RadioLabs

Wireless and Beyond
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Bullet High Speed Wireless Platform
Point to Point Bridging Instructions

PLEASE READ THESE INSTRUCTIONS BEFORE CONFIGURING OR DEPLOYING YOUR BULLET HIGH SPEED WIRELESS PLATFORM (S)

Thank you for purchasing a RadioLabs Bullet High Speed Wireless Platform. Using this device, you will be able to bridge LAN connections with wireless speeds up to/over 100 megabits/second (condition and distance dependent). The Bullet Point to Point Bridge can act as a non-routing LAN extension or as a NAT-enabled gateway to link two locations via the IEEE 802.11N wireless protocol.

Connection Diagram
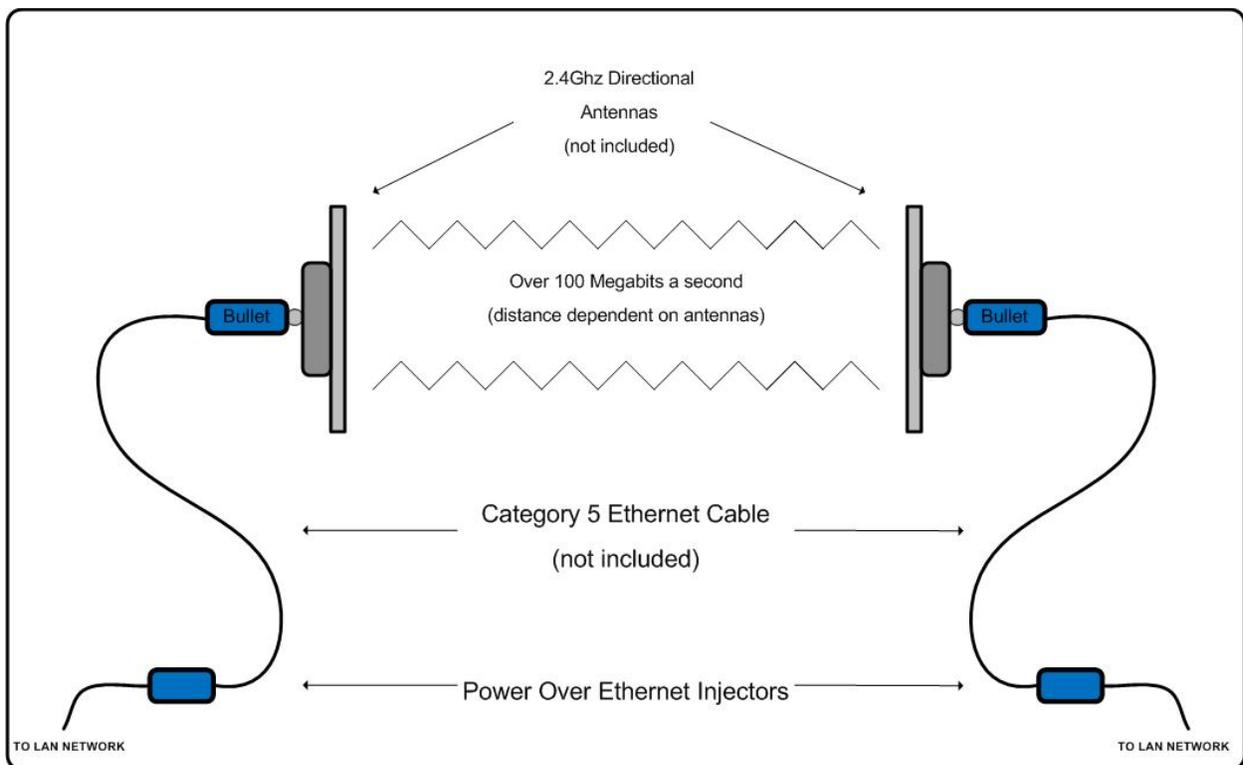
Parts necessary to create Bullet Wireless Bridge
2 – Bullet High Speed Wireless Platforms (Power Over Ethernet Injectors included)
2 – 2.4Ghz Wireless Antennas
4 – Category 5 Ethernet Cables

Connecting the Bullet High Speed Wireless Platform to your computer for configuration.

*Connect a Category 5 Ethernet cable between your PC/MAC's ethernet port and the **LAN** port of the POE Injector.*

*Connect a second Category 5 Ethernet cable between the **POE** port of the POE injector and the Ethernet port of the Bullet.*

Connect the POE Injector to AC power with the included power cable.

You will **not** need to connect an antenna to the Bullet at this time, you will be prompted to do so further along these instructions.

<u>Before configuring your Bullet High Speed Wireless Platform(s), you will need to disable your internal wireless card or Airport (if applicably) and set a static or "unchanging" IP address.</u>

<u>Windows</u>

XP: Open Start Menu and select Control Panel
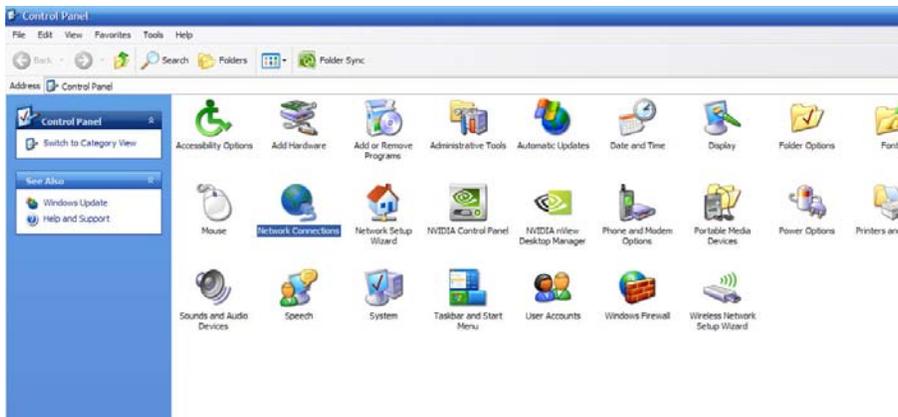
Select Network Connections (if unavailable, select show "Classic view")
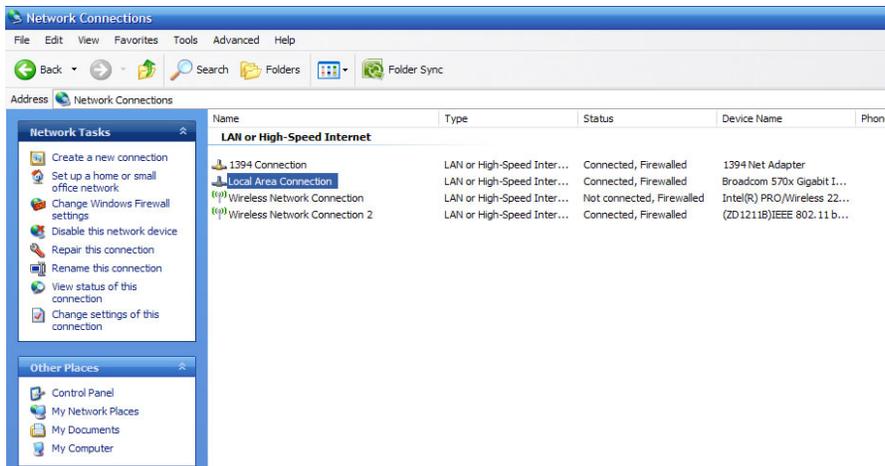
Vista: Select Start Menu/Windows Logo > Network > Network and Sharing Center > Manage Network Connections

Windows 7: Select Start Menu/Windows Logo > Network > Network and Sharing Center > Change Adapter Settings

Once you can view your system's network connections, right click on "Wireless Network Connection" and select "Disable".

<u>Macintosh OS X</u>

Select the Airport Status Icon (upper right hand corner of screen) and select "Turn Airport Off"

When logging into the Bullet to configure the unit, you will need to have a Static IP address on your PC/MAC's Ethernet Adapter.

Windows

XP: Open Start Menu and select Control Panel
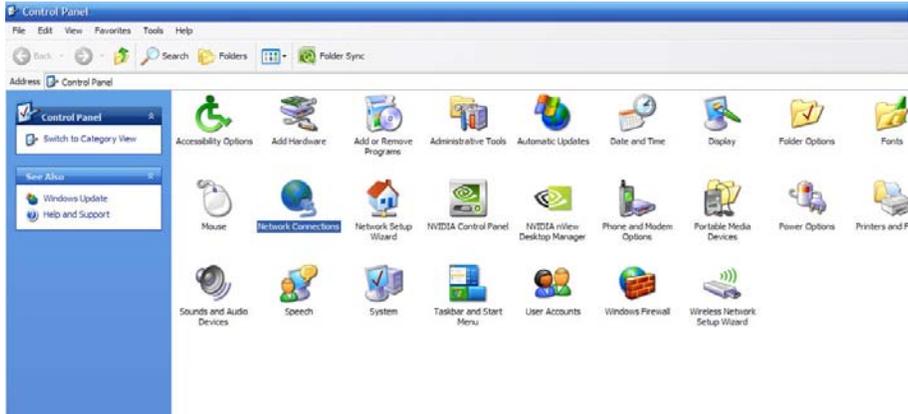
Select Network Connections and right click "Local Area Connection"
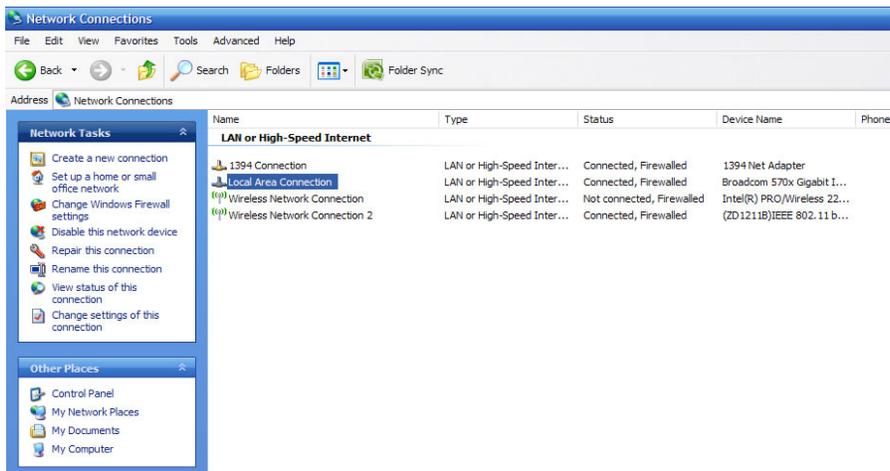
Select Properties
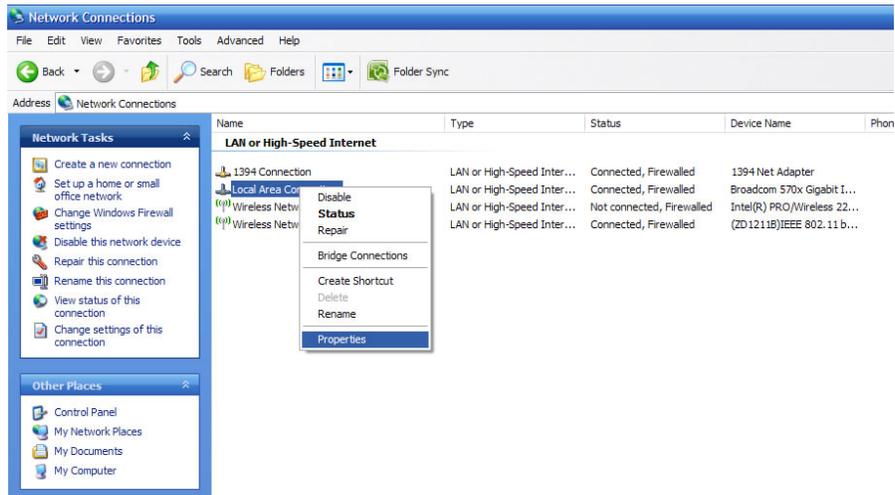
Select Internet Protocol (TCP/IP) or Internet Protocol (IPv4) and click Properties
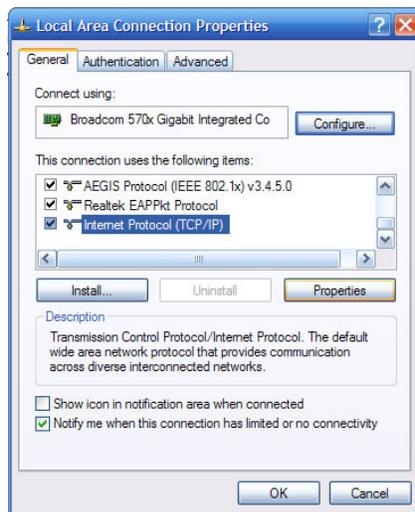
Select "Use The Following IP Address" and Enter 192.168.1.10 into the IP Address field and 255.255.255.0 into the subnet mask field

Select "OK" and select "Close" on the Local Area Connection properties window.

Vista: Start Menu/Windows Logo > Control Panel > Network and Sharing Center > Manage Network Connections > right click "Local Area Connection" and follow instructions from page 5.

Windows 7 : Start Menu/Windows Logo > Control Panel > Network and Sharing Center > Change Adapter Settings > right click "Local Area Connection and follow instructions from page 5.

Once you have configured your Bullet(s), you will need to follow these steps again and select "Obtain an IP address automatically"

Your PC/MAC is now ready to configure the Bullet High Speed Wireless Platform.

Open a web browser (Internet Explorer, Mozilla Firefox, Safari, etc.) and enter 192.168.1.20 into the address bar and hit "Enter".

Enter 'ubnt' (minus quotations) into both the User Name and Password field and select "OK"
*(This is the default username and password for the Bullet, this can be changed in the **System** tab)*

This is the main configuration page of your Bullet High Speed Wireless Platform. This will show the current status of the unit along with LAN/WLAN throughput and signal strength once the unit is configured.
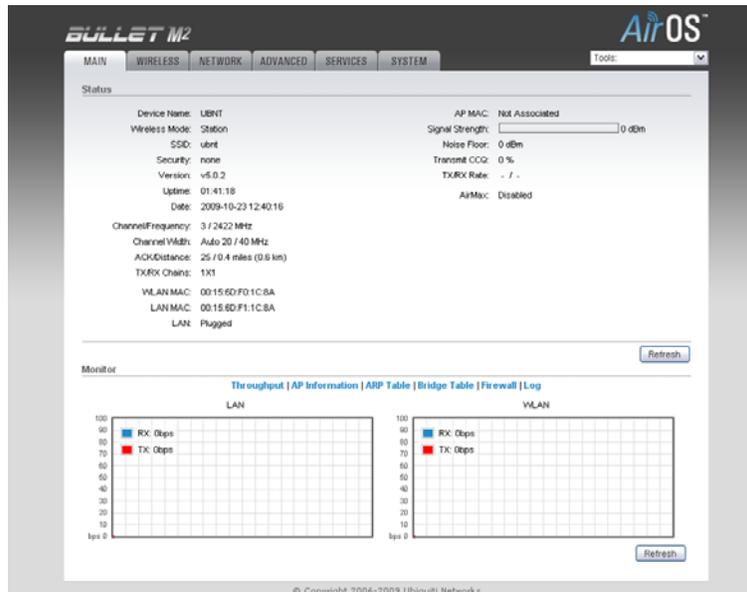
*Select the "Wireless" tab and change the "Wireless Mode" to "**Access Point WDS**".*
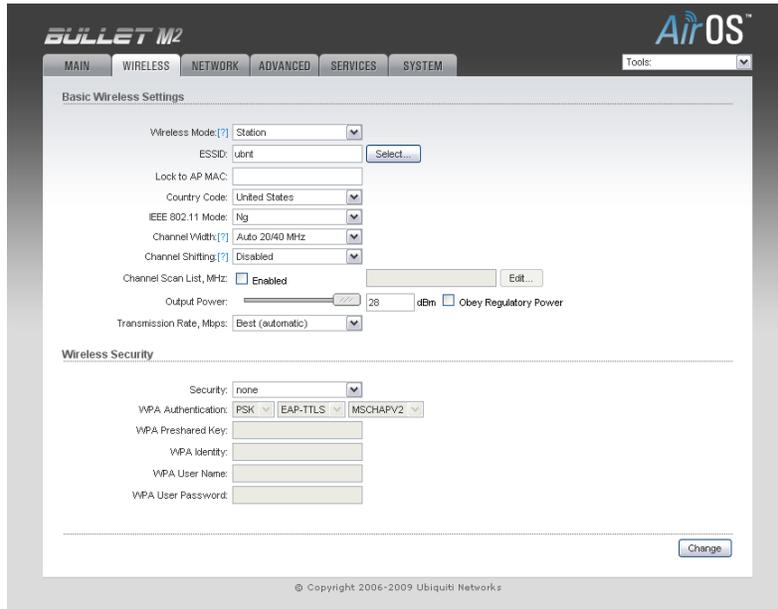
This will open the "WDS Peers" table. Enter the MAC Address of the secondary Bullet (12-digit alphanumeric code located on the top of the Bullet product box) into the first WDS Peers field.

*Do not enter the MAC address of the unit you are configuring into the WDS Peers field. If you are not sure of which address is correct, you can verify the address against the WLAN MAC address at the **Main** Tab of the configuration screen*

Select "Change" in the lower right hand corner and then "Apply" at the upper right hand corner.
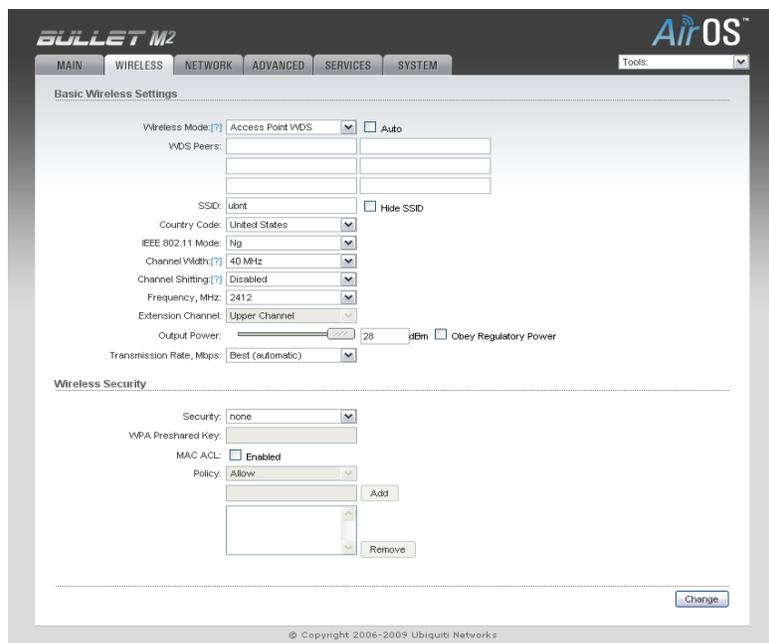
Once the Bullet has rebooted, you are ready to configure the second half of the bridge. Unplug the Ethernet cable from the Bullet you have just configured and connect to the Ethernet port of the second Bullet.

Follow the same procedure as the previous unit (page 8)

*Select the "Wireless" tab and change the "Wireless Mode" to "**Station WDS**"*

*Enter the MAC Address of the primary Bullet (the one previously configured) into the "**Lock to AP MAC**" field. Select "Change" in the lower right hand corner and then "Apply" at the upper right hand corner.*
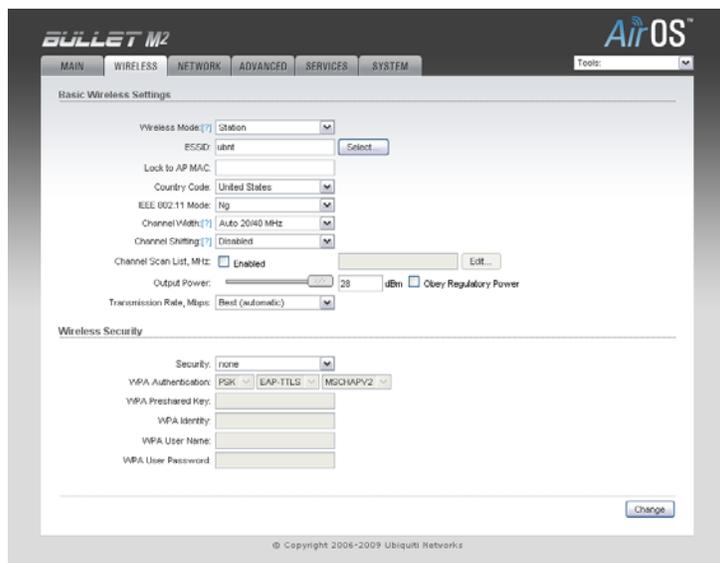
*Select the "**Network**" Tab and change the IP Address field to **192.168.1.21***
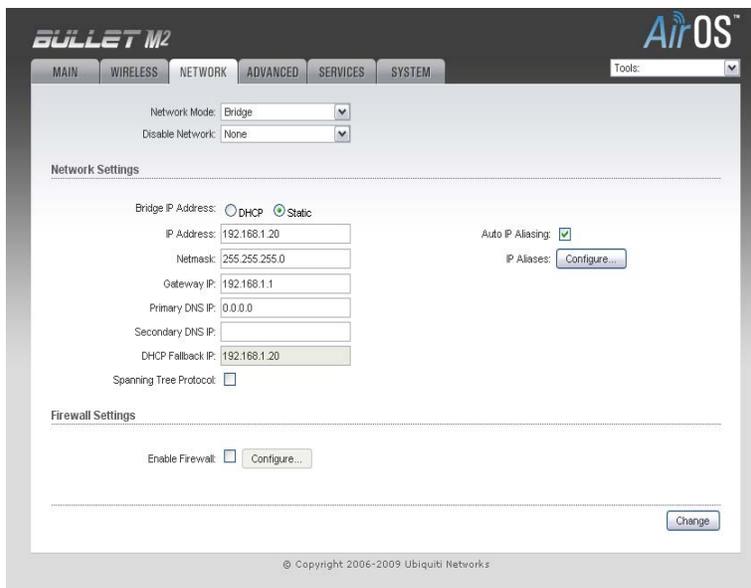
Select "Change" in the lower right hand corner and then "Apply" at the upper right hand corner.

Your Bullet High Speed Wireless Platforms are now configured as a Point to Point Bridge. Antennas can now be connected to the integrated N-Type connector and the system can be deployed. The connection diagram at the beginning of this manual details the correct cabling connections for integration into an existing network or LAN. If you are bridging to a single computer, the LAN connection of the POE Injector of the remote unit or "*Station*" can be connected directly to the computer's Ethernet port to allow network access.

Additional Information

Most connection issues can attributed to incorrect MAC address entry. If you are unable to gain network access or if the bridge is not functioning correctly, double check the MAC address entries against the WLAN MAC addresses listed on the Main Tab of each of the Bullet's configuration page.

The Bullet High Speed Wireless Platform is, by default, configured as a non-routing, non-addressing network device. If you wish to use these units to forward DHCP assigned addresses to a remote location, the default "Bridge" network mode will suffice (listed under the "**Network**" tab). If you wish to have the one of the Bullets act as a DHCP server or NAT gateway, select the "**Router**" option and the unit will allow configuration of your LAN/WLAN addressing and DHCP functionaility.

Wireless speeds are affected by many different environmental variables, including line-of-sight, frequency interference and ambient radio noise. The Bullet High Speed Wireless Platform supports speeds up to 100 megabits/second (true throughput), however, due to natural variance in signal and the automatic speed selection, this may vary. If sustained speeds are required, you can lock the Bullet(s) into a throughput rate using the "**Transmission Rate, Mbps**" menu under the "**Wireless**" Tab