NEXAIRA BUSINESS CLASS II
HIGH AVAILABILITY ROUTER

INSTRUCTION MANUAL

NexConnect II Router
NEX-SH-B109
NexAira

POWERED BY
NEXWARE ™

XtremeSpeed™
WAN Optimization

I3
Iconic
Intuitive
Interactive ™

BUSINESS CLASS II
with *WAN XtremeSpeed*™

NEXWARE

USB   LAN   WAN   WIFI

NEXAIRA ™
A Nexaira Wireless Company

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FCC Interference Statement FCC ID: YAZ-NEX09

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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IC: 7839B-NEX09

Complies with Canada RSS-210

CE Declaration of Conformity

This equipment complies with the requirements relating to electromagnetic compatibility, EN 55022/A1 Class B. Conformity

Warning

They are used for identification purposes only. Specifications are subject to be changed without prior notice. 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 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 installation. , May cause harmful interference to radio communication. 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:

> -Reorient or relocate the receiving antenna
> -Increase the separation between the equipment and receiver
> -Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
> -Consult the dealer or an experienced radio / TV technician for help

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

You are cautioned that changes or modifications not expressly approved by the party responsible or compliance could void your authority to operate the equipment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. Industry Canada - Class B This digital apparatus does not exceed the Class B limits for radio noise emission for digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus," ICES-003 of industry Canada.

FCC RF radiation exposure statement:his transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This Class B digital apparatus complies with Canada RSS-210.Cet appareil num?rique de la classe B est conforme a' la norme CNR-210 du CanadaThis equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

Table of Contents

Introduction
The Business Class II High Availability Router is a high-performance device that supports wireless networking at home, work, or in a public place. Supports USB modems, and ExpressCards. The Business Class II High Availability Router supports up to 300 Mbps Wi-Fi, and 100 Mbps Ethernet.

Features
- NexWare's quick and easy setup allows you to go where wires cannot, outside the home or office.
- Fully compatible with the IEEE 802.11 b/g/n 2x2 mimo to provide a wireless data transfer rate of up to 300 Mbps Wi-Fi 100 Mbps Ethernet.
- Backwards compatible with the 802.11b IEEE standard.
- Operates in the Tx/Rx power **27 dBm** / indoors approx. 35-100 meters and outdoors up to 100-300 meters.
- Supports NAT with VPN pass-through
- DHCP server enables all networked computers to automatically receive IP addresses.
- Access Control for managing users on the network
- User-friendly configuration and diagnostic utilities.
- Supports special applications that require multiple connections.
- Equipped with two 10/100 Ethernet ports, one for LAN and one for WAN access, an ExpressCard port, and a USB port for network connections.
- Please consult your service provider for more detailed information on wireless network standards.

- Virtual Router Redundancy Protocol (VRRP provides no single point of failure)
- IPSec termination - (not just pass through, often used for payment card industry security standards PCI)
- QoS (Quality of Service)
- Wireless Distribution System
- Software definable Ethernet ports

Package Contents

Important: Check the contents of the box first.

The Business Class II High Availability Router package should contain the items listed below. If any of the items are missing, please contact your reseller.

> (1) Business Class II High Availability Router
> (1) CD-ROM
> (1) RJ-45 Ethernet Cable
> (1) Switching 12V 1.25A Power Adapter
>
> Caution: Using a power supply with a different voltage rating other than the one included with the Business Class II High Availability Router will cause damage and void the warranty for this product.

System Requirements
> • Compatible with ExpressCard or USB modem card *with activated service*.
> * **NOTE**: Subject to terms available from your carrier.
> • Computer with Windows XP, Vista, Windows 7, Macintosh, or Linux-based operating system with an integrated Ethernet adapter or Wireless Wi-Fi 802.11 G interface.
> • Internet Explorer, Firefox, Safari, and Google Chrome (for accessing web-based configuration settings).
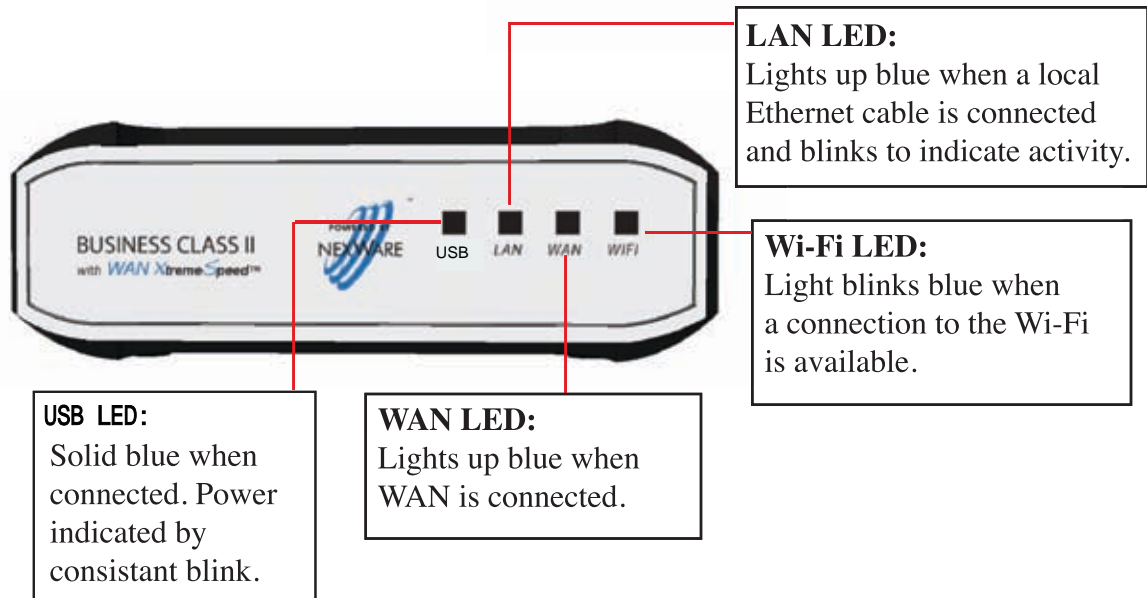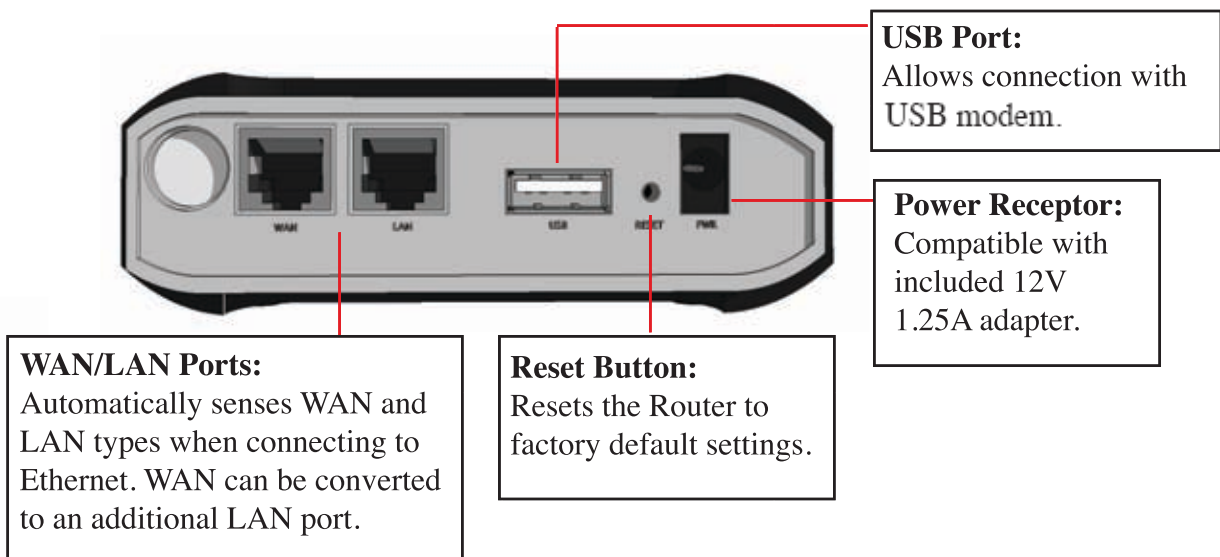
Wi-Fi Requirements
> • IEEE 802.11 b/g/n adapter.
>
> *ExpressCards, and USB modems need to be activated through your cellular service provider prior to insertion into the Business Class II High Availability Router.*

Hardware Overview

LEDs (Front View)

LAN LED:
Lights up blue when a local
Ethernet cable is connected
and blinks to indicate activity.

USB   *LAN*   *WAN*   *WIFI*

Wi-Fi LED:
Light blinks blue when
a connection to the Wi-Fi
is available.

USB LED:
Solid blue when
connected. Power
indicated by
consistant blink.

WAN LED:
Lights up blue when
WAN is connected.

Receptors and Ports (Rear View)

USB Port:
Allows connection with
USB modem.

Power Receptor:
Compatible with
included 12V
1.25A adapter.

WAN/LAN Ports:
Automatically senses WAN and
LAN types when connecting to
Ethernet. WAN can be converted
to an additional LAN port.

Reset Button:
Resets the Router to
factory default settings.

ExpressCard and Serial Console Port (Side View)

Serial Console Port

ExpressCard Port:
Allows connection with
an ExpressCard modem.

Default Router Settings

Login Screen	Username / Password	*root /admin*
Wi-Fi Interface	Devices	*enabled*
	Channel	*Auto select*
	ESSID	*NEXWARE### (### are the last 3 digits of the Router's MAC Address*
	Security	*WPA-PSK / WPA2-PSK*
	Key	*password*
Wired Interfaces	IPv4 Address / Netmask	*192.168.1.1 / 255.255.255.0*
System Settings	DNS Server	*208.67.222.222 / 208.67.220.220*
	Hostname	*NexWare*
	Timezone	*UTC*
Email Notifications		*disabled*
DHCP	Server	*enabled*
	First leased address	*100*
	Number of leased	*151*
	Lease time	*12h*
	Static Leases	*none*
Dynamic DNS		*disabled*
Port Forwarding		*none*
Quality of Service (QoS)		*enabled*
Routes	Static IPv4	*none*
SNMP		*disabled*
Remote Admin		*disabled*
	Port	*8080*
IPsec		*disabled*
SSH Server		*disabled*
VRRP		*disabled*
Internet Failover		*disabled*
UPnP		*disabled*

Hardware Setup

The Business Class II High Availability Router allows you to access your network using a wireless connection from virtually anywhere within its operating range. Please note that location placement of the router could affect the wireless signal and range limits.

Typical ranges also vary depending on the types of materials and background RF (Radio Frequency) noise present in your networking environment.

To maximize your wireless range, please follow these guidelines:
1. Choose the right location in your environment for the Wireless Broadband Router. The WLAN transmitters are radios, and degrade as they go through walls, floors, and obstacles like tubs full of water (almost impenetrable), stone, or concrete. So for best reception, place your router centrally to the rooms in which you expect to use WLAN the most. Each wall or ceiling can reduce the Business Class II II High Availability Router's range by as much as 90 feet (27 meters).
NOTE: The same considerations apply to your carrier's broadband carrier's connection.

2. Keep your product away from electrical devices (such as microwaves, air conditioners, cordless phones, refrigerators and televisions) that emit large quantities of RFI (Radio Frequency Interference).

NOTE: DO NOT\connect the Business Class II High Availability Router to power before following the installation steps below!

Business Class II High Availability Router Setup
      1. ExpressCard or USB connection:
          a. Insert an activated ExpressCard into the card slot.
          b. Alternatively, insert an activated USB modem into the USB slot.

a.   b.

2(ii). Ethernet connection:
   a. Insert one end of an Ethernet cable into the LAN Port on the back panel of the router. Insert the other end into an available Ethernet port of the network adapter in the computer that will be used to configure the unit.
   b. LAN LED should be on when connected. If not, check the connection between the router and computer.

NOTE: The Business Class II High Availability Router LAN Port is "Auto-MDI/MDIX", so any standard Ethernet cable will work.

3. Power connection.
   a. Connect the power adapter to the receptor on the back panel of the router. Plug the other end of the power adapter into a wall outlet or power strip.
   b. The Wi-Fi LED will turn ON and flash, indicating that the unit is powered on. Also performing the boot-up cycle. The LAN and WAN lights will be on if connected.
   c. The LED will flash and stabilize once a connection is established.
   d. Upon completion of the boot-up cycle, LAN and Wi-Fi lights will be on. Occational flashing may occur indicating normal activity.

NOTES: An uninterruptable power supply (UPS) is recommended for power surges and/or outages. At a minimum, a surge protector should always be used to protect the equipment from being damaged by electrical spikes and transients.

Wi-Fi Connection
   If you are connecting wirelessly to the Business Class II High Availability Router, you must ensure that the security settings on the connecting PC are the same as those on the router.

By default, the router broadcasts a secure Wi-Fi signal with WPA-PSK* encryption:
   • **SSID / Wi-Fi Signal Name** is set to **NEXWARE###** (where ### equal the last three characters of the router's MAC address)
   • **Channel** is set to channel **5(2.4GHz)**
   • **Security** is set to **WPA-PSK***
   • **Key (password)** is set to **password**

NOTE: It is recommended, for security reasons, that the security settings on the router be changed during initial setup.

*Please refer to your computer's Wi-Fi adapter documentation for additional information.

Initial Wireless Setup
Connecting to the Router Main Page for Installation and Configurations Settings

Follow the steps below to access the Router and perform installation and configure settings:

     1) Open a web browser on your computer connected to the router's LAN port by and Ethernet cable.
     2) Enter the IP address of the Router in the URL line of your web browser.
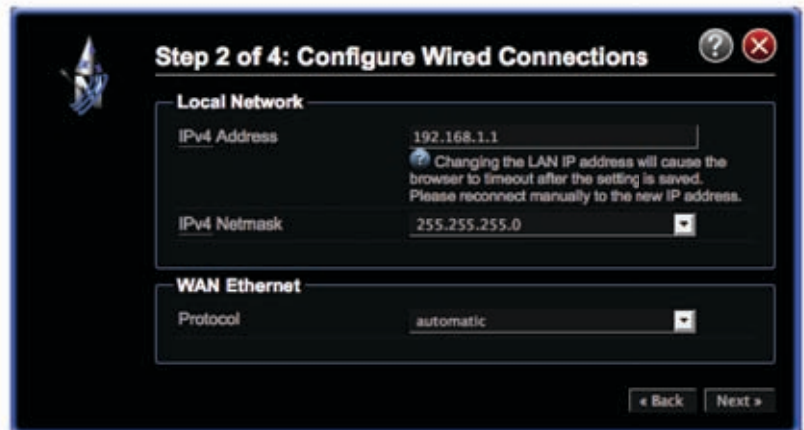
http://192.168.1.1

NOTE: If you have changed the router's default IP address, enter that address instead of the one above.

     3) Type **"admin"** in the **Password** field. If you have changed the password, enter the new one in this field. NOTE: Default **Username** is **"root"**.
     4) Click the **"Login"** button.
     5) You will be greeted by the iconic home page.

Setup Wizard

Select the Setup Wizard Icon. Select the Next button to proceed with the indicated steps of the automated setup process.

1) Change your administration password. It is recommended that the default password (admin) be replaced for security reasons. Enter your new password and then re-enter to confirm. Select Next to retain any changes and move to the next step.

2) Configure your Wired Internet connection.
    a. During the boot up process of the router if your wide area network (WAN) Ethernet cable is plugged into the WAN port of the router, the router will automatically be connected to your ISP.
    b. If your ISP requires you to setup the WAN as a PPPoE or PPTP, you will need to enter your ISP's required information into the proper fields.
        i. PPPoE. Typical entries include the Username and Password
        ii. PPTP. Typical entries include the Username, Password, and the PPTPServer Name.

3a) Configure your wireless settings.
   This step allows you to change whether the Wi-Fi is enabled, the channel on which the Wi-Fi is broadcast on, the wireless mode (b,g,n or mixed), the name that is broadcast, the security and encryption type, and the key (password) to access the broadcasted Wi-Fi signal.
     • Disable only if you do not want anyone accessing the router wirelessly.
     • Change channel if other wireless devices are interfering with the router. By default the router will auto-select the channel.
     • Select the wireless mode, choose from b,g,n or a mix.
     • The router's mode is factory set to provide (Access Point)
     • Change the Network Name (ESSID) to whatever name you wish to be broadcasted
     • Hiding the ESSID does not disable the WiFi signal and should not be thought of as security setting.

Hiding the ESSID only eliminates the name from being broadcasted.
- Change encryption type as necessary. Some wireless devices cannot connect to all encryption modes. The default setting is WPA-PSK. Other typical choices include WEP (ASCII or Hex), WPA=PSK, or WPA2-PSK. Additional available settings require additional software or hardware not included with this router.
- Change Key (password). We suggest that this setting be changed. This setting controls the require Key or password to access your wireless signal.
- Choose to filter by MAC Address.

3b) Internet Connection Setup.

a. During the boot up process of the router all compatible data cards are recognized and are setup automatically. No additional information is typically required to complete the setup of your compatible Internet Connection Setup.

b. If your ISP requires additional information to connect to their network, please refer to their documentation for APN, PIN Code, Username, and Password. All data entry fields may not be required to connect to your ISP's network.

c. Avalible options and selections are dependant on the presence of a datacard and the carrier network type.

4) Select Next to retain any changes and move to the Completion page and select Finish.

Basics

Admin Password

You can change the router's administrative password. (default = admin)

Wi-Fi Settings

Here you can change whether the Wi-Fi is enabled, the channel on which the Wi-Fi is broadcast on, the name that is broadcast, the wireless mode, the encryption type, the key (password) to access the broadcasted Wi-Fi signal, and enable Wireless Distribution System (WDS).

- Disable only if you do not want anyone accessing the router wirelessly.
- Change channel if other wireless devices are interfering with the router.
- Change the router's Wireless Mode. Choose from six settings, b, g, or n and mixes.
- Routing mode is factory set to Provide (Access Point).
- Choose to hide the ESSID.
- Change the Network Name (ESSID) to whatever name you wish to be broadcasted.
- Change security and encryption type as necessary. Some wireless devices cannot connect to all security modes.
- Change Key (password). We suggest that this setting be changed.
- Choose to enable MAC Address filtering, then select filter policy and create the address list.

NOTE: After any changes, select "Save" to retain. System will refresh following, "Save".

WDS: Wireless Distribution System (WDS) is a feature that allows multiple access points of the same physical radio type to be bridged together as one common WiFi network. Because the same physical radio type must be used, this feature only operates with other Nexaira routers. The following configuration options are available:

- BSSID: Your router supports up to four WDS clients. Enter the BSSID (MAC address listed on the bottom label of the router, also listed under LAN on the Wired Interfaces page) of the other devices to be connected to via WDS.

Wired Interfaces

Here you can review WAN, and LAN status as well as change Local Network, and WAN Ethernet settings.

- The IP address is the address of the router. It is also your local network's gateway address which is used by all LAN hosts to access the Internet through the WAN connection.
- The Netmask is used to determine the number of subnetworks that can be connected to the router.
- The IP Gateway (optional) field is and advanced an optional setting that is available if your local network has a gateway that is different than the router's LAN IP address.
- DNS Server (optional) allows you to specify a DNS server for LAN hosts to use if your WAN connection does not supply a valid server address, or if not-peer DNS Server information is required or chosen under Cellular Datacard settings.
- Change WAN port into a second LAN port.
- Enable IP Passthrough mode to have one client have the WAN IP. All router functions are disabled.
- Enable or disable the router's ability to connect to the internet through a WAN Ethernet connection.

NOTE: After any changes, select "Save" to retain. System will refresh following, "Save".

Realtime Network Traffic

The Network Traffic status screen shows current traffic status of active interfaces, such as the LAN, the connected Datacard, and the WAN.

Logout

Here you will be logged out of administrative mode. You will be returned to the login screen.