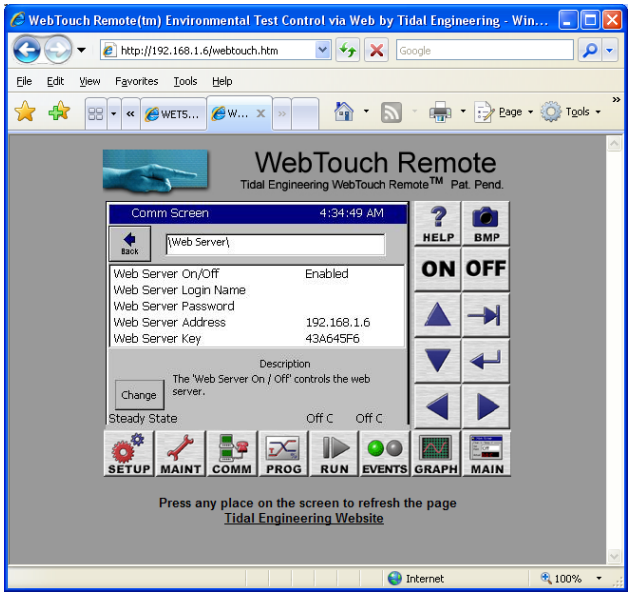
Synergy Controller Wireless Network Setup



Overview

Synergy Controllers, both Synergy Micro and Synergy Nano (shown above), include an Ethernet network port to provide network communications and support Telnet, Web (http) and FTP protocols. This application note explains how you can use the controller's wired Ethernet port and a Linksys WET54G Wireless Bridge* to connect these controllers to a wireless network. The use of the WebTouch Remote™ to remote control the chamber and the FTP server to drag-and-drop files to and from the controller are described briefly. (*Other wireless bridges can also be used).

Connect the Wireless-G Ethernet Bridge for Setup

1. Screw the detachable antenna to the bridge.

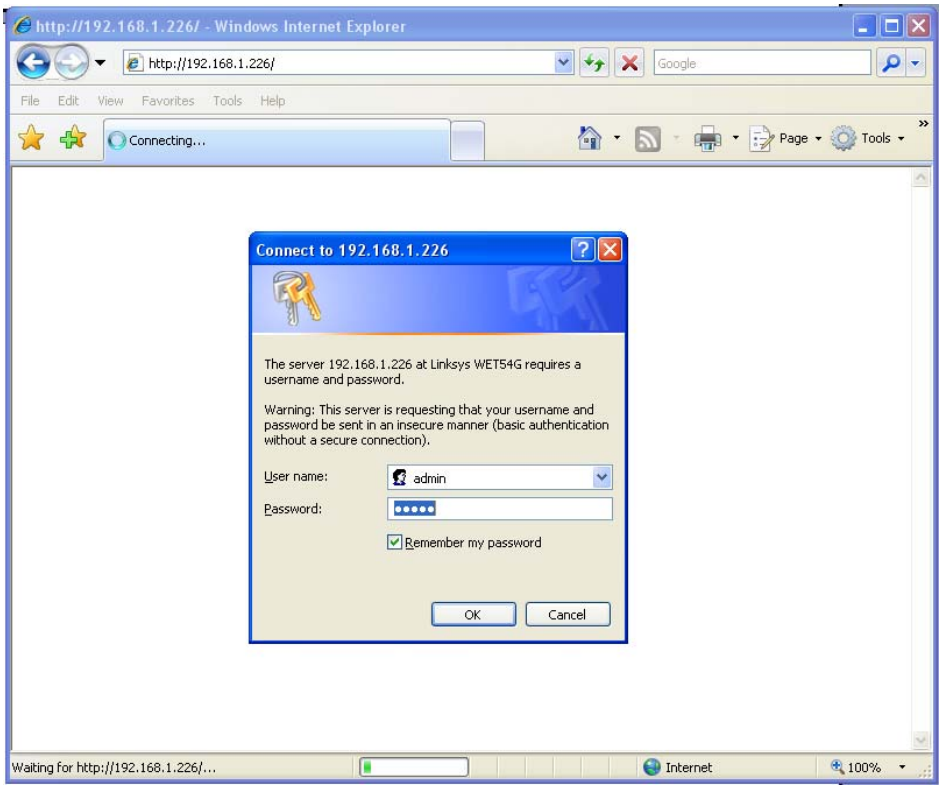
2. Plug the included Ethernet network cable into the LAN port on the back of the Bridge.

3. Plug the other end of the Ethernet network cable into the RJ-45 port of a hub, switch, or PC you wish to use to configure the Bridge.

4. Plug the supplied power adapter into the Power port on the back of the Bridge. Then plug the other end into an electrical outlet

Set up the Wireless-G Ethernet Bridge

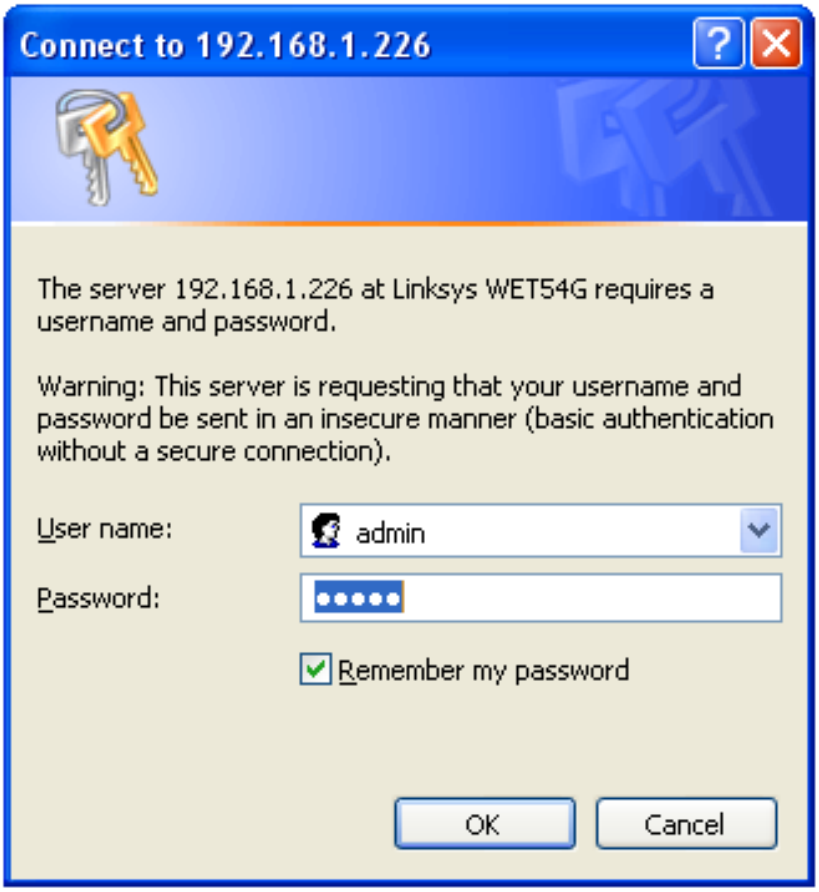
1. Open Windows Internet Explorer on your PC and type in the default IP address of the WET54G's web server, 192.168.1.226 as shown below.
Note that a PC with an IP address compatible with (on the same subnet) 192.168.1.226 and an appropriately configured network is required to setup the WET54G. Alternatively, a laptop can be used with a direct connection to the bridge.



2. Enter the User name and Password and press *Enter*.

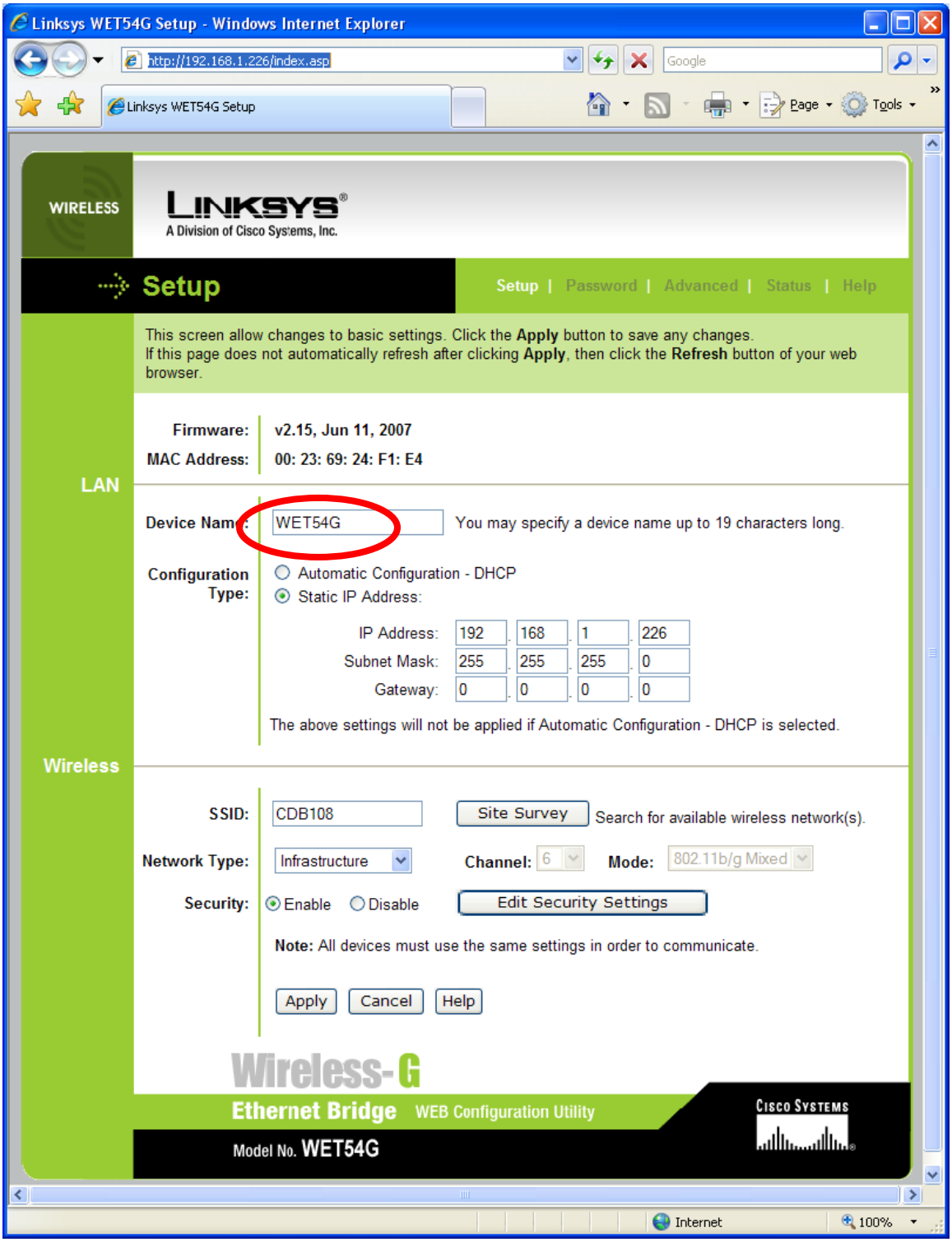
User name = admin
Password = admin

(Note that the Linksys technical manual doesn't mention the User name but it must be set to "admin")

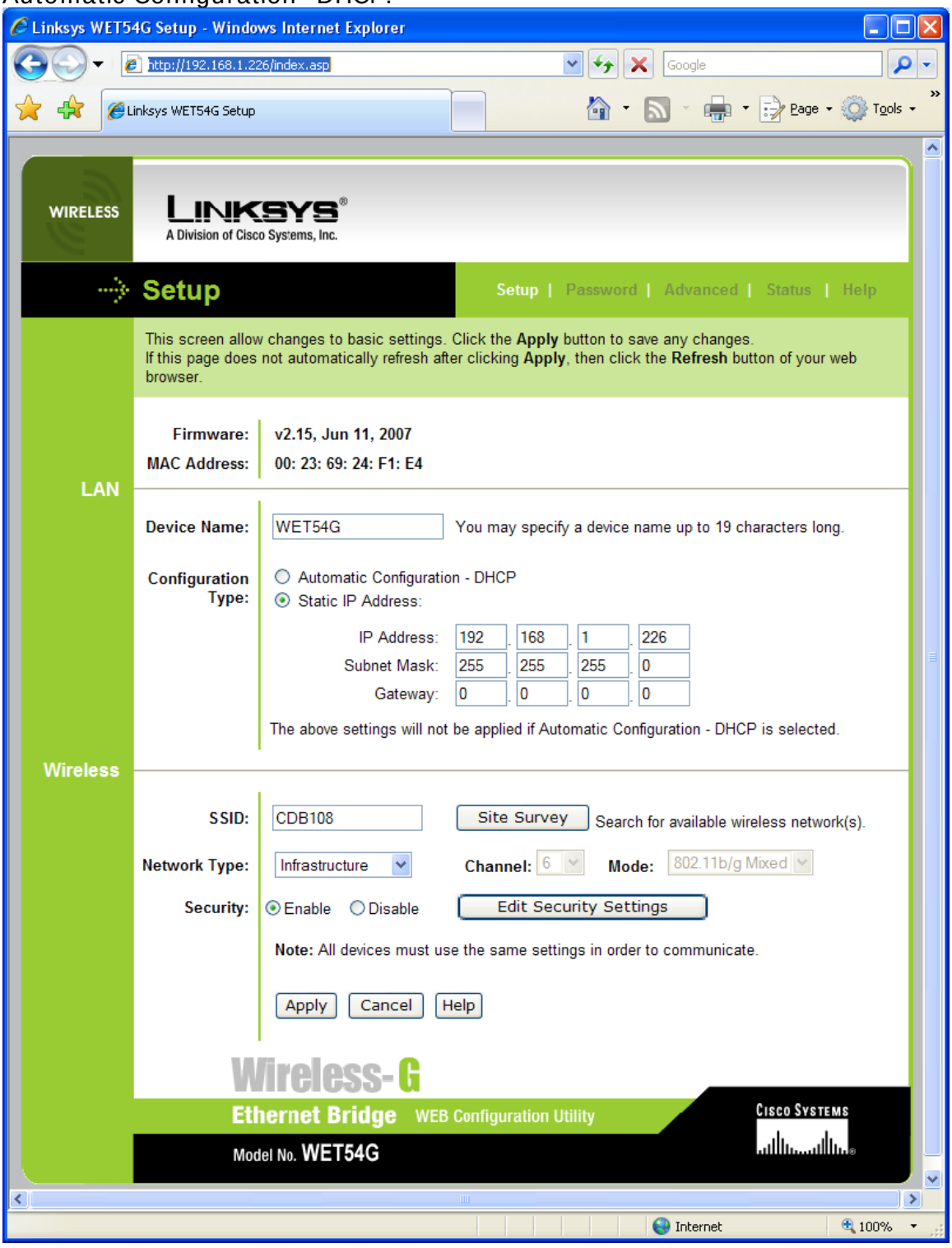


The WET54G Setup Web page will open as shown below.

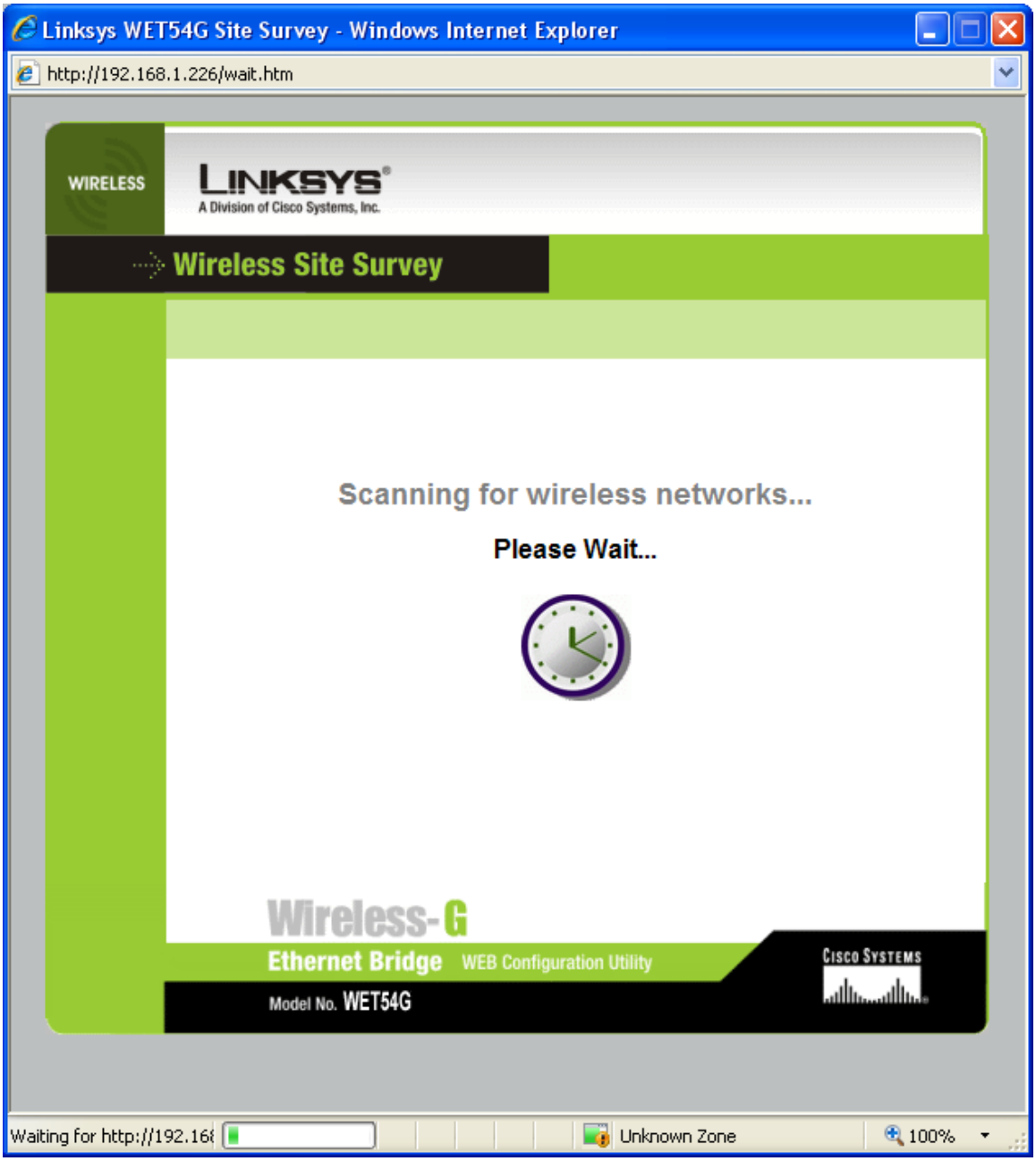
3. In the *Device Name* field, enter a unique name for the Bridge.



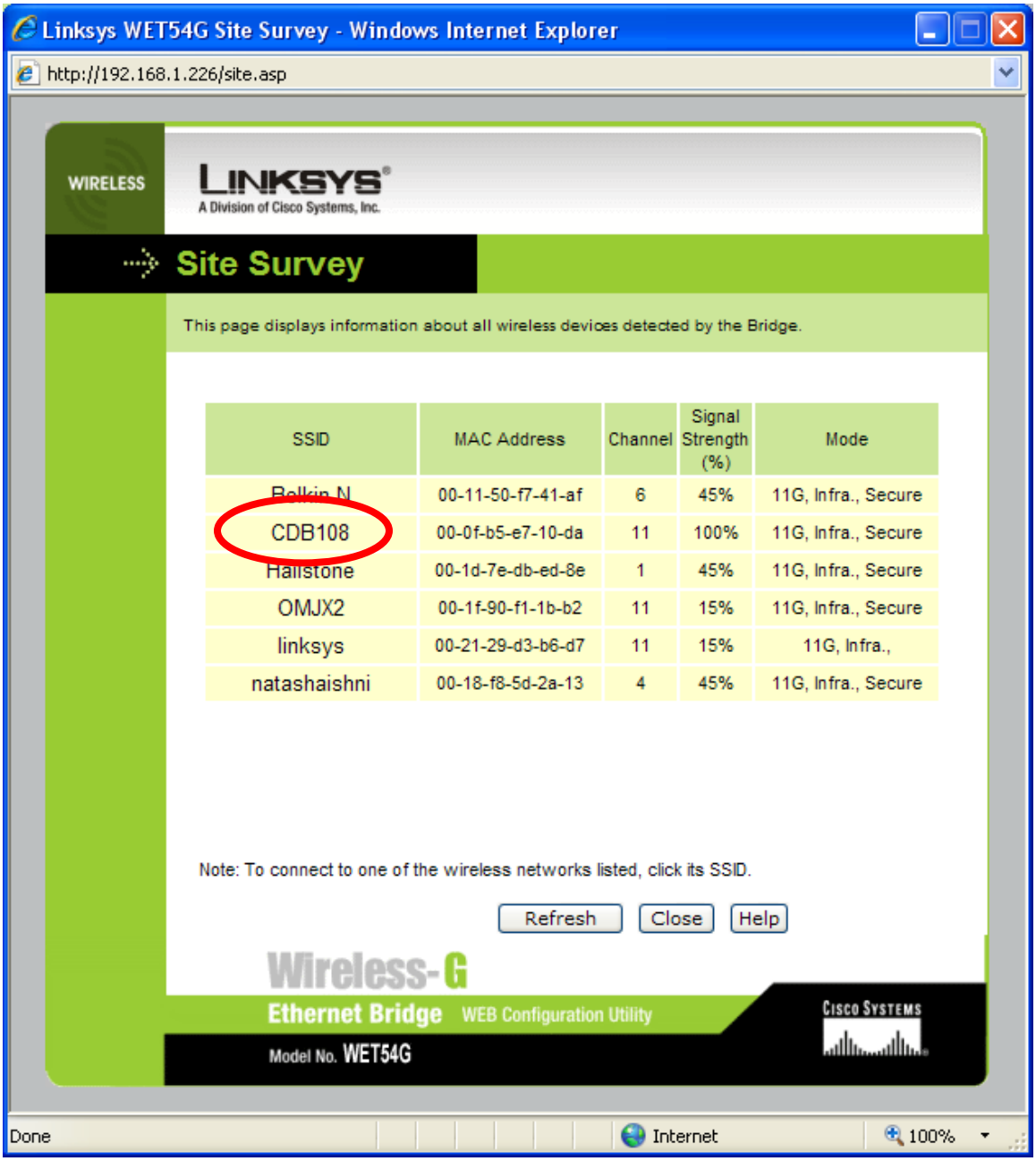
Select Automatic Configuration -DHCP or Static IP Address as required by your network configuration. Your network administrator should be able to help with this if you have any questions. Normally if your network has a DHCP server, select Automatic Configuration -DHCP.



4. Use the Site Survey button *and the Scanning for wireless networks page will appear as shown below. Then* a list of Wireless Networks will appear.

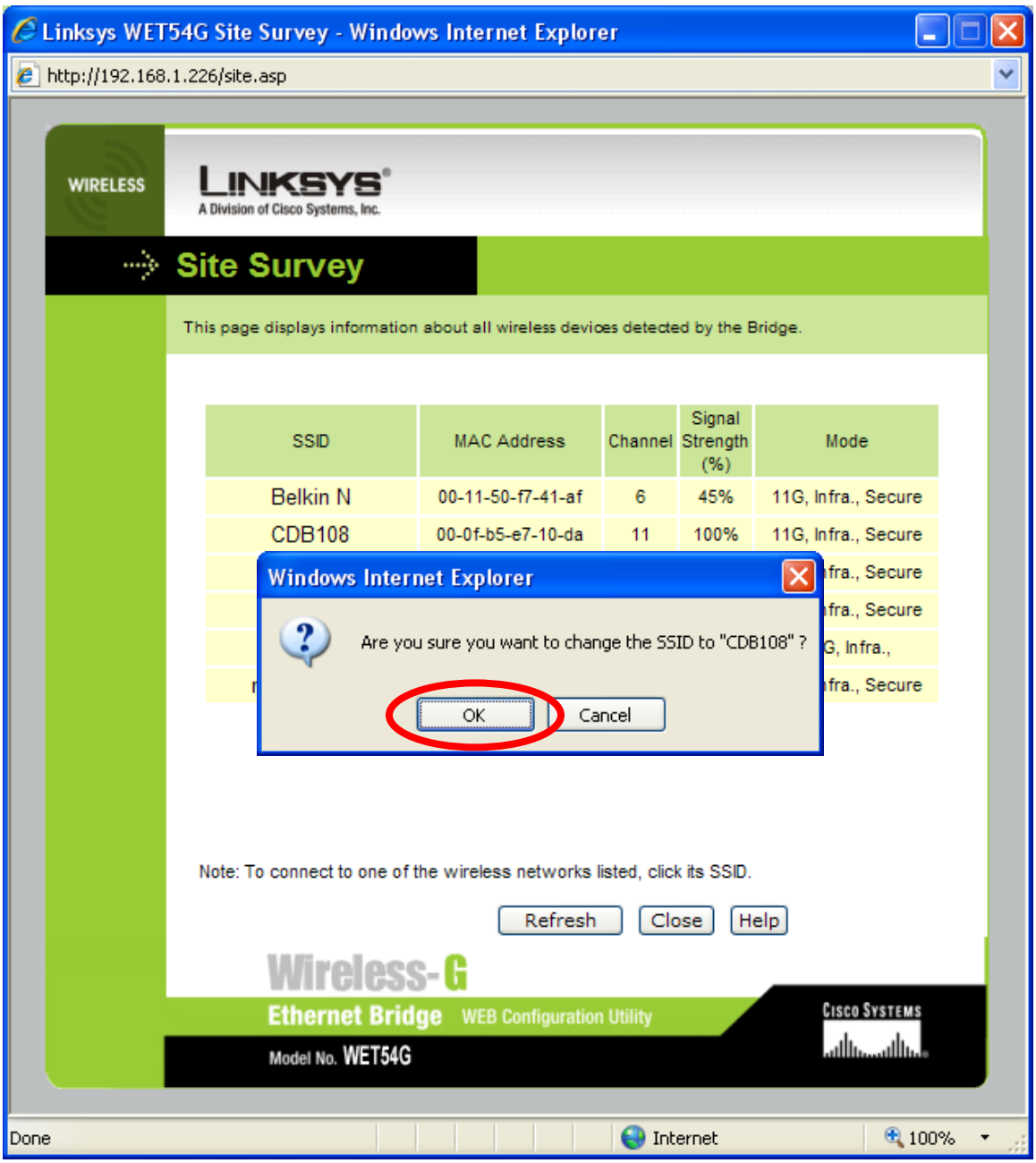


5. Click on the network that you want to join the click *Close.*

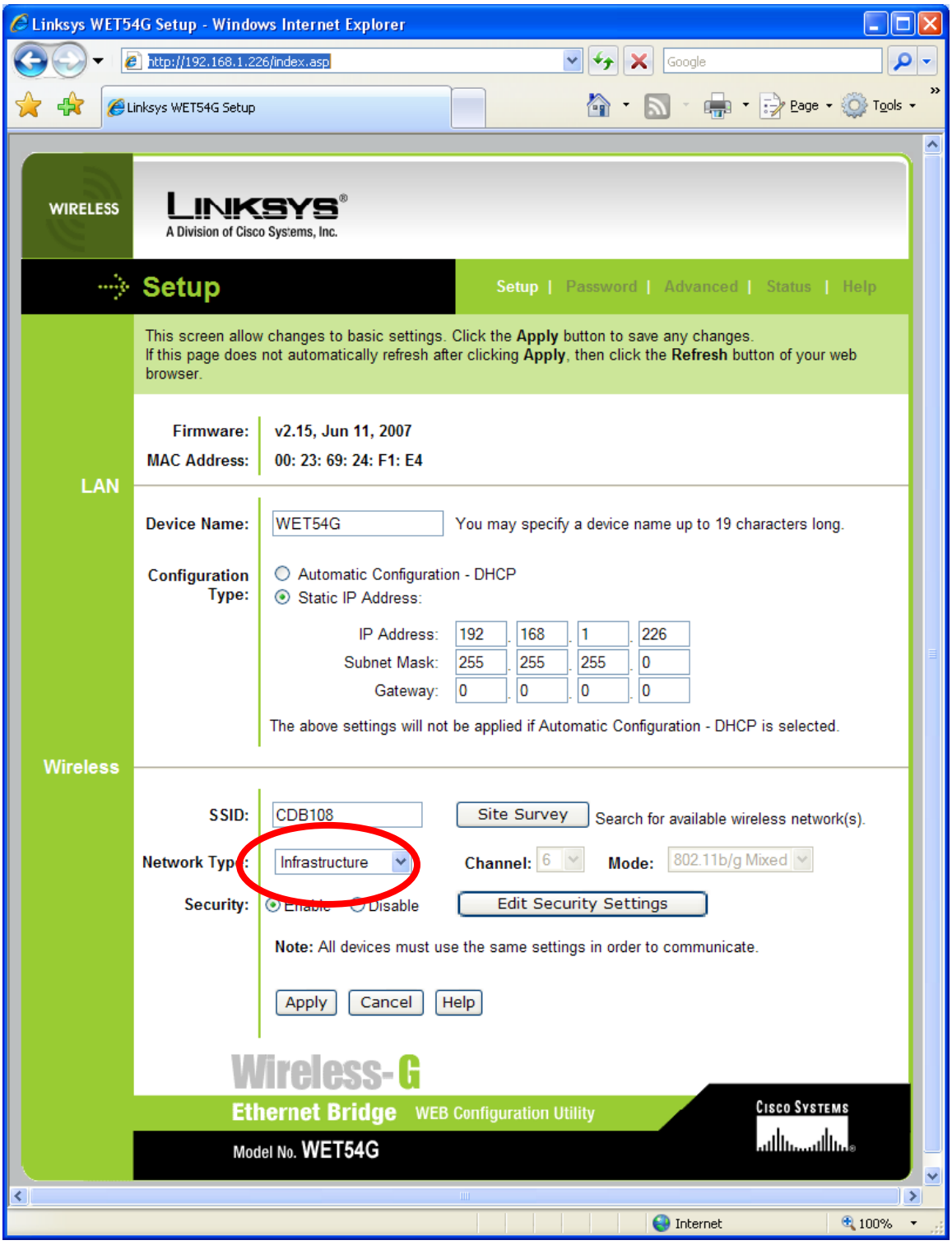


6. Click OK when prompted “Are you sure you want to change the SSID to the “XXXXXX”

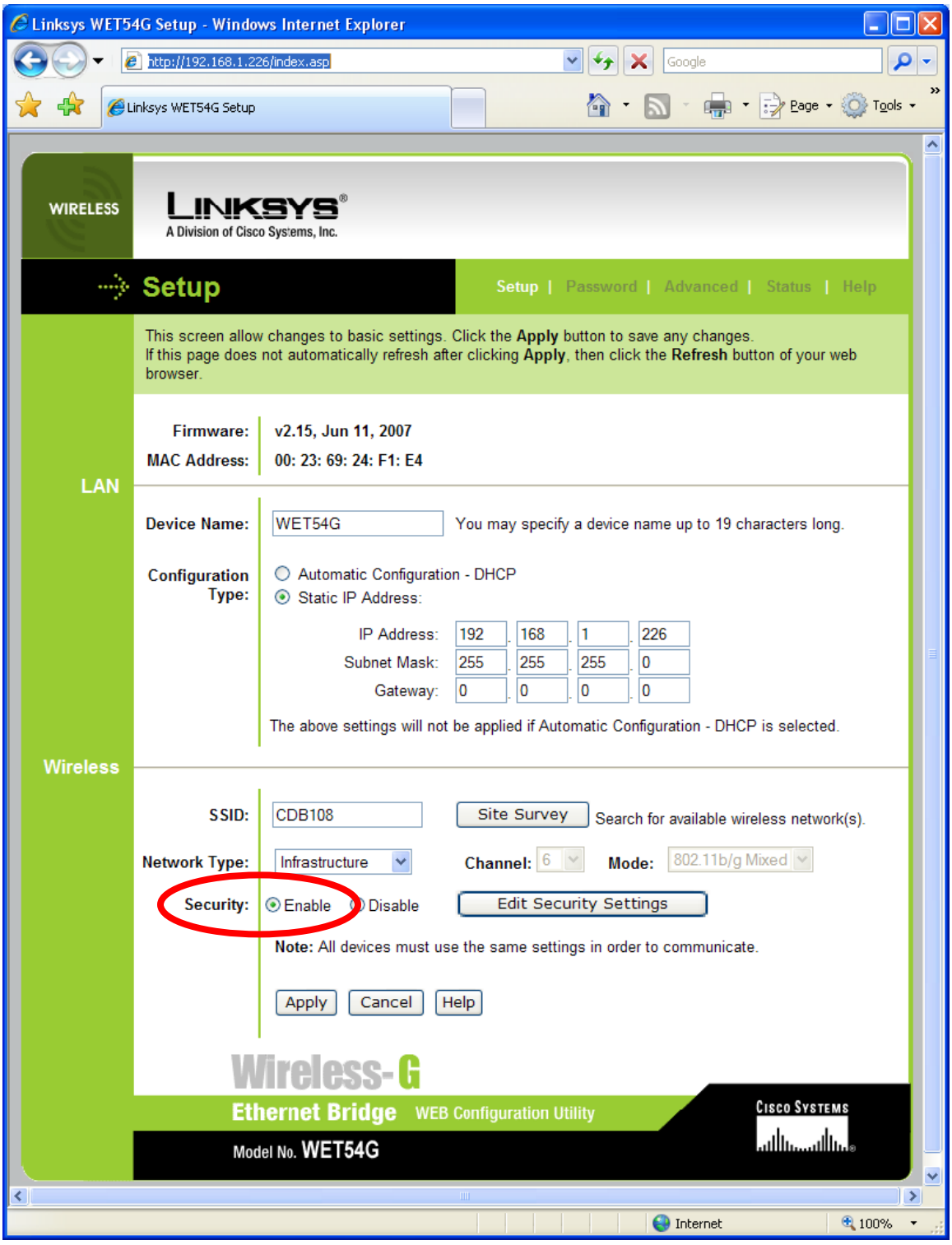
.



7. Select Infrastructure form the *Network Type* field. (This assumes you want to connect to a wireless access point. For other applications, consult the Linksys documentation.)

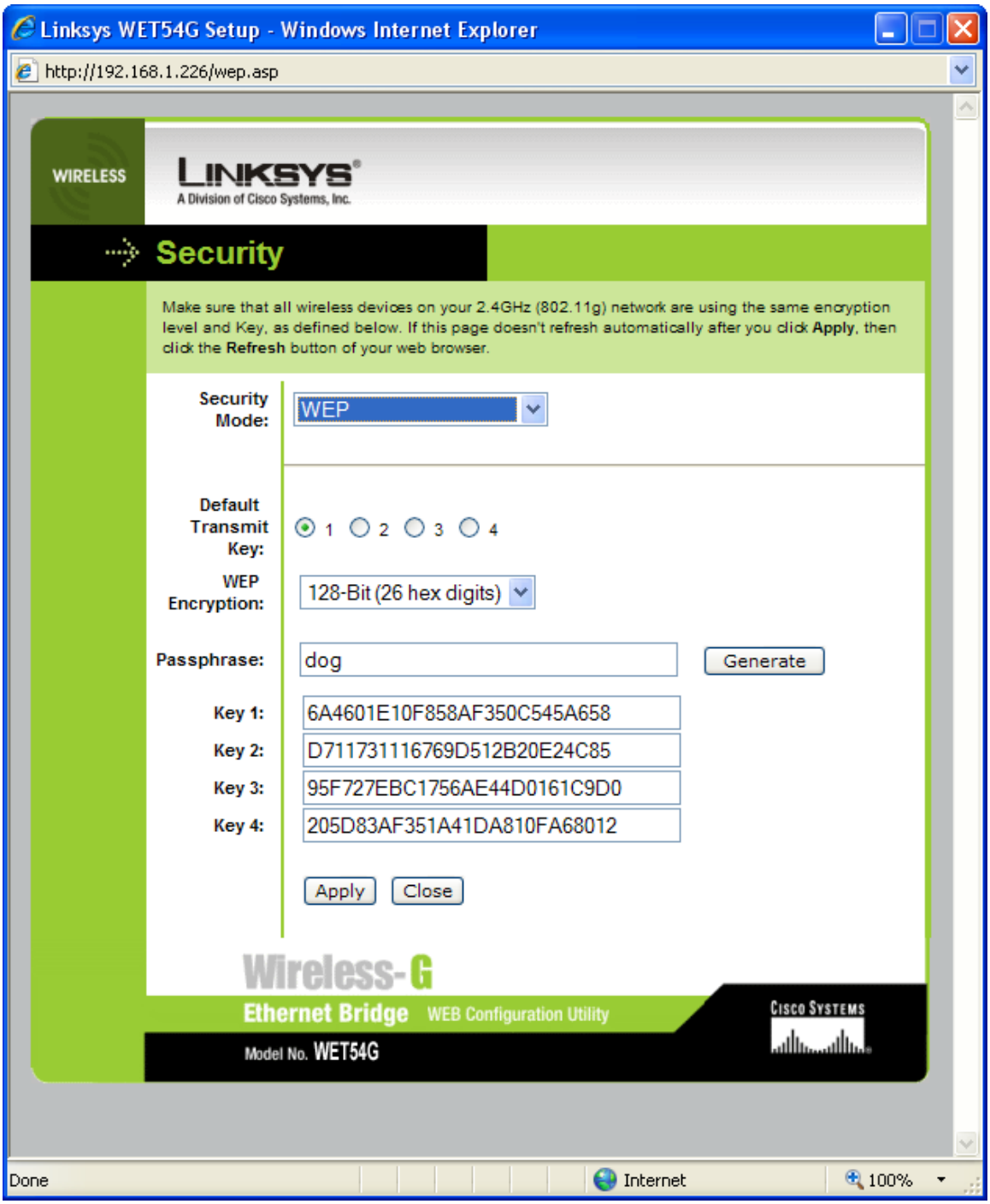


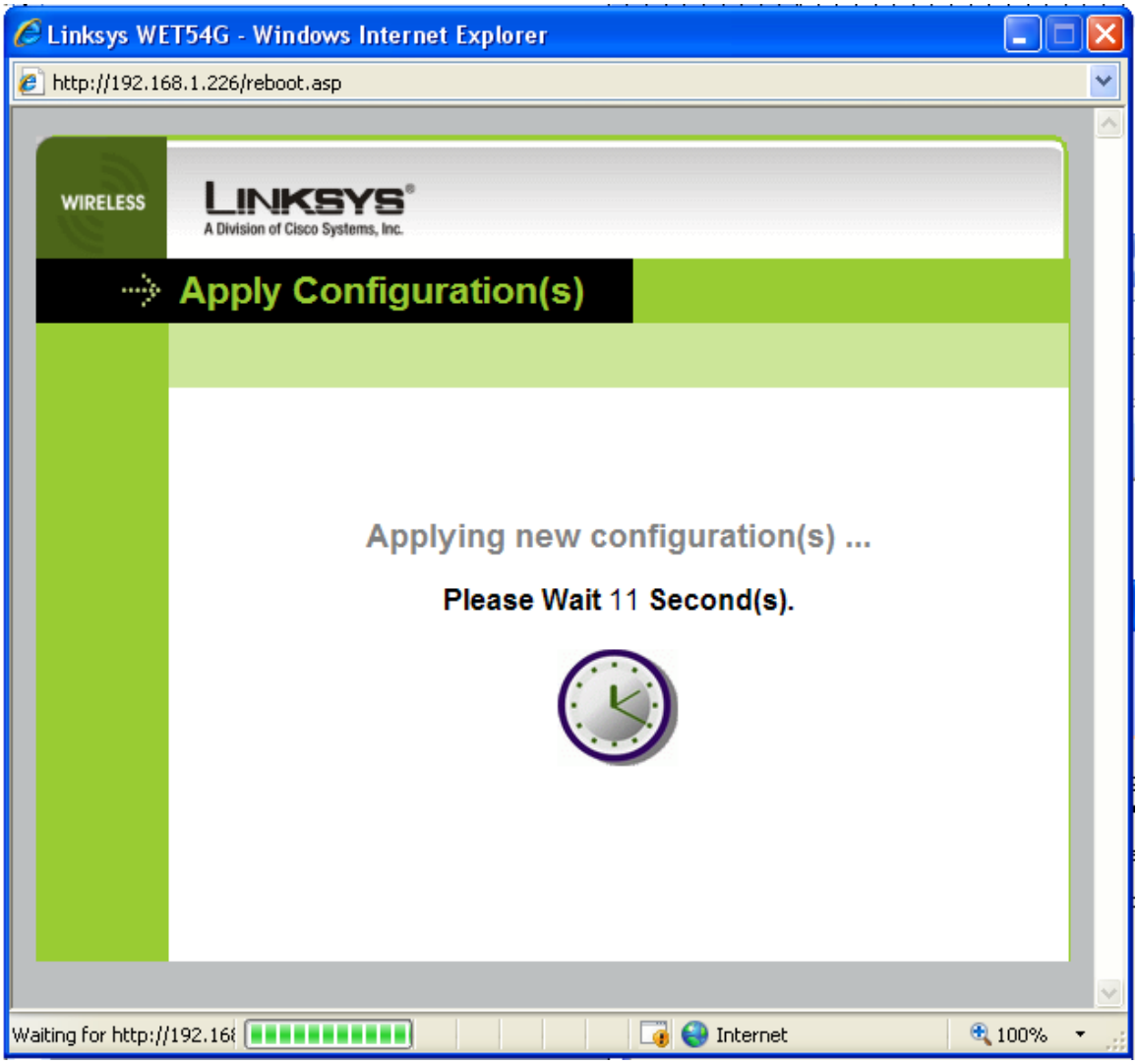
8. Determine if Security is enable on your wireless network. If it is secure, select the *Security: Enable* radio button and then click the *Edit Security Settings* button. (Note: Wireless security is recommended.)



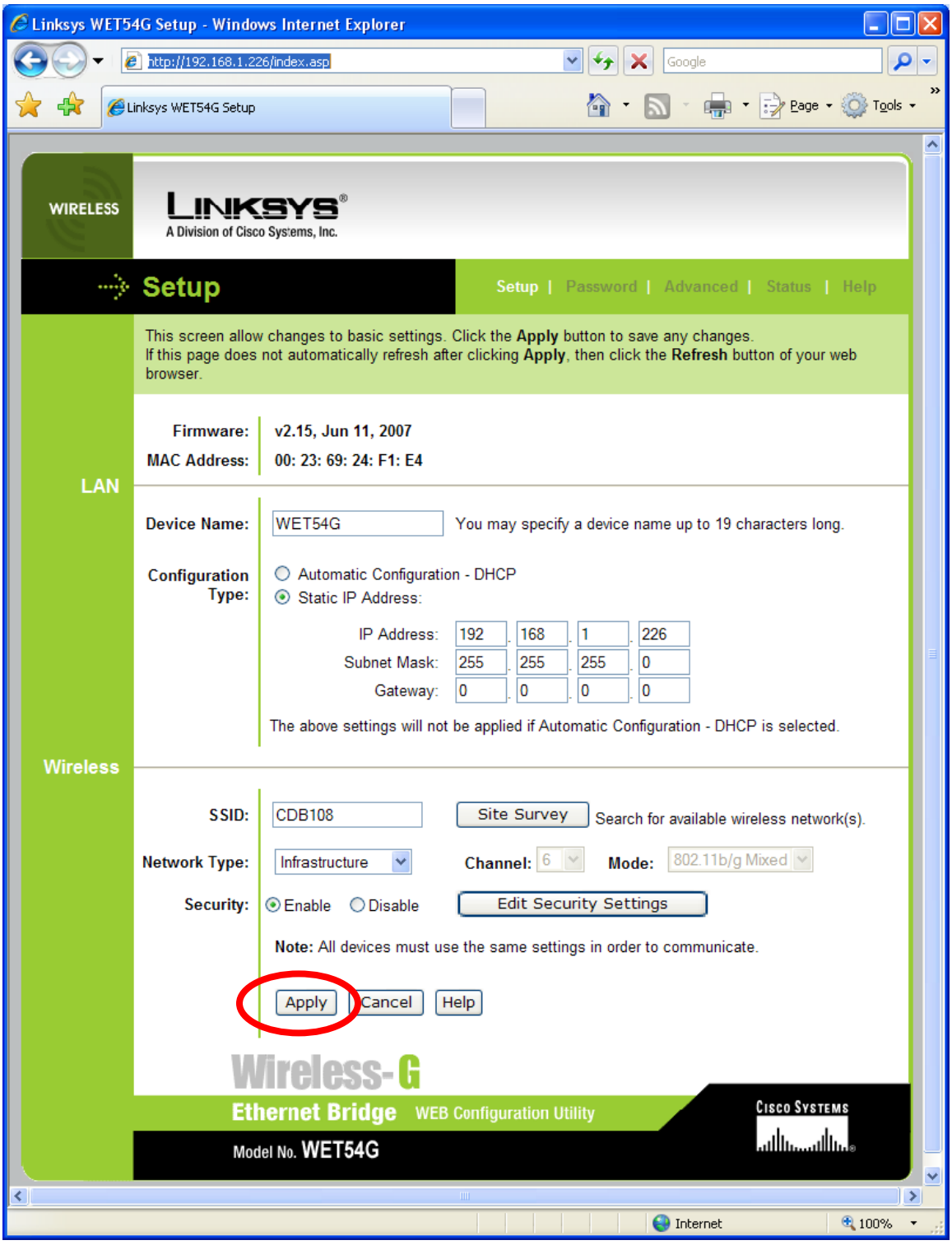
9. Select the *Security Mode* from the list to match your wireless network as shown below.

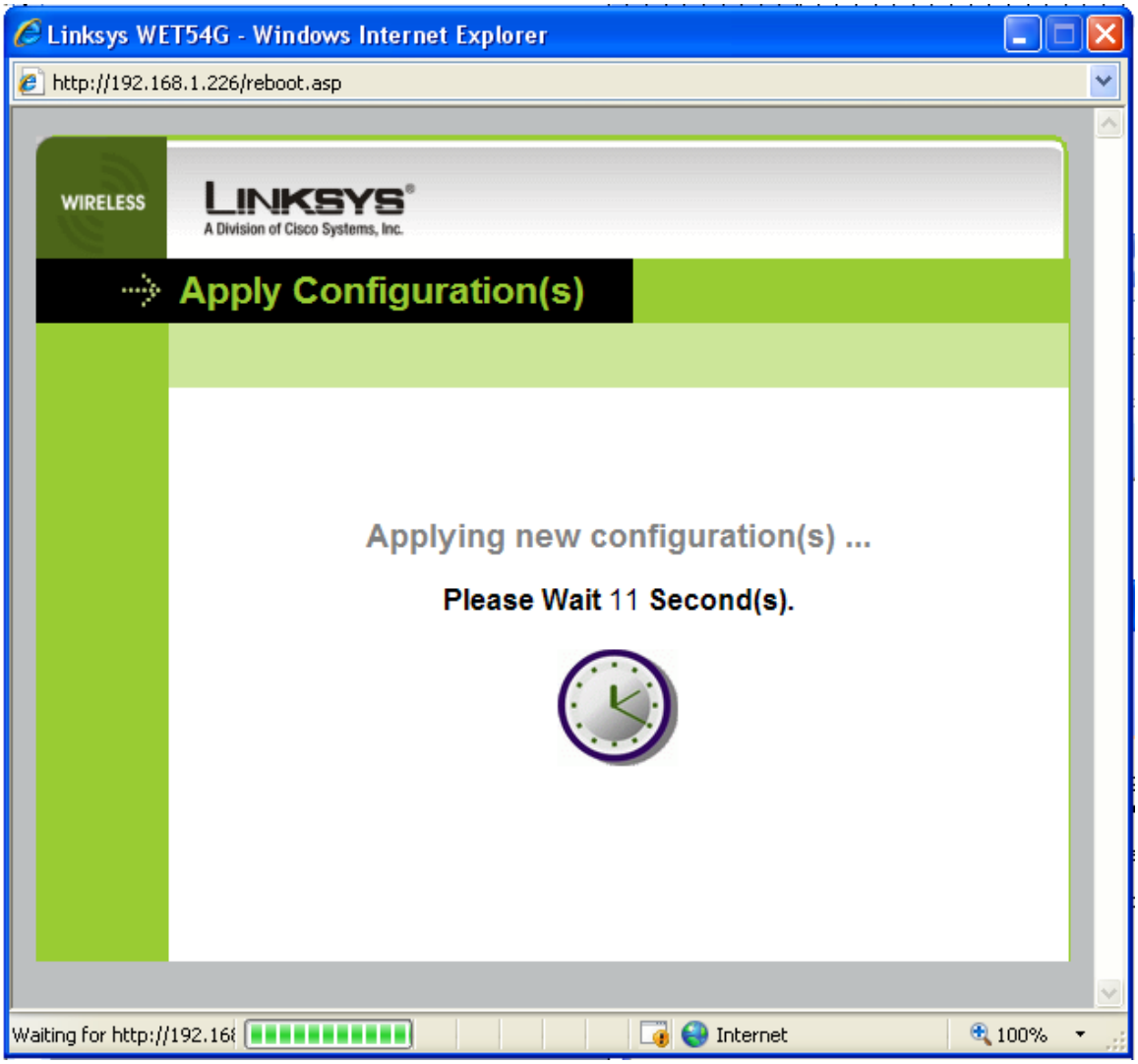
10. Enter the security key or enter a Passphrase and click *Generate*. Then click *Apply* and the Applying new configurations screen will appear as shown below. (Note that all wireless device manufacturers don't use the same Passphrase algorithm to generate wireless keys so check the actual generated key against your network key when using the Passphrase feature to generate your key)




Linksys WET54G - Windows Internet Explorer
http://192.168.1.226/reboot.asp
WIRELESS
LINKSYS
A Division of Cisco Systems, Inc.
Apply Configuration(s)
Applying new configuration(s) ...
Please Wait 11 Second(s).
Waiting for http://192.168
Internet
100%

11. Then *Setup* screen will load. Check the settings and adjust as necessary or click *Apply*. The *Applying new configurations* screen will appear as shown below.




Linksys WET54G - Windows Internet Explorer
http://192.168.1.226/reboot.asp
WIRELESS
LINKSYS
A Division of Cisco Systems, Inc.
Apply Configuration(s)
Applying new configuration(s) ...
Please Wait 11 Second(s).
Waiting for http://192.168
Internet
100%

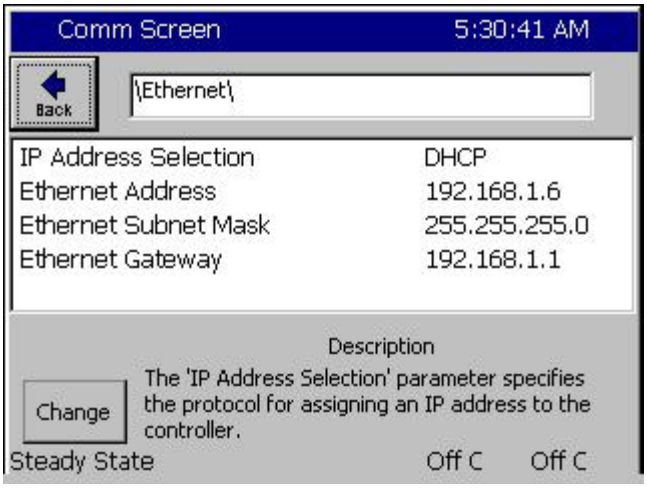
Connect the Wireless-G Ethernet Bridge for Network Use

1. After configuring the WET54G, unplug the power adapter from the electrical outlet, and unplug the Ethernet network cable from the PC or network.

2. Plug the Ethernet network cable into the RJ-45 port on the Synergy Controller.

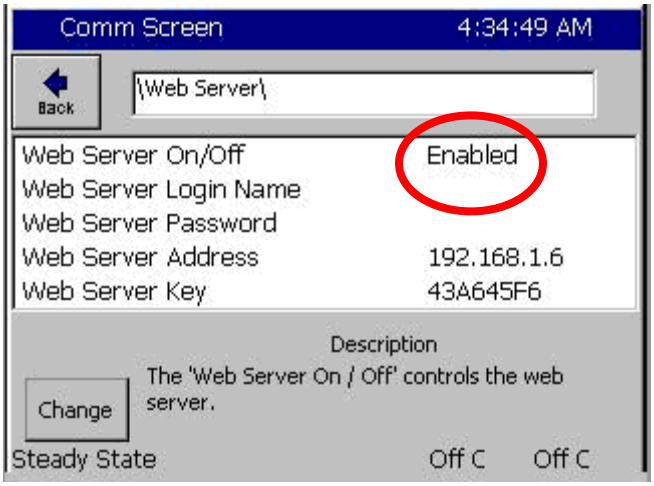
3. Plug the power adapter into a local electrical outlet.

4. Press the COMM button on the controller and open the Ethernet folder. Select the *IP Address Selection* method and confirm the Ethernet Address (aka IP address) and the other Ethernet settings. Note that it may be necessary, when going from Static to DHCP addressing, to leave the screen using the *Back* button and return or cycle power on the controller.

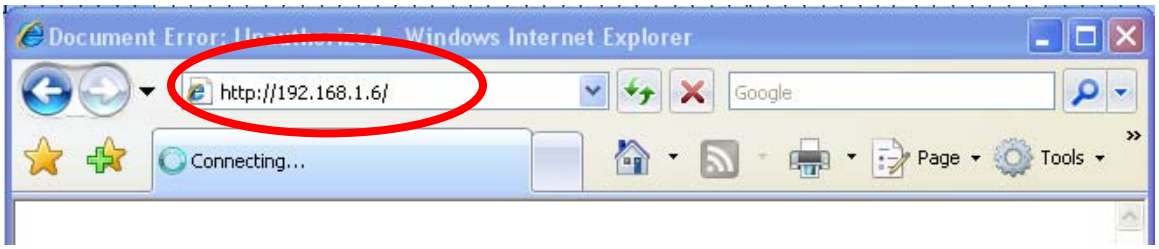


For more information regarding WebTouch Remote ™ and the Synergy Controller's networking features see the Technical Manual.

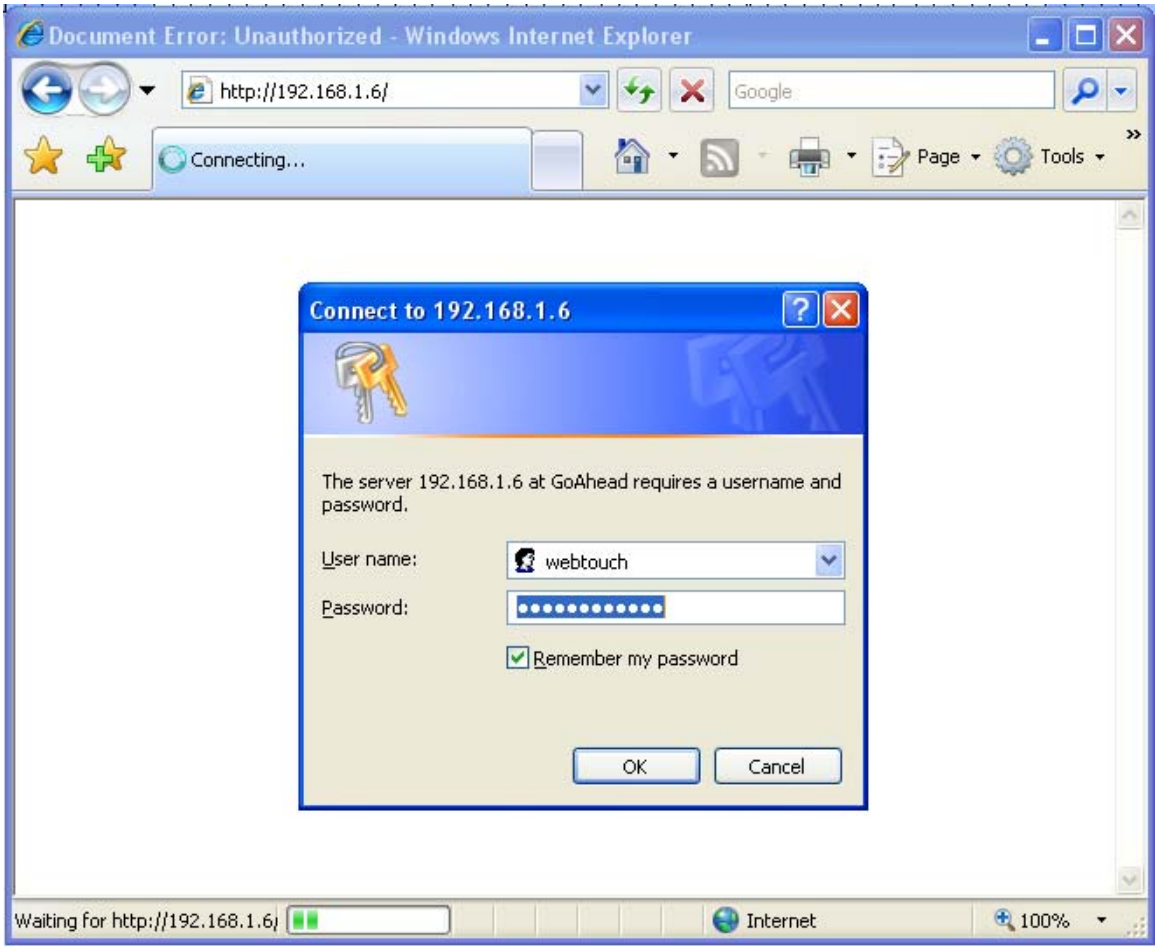
5. Press the COMM button on the controller and open the Web server folder. (Note that a WebTouch Remote ™ Registration Key will be required for this). Enable the Web server.



6. Type the IP address (Web Server Address) in the address box of your browser as shown below.

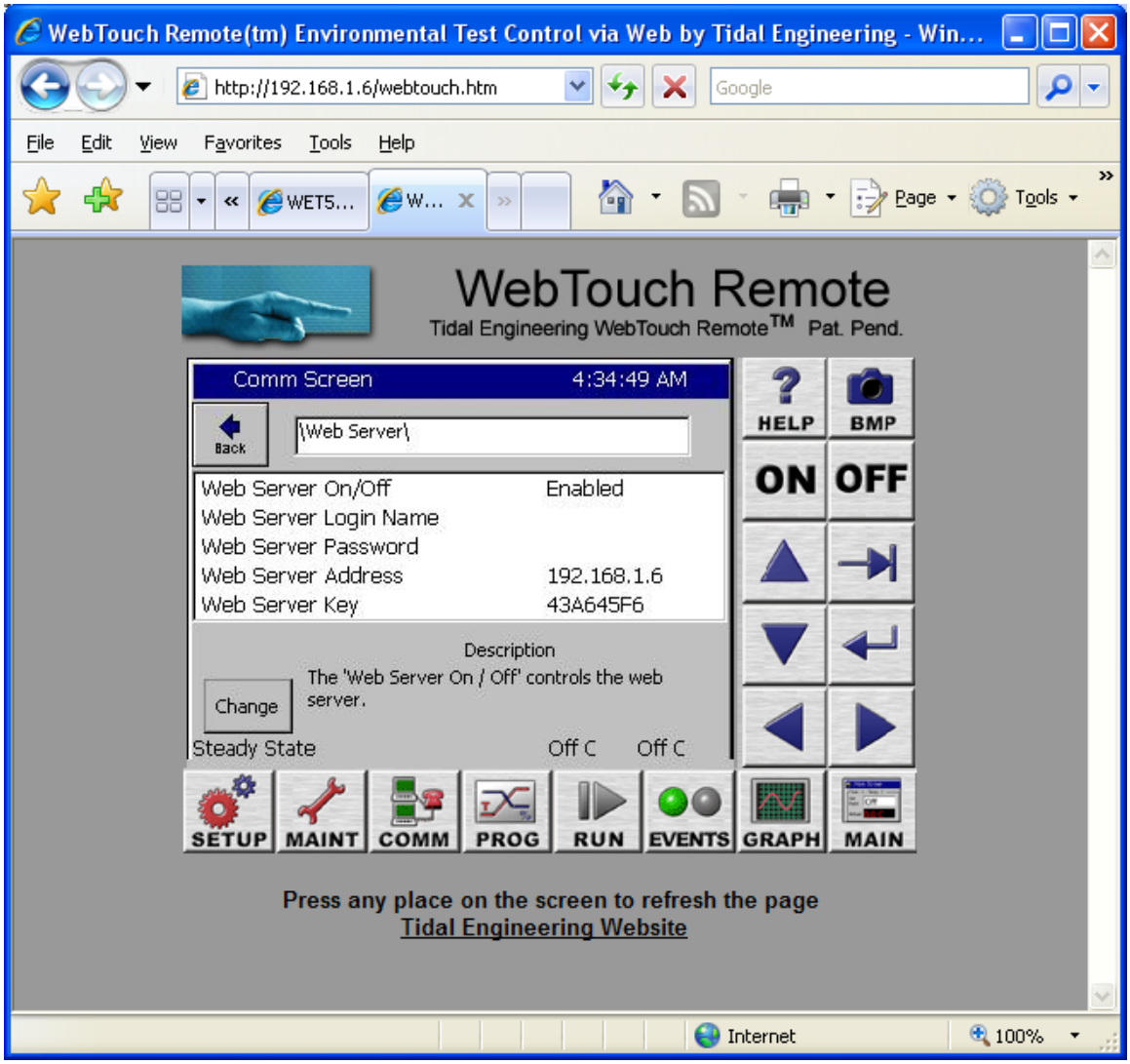


7. Then enter the *User name* and *Password.*

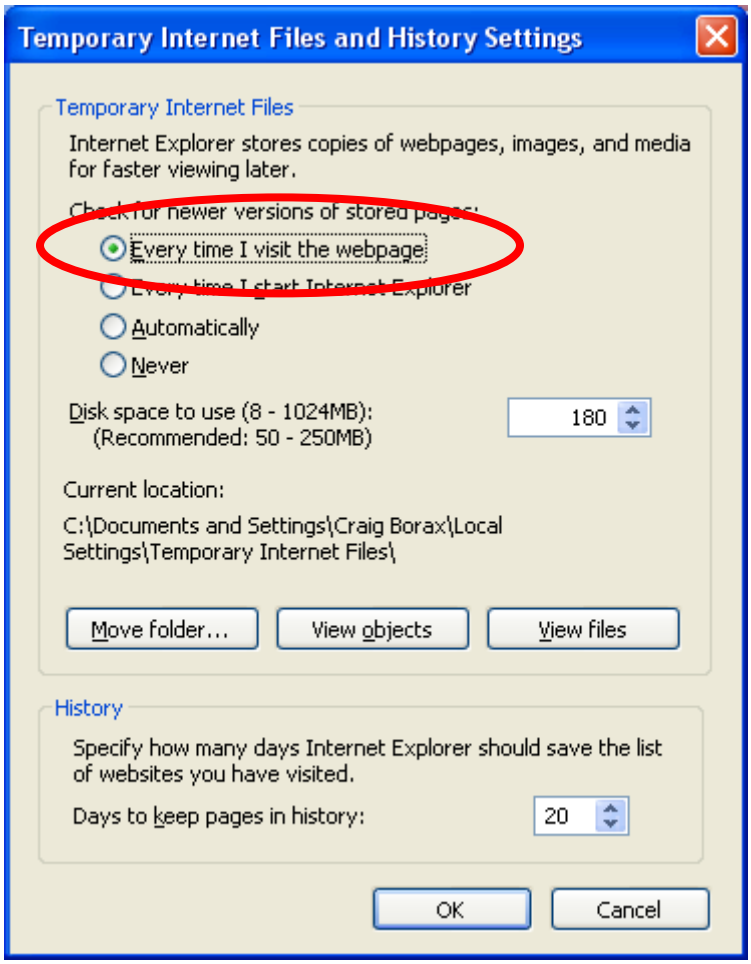


The defaults are WebTouch and Williamsport.

8. The WebTouch Remote ™ interface will open in the browser as shown below. From this interface you can operate the touch screen.



Note that the *Check for newer version of stored page Every time I visit the webpage* should be selected in the Temporary Internet Files and History Settings option of the Internet Explorer settings as shown below. See the technical manual for more details concerning the WebTouch Remote ™.

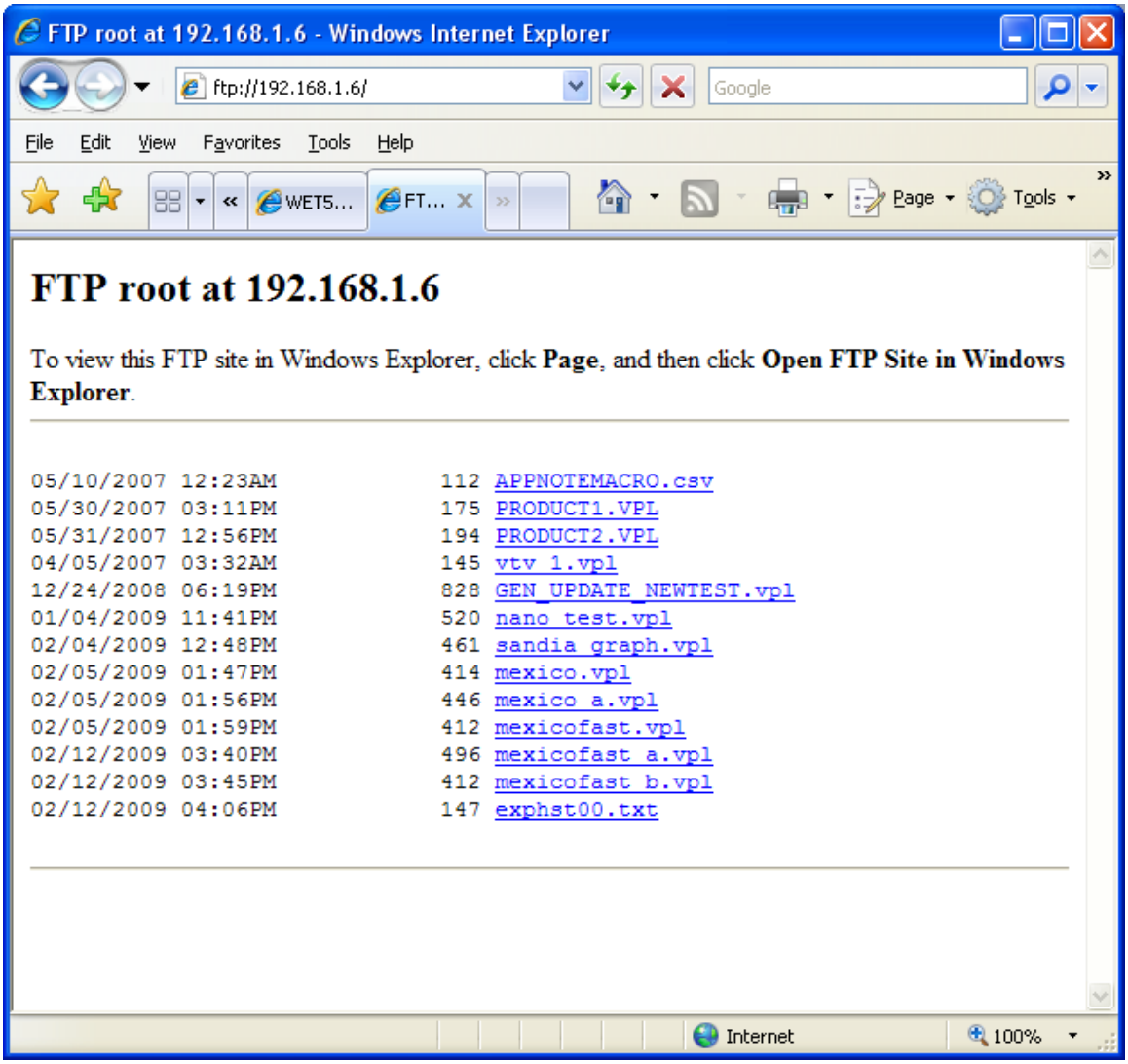

Temporary Internet Files and History Settings
Temporary Internet Files
Internet Explorer stores copies of webpages, images, and media for faster viewing later.
Check for newer versions of stored pages:
Every time I visit the webpage
Every time I start Internet Explorer
Automatically
Never
Disk space to use (8 - 1024MB):
(Recommended: 50 - 250MB)
180
Current location:
C:\Documents and Settings\Craig Borax\Local Settings\Temporary Internet Files\
Move folder...
View objects
View files
History
Specify how many days Internet Explorer should save the list of websites you have visited.
Days to keep pages in history:
20
OK
Cancel

9. The WebTouch Remote ™ web server, FTP and Telnet servers are available over the network. Note that not all versions of the Synergy Controller offer an FTP server option.

With the FTP server, you can drag and drop profiles and Macro files to and from the controller. You can also retrieve the history log file from the controller.

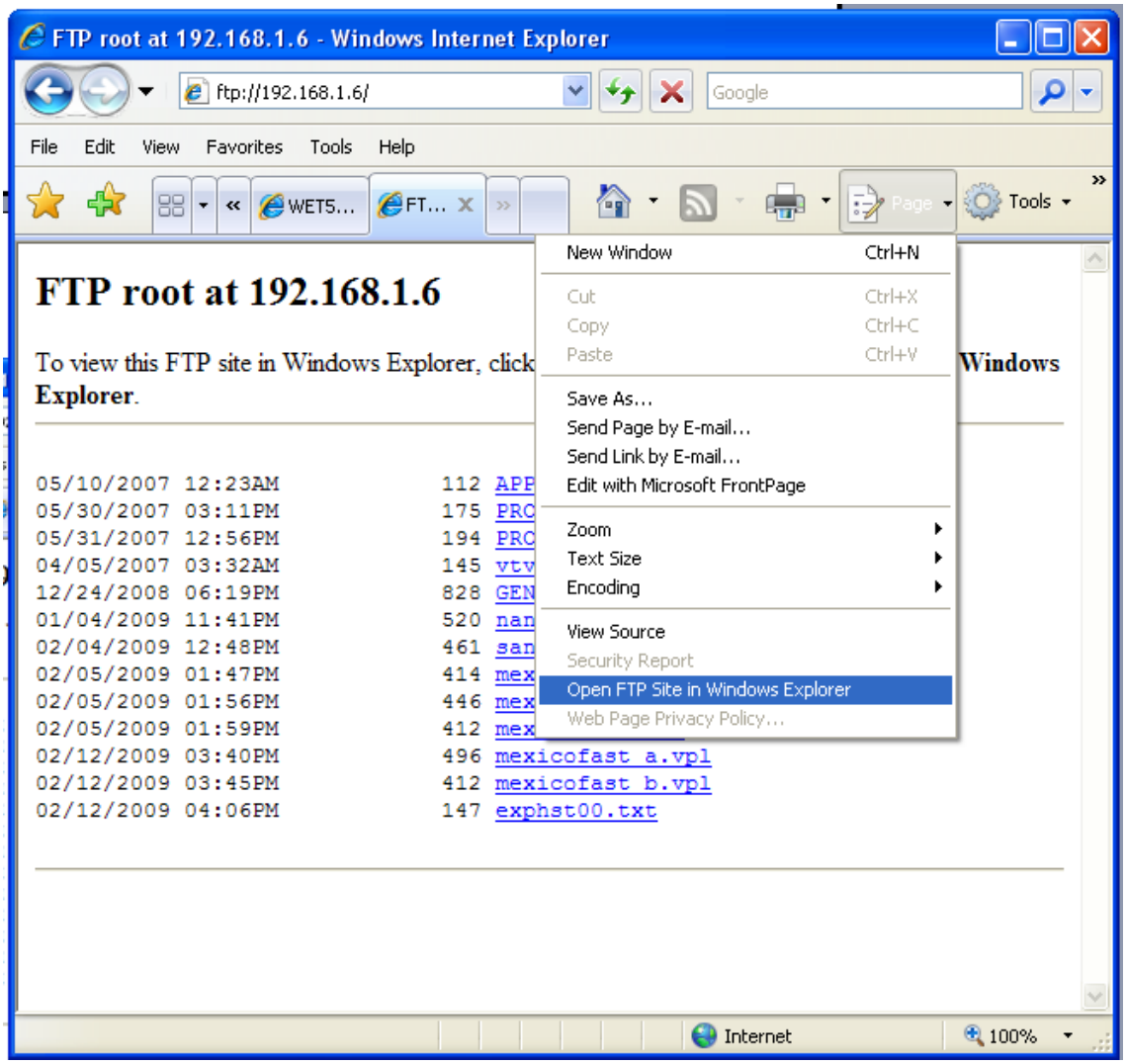
To access the FTP server using your web browser, change the address in the address box from http://192.168… to ftp://192.168 (use the IP address appropriate for your network and controller). The controller file contents are displayed in the browser window as shown below.

The use and application of the Synergy Controller's FTP server is explained in Synergy Controller FTP server application note (App note 45)

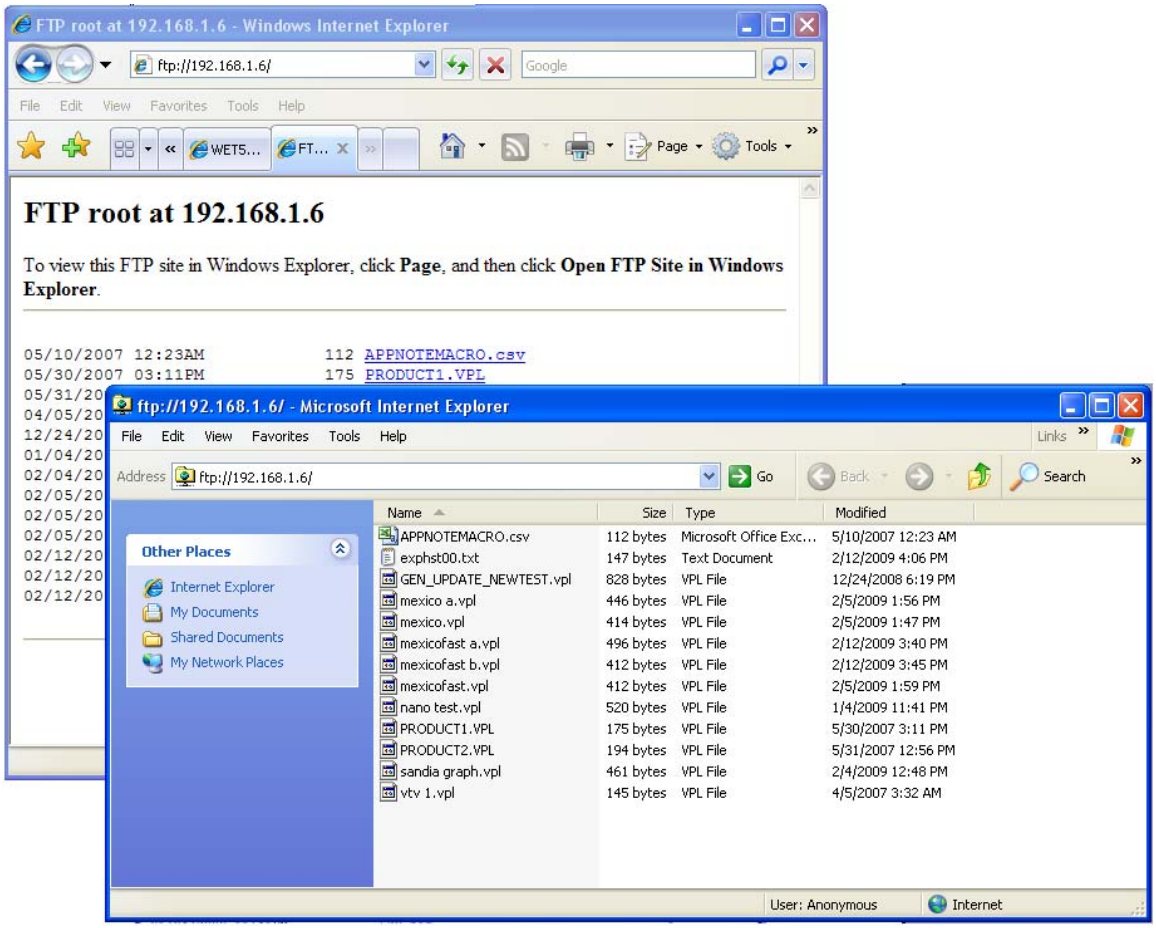


Windows Explorer can be used to “drag and drop” files to and from the Synergy Controller’s FTP server.

To open the FTP site in Windows Explorer, drop down the Page Menu and click the “Open FTP Site in Windows Explorer: selection as shown below.



The Windows Explorer view will open. Now you can drag and drop profiles and Macro files to and from the controller. You can also copy the history file from the controller. You export the history database to the FTP directory using the COPYHISTTOFTP as explained in the Synergy Controller FTP server application note (App note 45)



Linksys WET54G Specifications

Model	WET54G v.3
Standards	IEEE 802.11g, IEEE 802.11b, IEEE 802.3, IEEE 802.3u
Ports	One 10/100 Auto-Cross Over Port, Power Port
Buttons	Reset Button
Cabling Type Category	5 or better
LEDs	Power, Ethernet, Wireless-G
Transmit Power	16 ± 1 dBm @ 11Mbps CCK12 ± 1 dBm @ 54Mbps OFDM
Security Feature	WEP Encryption, WPA, RADIUS, WEP Key Bits 64/128-bit
Protocols	802.11b: CCK (11Mbps), CCK (5.5Mbps) DQPSK (2Mbps) DBPSK (1Mbps) 802.11g: OFDM (54Mbps)
Dimensions	4.96" x 1.06" x 4.21" (126 mm x 27 mm x 107 mm)
Unit Weight	8.50 oz. (0.24 kg)
Power	5V DC
Certifications	FCC, CE
Operating Temp.	32°F to 104°F (0°C to 40°C)
Storage Temp.	-4°F to 158°F (-20°C to 70°C)
Operating Humidity	10% to 85%, Non-Condensing
Storage Humidity	5% to 90%, Non-Condensing
Warranty	3 Year Limited

http://www.linksys.com or
ftp.linksys.com

About Tidal Engineering

Headquartered in Randolph, NJ, Tidal Engineering Corporation has been designing and building award-winning embedded hardware and software for test and measurement and data acquisition applications since 1992. The company is recognized for technical expertise in such areas as Embedded IEEE 488, and turnkey SCADA (Supervisory Control and Data Acquisition) systems. Tidal's products are available exclusively through ADI American Distributors Inc., an ISO-9002 certified distributor of electronic and electromechanical components and assemblies.

Tidal Engineering Corporation
2 Emery Avenue
Randolph, NJ 07869
Tel: 973/328-1173
Fax: 973/328-2302
www.TidalEng.com
info@tidaleng.com