AceManager

User Guide

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Rev 3.0C

SIERRA WIRELESS
HEART OF THE WIRELESS MACHINE®

Important Notice

Due to the nature of wireless communications, transmission and reception of data can never be guaranteed. Data may be delayed, corrupted (i.e., have errors) or be totally lost. Although significant delays or losses of data are rare when wireless devices such as the Sierra Wireless AirLink your modem are used in a normal manner with a well-constructed network, the Sierra Wireless AirLink your modem should not be used in situations where failure to transmit or receive data could result in damage of any kind to the user or any other party, including but not limited to personal injury, death, or loss of property. Sierra Wireless accepts no responsibility for damages of any kind resulting from delays or errors in data transmitted or received using the Sierra Wireless AirLink your modem, or for failure of the Sierra Wireless AirLink your modem to transmit or receive such data.

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Note: Some airlines may permit the use of cellular phones while the aircraft is on the ground and the door is open. Sierra Wireless AirLink your modem may be used at this time.

The driver or operator of any vehicle should not operate the Sierra Wireless AirLink your modem while in control of a vehicle. Doing so will detract from the driver or operator's control and operation of that vehicle. In some states and provinces, operating such communications devices while in control of a vehicle is an offence.

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5,515,013	5,629,960	5,845,216	5,847,553	5,878,234
5,890,057	5,929,815	6,169,884	6,191,741	6,199,168
6,339,405	6,359,591	6,400,336	6,516,204	6,561,851
6,643,501	6,653,979	6,697,030	6,785,830	6,845,249
6,847,830	6,876,697	6,879,585	6,886,049	6,968,171
6,985,757	7,023,878	7,053,843	7,106,569	7,145,267
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Fax:	1-510-781-4299 1-604-231-1109	
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Consult our website for up-to-date product descriptions, documentation, application notes, firmware upgrades, trouble-shooting tips, and press releases:

www.sierrawireless.com

Revision History

Revision number	Release date	Changes
1.x	2003-2005	AirLink Communications documentation - CDPD, CDMA, and GPRS.
2.x	Q2: 2005- Q2: 2007	AirLink Communications documentation - CDMA, EV-DO, EDGE, and HSDPA.
3.0	Q1	Converted documentation from AirLink Communications documentation format into Sierra Wireless documentation format. Phase I of the conversion completed 12-27-07. AceManager documentation has been revised.

Contents

1: AceManager and Sierra Wireless AirLink Modems

AceManager provides a graphical user interface to the configuration options of Sierra Wireless AirLink modems. With AceManager, you don't need a terminal connection or to remember AT commands and their parameters or even which commands are applicable to which modem model. AceManager will detect your modem model and even the currently installed firmware and only provide access to the commands applicable to your modem in an easy to use interface.

Tip: *AceManager is the renamed Wireless Ace. Ace Manager has the same functionality that Wireless Ace did in the past.*

The Group chapters of this User Guide correspond to the Menu options in AceManager. Not all options are available for all modems or communication technologies. For more in-depth information about options on the menus, you may wish to refer to the User Guide for your modem.

Note: Modem user guides are available at http://www.sierrawireless.com/support/AirLink/. Look under Current Products, to find the User Guide specifically for your modem.

ALEOS™

ALEOS, the embedded core technology of the Sierra Wireless AirLink products simplifies installation, operation and maintenance of any solution, and provides an always-on, always-aware intelligent connection for mission-critical applications. ALEOS enables:

- Persistent Network Connectivity
- Over-The-Air (OTA) Upgrades
- Wireless Optimized TCP/IP
- Real-Time Notification

- Packet Level Diagnostics
- Device Management & Control
- Protocol Spoofing

Figure 1-1: Powered by ALEOS

Installing and Running AceManager

AceManager is available for free from AirLink and can be downloaded from http://www.sierrawireless.com/support/AirLink/Wireless_Ace.aspx.

Once the application is installed, you can run it from your Start menu or from the icon on the desktop.

1. Start AceManager

Start > All Programs >AirLink Communications > AceManager

When you first open AceManager, the work area will be empty. You will need to connect to a modem before any of the side menu options will become available. Connecting to a modem is covered in the next chapter.

Note: AceManager requires the Microsoft .NET Framework and Microsoft Windows 98, Windows 2000, Windows XP, or later. You can obtain the Microsoft .NET Framework from Microsoft at: http://www.microsoft.com/.

Tip: *The AT Commands listed in AceManager are the same commands you could use if you used Telnet or direct serial communication to contact the modem. In some cases, though, there may be fewer options available in AceManager. Only options available in AceManager are covered in this guide. For all AT commands available for your modem, consult the modem user guide.*

Menus

There are two menus for AceManager. The Configuration Panel, available at all times and for all modems, and the Group Tabs which varies depending on the modem model and cellular technology.

Configuration Panel

The icon menu across the top is the Configuration Panel with smaller text menu of additional options above.

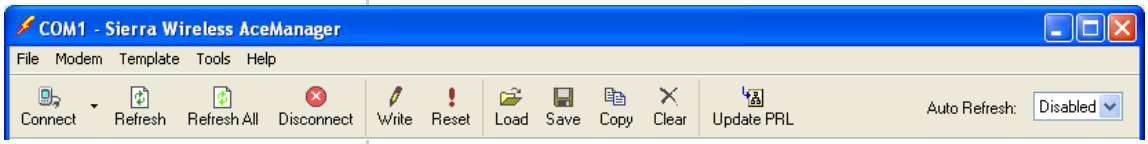


Figure 1-2: Configuration Panel

The chapter layout of this guide corresponds to the main group tabs:

- Info and Status
- Common
- Logging
- Cellular Technology (CDMA, EV-DO, HSDPA, EDGE/GPRS, etc.
- PinPoint
- I/O
- Telemetry and Address List

Click on desired group tab to see respective parameters and details on the right side of the pane.

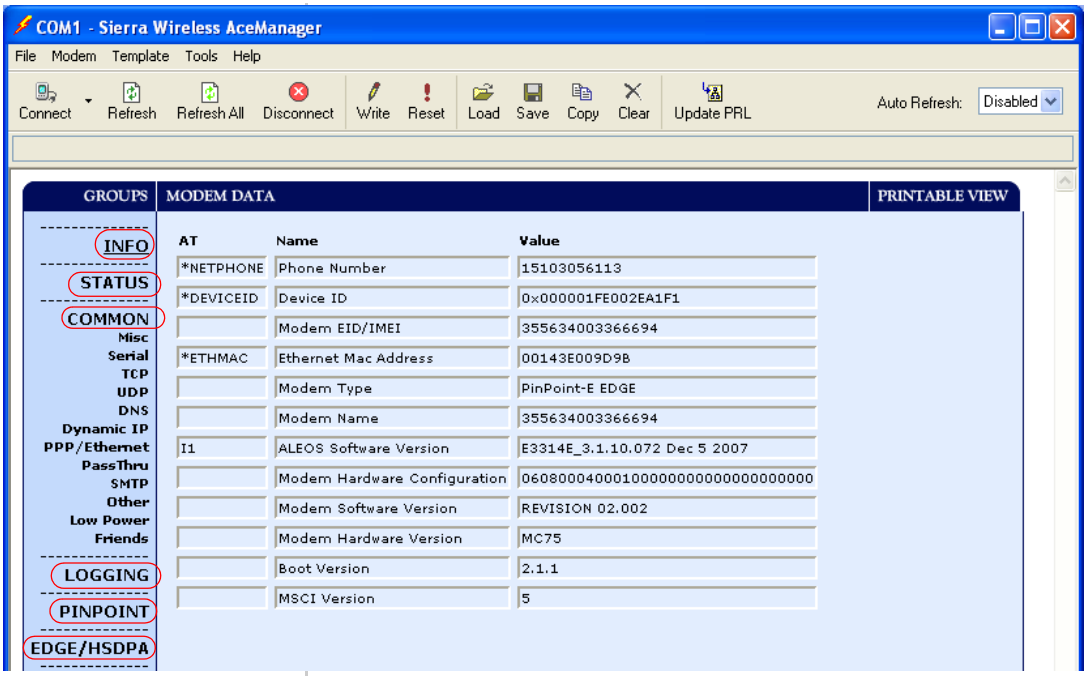


Figure 1-3: Groups

- The first column of the display for each tab is the AT Command.
- The second column of the display is the name of the command.
- The third column of the display is the current value in the modem.
- The last column is where you would enter the new value for the modem's configuration.

Some commands can be changed with a value typed into the New Value column. Other commands, those with specific parameters, offer a drop down menu for in the New Value column.

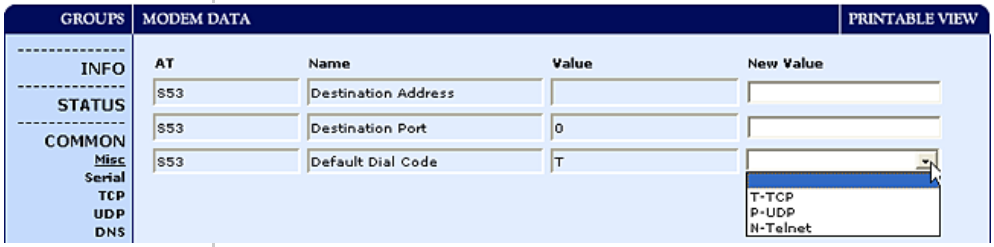


Figure 1-4: AceManager New Value

2: Connecting to an AirLink Modem with AceManager

One of the first things you will generally want to do after starting AceManager is connect to a modem. Click the Connect icon in the Configuration Panel to open the connection options dialogue box. You can also use Connect from the Modem menu option.

Figure 2-1: Connect

Is your computer directly connected to the modem using a serial cable, an Ethernet cable, or a USB cable? Or do you need to access the modem remotely?

The connection method you select depends on how your modem is connected to your computer or if you are accessing the modem remotely. The connection method may also affect the configuration options available.

Tip: *If you have used AceManager before to connect to your modem, click on the arrow beside the* ***Connect*** *icon to use the same connection settings.*

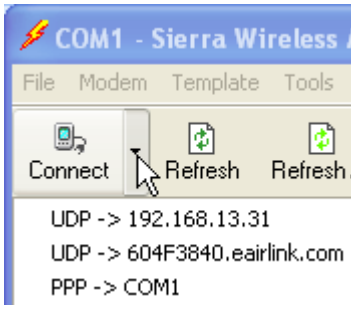


Figure 2-2: Previous Connections

Tip: *If you want to connect to your modem remotely, you will need to make sure your computer can access the cellular network to which you modem is connected. To test if you can reach the modem you can **Ping** the IP or fully qualified domain name of the modem (i.e. if you are using IP Manager).*

Ping is a command used from your computer. To ping, open up a command prompt window (Start > All Programs > Accessories > Command Prompt) and type ping with the IP address or the fully qualified domain name of the modem (i.e ping 64.163.70.22 or ping modemname.eairlink.com).

Some cellular carriers block Ping into their network. Even if you cannot Ping your modem, you should still be able to connect to it remotely if it is registered and operating normally and has an Internet accessible IP address.

Note: For all connection methods, the default password for the modem (12345) will be entered. If you previously changed the password in the modem, you will need to type in the changed password.

Using UDP

If your modem is not connected to your computer directly, you can use this option to remotely connect through your cellular service. Type in the IP **Address** or domain name of your modem (if you are using IP Manager to convert the IP address to a name) and enter the password. If you have used AceManager before, you can select a previously used address or name from the drop down menu.

If you have a Sierra Wireless AirLink modem with an Ethernet port, you can use **UDP** to connect to your modem if it is connected directly to your computer with an Ethernet cable (you may need a cross over cable for a Raven-E or PinPoint-E). For the **Address**, enter the *PEERIP of the modem (**192.168.13.31** is the default)..

Note: If you use a firewall, the UDP port range 17300-17400 must be unblocked to use UDP to send/receive data to the modem.

Figure 2-3: UDP

Using TCP

If your modem is not connected to your computer directly, you can use this option to connect remotely through your cellular service. Type in the IP Address or domain name of your modem and enter the password. If you have used AceManager before, you can select a previously used IP or name from the drop down menu.

If you have a PinPoint X, Raven X, Raven-E, or PinPoint-E modem, you can use TCP to connect to your modem if it is connected directly to your computer with an Ethernet cable. For the Address, enter the *PEERIP of the modem (192.168.13.31 is the default).

Note: If you use a firewall, the TCP port 8088 must be unblocked to use TCP to send/receive data to the modem.

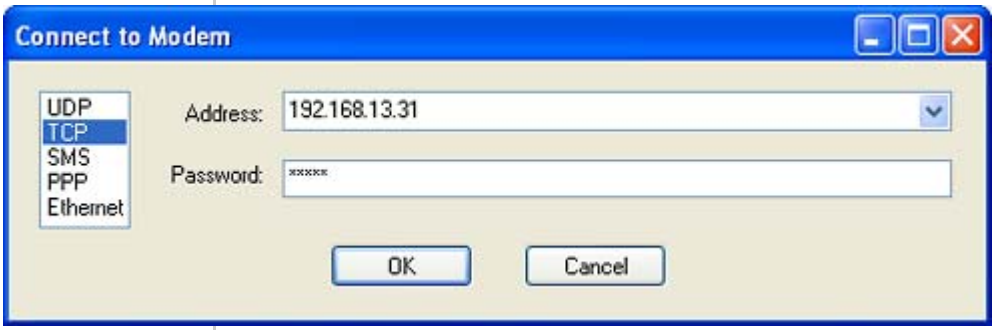


Figure 2-4: TCP

Using SMS

If your modem is not connected to your computer directly, you can access it remotely using the Simple Message protocol (SMS) through your cellular service using a valid email account on your computer. Select your cellular carrier from the list and type in your modem's phone number (MDN) and password. If you have used AceManager before, you can select a previously used phone number from the drop down menu or type in a new one.

Note: .If this is the first time you have used SMS with AceManager, you will need to set up the SMS/email configuration. See below, "Configuring your computer for SMS".

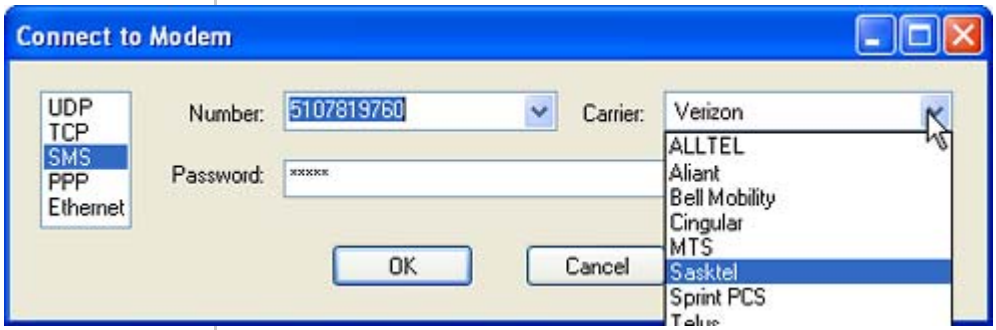


Figure 2-5: SMS

Configuring your computer for SMS

If you haven't ever used SMS to connect to a modem with AceManager, you will need to set up the SMTP configuration. SMS is Simple Messaging Service and SMTP is Simple Mail Transport Protocol, standard email. AceManager uses your email account to send messages to the modem and receive messages back.

Caution: *Some mail servers will not allow relaying (sending messages through them). If your mail server settings do not allow relay, you will not be able to send SMS messages to the modems.*

Note: You may need to disable the virus scanner or firewall software on your computer in order to connect to the modem using SMS.

Using the menu at the top, select Tools and then Options.

Figure 2-6: Tools > Options

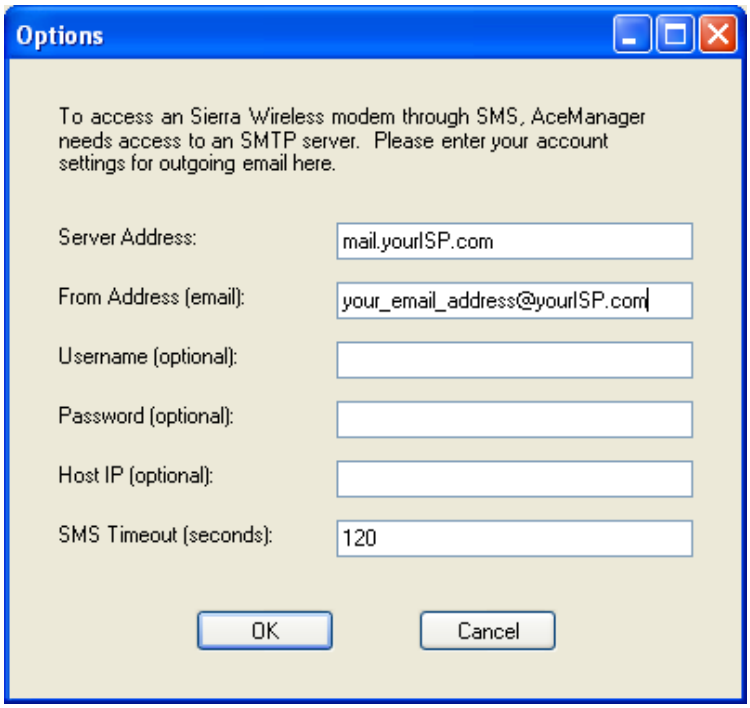


Figure 2-7: SMS: SMTP Configuration

To set up the SMS Access, you will need to know the SMTP or email settings for your own email account. You may be able to find many of these settings in your email application (such as Outlook or Outlook Express) or from your Network Administrator or ISP.

Note: The "optional" fields are not required by all mail servers; however they may be required for the one you are using. Check with your Network Administrator or ISP.

The SMTP server is the mail server where your email is normally sent to/from your computer. Often the server name will start with smtp or mail and will generally have a domain name the same as your ISP (or network) or an abbreviated version with .com or .net at the end (such as mail.ispname.com or smtp.domain.net).

The username and password are the user name and password you use to get or send email. This might also be the same password you need to use to log on to the Internet or your local network. For some ISPs or networks, you may not need a password to use the SMTP server for SMS.

The Host IP is the IP of the computer you are using to contact the modem. This is for return messages and modem may be able to determine it without the need to set it specifically. Use this setting only if you are having problems communicating with the modem.

Tip: *If you don't know the IP of your computer (i.e. you are on a network where your IP is assigned dynamically), you can use http://checkip.dyndns.org/ to show you the IP you are using on the Internet.*

Note: If you are on a network which uses NAT to allow several computers to use the same Internet connection, you will need to have the NAT device forward ports 17300 to 17400 to your computer.

Using PPP

If your modem is connected to your computer with a serial cable (Raven X, PinPoint X, PinPoint, or Raven), you can use this option to connect directly. From the drop down menu, select the COMport (serial port) to which the modem is connected on your computer and enter the password (default is 12345).

Note: If you need to by-pass the current configuration of the modem, you can use SOS Mode while you connect.

Figure 2-8: PPP

Tip: *You can use PPP to connect to a modem with USB if the USB port on the modem is configured to work as a virtual serial port. You cannot use SoS Mode with a USB connection.*

Using Ethernet

If your modem is connected to the same Local Area Network (LAN) as your computer, such as in an office with many computers and other devices connected together by hubs and/or switches, you can use this option to connect to the modem. When you select this option, AceManager will attempt to find the modem by scanning the LAN so you don't need to know the IP of the modem. Enter the password after the modem is "discovered".

Caution: *You can only use Ethernet to connect to a Raven X, PinPoint X, Raven-E, or PinPoint-E which is connected directly to your computer with an Ethernet cable (you may need a cross-over cable) if your computer has a static IP and is on the same subnet as the modem.*

Note: If the modem is not connected directly to your computer but connected to a hub, switch, or router to which your computer is connected as well, AceManager may be blocked by the hub, switch, or router from scanning the physical part of the network where the modem is connected.

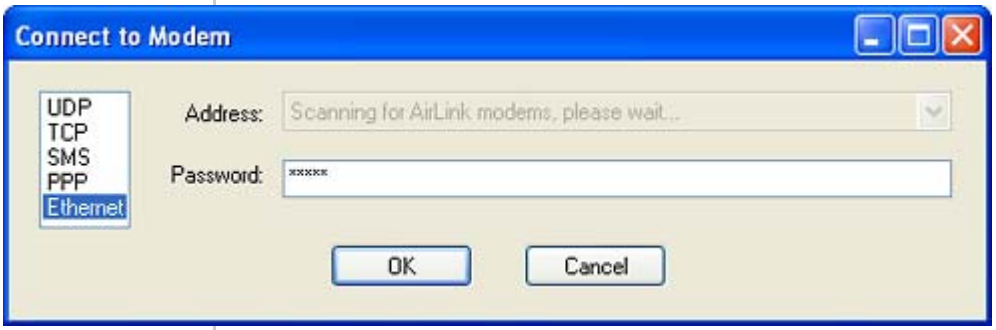


Figure 2-9: Ethernet

Connecting

After you select your connection method, click OK to begin the connection.

The status bar below the Configuration Panel will show the progress of the connection. The progress will show how the connection is being established (in the example, Direct PPP) with the speed and then an indication of how many bytes of

existing configuration information have been downloaded from the modem. When the modem is connected, the status bar will become blank and the page for the Info group will be displayed.

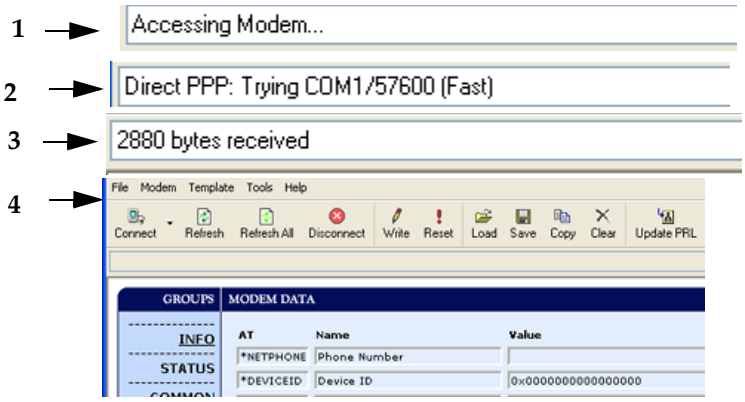


Figure 2-10: Connection Status progression

3: Configuration Panel and Top Menu

The Configuration Panel, the row of icons at the top of the interface and menu across the top, has basic options which are available for all modem types.

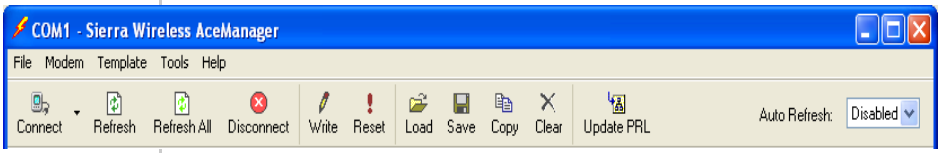


Figure 3-1: Configuration Panel

Refresh and Refresh All

After you have typed in values to the command fields, if you need to reset the AceManager interface to the current values in the modem, you can Refresh or Refresh All. Refresh will refresh the view (reset the values for the commands to those currently in the modem) of only the current menu tab. Refresh All will reset all menu tabs.

You can also use Refresh Group (affects only the current tab) and Refresh All from the Modem menu option.

Write

To save any changed values, click the Write button. This will write any parameters entered in the New Value fields of all tabs into the modem configuration, not just the tab or page you are currently viewing.

You can also use Write from the Modem menu option.

Reset

Reset will restart the modem. The other ways to reset the modem are by pressing the reset button on the front of the modem or removing the power from the modem.

Note: It is generally best to reset the modem after you have made configuration changes and written them to them to the modem so the changes can take effect. Some changes require a reset to take effect others do take effect immediately.

You can also use Reset from the Modem menu option.

Change Password, Reset Password

To change the password in the modem, use Modem > Change Password. This will open a dialog box for you to put in the new password and confirm your desired new password.

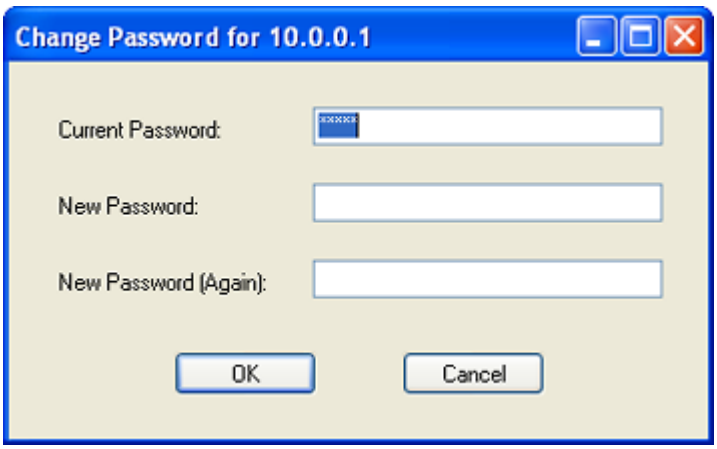


Figure 3-2: Change Password

Reset Password

Reset Password, while you are connected to the modem, will reset the password to the default: 12345. If, however, you are not connected to a modem, you can use Reset Password to obtain daily password in order to access a modem for which you have forgotten the password.

When you select **Reset Password** while not connected to a modem, you will be shown a challenge code.

You need to contact SierraWireless Support, either by phone or email. Sierra Wireless Support will request that you email them the ***Challenge Code*** along with your name and your company's name. Enter the **Daily Password** you are supplied by Support to access the modem.

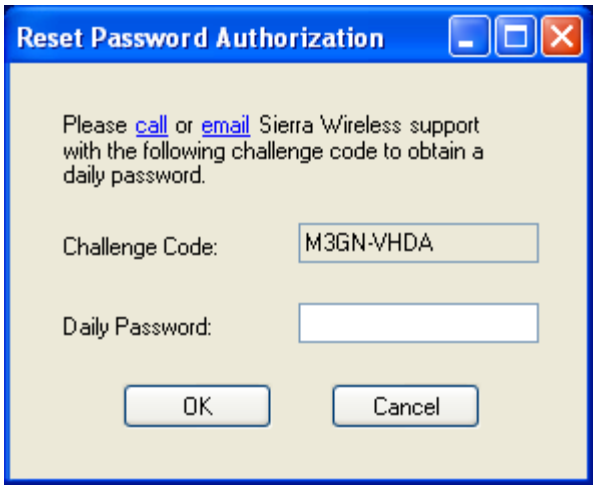


Figure 3-3: Challenge Code

Note: The Daily Password will only work for the modem you requested, the copy of AceManager you used to obtain the Challenge Code, and only for the specific time (approximately 24 hours). Daily password requests are logged by AirLink Support.

Disconnect

Disconnect from a PPP connection to the modem.

You can also use Disconnect from the Modem menu option.

Note: Disconnect will be "greyed out" and unavailable if you connect to the modem remotely or with any method other than PPP.

Load, Save, Copy

You can save the values currently present in your modem to a Template. The template is an XML file. You can use the template to save current values before making changes or use the saved settings from one modem to import to into another.

With Copy, all of the values currently configured in the modem are copied into the New Value fields allowing all the current values to be saved to a template. All tabs will be copied, not just the one currently in view.

Save will save all the tabs at once, not just the one currently in view. You will be prompted for a location and filename to save the template as.

Load will load a previously saved AceManager template. You will be prompted for a location of previously saved templates.

Tip: *If you are intending to make a template to use with other modems, after you Copy to set the new values, you should go through every tab to erase the settings specific to one modem such as *NETPHONE, *NETUID, *NETPW, etc.*

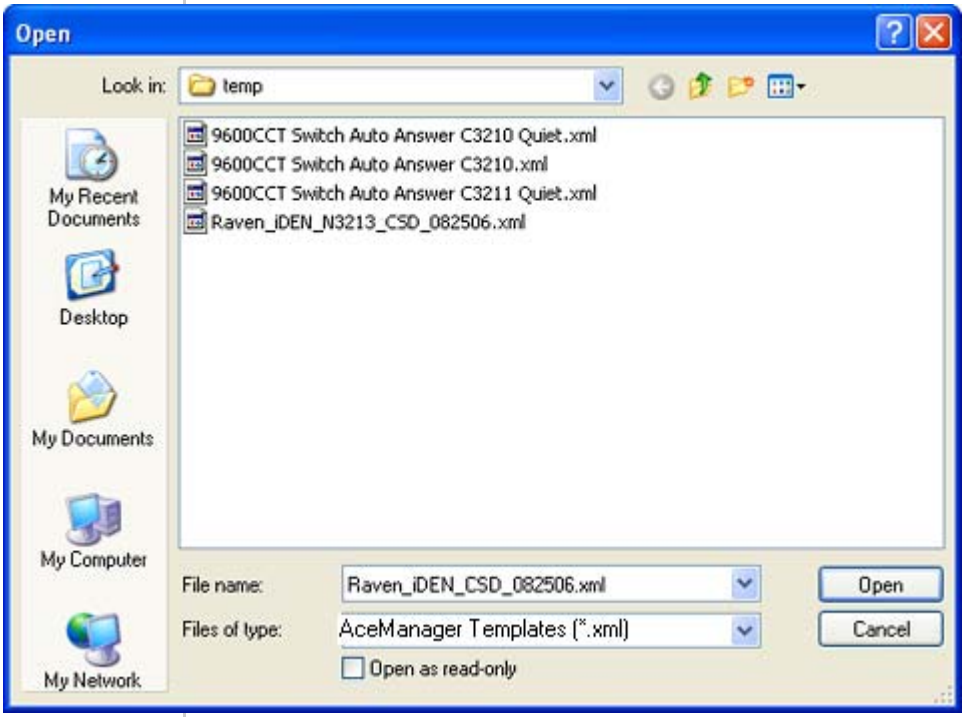


Figure 3-4: Load

Tip: *AceManager templates can also be used with Ace Net to configure several modems at the same time. Ace Net is a separate application available from your Airlink representative.*

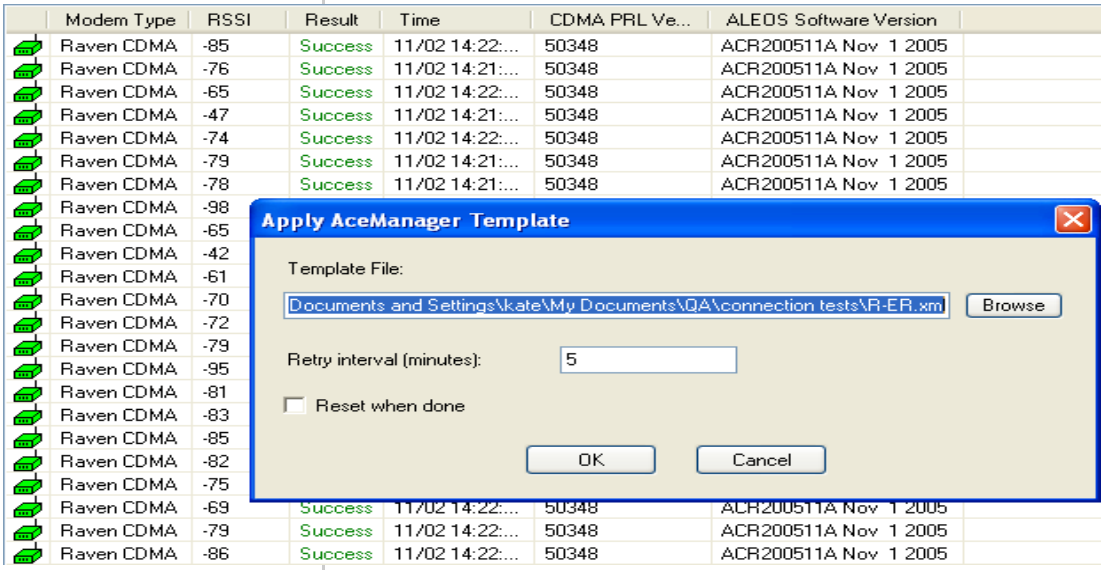


Figure 3-5: AceNet: Load Template

Load Template, Save Template, and Copy All are also options from the Template menu option.

Clear

Clear will remove all values from the New Value fields. All tabs will be cleared, not just the one currently in view.

You can also use Clear New from the Template menu option.

Update PRL

AceManager can be used to update the PRL in a 1x or EV-DO modem whether it is connected locally or remotely.

Caution: *To use this feature, your ALEOS version needs to be 200512A or later.*

When you start the Update PRL feature, PRL specific information will be displayed: the Carrier, the current PRL in the modem, the PRL version for the update, and the Master Subsidiary Lock (MSL).

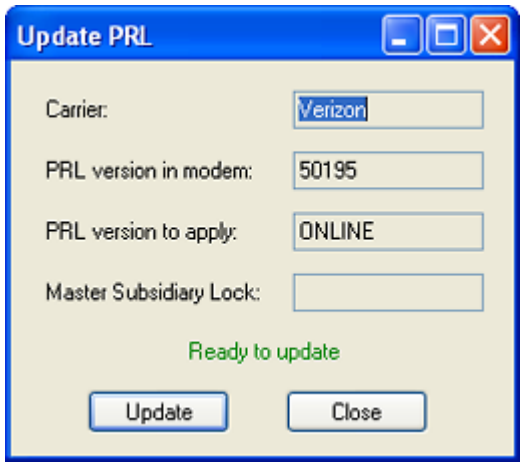


Figure 3-6: Update PRL

If the PRL version to apply is displayed as ONLINE, the PRL will be updated Over-the-Air (OTA) directly from the carrier. Not all carriers support OTA PRL Updates. Otherwise, the PRL will be updated to the one present in the "PRL" folder of the AceManager installed folder (i.e. C:\Program Files\AirLink\AceManager\PRL).

You can also use Update PRL from the Modem menu option.

Printable view

Printable View opens an Internet Explorer window with the current values of the commands on all tabs displayed in a read-only format which can be printed using the web-browser's print controls (i.e. File > Print).

Auto Refresh

Auto Refresh allows AceManager to automatically get new, current data for status and parameter settings. This will not affect any new values you haven't yet written to the modem.

Help

The help menu gives you quick access to this User Guide as well as information about the version of AceManager.

4: Information (Info)Group

The commands in the “Info” group have read-only parameters. They only provide information about the modem. The commands displayed in AceManager and the results of those commands depends on the model of the modem. Some of the information displayed in this group does not correspond directly to AT commands.

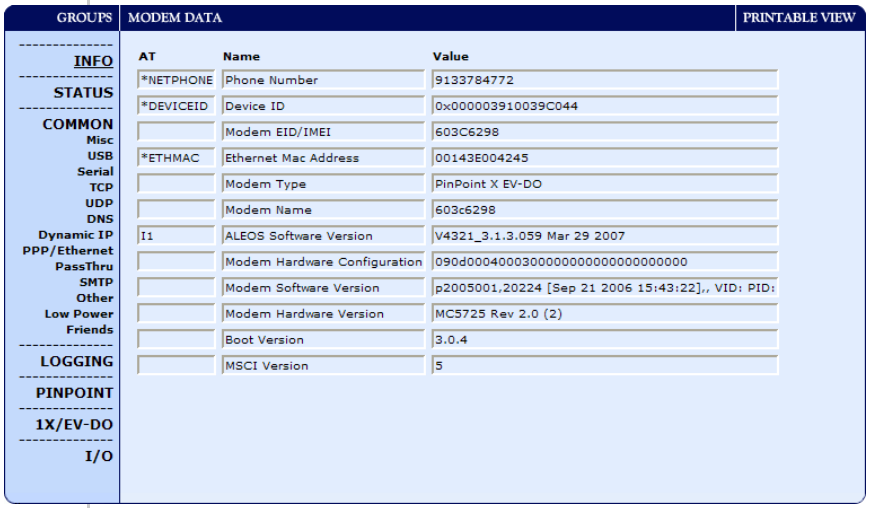


Figure 4-1: AceManager : Info

*DEVICEID?

The 64-bit device ID the modem uses to identify itself to the cellular network.

*NETPHONE?

The modem's phone number, if applicable or obtainable.

I*n*

- **n=0** : Product name (for example, Raven X).
- **n=1** : The modem’s firmware (ALEOS) version, hardware ID, and copyright.
- **n=2** : The internal hardware's firmware version and relevant hardware ID.
- **n=3** : The hardware module's unique identification number or serial number.

Information Displayed in AceManager without AT Commands Listed

- **Versions of ALEOS, internal hardware, boot, and MSCI**: Versions of internally configured hardware and software.

5: Status Group

Most of the commands in the “Status” group have read-only parameters and provide information about the modem. The Status Group has more fields that can be displayed on most screens. You can either resize your window or use the scroll bar on the side to display the remainder.

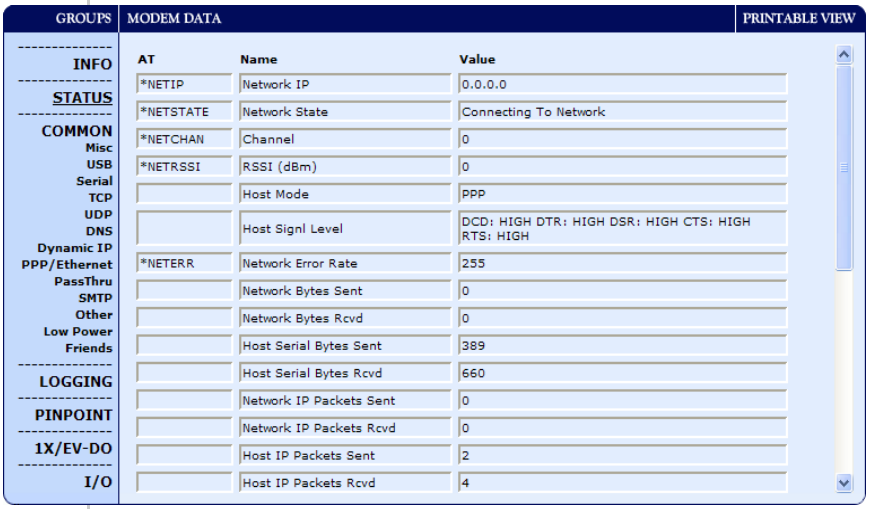


Figure 5-1: AceManager : Status

*BOARDTEMP?

The temperature, in Celsius, of the internal hardware.

*HOSTMODE?

The current host mode (AT, PPP, UDP, etc.). If the modem is not in AT mode, telnet into the modem to execute this command.

*NETCHAN?

The current active 1x/CDMA channel number.

*NETERR?

The network frame for CDMA or EV-DO or bit error rate for EDGE or GPRS.

Note: If there is no current network IP address, 0.0.0.0 may be displayed.

*NETIP?

The current IP address of the modem reported by the internal module, generally obtained from your cellular carrier. This is the address can contact the modem from the Internet.

Tip: *Use *NETALLOWZEROIP if you need to allow the display of an IP ending in a zero.*

*NETOP?

The current cellular carrier from the modem's firmware version, for example, Sprint, Verizon, AT&T, TELUS, Bell Mobility, etc.

*NETRSSI?

The current RSSI (Receive Signal Strength Indicator) of the modem as a negative dBm value.

Tip: *The same information is displayed with the command S202?.*

*NETSERV?

The type of service being used by the modem, for example EV-DO Rev A or HSDPA.

*NETSTATE?

The current network state:

- **Connecting To Network:** The modem is in the process of trying to connect to the cellular network.
- **Network Authentication Fail:** Authentication to the cellular network has failed. Verify settings to activate the modem.
- **Data Connection Failed:** The modem failed to connect, and it is now waiting a set time interval before it attempts to reconnect. Verify settings to activate the modem.
- **Network Negotiation Fail:** Network connection negotiation failed. This is usually temporary and often clears up during a subsequent attempt.
- **Network Ready:** The modem is connected to the 1x cellular network and ready to send data.
- **Network Dormant:** The is connected to the 1x cellular network, but the link is dormant. It will be woken up when data is sent or received.
- **No Service:** There is no cellular network detected.

- **Hardware Reset:** The internal module is being reset. This is a temporary state.

*PRLSTATUS?

The status of the most recent PRL Update. *CDMA or EV-DO Only.*

- **0** : None
- **1** : In Progress
- **2** : Success
- **Any other value** : Failure

+HWTEMP?

Displays the internal temperature of the radio module in degrees Centigrade. *1x and EV-DO Only.*

+ICCID

Subscriber Identity Module ID. *GPRS or EDGE Only.*

+PRL?

Preferred Roaming List (PRL) version. *CDMA or EV-DO Only.*

+RCIQ

Current Cell Info Information. GPRS or EDGE Only.

+WPNEI

The current IP address of the modem reported by the internal module, generally obtained from your cellular carrier. This is the address can contact the modem from the Internet. *iDEN Only.*

Note: If there is no current network IP address, 0.0.0.0 may be displayed.

Information Displayed in AceManager without AT Commands Listed

- **Bytes and Packets Received and Sent**: Network traffic for the applicable port.
- **Number of System Resets**: Counter of the number of system resets over the life of the modem or since the configuration was reset.
- **Bad Password Count**: Counter of the number of bad password attempts.
- **IP Reject Count or Log**: Rejected IP Data.

- **Temperature of the Internal Hardware Module**: The temperature of the internal radio module.
- **GPS information**: Number of satellites, GPS Fix (0 = No Fix, 1 = GPS Fix, 2 = WAAS), latitude, and longitude.

GPS Status and Map Link *(PinPoint line modems only)*

Note: The map feature will only work if you have access to the Internet on your computer either through the modem or separate from the modem.

Next to the displayed information of the Latitude and Longitude, there is a link to an external map which will visually place the co-ordinates. When you click the map link, it will open your default web browser with the map location highlighted.

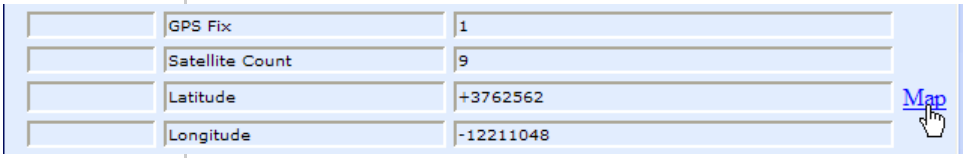


Figure 5-2: AceManager : Map link

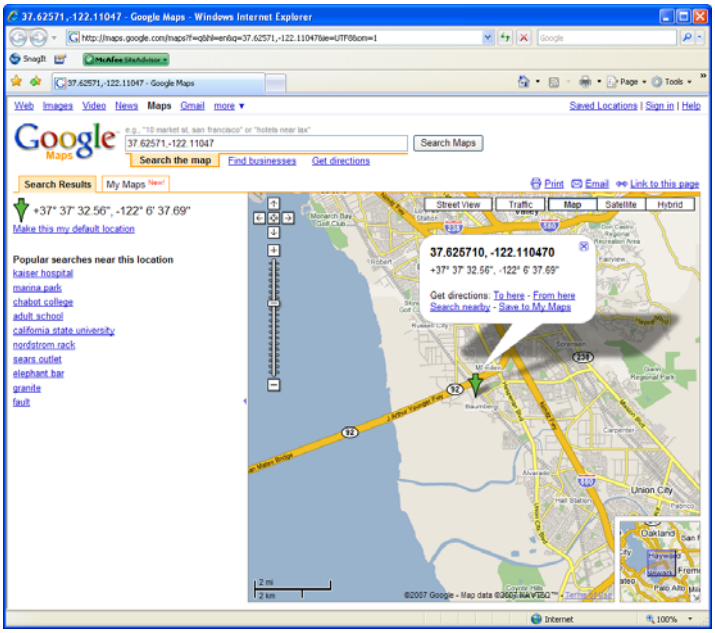


Figure 5-3: Map View

6: Common Group

The groups under the heading Common encompass those commands that are common to most Sierra Wireless AirLink modems.

Misc (Miscellaneous)

The commands of the "Misc" group are a variety of commands that don't directly fit in other categories.

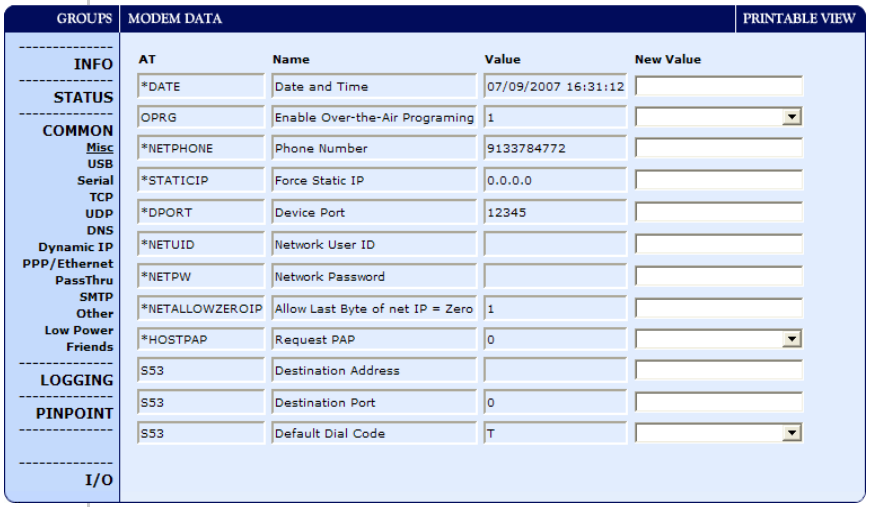


Figure 6-1: AceManager : Misc

OPRG=*n*

Enables/disables over-the-air firmware upgrading of the your modem. When Sierra Wireless releases a new version of ALEOS, you can upgrade your remote modems with OPRG enabled.

- **n=0** : Disables
- **n=1** : Enables

S53=[method][d.d.d.d][/ppppp]

Destination IP address, port, and method. These are used as defaults for the D (Dial) AT command.

- **method= P** : UDP
- **method=T** : TCP
- **method=N** : Telnet
- **d.d.d.d=**IP address or domain name
- **ppppp=**the port address

Examples:

ATS53=T192.168.100.23/12345

ATS53=foo.earlink.com

Telnet to the specified IP at port 12345.

ATS53=192.168.100.23/12345

Query the specified IP at port 12345.

ATS53=/12345

Query port 12345.

Z

Reset the your modem. In AceManager, this command is performed with the Reset option on the toolbar.

Tip: **DATZ=1 will disable Z.*

&W

Writes all changed modem settings. If this command is not issued, any modified values will revert back to their previous values at modem reset. Cannot be configured in AceManager.

DATE=[mm/dd/yyyy],[hh:mm:ss]*

Sets and queries the internal clock. Either the date and time can be specified, or simply one of the two can be specified in which case the unspecified value will remain unchanged. The date and time are always specified 24-hour notation.

- **mm/dd/yyyy=date** in month/day/year notation
- **hh:mm:ss=time** in 24-hour notation

*DPORT=*n*

The modem's Device Port which the modem is listening on for inbound packets/data/polls. Can also be set with the command S110.

- **n=1-65535**

*HOSTPAP=*n*

Use PAP to request the user login and password during PPP negotiation on the host connection.

- **n=0** : Disable PAP request (Default).
- **n=1** : Takes user login and password from Windows DUN connection and copies to *NETUID and *NETPW.

*NETALLOWZEROIP=*n*

Allows the displayed IP address in *NETIP to end in zero (ex. 192.168.1.0).

- **n=0** : Do not allow.
- **n=1** : Allow.

*NETPW=*pw*

The password that is used to login to the cellular network, when required.

- **pw=password** (30 characters maximum)

*NETPHONE?

The modem's phone number, if applicable or obtainable.

-

*NETUID=*uid*

The login that is used to login to the cellular network, when required.

- **uid=user id** (up to 64 bytes)

*STATICIP=*d.d.d.d*

Set the static IP required to be received from the network. If the modem does not get this IP address from the network, it will reset the internal hardware and try again. The default is 0.0.0.0, which allows any IP address from the network.

- **d.d.d.d=IP address**

Example:

```
AT*STATICIP=192.168.1.23
```

Caution: *STATICIP does not set the IP address of the modem, it merely tells the modem which IP address to expect. If the expected IP address is not granted while registering on the cellular network, the modem will try to register on the network again until it receives that IP address. If your account is set up for a dynamic IP address and you set an address for *STATICIP, you may not be able to register on the network at all since there is no guarantee you will receive the same dynamic IP address again.*

*STATUSCHK=*n*

Checks if an SMS message has been received by the modem.

- **n=1-255** : Seconds between checks.
- **n=0** : Never check.

DNS

This group includes commands specific to the modem being able to use domain names instead of IP addresses for other configuration options.

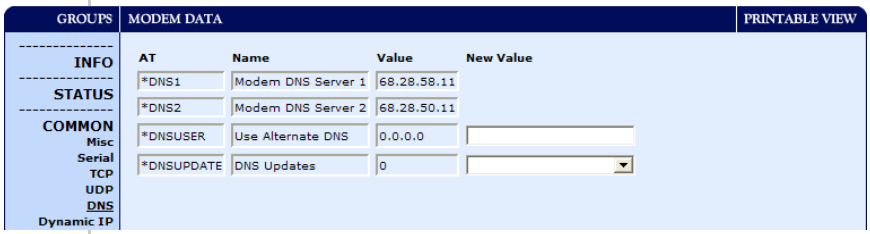


Figure 6-2: AceManager : DNS

*DNS*n*=d.d.d.d

Queries the DNS addresses. Your cellular carrier provides the DNS addresses while your modem is registering on their network.

- **n=1** or **2** : First and second DNS address.
- **d.d.d.d=IP address** of domain server.

*DNSUPDATE=*n*

Indicates whether the modem should send DNS updates to the DNS server specified by *DNSUSER. These updates are as per RFC2136. They are not secure and are recommended only for a private network. In a public network, the IP Logger services should be used instead.

- **n=0** : DNS updates disabled (Default).
- **n=1** : DNS updates enabled.

*DNSUSER=*d.d.d.d*

Sets a user-provided DNS to query first when performing name resolutions in the modem.

- **d.d.d.d=IP address** of domain server

Dynamic IP

This group includes commands specific to dynamic DNS. Dynamic DNS allows the your modem to use a dynamic IP address account, with an IP address that can change each time you connect, and still allow you to use a fully qualified domain name to contact the your modem using IP Manager running on a server with a dynamic DNS updater.

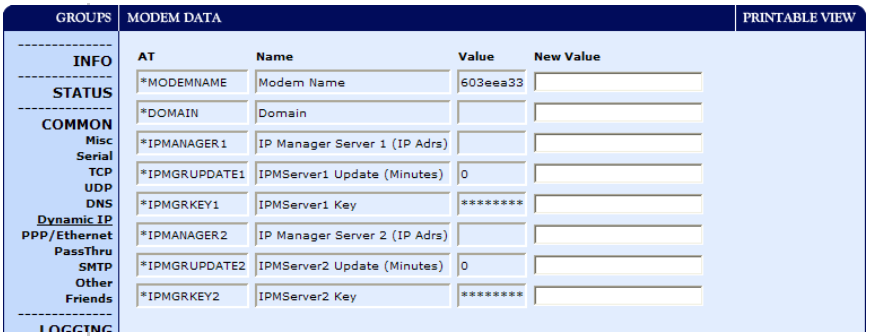


Figure 6-3: AceManager : Dynamic IP

*DOMAIN=*name*

Domain (or domain zone) of which the your modem is a part. This value is used during name resolutions if a fully qualified name is not provided and also for DNS updates. This value can be up to 20 characters long.

- **name=domain name** (i.e. eairlink.com)

If *DOMAIN=eairlink.com, then when ATDT@remote1 is entered, the fully qualified name remote1.eairlink.com will be used to perform a DNS query to resolve the name to an IP address.

Tip: *Only letters, numbers, hyphens, and periods can be used in a domain name.*

*IPMANAGER*n=[name][IP address]*

Sets a domain name or IP address to send IP change notifications to. Up to two independent IP Manager servers can be set, using either AT*IPMANAGER1 or AT*IPMANAGER2. Updates to a server can be disabled by setting that entry to nothing (for example, "AT*IPMANAGER1=").

- **n=1** : First IP Manager server.
- **n=2** : Second IP Manager server.
- **name=domain name**

*IPMGRKEY*n=key*

Sets the 128-bit key to use to authenticate the IP update notifications. If the key's value is all zeros, a default key will be used. If all the bytes in the key are set to FF, then no key will be used (i.e. the IP change notifications will not be authenticated). AT*IPMGRKEY1 is used to set the key to use with AT*IPMANAGER1, while AT*IPMGRKEY2 is used to the key with AT*IPMANAGER2.

- **n=1** : First IP Manager server.

- **n=2** : Second IP Manager server.
- **key=128-bit key** in hexadecimal [32 hex characters]

*IPMGRUPDATE*n=m*

Sets the number of minutes to periodically send an IP update notification to the corresponding server. This will occur even if the IP address of the your modem doesn't change. *IPMGRUPDATE1 is used to set the refresh rate to *IPMANAGER1, while *IPMGRUPDATE2 is used with *IPMANAGER2. If the value is set to 0, then periodic updates will not be issued (i.e. IP change notifications will only be sent when the IP actually changes).

- **n=1** : First IP Manager server.
- **n=2** : Second IP Manager server.
- **m=0, 5-255** : Number of minutes to send an update.

*MODEMNAME=*name*

Name of the your modem (up to 20 characters long) to use when performing IP address change notifications to IP Manager. The value in *DOMAIN provides the domain zone to add to this name.

- **name=modem name** (for example, mymodem)

Example: if *MODEMNAME=mymodem and *DOMAIN=eairlink.com, then the modem's fully qualified domain name is mymodem.eairlink.com.

Automatically Generated Names:

#I3 - The ESN/IMEI will be used as the name.

#CCID - The CCID will be used as the name.

#NETPHONE - The phone number will be used as the name.

Tip: *Each modem using IP Manager needs a unique name. Two modems cannot be called "mymodem". One could be "mymodem1" with the other as "mymodem".*

PPP/Ethernet

This group includes commands specific to PPP (serial) or Ethernet connections between the your modem and a connected device.

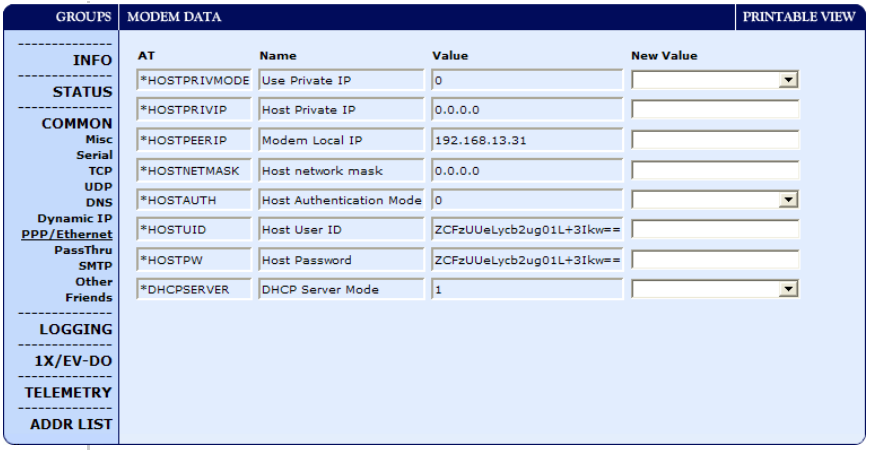


Figure 6-4: AceManager : PPP/Ethernet

•

*HOSTAUTH=n

Host Authentication Mode: Use PAP or CHAP to request the user login and password during PPP or CHAP negotiation on the host connection. The username and password set in *HOSTUID and *HOSTPW will be used.

- **n=0** : Disable PAP or CHAP request (Default).
- **n=1** : PAP and CHAP.
- **n=2** : CHAP

*HOSTNETMASK=n.n.n.n

Subnet mask for the host interface. Allows communication with a subnet behind the host interface.

- **n.n.n.n = subnet mask**, example 255.255.255.0.

*HOSTPEERIP=d.d.d.d

Set or query the IP address that can be used to directly contact the your modem once a cellular connection is established. If this value is not specified, 192.168.13.31 will be used.

- **d.d.d.d=local or peer IP address** of the modem.

Note: This is not normally used nor needed by user applications.

*HOSTPRIVIP=d.d.d.d

Set or query the private IP address that is to be negotiated by the 1x connection if *HOSTPRIVMODE =1.

- **d.d.d.d=IP Address**

*HOSTPRIVMODE=*n*

Set or query whether a private or public (network) IP is to be used when the Host initiates a 1x connection to the modem.

- **n=0** : Public (network) IP Mode: When the Host initiates a PPP connection, the host will be given the network IP address that was obtained from the cellular carrier while registering on the network. If the network issues a new IP address, the cellular connection will be closed (since the IP address has changed) and has to be re-initiated. (default).
- **n=1** : Private IP Mode: When the Host initiates a 1x connection, the host will be given the IP address specified in *HOSTPRIVIP. The modem will then perform 1 to 1 NAT-like address translation, which shields the Host from network IP changes.

*HOSTPW=*string*

Host Password for PAP CHAP.

- **string=password**

*HOSTUID=*string*

Host User ID for PAP CHAP.

- **string=user id** (up to 64 bytes)

PassThru

PassThru Mode is used to communicate directly to the your modem internal hardware.

Caution: *While the modem is in PassThru mode, ALEOS is disabled. If you need to connect to the your modem while it is in PassThru mode, you will need to do so with a terminal application. Not all commands are available while the modem is in PassThru mode.*

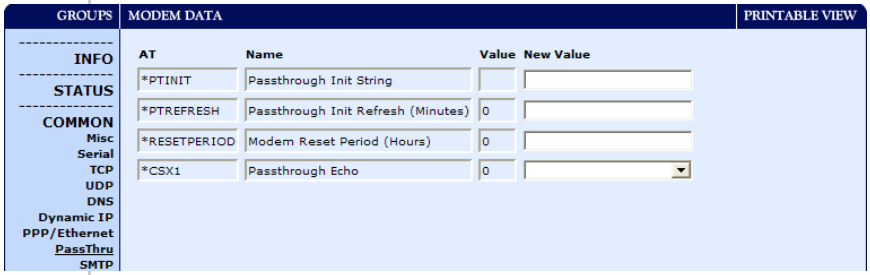


Figure 6-5: AceManager : PassThru

*CSX1=*n*

PassThru Echo : Echo data to the host.

- **n=0** : Data will be passed to the host.
- **n=1** : PASSTHRU mode will echo all host received data and will not pass the data to the modem while the modem is not asserting DCD.

*Note: If the modem is asserting DCD, data will be passed from the host to the modem as it normally is when *CSX1=0.*

*PTINIT=*string*

Any AT Command string to be passed to the OEM module before entering PASSTHRU mode, e.g. AT&S1V1, etc.

- **string=AT command(s)**

*PTREFRESH=*n*

Number of minutes of inactivity in PASSTHRU mode to resend the *PTINIT string to the hardware module.

- **n=0** : Disabled
- **n=1-255** minutes

*RESETPERIOD=*n*

In PASSTHRU mode, modem will be reset after this period if no data has been sent or received. Value is in hours.

- **n=0** : Disabled
- **n=1-255** hours

SMTP

SMTP (Simple Mail Transfer Protocol) is the de facto standard for email transmission across the Internet. The your modem can send messages using SMTP if it has been configured to use a mail server.

Note: You cannot send an Email with your your modem unless the Email server you have configured allows your your modem as a relay host. Talk to your network administrator to ensure you can send email through the email server using your your modem.

SMS (Short Message Service) is another way to send messages via the cellular network. Most SMS commands require the modem to be in PassThru mode.

Note: SMS may not be supported by your account with your cellular carrier.

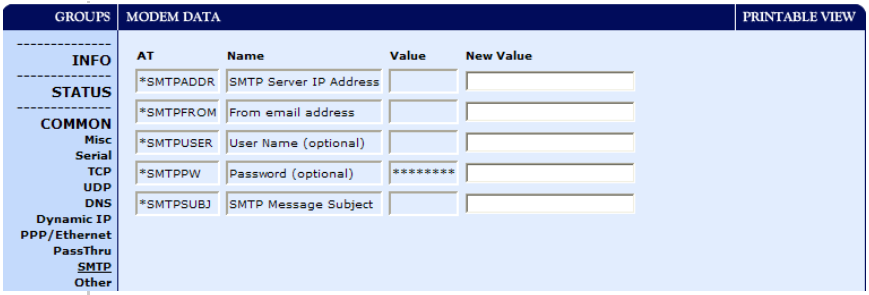


Figure 6-6: AceManager : SMTP

*SMTPADDR=[d.d.d.d][name]

Specify the IP address or Fully Qualified Domain Name (FQDN) of the SMTP server to use.

- **d.d.d.d=IP Address**
- **name=domain name** (maximum: 40 characters).

*SMTPFROM=email

Sets the email address from which the SMTP message is being sent.

- **email=email address** (maximum: 30 characters).

*SMTPPW=pw

Sets the password to use when authenticating the email account (*SMTPFROM) with the server (*SMTPADDR).

- **pw= password**

Note: Not required to use SMTP settings but may be required by your cellular carrier.

*SMTPSUBJ=subject

Allows configuration of the default Subject to use if one isn't specified in the message by providing a “Subject: xxx” line as the initial message line.

- **subject=message subject**

*SMTPUSER=user

The email account username to authenticate with the SMTP server (*SMTPADDR) for sending email.

- **user=username** (maximum: 40 characters).

Note: Not required to use SMTP settings but may be required by your cellular carrier.

Remarque :

Other

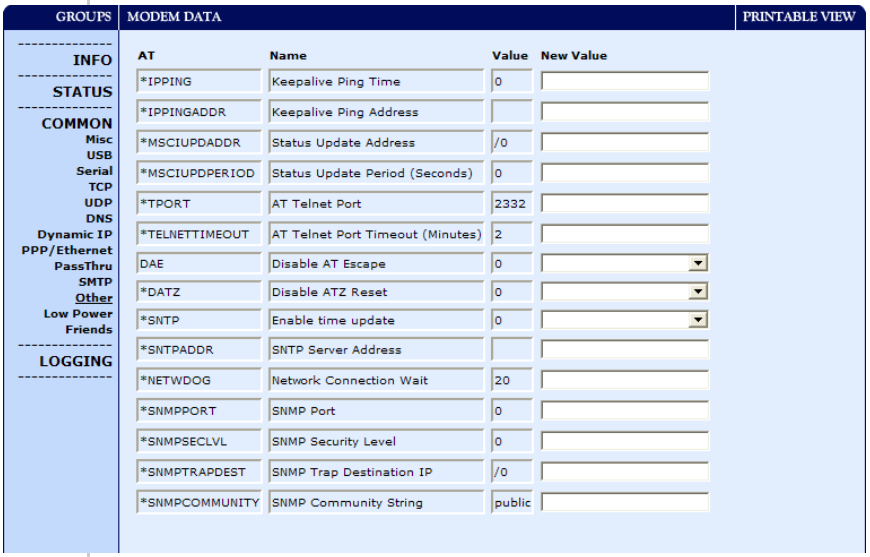


Figure 6-7: AceManager : Other

DAE=*n*

AT Escape Sequence detection.

- **n=0** : Enable
- **n=1** : Disable

*DATZ=*n*

Enables or disables reset on ATZ.

- **n=0** : Normal Reset (Default).
- **n=1** : Disable Reset on ATZ.

*IPPING=*n*

Set the period to ping (if no valid packets have been received) a specified address (*IPPINGADDR) to keep the modem alive (online).

- **n=0** : Disable pinging (default)
- **n=15-255** minutes

*Note: 15 minutes is the minimum interval which can be set for Keepalive. If you set *IPPING for a value between 0 and 15, the minimum value of 15 will be set.*

IPPINGADDR=[d.d.d.d][name]*

Set the IP address or valid internet domain name for the your modem to ping to keep itself alive (online). *IPPING must to be set to a value other than 0 to enable pinging.

- **d.d.d.d=IP address**
- **name=domain name**

*MSCIUPDADDR=*name[/port]*

Modem Status Update Address - where Name/Port is the domain name and port of the machine where the modem status updates will be sent. The status parameters of the your modem are sent in an XML format.

- **name=domain name**
- **port=port**

*MSCIUPDPERIOD=*n*

Modem Status Update Period - where n defines the update period in seconds.

- **n=0** : Disabled.
- **n=1-255** seconds

*NETWDOG=*n*

Network connection watchdog: The number of minutes to wait for a network connection. If no connection is established within the set number of minutes, the your modem modem resets.

- **n=0** : Disabled.
- **n=minutes** : Default = 120 min.

*SNMPCOMMUNITY=*string*

The SNMP Community String acts like a password to limit access to the modem's SNMP data.

- **string =string** of no more than 20 characters (default = public).

*SNMPPORT=*n*

This controls which port the SNMP Agent listens on.

- **n=0** : SNMP is disabled.
- **n=1-65535**

*SNMPSECLVL=*n*

Selects the security level requirements for SNMP communications.

- **n=0** : No security required. SNMPv2c and SNMPv3 communications are allowed.
- **n=1** : Authentication equivalent to “authNoPriv” setting in SNMPv3. SNMPv3 is required to do authentication, SNMPv2c transmissions will be silently discarded.
- **n=2** : Authentication and encryption, equivalent to “authPriv”' setting in SNMPv3. SNMPv3 is required to do authentication and encryption, SNMPv2c and SNMPv3 authNoPriv transmissions will be silently discarded. Messages are both authenticated and encrypted to prevent a hacker from viewing its contents.

*SNMPTRAPDEST=host/[port]

Controls destination for SNMP Trap messages. If port is 0 or host is empty, traps are disabled. Traps are sent out according to the SNMP security level (i.e. if the security level is 2, traps will be authenticated and encrypted). Currently, the only trap that can be generated is linkup.

- **host=IP address**
- **port=TCP port**

*SNTP=*n*

Enables daily SNTP update of the system time.

- **n=0** : Off
- **n=1** : On

SNTPADDR=[d.d.d.d][name]*

SNTP Server IP address, or fully-qualified domain name, to use if *SNTP=1. If blank, time.nist.gov is used.

- **d.d.d.d=IP address**
- **name=domain name**

*TELNETTIMEOUT=*n*

Telnet port inactivity time out. By default, this value is set to close the AT telnet connection if no data is received for 2 minutes.

- **n=minutes**

*TPORT=*n*

Sets or queries the port used for the AT Telnet server. If 0 is specified, the AT Telnet server will be disabled. The default value is 2332.

- **n=0** : Disabled.
- **n=1-65535**

Tip: *Many networks have the ports below 1024 blocked. It is recommended to use a higher numbered port.*

*TQUIT

Disconnects the telnet session. Not available in AceManager..

Friends

Friends Mode can limit access to the your modem from the cellular network and the Internet. Friends mode is a basic firewall.

Caution: *If you are using Friends Mode you will not be able to use AceManager remotely or Telnet to the modem unless you are contacting the modem from one of the configured IP addresses.*

Note: Friends Mode will only prevent the your modem modem from receiving data from those IP addresses not on the Friends List. It cannot prevent data, such as pings, from traversing the network to the modem which may billable traffic even though the modem does not receive the data.

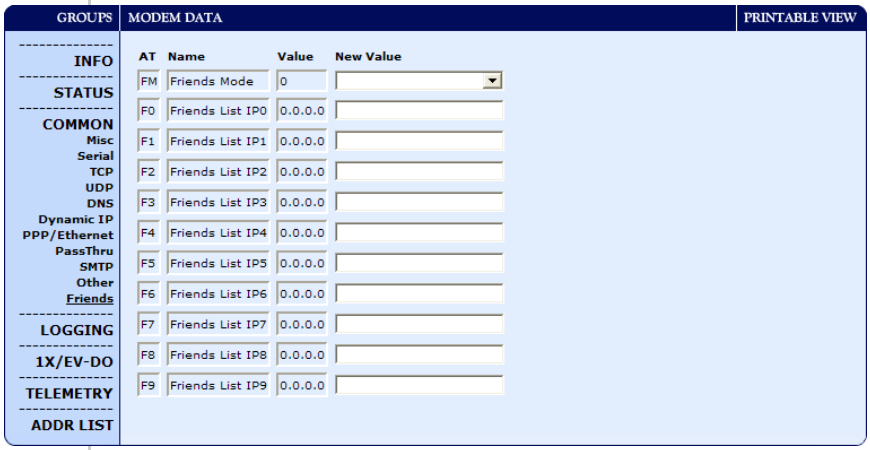


Figure 6-8: AceManager : Friends

FM=*n*

Friends Mode - Only allow specified IPs to access the your modem modem.

- **n=0** : Disable Friends mode
- **n=1** : Enable Friends mode - Only packets from friends will be accepted, packets from other IP addresses are ignored.

F*n=[d.d.d.d]*

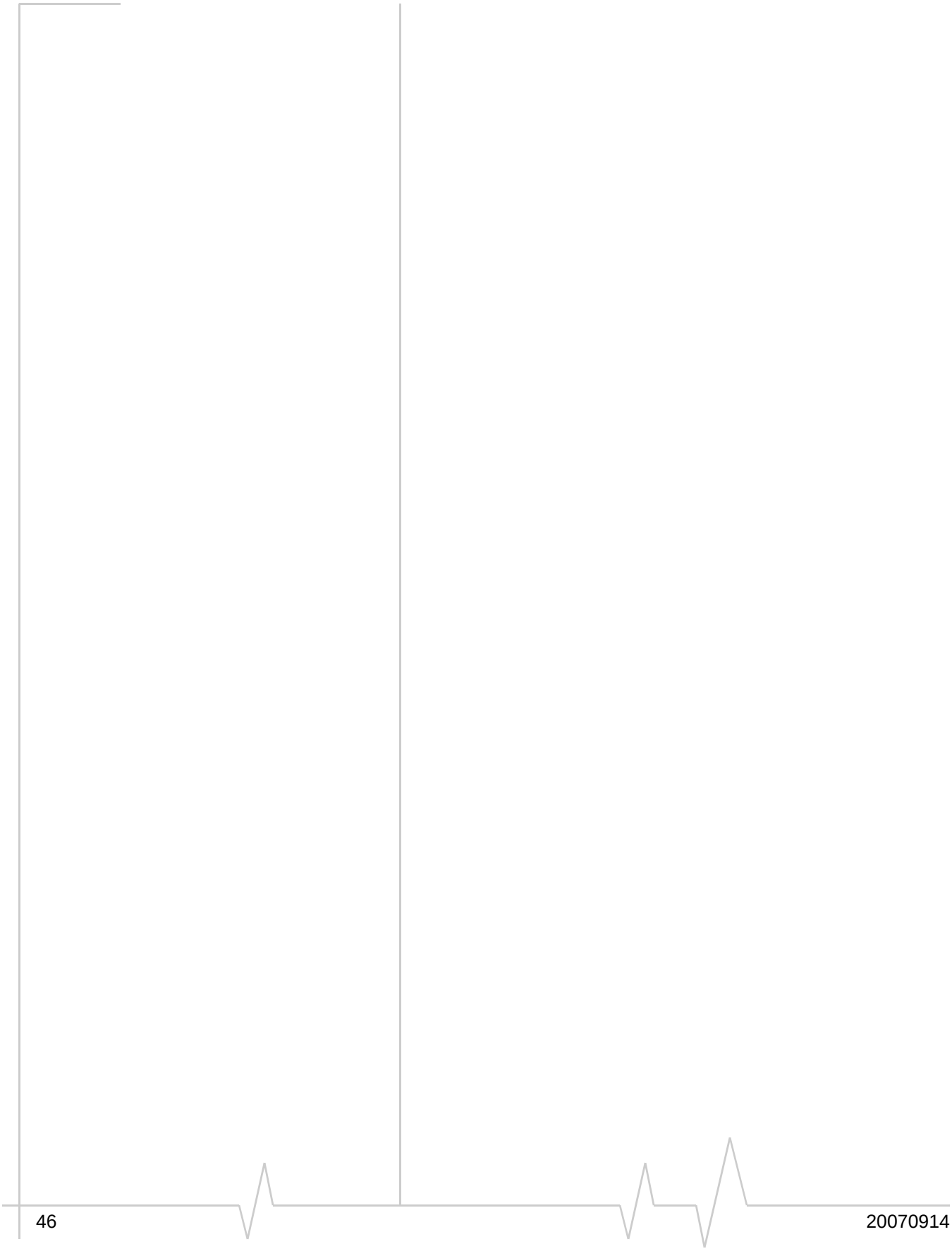
Friends mode IP address.

- **n=0-9** Friends list index
- **d.d.d.d = IP address**

Using 255 in the IP address will allow any number.

Example: 166.129.2.255 allows access by all IPs in the range 166.129.2.0-166.129.2.255.

Tip: *ATF? will return a list of all the current Fn settings.*



7: Logging

This group includes commands specific to the internal log.

Caution: *Logging is intended for diagnostic purposes only. Extensive use of logging features can cause degraded modem performance.*

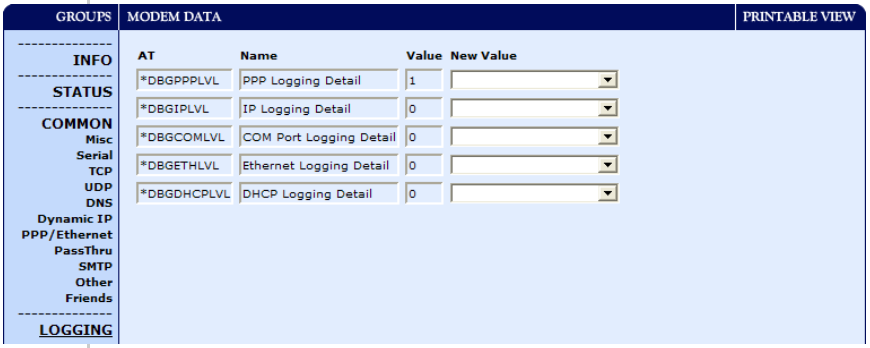


Figure 7-1: AceManager : Logging

*DBGCOMMLVL=*n*

Set the logging level for the host or module COM port.

- **n=0** : No logging
- **n=1** : Host COM Port
- **n=2** : Module COM Port

*DBGIPLVL=*n*

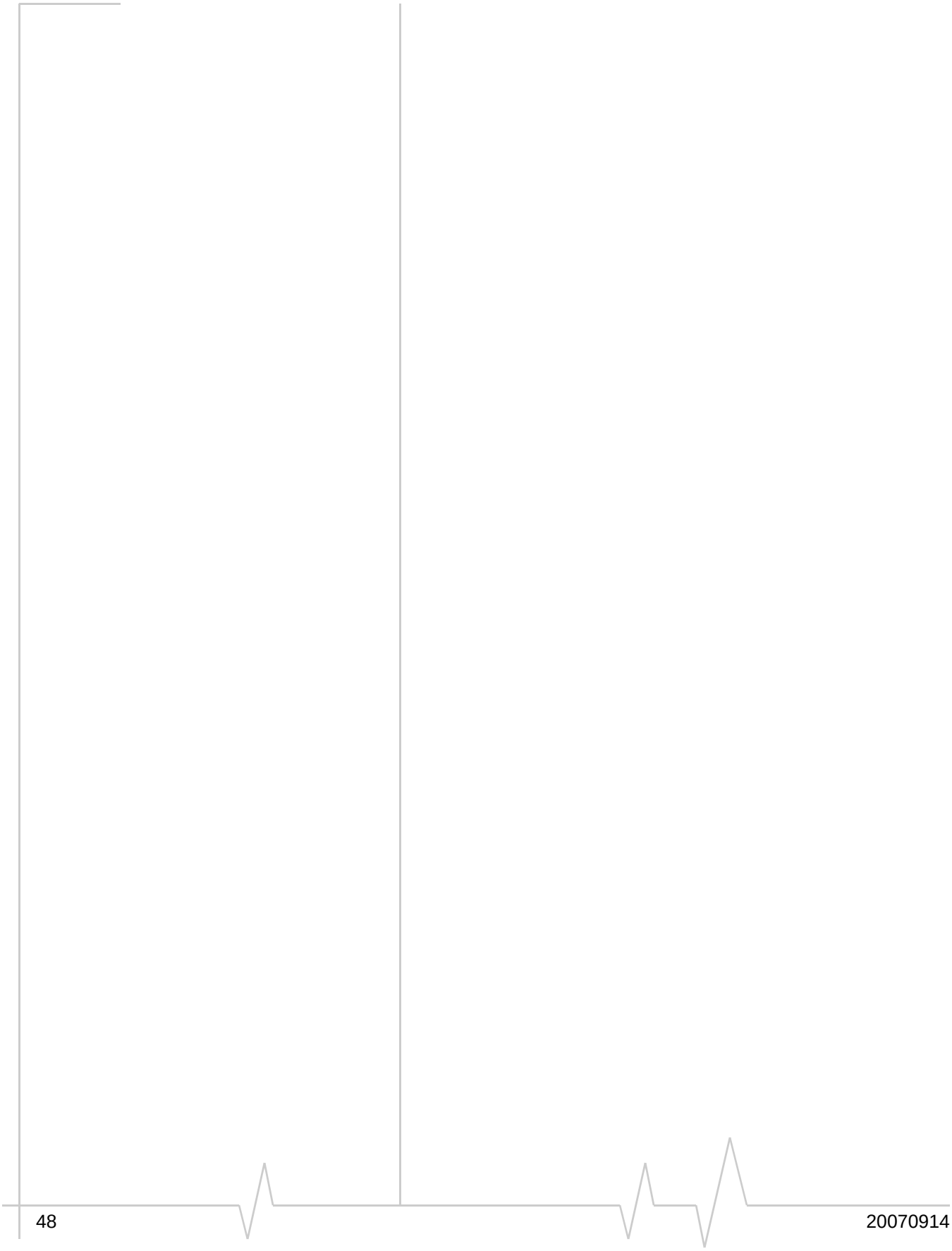
Sets the logging level for the IP subsystem.

- **n=0** : No logging
- **n=1** : Log errors (i.e. invalid/corrupt packets, etc.).
- **n=2** : Log the header of all received packets. Note that this can quickly exhaust available space for the event log.
- **n=3** : Log the header of all received and sent packets. Note that this can quickly exhaust available space for the event log.

*DBGPPPLVL=*n*

Sets the logging level for the PPP stack.

- **n=0** : No logging
- **n=1** : Log client events (default)
- **n=2** : Log server events
- **n=3** : Log client and Server events



8: PinPoint Group

This group includes commands specific to GPS features and the PinPoint modem line. If you are not connecting to a modem of the PinPoint line, you will not see this group in the menu.

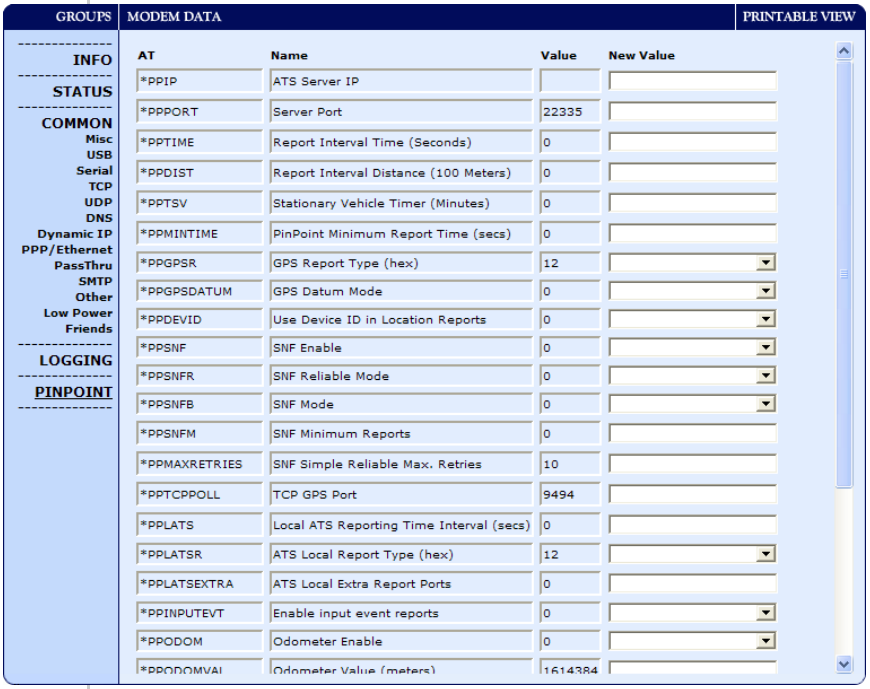


Figure 8-1: AceManager : PinPoint

DTRI=*n*

Enable monitoring the DTR signal as in input event. PinPoint and PinPoint-E only.

- **n=0** : Disable DTR input monitoring.
- **n=1** : Enable DTR input monitoring.

Caution: *If DTR is used as an input, DTR cannot be used for low-power control.*

RTSI=*n*

Enable monitoring the RTS signal as in input event. PinPoint and PinPoint-E only.

- **n=0** : Disable RTS input monitoring.
- **n=1** : Enable RTS input monitoring.

Caution: *If RTS is used as an input, hardware flow control cannot be enabled.*

#IG=n

Time in seconds to wait for GPS acquisition before transmitting at high rates.

- **n=seconds**

*MF=*hh*

Set or query GPS format, where hh is a hex value; 8E (transmit Latitude/Longitude/Direction/Velocity/Time in binary) or 8F. *MF is support for legacy GPS reports which are rarely used by current tracking applications.

- **hh=hex value**

*PGPS=n

Send NMEA GPS strings out serial link. Similar to ATGPS except that the *PGPS value can be saved to NVRAM so that it will continue to operate after resets.

- **n=0** : Disabled
- **n=1** : Send NMEA GPS strings out serial link.
- **n=2** : Send NMEA GPS strings out the USB port. PinPoint X only.
- **n=3** : Send NMEA GPS strings out both the serial and the USB port. PinPoint X only.

*PPCOM1000=*n*

Enables support for extra inputs from a COM1000.

- **n=0** : Disable
- **n=1** : Enable

Tip: *If both AT*PPCOM1000=1 and AT*PPREPORTINPUTS=1 are enabled, the PinPoint X digital inputs will be reported and the COM1000 inputs will be ignored.*

*PPDEVID=*n*

Whether or not the your modem should include the 64-bit device ID in its GPS reports. *PPDEVID MUST be 1 if the modem uses a Dynamic IP.

- **n=0** : Disable ID.
- **n=1** : Enable/display ID.

*PPDIST=*n*

GPS Report Distance Interval in 100 Meter Units (kilometer). 1 mile is approximately 1600 kilometers.

- **n=0** : Disabled
- **n=1-65535**

*PPFLUSHONEVT=*n*

Flushes store and forward buffer when an input event (DTR/RTS) occurs.

- **n=0** : Disable
- **n=1** : Enable

*PPGPSDATUM=n

Specifies the GPS datum to use for position reports. For accurate results, this value should match the datum used by receiving mapping application.

- **n=0** : WGS84
- **n=92** : NAD27
- **n=115** : NAD83

Note: This command may not be available for your your modem PinPoint or PinPoint-E. This requires specific internal hardware as well as a recent version of ALEOS. All PinPoint X modems should have this feature.

*PPGPSSENTENCES=*n*

Specifies the NMEA sentences to display in the NMEA GPS Report.

- **n=0-65535 (hex)**

*PPGPSR=*n*

GPS report type.

- **n=0** : Use legacy reports specified in *MF value. Note: Must also have *PPDEVID=0.
- **n=0x11** : Standard GPS Report
- **n=0x12** : Standard GPS Report + UTC Date
- **n=0x13** : Standard GPS Report + UTC Date + RF data
- **n=0xE0** : GGA and VTG NMEA reports
- **n=0xE1** : GGA, VTG and RMC NMEA reports
- **n=0xF0** : TAIP reports
- **n=0xF1** : Compact TAIP data

*PPIGNOREIP=*n*

When enabled, ignore ATS Server IP (*PPIP) updates in RAP.

- **n=0** : Use ATS Server IP updates.
- **n=1** : Ignore ATS Server IP updates.

*PPINPUTEVT=*n*

Enable sending input changes as events (different report types).

- **n=0** : Disable
- **n=1** : Enable

*PPIP=*d.d.d.d*

IP address where GPS reports are sent (ATS Server IP). Also see *PPPORT.

- **d.d.d.d=IP address**

Example:

```
AT*PPIP=192.100.100.100
```

*PPLATS=*n*

Local ATS - Causes GPS reports to also be sent out the serial or Ethernet link every *n* seconds, when there is a PPP connection to the serial host or a connection to the Ethernet port is established.

- **n=0** : Disable
- **n=1-255** seconds

Tip: *Sends to the PPP peer IP S110 with the Destination Port number S53.*

*PPLATSEXTRA=*n*

Have local ATS reporting (LATS) send up to 7 extra copies of a GPS report to the subsequent ports.

- **n=0** : Just the original report is sent (default).
- **n=1-7** : Send GPS report copies to that number of ports.

Example: If AT*PPLATSEXTRA=7 and the port in S53 is 1000, then GPS reports will be sent to ports 1000-1008.

*PPLATSR=*n*

Indicates the type of GPS report to send to the local client (PPP/SLIP peer). See *PPGPSR.

- **n=0x11** : Standard GPS Report
- **n=0x12** : Standard GPS Report + UTC Date

- **n=0x13** : Standard GPS Report + UTC Date + RF data
- **n=0xE0** : GGA and VTG NMEA reports
- **n=0xE1** : GGA, VTG and RMC NMEA reports
- **n=0xF0** : TAIP reports
- **n=0xF1** : Compact TAIP data

*PPMAXRETRIES=*n*

Maximum number retries when in Simple Reliable Mode. PinPoint X only.

- **n=0** : Disabled
- **n=1-255** retries

*PPMINTIME=*n*

Specifies the minimum amount of time between reports generated due to either the time interval (*PPTIME) or the distance interval (*PPDIST). This is useful to limit network traffic and make more efficient use of bandwidth. This can be used in conjunction with store and forward. The minimum value which this setting can take depends on the policies of the carrier.

- **n=0** : Disabled
- **n=1-65535** seconds

*PPODOM=*n*

Enable odometer reporting.

- **n=0** : Disabled (default)
- **n=1** : Enabled

*PPODOMVAL=*n*

The current odometer value of the your modem. The value is in meters. Maximum value is approximately 4.3 billion meters (2.5 million miles). 1 mile is approximately 1600 meters.

- **n=meters**

*PPPORT=*n*

Port where GPS reports are sent.

- **n=1-65535**

*PPREPORTINPUTS=*n*

Enable input reporting.

- **n=0** : Disabled
- **n=1** : Enabled

*Note: If both AT*PPCOM1000=1 and AT*PPREPORTINPUTS=1 are enabled, the PinPoint X digital inputs will be reported and the COM1000 inputs will be ignored.*

*PPSNF=*n*

Store and Forward will cause GPS reports to be stored up if the your modem goes out of network coverage. Once the vehicle is in coverage the GPS reports will be sent en masse to the server.

- **n=0** : Disabled
- **n=1** : Enabled (default)

*PPSNFB=*n*

Store and Forward Behavior. When *PPSNF=1, the type of Store and Forward behavior is defined by:

- **n=0** : Normal Store and Forward. Data is stored when the your modem is out of cellular coverage; when the your modem is in coverage, data is sent to server as soon as possible. This is the default for PinPoints with RAP version 1.3 or lower.
- **n=1** : Data sent only when polled. Data is stored until polled using the Poll command sent by a server.
- **n=2** : Grouped Reports. Data is stored until the desired minimum number of reports (see *PPSNFM) has been stored. The data is then sent to the server in groups with at least the specified number of reports.

*PPSNFM=*n*

Store and Forward Minimum Reports. Specifies the minimum number of reports that must be stored before they are forwarded to the server. The data is then sent to the server in packets that contain at least this number of reports.

- **n=0-255**

*PPSNFR=*n*

Store and Forward Reliability: GPS reports will be retransmitted if not acknowledged by the server.

- **n=0** : Disabled
- **n=1** : Reliable mode enabled for RAP messages
- **n=2** : Simple reliable mode

*PPTAIPID=*nnnn*

Sets/queries the TAIP ID. This ID is returned in TAIP reports if it has been negotiated with the TAIP client. This value is only used in conjunction with TAIP emulation mode (*PPGPSR=F0).

- **nnnn=TAIP ID** (4 characters)

*PPTCPPOLL=n

Specifies the port to listen on for TCP GPS report polling. The request to this port needs to come from the same IP address in *PPIP.

- **n=0** : Disabled
- **n=1-65535** (default 9494)

*PPTIME=*n*

GPS Report Time Interval. See also *PPMINTIME, *PPTSV, +CTA.

- **n=seconds** (1 - 65535)

Note: Your cellular carrier may impose a minimum transmit time.

Caution: *A report time of less than 30 seconds can possibly keep an RF link up continuously. This will eventually cause the your modem to overheat and shutdown. An RF resource may continue be tied up to transfer small amounts of data. Generally the RF channel will be released and go dormant in 10-20 seconds of no data sent or received.*

*PPTSV=*n*

Timer for Stationary Vehicles. Time interval in minutes that the your modem will send in reports when it is stationary.

- **n=0** : Disabled
- **n=1-255** minutes

For example, if *PPTIME=10, the your modem will send in reports at least every 10 seconds while it is moving; however, once it stops moving, it will slow the reports down to this *PPTSV value.

*UDPRGPS=*n*

Set or query GPS stamping of UDP Reliable packets. When set, data received on the host serial port will be encapsulated with the GPS date and time.

- **n=0** : Disabled (default)
- **n=1** : Enabled

*PGPSC

Allows a PP to be configured to send GPS sentences out of the serial port when the PP loses cellular coverage. This feature is configured by 2 fields. This command controls the status of the sentences.

- **n=0**: Always sent

- **n=1**: Sent when out of cellular coverage

Note: When set to 1, no reports are saved in SnF.

*PGPSD

PGPSD is a 16-bit value that is the number of seconds to wait when "Out of Coverage" occurs before switching to, sending the messages out the serial port and not into SnF.

Note: Any messages put into SnF during this switchover delay period will be sent OTA, when coverage is re-acquired.

*Note: The two persistent GPS report parameters, *PGPSR and *PGPSF, will control the report type and frequency of the messages sent out the serial port, when out of coverage.*

9: Telemetry and Addr List Group

9

- Addr List

Modbus, commonly used with telemetry devices, allows a connection via serial port to the modem. Telemetry and Addr List commands are only used when the modem is in one of the Modbus start-up modes. Further, Telemetry and the Addr List are available with all Raven line modems which have a serial port, such as the Raven X and the Raven XT. The Raven line modem User Guides explain in more detail how to use these telemetry related commands.

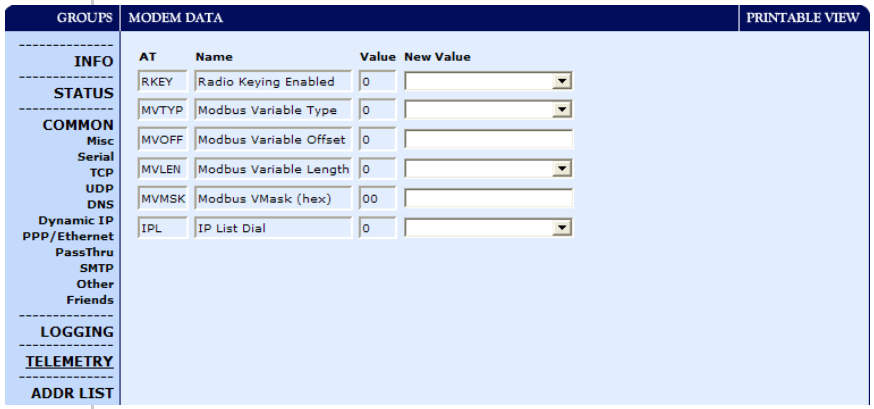


Figure 9-1: AceManager : Telemetry

IPL=*n*

IP List Dial allows access the Modbus IP list using the first two digits of the dial string.

Example: ATDT1234567 would go to ID "12" on the Modbus list and use the associated IP as the destination.

- **n=0** : Disabled
- **n=1** : Enabled

MVLEN=*n*

Modbus Variant ID Length: Length of the RTU ID in a modbus-variant protocol, in bytes.

- **n=1** : This parameter is used to define the length of the RTU ID in Modbus-like protocol data packets.
- **n=2** : This parameter is used when the when the MD is set to hex 63.

MVMSK=*hh*

Modbus Variant ID Mask: Byte hex mask to use when extracting the ID. Specify which bits in the ID field to use. This parameter is used when the when the Mode Default (MD) is set to hex 63.

- **hh=hex value**
  - **00** - no mask, all 8 bits (default)
  - **0F** - only the low order 4 bits

MVOFF=*n*

Modbus (variable mode) Offset: Indicates the offset in the data of where the Modbus ID starts.

- **n=0 - 255**

MVTYP=*n*

Modbus Variant Type: The data-type of the RTU ID in a modbus-variant protocol. This parameter is used to define the data-type of the RTU ID in Modbus-like protocol data packets. This parameter is used when MD is set to 63.

- **n=0** : Binary (Default)
- **n=1** : ASCII Hex
- **n=2** : ASCII Decimal

RKEY=*n*

Enable/disable MDS Radio transceiver keying. Radio keying is designed to assert CTS when a packet is received, delay the time as specified, send the data out the serial port, wait the same amount time, drop CTS. This way, the CTS signal can be used to key a transmitter on and give it time to reach its power level before data is sent to it. Delay interval is specified in S221.

- **n=0** : Off (Default).
- **n=1** : On.

Addr List

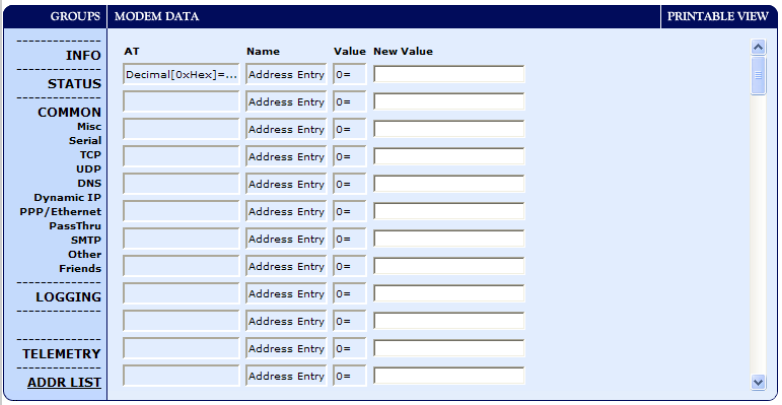


Figure 9-2: AceManager : Addr List

MLIST and MLISTX are configured by the fields available in the Addr List group. AceManager automatically differentiates between them to enter the correct command for the modem.

MLIST*id=d.d.d.d*

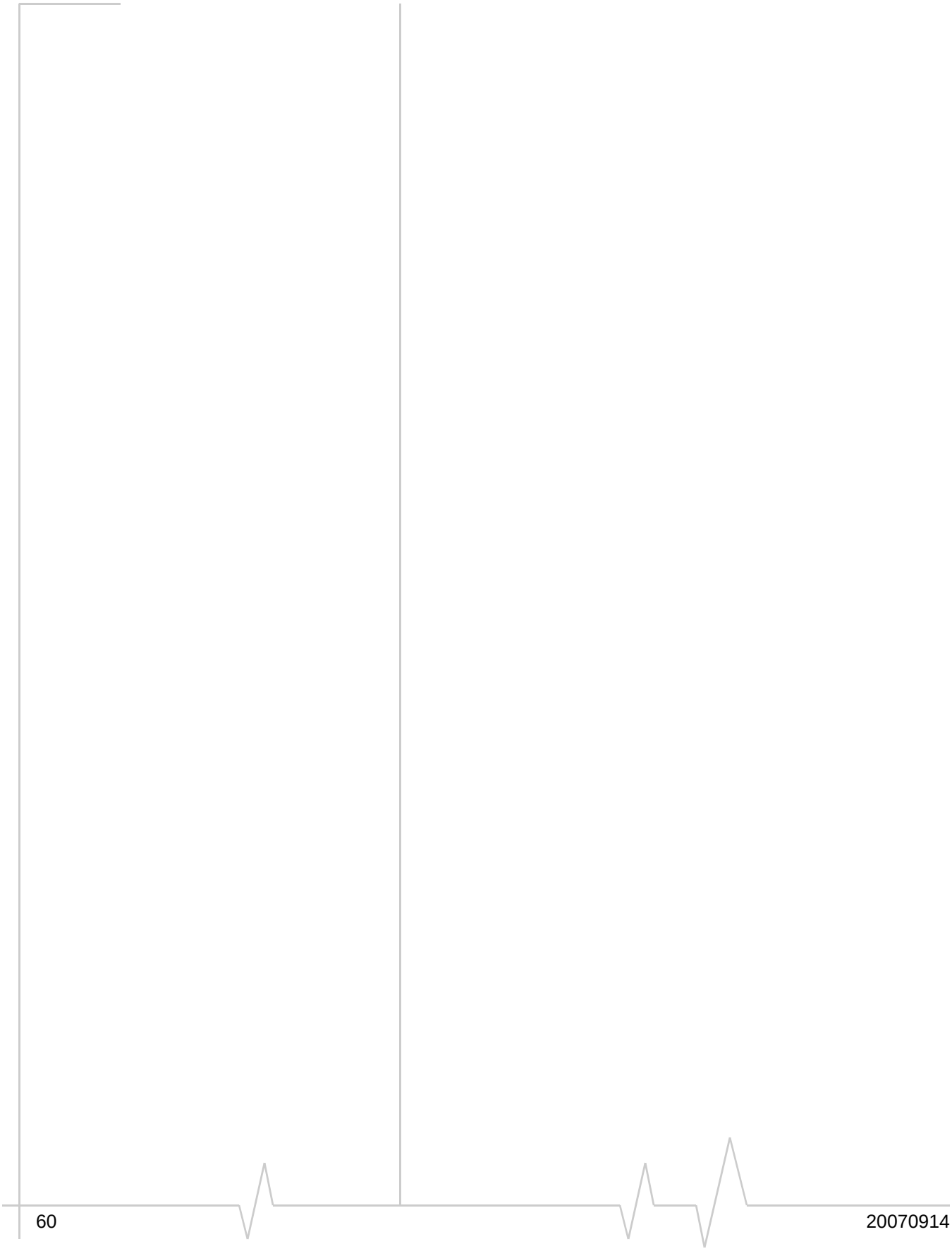
Enters an ID and IP address into the Modbus List. ID is a decimal value (1 to 100).

- **id=ID**
- **d.d.d.d=IP address** or **name**

MLISTX*hexid=d.d.d.d*

Enters an ID and IP address into the Modbus List. ID is a hexadecimal value (0 to 64).

- **hexid=ID**
- **d.d.d.d=IP address** or **name**



10: I/O Group

This group includes configuration commands for the digital and analog inputs and relay outputs. Some of the values shown as a part of this group are not changeable but reflect the current status. Only those modems with available inputs and outputs will display this group.

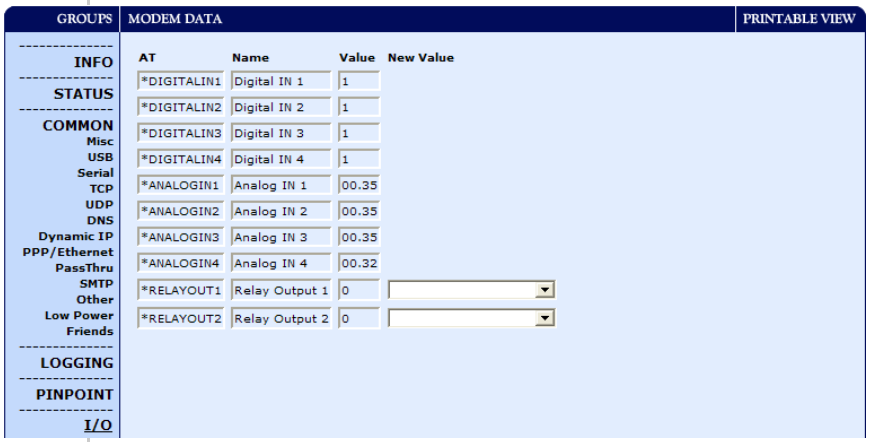


Figure 10-1: AceManager : I/O

*ANALOGIN*n*?

Query individual analog inputs. The analog inputs report the voltage in volts.

- ***n*=1-4** Input number

*DIGITALIN*n*?

Query individual digital inputs. The digital inputs report either a **0** (open) or **1** (closed).

- ***n*=1-4** Input number

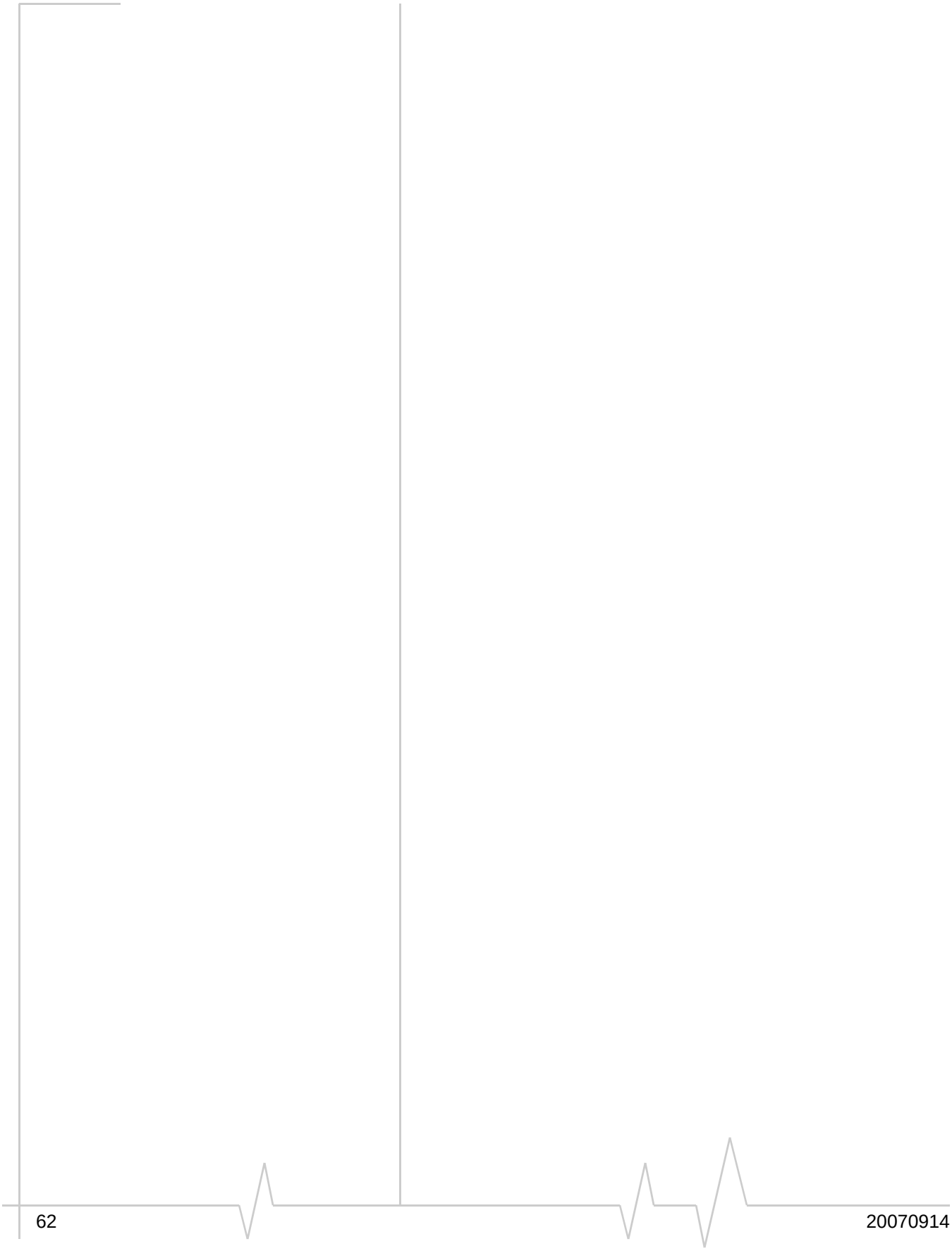
*IOSTATE=*n,s*

Query the full set of digital inputs.

- ***n*=1-4** Input number

When you query the inputs (AT*IOSTATE?), they will all be listed with their current state. Example:

```
DI1  OPEN
DI2  CLOSED
```



11: 1x/EV-DO Group

This group includes commands specific to 1x and EV-DO. If you are not connecting to a modem which uses EV-DO or 1x, you will not see this group in the menu.

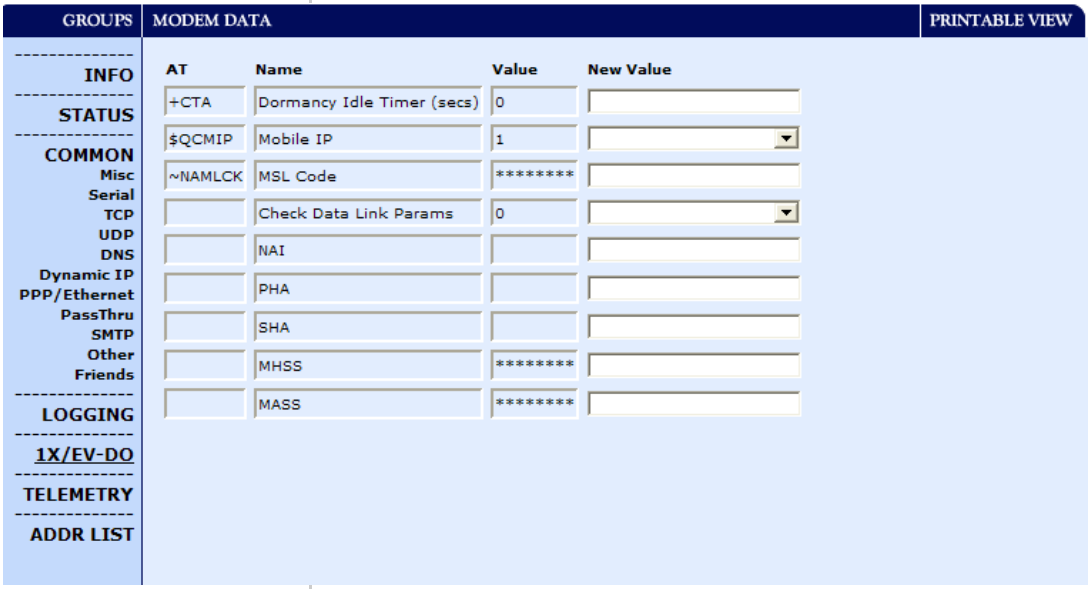


Figure 11-1: AceManager : 1x/EV-DO

+CTA=*n*

Inactivity timer, in seconds. Typical network settings cause a link to go dormant after 10 to 20 seconds of inactivity, no packets transmitted or received. This time can be shortened to release the physical RF link sooner when the application only transmits short bursts.

- **n=0** : Allows the cellular network to determine the inactivity timer.
- **n= seconds** (maximum 20 seconds)

$QCMIP=*n*

Mobile IP (MIP) Preferences. On a Mobile IP network, a device connects to the network using PPP. During the negotiation process the your modem is NOT required to present a username and password to authenticate because the authentication parameters are stored in the modem itself.

- **n=0** : Disabled, SIP only
- **n=1** : MIP preferred

- **n=2** : MIP only

Note: Your account with your cellular carrier may not support Mobile IP.

~NAMLCK=*nnnnnn*

The NAMLCK is the modem's 6-digit OTSL (One Time Subsidy Lock), MSL (Master Subsidy Lock), or SPC (Service Provisioning Code). Your cellular carrier will provide the unlock code.

- **nnnnnn=6 digit unlock code**

Caution: *If the number is accepted by the modem, the OK result code is returned. If the number is rejected, the ERROR result is returned. If three successive Errors are returned, the modem must be reset by Sierra Wireless AirLink Solutions to allow any further attempts. The modem permits 99 failures of this command during its lifetime. After that, the modem becomes permanently disabled.*

*AUTOPRLFREQ=*n*

Indicates PRL update schedule. Not all carriers support this feature.

- **n=0** : Disabled
- **n=1-255** days

*EVDODIVERSITY=*n*

*Note: If you are not using a diversity antenna, *EVDODIVERSITY should be disabled.*

EV-DO Diversity allows two antennas to provide more consistent connection.

- **n=0** : Disabled.
- **n=1** : Allow

12: HSDPA/EDGE/GPRS Group

This group includes commands specific to HSDPA, EDGE and GPRS. If you are not connecting to a modem which uses HSDPA, EDGE, or GPRS, you will not see this group in the menu.

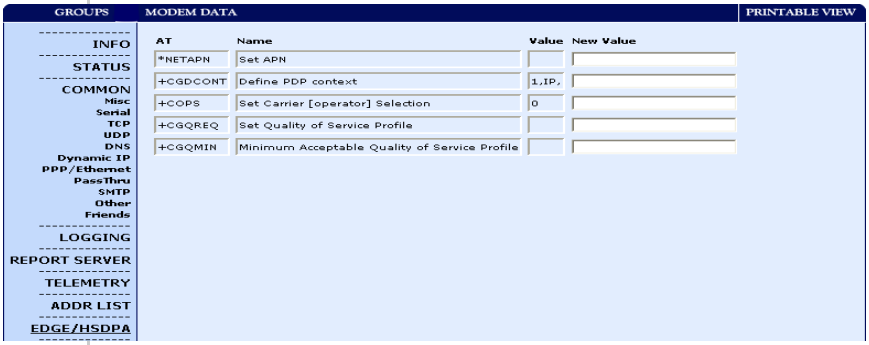


Figure 12-1: AceManager : EDGE/HSDPA

*NETAPN=*apn*

Easy entry of the APN. If left blank, the modem will attempt to use the default subscriber value as defined by the account.

- **apn=access point name**

+CGQMIN

Minimum Acceptable Quality of Service Profile. Change should be at carrier's request. Normally not required to be changed.

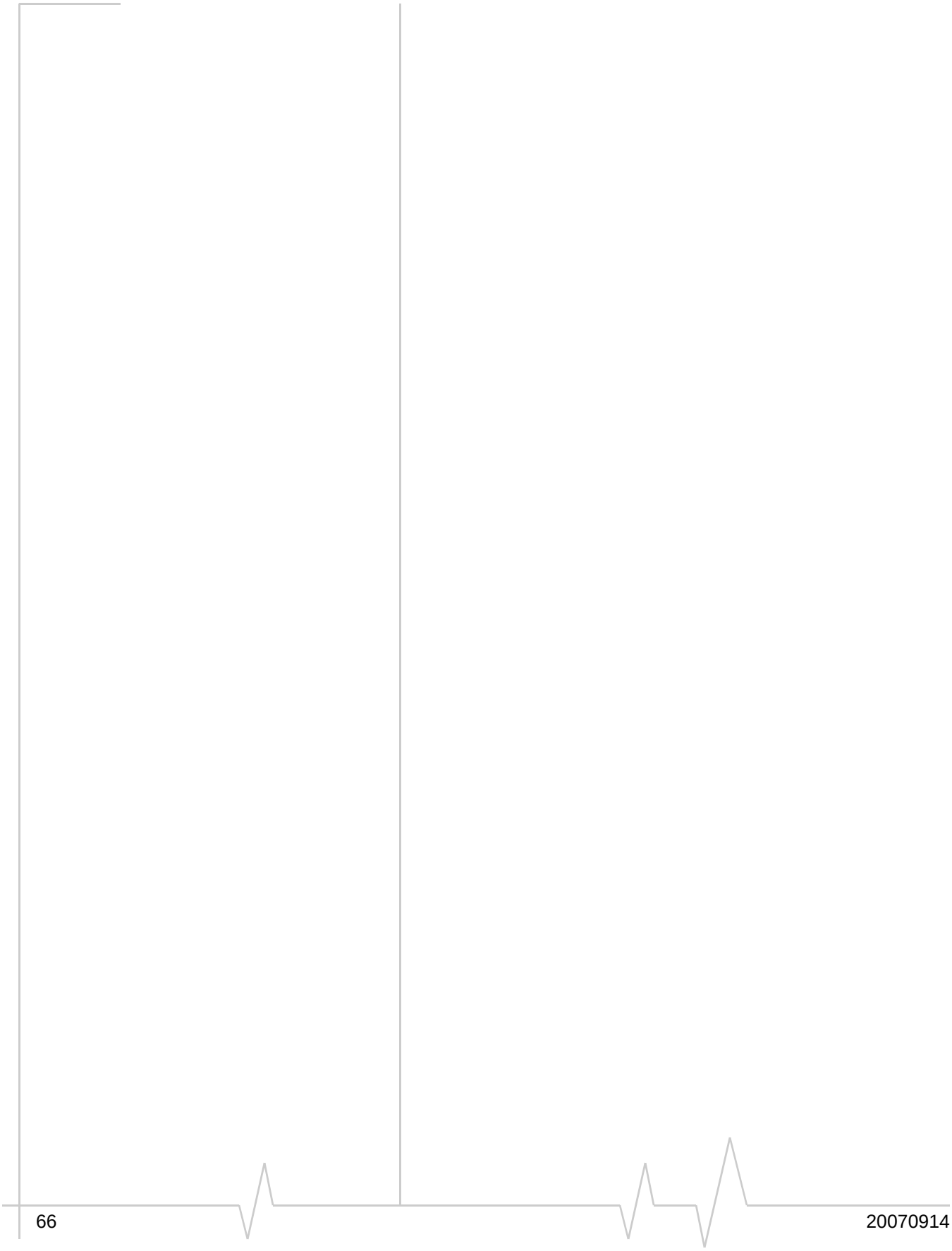
+CGQREQ

Set Quality of Service Profile. Change should be at carrier's request. Normally not required to be changed.

+COPS=*mode,[format][,oper]*

Manually specify an operator. Refer also to *NETOP.

- **mode=0** : Automatic - any affiliated carrier [default].
- **mode=1** : Manual - use only the operator <oper> specified.
- **mode=4** : Manual/Automatic - if manual selection fails, goes to automatic mode.
- **format=0** : Alphanumeric ("name") (G3x10 must use this format).
- **format=2** : Numeric
- **oper=”name”**



13: Modem Doctor

Modem Doctor is a diagnostic tool for AirLink modems. Modem Doctor is a small self-contained application that doesn't require installation.

Running Modem Doctor

You can download the latest version of Modem Doctor from the AirLink web site: http://www.sierrawireless.com/support/AirLink/Modem_Doctor.aspx.

Note: For modems with a USB port, there is an additional Modem Doctor USB for using the USB port to erase Non-Volatile Data.

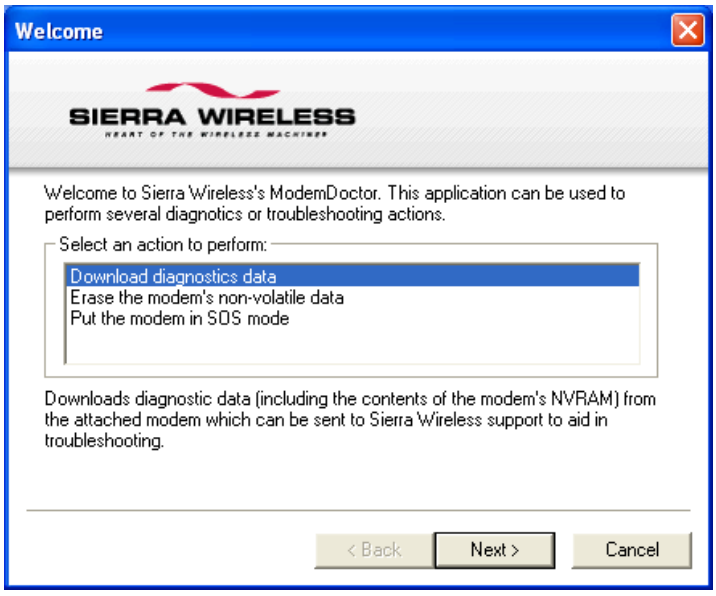


Figure 13-1: Modem Doctor

Caution: *Some of the options of Modem Doctor can cause your modem to cease working with your carrier's network.*

Download Diagnostics Data

Modem Doctor will connect to the modem and download diagnostic data in a file which you can send to AirLink support to help them troubleshoot your problem.

You can connect to the modem either remotely, across the Internet, or locally with the modem connected directly to your computer with a serial cable or Ethernet cable.

IP: Type in the IP address or fully qualified domain name of your modem. If you have used Modem Doctor previously, you can select IP addresses or names used before. Enter the modem password (default: **12345**).

Note: If your modem has a USB port you can use IP to connect to the modem if the port is configured as a virtual Ethernet port, USBNet.

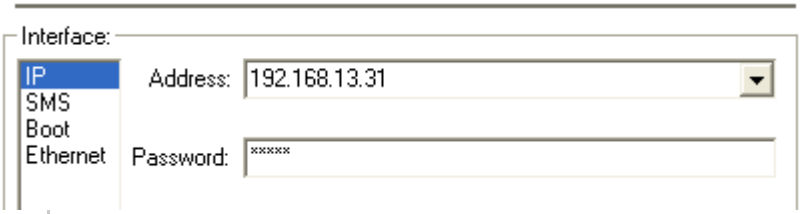


Figure 13-2: IP Connect

SMS: You can use the Simple Message Service (SMS) to connect the modem. Enter the phone number of the modem (if you have used Modem Doctor previously, you can select a modem you connected to before), select your cellular carrier from the list, and enter the password for the modem (default: **12345**).

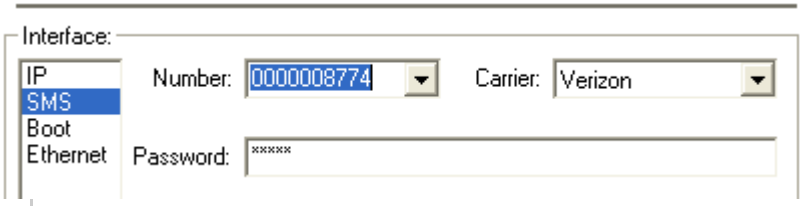


Figure 13-3: SMS Connect

Note: If it is the first time you're using SMS to connect to a modem, you will need to configure your computer to send SMS messages to the modem using email. See "Advanced SMS Settings" on page 5.

Boot: If your computer is connected directly to the modem with a serial cable, you can use this option to access the modem. Select the COM port to which the modem is connected. Select the baud rate to communicate with the modem (modem default: **115200**).

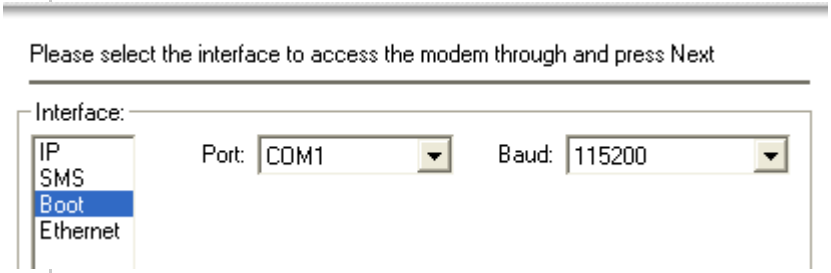


Figure 13-4: Boot Connect

Caution: *You cannot use Boot with USB/Serial.*

Ethernet: If your computer is connected directly to the modem with an Ethernet cable, you can use this option to access the modem. Type in the IP address or fully qualified domain name of your modem. If you have used Modem Doctor previously, you can select IP addresses or names used before. Enter the modem password (default: **12345**).

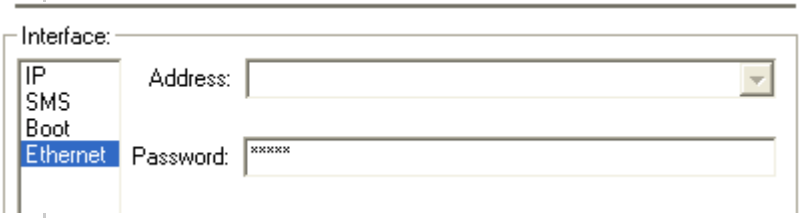


Figure 13-5: Ethernet Connect

When you connect to the modem, Modem Doctor will begin the diagnostics data download.

Note: For the Boot connection, you will be asked to reset the modem.

Figure 13-6: Modem Reset button (PinPoint X, Raven X, Raven, and PinPoint-E shown

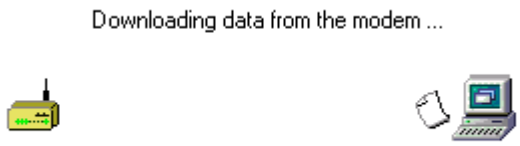


Figure 13-7: Download

When the download is complete, you will have the option of saving the file to your own hard drive and/or e-mailing it directly to Sierra Wireless support.

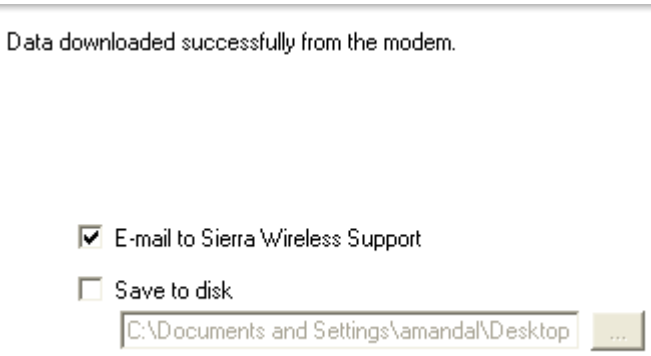


Figure 13-8: Data Options

If you select E-mail, you will be prompted to enter additional information. If you select **Save to disk**, you can change the location and file name if you select the ... button.

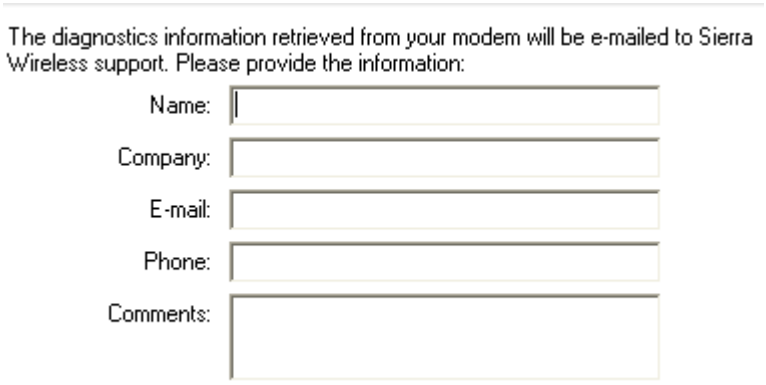


Figure 13-9: E-mail Information

- **Name**: Your name or the name of the person who is the primary contact for the modem.
- **Company**: The company which owns the modem.
- **E-Mail**: Your e-mail address or the e-mail address of the primary contact.
- **Phone**: Your phone number (or the phone number of the primary contact). In many cases, AirLink support will contact you (or the primary contact) directly to resolve the issue.
- **Comments**: A brief description of the problem you are encountering with the modem. Be as specific as possible about the nature of the problem.

Note: The comments are used to begin the troubleshooting process and so the support technician knows what to be looking for in the log. Most problems are not self-explanatory. To speed up the trouble shooting process, your comments here are very important.

Erase the Modem's Non-Volatile Data

Caution: *This option will cause all configuration changes to be lost including settings to connect to your carrier. After using this option the modem may need to be re-activated to work again with your cellular carrier. DO NOT use this option unless you are directed to do so by a Sierra Wireless support technician.*

In some extreme circumstances, support technician will ask you to use this option to return the modem to it's pre-configuration factory settings.

You must be able to connect your computer to the modem directly with either a serial cable or an Ethernet cable.

Caution: *You cannot use a USB connection to erase the Non-volatile data with the standard Modem Doctor. You will need Modem Doctor USB, covered below.*

Serial: Select the COM port to which the modem is connected and the baud rate for the modem (modem default: **115200**).

Figure 13-10: Serial Connect

Ethernet: Enter the MAC address listed on a small sticker on the bottom of your modem. Enter the ESN or IMEI, found on the label on the top of the modem.

Figure 13-11: Ethernet Connect

Modem Doctor USB

1. Open the ModemDoctorUSB.exe.
2. Select any one option.

Note: If you are using USB port as serial, then USB device is set to "o" and if you are using the default option then the USB device is set to "1".

The available port is automatically detected. Passsword is the fault password.

3. Press Erase. The modem will then reset.

Note: If you erase the fatory defaults will be restored. USBnet is the factory default port.

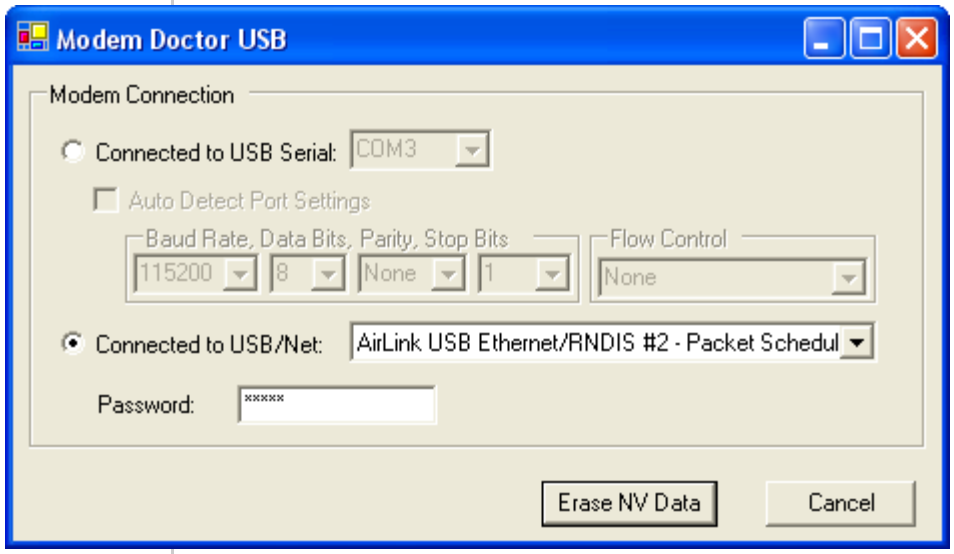


Figure 13-12: Modem Doctor: USB connection

Put the Modem in SOS mode

This option will return your modem to AT mode and reset the serial port to 115200, 8N1. This will allow you to connect to the modem using AceManager or any other direct serial communication. You only have one option to connect to the modem. Select the COM port to which the modem is connected.

Figure 13-13: Serial Connect

Note: You can only use this option with a serial port modem and only if the modem is connected directly to your computer with a serial cable. You cannot use USB/serial to place the modem into SoS mode.

Advanced SMS Settings

If you haven't used SMS to connect to your modem with Modem Doctor before, you will need to set up email settings. Click Advanced after selecting SMS as the connection method.

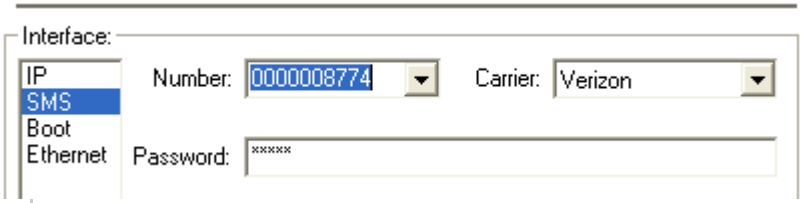


Figure 13-14: SMS Connect

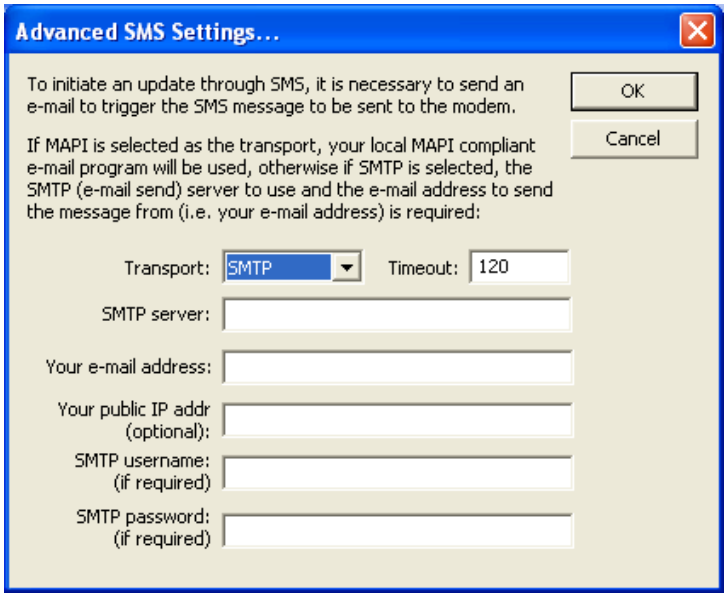


Figure 13-15: SMS Advanced Setting

SMTP Server: This is the server to which you normally send your e-mail.

Your E-mail Address: The e-mail address you normally use.

Your Public IP Addr: The Internet accessible IP address of your computer. Generally this setting is not needed, but for some network configurations for you to receive the SMS messages from the modem you will need it.

SMTP Username: The username you need to use to connect to your e-mail server.

SMTP Password: The password you need to use to connect to your e-mail server.

Tip: *You can find many of these settings in the e-mail application installed on your computer.*