/2008    Start Time  : 00:00:05 01/01/2008

[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 "D" from the "File Transfer" menu to Download Configuration.




This menu is used to download system configuration. User has to key in a file name for tirmware. Then press ENTER key to confirm or ESC to abort.



### 6.11.5 Upload Configuration

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

```
E1-FOM                          === Main Menu ===            01:21:30 01/01/2008

Serial Number    : 118835                Device Name : LOOP O9310
Hardware Version: Ver.F 07/2005          Connect Port: SUPV_PORT
Firmware Version: V1.02.07 04/09/2008    Start Time  : 00:00:05 01/01/2008

[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 "E" from the "File Transfer" menu to Upload Configuration.

```
E1-FOM                           === File Transfer ===          06:20:22 01/01/2008



                            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 >>
```

Key in a file name for tirmware. Then press ENTER key to confirm or ESC to abort.

```
E1-FOM                  === Upload Configuration ===      01:42:40 06/01/2005
ARROW KEYS: CURSOR MOVE, BACKSPACE to edit, ESC to abort




Transfer Protocol    : TFTP
Config File Name     : ____________________________________________________________
TFTP Server IP       : 010.002.012.001









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

## 6.12 Store/ Retrieve Configuration

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

```
E1-FOM                          === Main Menu ===            01:21:30 01/01/2008

Serial Number   : 118835                Device Name : LOOP O9310
Hardware Version: Ver.F 07/2005         Connect Port: SUPV_PORT
Firmware Version: V1.02.07 04/09/2008   Start Time  : 00:00:05 01/01/2008

[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 store and retrieve system configuration. Press "V" from the "Main Menu". Use arrow keys to mvoe the cursor at "STORE" or "RETRIEVE", press ENTER to confirm the selection. The current selection will be highlighted by an asterisk (*).

**1. Store Configuration:**

```
E1-FOM               ===Store/Retrieve Configuration===    01:43:17 06/01/2005




>> Select ?   *STORE      RETRIEVE
```

Press ENTER from the above menu. To store the current system configuration, press "Y". Otherwise, press "N" to abort.

```
E1-FOM               ===Store/Retrieve Configuration===    01:43:59 06/01/2005




>> Select ?   *STORE      RETRIEVE
>> Store Current Configuration ? [Y/N]
```

**2. Retrieve Configuration:**

The operation for "RETRIEVE"is same as "STORE".

```
E1-FOM                ===Store/Retrieve Configuration===    01:43:17 06/01/2005









>> Select ?    STORE     *RETRIEVE
```

```
E1-FOM                ===Store/Retrieve Configuration===    01:43:17 06/01/2005









>> Select ?    STORE     *RETRIEVE
>> Retrieve Last Stored Configuration ? [Y/N]
```

## 6.13 Alarm Cut Off

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

This menu is used to do alarm cut-off. Press "A" from the "Main Menu", then press "Y" to confirm or "N" to abort.

```
E1-FOM                          === Main Menu ===            01:44:24 06/01/2005

Serial Number   : 009310                Device Name :
Hardware Version: Ver.C 06/25/2005      Connect Port: SUPV_PORT
Firmware Version: S1.00 07/04/2005      Start Time  : 00:00:05 06/01/2005

[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)?
```

## 6.14 Clear Performance Data

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

To clear performance data, press "K" from the "Main Menu". Then press "Y" to confirm or "N" to abort.

```
E1-FOM                          === Main Menu ===            01:44:24 06/01/2005

Serial Number   : 009310                Device Name :
Hardware Version: Ver.C 06/25/2005      Connect Port: SUPV_PORT
Firmware Version: S1.00 07/04/2005      Start Time  : 00:00:05 06/01/2005

[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]
```

## 6.15 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

This menu is allowed users to clear alarm queue. Press "X" from the "Mani Menu", then press "Y" to confirm or "N" to abort.

```
E1-FOM                          === Main Menu ===            01:44:24 06/01/2005

Serial Number   : 009310                Device Name :
Hardware Version: Ver.C 06/25/2005      Connect Port: SUPV_PORT
Firmware Version: S1.00 07/04/2005      Start Time  : 00:00:05 06/01/2005

[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)?
```

## 6.16 Return to Default

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

If users want to return the system configuration to default setting. Press "Y" from the "Main Menu", then press "Y" to confirm or "N" to abort.

```
E1-FOM                          === Main Menu ===            01:44:24 06/01/2005

Serial Number   : 009310                Device Name :
Hardware Version: Ver.C 06/25/2005      Connect Port: SUPV_PORT
Firmware Version: S1.00 07/04/2005      Start Time  : 00:00:05 06/01/2005

[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]
```

## 6.17 System Reset

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

O9310 provides two mode of system restart for users: (1) warm restart and (2) cold restart.
Move the cursor at a desired mode, press ENTER to enable the current selecton, which will be highlighted by an asterisk (*).

```
E1-FOM                          === Main Menu ===            01:44:24 06/01/2005

Serial Number   : 009310                Device Name :
Hardware Version: Ver.C 06/25/2005      Connect Port: SUPV_PORT
Firmware Version: S1.00 07/04/2005      Start Time  : 00:00:05 06/01/2005

[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

>> Restart Mode ?   *Warm Restart   Cold Restart
```

Press ENTER from the above menu. Then press "Y" to confirm or "N" to abort the reset.

**1. Warm Restart:**

```
E1-FOM                          === Main Menu ===            01:46:09 06/01/2005

Serial Number   : 009310                Device Name :
Hardware Version: Ver.C 06/25/2005      Connect Port: SUPV_PORT
Firmware Version: S1.00 07/04/2005      Start Time  : 00:00:05 06/01/2005

[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

>> Restart Mode ?   *Warm Restart   Cold Restart
Reset - are you sure ? [Y/N]
```

**1. Cold Restart:**

```
E1-FOM                          === Main Menu ===            01:44:24 06/01/2005

Serial Number   : 009310                Device Name :
Hardware Version: Ver.C 06/25/2005      Connect Port: SUPV_PORT
Firmware Version: S1.00 07/04/2005      Start Time  : 00:00:05 06/01/2005

[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

>> Restart Mode ?    Warm Restart  *Cold Restart
Reset - are you sure ? [Y/N]
```