February 10, 2025 SARC Meeting: Meshtastic getting started.
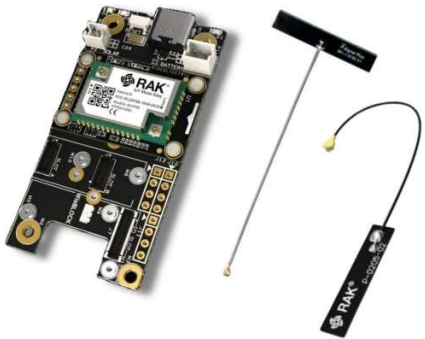
SARC Members,

For February's meeting I'd like to lead a discussion on using Meshtastic Devices using the ISM band as well as the Amateur Radio Part 97 rules.

During the meeting we will be able to flash your devices with the current meshtastic software, connect them to you hand held devices (tablet or smartphone) via Bluetooth. And assemble a tactical net for digital communications.

If you already have a meshtastic radio, please bring it with you to the meeting. If not I'd recommend the following items available on Amazon.com:

RAK Wireless.

The RAK Wireless devise use the Nordic microprocessor, which is a low power device for battery conservation. It comes with a CCB antenna for Bluetooth and LoRa radios. RAKwireless also provides a case, sold separately. Some 3d printed case ideas can be found on the Meshtastic Website at : https://meshtastic.org/docs/category/enclosures/ . The devices is about $35

RAKwireless WisBlock Meshtastic Starter Kit US915 Base RAK19007 + Core RAK4631

Amazon.com: RAKwireless WisBlock Meshtastic Starter Kit US915 Base RAK19007 + Core RAK4631 : Electronics

https://www.amazon.com/RAKwireless-WisBlock-Meshtastic-Starter-RAK19007/dp/B0CHKZJK9C/ref=sr_1_1_sspa?crid=HK040BAZ7A6E&dib=eyJ2IjoiMSJ9.P-pBjcS3KFU1bmw4txr0b_7lmjgC65Nyl1oM185LBBXaJQ8u7Cb-RxV61qA4h3cpBGwmLWPJGno6e8YnuGps20DV6XXgY2WvUBMh7IvBdOaLdYSH2Hoa8BZZTPDmbroI0aE36EW5H9j1RiqspnAqVMYthlD1PRl2zGPkT-Qmq3dlfKU7aqYh3shH-xUTLHIemMSd-DocrMQeEwNQDlgnL0ATi42RB3u2VEjpqXvv9Cs.NtzTwZ_D_YABnaZFfwtfEEiVV12eBVSqiJBQStaz7Po&dib_tag=se&keywords=Meshtastic&qid=1736787401&sprefix=meshtasti%2Caps%2C334&sr=8-1-spons&sp_csd=d2lkZ2V0TmFtZT1zcF9hdGY&th=1
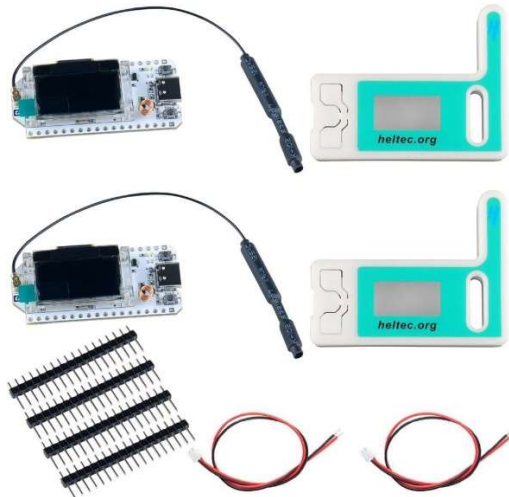
HELTEC V3

The HELTEC V3 devices uses the ESP32 processor, which is a little power hungry, but very easy to develop for using the Arduino IDE. The radios have a built in Bluetooth antenna (the small coil on the board) and come with a coiled antenna for the Lora Radio. I'd recommend a 915MHZ 0dBi whip sold separately. A Pair of these devices is about $53 and comes with a simple case.

There are a number of 3d printed cases for the HELTEC V3 that includes space for a 3.7VDC LiPO battery.

When selecting a battery, pay careful attention to the connector polarity.

A Very nice case by ALLEY Cat is available here: https://www.printables.com/model/936437-heltec-lora-32-v3-ht-slimpro-cases-by-alley-cat . Other examples can be found at https://meshtastic.org/docs/category/enclosures/

2 Sets 915MHZ ESP32 Lora V3 WiFi+BLE Development Board 0.96inch OLED Display ESP32-S3 Dual-core SX1262 Type-C Lora Kit for Arduino NodeMCU IoT

Amazon.com: DIYmall 2 Sets 915MHZ ESP32 Lora V3 WiFi+BLE Development Board 0.96inch OLED Display ESP32-S3 Dual-core SX1262 Type-C Lora Kit for Arduino NodeMCU IoT : Electronics

https://www.amazon.com/Assembled-0-96inch-Bluetooth-Development-Transceiver/dp/B08629526P/ref=sr_1_20?crid=HK040BAZ7A6E&dib=eyJ2IjoiMSJ9.P-pBjcS3KFU1bmw4txr0b_7lmjgC65Nyl1oM185LBBXaJQ8u7Cb-RxV61qA4h3cpBGwmLWPJGno6e8YnuGps20DV6XXgY2WvUBMh7IvBdOaLdYSH2Hoa8BZZTPDmbroI0aE36EW5H9j1RiqspnAqVMYthlD1PRl2zGPkT-Qmq3dlfKU7aqYh3shH-xUTLHIemMSd-DocrMQeEwNQDlgnL0ATi42RB3u2VEjpqXvv9Cs.NtzTwZ_D_YABnaZFfwtfEEiVV12eBVSqiJBQStaz7Po&dib_tag=se&keywords=Meshtastic&qid=1736787473&sprefix=meshtasti%2Caps%2C334&sr=8-20

LILYGO T-Beam

The LILYGO T-Beam is another popular Meshtastic Device. The T-Beam retails for about $52. And comes with a whip antenna and a built in Bluetooth Antenna. The T-Beam also uses the ESP32 processor. Some enclosure ideas can be found at https://meshtastic.org/docs/category/enclosures/ .

LILYGO T-Beam Meshtastic LORA32 915MHz ESP32 TTGO Development Board WiFi BLE CH9102F Chip Soldered OLED Module

Amazon.com: LILYGO T-Beam Meshtastic LORA32 915MHz ESP32 TTGO Development Board WiFi BLE CH9102F Chip Soldered OLED Module : Electronics

https://www.amazon.com/LILYGO-Meshtastic-Development-CH9102F-Soldered/dp/B0B63FV7FR/ref=sr_1_1?crid=1OZMD2I50O6LK&dib=eyJ2IjoiMSJ9.AfFccmM6OHyFtKijoA8lQNNaeqh5_lu2XI6CCVCkQ6Vassb2IO0tEm3Hgx-rX3Q-51PtDxPv6mqI6rgLrRPKbZUoKCW2IGyuATO6rK9sLnnsOAKk0CjK4aqlkhuKwvCcfuwbu7UYlZmO3VXt0t0USXXq25tGmrvXpial4lgtUbNOe6fvPTkDeVdTpyqYJ5PuaCPFE7UE7lbyM7heh0T1aDC2rkjrB0GF978USqMRhzU.zcbMiD3WOYs6XOKNbE7Ch9MQ0gPbLIKix4XCQmJYbN8&dib_tag=se&keywords=meshtastic%2Blilygo%2Bt-beam&qid=1736787591&sprefix=Meshtastic%2Blilly%2Caps%2C328&sr=8-1&th=1

I look forward to seeing everyone with their meshtastic devices. If you have some interest you may also want to download the Android Team Awareness Kit (ATAK) (also works on Iphone) prior to the meeting.