MERT
Marion County Emergency Radio Team

Importance in Participating in Weekly Nets Jan. 2025

Why does MERT have weekly Nets!

1. MERT's radio nets are conducted on a regular schedule and on repeaters used during **every Emergency Activation** for a specific purpose – **to verify the repeater systems are fully functional and ready for operation**.
2. These weekly and monthly tests also verify MERT members and other emergency communicators (EMCOMM) can send and receive voice communications along with passing Winlink digital messages with MERT during emergencies. Those organizations include:
    a. MERT Shelter Operators – Marion County
    b. Marion County Cities – i.e. Dunnellon EOC
    c. Hospital Emergency Communications Team (HEC) - Marion County
    d. Amateur Radio Emergency Services (ARES) - Marion County
    e. Citizen Emergency Response Team (CERT) – Marion County
    f. Florida Division of Emergency Management (FDEM) – State of Florida
    g. The SHAred RESources (SHARES) High Frequency (HF) Radio network[1] – U.S. Government

Why are there two weekly Nets each Thursday?

MERT conducts two Nets each week in verifying both critical repeaters used in every emergency activation are ready and fully operational should an emergency be declared by the Division of Emergency Management.

What are the two repeaters tested each week?

Repeater KK4DFC

D-Star @ 146.790 MHz (receive freq.) with an offset of – 600kHz; transmit freq. is 146.190 MHz

- D-STAR, or Digital Smart Technology for Amateur Radio, is a digital communication protocol for amateur radio that allows users to connect with other users worldwide.
- MERT uses D-Star to significantly reduce transmissions from "bad actors" during emergencies causing harmful interference. D-Star also allows tracing "bad actors".
- D-STAR has several features, including:
    - Digital voice and data.
    - D-STAR allows users to access the internet through a gateway.
    - Call sign identification is included on every transmission.
    - D-STAR has a call sign squelch function that opens the squelch only when a user's call sign is received.

Repeater KJ4CLL

This is an open FM repeater @ 145.330 MHz (receive freq.) with an offset of – 600 kHz; transmit freq. is 144.730 Mhz.

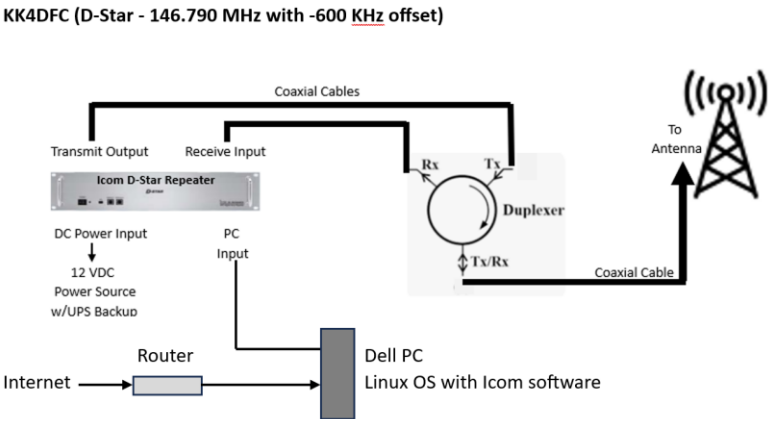
- This repeater is open to all amateur radio operators during non-emergency activations and available for use by FCC licensed operators within range. Radio communications traffic by all amateur radio operators is **encouraged**.
- During emergency activations, this repeater is **restricted to only emergency traffic** as directed by the Marion County Emergency Radio Team (MERT) and authorized by the Incident Commander (IC) of the Division of Emergency Management, Marion County Sheriff's Office.

What equipment is tested during every Net?

Both operational Nets confirm the following hardware/systems are working as required:

- Antenna and tower cable system
- Internal cabling from the radio repeater to the tower cabling system
- Tuned Duplexer to the Radio repeater
- Radio Repeater (and the controller/operating system managing the repeaters operation)
- DC power supply and UPS system providing dc and AC power to electrical equipment.

(R) The drawing details the multiple hardware and electrical/cable connections for a D-Star repeater to operate correctly.



MERT Member participation is VERY IMPORTANT!

As detailed above, weekly participation also tests the equipment and systems located at the EOC and at each members residence along with practice using their radios by making contact with other licensed operators sharing their call sign, exchanging signal reports, and practicing verbal conversation protocols. MERT Members – Thank you for joining one or both Nets EACH WEEK.

1 – SHARES coordinates a voluntary network of multiple government agencies, industry, and disaster response agency HF radio stations used for emergency communications (EMCOMM). MERT is a licensed participant representing the Division of Emergency Management - Marion County (FL) Sheriff's Office.

2 - D-STAR was developed in the late 1990s by the Japan Amateur Radio League (JARL).