Nexus Hawk™
User Manual

ANY NETWORK, ANYTIME, ANYWHERE

www.nexusisr.com

Please read the complete User Manual before starting your Nexus Hawk.
Register your Nexus Hawk, and find other support information at www.nexusisr.com/support.php

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Introduction

Congratulations on your purchase of a Nexus Hawk™! This literature is intended as a primary reference for normal configuration and operation of the Nexus Hawk™. The information presented within should allow most users to easily configure the device to their preferences. As with any product from Nexus_iSR, should you encounter any difficulties, technical support is standing by to help you.

What's Included with the Nexus Hawk™?

- Nexus Hawk™
- WiFi Antenna
- Ethernet Crossover Cable
- 12 volt Power Supply
- Nexus Hawk™ QuickStart Guide and QuickFix Guide

Getting Started

Connecting to Power

The Nexus Hawk™ accepts DC power input ranging from 11-48V. Upon power-up, both the **green** Power-LED and the **red** Status-LED will illuminate. **Allow the unit approximately 90 seconds to complete its startup sequence.** During this time, it is performing a Power On Self Test (POST). When the **red** Status-LED begins pulsing, your Nexus Hawk™ is fully powered up and ready!

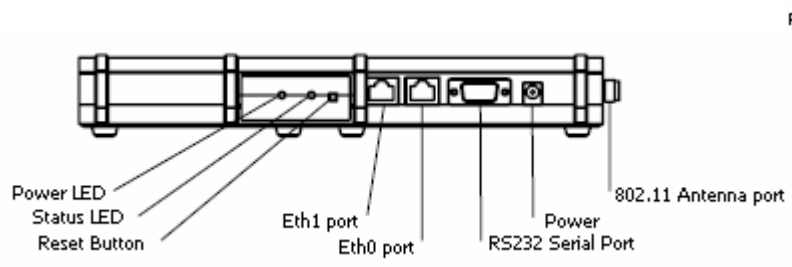
Staying Connected

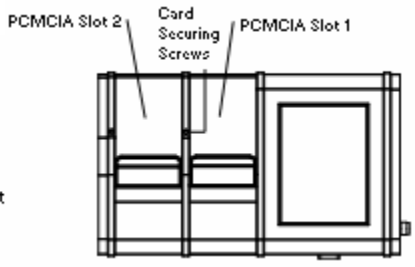
The Nexus Hawk™ has four possible paths to the Internet/WAN: 10/100 WAN (Eth0), WiFi Client (connected to a WAN-connected WiFi Access Point), Cell phone Card 1 (Slot 1), Cell phone Card 2 (Slot 2). Connectivity is prioritized in this order. If a higher priority connection is established, the data stream will automatically transfer to it. If a connection is lost, the Nexus Hawk™ will attempt to transfer WAN functions to the next lowest priority connection (if one exists).

10/100 Ethernet Data Connection

The Nexus Hawk's WiFi port is disabled by factory default to assure the highest possible security. In order to perform initial configuration, you *must* connect to the Hawk's Eth1 10/100 Ethernet with an Ethernet crossover cable (provided). The Eth1 jack is the one that is located farthest from the DC power jack.

Attach the crossover cable to a client PC configured for dynamic configuration (DHCP). Within several seconds, the client PC should receive DHCP information from the Nexus Hawk™.





Login

Accessing the Management Console

Launch a web browser (e.g. - Internet Explorer, Firefox, etc.) and enter the following address: **192.168.1.1** (the factory default value). The "splash page" will give you the option of either viewing or changing the configuration of your Nexus Hawk™.

You may view configuration without being authenticated.
To change the configuration, authentication is required. Factory defaults for authentication are:

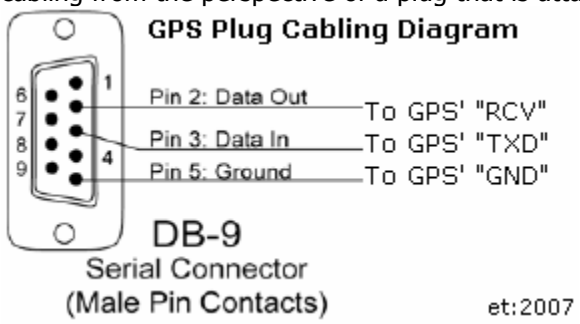
Login: **manager**
Password: **manager**

Setup | Serial

GPSd

NOTE: The Serial Port supports only Global Positioning System (GPS) functionality in this firmware revision. The GPS must be both serial (RS-232c) and capable of providing NMEA-0182, Rockwell or Garmin Binary data streams (all of which are converted into NMEA-0812 on the selected port). The Nexus Hawk's™ firmware will auto-detect the communication settings (baud rate, parity, etc.) of the connected GPS.

Only three wires are needed for data connectivity, TXData, RXData and Ground. The diagram below shows the cabling from the perspective of a plug that is attached to the GPS.



Enable GPSd: Enables the described function. For more information on GPSd click here
TCP Port: This is the TCP port that will interface with the GPS. Most simply, one may use TELNET to attach to the port and manage the GPS (including the receipt of NMEA sentences, once the GPS is commanded to send data). By default, this is **192.168.1.1:2947** though it may also be accessible remotely by DNS if a dynamic DNS service has been subscribed to. For more information on TCP click here
Save Configuration: Updates are applied only when this button is pressed.

Upon pressing **Save Configuration**, the Nexus Hawk™ will immediately open the designated port to/from the GPS. Some GPS's may appear to sit idle until a user sends a command to activate their data stream. The most often used code is simply "r", at which point the port will present raw NMEA strings. For more information on how to use GPSd-presented data for mapping and navigation applications, visit http://www.penguin-soft.com/penguin/man/1/gpsd.html.

Setup | WiFi

AP

This selection will enable the Nexus Hawk™ to function as a WiFi Access Point (AP), sharing its connections with others (Clients) who may connect to it. The Nexus Hawk™ may serve as either an AP or Client of another AP, *but not both at the same time*.

NOTE: When in WiFi AP mode, the Nexus Hawk's™ WiFi port and LAN (Eth1) port are bridged together at the physical layer as a single virtual device. This means that all IP information is the same (192.168.1.1, for instance). As a result, all LAN clients share the same DHCP pool, subnet, and can access each other. Firewalling and port forwarding may be done to any device on this shared virtual network. This occurs only in WiFi AP mode, and not in WiFi Client mode.

SSID: This is the name of your wireless network. This option has a 32 alphanumeric character limit. For more information click here

Broadcast SSID: Check this option to broadcast the name of your AP's WiFi network to others. Doing so makes discovery and attachment to your AP easier. Failing to broadcast it makes your AP somewhat more secure, by requiring trusted clients (people who will attach to it) to know the SSID without being prompted.

Channel: Select the channel on which your AP will operate. Channels 1-11 coincide with 802.11b/g (2.4 GHz) while channels 36 and up coincide with 802.11a (5.8GHz). Effort should be made to select a channel that is not in use in the immediate vicinity of the Nexus Hawk™ in order to minimize interference and maximize the WiFi efficiency.

Security: This specifies the security mode of the Nexus Hawk™'s WiFi AP.

- **None:** Selecting this option creates an "open" or unsecured AP.
- **WEP:** *Wireless Equivalent Privacy* is available in two modes; **64-bit** (shorter key) and **128-bit** (longer key). Selecting this option requires you to enter a private key that is known only to you and trusted others that you want to allow to connect to your AP. For more information click here
- **WPA-PSK, WPA2-PSK, WPA/WPA2-PSK:** This stands for: *WiFi Protected Access*. Selecting this option requires you to enter a pre-shared key to secure the AP connection. The WPA/WPA2-PSK option allows for dual operation of both WPA and WPA2 for connected clients. For more information on WPA click here For more information on WPA2 click here

Pre-shared key: This is a passphrase that is used by the selected security mode. For WEP-level security, this must be a hexadecimal value using the digits 0-9 and letters from A-F. For the 64-bit option the value must be 10 characters. For 128-bit option the value must be 26 characters. For WPA/WPA2-level security, the value must be alphanumeric and a minimum of 8 characters and may be a maximum of 64 characters.

The AP's IP address is the same one that is specified for the **10/100 Ethernet** LAN configuration (Eth1). For example, if the 10/100 Ethernet LAN IP is set to the factory default of 192.168.1.1, this will also be the IP address for the WiFi port of the Nexus Hawk™. They are considered "bridged".

Client

The Nexus Hawk™ may connect to an 802.11a/b/g compliant WiFi Access Point (AP). This function may be found by navigating to the "**Setup | WiFi**" page. Check the "**Client**" box to enable the AP Client.

SSID: Enter the known SSID of the 802.11 a/b/g network that you wish to connect to. Once this option is selected and applied, it remains active. The Nexus Hawk™ will continue to scan for an AP with the entered SSID until it is able to locate it, at which point it will connect. If that AP disappears, the Nexus Hawk™ will resume its scanning function in an attempt to connect when one appears. For more information click here

[Scan]: Select this link to view available APs in the area.

Security: This is defined by the AP, not the Nexus Hawk™. Select the type of security set by the AP. NOTE: Some AP's differentiate between WPA-PSK and WPA2-PSK. The Nexus Hawk™ does not. If the AP uses either, simply select the **WPA/WPA2-PSK** option.
Pre-shared key: Enter the AP's pre-shared security key. This field is required if security is set to WEP or WPA.
DHCP Client: This allows the Nexus Hawk™ to be automatically configured to function on a network provided by another AP.
If **Enabled** the Nexus Hawk™ will attempt to obtain configuration information from a DHCP enabled AP.
If **Disabled**, the Nexus Hawk™ will require manual IP assignment (also known as "Static IP") and the following console options will come into play:

- **IP Address:** Enter the manually assigned (static) IP address. For more information click here
- **Netmask:** Select the desired netmask from the drop down list. For more information click here
- **Gateway:** Enter the desired gateway. For more information click here
- **DNS1:** Enter the desired primary Domain Name Server's address. For more information click here
- **DNS2:** Enter the IP address for an optional (not required) Secondary DNS.

Settings may be verified by navigating to the **Status** page on the top navigation bar. The wireless client status section will show a connection status, the SSID of the connected network, and a signal strength indicator.

Setup|10/100 Ethernet

Eth0

The Nexus Hawk™ has two Ethernet ports. The port that is closest to the DC power jack is **ETH0** -- and is exclusively reserved to allow the Nexus Hawk™ to connect to devices that provide Wide Area Network (WAN) connectivity. Connection is by a standard RJ-45 Ethernet patch cable.

DHCP Client: This allows the Nexus Hawk™ to attempt to obtain configuration information from a DHCP enabled WAN device. For more information click here

- **Enabled:** The Nexus Hawk™ automatically obtains configuration parameters from a DHCP server on the WAN.
- **Disabled:** The Nexus Hawk™ will allow the Console Operator to manually configure networking parameters as follows:

IP Address: Enter the assigned (static) IP address. For more information click here
Netmask: Select the desired netmask from the drop down list. For more information click here
Gateway: Enter the IP address of the desired gateway. For more information click here
DNS1: Enter the IP address of the desired Primary Domain Name Server (DNS). For more information click here
DNS2: Enter the IP address for an optional (not required) Secondary DNS.
Save Configuration: Saves the changes that were made.

Settings may be verified by navigating to the **Status** page on the top navigation bar. A well configured **Eth0** status will display as "Connected" with a properly formatted IP address.

Eth1

The Nexus Hawk™ has two Ethernet ports. The port that is closest to the <RESET> button is ETH1 -- and is exclusively reserved to allow local network (LAN) connection to the Nexus Hawk™ (such as used by a locally connected computer). Direct-connection to a computer will require a Category-5 (minimally) Ethernet crossover cable (a RED crossover cable is supplied with your purchase and is included in the packaging). For more information click here.

Warning, if you are using this port to configure the Nexus Hawk™: Changes here can cause you to lose connectivity to the Nexus Hawk™. **Proceed with caution.** If at any time, you lose connection and are unable to recover, you may regain control by resetting the Nexus Hawk™ to factory defaults.

IP Address: The default address is 192.168.1.1 It may be manually changed here. Note: Changing this address, while connecting through this port will cause loss of connectivity. To regain connectivity, perform a DHCP IP renewal on your client. From your computer's command prompt:

Windows2000/XP:

ipconfig /release <enter>
ipconfig /renew <enter>

Linux:

ifconfig /release <enter>
ifconfig /renew <enter>

Netmask: Select the desired netmask from the drop down list. For more information click here

DHCP Server: For more information click here

- **Enabled:** The Nexus Hawk™ will provide dynamic configuration parameters to LAN devices.
- **Disabled:** The Nexus Hawk™ will not provide dynamic configuration parameters to LAN devices. This will require that all LAN devices be manually configured, individually.

Save Configuration: Saves the changes that were made.

You may verify that the Nexus Hawk™ has been properly configured by navigating to the **Status** page on the top navigation bar. A well configured **Eth1** status will display as "Connected" with a properly formatted IP address.

Setup | PCMCIA

Cellular WAN

The Nexus Hawk™ card slot(s) support only Cellular Data Cards. The Cellular WAN option allows the Nexus Hawk™ to provide access to the internet through the services of a major mobile telephone service carrier.

Insert your Nexus Hawk™ preferred cellular data card.

Preferred Wireless Cards

- Option GT Max from Cingular
- Kyocera KPC-650 for Verizon
- Novatel Wireless Merlin S720 from Sprint

Detected: This field will display the manufacturer's model name of the detected card.
Carrier: Choose the appropriate service provider for the inserted card. *If the incorrect service provider is selected the card may not function properly.*
Connect: Pressing this button connects the inserted card to the cellular network.
Disconnect: You **must** either power-down, or press this button before removing your cellular data card from the Nexus Hawk™. Failure to do so may cause malfunction.

After pressing the Connect button the Cellular WAN configuration page will briefly refresh and indicate with the available button selections that a connection has been initiated.

Your selections may be verified by navigating to the **Status** page on the top navigation bar. Once a connection has been established, the carrier, signal strength, and connection IP address will be displayed on the status page.

NOTE: For best results power down before removing card.

Security|VPN Client

OpenVPN

For advanced users, the Nexus Hawk™ supports functioning as an OpenVPN endpoint. For more information on OpenVPN click here

Enabled: Enables VPN functionality.
Interface Type:
- **tap:**
- **tun:**
- For more on tap and tun information click here

Server IP/Hostname: Enter the server IP address or hostname
Port: Enter the port number of the VPN tunnel
Protocol: Select which protocol you wish to use.
- **TCP:** Select this option to use TCP. This option transfers packets and checks the packets for errors. For more information click here
- **UDP:** Select this option to use UDP. This option is an alternative protocol to TCP, it is faster than TCP because it does not use packets, and it also does not provide error checking. For more information click here

TUN MTU: Enter the maximum packet size that the VPN is capable of transmitting. For more information click here
TUN MTU Extra:
TCP MSS:
Public Server Certificate: Enter the public server certificate here. Please ensure that the certificate is copy-pasted correctly.
Public Client Certificate: Enter the public client certificate here. Please ensure that the certificate is copy-pasted correctly.
Private Client Key: Enter the client key here.
Save Configuration: No updates are applied unless this button is pressed. Once pressed, the screen changes are saved.

Enable the OpenVPN Client by checking the "**Enable**" check box. Enter the appropriate configuration information for the tunnel, including the full text of the public server and client certificates, as well as the private client key. Press "**Save Configuration**" and the configuration will be applied to the Nexus Hawk™.

You can verify the connectivity status of the OpenVPN tunnel by navigating to the **Status** page and checking the connectivity status for "Security|OpenVPN Client Tunnel." If the status is indicated as "Connected" and shows a properly formatted IP address, the Nexus Hawk™ is acting as an OpenVPN client to the remote network.

Applications|Port Forwarding

The Nexus Hawk™ supports forwarding of specific port ranges from the WAN to a client on the LAN.

Enabled: Enables the specified port
From: Enter the port number that you want to begin forwarding
To: Enter the port number that you want to end forwarding
TCP/UDP: Transmission Control Protocol/User Datagram Protocol Options
- **Both:** Select this option to use both TCP and UDP protocol

- **TCP:** Select this option to use TCP. This option transfers packets and checks the packets for errors. For more information click here
- **UDP:** Select this option to use UDP. This option is an alternative protocol to TCP, it is faster than TCP because it does not use packets, and it also does not provide error checking. For more information click here

Internal Host: Enter the LAN client IP address of the host
Delete: Deletes the specified port
Save Configuration: Changes are applied only after pressing this button.

To input a single port, simply enter it as both the **From** and **To** port. If both the port forwarding and DMZ options are enabled, port forwarding will take priority, with the remaining ports allocated to the DMZ IP address.

Do not enter overlapping port ranges for different IP addresses, as this configuration does not translate to a logical port forwarding structure. Please note that some cellular carriers will firewall the connections to their networks. As such, a public WAN IP address does not guarantee universal accessibility from the internet.

Applications | DMZ Host

The Nexus Hawk™ supports a LAN client which can be placed in the DMZ (de-militarized zone) to allow access from the connected WAN.

Enabled: Enables the DMZ host option.
IP address: Enter the address of the client on the LAN which will accept the WAN connection.
Save Configuration: Updates are applied only upon pressing this button.

If port forwarding and DMZ values conflict, port forwarding will always be given priority. The DMZ host will receive only the ports not allocated in the forwarding table. **Caution: Forwarding all traffic to a specific host may cause the undesired effect of losing Internet-based connectivity to the Management Console. This is because all data will be forwarded to the host specified. The Management Console will still be accessible to devices attached to the LAN (Eth1) and WiFi AP.**

The LAN client will now be accessible from any connected WAN interface. Please note that some cellular carriers firewall the connections to their networks, and a public WAN IP address does not guarantee universal accessibility from the internet.

Administration | Management

Password

The Nexus Hawk™ uses the defaults of Login=manager, Password=manager. It does not follow the Admin/Admin standard used by other manufacturers specifically to make unintended access more difficult. These values may be changed here.

Login name: Displays the current login name. If you wish to change the login name enter the new name.
Current password: Enter the current configuration password.
New password: Enter the new password
Re-enter new password: Enter the new password again for verification purposes

Password-protect status page: Normally, the Status page is viewable by anyone who attaches to your Nexus Hawk™. Check this option if you wish to restrict that page, requiring login authentication before being able to view its contents.
Save Configuration: Updates are applied only after pressing this button.

NOTE: Once saved, when you navigate to another configuration page you will be required to login with the new login information.

DDNS

The Nexus Hawk™ supports a dynamic DNS update with dyndns.org. If you have a dyndns.org account, this function may be useful for finding the Nexus Hawk™ from the internet when it is connected to a WAN interface. Contact your Network Administrator for system-specific settings. For more information click here

Username: Enter your dyndns.org account username.
Password: Enter you dyndns.org account password
Hostname: Enter you hostname associated with dyndns.org user account. Currently, only hostnames provided by dyndns.org are supported.
Save Configuration: No updates are applied unless this button is pressed. Once pressed, the screen changes are saved.

Once saved, the Nexus Hawk™ will attempt to update the specified dyndns.org entry whenever it initiates a new connection to a WAN interface. NOTE: Only dynamic hosting by DynDNS.org is supported at this time.

Static DHCP

The Nexus Hawk™ supports static DHCP leases and allows configuration of the router to provide the same IP address to a specific client via DHCP upon every connection. For more information on DHCP click here

MAC: Enter the media access control address of the client device. For more information click here
Hostname: Enter the hostname of the client device. For more information click here
LAN IP: Enter the IP address which will be provided to the client device by DHCP. For more information click here
Delete: Press this button to delete the specified entry(s)
Save Configuration: Updates are applied only when this button is pressed.

Remote Access

You may enable your Nexus Hawk™ to allow authenticated, remote access (through the Internet) to the Management Console.

Remote web configuration

Enabled: This option enables remote access to your Nexus Hawk™ via Internet via Port 80. To gain access to the login screen, a remote user must know either your Nexus Hawk's™ Internet IP address or its DynDNS.org URL and attach to it via Port 80 (i.e. - 1.2.3.4:80 or MyHawk.dyndns.org:80).

Nexus_iSR remote diagnostics

Enabled: Providing delightful support to you is our top priority. This option enables Nexus_iSR technical staff to gain remote access to your Nexus Hawk™ securely, via SSH. For more information click here

Administration | Debug File Download

The Nexus Hawk™ allows the user to download a debug file to provide to technical support in the event of a system malfunction. This will allow Nexus_iSR engineers to inspect the status of your problem and more quickly determine its cause.

Press the "**Download**" button to save the "debug.bin" file. Simply e-mail it to the email address provided by your administrator, along with as much detail about the issue as possible.

Administration | Reset

Restore Defaults

Select this option to restore your Nexus Hawk™ to Factory Default setting **without** the need to reboot. The changes will take effect immediately, without delay.

WARNING: All settings will be reset to factory defaults, all custom settings will be lost including any that are in effect to provide you with connectivity.

Reboot System

This is the equivalent to pressing the <Reset> button on the back panel of your Nexus Hawk™. You will be presented with a warning. Press the "**Reboot**" button to reboot the Nexus Hawk™. **Note:** This operation will take up to 2 minutes to complete.

Note: The system will be unavailable while rebooting!

Administration | Firmware Upgrade

The Nexus Hawk™ allows the user to upgrade to the latest firmware version. The current firmware version is displayed at the top right corner of the Management Console.

> **Browse:** Press this button to locate a locally stored firmware file to upload to the device. **This firmware file must come directly from http://www.nexusisr.com**.
> **Upgrade:** Press this button to upload the firmware file to the Nexus Hawk™. The Nexus Hawk™ will attempt to apply the firmware upgrade and report on the success or failure of the operation. A successful firmware upgrade will be immediately followed by a default settings restore and a reboot (which may take up to 2 minutes to complete).

WARNING: All setting will be reset to factory defaults; all customized settings will be lost.

Status

The status page displays the status of the Nexus Hawk™. The contents of this page are updated every 20 seconds (note the timer at the top of the page).

WAN Connectivity

This area displays how the Nexus Hawk™ is connected to the "outside world" (most often, the Internet).

PCMCIA Ports

This area displays the status of Cellular card(s) in the card slot(s).

Signal Strength: Displays the strength of the signal
Carrier: Displays the name of your cellular service carrier
WAN IP Address: Displays the IP that the carrier has assigned to the Nexus Hawk's™ cellular card(s)

WiFi

AP

This area displays the status of the Access Point.

SSID: Displays its SSID
Security: Displays the type of security in effect

Client

This area displays the status of the client.

Signal strength: Displays the signal strength of the connection
IP Address: Displays the IP Address assigned to the Nexus Hawk's™ WiFi port by the AP's DHCP server
SSID: Displays the SSID of the network that it is connected to (through the remote AP)
Security: Displays the security of the network that it is connected to (through the remote AP)

10/100 Ethernet

Eth0

This area displays the status of the Eth0 port.

IP Address: Displays the IP address either delivered from a WAN DHCP server or manually configured through the Management Console.

Eth1

This area displays the status of the Eth1 port.

IP Address: Displays the IP address of the connection.

Serial

This area displays whether or not a GPS device is connected

Security

This area displays the connection state of the OpenVPN Client Tunnel.

Technical Specifications

	Model			
	TRX1000	TRX1010	TRX2010	
WEIGHT	·	·	·	15 oz without cards (425g)
POWER CONSUMPTION	·	·	·	6W idle, 15W max @ 12VDC
INPUT POWER INTERFACE	·	·	·	12 VDC ±10 percent AC: 120 VAC 60 Hz power adapter
INTERFACE PORTS	· · 1	· · 1	· · 2	❖ 1 – DB9 EIA232 asynchronous serial ❖ 2 – Fast Ethernet (100Mbps) ❖ 32-bit Cardbus/PCMCIA card slots
COMPATIBLE NETWORKS	N · · · ·	Y · · · ·	Y · · · ·	❖ Integrated 802.11 a/b/g ❖ CDMA EV-DO/1xRTT ❖ GSM EDGE/GPRS/UMTS/HSDPA ❖ Satellite via RJ-45 or PCMCIA adapter ❖ Future Cardbus/PCMCIA Connectivity – 3G, 3.5G, 4G, IEEE 802.16 (WiMAX), IEEE 802.15.3a (UWB)
MANAGEMENT / CONFIGURATION	·	·	·	Web-based Management Application
802.11 ANTENNA	N	Y	Y	RP-TNC Port with tri-band omni antenna included
SUPPORTED DATA RATES	· · · · · · N N N	· · · · · · Y Y Y	· · · · · · Y Y Y	CDMA EV-DO rev A: 2.4Mbs downlink burst 1.8Mbps up. CDMA EV-DO: 2.4Mbps downlink burst 0.15Mbps up. CDMA 1xRTT: 155kbps GSM UMTS/HSDPA: 2.0Mbps downlink burst GSM EDGE: 115kbps Fast Ethernet: 100 Mbps 802.11g WiFi: 54Mbps 802.11b WiFi: 11Mbps 802.11a WiFi: 54Mbps
SECURITY	N N	Y Y	Y Y	Supports WEP, WPA, WPA2 Supports IPSec pass-through
WARRANTY	·	·	·	Three-year limited Warranty

*Feature Variations by model

Model	32Bit CardBus	WiFi 802.11 a/b/g	Dimensions L x W x D
TRX1000	1	No	7.62″ 6.1″ 1.54″
TRX1010	1	Yes	7.62″ 6.1″ 1.54″
TRX2010	2	Yes	10.12″ 6.1″ 1.54″

Troubleshooting

TROUBLESHOOTING Falcon Gateway		
Error	Cause	Solution
Power light is not on	Falcon Gateway is not receiving power	1. Verify that the power supply is plugged in
System Status page is reporting "**Connecting**" to the Client for more than 5 minutes	The Falcon Gateway cannot receive a valid signal	1. Move closer to AP 2. Verify that the AP is still on and connected
Status page displays '**load error: Unknown**'	Falcon Gateway is no longer connected to the PC or has no power	1. Verify that the Crossover cable is connected to the PC 2. Verify that the power source is connected to the Falcon Gateway
Status light is not flashing at 1-second intervals	Falcon Gateway has not finished booting or doesn't have power	1. Wait another 30-60 seconds for Falcon Gateway to finish booting 2. Press and hold the "Reset" button for no more than 5 seconds to reboot the Falcon Gateway. 3. Falcon Gateway should come up in a ready state.
Cannot view "System status" page or are receiving the "The page cannot be displayed" message	There is no connection between the Falcon Gateway and the PC	1. Verify that the power source is connected to the Falcon Gateway 2. Verify that the Crossover Cable is connected to the "**Eth1**" port 3. Incorrect IP settings. Press and hold the "**Status Reset**" button for 5 on/off cycles to reset to factory defaults
"System Status" is reporting disconnected with the Cellular card	There is no cellular service	1. Verify that the cellular card is plugged into Slot 1 or Slot 2 securely 2. Verify that the correct cellular card is configured in the correct slot on the **Setup|Cellular WAN** page 3. Verify that the antenna is securely connected to the 802.11 port
System Status page is reporting "Connecting" to the cellular card	The Falcon Gateway cannot receive a valid	1. Verify that the cellular card is on the verified list of cellular cards

for more than 5 minutes	signal	2. Move the Falcon Gateway closer to a window.
Green light on "**Eth1**" port is not lit up	Crossover cable is not connected to PC/Laptop	1. Verify that the Crossover Cable is connected to both the Falcon Gateway and the PC/Laptop
Can't connect to Falcon Gateway using the "Comm" port	GPS device is not connected to the Falcon	1. Verify that the serial cable is connected to both the GPS device and the Falcon Gateway's Comm port
Can't connect to internet using Client; able to connect to AP	AP is configured incorrectly	1. Verify that AP is configured to access the internet correctly. 2. Verify that the AP can access the internet 3. If connecting through Cellular WAN verify that the card is configured correctly
No network connection on computer	Falcon Gateway is not connected to PC	1. Verify that the Falcon Gateway has power 2. Verify that the provided crossover cable is being used 3. Verify that the crossover cable is connected
Cannot connect to internet though Eth0 (WAN) port	Conflict with IP address or conflict within network	1. Verify that there are no more than 2 switches and 3 hubs in the network.

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