

Spider® AT User's Guide

GSM5108UG001

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REGULATORY COMPLIANCE

FCC

The Spider AT is a radio transceiver and has been tested and found to comply with the limits pursuant to Part 15 Subpart B, Part 22, and Part 24 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in an appropriate installation. This equipment generates, uses, and can radiate radio frequency energy and, if not used in accordance with all instructions, can cause interference to other radio communications. However, there is no guarantee that interference will not occur in a particular installation. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The Spider AT is not certified for everyday use within 20cm of the body. However, the Spider AT is designed and manufactured not to exceed the emissions limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission (FCC) of the U.S. Government. These limits are part of comprehensive guidelines and establish permitted levels of RF energy for the general population. These guidelines are based on the safety standards previously set by the U.S. and international standards bodies.

r&tte - CE

The Spider AT modem has been fully tested and complies with all the requirements of the R&TTE Directive 1999/5/EC. Testing has been performed according to these specifications: EN301 489-1 and EN301 489-7 for EMC; IEC60950-1:2005 for Safety (LVD); and EN50392:2004 for SAR (RF Exposure). Compliance to EN301 511 has been demonstrated by testing on both the GSM5108 and the integrated LPP0108-40 module.

ROHS COMPLIANCE

The Spider AT complies with the European Union Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment ("RoHS") Directive (2002/95/EC), taking effect July 1, 2006.

Spider® AT



DISCLAIMER

The information and instructions contained within this publication comply with all FCC, GCF, PTCRB, R&TTE, IMEI and other applicable codes that are in effect at the time of publication. Enfora disclaims all responsibility for any act or omissions, or for breach of law, code or regulation, including local or state codes, performed by a third party.

Enfora strongly recommends that all installations, hookups, transmissions, etc., be performed by persons who are experienced in the fields of radio frequency technologies. Enfora acknowledges that the installation, setup and transmission guidelines contained within this publication are guidelines, and that each installation may have variables outside of the guidelines contained herein. Said variables must be taken into consideration when installing or using the product, and Enfora shall not be responsible for installations or transmissions that fall outside of the parameters set forth in this publication.



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I Introduction

An extension to the Enfora Spider® family of integrated asset management solutions, the Spider AT is a certified quad-band integrated platform that provides GSM/GPRS/GPS functionality for mobile asset monitoring.

The Spider AT has the following features:

- Up to three years or more of operation
- Fully Integrated no need for external antenna or power source
- Wireless Connection Reliability
- Superior GPS Sensitivity & Geofencing
- Simplified Over the Air Configuration & Provisioning

The Spider AT is based on Enfora's innovative Enabler III Low Power Platform, with a built-in programmable software environment.

Designed for the intelligent monitoring of non-powered mobile and fixed assets the Spider AT is easily installed and managed.

The Spider AT can be provisioned through the Enfora Services Gateway and configured to optimize:

- Motion detection
- Location monitoring
- Reporting geofence settings

I.I REFERENCE DOCUMENTS

The following Enfora documents may be necessary to configure the Spider Asset Tag:

- Gateway User Guide
- Provisioner User Guide
- Provisioner Quick Start Guide



2 Physical Description

2.1 OVERVIEW

The Spider AT is a quad-band integrated platform. Inside the black plastic case is a Enfora Enabler LPP0108 modem, USB connector, SIM holder and battery connector for the attached battery. The figures below show an opened Spider AT.



Figure 1 - Spider Asset Tag Circuit Board and Battery Pack



Figure 2 - Top View of Spider Asset Tag





Figure 3 - Bottom View of Spider Asset Tag

2.2 CONTROLS AND INDICATORS

The button on the underside of the Spider Asset Tag functions as both the power switch and the activation switch.

To deactivate the Spider Asset Tag, press and hold the power switch, located on the underside of the unit, for three to five seconds. The LED will become solid red then go off. When the light is off, the unit is deactivated.

When you are ready to activate the Spider Asset Tag, press and hold the power switch for three to five seconds until you see a blinking light. The LED will then go off. When the light is off, the unit is activated.

Spider® AT



2.3 DIMENSIONS

The measurements of the Spider Asset Tag are:

- Length 146.7 mm
- Width 63 mm
- Height 20.4 mm
- Weight (with battery) 168 grams
- Weight (without battery) 110 grams



Figure 4 - Spider Asset Tag Dimensions

Spider® AT



2.4 ENVIRONMENTAL SPECIFICATIONS

2.4.1 TEMPERATURE

Operating	-30°C to 85°C
Compliant	-20°C to 60°C
Storage	-40°C to 85°C

2.4.2 WATER RESISTANCE

The Spider Asset Tag is a water resistant device, pursuant to the IP-65 rating. This rating specifies that the device is protected against dust, and low pressure jets of water. This device cannot be immersed in water.

2.5 RADIO PERFORMANCE SPECIFICATIONS

Frequency	850 / 900 / 1800 / 1900 MHz
Sensitivity	108 dBm (typical)
Transmit Power	Class 4 (2W @ 850 / 900 MHz)
	Class 1 (1W @ 1800 / 1900 MHz)

2.6 **GSM/GPRS COMPLIANCE SPECIFICATIONS**

The following list shows the certifications for the Spider Asset Tag.

FCC	Parts 15, 22 & 24
GCF	Version 3.30.1
PTCRB	Version 4.0.0
CE Mark	Yes
Industry Canada	Yes
RoHS Compliant	Yes



2.7 BATTERY SPECIFICATIONS

The Spider Asset Tag uses a Lithium-Thionyl Chloride (Li/SOCI2) battery pack. The features of this battery include:

- Greater energy density
- Higher capacity
- Extended temperature range
- Higher operating voltage
- Longer life
- Patented safety features
- Environmentally friendly

Battery Pack Characteristics		
Enfora PN	BAT-0007-0001	
Cell Size	AA	
Chemistry	Lithium-thionyl Chloride (LI-SOCI2)	
Operating Temperature	-40 to +85 °C	
Max Rated Voltage	3.9 VDC	
Capacity	4200 mAh @ 500 mA	
Shelf Life	10 yrs @ <30 °C	
Lithium Metal Content	Approx. 1.3 g	
Weight	80 g (max)	

Table 1 – Battery Options



Figure 5 Battery Connectors

Spider® AT



3 Initial Setup

Please follow these steps to start using the Spider Asset Tag:

- 1. Make sure you have the following items:
 - Spider® Asset Tag
 - USB Drivers (These can be located ...)
 - USB cable (USB-A to 5-Pin Mini USB)
- 2. Remove the Spider Asset Tag from the packaging material.
- 3. The Spider Asset Tag will be assembled loosely with two screws. Fully loosen the screws and separate the two halves of the unit.
- 4. Make sure the battery is connected (refer to Connecting the battery in section 5.1.2).



Figure 6 - Internal View of Spider Asset Tag with Circuit Board and Battery Pack

- 5. Remove the battery pack from the half of the Spider Asset Tag that contains the circuit board. You don't need to disconnect the battery connector just move the battery pack out of the way, so you can access the USB connector.
- 6. Install the SIM (refer to Appendix B).
- 7. Turn the device on (refer to Section 2.2).
- 8. Connect the USB cable to the circuit board and to your computer.



- 9. Install the drivers (refer to Appendix A).
- 10. Provision the Spider Asset Tag (refer to Section 3.2).
- 11. Once Provisioning is complete, remove the USB connector, and replace the battery pack.
- 12. Close the Spider Asset Tag, and replace the screws.
- 13. The Spider Asset Tag is now activated, and will begin transmitting data.



Note: Verify the Server is receiving messages from the device.



Note: If you are ready to deploy the Spider Asset Tag, mount the unit on the asset you need to locate (refer to Section 4). If you are not ready to deploy, deactivate the unit until you are ready (refer to Section 2.2).

3.1 VERIFY THE COM PORT

In order to send commands to the Spider Asset Tag you will need to note the comport number of the device. Open the Windows Device Manager.

You will see the following screen:





Figure 7 Device Manager Window

In this case, the Enfora Enabler IIIG LPP Modem has been assigned to COM9. You can now use a terminal program to send commands to the Spider Asset Tag.



3.2 CONFIGURE THE DEVICE

Once the USB drivers are installed, and you can communicate with the Spider Asset Tag, you can begin configuring the unit to transmit data.

There are two ways to provision the Spider Asset Tag.

- 1. Use a terminal emulator program to send commands to the module. (Refer to Section 3.2.1 for more information.)
- 2. Use the Enfora Provisioner. (Refer to Section 3.2.2 for more information.)



Note: Before using the Enfora Provisioner to configure the device over-the-air, basic communication parameters must be configured using a terminal program and USB connection.

3.2.1 CONFIGURE THE SPIDER ASSET TAG MANUALLY USING A TERMINAL EMULATOR

Any terminal emulator program such as ProComm or HyperTerminal can be used to send AT commands to the device. Configure the terminal emulator with the following settings:

- Baud rate is fixed at 115200
- No Parity
- 8 bits
- 1 stop bit

Step-by-step illustrated instructions for setting up HyperTerminal can be found in Appendix C of this User's Guide.



Note: Manual configuration of the device using AT commands via USB is for advanced users and is not supported by Enfora.



3.2.2 CONFIGURE THE SPIDER ASSET TAG TO USE THE PROVISIONER

In order to use the Enfora Provisioner to configure the Spider Asset Tag, you will first need to send communication parameter information to the device with a terminal emulator:

Any terminal emulator program such as ProComm or HyperTerminal can be used to send AT commands to the device. Configure the terminal emulator with the following settings:

- Baud rate is fixed at 115200
- No Parity
- 8 bits
- 1 stop bit

Step-by-step illustrated instructions for setting up HyperTerminal can be found in Section 0 (Appendix C) of this User's Guide.

Below are the basic commands required to establish communication between a device and the Gateway/Provisioner server.

AT Command	Command Description
AT\$MDMID="[MDMID]"	Choose a unique identifier for your modem ID
AT+CGDCONT=1,"IP","[APN]"	Configure Carrier APN, where [APN] = APN specific to the SIM used
AT\$UDPAPI=,[PORT]	Configure Server Port, where [PORT] = Port that the Gateway server is monitoring for Modem messages
AT\$FRIEND=1,1,"[SERVER]",[PORT],3	Configure Server, where [SERVER] = URL or IP address of the server to report to. [PORT] is the TCP port that the device will use for FTP.
AT\$APIOPT=1,1,0	Configure To use Extended API header and Send the Modem ID and the Param2 values with every report.
AT\$AREG=2	Auto Registration Mode Set modem to automatically attempt a PDP activation on power-up.
AT&W	Save these settings on the device.



Once these commands have been entered you will be able to communicate with the server that is hosting the Provisioner software, and configure the Spider Asset Tag over-the-air. Refer to the Provisioner User's Guide for detailed device configuration instructions.



Note: The default Spider Asset Tag parameters result in the device reporting to the server when activated and then once per day. When not actively reporting to the server, the device will be in sleep mode and will not receive commands from the Provisioner server until it wakes up for its daily report.



Note: If you require the device to maintain contact with the Provisioner server for testing, include the following commands:

AT\$WAKEUP=1,1

AT&W

This will result in the device reporting to the server once per minute. This configuration will drain the battery quickly if the USB cable is unplugged, therefore Enfora strongly recommends that the device remain connected by USB cable when configured this way for testing.

Upon completion of testing, restore normal operation by sending the following commands:

AT\$WAKEUP=0,0

AT&W



4 Mounting the Unit

The unit can be mounted to a variety of surfaces including wood, metal and plastic. Any of the following mounting hardware can be used:

- Four 10-32 washers, four 7/16" long 10-32 screws.
- Zip Ties.
- Double-sided Pressure Sensitive Adhesive (PSA) Tape

The optimal mounting position of the Spider Asset Tag is outdoors, ensuring that the device has clear access to the sky.



Note: It is recommended that the user conducts testing in various situations, in order to determine if the unit will:

- Transmit data.
- Acquire a GPS lock

This procedure describes the mounting of the Spider AT. Please read this entire procedure and ensure that all equipment is available and personnel are trained before starting the work.

4.1 HARDWARE NEEDED TO MOUNT DEVICE

The following is a list of mounting hardware that may be used with the Spider[®] AT.

- Appropriate Mounting Screws- Qty 4 (Screws shown in Figure 8 Spider AT and Mounting Hardware are #8 Self-Drilling Sheet Metal Screws).
- Appropriate Lock-Washers- Qty 4 (Lock-Washers shown in Figure 8 Spider AT and Mounting Hardware are #8 Internal Tooth Lock-Washers).
- Appropriate Flat-Washers- Qty 4 (Flat-Washers shown in Figure 8 Spider AT and Mounting Hardware are #8 Flat-Washers).
- User defined hardware may also be used to mount the Device.



Note: Mounting hardware is not included with the device..

Spider® AT





Figure 8 Spider AT and Mounting Hardware

4.2 SELECTION OF MOUNTING LOCATION

Care should be taken in selecting the mounting location for the Spider AT. Some considerations for choosing the mounting location are:

- Ideally the label should be mounted facing down (Towards the ground). Mounting in this orientation provides optimum antenna performance.
- The selected mounting surface must not allow water to pool around the device.
- Care should be taken to avoid damaging wiring, electronics, plumbing, etc, when drilling holes to mount the device.
- The device should be mounted where it is protected from being impacted during operation.

The supported material of the mounting location includes, but is not limited to:

- Metal.
- Plastic.
- Wood.

4.3 **PRE-DRILLING OF MOUNTING HOLES**

After selecting the proper location for the device, hold the device in position. Use the four screw-hole openings to mark the center points for pre-drilling. Place the device aside and pre-drill with the appropriate drill bit. Spider® AT





Figure 9 Spider AT Screw Hole

4.4 MOUNTING THE DEVICE

Place a Lock-Washer on one of the Screws, as shown in Figure 4. Now place a Flat-Washer on the Screw, as shown in Figure 10 Spider AT and Mounting Hardware. Repeat this process with the remaining three Screws.



Figure 10 Spider AT and Mounting Hardware

Insure the Device is turned on (Flashing light indicates that the Device is turned on). Align the Device with the pre-drilled screw holes. Insert one of the screws (assembled above) through one of the screw holes in the Device. Partially tighten the Screw into the mounting surface. Repeat this process until all four screws are started into the mounting surface. Now tighten the four screws until they are snug.



4.5 ALTERNATE MOUNTING OF THE DEVICE

The Device can also be mounted using Wire Tie-Wraps. The screw holes are sized so the Tie-Wraps can be inserted through them, as shown in Figure 11 Mounting – Cable Ties.



Figure 11 Mounting – Cable Ties



Warning: Take care not to fasten Tie Wraps over sharp edges, as this may cause excesive wear causing the Tie Wraps to break.



5 Replacing the Battery

When the device requires the battery to be changed use the following instructions:

5.1.1 DISCONNECT THE BATTERY

- 1. Remove the Spider Asset Tag from its mounted location.
- 2. Fully loosen the two screws, so the two halves of the unit are separated.



Figure 12 Open Unit

3. Disconnect the old battery by grasping the battery cable close to the connector and gently pull upwards, as shown in Figure 13 Remove Battery.



Figure 13 Remove Battery

4. Remove the battery from the case.



5.1.2 CONNECT THE BATTERY

1. Insert the Battery into the Bottom Housing Assembly with the cable up and to the right, as shown in Figure 14 Insert New Battery.



Figure 14 Insert New Battery

- 2. Connect the new battery by attaching the connector to the battery terminals.
- 3. The correct orientation of the battery cable prior to insertion into the PCB mounted battery connector is with the red wire positioned closest to the wall of the plastic housing. Shown in Figure 15 Battery Cable Orientation.



Figure 15 Battery Cable Orientation



4. Carefully move the connector over the connector jack and apply pressure straight down on to the battery cable connector until the connectors are fully engaged. Shown in Figure 16 Connect the cable.



Figure 16 Connect the cable

- 5. Close the Spider Asset Tag, and replace the screws.
- 6. Remount the device in its original location.



6 Powering Up and Down

The button on the underside of the Spider Asset Tag functions as both the power switch and the activation switch.

After the provisioning process is complete, the Spider Asset Tag will be activated. If you do not plan to deploy the unit immediately, you should deactivate the Asset Tag, so as not to drain the battery.

To deactivate the Spider Asset Tag, press and hold the power switch, located on the underside of the unit, for three to five seconds. The LED will become solid red then go off. When the light is off, the unit is deactivated.



LED Indicator and Power Switch

Figure 17 LED Indicator and Power Switch

When you are ready to activate the Spider Asset Tag, press and hold the power switch for three to five seconds until you see a blinking light. The LED will then go off. When the light is off, the unit is activated.



7 Battery Life Estimation

The default configuration is as follows:

Wake up every once per day.

Checks location every once per day.

The estimated battery life for the Asset Tag in a default configuration is approximately 1 year.

Other configuration factors that will affect the battery life include but are not limited to:

- Report Frequency
- Device Temperature
- Length of awake time
- Atmospheric conditions

The following graph shows estimated battery life for a typical configuration reporting 1 to 7 times per week. This estimate is based on a device operating at room temperature.



Figure 18 Battery Life vs. Reporting Frequency (Estimated)



Appendix A – USB DRIVER Installation

The first time the user provisions the Spider Asset Tag, it must be via the USB connection. After the first time, it can be configured over-the-air. Follow these steps to begin provisioning the device:

- 1. Connect the Spider Asset Tag to the USB port on a Windows-based computer.
- 2. Install the USB drivers (as described in this Appendix).
- 3. Use a terminal emulator to send AT commands to the Spider Asset Tag. (refer to Section 3.2.2).

CONNECT THE SPIDER ASSET TAG TO A USB PORT

Supported Operating Systems include Windows 2000, Windows XP, and Windows Vista. When you connect the Spider Asset Tag to the computer, you will be prompted to install the drivers.



Note: In order to access the USB port on the Spider Asset Tag, you will need to remove the cover. The USB connector is located on the circuit board inside the unit.

Follow the steps in the next section to install the drivers.

INSTALL THE USB DRIVERS

After you download the USB drivers, make sure you note the location on your computer where the drivers are located.



Note: Drivers can be downloaded from the Enfora Website.

After connecting the Spider Asset Tag to the computer, follow these steps to complete the installation of the USB drivers:



There are three steps to installing the USB drivers. The first will install the Locosto drivers. Once this installation is complete, the process will automatically begin again. The second step will install the Enabler III G LPP Trace. The third step will install the Enabler IIIG LPP Modem.

- 1. The Windows Operating System will detect the new USB device.
- 2. You will see the following screen:

Found New Hardware Wizard		
	Welcome to the Found New Hardware Wizard Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission). Plead our privacy policy Can Windows connect to Windows Update to search for software? O Yes, this time only Yes, now and gvery time I connect a device O No, not this time	
	< <u>B</u> ack <u>N</u> ext > Cancel	

Figure 19 Found New Hardware Wizard Window

- 3. Click on No, not this time.
- 4. Click Next.
- 5. You will see the following screen:



Found New Hardware Wizard	
	This wizard helps you install software for: LOCOSTO If your hardware came with an installation CD or floppy disk, insert it now. What do you want the wizard to do? Install the software automatically [Recommended] Install from a list or specific location (Advanced) Click Next to continue.
	<pre>< Back Next > Cancel</pre>

Figure 20 Hardware Wizard - Install from specific location

- 6. Click the radio button next to **Install from a list or specific location** (Advanced).
- 7. Click Next.
- 8. You will see the following screen:



Found New Hardware Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM)
✓ Include this location in the search:
E:\Windows USB drivers\drivers
O Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< <u>B</u> ack <u>N</u> ext > Cancel

Figure 21 Hardware Wizard – Search for best driver

- 9. Click on the check box marked Include this location in the search.
- 10. Browse to the location on your computer where the USB drivers are located.
- 11. Click Next.
- 12. You will see the screen that shows the installation progress:



Found New Hardware Wizard			
Please wait while the wizard installs the	e software		E)
LOCOSTO USB device			
Ď	1	D	
	< <u>B</u> ack	<u>N</u> ext >	Cancel

Figure 22 Hardware Wizard – Install Progress

13. When the installation of the Locosto USB device is complete, you will see the following screen:



Found New Hardware Wizard		
	Completing the Found New Hardware Wizard	
	The wizard has finished installing the software for:	
	LOCOSTO USB device	
	Click Finish to close the wizard.	
	< <u>B</u> ack Finish Cancel	

Figure 23 Hardware Wizard – Completing

14. Click Finish.

When this installation is complete, the installation process for the USB device will begin. You will see the following screen:



Found New Hardware Wizard		
	Welcome to the Found New Hardware Wizard	
	Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission). Read our privacy policy	
	Can Windows connect to Windows Update to search for software?	
	○ Yes, this time only	
	Yes, now and every time I connect a device	
	Click Next to continue.	
	< <u>B</u> ack <u>N</u> ext > Cancel	

Figure 24 Hardware Wizard - Install from specific location

- 15. Click on No, not this time.
- 16. Click Next.
- 17. You will see the following screen:



Found New Hardware Wizard		
	This wizard helps you install software for: USB Device If your hardware came with an installation CD or floppy disk, insert it now. What do you want the wizard to do? Install the software automatically (Recommended) Install from a list or specific location (Advanced) Click Next to continue.	
	< <u>B</u> ack <u>N</u> ext > Cancel	

Figure 25 Hardware Wizard - Install from List

- 18. Click the radio button next to **Install from a list or specific location** (Advanced).
- 19. Click Next.
- 20. You will see the following screen:



Found New Hardware Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM)
Include this location in the search:
E:\Windows USB drivers\drivers Browse Browse
O Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< <u>B</u> ack <u>N</u> ext > Cancel

Figure 26 Hardware Wizard – Search for best driver

21. Click on the check box marked Include this location in the search.

22. Browse to the location on your computer where the USB drivers are located.

23. Click Next.

24. You may see the following screen:



Har	ware Installation
4	The software you are installing for this hardware: Enfora Enabler IIIG LPP Trace
	has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.) Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
	<u>Continue Anyway</u> <u>STOP Installation</u>

Figure 27 Hardware Wizard – Windows Logo testing



Note: If you see this warning, click on Continue Anyway

25. You will see the screen that shows the installation progress:



Found New Hardware Wizard	
Please wait while the wizard installs the	software
Enfora Enabler IIIG LPP Trace	
i i i i i i i i i i i i i i i i i i i	
	<pre>K Next > Cancel</pre>

Figure 28 Hardware Wizard – Installation Progress

26. When the installation of the Enfora Enabler IIIG LPP Trace is complete, you will see the following screen:



Found New Hardware Wizard		
	Completing the Found New Hardware Wizard	
	The wizard has finished installing the software for:	
	Enfora Enabler IIIG LPP Trace	
	Click Finish to close the wizard.	
	< <u>B</u> ack Finish Cancel	

Figure 29 Hardware Wizard – Installation Complete

27. Click Finish.

When this installation is complete, the installation process for the USB device will begin. You will see the following screen:



Found New Hardware Wizard		
Found New Hardware Wiz	Welcome to the Found New Hardware Wizard Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission). Read our privacy policy Can Windows connect to Windows Update to search for software? Yes, this time only Yes, now and gvery time I connect a device No, not this time	
	Click Next to continue.	
	< <u>B</u> ack <u>N</u> ext > Cancel	

Figure 30 Hardware Wizard - New Hardware

- 28. Click on No, not this time.
- 29. Click Next.
- 30. You will see the following screen:



Found New Hardware Wizard		
	This wizard helps you install software for: Enfora Enabler IIIG LPP Modem If your hardware came with an installation CD or floppy disk, insert it now. What do you want the wizard to do? Install the software automatically (Recommended) Install from a list or specific location (Advanced) Click Next to continue.	
	< <u>B</u> ack <u>N</u> ext > Cancel	

Figure 31 Hardware Wizard – Install from List

- 31. Click the radio button next to **Install from a list or specific location** (Advanced).
- 32. Click Next.
- 33. You will see the following screen:



Found New Hardware Wizard
Please choose your search and installation options.
Search for the best driver in these locations. Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
 Search removable media (floppy, CD-ROM)
Include this location in the search: E:\Windows USB drivers\drivers
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< <u>B</u> ack <u>N</u> ext > Cancel

Figure 32 Hardware Wizard – Search for best driver

34. Click on the check box marked Include this location in the search.

35. Browse to the location on your computer where the USB drivers are located.

36. Click Next.

37. You may see the following screen:



Hardware Installation						
<u>.</u>	The software you are installing for this hardware: Enfora Enabler IIIG LPP Modem has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.) Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.					
	Continue Anyway STOP Installation					

Figure 33 Hardware Wizard – Windows Logo testing



Note: If you see this warning, click on Continue Anyway





Figure 34 Hardware Wizard – Installation Complete

38. Click **Finish** to complete the installation of the Enfora Enabler IIIG LPP Modem drivers.



Appendix B – SIM Card Installation

SIM CARD HOLDER

The SIM holder is located inside the Spider Asset Tag. It is a standard flip-type SIM holder that must be completely closed in order for the SIM card to make a secure connection.



Figure 35 – Spider Asset Tag SIM Holder

SIM CARD INSTALLATION

- 1. Slide the SIM card into the open SIM holder.
- 2. Make sure the SIM card notch is lined up properly (see Figure 35).
- 3. Close the holder, and slide it until it is completely closed.



Note: The SIM card is not provided with the Spider Asset Tag device. The SIM must be obtained from the GSM/GPRS service provider and must be provisioned by the operator for data. Always take care to protect the SIM



Appendix C – Terminal Configuration

To send commands to the Spider AT, connect the USB mini end of the USB cable to the USB connector on the Spider AT and the standard USB end to the USB port of a PC.

This Appendix provides step by step instructions for using HyperTerminal to configure the modem. However, any standard terminal emulator program can be used.

SET UP HYPERTERMINAL TO CONFIGURE THE MODULE

These instructions illustrate how to correctly configure HyperTerminal in Windows XP:

Setup HyperTerminal

1. On Windows XP, click on: Start>Programs>Accessories>Communications>HyperTerminal

The Connection Description window appears (Figure 36).



Figure 36 - Connection Description Window

- 2. Enter a name for the Connection. In this example, the name is Enfora Com1.
- 3. Click **OK**. The Connect To window appears (Figure 37).



Connect To							
Senfora Com1							
Enter details for the phone number that you want to dial:							
<u>C</u> ountry/region:	United States (1)						
Ar <u>e</u> a code:	214						
<u>P</u> hone number:							
Co <u>n</u> nect using:	СОМ1						
	OK Cancel						

Figure 37 - Connect To Window

- 4. Change the **Connect Using** setting to the Com port that was determined in Step 2.
- 5. Click **OK**. The Port Properties window appears (Figure 38).



COM1 Properties						
Port Settings						
Bits per second: 115200						
Data bits: 8						
Parity: None						
Stop bits: 1						
Elow control: None						
<u>R</u> estore Defaults	<u></u>					
OK Cancel Appl	y					

Figure 38 - Port Properties Window

- 6. Make sure the settings match the example.
- 7. Click **OK**. The HyperTerminal Program Window appears (Figure 39).



🌯 Enfora Com1 - HyperTerminal				
<u>File E</u> dit <u>V</u> iew <u>⊂</u> all <u>T</u> ransfer <u>H</u> elp				
다 🗃 💮 🔏 💷 🎦 😭				
Connected 00:00:03 Auto detect	Auto detect SCROLL	CAPS NUM Capture	Print echo	

Figure 39 - HyperTerminal Program Window

TEST THE HYPERTERMINAL SETUP

- 1. Make sure the cursor is in the main window.
- 2. Type "AT" and press Enter
- 3. The modem should respond back with "0" or "OK" in the Main Window
- 4. If this happens, the COM port is configured correctly. If not, go back and check your settings.
- 5. At this point you are ready to start configuring your device with AT commands. Section 3.2 of this guide provides details about configuring your device.