

OVH'S MESHTASTIC NODE

TO BE INSTALLED ON MT. PONE

PRESENTED BY GIL, KM4OZH, JAN 22, 2025

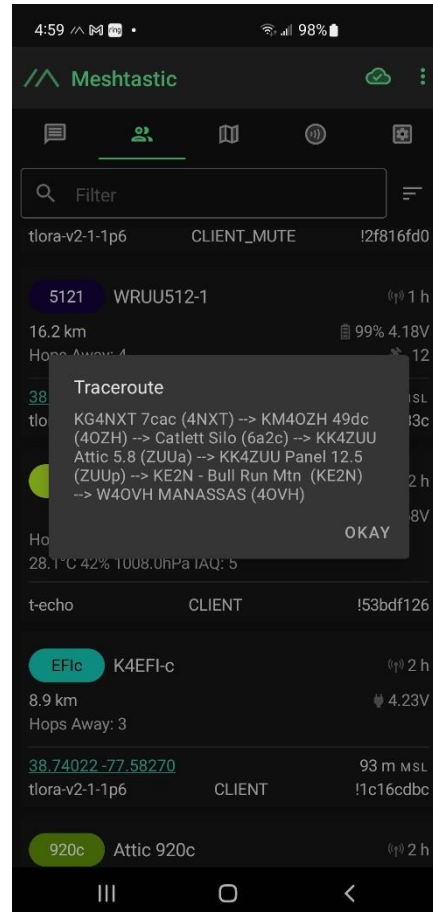
Meshtastic Refresher

- Andy, K1RA, presented Meshtastic at August, 2025 meeting. His excellent slides can be found at <http://w4ovh.net> - logon then click “Learning Center”, then click “Presentations”.
- 915 MHz at 100 milliwatts. No license required.
- Self-configuring network
- Low cost - \$17.82 plus 4 cents shipping (really!)
<https://www.aliexpress.us/item/2251832685763835.html? t=pvid%3A60558c43-b4ca-4971-86aa-2639869bdc02>
- OVH members using include Gil, KM4OZH; JOHN, KG4NXT; BYRON, AK4XR; KEN, KE2N; RON, K3FR; DAVID, KK4ZUU & BRUCE, KN4GDX

Need for Node on Mt. Pone

- Gil has a beam pointed at Warrenton. If you are in Gil's path, fine.
- If you are not in Gil's path, you may have problems connecting to the network.
- Example – Ron had a brief connection that he attributed to bounce off a passing airplane.
- We want to make meshtastic more available in the Manassas area.

Trace route from KG4NXT TO KE2N



No cost to the OVH club – everything donated

- Comet KP-20 Antenna – 8ft – 900 to 930 MHz. 9 dB gain. Rated 100 watts and 112 mph wind load
- LILYGO meshtastic node – does not have GPS like T-Beam
- 12v to 5v converter –
- High pass filter – to save module from strong signal from our other repeaters at Mt. Pone.
- Weatherproof box with SO-239 for power
- SMA to N connector for the antenna

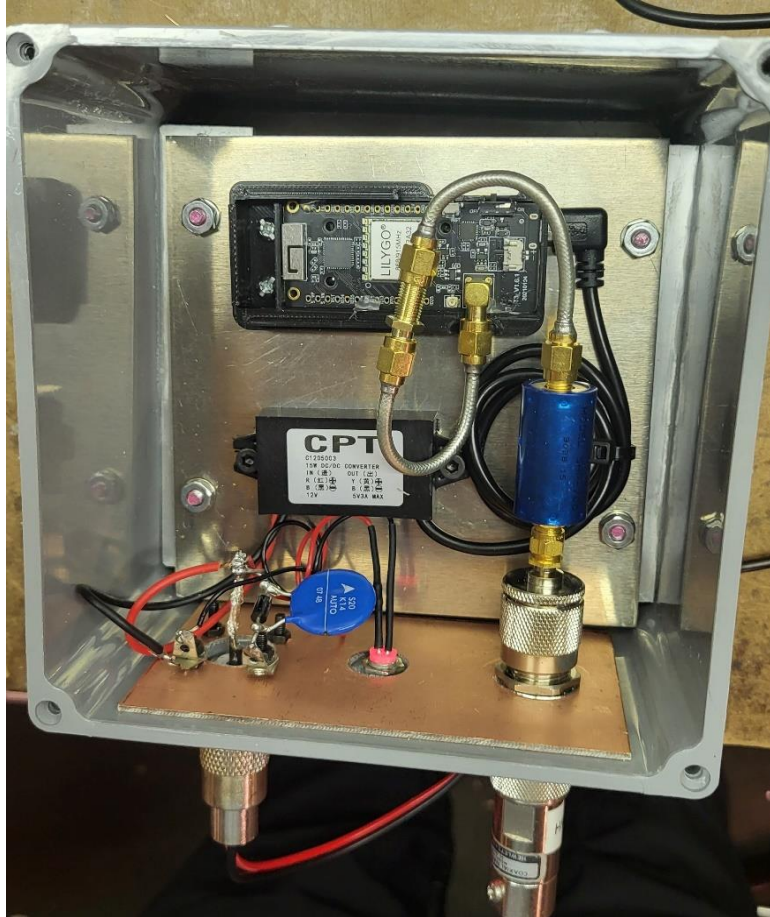
How to power the node

- Solar was considered
- We decided to use an unused and existing coax line to feed 12 volts to the node
- It will be converted down to 5 volts for the LILYGO with SO-239 on box

Donors of time and material

- Byron, AK4XR
- Gil, KM4OXH
- JOHN, KG4NXT
- KEN, KE2N

Inside the node



The filter you see there is a *high-pass* filter, the purpose of which is to reduce signals from the repeaters. It has a cutoff frequency of about 750 MHz. That is, signals *below* 750 MHz are attenuated.

The final version eliminates that semi-rigid coax (since the radio circuit board itself has a lot of direct pickup, it's pointless to use fancy coax here) and we have added a bandpass filter centered on 907.5 MHz. This is to reduce pickup of the very strong signal on 929 MHz near Mt. Pune.