



User's Manual
Installation and Operation Guidelines
DL100 Pollable Remote Access Unit

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Manual Rev. C
for Firmware Version 1.10_STD

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Quick Start

What's Included

This chapter is a brief guide to help get your DL100 up and running quickly.

Hardware Needed

- Asentria Data-Link DL100
- Computer with DB9 RS-232 Serial port and terminal emulation software
- Ethernet Connection (if DL100 includes the Ethernet option)
- 15VDC power adaptor (Included if AC power option)
- DC power source (if DC power option)
- Female DB9 Null Modem serial cable (Included)
- PC running AlarmManager software -- may be obtained from <http://www.asentria.com/docsandsoftware/productManuals.aspx> or Asentria Technical Support (optional for SNMP trap receiving purposes)

Information Needed

- IP address to assign to the DL100
- Subnet mask
- Default router IP or gateway router IP address if on a WAN (Optional)
- IP address of the PC running Asentria AlarmManager (for SNMP trap receiving purposes)

Connecting

Cables and Power

1. Connect the serial cable to the serial port I/O2 of the DL100 and the other end into COM1 of a computer running a terminal emulator.
2. Connect the power supply to the unit (see Power Requirements section).
3. Connect an Ethernet cable, if available, into the RJ-45 jack labeled Ethernet.

Power Requirements

The DL100 is configured with one of two types of power connectors: AC or DC.

If configured for AC, the unit uses a barrel connector for connecting to the 15VDC power adapter shipped with the unit.

If configured for DC, the unit is configured with a 4-pin Molex connector for use with a DC power source. The unit is shipped with the cables and instructions for direct connection to a DC power source. The instructions are shown below, in case they are missing from the box.

» Note: This instruction sheet describes connection of the provided -48V wiring harness kit to the source power supply. This unit should be assembled and installed by a qualified technician who can ensure the power source is an isolated, SELV (Safety Extra Low Voltage) circuit. There are two versions of the harness using different wiring colors as shown below.

» Note: Because the DL100 is generally considered to be "permanently connected", safety standards require that an appropriate disconnect device shall be provided as part of the building installation. The -48VDC input should be protected by an external 2A Slow Blow Fuse conforming to CSA/UL 248-14, IEC 60127-4/2, at the power supply or within the building circuitry as appropriate. The input DC power current limiting fuse circuit is provided for by the end user, and is required for unit operation in compliance with safety agency approvals.

One example of a compliant fuse for the -48V input is a Littelfuse 239P series, 2 amp fuse with a 250 VDC minimum voltage rating and interrupt rating 10,000 amps at 125 VAC, 0.7 to 0.8 power factor and 100 amps at 125VAC, 0.7-0.8 power factor.

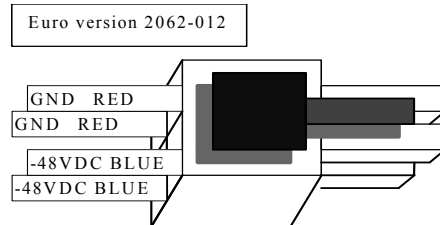
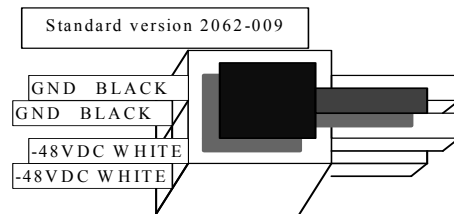
CONTENTS:

Please inventory the package contents and ensure you have the following items pertaining to the -48VDC Power Option:

1. A cable harness consisting of 2 black or red and 2 white or blue wires connected to a white nylon “molex” connector.
2. A bare white nylon housing.
3. 5 crimp-on contacts.

-48VDC CONNECTION:

The -48VDC power supply option has 4 input connections. This gives the user the ability to connect this unit to an auxiliary -48VDC power source. Note: The dark area on the diagram represents the latching mechanism on the housing.



DANGER! FIRE HAZARD!
DO NOT LEAVE AN UNCONNECTED WIRE EXPOSED!
DO NOT CONNECT THE UNIT TO ANY OTHER EQUIPMENT UNTIL YOU KNOW THE UNIT POWERS UP CORRECTLY!

Option A: Connect the supplied harness assembly to your -48VDC voltage source:

1. Ensure the unit is not connected to any peripheral equipment.
 >> **NOTE:** Peripheral Equipment connections may cause a short circuit of your -48V supply if the power connections are reversed! Do not connect peripheral equipment connections until you know the unit is operational by observing the front panel Power LED.
2. Strip the ends of the wires.
3. Using wire nuts (not supplied), connect the stripped wires to the power source. The black (red) wires connect to ground or the most Positive connection on the voltage source. The white (blue) wires connect to -48VDC or the most Negative connection on the voltage source.

Option B: Use the supplied kit to make a wire harness:

1. You will need a crimping tool that crimps standard Molex type 18-24 AWG Mini-Fit Terminals (Molex Part Number: 39-00-0060, Engineering Series 5556).
2. Crimp the supplied terminals to your cable connections.
3. Insert the crimped terminals into the supplied white nylon housing. Orient the housing so the latching mechanism is up and you are looking into the large end of the housing. See diagram above. Insert the 2 Ground or Most Positive leads into the upper and lower compartments on the left side of the connector, e.g. the same positions as the black wires on the supplied harness assembly. Insert the 2 -48VDC or Most Negative leads into the upper and lower compartments on the right side of the connector, e.g. the same positions as the white leads on the supplied harness assembly.
4. Connect the completed assembly into the power input receptacle at the rear of the unit.

Accessing the Command Line

1. Connect to I/O2 with a serial terminal emulation program at 19200 baud, 8N1.
2. Type **STATUS** or **?** and press <Enter>. You will be presented with a status screen similar to the following.

```

Data-Link DL100 1.10 STDC      Unit Serial # : 526209999
Unit ID : 526209999
Date   : FRI 06/01/07        % Full alarm   : OFF
Time   : 15:46:50           No Data Alarm 1: OFF
Memory : 512K                No Data Alarm 2: OFF
% Full : 00%                 Release mode   : LINE
Modem  : Yes                 Duplex        : FULL
Network : Yes                Password      : OFF
IP Add  : 0.0.0.0            Compress      : OFF
MAC Add : 00:10:A3:01:34:91
-----
          Port 1   Port 2
Baud Rate  19200   19200
Parity, etc. 8N1    8N1
File Records 00000000 00000000
File Bytes   00000000 00000000
File % Full  00%     00%
ASCII/Binary ASCII   ASCII
Handshake   NONE    NONE
File Wrap   OFF     OFF
Alarm Filter OFF     OFF
COMPLETE

```

When the status screen appears, the unit is successfully connected and ready for use.

Network Setup

Setup

1. Access the Setup menu by typing **SETUP** and pressing <Enter>.
2. Select the Network Settings branch.
3. In options A), B), and C) enter an IP address, subnet mask and--if necessary--a router address.
4. Press <Esc> to go back one level in the menu tree, or <Ctrl + C> to exit the setup menu and return to the command prompt.

Testing Network Connectivity

1. Verify that the network router is available to the unit by typing the command **PING IP_address**. Routers are always good candidates to test your pings on. The following screenshot is an example of a successful ping test.

```

ping 192.168.100.2
PING command running, press ESC to exit
Ping Reply Seq=1 time=32 ms
Ping Reply Seq=2 time=28 ms
Ping Reply Seq=3 time=28 ms
Ping Reply Seq=4 time=32 ms
Ping Reply Seq=5 time=52 ms
Ping Reply Seq=6 time=28 ms
Ping Reply Seq=7 time=28 ms
Ping Reply Seq=8 time=32 ms
Ping Reply Seq=9 time=24 ms
Ping Reply Seq=10 time=24 ms
COMPLETE

```

2. Press <Esc> to stop the ping testing. If <Esc> is not pressed, the unit will continue pinging attempts indefinitely.
3. If there is an error message or no response from the router, first check the network settings and connection, then consult your System Administrator or Asentria Technical Support.
4. Using a Telnet client, connect to the IP address assigned to the unit.

SNMP Trap Setup

If you will be using your DL100 to send SNMP traps, this section will help you ensure it is set up correctly.

Setup

1. Configure the network settings as described in the previous section.
2. Select the Network Settings then enter the IP address of one or two SNMP Managers in D) SNMP Manager 1 and/or E) SNMP Manager 2.
3. Configure the SNMP Community name for your network in F) SNMP Community.
4. Press <CTRL + C> to exit the Setup menu and return to the command line.
5. On the computer that will be receiving the SNMP traps, start AlarmManager or your preferred SNMP trap manager.

Testing SNMP Traps

1. Enter the command **DOTRAP** from the DL100 command prompt. The DL100 should respond with "Complete".
2. Verify that the trap manager receives the test trap.
3. If there is an error message or no response from the router, first check the network settings and connection, then consult your System Administrator or Asentria Technical Support.

What is a DL100

The Basics



Fig 1: Data-Link DL100

The DL100 is a remote site management device that provides three basic functions to facilitate management and monitoring of serial port devices. These functions are:

- Data collection, storage and forwarding
- Remote access of serial devices
- Monitoring of serial alarm conditions

Communication Methods

The DL100 has a diverse selection of communication methods available for different applications. The following methods can be used to either access the command processor or provide a pass-through connection to devices attached to the serial ports. All methods of connecting to the unit can be secured via password for protection of data and hardware.

- RS-232 serial
- Telnet
- Standard modem serial
- Security callback modem serial

Data may be retrieved from or through the DL100 by any of the following methods:

- Serial or modem connection to command processor (using Line or Zmodem) or pass-through
- Inline Mode (data in I/O1, data out I/O2)
- Telnet to command processor or pass-through
- Telnet real-time sockets
- FTP push (automatic delivery to FTP server)
- FTP get (manual retrieval from FTP server)

Alarms generated or detected within the DL100 can be delivered through any of the following means:

- Alphanumeric pager
- Numeric pager
- Modem callout
- SNMP trap

Remote Access

The DL100 can provide an administrator transparent access to devices connected to the serial ports of the unit via pass-through connections or through the login menu in Telnet and modem connections. These can be accessed via the command processor or through Telnet ports. This sort of access can be used to configure, maintain, or manipulate devices that would normally have no remote access.

Serial Monitoring (Data Events)

The DL100 has the capability to monitor incoming data for user-defined strings and then report the event via several avenues. The DL100 allows for up to 16 different data events. Each data event contains independent actions, counters, and other unique settings.

Data events triggered within the DL100 can be logged to an Alarms Log. This file can be viewed through the Alarms Log section of the setup menu, or through FTP.

Event Notification

Actions generated or detected within the DL100 can be delivered through any of the following means:

- SNMP Trap
- Modem callout to a pager
- Modem callout to another modem
- Modem callout sending an Omnilarm

Parts Identification

Features and Accessories

Standard Equipment

The base DL100 comes with the following standard on-board equipment:

- 12V AC or -48V DC Power Input
- Two or four DB9 Male DTE RS-232 serial I/O ports
- Internal battery backup*

In addition to the above components, the standard unit is shipped the following accessories:

- This product manual and Asentria Alarm Manager software on the Documentation and Software CD
- Two or four 6 foot female DB9 to female DB9 null modem serial cables
- Power supply (not included for -48VDC equipped units)

Options

Each of the following components is optional and may be installed on a DL100:

- One 10/100Mb Ethernet interface
- Internal 33.6k baud modem

The DL100 may come with any of the following accessories as well, depending on the configuration or order:

- Ethernet and modem cables if either of those options is ordered.
- Battery backup preserves clock operation when power is not present. Data records and settings are stored in non-volatile memory and therefore do not require backup.

Front Panel



Fig 2: Front panel

ButtonsControl

Reset - This button will perform a hard reset on the unit. To perform a reset, hold the button in until the unit beeps (about three seconds).

Next - Reserved for future use.

Enter - Reserved for future use.

LEDsEthernet

The Link LED lights whenever an Ethernet 10BaseT (or 100Base T) network link connection is found.

The TX LED lights briefly whenever an Ethernet frame is being transmitted (and received, depending on the Ethernet chipset).

The Active LED lights whenever a network connection, such as ftp, Telnet, or pass-through, is active.

Active Modem

The Active LED lights solid whenever the modem is connected and blinks when the modem is dialing out.

Percentage Full

The DL100 has five LEDs to indicate file full status. A blinking percentage full LED indicates the database has less than the amount indicated by that LED, but more than the previous. A solid lit LED indicates the database percentage is at or over the value for that LED.

I/O n

I/O 1 has two LEDs associated with it, and I/O 2 has three.

RX n flickers red to indicate data traffic coming into the unit. This LED defaults to green whenever a cable is connected to the associated port. This LED is driven directly from the port, so it will remain illuminated, even if the unit is powered off.

TX n flickers red to indicate data traffic leaving the unit. This LED defaults to green whenever a cable is connected to the associated port. This LED does not remain illuminated when the unit is powered off.

The CTS2 LED for I/O 2 lights when a clear to send signal is received on I/O2. This should be used as an indicator of whether someone has an active connection to the command processor port (even if it is not in command processor mode).

Alarm

The Alarm LED lights solid red whenever the DL100 is in an alarm state due to a configured event being triggered.

Acknowledging or clearing the event will turn off the Alarm LED.

Power

The Power LED has two operational states. Steady on with an occasional blink is a 'heartbeat' indicator of normal operation. The second state occurs during the boot sequence, where it will blink once every second until the boot sequence is complete and two beeps are heard.

Back Panel

Ports & Connectors**Serial Ports**

The serial ports are configured as a DTE port using a male, DB9 connector. This configuration is similar to that used on the COM ports of an IBM-compatible PC. The following figure shows the pin configurations of these ports:

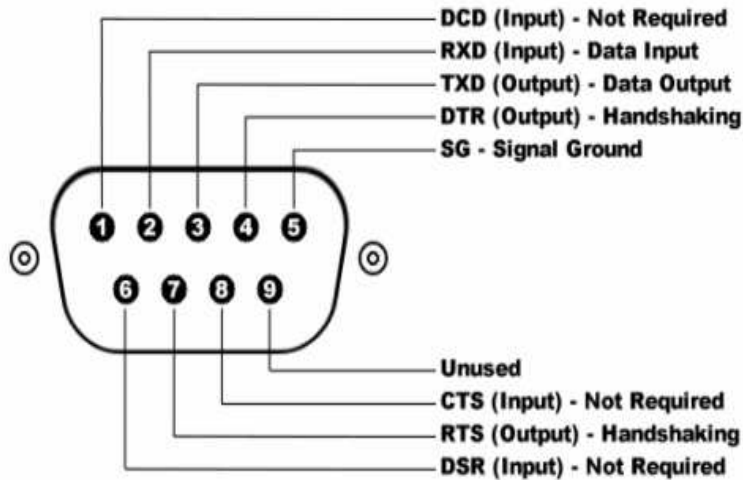


Fig 3: DL100 DB9 Pin Out

The two most important connections are the Receive Data line on pin 2 and the Signal Ground on pin 5. When receiving serial data, these are the only two connections that the DL100 needs. However, if either pass-through access to any connected serial devices or serial command line access is required, then the transmitted data signal line on pin 3 must be connected as well. Additionally, some equipment may require an RS-232 high signal on one or more of its signal lines in order to transmit or accept data. Consult the manual for any connected equipment as needed.

The DB9 female cable end which mates with the serial port connectors of the DL100 will usually have a pair of screw-down cable locks. These cable locks should be used to assure a solid connection of the cable with the DL100 serial port connectors.

Default settings for the serial ports are 19200-baud, 8-bit word length, no parity, and one stop bit (19200, 8N1). Use either the internal setup menu or the external DIP switches to adjust these settings.

Internal Modem

If a dialup modem is installed, an RJ-11 (typical U.S. phone) connector is used. A POTS (analog) dialup phone line is inserted into this connector.

The modem installed within this unit is FCC certified. For further information, consult the [Internal Modem Guidelines](#) appendix or the serial number label on the bottom of the DL100.

Ethernet

The Ethernet 10/100Mb interface is standard RJ-45. This connector will connect the DL100 to an Ethernet hub or switch. Refer to the [Telnet/TCP Connections](#) section in the Features chapter for further information regarding a number of different types of Telnet connection options.

DIP switches

The back of the DL100 is equipped with two banks of eight DIP switches each:



DIP switch Orientation

Please refer to the following for the functionality of each switch:

- Switches A1 through A3 and B1 through B3 configure baud rate for I/O 1 and I/O 2, respectively (see table below)
- Switches A4 through A6 and B4 through B6 configure word length, parity, and stop bits for I/O 1 and I/O 2, respectively (see table below)
- Switch A7 is reserved and is to remain off at all times
- Switch A8 is reserved for future use
- Switches B7 and B8 determine the operating mode of I/O 2 (see table below for details)

The following table outlines the functionality of DIP switches B1 through B6 in switching the baud rate and port settings of I/O 2.

Baud Rate SW1 SW2 SW3

9600	OFF	OFF	OFF
300	OFF	OFF	ON
600	OFF	ON	OFF
1200	OFF	ON	ON
2400	ON	OFF	OFF
4800	ON	OFF	ON
9600	ON	ON	OFF
19200	ON	ON	ON

Word, Parity, Stop SW4 SW5 SW6

7N1	OFF	OFF	OFF
7E1	OFF	OFF	ON
7O1	OFF	ON	OFF
7N1	OFF	ON	ON
8N1	ON	OFF	OFF

I/O 2 Mode

Command Mode	B7	B8
Inline Mode	OFF	OFF
Input Mode	OFF	ON
	ON	ON

Getting Connected

Power Up Sequence

On startup, the DL100 goes through the following boot sequence:

- 1) The power LED flashes once each second for 15 seconds
- 2) Internal buzzer beeps twice (Console Port displays the Unit ID)
- 3) Active Modem and Ethernet (if installed) LEDs light for 5 seconds
- 4) Power LED will blink once every 5-6 seconds as a "heartbeat" while the DL100 is powered on.

The Status Screen

The DL100 status screen is this unit's one-stop informational source. Most of the information that a user would need to know about the unit is available through this display. This section outlines this data and highlights why it is useful.

```
Data-Link DL100 1.10 STDC      Unit Serial # : 526209999
Unit ID : 526209999
Date   : TUE 06/05/07        % Full alarm  : OFF
Time   : 10:50:44           No Data Alarm 1: OFF
Memory : 512K                No Data Alarm 2: OFF
% Full  : 00%                Release mode  : LINE
Modem   : Yes                Duplex       : FULL
Network : Yes                Password     : OFF
IP Add  : 192.168.100.43     Compress    : OFF
MAC Add : 00:10:A3:01:34:91
```

```
-----
          Port 1   Port 2
Baud Rate   9600   19200
Parity, etc. 8N1    8N1
File Records 00000000 00000000
File Bytes   00000000 00000000
File % Full  00%     00%
ASCII/Binary ASCII   ASCII
Handshake    NONE    NONE
File Wrap    OFF     OFF
Alarm Filter OFF     OFF
COMPLETE
```

The Status screen in the DL100 is dynamically created according to the configuration of each particular unit. Because of this, the above example may not be identical to another.

Data-Link DL100 indicates that this product is the Data-Link DL100, followed by **1.10 STDC**, the currently loaded firmware version.

Unit ID is the identifier assigned to this DL100 by the end user. Default is the serial number.

Date and **Time** are the current date and time.

Memory indicates the amount of flash memory configured for storage of data.

% Full indicates the percent of the memory installed that is currently occupied by serial port data and alarm records.

Modem and **Network** each indicate whether or not that component is installed in the DL100, as indicated by YES or NONE.

If a network interface is installed, the **IP Add** and **MAC Add** display the appropriate values. The user configures the IP Address. The MAC address cannot be changed and is displayed for informational purposes.

Unit Serial # is the factory-assigned, unique serial number for this DL100.

% Full Alarm / No Data Alarm *n* indicates the current ON/OFF status of the % Full alarm, and No Data Alarms 1 and 2, respectively.

Release Mode indicates the current command processor data release method. This can be Line, CBB, or Xmodem.

Duplex controls the echo settings for the command processor. Full duplex causes the DL100 to echo all characters sent to the remote device. Half duplex turns off character echo.

Password indicates whether password protection is enabled for the current method being used to access the command processor. For example, if passwords are disabled for Local (serial) and Modem connections but enabled for Telnet/TCP, this item would indicate ON if connected to the DL100 via Telnet. It would register OFF if connected via Local (serial) or Modem.

Compress displays the status of the space compression used in Line mode polling. This setting has no bearing on Xmodem or CBB data release.

The **Baud Rate** and **Parity** settings table contains the baud, word length, parity, and stop bit settings for each installed serial port.

File Records shows the number of carriage return-delimited records stored within the file for each port.

File Bytes represents the amount of storage allocated for the above records.

File % Full is a rough percentage indicator of how much data is stored in a particular file.

ASCII/Binary displays the current setting of whether ASCII or binary data is being stored in a particular port's file.

Handshake indicates the current method of handshaking for each port.

File Wrap indicates whether file wrapping is enabled on a particular port. When enabled, a unit that is 100% full will overwrite the oldest buffered records with new ones.

Alarm Filter indicates whether an alarm monitor is active on a port.

Setup Menu

Overview

The Setup menu contains all of the configuration options available on the DL100. It is organized in a logical tree structure with all settings classified under the following groups:

» **Note:** Some menus may not be available, depending on your hardware configuration.

```
Data-Link DL100 - Main Setup Menu
A) Network Settings
B) Serial Settings
C) Modem Settings
D) Passwords/Security
E) Alarm/Filter Definitions
F) Action Definitions
G) General Settings
H) Alarm Log Settings
```

Each section in this chapter will go over one of the above setup branches, outlining the options within.

Press <Esc> to go back one level in the menu tree, or <Ctrl + C> to exit any setup menu and return to the command prompt.

Since this product allows for multiple simultaneous command processors, two administrators could conceivably change the same option at the same time, but due to the multitasking nature of the DL100, the changes are processed in the order received.

The DL100 processes setup changes in real time. In other words, the unit begins to implement changes to its configuration as soon as they are entered. There is no need to exit the setup menu or reboot the unit to apply changes. The exception to this rule is IP-specific network settings. Changes to these settings are implemented only after all open Telnet command processors are closed.

Option Types

Text string entry

There are several different types of inputs employed within the setup menu. The most common is the text string type entry:

```
A) Unit ID [Data-Link]
```

When selected, this setting will provide a prompt requesting a new value. You may press <Enter> or <Esc> to abort the option entry or press <Space> and <Enter> to delete the current value and leave it blank. Some numerical or required settings will not allow an you to leave an option blank, so pay attention to the unit's response when attempting to delete a setting's value.

Toggle

The second most common option type is the toggle type option:

```
D) Confirmation Prompt [OFF]
```

When selected, this option will not prompt for a new value. It will simply cycle to the next available option in its list. This switch type is typically used for options with two or more choices. Most often it is in an ON/OFF form, but could be a series of options such as "NONE", "1", and "2".

Alarm actions

Alarm actions have their own unique method of entry. Refer to the Alarm Actions section later in this chapter for a detailed description of how alarm actions are configured.

Option list

The option list type is similar to the toggle type in that it has a list of options to choose from:

```
Data-Link DL100 - Serial 1 Baud Rate Settings
A) 300
B) 600
C) 1200
D) 2400
E) 4800
F) 9600
G) 19200
```

After selecting an option, you are immediately returned to the previous menu. The new value will be displayed in the square brackets to the right of the setting name.

Main Setup Menu

```
Data-Link DL100 - Main Setup Menu
A) Network Settings
B) Serial Settings
C) Modem Settings
D) Passwords/Security
E) Alarm/Filter Definitions
F) Action Definitions
G) General Settings
H) Alarm Log Settings
```

[Network Settings](#) contains settings for configuration of network settings, SNMP, FTP push and more.

[Serial Settings](#) contains settings for configuration of each serial port.

[Modem Settings](#) contains settings for configuration of modem init settings and modem-specific security options.

[Passwords/Security](#) contains settings for configuration of user and access passwords, restrictions and other security settings.

[Alarm/Filter Definitions](#) contains settings for configuration of data alarms and/or filters.

[Action Definitions](#) contains settings for configuration of modem and pager numbers.

[General Settings](#) contains settings for configuration of the Unit ID, date/time, and other general settings.

[Alarm Log Settings](#) contains settings for configuration and displaying of the Alarm Log.

Network Settings

```

Data-Link DL100 - Network Settings
A) IP Address                [192.168.100.43]
B) Subnet Mask               [255.255.255.0]
C) Router Address           [192.168.100.2]
D) SNMP Manager 1           [192.168.100.59]
E) SNMP Manager 2           [0.0.0.0]
F) SNMP Community           [public]
G) Telnet Duplex             [FULL]
H) Inactivity Timeout       [0]
I) FTP AutoDelete           [OFF]
J) FTP Push Setup
K) Real-Time Socket Setup
L) Allow FTP User Bump by New User [OFF]
Note: Changes to IP Address, Subnet Mask, or Router
      Address will not take effect until any open
      Telnet command processor sessions are ended.

```

IP Address is the network address assigned to this Ethernet card.

Subnet Mask is the subnet mask for this IP address.

Router Address is the IP address of the default router or gateway.

SNMP Manager *n* is the IP address of the PC running SNMP management and/or SNMP trap receiving software.

» Note: SNMP traps are *not* a guaranteed means of delivering notifications. Traps are a one-way network datagram and the device receiving traps does not acknowledge them. Therefore, if the trap does not reach its intended destination for whatever reason, the sending device has no way of recognizing this and resending the trap.

SNMP Community is the SNMP trap community to use.

Telnet Duplex controls the echo settings for Telnet. Full duplex causes the unit to echo all characters sent to the remote device. Half duplex turns off character echo.

Inactivity Timeout is the time (1 - 255 minutes) before a network connection with no activity will be terminated. A setting of 0 means an inactive connection will not be terminated.

FTP AutoDelete is an ON/OFF toggle to enable deletion of records from the DL100 once they have been polled via FTP "get".

[FTP Push Setup](#) displays the FTP Push Setup Menu, where you can configure automatic FTP pushes of buffered data.

[Real-Time Socket Setup](#) displays the Real-Time Socket setup menus where you can configure real-time socket settings for each file of buffered data.

Allow FTP User Bump by New User is an ON/OFF toggle that enables a new FTP connection to disconnect a current FTP connection and assume control of the DL100 command processor.

FTP Push Setup Menu

```
Data-Link DL100 - FTP Push Setup Menu
A) FTP Push Enable           [OFF]
B) FTP Server Address        [0.0.0.0]
C) Username                  [Default FTP Username]
D) Password                  [*****]
E) Account                   []
F) Directory                 []
G) Minutes Between Push Attempts [1440]
H) Select Files to Push
I) Remote File Names
```

FTP Push Enable is an ON/OFF toggle to enable automatic FTP pushes of buffered data.

FTP Server Address is the IP address of the FTP server to push to.

Username/Password defines the login credentials that are able to access the remote FTP server.

Account is a third login option used only on some FTP servers. Consult your network administrator to see if this is necessary.

Directory is the path used to transfer the file(s). The file(s) is transferred to the root login directory if this option is left blank.

Minutes Between Push Attempts can be set from 1 to 9999 minutes.

Select Files to Push displays the FTP File Selection menu where you can toggle ON/OFF which files are pushed.

```
Data-Link DL100 - FTP File Selection
A) Data File 1              [ON]
B) Data File 2              [ON]
C) Alarm File               [ON]
```

Remote File Names displays the FTP File Names menu where you can give each file a name other than the default name, and/or prepend a date or unique sequence number to the file name.

```
Data-Link DL100 - FTP File Names
A) Include Date in Filename [OFF]
B) Include Sequence #s in Filename [OFF]
C) Data File 1              [FILE1]
D) Data File 2              [FILE2]
E) Alarm File               [ALARMS]
```

Include Date in Filename is an ON/OFF toggle to enable the addition of the file transfer date to the beginning of the name of each transferred file of data.

Include Sequence #s in Filename is an ON/OFF toggle to enable the addition of a unique sequence number to the beginning of the name of each transferred file of data. This ensures that no two transfers will have the same file name.

Data File *n* / Alarm File are text-entry fields where the name each data file will have on the remote server (not including any date or sequence number) can be configured.

Real-Time Socket Setup

A full description of Real-Time Sockets can be found in the [Telnet/TCP Connections](#) section in the Features chapter.

```
Data-Link DL100 - Real-Time Socket Setup
A) FILE1
B) FILE2
C) ALARMS

Enter your Selection: a

Data-Link DL100 - FILE1 Real-Time Data Socket Setup
A) Disable Real-Time Socket          [OFF]
B) Show Answer String on Connection  [ON]
C) Require Password on Connection    [OFF]
D) Require Xon to Start Data Flow    [OFF]
E) Idle Connection Close Timer      [0]
F) Close Socket When File Empty     [OFF]
```

Disable Real-Time Socket is an ON/OFF toggle to disable a Real-Time Socket connection for this file. Note that ON means the socket is disabled, and OFF means the socket is enabled.

Show Answer String on Connection is an ON/OFF toggle to enable the prompt indicating successful connection to the Real-Time Socket (RTS) port.

Require Password on Connection is an ON/OFF toggle to enable the password requirement.

Require Xon to Start Data Flow is an ON/OFF toggle to enable the Xon/Xoff data flow control requirement.

Idle Connection Close Timer sets the number of seconds to wait before disconnecting an idle connection.

Close Socket When File Empty is an ON/OFF toggle to set whether or not the DL100 will automatically terminate the RTS connection when the file for this port has been emptied.

Serial Settings

```
Data-Link DL100 - Serial Settings
A) Serial Port 1 Settings
B) Serial Port 2 Settings
```

>> Note: Serial Port 1 (and Port 3 and 4, if installed) is set to function in Data mode exclusively, whereas Port 2 can be set to function in one of four modes: Command, Data, Inline, and External Modem. Therefore the Port 2 serial settings menu has all the options of Port 1, plus a few others that Port 1 does not have. Those options that are exclusive to Port 2 will be indicated as such below – all others are applicable to all ports.

Serial Port *n* Settings

```
Data-Link DL100 - Serial 2
A) Target Name           [I/O 2]
B) Baud Rate             [19200]
C) Data Format            [8N1]
D) Handshaking           [NONE]
E) Wrap Around           [OFF]
F) Record Stamping
G) Character Masking     [ON]
H) Data Alarm Enable     [OFF]
I) Store Data To         [2]
J) Duplex                [FULL]
K) Inactivity Timeout    [0]
L) Port Mode             [COMMAND]
M) Inline Mode Handshaking [XON/XOFF]
N) Strip Sent Pass-Through LFs [OFF]
O) Strip Received Pass-Through LFs [OFF]
P) Disable Serial Setup via DIP Switch [OFF]
```

Target Name is the name given to the device connected to the port. This target name is used in event notifications.

Baud Rate displays a selection menu for baud rates available for the port. These values range from 300 baud to 19200 baud.

Data Format displays a selection menu for word length, parity, and stop bit settings. The available options are: 8N1, 7E1, 7O1, and 7N1.

Handshaking is a toggle item with the following options: None, Xon/Xoff, Both and DTR.

Wrap Around is an ON/OFF toggle to set whether the incoming data will wrap (overwrite) the oldest data in the file should it become full.

Record Stamping displays a menu that allows you to toggle ON/OFF whether each incoming data string is pre-pended with a sequential number, the date/time, and/or the Unit ID.

Character Masking is an ON/OFF toggle to enable the character mask. The character mask allows you to block most non-printing ASCII characters. Specifically, the following ASCII character values are blocked: 0, 1, 4-9, 11, 12, 14-31, and 128-255.

Data Alarm Enable is an ON/OFF toggle to enable data alarm monitoring the port.

Store Data To displays a menu that allows you to toggle ON/OFF whether the data received on this port should be stored to File1, File2, neither, or both.

Duplex (Port 2 only) toggles between Full and Half. Full duplex causes the unit to echo all characters sent to the connected terminal when in Command mode. Half duplex turns off character echo.

Inactivity Timeout (Port 2 only) is the time (1 - 255 minutes) before a serial connection with no activity will be terminated. A setting of 0 means an inactive connection will not be terminated.

Port Mode (Port 2 only) defines the port function. (Port 1 is hard-coded as Data and cannot be changed.) This can be toggled between Command, Data, Inline, or External Modem for Port 2. Command allows for serial command processor access; Data configures the port as an inbound data port just like Port 1; Inline causes the unit to perform a direct connection between ports 1 and 2. These settings are the same as those available through DIP switches B7 and B8. The External Modem setting allows Port 2 to function as a port to which an external modem can be connected. This mode cannot be set via DIP switches, but by this menu only.

Inline Mode Handshaking (Port 2 only) toggles the handshaking method used during Inline mode operation. Available options are XON/XOFF, Both, DTR, and None.

Strip Sent Pass-Through LFs is an ON/OFF toggle to enable the stripping of linefeeds on pass-through data *sent out* of the DL100.

Strip Received Pass-Through LFs is an ON/OFF toggle to enable the stripping of linefeeds on pass-through data *received* by the DL100.

Disable Serial Setup via DIP Switch is an ON/OFF toggle to disable DIP switch bank A for Port 1, or DIP switch bank B, for Port 2. See [DIP Switch](#) section in the “What Is A DL100” chapter for more information.

Modem Settings

```
Data-Link DL100 - Modem Settings
A) Baud Rate                [19200]
B) Data Format              [8N1]
C) Duplex                  [FULL]
D) Init String             [ATM1]
E) TAP Init String        [ATM0]
F) Inactivity Timeout     [0]
G) Ext. Modem Setup String [ATQ1E0V0S0=1&C1&D2&K3]
```

Baud Rate displays a selection menu for baud rates available for the modem. These values range from 1200 baud to 38400 baud.

Data Format toggles settings for word length, parity, and stop bit settings. The available options are: 8N1, 7E1, 7O1, and 7N1.

Duplex controls the echo settings for the modem command processor. Full duplex causes the DL100 to echo all characters sent to the connected terminal. Half duplex turns off character echo.

Init String is the user-defined modem initialization string. This string is sent to the modem before important factory modem initialization settings, so certain settings in this init string may be overridden.

TAP Init String is the user-defined modem initialization string used only when the modem is making an alphanumeric modem callout.

» Note: Make sure to enter 'AT' at the beginning of the modem initialization string with both the general Init String and the TAP Init String.

Inactivity Timeout sets the time (1 – 255 seconds) to wait before disconnecting an idle modem connection. A setting of 0 means the connection will never automatically expire.

Ext. Modem Setup String is a text string entry field to define the modem setup string used with an external modem.

Password Menu

```
Data-Link DL100 - Password Menu
A) User 1 Password         [*****]
B) User 2 Password         [*****]
C) Alarms Password        [*****]
D) Access 1 Password       [*****]
E) Access 2 Password       [*****]
F) Show Password Prompt   [OFF]
G) Local Command Requires Password [OFF]
H) Modem Callin Requires Password [OFF]
I) Telnet/TCP Requires Password [ON]
J) System Administrator Password [*****]
K) Restrict Non-Admin Passwords [ON]
L) Dialback Security Setup
```

>> Note: Passwords are case sensitive and are masked in all menus for security reasons.

User *n* Password sets the password for this user. User 1 and User 2 have full admin rights if Restrict Non-Admin Passwords is set to OFF. If this is set to ON, User 1 and 2 can only view the Status menu, release and clear data from File 1 or File 2, and enter a pass-through session on Port 1 or 2. Entry of commands, or trying to access the Setting Keys file or Setup menus will cause the DL100 to respond with “ACCESS DENIED”.

Alarms Password sets the password for any user to access the Alarms Log file.

Access *n* Password sets the password for a user accessing the specific “*n*” port on a pass-through session.

Show Password Prompt is an ON/OFF toggle to set whether a prompt for logging in is displayed.

Local Command Requires Password is an ON/OFF toggle to set whether a password for local command (Port 2) users is required.

Modem Callin Requires Password is an ON/OFF toggle to set whether a password for modem users is required.

Telnet/TCP Requires Password is an ON/OFF toggle to set whether a password for Telnet (tcp port 23) or Telnet pass-through (port 2101 or 2102) users is required.

>> Note: If any of the above “requires passwords” options is set to OFF, users connecting via that method are automatically granted all access.

System Administrator Password sets the password for the system administrator. Theoretically, only one user should have the System Administrator password, and all other users should have limited rights via the User *n* passwords.

Restrict Non-Admin Passwords is an ON/OFF toggle to set whether non-admin passwords will be granted system admin privileges.

Dialback Security Setup displays the Dialback Security menu.

Dialback Security

```
Data-Link DL100 - Dialback Security Menu
A) User 1 Phone Number          []
B) User 2 Phone Number          []
C) Dialback Security Enable     [OFF]
```

User *n* Phone Number sets the phone number the DL100 is to call to connect to User *n* attempting to gain access to the unit via the modem.

Dialback Security Enable is an ON/OFF toggle that enables the Dialback Security function. When this is enabled, User *n* calling in is immediately disconnected once the modem answers and they enter their User *n* password. The DL100 then immediately calls the number associated with that user and upon connection they can log in as they normally would. This provides an extra layer of security for those who need it.

>> Note: The “Modem Callin Requires Password” option *must* be set to ON, for Dialback Security to work.

Alarm/Filter Definitions

» **Note:** Refer to the [Data Alarms](#) section in the Features chapter for an example-driven approach to defining data alarm definitions.

```
Data-Link DL100 - Alarm and Filter Definitions Menu
A) Data Alarm/Filter Settings
B) No-Data 1 Alarm Settings           [OFF]
C) No-Data 2 Alarm Settings           [OFF]
D) Percent Full Alarm Settings         [OFF]
E) Scheduled Event 1 Settings          [OFF]
F) Scheduled Event 2 Settings          [OFF]
G) Require Omnitronix Alarm ACKs      [OFF]
H) Data Filter Action                  [REJECT]
```

[Data Alarm/Filter Settings](#) displays the menus for configuring 16 serial data event monitors.

[No-Data *n* Alarm Settings](#) displays the menus for configuring alarms based on period of time when no-data is received on a specific serial port. These will display ON or OFF depending on whether a No-Data Alarm has been enabled.

[Percent Full Alarm Settings](#) displays the menu for configuring alarms based on how full the call record database of the DL100 is. This will display ON or OFF depending on whether the Percent Full Alarm has been enabled.

[Scheduled Event *n* Settings](#) displays the menus for configuring alarm notifications for specific times and days of the week. These will display ON or OFF depending on whether a Scheduled Event Alarm has been enabled.

Require OmniAlarm ACKs is an ON/OFF toggle to enable or disable forcing the unit to require an acknowledgment when first connecting, and after each OmniAlarm. If disabled, the DL100 will allow non-CRC mode where OmniAlarms are delivered without waiting for any indication that the messages were properly delivered. If enabled, CRC mode is required by the DL100. Refer to the [OmniAlarms](#) section for more information about CRC and non-CRC modes.

Data Filter Action is an ON/OFF toggle that sets whether records that match data filters are accepted or rejected.

Data Alarm/Filter Settings

```
Data-Link DL100 - Data Alarm/Filter Settings
A) Alarm/Filter 1 -                   [OFF] [ALARM]
B) Alarm/Filter 2 -                   [OFF] [ALARM]
. . .
P) Alarm/Filter 16 -                  [OFF] [ALARM]
Q) Setup Alarm/Filter Fields
R) Display Alarm Status
```

[Alarm/Filter *n*](#) displays the menu for configuring data alarms and filters.

[Setup Alarm/Filter Fields](#) displays the Data Alarm Field Definition Table for configuring the fields used by data alarms and filters.

Display Alarm Status displays real time information on data event monitors you've configured.

Data Alarm/Filter *n*

```
Data-Link DL100 - Data Alarm/Filter 1
A) Alarm/Filter Enable           [OFF]
B) Alarm/Filter Mode             [ALARM]
C) Alarm/Filter Name             []
D) Alarm/Filter Equation         []
E) Threshold                     [1]
F) Auto-Clear when Threshold Reached [ON]
G) Alarm Counter Clear Interval  [12 HOURS]
H) Alarm Counter Reset Time      [00:00]
I) Actions                       []
J) Class                         []
K) Clear This Alarm Counter Now
```

Alarm/Filter Enable is an ON/OFF toggle to enable this Alarm/Filter.

Alarm/Filter Mode toggles between ALARM and FILTER. When set to ALARM, an action will occur as determined by the settings in option I) Actions. When set to FILTER, the data will either be accepted and saved into File *n*, or it will be rejected and not saved, depending on whether the Data Filter Action option is set to Accept or Reject.

Alarm/Filter Name sets the name for this alarm/filter. This name is reported with the specified actions.

Alarm/Filter Equation sets the alarm/filter equation using the fields defined in the Setup Alarm/Filter Fields menu. Refer to the [Configuring Data Alarm Equations](#) section in the Features chapter for more information.

Threshold sets the number of times the alarm equation must be matched before an alarm action is triggered. If the counter is allowed to grow beyond the threshold, the unit will not trigger an action again until after the counter is reset.

Auto-Clear when Threshold Reached is an ON/OFF toggle that enables the DL100 to clear the alarm counter each time the threshold is met.

Alarm Counter Clear Interval toggles through several interval options at which the unit should clear the match counter for an individual alarm. Available options are: 2 hours, 4 hours, 6 hours, 8 hours, 12 hours, Daily, and Never. The first clear occurs at midnight.

Alarm Counter Reset Time sets the time at which the daily clear should take place if it is enabled in the Alarm Counter Clear Interval. This value is in 24-hour format.

Actions displays a list of actions from which the action(s) to be taken for this alarm are configured.

```
Enter a list of actions, in the format:
T<trap manager numbers: 1,2>
P<page numbers: 1,2,3,4>
M<callout numbers: 1,2,3,4>
O<OmniTronix Alarm numbers: 1,2,3,4>
```

This option allows an admin to input the actions in any order. The unit automatically sorts out the input and places it in the appropriate sequence, as long as there is no invalid data.

On top of having the same basic rules as a string entry, the following input methods must be used:

- SNMP trap actions require "T" followed by the number(s) of the trap managers to be used, as they are defined in the network setup menu. Valid options are "1" and "2", as there are two different SNMP managers definable within the unit.
- Pager actions require "P" followed by the pager numbers. Valid options are "1", "2", "3", and "4".
- Modem callout actions require "M" followed by the modem callout numbers. Valid options are "1", "2", "3", and "4".

- OmniAlarm numbers are essentially modem callouts to a PC modem where a text message is delivered. See the section about OmniAlarms in the Features Chapter for more information. Entry requires an "O" followed by the modem callout numbers. Valid options are "1", "2", "3", and "4".

Here is an example action definition: "P3T12M2". The DL100 automatically sorts the input and stores the following translated string "T12P3M2".

Class is a text string field that allows you to define an optional "class" for this alarm. Class could be a severity label such as "Critical", "Major", "Minor", or "Info" for example. The class name is reported in OmniAlarms, and SNMP traps. It is a mechanism for you to provide varying severities for different alarms so that you can act on them upon receipt.

Clear This Alarm Counter Now when selected will automatically clear the counter for the selected data alarm, setting it back to 0. This happens as soon as this option is selected, so make sure you really want to clear the counter before selecting it.

Data Alarm Field Definition Table

```
Data-Link DL100 - Data Alarm Field Definition Table
  Start Length  Name
A)
B)
. . .
P)

Enter your Selection:

Data-Link DL100 - Data Alarm Field Definition
Data Field: A
A) Start Position          [0]
B) Field Length           [0]
C) Field Name              []

Enter your Selection:
```

Start Position sets the number of the characters to begin a particular alarm field starting from position 1. If set to 0, the definition is disabled.

Field Length sets the length of this particular alarm field.

Field Name sets the name given for the alarm field. This name must be unique, is limited to 12 characters, and it must not contain any spaces. It can contain alphanumeric characters and the underscore, but it must start with a letter. These field names are case sensitive. If left blank, you can refer to the field by its field letter (A,B, etc...).

» Note: The DL100 does not perform error checking to ensure that no two fields have the same name. Please make sure your fields all have unique names to avoid conflicts.

No-Data n Alarm Settings

No Data Alarms can be configured on the DL100 to monitor data coming in via the serial ports, and take an alarm action if a certain period of time passes with no data.

```
Data-Link DL100 - No-Data Alarm 1 Settings
A) Alarm Enable           [OFF]
B) Alarm Actions          []
C) Alarm Message          [No-Data Alarm 1 Message]
D) Alarm Class            []
E) Schedule 1 Begin Time  [00:00]
F) Schedule 1 End Time    [00:00]
G) Schedule 1 Duration (minutes) [0]
H) Schedule 2 Begin Time  [00:00]
I) Schedule 2 End Time    [00:00]
J) Schedule 2 Duration (minutes) [0]
K) Apply Alarm on Days    []
L) Enable Port 1          [OFF]
M) Enable Port 2          [OFF]
N) Add Exclusion
O) Delete Exclusion
   []
```

No-Data n Alarm Settings allows you to configure two separate No Data Alarms, each of which can be configured for two different ranges of times with different time durations. The periods of time should be configured to match the calling patterns of your business or organization. For example, if your normal business hours are M-F 8:00 to 5:00, you will want to set lower time durations during those hours than you would “after hours” when call volumes are lighter and the periods of time where there is “no data” might be longer.

Alarm Enable is an ON/OFF toggle to enable the no-data monitor.

Alarm Actions displays a list of actions from which the action(s) to be taken for this alarm are configured.

```
Enter a list of actions, in the format:
T<trap manager numbers: 1,2>
P<page numbers: 1,2,3,4>
M<callout numbers: 1,2,3,4>
O<Omnitronix Alarm numbers: 1,2,3,4>
```

This option allows an admin to input the actions in any order. The unit automatically sorts out the input and places it in the appropriate sequence, as long as there is no invalid data.

On top of having the same basic rules as a string entry, the following input methods must be used:

- SNMP trap actions require "T" followed by the number(s) of the trap managers to be used, as they are defined in the network setup menu. Valid options are "1" and "2", as there are two different SNMP managers definable within the unit.
- Pager actions require "P" followed by the pager numbers. Valid options are "1", "2", "3", and "4".
- Modem callout actions require "M" followed by the modem callout numbers. Valid options are "1", "2", "3", and "4".
- OmniAlarm numbers are essentially modem callouts to a PC modem where a text message is delivered. See the section about OmniAlarms in the Features Chapter for more information. Entry requires an "O" followed by the modem callout numbers. Valid options are "1", "2", "3", and "4".

Here is an example action definition: "P3T12M2". The DL100 automatically sorts the input and stores the following translated string "T12P3M2".

Alarm Message sets the text string to be delivered with this no-data alarm.

Alarm Class is a text string field that allows you to define an optional “class” for this alarm. Class could be a severity label such as “Critical”, “Major”, “Minor”, or “Info” for example. The class name is reported in OmniAlarms, and SNMP traps. It is a mechanism for you to provide varying severities for different alarms so that you can act on them upon receipt.

Schedule *n* Begin Time/End Time sets the beginning and ending times (24 hour clock) for each of two ranges of time.

Schedule *n* Duration is the number of minutes the unit will wait without receiving data before alarming.

Apply Alarm on Days displays a menu where the seven days of the week are listed, and each can be toggled ON or OFF to designate whether this particular No-Data alarm is active on that day.

Enable Port *n* is an ON/OFF toggle to designate whether this particular No-Data alarm is active on that port.

Add Exclusion/Delete Exclusion allow you to add or delete specific dates when this No Data Alarm should “take the day off”. For example Christmas is a day you might want to add here. Select Add Exclusion and type in **12/25**. To delete a date, you select Delete Exclusion and type in the date you want to remove. After an exclusion date is added it appears in the brackets at the bottom of the menu. 15 dates can be entered to be excluded.

Percent Full Alarm Settings

```
Data-Link DL100 - Percent Full Alarm Settings
A) Alarm Enable                [OFF]
B) Percent Full Threshold      [80]
C) Alarm Actions               []
D) Alarm Message               [Percent Full]
E) Alarm Class                 []
```

Alarm Enable is an ON/OFF toggle to enable the percent full alarm.

Percent Full Threshold set the percent full level at which the alarm will be triggered.

Alarm Actions displays a list of actions from which the action(s) to be taken for this alarm are configured.

```
Enter a list of actions, in the format:
T<trap manager numbers: 1,2>
P<page numbers: 1,2,3,4>
M<callout numbers: 1,2,3,4>
O<Omnitronix Alarm numbers: 1,2,3,4>
```

This option allows an admin to input the actions in any order. The unit automatically sorts out the input and places it in the appropriate sequence, as long as there is no invalid data.

On top of having the same basic rules as a string entry, the following input methods must be used:

- SNMP trap actions require "T" followed by the number(s) of the trap managers to be used, as they are defined in the network setup menu. Valid options are "1" and "2", as there are two different SNMP managers definable within the unit.
- Pager actions require "P" followed by the pager numbers. Valid options are "1", "2", "3", and "4".
- Modem callout actions require "M" followed by the modem callout numbers. Valid options are "1", "2", "3", and "4".
- OmniAlarm numbers are essentially modem callouts to a PC modem where a text message is delivered. See the section about OmniAlarms in the Features Chapter for more information. Entry requires an "O" followed by the modem callout numbers. Valid options are "1", "2", "3", and "4".

Here is an example action definition: "P3T12M2". The DL100 automatically sorts the input and stores the following translated string "T12P3M2".

Alarm Message sets the text string to be delivered with the percentage full alarm.

Alarm Class is a text string field that allows you to define an optional “class” for this alarm. Class could be a severity label such as “Critical”, “Major”, “Minor”, or “Info” for example. The class name is reported in OmniAlarms, and SNMP traps. It is a mechanism for you to provide varying severities for different alarms so that you can act on them upon receipt.

Scheduled *n* Event Settings

Scheduled Events allow you to schedule specific a specific date/time for an alarm action to occur. For example you might want the DL100 to send you a page every morning at 8:00 just so you know it is live on the network.

```
Data-Link DL100 - Scheduled Event 1 Setup
A) Enable Event                [OFF]
B) Event Actions               []
C) Event Message               [Event 1 Default Message]
D) Event Class                 []
E) Event Time Sunday           [DISABLED]
F) Event Time Monday           [DISABLED]
G) Event Time Tuesday          [DISABLED]
H) Event Time Wednesday       [DISABLED]
I) Event Time Thursday         [DISABLED]
J) Event Time Friday           [DISABLED]
K) Event Time Saturday         [DISABLED]
L) Add Exclusion
M) Delete Exclusion
```

Scheduled Event *n* Setup allows you to configure two separate Scheduled Events, each of which can be configured for any one time on any day of the week. Each day’s time can be scheduled independently from the others.

Enable Event is an ON/OFF toggle to enable the scheduled event monitor.

Event Actions displays a list of actions from which the action(s) to be taken for this alarm are configured.

```
Enter a list of actions, in the format:
T<trap manager numbers: 1,2>
P<page numbers: 1,2,3,4>
M<callout numbers: 1,2,3,4>
O<Omnitronix Alarm numbers: 1,2,3,4>
```

This option allows an admin to input the actions in any order. The unit automatically sorts out the input and places it in the appropriate sequence, as long as there is no invalid data.

On top of having the same basic rules as a string entry, the following input methods must be used:

- SNMP trap actions require "T" followed by the number(s) of the trap managers to be used, as they are defined in the network setup menu. Valid options are "1" and "2", as there are two different SNMP managers definable within the unit.
- Pager actions require "P" followed by the pager numbers. Valid options are "1", "2", "3", and "4".
- Modem callout actions require "M" followed by the modem callout numbers. Valid options are "1", "2", "3", and "4".
- OmniAlarm numbers are essentially modem callouts to a PC modem where a text message is delivered. See the section about OmniAlarms in the Features Chapter for more information. Entry requires an “O” followed by the modem callout numbers. Valid options are "1", "2", "3", and "4".

Here is an example action definition: "P3T12M2". The DL100 automatically sorts the input and stores the following translated string "T12P3M2".

Event Message sets the text string to be delivered with this scheduled event's alarm.

Event Class is a text string field that allows you to define an optional "class" for this alarm. Class could be a severity label such as "Critical", "Major", "Minor", or "Info" for example. The class name is reported in OmniAlarms, and SNMP traps. It is a mechanism for you to provide varying severities for different alarms so that you can act on them upon receipt.

Event Time *day* sets the time (24 hour clock) each day at which the scheduled event action will occur.

Add Exclusion/Delete Exclusion allow you to add or delete specific dates when this Scheduled Event should "take the day off". For example Christmas is a day you might want to add here. Select Add Exclusion and type in **12/25**. To delete a date, you select Delete Exclusion and type in the date you want to remove. After an exclusion date is added it appears in the brackets at the bottom of the menu. 15 dates can be entered to be excluded.

Action Definitions

This menu is where the modem and pager callout numbers that may be used for various alarms are configured.

```
Data-Link DL100 - Actions Definition Menu
A) Callout Attempts           [5]
B) Callout Delay (seconds)   [60]
C) Modem Callout Number 1    []
D) Modem Callout Number 2    []
E) Modem Callout Number 3    []
F) Modem Callout Number 4    []
G) Pager Number 1           []
H) Pager Number 2           []
I) Pager Number 3           []
J) Pager Number 4           []
```

Callout Attempts sets the total number of times to attempt modem callouts if previous attempts fail.

Callout Delay sets the time (0 - 400 seconds) to wait between callout attempts.

Modem Callout Number *n* sets the phone number to call for each modem callout.

Pager Number *n* displays a menu to configure the pager to call for each pager callout.

```
Data-Link DL100 - Pager 1 Settings
A) Pager Type                 [NUMERIC]
B) Pager Callout Number       []
C) Pager ID                   []
D) Numeric Message           []
E) Post Callout Delay (seconds) [15]
F) Post ID Delay (seconds)    [5]
```

Pager Type toggles between "Numeric" and "Alpha", selecting the type of pager to call.

Pager Callout Number sets the phone number for the pager.

Pager ID is used only with paging systems where many pagers share the same phone number. This is common with alphanumeric pagers.

Numeric Message is the series of digits (typically callback number) sent to a numeric pager.

Post Callout Delay is the number of seconds the unit will wait before sending the pager ID.

Post ID Delay is the number of seconds the unit will wait before sending any message data.

General Settings

```
Data-Link DL100 - General Settings
A) Unit ID [526209999]
B) Answer String [Data-Link]
C) Escape Key [27]
D) Confirm Before Deletion [OFF]
E) Release Compressed [OFF]
F) Autodelete After Polling [OFF]
G) Date/Time Stamp Format [MM/DD]
H) Date/Time Setup
I) Legacy Settings
```

Unit ID sets the name assigned to this DL100. This name is included with alarm messages and is displayed at the top of the Status screen. The name should be unique for clarity.

Answer String sets the string that is presented when a user connects to the unit via Telnet or modem.

Escape Key is the decimal ASCII character code of the key you must press three times to escape from pass-through or other transparent modes. Default is 27, the <Esc> key.

Note: Nortel Meridian voicemail systems sometime experience problems where the default Escape Key interferes with the function keys. This problem can be resolved by setting the Escape Key to a different ASCII character than 27. We recommend using the tilde (~) character, which is ASCII 126.

Confirm Before Deletion toggles a confirmation message asking, "Are you sure (y/n)?" when using the following commands: ZERO, DEFAULT, ZAP, COLDSTART, and FTEST.

Released Compressed is an ON/OFF toggle to enable release of data in a compressed or uncompressed format.

Autodelete After Polling is an ON/OFF toggle to enable the deletion of data from the call record database once it has been polled.

Date/Time Stamp Format toggles through three options for how date stamps are formatted: MM/DD, MM/DD/YY, or MM/DD/YYYY.

[Date/Time Setup](#) displays the System Date/Time menu where you can manage the date, time and daylight savings control.

[Legacy Settings](#) displays a menu for configuring legacy products that may be connected to the DL100.

Date/Time Settings

```
Data-Link DL100 - System Date/Time
A) Current Date [TUE 06/05/2007]
B) Current Time [16:21:18]
C) Adjust for Daylight Savings [ON]
```

Current Date sets the date. The unit automatically calculates the day of the week to display on the Status screen.

Current Time sets the time (24 hours clock).

Note: The date and time settings are maintained by means of an internal battery backup when power is removed from the DL100.

Adjust for Daylight Savings is an on/off toggle that allows automatic daylight savings time updating.

A brief explanation of daylight savings time (effective 2007): On the second Sunday in March, clocks are set ahead one hour at 2:00 a.m. local standard time, which becomes 3:00 a.m. local daylight time. On the first Sunday in November, clocks are set back one hour at 2:00 a.m. local daylight time, which becomes 1:00 a.m. local standard time.

Legacy Settings

```
Data-Link DL100 - Legacy Settings
A) Wait for NEXT           [OFF]
B) Omit END DATA         [OFF]
C) Line Tag               [OFF]
D) CBB DLE Stuffing      [OFF]
E) CBB Retransmits       [5]
F) CBB Timeout           [15]
G) Release Mode          [LINE]
```

Wait for NEXT is an ON/OFF toggle that causes the unit to wait for the NEXT command before sending data once the RL command has been issued.

Omit END DATA is an ON/OFF toggle that causes the unit to send or omit the string "END DATA" when a command processor poll is complete.

Line Tag is an ON/OFF toggle that adds or omits the serial number line tags on each line of stored data.

CBB DLE Stuffing/Retransmits/Timeout are specific configuration options for polling via Compressed Binary Block (CBB) mode. CBB is a release method included for compatibility and is not otherwise documented in this manual.

Release Mode toggles the following modes of releasing stored data: Line, Xmodem, and CBB.

Alarm Log Settings

The Alarm Log is a record of all data alarms captured by the DL100.

```
Data-Link DL100 - Alarms Log Menu
A) List Alarms File
B) Clear Alarms File
C) Enable Alarms Log File   [ON]
D) Maximum File Size      [32]
E) Store Data Alarm Records [OFF]
```

List Alarms File displays the contents of the Alarms file, if any records exist.

Clear Alarms File purges the records within the Alarms file.

Enable Alarms Log File is an ON/OFF toggle to enable alarm logging.

Maximum File Size sets the maximum number of KB the Event file can reach before overwriting the oldest records. Available options are 0, 32, 64, 128, 256, and 512.

Store Data Alarm Records is an ON/OFF toggle to enable storing data alarm records.

Features and How To Use Them

Setting Keys

Setting Keys (SK) provide a flat file, human readable, means of setting and retrieving settings within the unit. Setting Keys are commonly used to clone settings across multiple units or in automated processes.

Setting Keys is abbreviated when used on the command line as **SK**. Following are commands when working with the Setting Keys File from the command line of the unit.

SK [KEY[=value]] allows for reading or setting a single Setting Key. If the value portion of the command is omitted, the T810 will report back the value stored in that key. If the value is given, it will be stored in the key.

SK GET [X|A [CUSTOM] [filter]] initiates a download of unit settings. This listing can be retrieved either by Xmodem or plain ASCII using the X and A attributes, respectively. If the transfer mode attribute is omitted, the unit will prompt for the download method. The CUSTOM tag may be used to retrieve only the settings that are not set to factory defaults. A filter may be applied to limit the keys output to just the branch specified. For example, to retrieve an ASCII listing of all EventSensor settings, use the command: **SK GET A event.sensor**

SK SET [X|A] puts the unit in bulk Settings Keys upload mode. Any of the settings retrieved by SK GET can be manipulated and uploaded with new values. The unit will process settings in any order or number; not all settings need to be uploaded each session. As with SK GET, both ASCII and Xmodem transfer methods may be used to upload settings to the unit. These transfer methods are indicated by using the X and A attributes, respectively. The S570 monitors for invalid Setting Keys and will notify you after the upload if any invalid data was received.

When using SK SET in ASCII mode, the data uploaded must end with a line consisting of the word "END" followed by a return.

SK HERE allows you to set or get individual keys interactively. Typing just the key name will cause the value to be displayed. Typing the key name plus a new value will set that key. The unit will keep prompting for a new key or key/value pair until you press <Esc> or <Enter>.

SK LOG displays a list of any errors generated during an SK Set.

Setting Keys can also be retrieved and loaded via FTP.

FTP> GET SKALL FILENAME.TXT retrieves all of the Setting Keys for the unit, similar to the **SK GET A** command described above.

FTP> GET SKCUSTOM FILENAME.TXT retrieves any settings that are not set to factory default, similar to the **SK GET A CUSTOM** command described above.

FTP> PUT FILENAME.TXT SKALL and **PUT FILENAME.TXT SKCUSTOM** load the settings in FILENAME.TXT onto the T850.

Upon successful completion of loading the settings FTP will respond with "226 - Transfer complete". If there is a problem in the Setting Keys file then FTP will respond with "226 - Transfer complete; errors in setting key file! Type Get SKLOG to view"

FTP> GET SKLOG retrieves the Setting Keys log as described above.

Telnet/TCP Connections

The DL100 provides support for Telnet/TCP connections via an Ethernet interface.

All Telnet connections are TCP connections but not all TCP connections are Telnet connections. A Telnet connection is made to the DL100 by using the Telnet protocol and by specifying a TCP port address. 'Telnet' refers to a TCP connection made on port 23, which specifies that characters are supposed to be handled a certain way. The DL100 supports Telnet connections and also supports some custom assigned port numbers to facilitate certain connection features.

The following information assumes that you know how to run your computer to establish and use Telnet/TCP connections and only require the specific information relating to the DL100 features. Port numbers below include "x" where "x" is the corresponding DL100 file or port number. (ie; 2101 refers to the telnet passthrough connection made on serial port 1.)

- **Port Address 200x:** A connection to port 200x is just like a regular Telnet connection to port 23, except it sets the default file for retrieving data or the default port when the 'Bypass' command is given.
- **Port Address 210x:** A connection to port 210x routes you directly to the device connected to the corresponding serial (I/O) port. A banner message will be displayed indicating you are connected to that I/O port. To disconnect from this access mode press the <Esc> key twice. Refer to the Passthrough section in this chapter for more information.
- **Port Address 220x:** A connection to port 220x is referred to as a Real-Time Socket. These are sockets that are dedicated to exporting data from that file in the DL100. If there is any data already stored in a particular file, it will first be transferred out of the DL100 to the user or machine initiating the connection. After all the data currently in the file is transferred out, any data that is coming into the DL100 will be immediately transmitted out and across this connection. Refer to the [Real-Time Sockets](#) menu for information on how to configure these.

Data is retrieved from the Alarms File via Real-Time Sockets on port 2299.

Data Alarms

This section offers a brief tutorial on how to set up a functional data alarm that will send an SNMP trap when the word "test" is received over a data port. Full details on how to configure data alarm equations are available in the next section, [Configuring Data Alarm Equations](#).

Set Up a Data Alarm

1. From the command prompt, access the Setup menu. Select "Alarm/Filter Definitions", "Data Alarm/Filter Settings", and then "Setup Alarm/Filter Fields". The following menu allows a user to define up to 16 data alarm fields to be used when scanning for alarm data. Below is an abbreviated example of this menu:

```
Data-Link DL100 - Data Alarm Field Definition Table
  Start   Length   Line
A)
B)
...
O)
P)
```

2. Select field A. The menu in the following example will be displayed.

```
Data-Link DL100 - Data Alarm Field Definition
Data Field: A
A) Start Position           [0]
B) Field Length             [0]
C) Field Name               []
```

3. Select Start Position. When prompted to enter a new value, enter "1" and press <Enter>.
 4. Select Field Length. When prompted to enter a new value, enter "4" and press <Enter>.
 5. Select Field Name and enter "test_field", then press <Enter>.
 6. Press <Enter> to return to the Field Definition Table. If configured properly, the data alarm field should appear in this menu.
 7. Press <Enter> to return to the Data Alarm/Filter Settings menu. From here, select the Alarm/Filter 1. The following menu will be displayed:

```
Data-Link DL100 - Data Alarm/Filter 1
A) Alarm/Filter Enable     [OFF]
B) Alarm/Filter Mode       [ALARM]
C) Alarm/Filter Name       []
D) Alarm/Filter Equation   []
E) Threshold               [1]
F) Auto-Clear when Threshold Reached [ON]
G) Alarm Counter Clear Interval [12 HOURS]
H) Alarm Counter Reset Time [00:00]
I) Actions                 []
J) Class                   []
K) Clear This Alarm Counter Now
```

8. Press "A" to toggle Alarm/Filter Enable to ON.
 9. Alarm/Filter Mode should be set to ALARM. If it is set to FILTER, press "B".
 10. Select Alarm/Filter Name and enter "**Test Event 1**".
 11. Select Alarm/Filter Equation and enter **test_field="test"**. This will cause an event to occur any time the word "test" is received.
 12. Select Actions and enter "T1" to cause this data event to send a trap to SNMP Manager #1, as configured below in the Network Settings menu.

Other Setup

1. To configure the SNMP Manager function, return to the main Setup Menu, select "Network Settings", "SNMP Manager 1", and enter the IP address of the PC where you have a network manager or trap receiving application running. (This assumes of course that you have already assigned an IP address to the DL100, and configured the subnet mask and router address as necessary.)
2. Return to the main Setup Menu, select "Serial Settings", select "Serial Port 1 Settings" and toggle H) Data Alarm Enable" to ON.
3. Press <Ctrl> + C to return to the command processor.

Testing

Connect to the unit serially on I/O 1 and type the word `test` followed by <Enter>. This should trigger the above data event, and an SNMP trap should be sent to SNMP Manager #1. If this is not the case, double check the network and data event settings and then call Asentria Technical Support.

» Note: There will be a 30 second delay in alarming if the terminal emulator being used does not send a LF with the CR. This may be circumvented by pressing <Ctrl + J> to generate a LF.

Configuring Data Alarm Equations

The equation is the heart of any data alarm. The following are a few examples of alarm equations:

- `alarm_code = "L31"`
- `ext >= "A 600" AND exit_code = "DN"`
- `(alarm_code > "1051" OR exit_code = "10w74x") AND switch = " 001.1.9*.**"`
- `@ = "CRITICAL"`

Here are a few tips to help you create your own data alarm equations:

- Multiple field references are acceptable, as long as both fields are the same length. For example, `d=c` is a valid equation if the fields that both 'd' and 'c' represent are two characters long
- Variable names are case sensitive
- Equation literals (the data contained within quotation marks) are case sensitive
- If any rule is violated in an equation, an alarm will not be generated, nor will an error be presented

>> Note: There may be times when two or more fields are necessary to analyze one piece of data. For example, if a time is represented in hh:mm format, some calculations may require two different fields. Other times, wildcards will do the job of masking out non-important characters just fine.

The data alarm equations used in the DL100 are standard Boolean-type operators. The following table outlines each of the supported operators and their function.

Operator	Function
>	Greater Than
<	Less Than
>=	Greater Than or Equal to
<=	Less Than or Equal to
! or <>	Not Equal to
=	Equal to
*	Single character wildcard (matches any character or space)
()	Parenthesis used to combine operations
OR	Logical OR
AND	Logical AND
@	Positional wildcard (used in place of a field name to match anywhere within an incoming record)

OmniAlarms

OmniAlarms are a receipt-verified alert system delivered via modem.

When an OmniAlarm is initiated, the box dials the callout number specified by the action. Once connected, it sends a header and waits for a specific response. If the DL100 receives a specific response to the header, it delivers alarms in CRC mode; otherwise, alarms are delivered in non-CRC mode. In CRC mode, each OmniAlarm is transmitted with some extra control characters and a CRC, and the remote host is required to acknowledge each alarm in a certain format.

After all OmniAlarms have been delivered, the box waits for 20 seconds for any type of keystroke. If a keystroke is detected, the box will present a login menu.

OmniAlarm Protocol

Initial header

Note: Please see the Control Characters appendix for more information about special characters used within this section.

Upon dialing into the receiver, the DL100 will send a message similar to the following:

```
Data-Link DL100
Server Room B
OmniAlarm Notice ver. 1.00
(CR/LF) (ENQ)
```

The first line of the output is the DL100's answer string.

The second line is the DL100's unit ID.

The third line indicates the version of OmniAlarm.

The final line is the (ENQ) control code.

Non-CRC Mode

After sending the initial header, the DL100 pauses for 10 seconds to wait for an ACK from the receiver. Non-CRC mode requires the Require OmniAlarm ACKs is setting to be turned off. If the DL100 sees no response or the receiver replies with:

```
(ACK) 00 (ACK)
```

then non-CRC mode is assumed and the sender will transmit the alarms. The control characters (SOH), (SOT), and (ETX) are not transmitted in non-CRC mode.

CRC Mode

CRC mode exists to ensure that event notifications are delivered intact. OmniAlarms delivered in CRC mode have extra control characters and a 16-bit CRC included in each alarm to allow for error detection by the receiver. Additionally, CRC mode causes the DL100 to store and later retry each alarm until a proper acknowledgement is received from the receiver.

If Require OmniAlarm ACKs is enabled, the DL100 will require a positive CRC mode response or it will disconnect and retry the call. To enable CRC, the receiver must respond with the following after the header is received:

```
(ACK) 01 (ACK)
```

Once CRC mode is enabled, each alarm must be acknowledged by a message in the following format:

```
(ACK) XX (ACK)
```

XX represents the alarm ID to acknowledge. The ID can be found in the first line of each record sent by the DL100.

Alarm Transmission

After successfully initiating a session, alarms are delivered in the following format:

```
(SOH) ID=XX (SOT)
Date=06/01/04
Time=10:30:02
TargetPort=
TargetName=
AlarmType=Data Alarm
AlarmName=Test Alarm
Threshold=0
Severity=Critical
Text1=text record line
Text2=text record line
(ETX) XX
(CR/LF)
(CR/LF)
```

The alarm ID indicates the index number of each alarm delivered during a call. This number restarts at 1 for each new call.

The severity line represents the Class value defined for this alarm.

Up to twelve lines of Text n may be sent.

XX represents the 16-bit CRC if CRC mode is enabled. If not, this line will contain two spaces.

If additional alarms are queued to send in the same transmission, the above output is repeated, incrementing the ID with each alarm. When non-CRC alarm transmission is selected, alarms are sent with a 5 second delay between each. When all alarms and been transmitted, then DL100 sends the following:

```
(EOT)
(CR/LF)
(CR/LF)
```

At this point, the DL100 waits 20 seconds for the receiver to send any input, and then hangs up. If any commands are received, a command prompt is established and the connection will remain active.

Action Definition

OmniAlarm actions are designated by "O" in action definitions. The numbers correspond to callout numbers.

Example: O1 -or- O123

Command Reference

User Interface Commands

» **Note:** The HELP command can give helpful context sensitive information for most commands.

Command	Summary	Syntax	Description
BYE	Disconnect from unit	BYE	Disconnect a processor session.
EXIT	Exit command processor	EXIT	Ends the console session.
HELP	Show help menu	HELP [<i>command</i>]	Displays a list of commands or context sensitive help for a specific command.
PING	Ping IP address	PING <i>target_address</i>	Performs a standard network ping function on the specified IP address.
PROMPT	Toggle command prompt	PROMPT ON OFF	Enable or disable display of console command prompt.
RESTART	Restart unit	RESTART	Reset the system, same as pressing the physical reset button.
STATUS or ?	Display status screen	STATUS or ?	Display the status screen

Setup Commands

Command	Summary	Syntax	Description
GET	Pseudo SNMP get	GET [<i>C=community</i>] <i>oid</i>	Display value of MIB object specified by the <i>oid</i> .
GETNEXT	Pseudo SNMP getnext	GETNEXT [<i>C=community</i>] <i>oid</i>	Display value of MIB object following the one specified by the <i>oid</i> .
GETX	Show last MIB object	GETX	Display value of the last MIB object that was displayed.
SK	Set/get key	SK [<i>KEY=value</i>]	Set or get a single key See Settings Keys for more information.
SK GET	Read keys	SK GET [<i>X A</i>] [<i>CUSTOM</i>] [<i>filter</i>]	SK GET initiates a download of Setup menu options. See Settings Keys for more information.
SK HERE	Manage individual keys	SK HERE	SK HERE allows you to set or get individual keys interactively. See Settings Keys for more information.
SK LOG	Show SK error log	SK LOG	SK LOG outputs a list of any errors generated during an SK set. See Settings Keys for more information.
SK SET	Set keys	SK SET [<i>X A</i>]	SK SET puts the unit in bulk settings key upload mode. See Settings Keys for more information.
SET	Pseudo SNMP set	SET [<i>c=community</i>] <i>oid</i> = <i>value</i>	Set MIB object specified by the <i>oid</i> to the specified <i>value</i> .
SETUP	Enter setup menu	SETUP	Opens the setup menu.
WALK	Pseudo SNMP walk	WALK	Display value of MIB object following the last one displayed by WALK or GETNEXT.

System Commands

Command	Summary	Syntax	Description
BYPASS	Access serial ports	BYPASS [port_number]	Provide pass-through terminal access between the user and the input port.
COLDSTART	Cold boot unit	COLDSTART	Resets the same settings as the DEFAULT command and then reboots the unit.
DEFAULT	Restore factory defaults	DEFAULT	Resets all settings to factory default values, except does not change the following settings: <ul style="list-style-type: none">• IP address• Subnet mask• Router address• Serial port baud rate and data format• Data alarm fields• Data alarm settings• Action queue Does not affect record data
DOMAIL	Test emails	DOMAIL	Sends a test email to all defined email addresses.
DOPAGE	Test pagers	DOPAGE	Sends a test page to all defined pagers.
DOTRAP	Test traps	DOTRAP	Sends a test trap to all defined trap managers.
SZ	Get events file via Zmodem	SZ [ALARMS AUDIT]	Release the events or audit log file via Zmodem.
TYPE	Print events file contents	TYPE [EVENTS AUDIT]	Print the contents of the events or audit file.
VER	Print unit version	VER	Displays unit hardware and software versions as well as the product and version build.

Appendices

Control Characters

Some of the following control characters may be used in various functions within the DL100, including CRC mode for OmniAlarms and the Escape Key.

Char	Dec	Hex	Control Key	Control Action
NUL	0	00	^@	Null
SOH	1	01	^A	Start of heading
STX	2	02	^B	Start of text
ETX	3	03	^C	End of text
EOT	4	04	^D	End of transmission
ENQ	5	05	^E	Enquiry
ACK	6	06	^F	Acknowledge
BEL	7	07	^G	Bell
BS	8	08	^H	Backspace
HT	9	09	^I	Horizontal tab
LF	10	0A	^J	Line feed
VT	11	0B	^K	Vertical tab
FF	12	0C	^L	Form feed
CR	13	0D	^M	Carriage return
SO	14	0E	^N	Shift Out
SI	15	0F	^O	Shift In
DLE	16	10	^P	Data link escape
DC1	17	11	^Q	XON
DC2	18	12	^R	Device control 2
DC3	19	13	^S	XOFF
DC4	20	14	^T	Device control 4
NAK	21	15	^U	Negative acknowledge
SYN	22	16	^V	Synchronous idle
ETB	23	17	^W	End transmission block
CAN	24	17	^X	Cancel
EM	25	19	^Y	End of medium
SUB	26	1A	^Z	Substitute
ESC	27	1B	^[Escape
FS	28	1C	^\	File separator
GS	29	1D	^]	Group Separator
RS	30	1E	^^	Record Separator
US	31	1F	^_	Unit Separator

Internal Modem Guidelines

The internal modem supplied with this product complies with Part 68 of the FCC Rules and Regulations. The labeling on the modem provides the FCC Registration number and the Ringer Equivalence Number (REN) for the modem. This information is also listed below. You must provide, upon request, this information to your telephone company.

The REN is useful to determine the quantity of devices you may connect to a telephone line and still have all of these devices ring when the number is called. In most, but not all areas, the sum of the RENs of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices you may connect to a line, as determined by the REN, you should contact the local telephone company to determine the maximum REN for your calling area.

If the modem causes harm to the telephone network, the telephone company may temporarily discontinue your service. If possible, they will notify you in advance. If advance notification is not possible, you will be notified as soon as possible.

Your telephone company may make changes in its facilities, equipment, operations or procedures that could affect proper functioning of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

If you experience trouble with the modem, contact Asentria at (206) 344-8800 for information on obtaining service or repairs. The telephone company may ask you to disconnect the device from the network until the problem has been corrected or until you are sure that the device is not malfunctioning.

This device may not be used on coin service lines provided by the telephone company (this does not apply to private coin telephone applications which use standard lines). Connection to party lines is subject to state tariffs.

Modem	FCC ID	REN
2400 Baud Modem	EUD-5U9-BRI4480	0.8B
33.6K Baud Radicom Modem	406CHN-31735-PT-E REN 1.1B	1.1B
33.6K Baud OmniModem	6KMUSA-34184-MME REN 0.9B	0.9B
33.6K Baud MultiModem	AU7-USA-46014-MD-E	0.1B

Canadian Department of Communications

NOTICE: The Canadian Department of Communications Label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements. The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protections that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

The Load Number (LN) assigned to each terminal device denotes the percentage of total load to be connected to a telephone loop, which is used by the device, to prevent overloading.

The termination of a loop may consist of any combination of devices subject only to the requirement that the total of the Load Numbers of all the devices does not exceed 100. The load number of this unit is five.

This digital apparatus does not exceed the Class A limits for Radio noise emissions from digital apparatus set out in the interference-causing equipment standard entitled "Digital Apparatus", ICES-003 of the Department of Communications.

AVIS: - L'étiquette du ministère des Communications du Canada identifie le matériel homologué. Cette étiquette certifie que le matériel est conforme à certaines normes de protection, d'exploitation et de sécurité des réseaux de télécommunications. Le Ministère n'assure toutefois pas que le matériel fonctionnera à la satisfaction de l'utilisateur.

Avant d'installer ce matériel, l'utilisateur doit s'assurer qu'il est permis de le raccorder aux installations de l'entreprise locale de télécommunication. Le matériel doit également être installé en suivant une méthode acceptée de raccordement. Dans certains cas, les fils intérieurs de l'entreprise utilisés pour un service individuel à ligne unique peuvent être prolongés au moyen d'un dispositif homologué de raccordement (cordon prolongateur téléphonique interne). L'abonné ne doit pas oublier qu'il est possible que la conformité aux conditions énoncées ci-dessus n'empêche pas la dégradation du service dans certaines situations. Actuellement, les entreprises de télécommunication ne permettent pas que l'on raccorde leur matériel à des jacks d'abonné, sauf dans les cas précis prévus par les tarifs particuliers de ces entreprises.

Les réparations de matériel homologué doivent être effectuées par un centre d'entretien Canadien autorisé désigné par le fournisseur. La compagnie de télécommunications peut demander à l'utilisateur de débrancher un appareil à la suite de réparations ou de modifications effectuées par l'utilisateur ou à cause de mauvais fonctionnement.

Pour sa propre protection, l'utilisateur doit s'assurer que tous les fils de mise à la terre de la source d'énergie électrique, des lignes téléphoniques et des canalisations d'eau métalliques, s'il y en a, sont raccordés ensemble. Cette précaution est particulièrement importante dans les régions rurales.

Avertissement. - L'utilisateur ne doit pas tenter de faire ces raccordements lui-même; il doit avoir recours à un service d'inspection des installations électriques, ou à un électricien, selon le cas.

L'indice de charge (IC) assigné à chaque dispositif terminal indique, pour éviter toute surcharge, le pourcentage de la charge totale qui peut être raccordée à un circuit téléphonique bouclé utilisé par ce dispositif. La terminaison du circuit

bouclé peut être constituée de n'importe quelle combinaison de dispositif, pourvu que la somme des indices de charge de l'ensemble des dispositifs ne dépasse pas 100. L'indice de charge de cet produit est 5.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe A prescrites dans la norme sur le matériel brouilleur : "Appareils Numériques", NMB-003 édictée par le ministre des Communications.

Warranty Information

Asentria Corporation hereby warrants that it will, as the buyers sole remedy, repair or replace, at its option, any part of the DL100 which proves to be defective by reason of improper materials or workmanship, without charge for parts or labor, for a period of 12 (twelve) months. This warranty period commences on the date of first retail purchase, and applies only to the original retail purchaser.

To obtain service under this warranty, you must obtain, by telephone, postal letter, or email, a return authorization number from Asentria Technical Support. This authorization number may be obtained by contacting Asentria Technical Support at the address and/or phone number below. The defective unit is to be returned to Asentria with shipping prepaid, and the return authorization number must be clearly marked on the outside of the package containing the defective unit.

The dealer's bill of sale or other satisfactory proof of the date of purchase may be required to be presented in order to obtain service under this warranty.

This warranty applies if your DL100 fails to function properly under normal use and within the manufacturer's specifications. This warranty does not apply if, in the opinion of Asentria Corporation, the unit has been damaged by misuse; neglect; or improper packing, shipping, modification, or servicing by other than Asentria or an authorized Asentria Service Center.

In no event shall Asentria Corporation be liable for any loss, inconvenience or damage, whether direct, incidental, consequential or otherwise, with respect to the DL100. Asentria Corporation's liability shall be limited to the purchase price of the DL100. No warranty of fitness for purpose, or of fitness of the DL100 for any particular application is provided. It is the responsibility of the user to determine fitness of the DL100 for any particular application or purpose.

This warranty gives you specific legal rights. These rights may vary from state to state, as some states do not allow limitations on liability.

You may request information on how to obtain service under this warranty by contacting Asentria Technical Support at the address and phone number below:

Asentria Technical Support
1200 North 96th St.
Seattle, WA 98103
(206) 344-8800
www.asentria.com