

Wi-Fire

Fully Integrated Wi-Fi Adapter With Up To 1,000 Feet Range!

*Making WiFi Networks More Accessible
.....FOR YOU*



Product Manual

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License and Limited Warranty

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hField warrants that every Wi-Fire Product(s) is free from physical defects in workmanship and materials for a period of one year from the date of purchase. All warranty claims must be requested of hField, prior to the expiration of the warranty period, by calling hField Customer Service and obtaining a Return Authorization Number (RMA). Returns must refer to the RMA number and be accompanied by the original proof of purchase. This warranty is not transferable by the Purchaser. Purchaser's sole remedy, and hField sole liability for a covered warranty defect, shall be for hField, at its sole discretion, to either replace or repair the defective Product. Purchaser is solely responsible for all shipping and handling charges on returned products under warranty. These warranties are void if the applicable product has been disassembled, altered in any way or damaged by accident, misuse, or abuse, including but not limited to, the use of unauthorized third party software or repairs, power surges, excessive heat, or humidity. hField warranty obligations shall not be enlarged or diminished by hField provision of technical advice to Purchaser.

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Export. You agree to not export or re-export the Products without the appropriate United States or foreign government licenses.

Taxes. You agree to be responsible for payment of any taxes, other than HField income taxes, resulting from this Agreement.

Patents. hField Products are protected by patents pending with the U.S. Patent Office.

Governing Law. The laws of the State of Pennsylvania, United States of America, shall govern this Agreement.

Federal Communication Commission - Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

Operation is subject to the following two conditions:

- 1) This device may not cause harmful interface, and
- 2) This device must accept any interface received, including interface that may cause undesired operation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
 1. Reorient or relocate the receiving antenna.
 2. Increase the separation between the equipment and receiver.
 3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
 4. Consult the dealer or an experienced radio technician for help.

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

CAUTION:

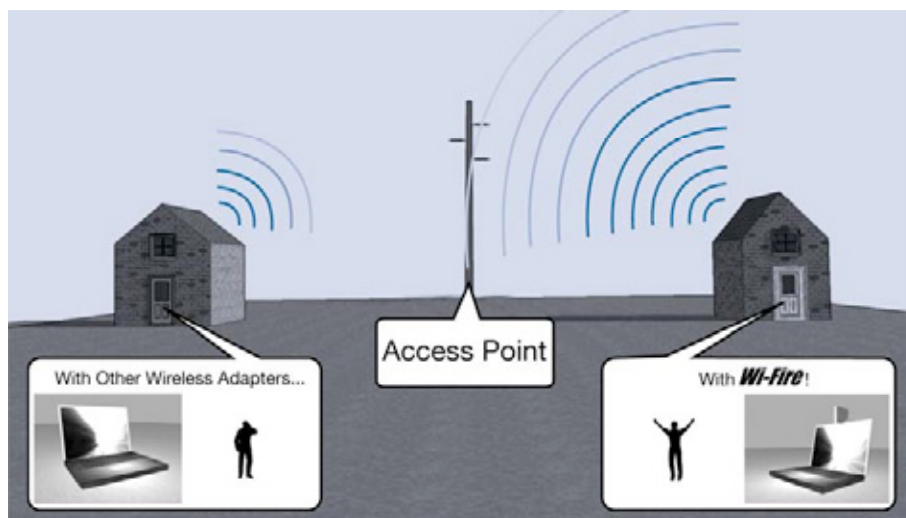
- 1) To comply with FCC RF exposure compliance requirements, a separation distance of at least 20 cm must be maintained between the antenna of this device and all persons.
- 2) This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Who Should and Should Not Use This Product

Wi-Fire

TYPICAL USAGE RECOMMENDATIONS AND WARNINGS
PLEASE READ PRIOR TO PURCHASE

ATTENTION: PLEASE USE ONLY WHERE YOU KNOW THERE IS WI-FI ACCESS, EVEN THOUGH YOU MAY BE DISSATISFIED WITH THE CONNECTION SPEEDS OR ARE TOTALLY UNABLE TO CONNECT. THE WI-FIRE IS ABLE TO EXTEND YOUR REACH FROM THE TYPICAL 300 FOOT RANGE TO 1,000 FEET OR MORE, DEPENDING ON OBSTRUCTIONS, BUT CAN ONLY DO SO IF A USABLE WI-FI SIGNAL IS PRESENT.



WHO SHOULD DEFINITELY BENEFIT FROM WI-FIRE

1. The **Seriously Mobile User** should always see benefit at some locations. Situations have been observed where an internal adapter was showing a 1MB/s connection speed only 200 feet from an access point but not even browsing was possible. In the same spot and time with Wi-Fire, speeds achieved exceeded 30MB/s and even streaming video appeared as fast as a wired connection.
2. **Any User, Mobile or Stationary**, who can see at least one bar in the “view wireless locations” of Windows XP should see satisfactory to excellent improvement with Wi-Fire.

WHO SHOULD EXPLORE FURTHER BEFORE PURCHASING WI-FIRE

1. **If you intend to use the Wi-Fire from only one location, or a single location is so critical to you that your experience will be shattered if you don't see improvement at that singular location,** AND, when at that location, Windows XP “view wireless locations” does not display any bars, you must question whether there is any usable signal. In this case, we can advise downloading your favorite access point detection software to see the relative strength of signals from different access points around you. Our minimum receive power is a whopping -98dBm. If one of your access points shows at least -90dBm, you should be able to connect at realistic speeds to make your experience productive and enjoyable. If not, you might try moving your equipment slightly in search of a better signal, but that also is entirely your option.

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Introduction

Welcome

Thank you for purchasing the Wi-Fire. hField Technologies' Wi-Fire is a fully integrated USB WiFi adapter for today's seriously mobile computer user. With our patent-pending technology, the Wi-Fire allows you to connect from locations you never believed possible before, and allows you to maintain stronger and faster connections with any 802.11b/g WiFi access point. The Wi-Fire is specifically designed for easy use, so it conveniently mounts onto any laptop display or flat screen monitor, as well as lays flat on any surface. In short, the Wi-Fire makes WiFi networks more accessible for you!

Package Contents

- Wi-Fire Adapter
- Universal Mount
- USB Cable
- Quick Install Guide
- Installation CD

Caution



1. Do not insert the device into your computer until the procedures in "Install Driver & Utility" has been performed.
2. This Quick Installation is meant to help you install the product quickly and easily. For detailed instructions on installation, configuration, and further setup options please consult the User Manual.

STEP

2

Connecting the Wireless Adapter

1. Locate your USB host and insert the USB Adapter
2. Once the device has been inserted to your computer, Windows will detect the new hardware.



STEP

1

Install Driver & Utility

- 1 Exit all Windows programs. Insert the CD-ROM into the CD-ROM drive of your computer.

- 2 If the CD-ROM does not launch automatically, go to your CD-ROM drive (i.e., drive D:\), and double click on **Setup.exe**

- 3 When the Welcome screen appears, click **Next** to continue.



- 4 The Choose Destination Location screen will show you the default destination chosen by the utility. Click **Next** to continue.



- 5 Follow the instructions to select the program folder. Click **Next** to continue.



- 6 Select **Yes, I want to restart my computer now** and then click **Finish** to complete the software installation.



Wi-Fire Connection Manger

SSID The SSID is the unique name shared among all points in your wireless network.

The name must be identical for all devices and points attempting to connect to the same network.

- No WEP key
- With WEP key
- Hidden Network



Configuration

After successful installation of the Wi-Fi Adapter's driver, the Wi-Fi Connection Manager icon will display in the task bar. You will be able to access the Wi-Fi Connection Manager through the Network Status Icon (Circle: Gray for Standby, Yellow when Connecting, Green when connected).



Status Icon in standby mode.

If the icon doesn't appear automatically, go to **Start -> Programs -> Wireless LAN Utility -> Wireless LAN Utility**, it will appear in the task bar.



Using the Wi-Fire Connection Manager

All settings are categorized into 4 Tabs:

Main Tab (see below)

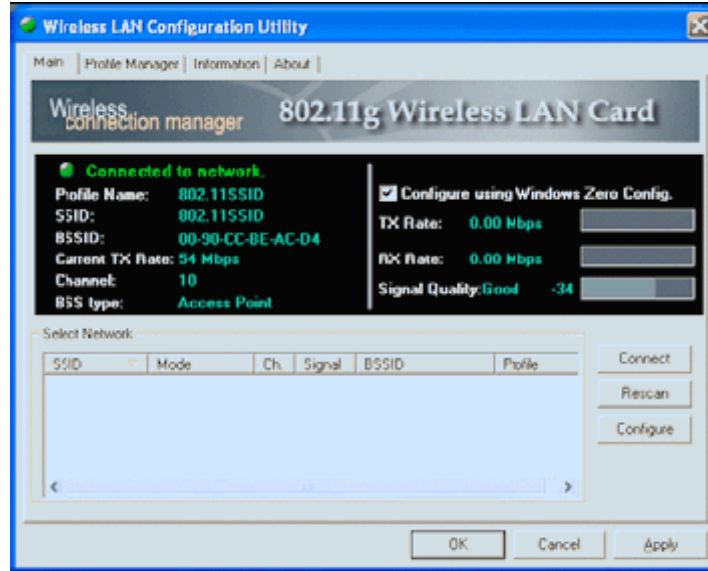
Profile Manager Tab (assists in Profile Management, automatically comes up when pressing **Connect** on a new profile)

Information Tab (contains information on the wireless connection).

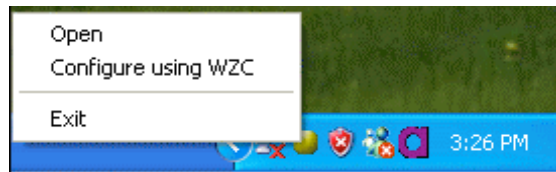
About Tab (contains information on this software)

Main Tab




The main tab enables you to scan for available networks, select a network to which to connect, modify the settings for the current connection, or set up your station for Ad Hoc connection.



Note : Only one configuration utility can be active at a time. When Windows Zero Configuration (WZC) is set to be the active utility, opening the Wi-Fi Connection Manager—by double-clicking on the its icon in the system tray or right-clicking the icon and selecting Open—launches the WZC instead of the Wi-Fi Connection Manager.



Wi-Fire Connection Manager Main Tab Indicators

<p>Configure using Windows Zero Configuration Utility</p>	<p>External Configuration Checkbox: A checkbox that enables you to disable the Wi-Fire Connection Manager and indicates that the station driver is to be configured with Windows XP's Zero Configuration Utility (WZC).</p> <p>On Windows XP systems, the WZC service is automatically stopped when any other configuration utility, including the Wi-Fire Connection Manager, is installed. The WZC is started when you check the Configure using Windows Zero Configuration checkbox. (Note: If you wish to switch back and forth between Wi-Fire and your internal adapter, it's recommended that you configure WZC for Automatic startup. WZC can be found in the Windows XP Services menu).</p>
<p>Profile Name</p>	<p>The profile name that is currently connected.</p>
<p>SSID</p>	<p>The SSID is the unique name shared among all points in your wireless network. The name must be identical for all devices and points attempting to connect to the same network.</p> <ul style="list-style-type: none">  Indicates that the network does not require special security settings and access rights in order to connect.  Indicates that the network requires special security settings and access rights in order to connect.  Indicates a hidden network which is not broadcasting its SSID. The SSID for such networks are listed as <Hidden Network>. In order to connect to such a network, you must know the network's SSID.
<p>BBS ID</p>	<p>The MAC address for the Access Point or station.</p>
<p>Current Tx Rate</p>	<p>It displays the currently connected rate.</p>
<p>Channel</p>	<p>The channel that is currently connected.</p>
<p>BSS type</p>	<p>The type of connection, either Access Point or Peer-to-Peer.</p>

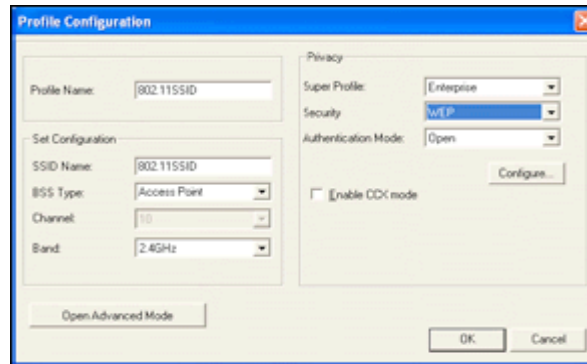
Tx Rate/ Rx Rate	The actual instantaneous transmit and receive rates, in Mbps.
Signal Quality	The signal strength from the Access Point. The strength is displayed in three formats: a signal quality level (one of five levels, from Bad to Best), a numerical value in dBm, and a signal quality bar graph with a scale of -90 (worst) to -10 (best).

Wi-Fi Connection Manager Main Tab Buttons

Connect button	Activates a connection for the selected Access Point (see next page for additional details).
Rescan button	Searches for all the available networks. By clicking on this button the utility will scan and list all the available Access Points to the left. It will continue to scan once every 10 seconds until the utility is closed.
Configure button	Click this to modify the settings for the profiles for the SSID of the selected network. If no profile exists, the Profile Configuration window is displayed so that you can create a new profile.
Cancel button	Discards changes
Apply button	Saves changes without closing
OK button	Saves any changes and closes the utility.

Connect button and Profile Configuration

Highlight one of the devices from the list area and press the **Connect** button to access it. The first time you do this a profile configuration will come up. These details can also be edited by hitting the **Configure** button on the **Main** tab.



Profile Name: Enter the profile name (defaulted to SSID).

Set Configuration:

SSID Name: The SSID for the current connection.

BSS Type: The BSS type, either peer-to-peer or Access Point.

Channel: The preferred channel for the connection (only available on peer-to-peer connections).

Band: The band on which to make the connection.

Privacy

Super Profile: Determines the security settings available to you, and can be the following:

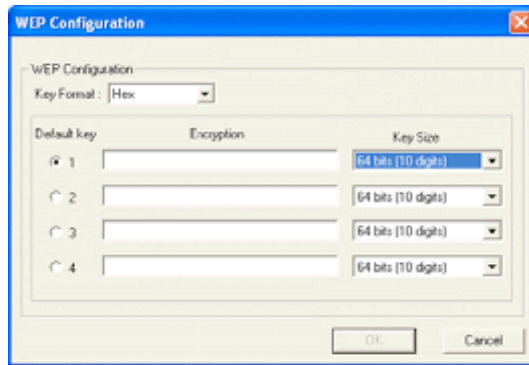
Personal: Enables only the basic security settings that you are likely to need at home.

Enterprise: Enables all security settings, including more complex certificate based settings that you may need in an office.

Security Determines the type of security to use for this connection:

None- No encryption

WEP- Wired Equivalent Privacy, is a data security mechanism based on a 64 Bit/128 Bit/ 256 Bit shared key algorithm. Press the **Configure** button to change WEP configuration:



Note: You must use the same **Default Key #**, **Key Size**, and **Encryption Key** on both the host and destination devices in order to establish a connection.

Key 1 ~ Key 4: You can specify up to 4 different keys, but only one can be used at a time.

Encryption: Enter the key value in this field.

WPA2 and **Any WPA** – WiFi Protected Access, is more secure than WEP.

Authentication Mode: Determines the type of authentication to use for this connection.

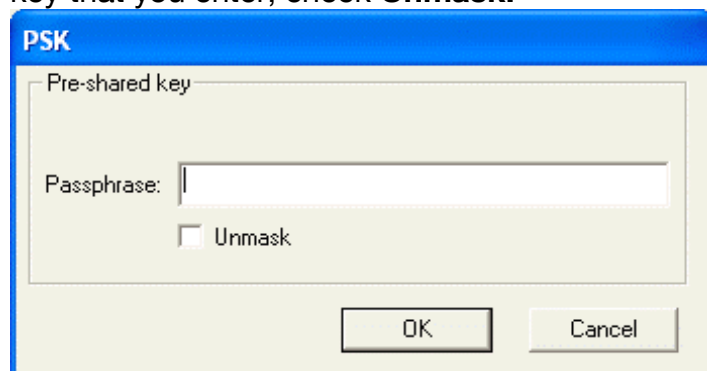
With **Super Profile** set to **Personal** and encryption enabled, this field can be set to:

Open: If your access point is using **“Open”** authentication, then the Wi-Fi Adapter will need to be set to the same authentication type.

Shared Key: Is when both the sender and the recipient share a secret key.

Auto Switch: To enable the adapter to automatically select.

PSK: In the **Passphrase** field, enter the key that you are sharing with the network for the WiFi connection. By default, the key that you type is masked with asterisks. To view the key that you enter, check **Unmask**.



With **Super Profile** set to **Enterprise** and encryption enabled, this field can also be one of the following:

TLS

PEAP- MS-CHAP-v2 (only with CCX mode enabled)

PEAP- GTC (only with CCX mode enabled)

LEAP (only with CCX mode enabled)

For University Settings

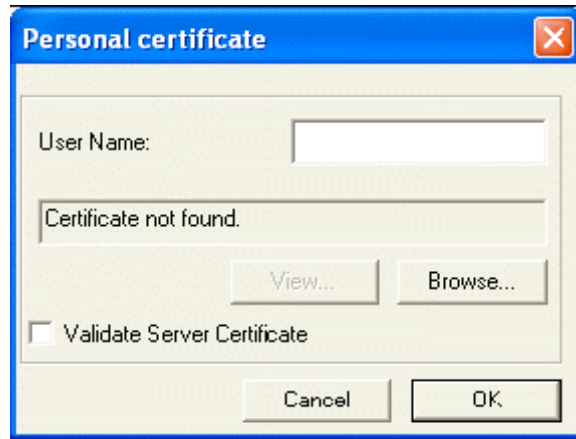
*When attempting to connect to a university hotspot, you typically will use the following Privacy Settings in the Profile Configuration Tab: Super Profile: **Enterprise**; Security: **WEP** or **WPA**; Authentication Mode: **PEAP-GTC**. Then click **Configure** to open the login configuration window:*



The image shows a dialog box titled "Password" with a blue title bar and a close button (X) in the top right corner. The dialog contains two radio button options: "prompt for password" (unselected) and "use the following user name and password" (selected). Below these options is a form with two text input fields: "Login Name:" and "Password:". Under the "Password:" field is a checkbox labeled "Unmask" which is currently unchecked. At the bottom of the dialog are two buttons: "OK" and "Cancel".

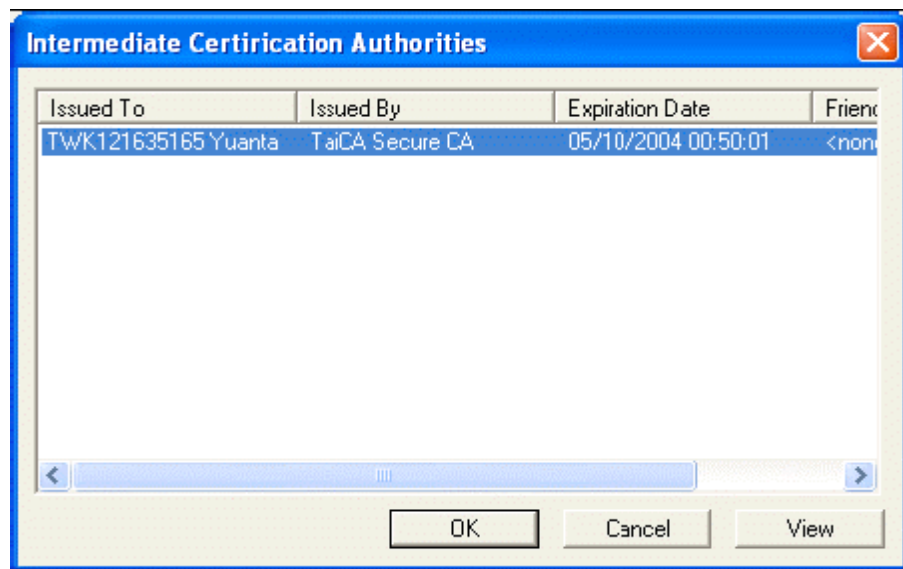
The **Personal Certificate** window enables you to supply a personal certificate for use with **TLS** and **PEAP- MS-CHAP-V2 authentication**. This window is only applicable with Enterprise security and encryption enabled.

Personal Certificate:

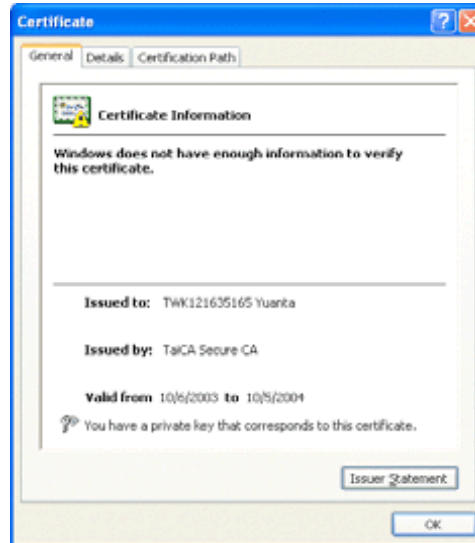


To supply a personal certificate:

1. In the **User Name** field, type in the user name assigned to the certificate.
2. Select a certificate by clicking **Browse**. The standard Windows *Select Certificate* window is displayed:



3. Select a certificate from the list, and click **OK**. The name of the certificate is displayed in the textbox in the middle of the *Personal Certificate* window.
4. To view the certificate, click **View**. The certificate is displayed:



The **Password** window enables you to supply login a name and password for use when selecting a **LEAP** or **PEAP- GTC** authentication.

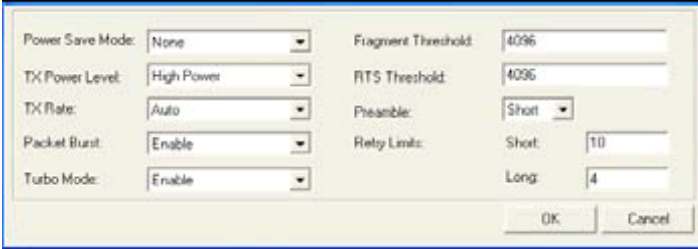
To specify a user name and password:

1. Select the appropriate radio button to indicate whether:
 - a. You are supplying a user name and password now
 - b. The utility prompts you for them each time you try to connect to a network.
2. To provide a user name and password now, enter them in the fields provided.

Enable CCX mode: Enables connections in CCX mode. When checked, additional authentication modes are available. This checkbox is only enabled when **Super Profile** is set to **Enterprise**.

Configure button: Click **Configure** to open the configuration window in order to enter security information when security is enabled.

Open Advanced Mode: Click **Open Advanced Mode** to configure:



Power Save Mode:	None	Fragment Threshold:	4096
Tx Power Level:	High Power	RTS Threshold:	4096
Tx Rate:	Auto	Preamble:	Short
Packet Burst:	Enable	Retry Limits:	Short: 10
Turbo Mode:	Enable		Long: 4

OK Cancel

Power Save Mode: Indicates whether to use power saving. This can be modified for:

None- No power save mode.

Max- Max power save mode.

Tx Power Level- The transmit power level, can be:

Low Power (6% of full power)

Medium/Low Power (12%)

Medium Power (25%)

Medium/High Power (50%)

High Power (100%)

Rx Rate: The preferred rate of transmission, in Mbps. The options for this field are based on the selected band and channel.

Packet Burst: Indicates whether the Packet Bursting feature is enabled.

Turbo Mode: Indicates whether the 4X feature is enabled. (Only valid with Access Points compatible with T.I. 4X Turbo Mode support).

Fragment Threshold: The maximum fragment length, in bytes. The value is an even number from 256 to 4096 (default 4096).

RTS Threshold: The minimum packet length for sending an RTS frame, in bytes. The value must be greater than 0 (default to 4096).

Preamble: Either short or long.

Retry Limits: The number of retries to attempt, if necessary, when sending a frame. There are two fields:

Short: For frames without an RTS frame.

Long: For frames with an RTS frame.

Optimizing Wi-Fire Performance

In order to see the most benefit from your Wi-Fire, it is important to understand how it works and how to use it for optimal performance. The Wi-Fire is able to offer significantly better performance than standard WiFi adapters because its integrated antenna can focus the strength of a wireless signal coming from a specific direction as well as the fact that it utilizes advanced adapter circuitry with a very low receive power threshold, even while drawing less power from your computer than other comparable products. Because the antenna is directional, your Wi-Fire must be pointed toward a wireless signal in order to optimize its performance.

Orienting the unit in the optimal direction is easy. If you know exactly where the Access Point you are connecting to is, start by turning your Wi-Fire so that it is pointing toward it, then follow the next steps to make sure it's perfectly aimed. If you are unsure or have no idea where the Access Point is, optimizing Wi-Fire's performance is still easy – just follow the steps below.

Aiming the Wi-Fire

Use your choice of configuration software to check your current signal strength, either the Wi-Fire Connection Manager or Windows Zero Configuration Utility. Keep in mind that the Wi-Fire Connection Manager will have the advantage of updating signal strength and scanning for additional access points on a much more frequent basis. Rotate the Wi-Fire slowly in its mount and observe how the signal strength changes on screen. The signal strength should increase or decrease as you move it closer or further from the wireless signal. Feedback on your Wi-Fire Connection Manager should be rapid. By performing this simple operation, you can make sure your Wi-Fire is aimed optimally and will provide the best performance for your wireless needs.

If you are in an area densely populated with access points, many may be “blinking” in and out, causing rescans more frequently. In this case, see item #2 of the Software section of our troubleshooting guide for instruction on setting up a unique profile first in order to connect to your own profile access more readily.

Wireless Topology and Wi-Fi Performance

The following case study results demonstrate typical Wi-Fi performance in comparison with a state-of-the-art computer laptop's internal adapter and antenna. While some technical data is included for ease of comparison, these case studies focused primarily on user experience.

CASE A



A. Rural Application – Frame and brick facing construction, many hills and trees.

In general, the wireless propagation is diminished by the limited line of sight due to walls and terrain.

Point A1: 200 feet from access point, through internal frame and external brick wall with trees obstructing line of site.

With Internal Adapter	With Wi-Fi
Reception displayed by Windows XP was one bar and the connection was indicated to be at 1Mb/s. But normal browsing was prohibitively long and downloading video appeared impossible.	Wi-Fi connected at speeds varying from 24 to 36 Mb/s showing a signal strength at this location of -74 to -77dB. Both browsing and video were very similar to a wired broadband connection experience.

Point A2: 490 feet from access point, through internal frame and external brick wall with dense trees obstructing line of site.

With Internal Adapter	With Wi-Fi
Could not connect. Signal strength showing at -93dB but access point could be detected only intermittently.	Connected at -77dB and 24Mb/s. Browsing was a normal high speed experience and video streamed in.

CASE B



B. Industrial Application – Heavily partitioned buildings, internal and external walls of concrete block/masonry construction, limited window or other side wall openings.

Point B1: 130 feet from access point, through two concrete block walls.

With Internal Adapter	With Wi-Fi
Connected at -92dB and 2Mb/s. Browsing was slow but okay. Video varied from slow to unbearably long to download.	Connected at -81dB and 54Mb/s. Quite normal experience including streaming video.

Point B2: 130 feet from access point. This is the same point as B1 but with the Wi-Fi pointing at 90 degrees counterclockwise from the line of sight. This is a simple exercise to demonstrate the value of wireless signal reflections in almost any situation where you may have many obstructions.

With Internal Adapter	With Wi-Fi
Same as above	Connected at -90dB and 11Mb/s. Browsing was normal. Video took slightly longer to download but playback was seamless.

Point B3: 360 feet from access point, through two concrete block walls and line of sight blocked by similar concrete block constructed building.

With Internal Adapter	With Wi-Fi
Could not detect access point	Wi-Fi connected at 2Mb/s displaying a signal strength of -92 to -93dB. Browsing was still normal. Video was slower in loading but downloaded continuously and started playing seamlessly.

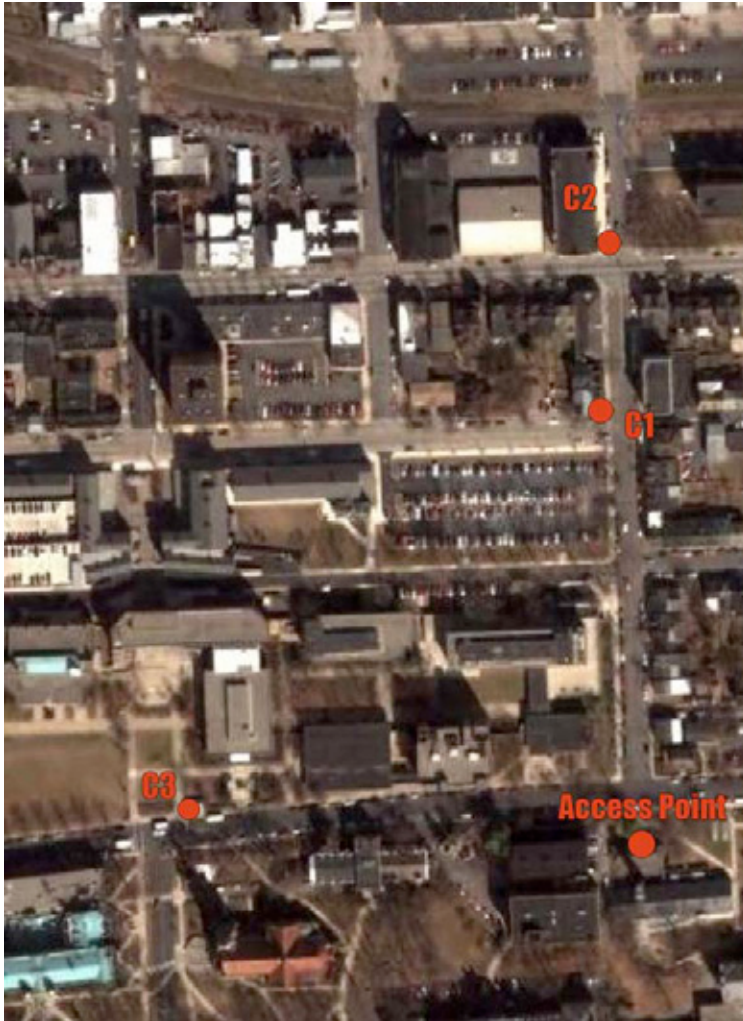
Point B4: 130 feet from access point, at most distant point within same building, through multiple. Hallways available for propagation but line of sight blocked by multiple concrete block walls

With Internal Adapter	With Wi-Fi
Spurious detection, displaying -95dB. Could not connect.	Connected at 18Mb/s showing -82dB. Browsing and video experience was normal.

Point B5: 130 feet from access point, external to building through multiple concrete walls, some windows available

With Internal Adapter	With Wi-Fi
Could not detect access point.	Connected at 2Mb/s showing -94dB, often a minimum for satisfactory performance for those used to a broadband connection. Browsing was normal but video loaded very slowly, with buffering slow enough to cause playback to pause occasionally.

CASE C



C. Urban Application – University site, Heavy masonry construction, relatively dense building placement

This case study was focused on an outdoor access point nestled in front of a building recessed from the street.

Point C1: 420 feet from access point, line of sight except for obstruction by trees. This situation demonstrates that for pure line of sight, without obstructions or major elevation differences, the experience may be similar although Wi-Fi should always provide a better, faster connection.

With Internal Adapter	With Wi-Fi
Connected at 18Mb/s and -80dB. Experience was normal.	Connected at -75dB and 36Mb/s. Experience was normal.

Point C2: 880 feet from access point on same line of sight as C1 except elevation has dropped consistently.

With Internal Adapter	With Wi-Fi
Connected at 5.5Mb/s and -93dB. Browsing was possible but very slow.	Connected at -82dB and varied from 36 to 48Mb/s. Browsing and video was normal, video streamed in seamlessly.

Point C3: 630 feet from access point, from within a bus stop enclosure. No line of sight but propagation pathway provided by connecting street. Unfortunately, an internet connection was not available for this test and only power level was observed.

With Internal Adapter	With Wi-Fi
Could not detect access point. Windows XP detected two access points in the area but not the target.	Wi-Fi displayed -84dB for the target access point. Wi-Fi detected 36 access points in the area.

Troubleshooting

When you receive the Product:

<p>1. Not all the parts are in the box.</p>	<p>Contact hField Technologies to replace the missing parts.</p>
<p>2. Retractable USB cable doesn't fit onto the Wi-Fire USB connector.</p>	<p>The Wi-Fire is designed for a tight fit around the USB connector for greater stability in use. It is possible that the Wi-Fire USB connector shifted slightly during shipment, bringing it slightly closer to the side of the plastic enclosure. Verify that you are attempting to plug it in properly, and then try sliding the retractable USB cable over the USB connector at an angle (As pictured below).</p>

Upon Installation:

<p>1. After installation, the Wi-Fire Connection Manager displays, "driver not installed".</p>	<p>First, make sure the Wi-Fire is plugged into the computer (try unplugging it and plugging it back in). If problem persists, it is possible that there is a very similar device driver installed on your computer for the type of device used as a USB adapter in the Wi-Fire. In this case, go to "device manager" by following: control panel -> system -> hardware -> device manager -> and highlight the 802.11g Wireless USB Adapter under Network Adapters. Right click to go to Properties, go to the Driver tab, and click the Uninstall box. Close all boxes below, and allow Windows to find the device and when prompted, point it toward our CD in your CD/DVD drive or to a directory where you stored the contents of our CD. This is a rare occurrence but you should now have the correct driver installed and the Wi-Fire Connection Manager will start scanning access points.</p>
<p>2. You are having trouble uninstalling the Wi-Fire software and driver.</p>	<p>In some rare instances, Windows XP does not completely uninstall the Wi-Fire components. In this case, the individual device drivers and software programs must be deleted manually. For additional information on this please contact</p>

	hField Technologies help support.
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Hardware:

1. Lost a part	Contact hField Technologies to replace the lost parts; there may be a fee.
2. The retractable USB cable won't retract.	Pull the cord from both ends until it you feel it retracting, then let it in slowly.

Software:

1. You cannot find the Wi-Fire Connection Manger	Look on your system tray or "notification area" (bottom right side of the screen). The Connection Manager icon is a small black sphere, but only becomes actively enabled when the Wi-Fire is attached to the computer. If the icon is not there, it can be found at Start -> Program Files -> Wireless Lan Utility
2. The software is pausing every few seconds, and you are having trouble editing the profiles during that time.	<p>The Wi-Fire Connection Manager continuously scans all 11 channels for available access points within range. This scan is done every 10 seconds while the Connection Manager is open. The scan itself only takes a fraction of a second to complete, but during this time it is normal for the software to pause while searching. Sometimes, this may interrupt your command. If so, just retry. Occasionally, in areas very densely populated with access points, because of the extreme range of the Wi-Fire, some of those access points may be "blinking" in and out. In extreme cases, the software will want to rescan to provide a valid list of access points for your choice. An excessive number of "blinking" access points may cause frustrating pauses in trying to connect to your desired access point. In this case, another alternative to connecting is as follows:</p> <ul style="list-style-type: none"> • Make sure you have your SSID and any security information ready and that your

	<p>SSID is unique among the large number of access points displayed.</p> <ul style="list-style-type: none"> • Click the Profile tab directly to the right of the Main tab. • Shift any current profiles temporarily to the Profiles Pool • Click New and enter the Profile Configuration of your desired access point including any security information. • When finished, click OK. • Click Apply. • Click on the Main Tab and, if the Wi-Fire Connection Manager is not already automatically connecting you, highlight your access point and click connect. • Remember to later shift your Profiles back into the Active Profiles list.
<p>3. You are having trouble using your other WiFi adapters because Windows XP is reporting you have disabled Windows Net Zero Configuration.</p>	<p>Right click on the Wi-Fire Connection Manager (if you are having trouble finding it, see Item #1 above), and select “Configure using Net Zero Configuration”. If problem persists, go to Start Menu -> Run, then type net start "Wireless Zero Configuration" (with the double quotes included) then press OK.</p>
<p>4. You try to open the Wi-Fire Connection Manager, but Windows Net Zero Configuration opens instead.</p>	<p>Right click on the Wi-Fire Connection Manager (if you are having trouble finding it, see Item #1 above), and deselect “Configure using Net Zero Configuration”. If problem persists, then go to Start Menu -> Run, then type “net stop "Wireless Zero Configuration"”, (with the double quotes included) then press OK.</p>

Connecting to the Internet:

<p>1. You are having trouble configuring Wi-Fire for your security settings.</p>	<p>The Wi-Fire adapter comes configured with most recent security features, including WEP, WPA, and WPA2. To use these security features with a network, you must be authorized on that network by a passkey, encryption certificate, or login ID and password. These, and their security settings, can be obtained from your Network Administrator.</p>
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<p>2. You tried to click “Connect” but the Wi-Fi Connection Manager started scanning on its own, displaying more access points.</p>	<p>The Wi-Fi Connection Manager scans for new access points at a very high rate, much more frequently than you’re used to with Windows XP. It is very unusual, but it is possible that automatic scanning will briefly interrupt or delay one of your commands. Don’t worry, you should have found that your command was simply recognized next and it seemed to connect automatically. If not, make sure that the profile for your access point is listed in the profile tab and that the authentication data is entered in the configuration. Then, OK that profile and try to connect again. If that does not work, see the procedure in Item #2 under Software above.</p>
<p>3. You clicked “Connect”, but the Connection Manager fluctuates between saying “Connecting” and “Searching”.</p>	<p>This can be caused by two things:</p> <p>1: You have too many Active Profiles under the Profiles tab, and the Connection Manager is searching through them all in order of priority. If you know which AP you are trying to connect to, either remove all others from the Active List and put them in the Profile Pool list (by selecting and clicking the left hand arrow), or increase the priority of your selected network by moving it to the top of the Active list. Click Apply to execute changes.</p> <p>2: The Wi-Fi is receiving a very low signal on your selected Access Point. Either the network is so far away that even the Wi-Fi cannot connect, or the Wi-Fi is not optimally aimed and you should try rotating it to increase the signal strength of the connection.</p>
<p>4. The Wi-Fi Connection Manager says “Connected”, but you are not experiencing an internet connection. The WLAN icon in the system tray (bottom right side of the screen) continues to say “Attempting to Connect” or “Receiving IP Address”</p>	<p>Sometimes, the Wi-Fi Connection Manager reports a successful connection a few seconds before Windows XP completes the connection fully. Wait a few seconds until the balloon pops up from the system tray indicating the connection was successful. If this does not happen, or happens only after a long time see the next section.</p>

<p>5. Both the Wi-Fi Connection Manager and the Windows Wi-Fi icon in the system tray show a successful connection, but is not truly connected. Or, the Windows icon in the system tray reports “Limited or no connectivity”.</p>	<p>Under Windows XP, if any Wi-Fi adapter takes too long to receive a reply from a network connection, it automatically assigns a dummy IP to the adapter and reports a connection or a limited connection. When this happens, double click the Windows Wi-Fi icon in the system tray, select the Support tab, and click the Repair button. This will refresh all the adapter information and attempt to reconnect. Alternatively, if this occurrence repeats itself, reboot your computer.</p>
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Frequently Asked Questions

ABOUT WIRELESS NETWORKING

Q. What is WiFi?

A. WiFi is the popular term for a high frequency wireless local area network (WLAN). It is comprised of the set of standards for WLAN based on the IEEE 802.11 specifications in order to ensure interoperability of wireless networking products. WiFi is short for “Wireless Fidelity”.

Q. What is WLAN?

A. WLAN stands for Wireless Local Area Network. Wireless networks consist of access points (also called wireless routers) which connect to a standard network. These access points (APs) broadcast and receive network connection signals. Users equipped with wireless network adapters for PCs, laptops and other computing and communication devices can communicate with the APs and connect to the network wirelessly. The Wi-Fire is a WLAN network adapter which connects through a USB port.

Q. What is the WLAN range?

A. Most WLAN networks have a range of 100-120 foot range indoors, and approximately 300 foot range outdoors. These ranges, however, are based on ‘average’ conditions and may not be a reliable indication for your individual network coverage area. Line of sight and electromagnetic interference can deteriorate the quality of the connection and decrease the WLAN range. The Wi-Fire utilizes proprietary patent-pending technology to strengthen the WiFi connection in all instances, so that the signal can more easily penetrate obstacles and cover larger distances. In ‘average’ test settings, the Wi-Fire is able to connect at roughly three times the distance of standard WLAN USB network adapters, usually at increased speeds as well.

Q. What is Line of Sight and Electromagnetic Interference?

A. Line of Sight (LOS) interference is anything that stands between the access point and the network adapter. This includes walls, doors, windows, and trees. Generally, the fewer obstacles in the way, the better the signal. Electromagnetic Interferences is caused by other high frequency microwave devices within a certain range. Cell phones, pagers, other WLAN networks, and even defective microwave ovens have been known to degrade the quality of a WLAN connection.

Q. Why is my connection so bad/slow?

A. Most WLAN adapters and Access Points utilize Adaptive Rate Selection (ADS), which simply means that the stronger the signal, the faster the connection. In a setting with high interference, fewer WLAN signals reach your computer and have to be resent by the server. This slows down the connection, and varies the speed between 1Mbps and 54Mbps. Since the Wi-Fi increases not just your range, but also your signal strength, the Wi-Fi has the added advantage of increasing your connection speed in many circumstances. For example, if you are connecting at 8Mbps with a standard WLAN USB adapter, you might easily attain 48Mbps or 54Mbps with the Wi-Fi!

Q. What is WEP?

A. WEP (Wired Equivalent Privacy) is an optional data security feature commonly used on wireless access points. WEP permits the network administrator to define an encryption key which is used to encrypt the data before it is transmitted through the airwaves. Network access is denied to anyone who does not possess the correct key. Since the data is being encrypted, most WLAN networks experience a 20%-50% slow down when this feature is enabled.

Q. What are WPA and WPA2?

A. WPA stands for WiFi Protected Access. It is a more recent enhanced specification and provides much stronger security than WEP.

Q: What is a MAC Address?

A. The Media Access Control (MAC) address of the Wi-Fi is a unique serial number assigned to the device by the manufacturer. Every wired or wireless network device has a unique MAC address.

Q. What is a Wireless Network Adapter?

A. A PC Card, USB or PCI device used to connect a client workstation wirelessly to an access point, wireless gateway, or bridge.

Q. What is 802.11b and 802.11g?

A. 802.11b, released in 1999, and 802.11g, released in 2003, are the most common WLAN standards in use, and utilize the same frequency bands. and the “b” standard has a maximum data rate of 11 Mbps, “g” operates at a

maximum raw data rate of 54 Mbps. 802.11g also includes additional security features which make its encrypted networks more secure.

Q. What is 802.11a?

A. 802.11a was also released in 1999, but operates at a higher frequency than 802.11b/g and is not compatible with the other two network standards. While still available 802.11a is used much less frequently than b and g.

Q. What is Ad Hoc Mode?

A. Ad Hoc mode permits the WiFi user to set up a peer-to-peer network between two wireless adapters without needing a WiFi Access Point. For example, at a business meeting two coworkers could initiate an ad hoc connection to transfer files wirelessly between two laptops.

ABOUT HFIELD'S WI-FIRE

Q. Why does the Wi-Fire attain stronger connections?

A. The Wi-Fire utilizes proprietary patent-pending technology and can operate on any PC or laptop with a USB port. The Wi-Fire's signal is directional, or focused, allowing the user to 'aim' the adapter at the access point resulting in stronger reception.

Q. Do I need to buy any additional materials in order to use the Wi-Fire?

A. No! The Wi-Fire is ready to go out of the box. No additional materials or work is necessary!

Q. Does the Wi-Fire only work on some networks?

A. The Wi-Fire will work on any 802.11b/g (WLAN) networks on which you are authorized. It is fully compatible and interoperable with most WiFi networks. As compared to other methods to increase connectivity and connection speed, the Wi-Fire does not require replacement of access points as well and makes better utilization of the installed base of wireless networks already existing in homes, businesses, schools and municipalities.

Q. How do I know what authentication settings to use for my school/office?

A. All universities and offices with wireless coverage inform their users what settings are necessary to connect to these networks. When in doubt, ask your network administrator.

Q. What do I do if the Wi-Fire Connection Manager shows me, “driver not installed”?

A. First, make sure the Wi-Fire is plugged into the computer (try unplugging it and plugging it back in). If problem persists, it is possible that there is a very similar device driver installed on your computer for the type of device used as a USB adapter in the Wi-Fire. In this case, go to “device manager” by following: control panel → system → hardware → device manager → and highlight the 802.11g Wireless USB Adapter under Network Adapters. Right click to go to Properties, go to the Driver tab, and click the Uninstall box. Close all boxes below, and allow Windows to find the device and when prompted, point it toward our CD in your CD/DVD drive or to a directory where you stored the contents of our CD. This is a rare occurrence but you should now have the correct driver installed and the Wi-Fire Connection Manager will start scanning access points.

ABOUT GETTING CONNECTED

Q. Why is the software pausing every few seconds, and why am I having trouble editing the profiles during that time?

A. The Wi-Fire Connection Manager continuously scans all 11 channels for available access points within range. This scan is done every 10 seconds while the Connection Manager is open. The scan itself only takes a fraction of a second to complete, but during this time it is normal for the software to pause while searching. Sometimes, this may interrupt your command. If so, just retry. Occasionally, in areas very densely populated with access points, because of the extreme range of the Wi-Fire, some of those access points may be “blinking” in and out. In extreme cases, the software will want to rescan to provide a valid list of access points for your choice. An excessive number of “blinking” access points may cause frustrating pauses in trying to connect to your desired access point. In this case, another alternative to connecting is as follows:

- Make sure you have your SSID and any security information ready and that your SSID is unique among the large number of access points displayed.
- Click the Profile tab directly to the right of the Main tab.
- Shift any current profiles temporarily to the Profiles Pool

Click New and enter the Profile Configuration of your desired access point including any security information.

When finished, click OK.

Click Apply.

Click on the Main Tab and, if the Wi-Fi Connection Manager is not already automatically connecting you, highlight your access point and click connect.

Remember to later shift your Profiles back into the Active Profiles list.

Why am I having trouble using other WiFi adapters? Why is Windows XP reporting I have disabled Windows Net Zero Configuration?

Right click on the Wi-Fi Connection Manager, and select "Configure using Net Zero Configuration". If problem persists, go to Start Menu -> Run, then type net start "*Wireless Zero Configuration*" (with the double quotes included) then press OK.

Q. Why is the Windows XP Net Zero Configuration loading when I try to load the Wi-Fi Connection Manager?

A. Right click on the Wi-Fi Connection Manager, and deselect "Configure using Net Zero Configuration". If problem persists, then go to Start Menu -> Run, then type "*net stop Wireless Zero Configuration*", (with the double quotes included) then press OK.

Product Specifications

Physical Specification:

- 4 ounces
- 4 in(L), 0.375 in(W), 3.25 in(D)

System Requirements:

- Works with Windows XP

Security:

- 0/64/128 bit WEP
- 0/64/128 bit WPA

Wireless:

- IEEE 802.11 b/g protocols
- Frequency Range: 2.421 Ghz – 2.4835 Ghz
- Channels: US – 11 channels
- Transmit Power: +14dBm
- Antenna Gain: +10.4 dBi
- Minimum Receive Power: -98 dBm

Host Interface:

- USB 2.0

Media Access Control:

- CSMA/CA with ACK

Data Rate:

- 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
- 802.11b: 1, 2, 5.5, 11 Mbps

Power Requirements:

- 5V DC (from USB port)

Modulation:

- Direct Sequence Spread Spectrum (CCK, DQPSK, DBPSK)
- OFDM

Certification:

- FCC Part 15