

Wireless Network Extender

Model # WEB5500

User Guide

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Introduction

The Actiontec WEB5500 is a wireless network extender with dual concurrent radios supporting both 2.4GHz and 5GHz operation in 802.11 a/b/g/n, and also 5GHz in 802.11ac. This allows the Extender to connect to everything from legacy wireless laptops, computers, and gaming platforms, up to the most current (and future) Apple and Android tablets, laptops, media platforms, and smartphones.

The Extender works by being placed in a central location of the home, or in a location where the existing wireless signal is weak, and then being physically connected directly to your gateway/modem. This physical connection not only extends the signal, but allows the Extender to import and automatically configure itself with the same network ID/SSID and password currently in use and configured on the existing gateway/modem, while upgrading your wireless network to 802.11ac, the latest, fastest wireless standard. This means that wherever you are in your house, your WiFi tablet, laptop, phone, or wireless device will automatically connect to Internet without anyone having to find a new network name or enter security keys.

For users with newer mobile devices, tablets, and laptops, connections through the 5GHz radio can markedly increase the performance and speed of your WiFi connection, while freeing up the 2.4GHz band for legacy or older devices.

Features

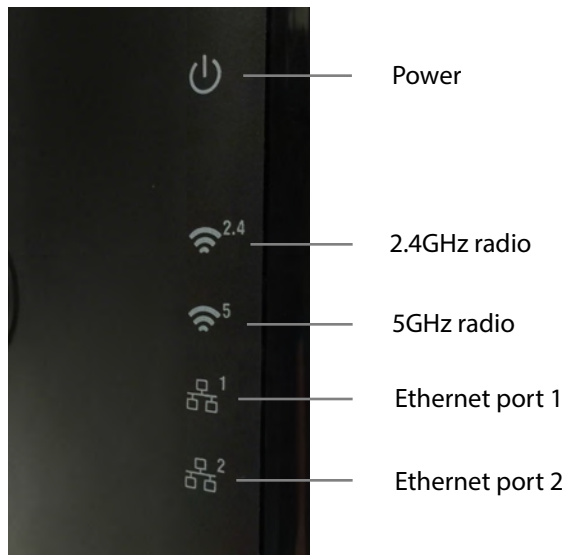
- Upgrade to 802.11ac speeds without replacing your router
- Dual-band concurrent radios for wireless throughput up to 2 Gbps:
 - * 4x4 802.11ac 5 GHz solution
 - * 2x2 2.4 GHz radio
- Two gigabit Ethernet ports
- WPA2 and WPA security with AES encryption
- Wi-Fi Protected Setup (WPS)

Getting to Know the Extender

This chapter describes the location and uses of the Extender's LEDs, ports, and buttons.

Front Panel

The front panel features LEDs that illuminate in green when the operation of power, available ports and wireless bands are functioning and in use.



Back Panel

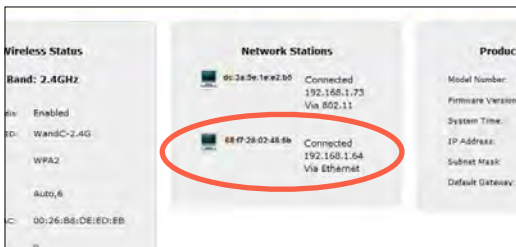
- **Power port:** used to connect the power adapter (external, 12V/1.5A; Actiontec Model: NBS24J120150VU) to the Extender.
- **Reset button:** restores the Extender back to the original factory default settings when held down for at least 10 seconds.
- **Dual-port Gigabit Ethernet switch:** used for directly connecting the Extender to the gateway/modem.
- **Labels:** indicate the factory default GUI access username and password, network SSID names, and security keys.

Accessing the Extender's GUI

The Extender features an onboard graphical user interface (GUI) that includes user-configurable settings. Some of these settings should be accessed by experienced network technicians only.

To configure the network settings of the Extender:

1. Ensure that the Extender is connected to a gateway/modem, and that both devices are powered on.
2. On a computer connected to the same network as the gateway/modem and Extender, log in to the gateway/modem by entering 192.168.99.254 into the address bar of a web browser.
3. The gateway/modem's GUI appears. The IP address of the Extender should be displayed on the *Main* or *Home* screen of an Actiontec gateway/modem, as indicated below.



4. Write down the IP address of the Extender.
5. Enter the IP address written down in step 4 in the address box of the web browser.

Getting to Know the Extender

- The Extender's *Login* screen appears. Enter the Extender's *Username* and *Password* (found on the label located on the back panel of the Extender; see second figure, below).



The screenshot shows a web interface titled "Reset Password". Below the title, there is a paragraph of instructions: "To reset the password for the device, you must enter the serial number found on the label on the bottom of the device, and then enter a new password." There are three input fields: "Serial Number:", "New Password:", and "Re-enter New Password:". Below the input fields are two buttons: "Apply" and "Cancel".



WEB5500 Wireless Network Extender

The Extender's GUI's *Status* screen appears, as shown below.

The screenshot displays the Actiontec WEB5500 Wireless Network Extender GUI. At the top left is the Actiontec logo with the tagline "Creative Solutions for the Digital Life". On the top right, there are fields for "User Name:" and "Password:" with a "Login" button, and a "Language:" dropdown menu set to "Auto-detect".

The main navigation area contains three icons: "Status" (a pulse line), "Wireless Setup" (a wireless signal icon), and "Advanced Setup" (a gear icon).

The "Status" screen is divided into three main sections:

- Wireless Status:** This section shows settings for two wireless bands. The first band is 2.4GHz (G+N) with the following details:
 - Wireless Radio: Enabled
 - Wireless SSID: Actiontec_0066-EXT
 - Wireless Security: WPA2
 - Wireless Channel: Auto, 6
 - Wireless MAC: 4C:0B:3D:DA-43:01
 - Associated Clients: 0The second band is 5GHz (A+N+AC) with the following details:
 - Wireless Radio: Enabled
 - Wireless SSID: Actiontec_0066-5G-EXT
 - Wireless Security: WPA2
 - Wireless Channel: Auto, 153
- Network Stations:** This section lists two connected stations:
 - Station 1: 00:24:89:92:99:6a, Connected, 192.168.1.2, Via Ethernet
 - Station 2: 70:11:96:00:04:10, Connected, 192.168.1.1, Via Ethernet
- Product Information:** This section provides hardware and system details:
 - Model Number: [Redacted]
 - FCC ID: LNQWXB8X00Q
 - Firmware Version: 1.1.10.20
 - System Up Time: 0day:0h:17m:19s
 - IP Address: 192.168.99.254
 - Subnet Mask: 255.255.255.0
 - Default Gateway: 0.0.0.0

Status

The first GUI screen that appears is the *Status* screen, which can also be generated by clicking the *Status* icon in the menu bar. This screen contains basic information about the Extender's wireless status, network stations, and product information about the Extender. There are no configurable settings available in this screen.

Actiontec Creative Solutions for the Digital Life

User Name:
Password:
Language: Auto-detect [small font!](#)

Status | Wireless Setup | Advanced Setup

Wireless Status	
Wireless Band:	2.4GHz (G+N)
Wireless Radio:	Enabled
Wireless SSID:	Actiontec_0066-EXT
Wireless Security:	WPA2
Wireless Channel:	Auto,6
Wireless MAC:	4C:0B:3D:DA-43:01
Associated Clients:	0
Wireless Band: 5GHz (A+N+AC)	
Wireless Radio:	Enabled
Wireless SSID:	Actiontec_0066-5G-EXT
Wireless Security:	WPA2
Wireless Channel:	Auto,13

Network Stations	
00:24:89:92:99:6a	Connected 192.168.1.2 Via Ethernet
70:11:96:00:04:10	Connected 192.168.1.1 Via Ethernet

Product Information	
Model Number:	
FCC ID:	LNQWXB8X00Q
Firmware Version:	1.1.10.20
System Up Time:	0day:0h:17m:19s
IP Address:	192.168.99.254
Subnet Mask:	255.255.255.0
Default Gateway:	0.0.0.0

Wireless Setup

Clicking the *Wireless Setup* icon from the menu bar of any of the Extender's GUI screens generates the *Wireless Network List* screen. Additional wireless settings can be accessed from the menu on the left side. These settings configure various aspects of the Extender's wireless network, and the majority of them should be adjusted by an experienced network technician only. The exceptions are the settings contained in the *Basic Setup* screen.

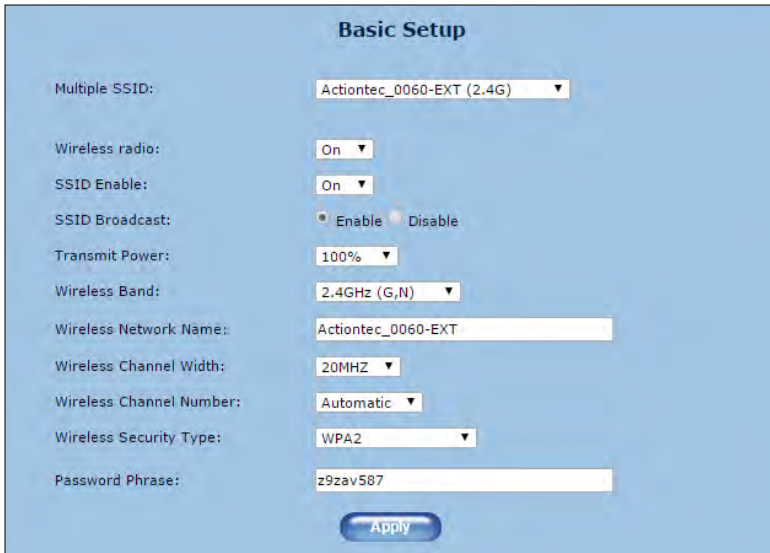
Private WIFI Network:				
Name	Frequency	MAC Address	Security Mode	Action
Actiontec_0060-EXT	2.4 GHz	4C:0B:30:DA:43:01	WPA2	Edit
Actiontec_0060-2-EXT	2.4 GHz	4C:0B:30:DA:43:02	WPA2	Edit
Actiontec_0060-3-EXT	2.4 GHz	4C:0B:30:DA:43:03	WPA2	Edit
Actiontec_0060-4-EXT	2.4 GHz	4C:0B:30:DA:43:04	WPA2	Edit
Actiontec_0060-5G-EXT	5 GHz	4C:0B:30:DA:43:06	WPA2	Edit
Actiontec_0060-2-5G-EXT	5 GHz	4C:0B:30:DA:43:07	WPA2	Edit
Actiontec_0060-3-5G-EXT	5 GHz	4C:0B:30:DA:43:08	WPA2	Edit
Actiontec_0060-4-5G-EXT	5 GHz	4C:0B:30:DA:43:09	WPA2	Edit

Wireless Network List

Selecting *Wireless Network List* generates the *Wireless Network List* screen (above). This screen displays various characteristics of the Extender's wireless networks.

Basic Setup

The *Basic Setup* wireless network screen contains various settings regarding the Extender's wireless network. When finished adjusting the settings in this screen, click **Apply**.



The screenshot shows the 'Basic Setup' configuration page for a wireless network. The settings are as follows:

Setting	Value
Multiple SSID:	Actiontec_0060-EXT (2.4G)
Wireless radio:	On
SSID Enable:	On
SSID Broadcast:	Enable (selected), Disable
Transmit Power:	100%
Wireless Band:	2.4GHz (G,N)
Wireless Network Name:	Actiontec_0060-EXT
Wireless Channel Width:	20MHZ
Wireless Channel Number:	Automatic
Wireless Security Type:	WPA2
Password Phrase:	z9zav587

An 'Apply' button is located at the bottom center of the form.

Multiple SSID

This option allows the user to setup different SSIDs (wireless networks) with different parameters. Select the option desired from the *Multiple SSID* drop-down menu.

Wireless Radio

This option turns the Extender's wireless radio on and off.

SSID Broadcast

This option controls whether or not the name of the network is broadcast to other wireless devices (usually, in the device's available wireless network list). Select *Enable* or *Disable* by clicking in the appropriate radio button.

Transmit Power

This option controls the power of the Extender's wireless radio. We recommend leaving this setting at 100%.

Wireless Band

This option allows the user to select the bandwidth at which the Extender's wireless radio will operate.

Wireless Network Name

Enter the name of the wireless network in this text box.

Wireless Channel Width

This option allows the user to select the channel width at which the Extender's wireless radio will operate. Telus recommends using the default setting

Wireless Channel Number

This option allows the user to select the channel number at which the Extender's wireless radio will operate. Telus recommends leaving the channel number as is. The Extender and gateway automatically scan for the best channel at every boot up

Wireless Security Type

This option allows the user to select the type of security applied to the Extender's wireless network.

Password Phrase

This option allows the user to enter a custom password phrase or value.

Wireless Security

The *Wireless Security* screen allows the user to apply wireless security to the Extender's wireless network. This screen should be accessed by experienced network technicians only.

Note: The Extender can be configured with the gateway/router's wireless settings (including security settings).

Wireless Security

Multiple SSID: Actiontec-0060-2.4G (2.4G)

Security Settings:

OPEN No Security Applied

WPA Enhanced Security for Personal

MODE: WPA WPA 2 Auto

CYPHER: TKIP AES Auto

PSK Key: tuqrkv52

APPLY

WPS


The *WPS* screen allows the Extender to accept wireless clients via Wi-Fi Protected Setup (WPS), an automatic wireless network connection protocol. Only experienced network technicians should configure the settings in this screen.



The screenshot shows the WPS configuration interface. It features a title 'WPS' at the top center. Below the title, there are several configuration options: 'Multiple SSID:' with a dropdown menu showing 'Actiontec_0060-EXT (2.4G)'; 'WPS:' with radio buttons for 'Enable' (selected) and 'Disable'; 'Security:' with the text 'WPA2'; 'Encryption:' with the text 'AES'; 'WPS Status:' with the text 'Configured'; and 'Soft Push Button:' with two buttons labeled 'StartPBC' and 'Apply'.

Advanced Wireless Setup

The *Advanced Wireless Setup* screen allows the Extender to be configured with multiple SSIDs.



The screenshot shows the Advanced Wireless Setup configuration interface. It features a title 'Advanced Wireless Setup' at the top center. Below the title, there are two configuration options: 'Multiple SSID:' with a dropdown menu showing 'Actiontec-0060-2.4G (2.4G)'; and 'Beacon Interval:' with a text input field containing '100' and a range '(20-1024 ms)'. At the bottom, there is a button labeled 'Apply'.

Wireless Access Control

The *Wireless Access Control* screen contains a number of advanced settings regarding the Extender's wireless network. Only experienced network technicians should configure these settings.

Wireless Access Control

Multiple SSID:

Wireless Access Control Mode:

MAC Address:

Current Access Control List:

Multiple SSID	Access	MAC Address	Remove
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Advanced Setup

Clicking the *Advanced Setup* icon from any of the Extender's GUI screens generates the *Management* screen, along with other advanced settings accessed through the menu on the left side. These settings configure various administrative aspects of the Extender and its GUI. They should be adjusted by an experienced network technicians only.



Management

The *Management* screen (above) allows the Extender's IP address settings to be modified. Only experienced network technicians should change these settings.

Factory Default

The *Factory Default* advanced setup screen allows the Extender's factory default settings to be reapplied, erasing all current settings. Click **Restore Default Settings** to restore the Extender to its factory default state.



Firmware Restore

The *Firmware Restore* screen lists the active and backup firmware versions available on the Extender. Click **Swap Firmware** to switch the active firmware to the backup firmware, and vice versa.



Firmware Upgrade

Actiontec periodically posts firmware upgrades that may include enhancements and/or bug fixes for the Extender. To upgrade the Extender's firmware:

1. Go to www.actiontec.com/support for information about the latest firmware available for the Extender. If the version is the same as the current version applied to the Extender, there is no need to upgrade the firmware. If the online version is newer, download it to a notebook computer.
2. Make sure that this computer is connected to the Extender via Ethernet cable.
3. Locate the firmware file by clicking **Choose File**.
4. Select the file, then click **Start to Upgrade**.
5. The Extender's firmware is updated. This may take a few minutes. When the Extender's Main screen reappears, the firmware will have been updated.



The screenshot shows a web interface titled "Firmware Upgrade" with a light blue background. It displays the current firmware version as 1.1.10.20 and prompts the user to select a file for upgrading. A "Choose File" button is present, and the status is "No file chosen". A "Start to Upgrade" button is located at the bottom of the interface.

Firmware Upgrade

Current Firmware Version: 1.1.10.20

Firmware upgrade: please select a file to upgrade the firmware:

No file chosen

Status

Specifications

Model Number

WEB5500

Certifications

Wi-Fi (a, b, g, n, ac)

WPA, WPA2

WMM

Wi-Fi Protected Setup

IP

Wi-Fi 802.11 a/b/g/n/ac IEEE standard 5GHz/2.4GHz

LAN Connections

Ethernet ports (2): 10/100/1000

LED Indicators

Power, WiFi 2.4 GHz, WiFi 5 GHz, LAN Ethernet 1, LAN Ethernet 2

Gain and Impedance

Gain: 2.4GHz, 5GHz radios - 5 dBi per chain

Power

External, 12V/1.5A; Actiontec Model: NBS24J120150VU

Regulatory

FCC part 15, UL-60950-1

Environmental

Operating temperature - 0°C to 40°C (32°F to 104°F)

Storage temperature - 0°C to 70°C (32°F to 158°F)

Operating humidity - 10% to 85% non-condensing

Storage humidity - 5% to 95% non-condensing

Altitude: -197 ft. to 7000 ft.

Note: Specifications are subject to change without notice.

Notices

Warranty

This product has a one-year Limited Hardware Warranty and 90-day free software updates from date of purchase.

Local Law

This Limited Warranty Statement gives the customer specific legal rights. The customer may also have other rights which vary from state to state in the United States

To the extent that this Limited Warranty Statement is inconsistent with local law, this Statement shall be deemed modified to be consistent with such local law. Under such local law, certain disclaimers and limitations of this Warranty Statement may not apply to the customer.

Go to

<http://www.actiontec.com/products/warranty.php>

for more information.

Important Safety Instructions

Basic safety precautions should always be followed to reduce the risk of fire, electrical shock, and personal injury, including the following:

- Do not use this product near water – for example, near a bathtub, kitchen sink, laundry tub, or swimming pool, or in a wet basement; only clean with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus including amplifiers that produce heat.
- Do not use the telephone to report a gas leak in the vicinity of the leak.
- Use only the power cord and batteries indicated in this manual, if applicable.

Coaxial Cable

If applicable, the coaxial cable screen shield needs to be connected to the Earth at the building entrance per ANSI/NFPA 70, the National Electrical Code (NEC), in particular Section 820.93, “Grounding of Outer Conductive Shield of a Coaxial Cable,” or in accordance with local regulation

FCC Class B Equipment

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

- Reorient or relocate the device;
- Increase the separation between the equipment and receiver;
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected (applicable only to powerline products);
- Consult the dealer or an experienced radio or television technician for help.

Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Actiontec Electronics, Inc, may void the user's authority to operate the equipment.

Declaration of Conformity for Products Marked With the FCC logo

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference;
2. This device must accept any interference received, including interference that may cause undesired operation of the device.

Important Note on WiFi

If applicable, this equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

The radio has been found to be compliant to the requirements set forth in CFR 47 Sections 2.1091, 15.247 (b) (4), 15.407 addressing RF Exposure from radio frequency devices as defined in “Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields.” The equipment should be installed more than 30 cm (~12 in.) from your body or nearby persons.

For product available in the USA market, only channel 1~11 can be operated. Selection of other channels is not possible.

The device could automatically discontinue transmission in case of absence of information to transmit, or operational failure. Note that this is not intended to prohibit transmission of control or signaling information or the use of repetitive codes where required by the technology.

The device for the band 5150-5250 MHz is only for indoor usage to reduce potential for harmful interference to co-channel mobile satellite systems.

Notices

The maximum antenna gain permitted for devices in the band 5725-5825 MHz shall comp with the e.i.r.p. limits specified for point-to-point and non point-to-point operation as appropriate.

The transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Contact Information

For questions regarding your product or the FCC declaration, contact:

Actiontec Electronics, Inc
760 North Mary Avenue
Sunnyvale, CA 94085
United States
Phone: (408) 752-7700
Fax: (408) 541-9003

Technical Support

Go to

www.actiontec.com/support

for product support, updates, and more information including:

- Firmware updates
- Troubleshooting
- Registration
- FAQs

Technical Support Phone Number

United States: 1-888-436-0657