Broadband HamNet

Monthly Training
Rexburg Region
2016-08-24

http://www.broadband-hamnet.org/

PowerPoint: http://rexburghams.org/assets/HamNet.pptx

What is it?

Broadband-Hamnet™ (formerly called HSMM-Mesh™) is a high speed, self-discovering, self-configuring, fault tolerant, wireless computer network that can run for days from a fully charged car battery, or indefinitely with the addition of a modest solar array or other supplemental power source. The focus is on emergency communications.

Hamnet is not software; it is a network.
Mesh nodes on channels 1-6 use FCC part 97 rules instead of part 15. This allows big antennas, more power, and other changes

Introduction Video: http://www.arrl.org/wedothat-page3

What do you need to make it work?

Linksys Router or Ubiquiti Radio
Antenna

Linksys Devices

Hardware versions are on the device label on the bottom but the font is very small and difficult to read. Keep in mind that the WRT54G v 1.0 uses only regulated 5.0v power. Higher voltage will let the smoke out. V 1.0 units are easy to spot since they have 3 status LEDs for each LAN jack and all others have one. *The easiest way* to determine hardware versions on Linksys devices is to *read the serial number*. The first few letters of the serial number decode the actual hardware version using the chart in the link above. These serial numbers are also printed on the outside of new hardware boxes near the UPC barcode and can be read without buying the product or opening the box.

WRT54G Series

Model	Version	Comments
WRT54GS	1.0 – 3.0	Most memory (32/8) MB
WRT54GS WRT54G WRT54GL	4.0 1.1 – 4.0 1.0 – 1.1	16/4 MB
WRT54G	1.0	16/4 MB 5V DC power Warning - uses different supply voltage from all other models.

Higher numbered versions of each model are not compatible with Broadband-Hamnet™ firmware.

Ubiquiti Devices

Ubiquiti firmware for the listed devices is available from the Software Download page, and properly interacts with BBHN devices of the same major version number. For example, a WRT54GL using 3.x.x will talk to a Bullet M2 if both are in the same band, in RF range of each other, and have 3.x.x firmware. You always have to match the SSID as some devices can create differing RF signals not compatible with other hardware.

	M2	M5	M9
AirGrid	√	√	
Bullet	√	√	
Bullet Titanium	√	√	
NanoBridge	√	√	√
NanoStation Loco	√	√	√
NanoStation	√	√	
Rocket	√	√	√

How do you configure a node?
. Links to Linksys
http://www.broadband-hamnet.org/documentation/68-firmware-installation-instructions.html

. Links to Ubiquiti
https://www.youtube.com/watch?v=Dz3VOvhforg

Where are nodes located?
http://www.hsmm-mesh.org/googlemapped-mesh-nodes.html

What we've done with it
. video feed at Menan Butte Trail Challenge
. linked logging computers at Dam Marathon

Demo Applications
. Camera
. TeamTalk
. Email
. Ventrilo
. Links to internet (careful with this one)
. (anything you can do on the Internet or your home Wifi can be done with HamNet)

Where can I get more information?
http://wndw.net/book.html#readBook

http://www.broadband-hamnet.org/just-starting-read-this.html