



**User's Manual  
Installation and Operation Guidelines**

**TeleBoss™ 810 Pollable Remote Access Unit**

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Version 1.01.110

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## TeleBoss™ 810 Pollable Remote Access Unit Installation and Operation Guidelines

For firmware version: 1.01.110 \_STD  
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### Changes In This Version of the User Manual

- Added support for [Xmodem polling](#) via serial or modem.

### Conventions used in this manual

- Commands are printed in this format: **COMMANDS** (Arial font, caps, bold, black) although commands used in the unit are not case-sensitive.
- **Red type** indicates a safety or security warning.
- [Hyperlinks](#) to other sections in the manual are displayed in Arial font, blue, underline.

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## Quick Start

### What's Included

This chapter is a brief guide to help get your TeleBoss 810 (T810) up and running quickly.

#### Hardware Needed

- Asentria TeleBoss 810
- 15VDC Power adaptor (Included)
- Computer with DB9 RS-232 serial port and terminal emulation software
- Ethernet cable (Included)
- RJ45 M-M unshielded serial cable and RJ45/DB9 DTE straight thru adaptor (Included)
- POTS (analog) phone line (optional)

#### Information Needed

To connect your T810 to an Ethernet network you will need:

- Static IP address to assign to the T810
- Subnet mask
- Default router IP, or gateway router IP address if on a WAN (optional)

## Connecting

### Cables and Power

1. Connect the RJ45 serial cable and DTE adaptor together, and connect the RJ45 end to serial port I/O 2 of the T810, and the DB9 end to COM1 of a computer with a terminal emulator.
2. Connect the network Ethernet cable into the RJ45 Ethernet port.
3. If installed with an internal modem, connect a POTS (analog) phone line into the RJ11 modem jack.
4. Connect the power supply cable to the T810 and the transformer into an appropriate power receptacle.

### Power up sequence

On power up, and when the Reset button is pressed and released, you may hear two clicks from the internal relay. When boot up is complete, the Power LED remains on steady.

### Accessing the Command Line

1. Open the computer terminal emulation program to whatever comm port is connected to the T810 at baud rate and parity setting of 19200, 8N1.
2. Press <Enter> three times. The "TeleBoss 810 – Connection at I/O 2" banner will appear.
3. Type **STATUS** or **?** and press <Enter>. You will be presented with a Status screen similar to the following.

**>> Note:** Commands entered into the T810 are *not* case sensitive.

```
TeleBoss 810 1.01.110 STD      Unit Serial #   : 810000075
ID       : T810-810000075    I/O1 Baud Rate : 19200
Date    : 03/11/09          I/O1 Parity    : 8N1
Time    : 15:11:28          I/O2 Baud Rate : 19200
Memory  : 512K              I/O2 Parity    : 8N1
% Full  : 0%                File Records   : 0
Modem   : YES               File Bytes     : 0
Network : YES               Inline Hsk     : XON/XOFF
IP Add  : 0.0.0.0           File Wrap      : OFF
MAC Add : 00:10:A3:50:01:FA
COMPLETE
>
```

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

## Network Setup

1. Access the Setup menu by typing **SETUP** and pressing <Enter>.
2. Select the Network Settings branch.
3. Select A) IP Address, B) Subnet Mask, and C) Router address and enter the IP address, subnet mask and--if necessary--a router address.
4. Press <Enter> twice to exit this menu and return to the command line.

### Testing Network Connectivity

1. Verify that the network router is available to the unit by typing the command **PING <IP\_address>**. A router is always a good candidate to test pings. The following screenshot is an example of a successful T810 ping test.

```
> ping 192.168.100.1
Pinging 192.168.100.1 ...

Reply from 192.168.100.1 in < 0.01 s
Reply from 192.168.100.1 in < 0.01 s
Reply from 192.168.100.1 in < 0.01 s
Reply from 192.168.100.1 in < 0.01 s
Reply from 192.168.100.1 in < 0.01 s
Reply from 192.168.100.1 in < 0.01 s
Reply from 192.168.100.1 in < 0.01 s

Packets: 7 sent, 7 received, 0 lost
```

2. Press the ESC key once to stop the ping testing. If the ESC key 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.

# What is a TeleBoss 810

## The Basics



Fig 1: TeleBoss 810

The TeleBoss 810 (T810) is an economical data collection solution for Call Accounting systems, Service Bureaus, and end users who need to collect PBX data from equipment at your remote sites. It provides two basic functions to facilitate management and monitoring of serial port devices conditions. These functions are:

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

### Communication Methods

The T810 has a diverse selection of communication methods available for different applications. The following methods can be used to access the command processor:

- RS-232 serial
- Telnet
- Modem (if optional modem installed)

Data may be retrieved from or through the T810 by any of the following methods:

- Serial connection to command processor
- Modem or Telnet connection to command processor or passthrough
- Inline Mode (data *in* I/O 1, the serial input port, data *out* I/O 2, the serial output port)
- Telnet real-time sockets
- FTP push (automatic delivery to FTP server)
- FTP get (manual retrieval from FTP server)

### Data Storage

Basic data storage in the T810 is accomplished in a database of one file – FILE1. The number of records stored in FILE1 can be displayed by reading the File Records field on the Status screen, issuing the **COUNT** command, or by issuing the **DIR** command on an FTP connection.

### Remote Access

The T810 can provide an administrator with transparent access to devices connected to I/O 1 via passthrough connections. These can be accessed via the modem or through Telnet using the 'bypass' command. This sort of access can be used to configure, maintain, or manipulate devices that would normally have no remote access.

## Parts Identification

### Standard Equipment

The base T810 comes with the following standard on-board equipment:

- 1 – RJ45 DCE serial I/O port (I/O 1, the input port)
- 1 – RJ45 DTE serial I/O port (I/O 2, the output or command port)
- 1 – 10/100Mb Ethernet interface
- AC power input
- Reset button
- Internal lithium coin-cell type battery backup\*/\*\*

\* 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 battery backup.

**\*\* CAUTION: THERE IS A RISK OF EXPLOSION IF THE BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.** The instructions are that lithium batteries can be recycled, and you should contact a recycling organization in your area for details.

In addition to the above components, the standard T810 is shipped with the following accessories:

- 2 – 6ft RJ45 M-M unshielded serial cables for use with the following RJ45/DB9 adapters
- 1 - RJ45/DB9 F DCE adapter for use with I/O 1
- 1 - RJ45/DB9 M DTE adapter for use with I/O 2
- 1 – DB9 M/F Null Modem adapter (for use if needed)
- 1 – 6ft CAT5 RJ45 M/M Ethernet cable
- Documentation and Utilities CD

### Options

The following components are optional and may be installed on your T810:

- 1 – Internal 33.6K baud modem (optional) w/6ft RJ11 M/M phone cable

### LEDs, Buttons, Ports, and DIP Switches



Fig 2: Front panel

### LEDs – Front Panel

#### Power

The Power LED will remain on steady when power is applied to the unit.

#### Percent Full

The T810 has four LEDs to indicate file full status. A flashing Percent Full LED indicates the file database has less than the amount indicated by that LED, but more than the previous. A solid lit LED indicates the file database percentage is at or over the value for that LED.

#### Net

The Net LED flashes whenever data is transmitted on the Ethernet port.

#### Out

The Out LED flashes whenever data is transmitted on I/O 2.

#### In

The In LED flashes whenever data is received on I/O 1.



## **Ports & Connectors**



Fig 3: Back panel

The Reset button, when pressed for approximately 2 seconds, will reboot the T810. All buffered data and internal configurations will be preserved.

### **Serial Ports**

I/O 1 autodetects the connected DCE/DTE configuration. I/O 2 is configured as DTE. Both are RJ45 connectors. Connect one of the 6ft RJ45 M-M unshielded serial cables to each port and attach the matching RJ45/DB9 adapter to provide a straight through connection to each port. A null modem adapter is supplied if needed.

The DB9 end of each adapter that mates with the serial port connectors of connected devices has a pair of screw-down cable screws. These cable screws should be used to assure a solid connection of the adapter with the device.

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

### **Ethernet**

The Ethernet 10/100 BaseT port is an RJ45 connector. Connect the CAT5 network cable from an Ethernet hub or switch to this port.

### **Internal Modem**

The 33.6K internal modem port (if installed) is an RJ11 (typical U.S. phone) connector. Connect a POTS (analog) dialup phone line to this port.

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 T810.

**DIP switches**

One bank of twelve DIP switches is located on the bottom of the T810:

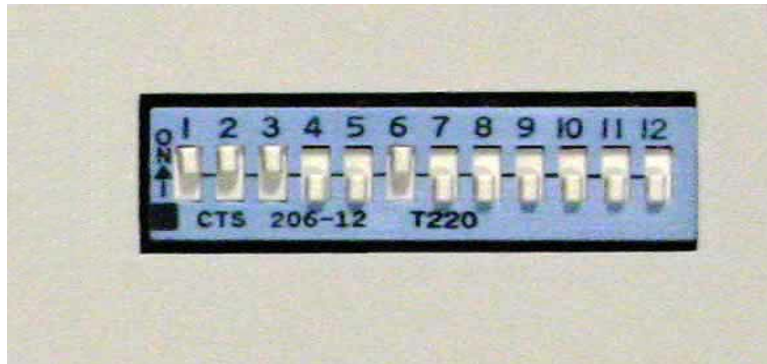


Fig 4: DIP switch orientation

**I/O 1**

Baud rate	SW1	SW2	SW3
19200	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

**I/O 2**

Baud rate	SW6	SW7	SW8
19200	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**

Word, Parity, Stop	SW4	SW5
8 bits, None, 1	OFF	OFF
7 bits, None, 1	OFF	ON
7 bits, Odd, 1	ON	OFF
7 bits, Even, 1	ON	ON

**Word, Parity, Stop SW9**

Word, Parity, Stop	SW9	SW10
8 bits, None, 1	OFF	OFF
7 bits, None, 1	OFF	ON
7 bits, Odd, 1	ON	OFF
7 bits, Even, 1	ON	ON

**PASSWORD REQUIRED**

Setting	SW11
Password – Yes	ON
Password – No	OFF

**I/O 2 PORT MODE**

Mode	SW12
Inline Mode	ON
Command Mode	OFF

## Getting Connected

### Power Up Sequence

On power up, and when the Reset button is pressed and released, you may hear two clicks from the internal relay. When boot up is complete (almost immediately), the Power LED remains on steady.

### Default Passwords

The default password is **SMDR** and can be enabled or disabled via DIP switch SW11. When enabled, the password is required on Telnet and modem connections. It is highly recommended that you change the default password and record it in a secure location.

### The Status Screen

The T810 Status screen is this unit's one-stop information source. Most of the information that a user would need to know about the unit is available through this display.

```

TeleBoss 810 1.01.110 STD      Unit Serial # : 810000075
ID       : T810-810000075     I/O1 Baud Rate : 19200
Date    : 03/11/09           I/O1 Parity    : 8N1
Time    : 15:11:28           I/O2 Baud Rate : 19200
Memory  : 512K                I/O2 Parity    : 8N1
% Full  : 0%                  File Records   : 0
Modem   : YES                 File Bytes     : 0
Network : YES                 Inline Hsk     : XON/XOFF
IP Add  : 0.0.0.0             File Wrap      : OFF
MAC Add : 00:10:A3:50:01:FA
COMPLETE
>

```

**TeleBoss 810** indicates that this product is a T810, followed by **1.01.110 STD**, the currently loaded firmware version.

**ID** is the Unit ID, assigned to this T810 in the [General Settings](#) menu. Default setting is T810- <serial number>.

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

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

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

**Modem** and **Network** indicates via either YES or NO whether or not that component is installed in the T810.

**IP Add** displays the user configurable network IP address assigned to the Ethernet interface.

**MAC Add** displays the hard-coded MAC Address. The MAC Address can also be found on the unit's serial number label. The MAC Address cannot be changed, but is displayed for informational purposes.

**Unit Serial #** is the unique factory assigned serial number for this T810.

**I/O1 Baud Rate** and **I/O1 Parity, etc** indicate the baud, word length, parity, and stop bit settings for I/O 1.

**I/O2 Baud Rate** and **I/O2 Parity, etc** indicate the baud, word length, parity, and stop bit settings for I/O 2.

**File Records** indicates the number of carriage return, linefeed, or ETX (end of text) delimited records stored in memory.

**File Bytes** indicates the amount of storage allocated for the above records.

**Inline Hsk** indicates the current method of handshaking when I/O 2 Port Mode is set to Inline.

**File Wrap** indicates the ON/OFF status of whether file wrapping is enabled on I/O 1. When set to ON, the unit will overwrite the oldest buffered records with new ones after it becomes 100% full.

## Setup Menu

### Overview

The Setup menu contains all of the configuration options available on the T810. It is organized in a logical tree structure with all settings classified under the following groups:

```
TeleBoss 810 - Main Setup Menu
A) Network Settings
B) Serial Settings
C) General Settings
```

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

Press <Enter> to go back one level in the menu tree.

The T810 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

There are two different types of inputs employed within the Setup menu.

#### String entry

```
A) Unit ID [Test Site]
```

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

```
D) Record Stamping [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 is typically used for options with two or three choices. Most often it is in an ON/OFF form, but could be a series of options such as "None", "Both", "DTR", and "Xon/Xoff".

## Main Setup Menu

```
TeleBoss 810 - Main Setup Menu
A) Network Settings
B) Serial Settings
C) General Settings
```

[Network Settings](#) contains settings for network communication, FTP and Real-Time Sockets.

[Serial Settings](#) contains settings pertaining to the function of each serial port.

[General Settings](#) contains settings for Unit ID, answer string, password, date/time, and other general settings.

## Network Settings

The Network Settings menu contains all of the options pertaining to network communication.

```
TeleBoss 810 - Network Settings
A) IP Address [0.0.0.0]
B) Subnet Mask [255.255.255.0]
C) Router Address [0.0.0.0]
D) Telnet Duplex [ON]
E) Inactivity Timeout [10]
F) FTP Get AutoDelete [OFF]
G) FTP Get Username [user]
H) FTP Get Password [SMDR]
I) Unix Style FTP LIST [OFF]
J) FTP Push Enable [OFF]
K) FTP Push Server Address [0.0.0.0]
L) FTP Push Username [user]
M) FTP Push Password [SMDR]
N) FTP Push Directory [/]
O) Minutes Between Push Attempts [0]
P) Real-Time Sockets Enable [OFF]
```

**IP Address** is the static network address assigned to the Ethernet interface. The network administrator should provide this. Default setting is 0.0.0.0.

**Subnet Mask** and **Router Address** should also be provided by the network administrator. Default setting for the Subnet Mask is 255.255.255.0 and the default setting for the Router Address is 0.0.0.0.

**Telnet Duplex** is an ON/OFF toggle that controls the echo settings for Telnet. ON causes the unit to echo all characters sent to the remote device, and OFF turns off character echo. Default setting is ON.

**Inactivity Timeout** is the number of minutes (0 – 255) before a network connection with no activity will be terminated. A setting of 0 means an inactive connection will not be terminated. Default setting is 10 minutes.

**FTP Get AutoDelete** is an ON/OFF toggle that sets whether the data in FILE1 is automatically deleted from the T810 once the data has been transferred via an FTP “get” operation. ON automatically deletes the data after the transfer has been acknowledged by the receiving server, and OFF prevents the data from being deleted. After an FTP “get”, data can manually be deleted from the T810 using the **DEL FILE1** command. Default setting is OFF.

**FTP Get Username** displays the username that must be used when logging in via an FTP connection specifically to do an FTP “get” operation. This username is **user** by default and cannot be changed.

**FTP Get Password** sets the password required for an FTP connection specifically to do an FTP “get” operation. The default password is **SMDR**.

**Unix Style FTP List** is an ON/OFF toggle to enable the user to set the response to the FTP LIST (DIR in Windows client) command to either a Windows-like response (OFF), or a Unix-like response (ON). Default setting is OFF.

- Windows-like response example:
 

```
ftp> dir
200 PORT command successful.
150 Opening ASCII mode data connection.
Filename      Records
FILE1         0
226 OK.
ftp: 44 bytes received in 0.48Seconds 0.09Kbytes/sec.
```
- Unix-like response example:
 

```
ftp> dir
200 PORT command successful.
150 Opening ASCII mode data connection.
-rw-r--r--    1 500    users    0 Jan 01 00:00 FILE1
226 OK.
ftp: 68 bytes received in 0.61Seconds 0.11Kbytes/sec.
```

**FTP Push Enable** is an ON/OFF toggle to enable the FTP Push feature. Default setting is OFF.

**FTP Push Server Address** is the IP address of the FTP server to which the data file (FILE1) is pushed.

**FTP Push Username** sets the username that must be used to log into the FTP server during the FTP Push process. The default setting is **user**.

**FTP Push Password** sets the password required for FTP "push" connections. The default password is SMDR.

**FTP Push Directory** is the path used to transfer the data in FILE1 via the FTP Push process. The file is transferred to the root login directory on the FTP server if this option is left blank.

**Minutes Between Push Attempts** sets the number of minutes (1 to 9999) between FTP Push attempts. Default setting is 0 minutes.

➤ **Note:** Once FTP Push has been configured, entering the **PUSHTEST** command will test the connectivity to the FTP server and write a "log in" entry to the Status File in the configured FTP Push Directory. No data is pushed with this command. The T810 responds with COMPLETE once the pushtest is completed.

**Real Time Sockets Enable** is an ON/OFF toggle to enable or disable the Real Time Sockets (RTS) feature. RTS is a method of polling data directly from the T810 over a TCP connection using port 2201. See the [Real Time Sockets](#) section in the Features chapter for more information. Default setting is OFF.

## Serial Settings

The Serial Settings menu contains all of the options pertaining to serial communications.

```
TeleBoss 810 - Serial Settings
A) Serial Port 1 Settings
B) Serial Port 2 Settings
```

[Serial Port 1 Settings](#) contains the settings unique to serial port I/O 1.

[Serial Port 2 Settings](#) contains the settings unique to serial port I/O 2. This port can function as either a Command Port or an Inline Mode Port.

### Serial Port 1 Settings

```
TeleBoss 810 - Serial 1
A) Baud Rate [19200]
B) Data Format [8N1]
C) Handshaking [None]
D) Record Stamping [OFF]
E) Disable Serial Setup via DIP Switch [OFF]
```

**Baud Rate** toggles the baud rates available for the port. Available selections are 300, 600, 1200, 2400, 4800, 9600, and 19200. Default setting is 19200.

**Data Format** toggles the word/parity settings available for the port. Available selections are 8N1, 7E1, 7O1, and 7N1. Default setting is 8N1.

➤ **Note:** Baud Rate and Data Format settings must match the connected PBX serial port or else incoming data may not be received, or may be corrupted.

**Handshaking** toggles the methods available for how the port should handshake with the PBX when the memory of the T810 becomes full, if necessary. Available selections are XON/XOFF, DTR, Both, and None. Default setting is None.

**Record Stamping** is an ON/OFF toggle to prepend the Date/Time to each incoming data string. Default setting is OFF.

**Disable Serial Setup via DIP Switch** is an ON/OFF toggle to disable the baud and parity DIP switches for serial port I/O 1 (SW1 thru SW5). This is a security feature that ensures someone cannot change any settings for this port by flipping external DIP switches. ON means the DIP switches are disabled. OFF means they are not disabled. Default setting is OFF.

### **Serial Port 2 Settings**

```
TeleBoss 810 - Serial 2
A) Baud Rate           [19200]
B) Data Format         [8N1]
C) Handshaking        [None]
D) Port Mode          [Command]
E) Inline Mode Handshaking [XON/XOFF]
F) Disable Serial Setup via DIP Switch [OFF]
```

**Baud Rate** toggles the baud rates available for the port. Available selections are 300, 600, 1200, 2400, 4800, 9600, and 19200. Default setting is 19200.

**Data Format** toggles the word/parity settings available for the port. Available selections are 8N1, 7N1, 7O1, and 7E1. Default setting is 8N1.

➤ **Note:** When I/O 2 is in Command mode, Baud Rate and Data Format must match the PC com port connected to the T810. When I/O 2 is in Inline mode, Baud Rate and Data Format must match the com port on the PC or server that is collecting the call records.

**Handshaking** toggles the methods available for how the port should handshake with the PBX when the memory of the T810 becomes full, if necessary. Available selections are XON/XOFF, DTR, Both, and None. Default setting is None.

**Port Mode** toggles the two modes that I/O 2 can be used for: Command mode is used to communicate with the command processor. Inline mode is used to output records stored in memory, and those coming in I/O 1. (Port Mode can also be configured via dipswitch SW12.) Default setting is Command.

➤ **Note:** On a serial connection to I/O 2 when it is in Command mode, keying in the letter D when this menu is open will ***immediately*** change the Port Mode to Inline, and there will be no further communication with the unit via this serial connection. The user will have to make a modem or Telnet connection to connect again to the command processor. Alternatively, the user can toggle DIP switch SW12 up – power cycle the unit - toggle DIP switch SW12 down - and power cycle the unit again to restore the Port Mode to Command.

**Inline Mode Handshaking** sets what methods can be used to control the release of records in Inline Mode. Available selections are DTR, XON/XOFF with DTR, XON Prompt, DTR w/60 sec Delay, and XON/XOFF. See the section on [Inline Mode polling](#) in the Features chapter for more information. Default setting is XON/XOFF.

**Disable Serial Setup via DIP Switch** is an ON/OFF toggle to disable the baud and parity DIP switches for serial port I/O 2 (SW6 thru SW10), and the Port Mode DIP switch (SW12). This is a security feature that ensures someone cannot change any settings for this port by flipping external DIP switches. ON means the DIP switches are disabled. OFF means they are not disabled. Default setting is OFF.

## General Settings

The General Settings menu contains all of the settings for general functionality of the T810.

```
TeleBoss 810 - General Settings
A) Unit ID                [T810-810009999]
B) Answer String         [TeleBoss 810]
C) Password              [SMDR]
D) Escape Key            [27]
E) Wrap Around           [OFF]
F) Current Date          [11/01/08]
G) Current Time           [15:40:52]
H) Adjust for Daylight Savings [OFF]
I) Modem Inactivity Timeout [10]
```

**Unit ID** sets the name assigned to this T810. This name is displayed at the top of the Status screen and written to the FTP push STATUS file. The name should be unique for clarity. Default setting is T810-*<serial number>*.


**Answer String** sets the string that is presented when a user connects to the T810. Default setting is TeleBoss 810.

**Password** sets the password required when a user connects to the T810 via Telnet or modem. The default password is SMDR.

**Escape Key** is the decimal ASCII character code of the key you must press three times to escape from bypass (passthrough) mode. Range of values that can be used is limited to non-printing ASCII characters 0 to 31 and 126 to 255. Default is 27, the <ESC> key.

**Wrap Around** is an ON/OFF toggle to set whether file wrapping is enabled on I/O 1. When set to ON, the unit will overwrite the oldest buffered records with new ones after it becomes 100% full. Default setting is OFF.

**Current Date/Time** displays and allows configuration of the current Date and Time. Date is configured using the US date format (MM/DD/YY). European date format (DD/MM/YY) is not supported. Time is formatted as HH:MM:SS and uses a 24 hour clock.


 **Note:** The date and time settings are maintained by means of an internal battery backup when power is removed from the T810.

**Adjust for Daylight Savings** is an ON/OFF toggle that allows automatic Daylight Saving Time updating. Default setting is OFF.

- A brief explanation of Daylight Saving Time

Effective in 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.

**Modem Inactivity Timeout** is the number of minutes (0 – 255) the T810 will allow the modem to remain connected without any activity. A setting of 0 means an inactive connection will not be terminated. Default setting is 10 minutes.

 **Note:** This setting can be changed, but is not valid if the T810 does not have a modem.



## Features and How To Use Them

### Upgrading the T810

The T810 can be upgraded via a serial, modem or Telnet connection. The upgrade process is identical regardless of which connection method is used, although Telnet is recommended because it is much faster. Contact Asentria Tech Support for the latest firmware upgrade file.

Make a connection to the T810 command line using any terminal emulator (TeraTerm, ProComm, etc.), except HyperTerminal. HyperTerminal creates problems with the upgrade. Then follow these four easy steps:

- 1) Type the command **UPDATE** and press <Enter>.

The T810 will respond with:     \*\*\* Preparing for update file...  
                                  \*\*\* Start text transfer now...

- 2) With your terminal emulator, begin an ASCII or plain text transfer of the .HEX update file.

When the file transfer is finished, the T810 will respond with:  
                                  \*\*\* Upload Complete

- 3) Type the command **VERIFY** and press <Enter>.

The T810 will respond with an integrity check that looks similar to this:

```
*** Integrity Check...
Pages: 345
Expected Chk: 0x5D81D3
Signature OK
Calculated Chk: 0x5D81D3
Valid
```

- 4) Type the command **RESTART** and press <Enter>, or press the Reset button. The unit must be rebooted for the upgrade to finalize.

- 5) You'll hear the unit buzz for a few seconds shortly before it reboots – this is normal.

When the T810 reboots, it should be at the new version. Check the top line of the Status screen to confirm.

### Setting Keys

» **Note:** Setting Keys are not supported in version 1.01.110, but may be in a future version.

## Polling

The T810 can be polled via five methods: terminal connection using the RL command, terminal connection using the Xmodem protocol, Inline Mode, FTP, and Real Time Sockets. The following section describes each of these methods.

### RL Command

Data can be polled from FILE1 of the T810 using the RL command alone, or the RL command followed by a specific number of records to be viewed/pollled. Records can be polled in either manner using third-party call accounting software, or the records can be polled directly into a text file on the PC from which the terminal connection is made by using "Capture Text", or "Log to File", or whatever function your terminal emulator has for capturing data to a file. Start this process after you have connected to the command line of the T810, but before you enter the **RL** command. Stop this process after you see **END DATA**.

**RL command alone** - To poll data from FILE1 using the RL command, simply make a serial, Telnet, or modem terminal connection to the T810 so that you are at the command line. Enter the command **WAIT OFF**, followed by **PRT** (to partition the records currently in memory from any new incoming records), followed by **RL**, and you will see all of the call records scroll by on your terminal screen. When the end of the partition is reached, the scrolling will stop and the unit will display **END DATA**. Scrolling can be stopped at any time by pressing the <ESC> key.

If the command **WAIT ON** is entered before issuing the **PRT** and **RL** commands, the call records will not be released until the command **NEXT** is entered. Records are released normally once the **NEXT** command is entered.

**RL command for specific number of records** – To poll a specific number of records from the beginning of FILE1, enter the same commands as in "RL command alone" above, but follow the **RL** command with a <space>, then the number of records you want to see. See the example below for the commands to release three call records:

```
wait off
COMPLETE

prt
COMPLETE

rl 3
N 001 00 DN1042 T001034          02/25 09:21 00:00:50 A 843481677
N 002 00 DN5280 T001033          02/25 09:22 00:00:08 A 847377443
N 003 00 T002014 DN6502          02/25 09:22 00:00:10
```

Initially, the **RL #** command will release records from the beginning of FILE1. To see the next # of call records, issue the **NEXT** command. (It is not necessary to have **WAIT ON** for **NEXT** to function when releasing records this way.)

```
wait off
COMPLETE

prt
COMPLETE

rl 3
N 001 00 DN1042 T001034          02/25 09:21 00:00:50 A 843481677
N 002 00 DN5280 T001033          02/25 09:22 00:00:08 A 847377443
N 003 00 T002014 DN6502          02/25 09:22 00:00:10

next
N 004 00 T007002 DN5700          02/25 09:19 00:02:36
E 005 00 T002024 DN1006          02/25 09:22 00:00:58
N 006 00 T002042 DN6000          02/25 09:21 00:00:46
```

## Xmodem

Data can be polled from the T810 via serial or modem connection using any terminal emulator or other program that supports the Xmodem protocol. The T810 auto-detects whether CRC or Checksum error checking is used. The command to begin Xmodem polling is **XM**. The T810 does not prompt to begin Xmodem polling once that command is entered. Data polled via Xmodem is not automatically deleted from the T810 call record database. After polling, delete it using the **CLEAR** command.

Xmodem polling is not affected by the WAIT function, nor can you specify a specific number of records to be polled as you can when using Line mode. There are no Setup menu options related to Xmodem.

## Inline Mode

In Inline Mode, I/O 2 must first be put into Inline Mode via either the internal Setup menu, or by setting DIP switch SW12 to the ON or UP position. When in Inline Mode, I/O 2 is “connected” internally to I/O 1 so that data coming in I/O 1 (and any data already stored in memory in FILE1) is sent out I/O 2 to a polling PC or server that will collect and store the data. When functioning normally, the data is in the T810 for a fraction of a second as it travels from the PBX, through the T810, and on to the polling PC. The purpose of the T810 being in this chain is to act as temporary storage for the data if and when the polling PC is off-line, or shut down. The T810 will store the incoming data (to the limit of it’s internal memory) until such time as the polling PC is back on-line and ready to start collecting call records.

As previously discussed in the [Serial Port 2 Settings](#) menu, there are a number of Inline Mode handshaking protocols that can be used to govern how the T810 and the polling PC communicate with each other.

**DTR** – uses the DTR handshaking signal from the computer to determine when to send or hold data. When the computer DTR pin is low, the T810 will not release any data. When the computer DTR pin is high, the T810 releases all buffered data and new incoming data as long as DTR remains high.

**DTR w/60 second delay** – is identical to DTR, except that the data is not released for 60 seconds after the high DTR signal is received by the T810.

**XON/XOFF** – uses the XON (ASCII 17/**Ctrl-Q**) and XOFF (ASCII 19/**Ctrl-S**) control codes sent from the computer to determine when to send or hold data. In this mode the T810 does not pay any attention to the DTR signal.

**XON/XOFF with DTR** – is identical to XON/XOFF except that a high DTR signal is also required. If DTR goes low, the T810 acts as if it had received an XOFF code and will not resume sending data until DTR is high again AND it receives a new XON code.

**XON prompt** – uses the XON (ASCII 17/**Ctrl-Q**) control code sent from the computer to release one record at a time. After one record is released, the T810 stops sending data until the next XON code is received.

## FTP

Records can be polled from FILE1 via FTP using either FTP “get” or FTP “push”.

FTP “get” is the process of polling data in FILE1 by making an FTP connection to the T810, and issuing a “get” command to retrieve all the records in that file. The records will be transferred to the PC making the FTP connection and can either be deleted manually or automatically as described previously in the [Network Settings](#) section.

FTP “push” is the process of polling data in FILE1 where the T810 establishes an FTP connection to an FTP server as scheduled and configured in the [Network Settings](#) section. The records are transferred over this connection, and then deleted from FILE1 after the FTP server has acknowledged receipt. Only data that was in FILE1 when the FTP transfer started will be sent.

## Real Time Sockets

Real Time Sockets is similar in nature to Inline Mode polling, except that the data is sent out of the T810 via a network TCP connection on port 2201 rather than a serial port connection. When Real Time Sockets Enable is set to ON in the [Network Settings](#) menu, the Ethernet port is “connected” internally to I/O 1 so that data coming in (and any data already stored in memory in FILE1) is sent out over the network to a polling PC or server that will collect and store the


data. When functioning normally, the data is in the T810 for a fraction of a second as it travels from the PBX, through the T810, and on to the polling PC. The purpose of the T810 being in this chain is to act as temporary storage for the data if and when the polling PC is off-line, or shut down. The T810 will store the incoming data (to the limit of it's internal memory) until such time as the polling PC is back on-line and ready to start collecting call records.

## Passthrough

Passthrough (also known as "Bypass") is a bi-directional communication link for either a modem or Telnet connection through the T810 to a device attached to I/O 1. Passthrough is useful for configuring or maintaining devices connected to the T810 without having to be in the same physical location.

To initiate a passthrough session to I/O 1 enter the **BYPASS** command and press <Enter>.

To terminate a passthrough session, press the Escape Key three times.

 **Note:** If passthrough is used to monitor incoming data, that data will not be stored into memory. So use passthrough for a very short period of time if the data is valuable and needs to be saved.

## Command Reference

### User Interface Commands

Command	Summary	Syntax	Description
BYE	Disconnect from unit	BYE	Disconnect a processor session.
BYPASS	Access serial port	BYPASS	Provide passthrough terminal access through I/O 1 via modem or Telnet connection
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

### Data Release Commands

Command	Summary	Syntax	Description
CLEAR	Clear released data	CLEAR	Delete released records in FILE1.
COUNT	Count records in file	COUNT	Display the number of records in the partition.
FREE	Check free space	FREE	Display the amount of remaining memory in the record database.
NEXT	Releases all records when preceded by PRT and RL commands	NEXT	Release all records when WAIT is ON and the PRT and RL commands are given.
PRT	Partitions call record database	PRT	Issued before RL commands – partition the database so only calls currently stored in memory are released.
RL	Release records	RL	Release all records from FILE1
RL <i>n</i>	Release <i>n</i> records	RL <i>n</i>	Release <i>n</i> records from FILE 1
WAIT ON/OFF	Enable WAIT function	WAIT ON or WAIT OFF	Enable WAIT so that the unit releases all data whenever the command NEXT is given.
XM	Release records using Xmodem protocol	XM	Prepares the unit to release call records using the Xmodem protocol

### Setup Commands

Command	Summary	Syntax	Description
SETUP	Enter Setup menu	SETUP	Opens the Setup menu.

### System Commands

Command	Summary	Syntax	Description
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"> <li>• IP address / Subnet mask / Router address</li> <li>• Serial port baud rate and data format</li> <li>• Does not affect record data</li> </ul>
FTEST	Test flash memory	FTEST	Destructive test of flash memory. All record data is lost, and any active polling sessions will fail. Records are NOT recoverable.
PUSHTEST	Test FTP push	PUSHTEST	Attempt to connect to the FTP server specified in FTP push settings. Posts to Status file.
PING	Tests network connectivity	PING <IP address on network>	Tests network connectivity by sending packets to an IP address on the network and showing time of response.
ZERO	Dump records	ZERO	Deletes all data in FILE1.

## Numeric Commands

The T810 supports numeric (Ctrl-B) commands as follows:

<b>Numeric (Ctrl-B)</b>	<b>Word</b>
00	PRT (partition)
01	RL (release)
01 <i>n</i>	RL where <i>n</i> is a specific number of records
02	NEXT
09	BYE
16	STATUS
20	COUNT
21	FREE
25	CLEAR
29	BYPASS
39	ZERO
54,1	WAIT OFF
54,2	WAIT ON

## Appendices

### 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.

<b>Modem</b>	<b>FCC ID</b>	<b>REN</b>
2400 Baud Modem	EUD-5U9-BRI4480	0.8B
33.6K Baud Radicomm 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.

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**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'empêchent 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 T810 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 T810 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 T810. Asentria Corporation's liability shall be limited to the purchase price of the T810. No warranty of fitness for purpose, or of fitness of the T810 for any particular application is provided. It is the responsibility of the user to determine fitness of the T810 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

[support@asentria.com](mailto:support@asentria.com)

[www.asentria.com](http://www.asentria.com)