

MERT

Marion County Emergency Radio Team



Marion County Sheriff's Office
Div. of Emergency Management

COMMUNICATIONS UPDATE

November 2023

MERT's primary role is to support all open Evacuation Shelters throughout Marion County during declared Emergency events. We also support EOC and emergency personnel along with Community Emergency Response Teams (CERT) with voice, image and data communications resources. *"Call MERT.... When all else fails!"*

Mark your calendars!

MERT Monthly Meeting

The next Meeting will be on November 18th @ 10:00 am at the MCSO EOC (692 NW 30th Ave, Ocala, FL 34475).

See You there!

Fall has Arrived... and the End of Hurricane Season is near!



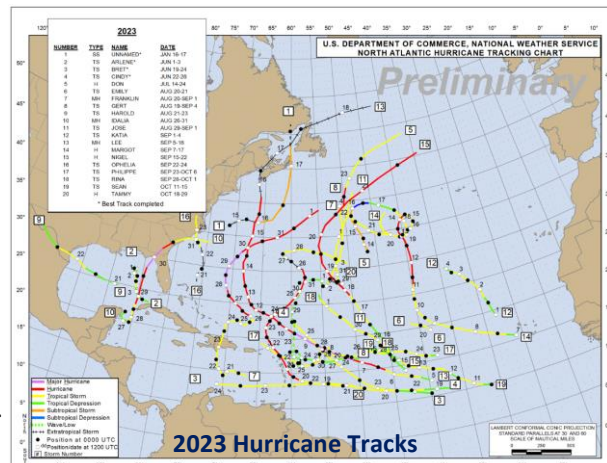
Harlan Cook (KN4VRM)
MERT Coordinator

While most know of my fondness for warm weather, I admit that Fall is a special time of the year here in Northern Florida. Cooler temperatures, dryer air and the knowledge that the end of the annual Hurricane season is near makes it a very special time!

We did have a "very close call" when MERT was activated during Hurricane Idalia (Aug. 29/30) where it passed West of Marion County. Since then, the weather patterns have been very unusual as storm after storm stayed far East of Florida in the Atlantic.

While this season resulted in just one Activation, MERT Members remained very busy in completing updates to the SHREK Kit ICS-205 Incident Radio Communications Plan then seeing all SHREK radios reprogrammed.

Wrapping up another major project for 2023 was completing a significant project creating a new "Training Skill Book and New Member Orientation Guide". This task started last year



"The broadest, and maybe the most meaningful definition of volunteering..."

Doing more than you have to because you want to, in a cause you consider good." ~Ivan Scheier

and was the most important undertaking by MERT... (well maybe the MERT Tower re-cable project was up there too!).

I am so very pleased in sharing MERT continues receiving additional new membership applications as attendance at Marion Days, several Festivals, other community events and speaking requests help share with the public what we do and how we use our **unique amateur radio skills** to Staff the Emergency Shelters and... Help others, when they need help!

Thank you for taking time to introduce yourself and help each new Member feel welcomed. As we all know, MERT is a truly unique organization requiring most Ham's to learn an amazing number of new procedures, protocols, radio systems, etc., etc. I know they will sincerely value your personal time in saying... **Hello and Welcome!**



MERT Task List Update

Completed!

- ✓ MERT completed the New Member Orientation Guide helping all Members identify the classes, activities and projects leading to being skilled and knowledgeable on MERT procedures, hardware, systems and ICS protocols supporting any MERT activation.

Completed!

- ✓ Creating the companion MERT Skill Book allowing Members to document and track their own progress in learning the many skills needed for MERT Members.

These projects were combined due to many overlapping skills and learning experiences.

Moving forward....

- Complete the school Shelter Audits. (Awaiting MCPS support.)
- See the antenna repairs at Belleview Middle School are completed ASAP. (Awaiting the MCPS support.)
- Learning the plans on MCPS supporting the existing PC in Shelters...or in having MCSO provide laptops for MERT Members operations when activated. (Awaiting MCPS decisions.)
- Replacing and moving the OCF HF Antenna tower (telescoping type) to the outer corner of the generator fence to place the antenna long wire element further from the large tree reducing interference and improved signal quality.
- Conduct more training events on all phases of MERT operations – basic to MCC!

MERT's focus for 2024 is have some fun, learn new skills, grow Membership and focus on our Mission – "CALL MERT... When all else fails!"

"Come On. YOU can do it! Participation and support are a legacy to be proud of forever."

Did YOU Know? MERT October Training Nets and Exercises
Over 26 Events and 200 Participants!

Participating in formal radio nets and Exercises is vitally important for maintaining critical Emergency Communications (EMCOMM) knowledge and skills. Each month, MERT Members participate in Training Net's and Exercises towards those objectives in maintaining regional inter-agency and local EMCOMM organizational communications. Here's a list of October activities and participation levels.

Net or Exercise Schedule Day/Time Participation Levels

MERT D-Star Net Weekly Thursday @ 1930 hours **52 contacts**

Activity: MERT Members and other hams operate digital voice transmission mode capable radios from base and mobile locations confirming equipment operation over the 2 Meter (VHF) band.



MERT WINLINK Challenge Weekly Thursday @ 1930 hours **67 messages**

Activity: MERT Members, ARES, HEC (Hospital) and CERT Ham's create and send via Internet and over the air radio transmissions on 2 Meter and HF bands digital messages on ICS-213 forms.



CERT Roll Call Net Weekly Thursday @ 2000 hours **29 contacts**

Activity: Marion County CERT members with amateur radio licenses participate in this weekly Net confirming radio voice procedures, equipment operation and sharing signal quality reports over the 2 Meter (VHF) band.



MERT Roll Call Voice Net Weekly Thursday @ 2000 hours **55 contacts**

Activity: MERT Members, ARES, HEC (Hospital) and guest radio operators participate in this weekly Net confirming radio voice procedures, equipment operation and sharing signal quality reports over the 2 Meter (VHF) band.



SARnet Weekly Wednesday @ 1300 hours **4 events**

Activity: MERT Members participate in this Florida Statewide Amateur Radio Network (SARNET) verifying inter-operability and confirming radio voice procedures, equipment operations (radio/antenna) over the 70 cm (UHF) band with SARNET Net Control.

SARnet

The Great ShakeOut Annually October 19 @ 10:19 am **6 contacts**

Activity: MERT Members participated in this national exercise sending unique WINLINK reports to the USGS over Telnet, Packet, ARDOP and VARA protocols as licensed Ham's.



North Florida ARES (NFAN) Weekly Wednesday @ 0900 hours **4 events**

Activity: MERT Members participate in this North Florida ARES Net verifying inter-operability and confirming radio voice procedures and equipment operations (radio/antenna) over the 40 Meter HF band.



FDEM Region 3/4/5 Exercise Monthly Wednesday @ 1100 hours **1 event**

Activity: MERT Members participate monthly in this Florida Division of Emergency Management (FDEM) Region 3, 4 & 5 Exercise verifying inter-operability and confirming radio voice procedures, equipment operation on 2 Meter, HF and SHARES bands. Testing also includes Satellite Phone and WINLINK operational tests. This Exercise lasts 2 hours.



ARES NET Weekly Wednesday @ 1930 hours **Unk**

Activity: MERT Members participate in this Marion County organizations Net verifying inter-operability and confirming radio voice procedures, equipment operation and sharing local weather reports with ARES Net Control.



HEC NET Weekly Wednesday @ 1930 hours **Unk**

Activity: MERT Members participate in this Marion County organizations Hospital Net verifying inter-operability and confirming radio voice procedures, equipment operation and sharing signal quality reports with HEC Net Control.

HEC

***** MERT NET CONTROL OPERATOR Recognition *****

MERT acknowledges and thanks the dedication of MERT Net Control Operators (NCOs) who lead our Net's each week. They are: **Bill Gillespie** (KW5BG), **Leon Jurcyszyn** (K8ZAG), **Mike Condon** (W9MNC), **Bill Sobel** (K1WLS), **Pat Davis** (KQ4BRW) and **Harlan Cook** (KN4VRM).

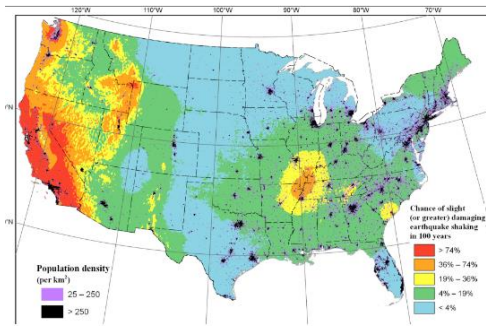
MERT also acknowledges and thanks the weekly **SARNET** NCOs who check in for the Marion County EOC with the Florida State EOC in Tallahassee. We salute **Bill Gillespie** (KW5BG), **Leon Jurcyszyn** (K8ZAG), **Bill Sobel** (K1WLS) and **Harlan Cook** (KN4VRM).

If you would like to learn how to become a Net Control Operator, contact Harlan Cook at 210.331.3240. (Ps – Harlan shares... if he can learn how to do it, anyone can.)

All MERT Members are encouraged to regularly participate in all the Net's as it builds confidence and confirms radio communications skills and equipment operation. **YOU** may be the MERT **Incident Commander** at an Activation. Are you ready?

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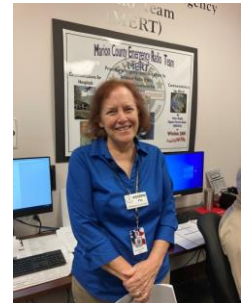
MERT participates in ... ***THE GREAT SHAKEOUT!***



“Earthquakes have been recorded in Florida as far back in history as 1879. In 1879, there was a 4.4 magnitude earthquake on the border of Putnam and Marion County in North Central Florida.” USGS

Annually, several state and national governmental Agencies (including FEMA) join together to create a national public service event focusing on Earthquake Awareness and Training. This year, the event was held on October 19th and scheduled for 10:19 am (local time).

Pat Davis (KQ4BRW) and MERT’s New Member Manager suggested MERT join the event to share we do live in an active earthquake area in North Florida.



As Amateur Radio licensees, we were invited to send a unique WINLINK report directly to the United States Geological Service (USGS) reporting local conditions. What made the event fun was our message could report a “gentle rumble”... to a “Mega-earthquake” since it was an exercise for Ham’s. Members could also send as many reports as they liked and via Telnet (Internet), Packet, ARDOP and VARA protocols over our radios.

MERT recognizes the following Hams who participated as part of the Exercise: **Mike Condon, Pat Davis, Bill Davis, Sharon Malik, Bill Sobel, Leon Jurcyszyn, Harlan Cook and Randy Davis** (Stone Crest CERT).

Want to see real time earthquake events? Visit: <https://earthquake.usgs.gov/earthquakes/map/?extent=21.90228,-130.16602&extent=51.83578,-59.85352>

MERT registered to participate in the event and recognized seven Marion County MERT Members and one CERT Member for participating by receiving Certificates of Participation.



“Whatever you do may seem insignificant, but it is most important that you do it!”

Mahatma Gandhi

MERT/CERT/ARES and All Hams Monthly Meeting

Marion County ARES Coordinator Hayden Kaufman (N2HAY) presented “An Introduction to AUXCOMM” at the October 21st event.

The presentation was very informative and packed with details about the transition from prior state directed EMCOMM approaches to a national AUXCOMM training plan created by the Dept. of Homeland Security Cybersecurity & Infrastructure Security Agency. It is a targeted plan incorporating the skills and knowledge of licensed Amateur Radio Operators into supporting city, county, state and national emergency management organizations.



**Hayden Kaufman
(N2HAY) Marion
County ARES
Coordinator**

MERT is extremely proud in sharing four Members have already completed the course. Harlan Cook, Bill Gillespie, Gray Moffett and Bobby Gordon. ARES leader **Hayden Kaufman** also completed the class. MERT hopes that an AUXCOMM class can be held in Marion County in the future. If you are interested in attending, please contact Hayden Kaufman or MERT Coordinator Harlan Cook or Assistant Coordinator Bill Gillespie at KG4NXO@marionso.com.



An overview of the Auxiliary Communications (AUXCOMM) position including the responsibilities, roles, and functions within the COMU, as well as roles and functions of Auxiliary Emergency Communications (AEC) can be found at: [Communications Unit Training Resources | CISA](#)

MERT Spotlight... HOA's and darned Antenna Restrictions... by a MERT MEMBER

I live in an HOA with antenna restrictions which severely impacts my ability to operate on HF. Knowing this, I have an area in my back yard that has a lot of vegetation, ranging from deciduous trees, palm trees, pampas grass etc. (see backyard photos below) I have tried various end fed wire antennas, verticals and magnetic loop antennas over the past several years, with highly mixed results.

Several months ago, I started seriously looking into what options I had to improve my HF capabilities without getting into trouble with my neighbors or HOA. I read quite a bit about antennas, what made them effective and who had good results with different kinds of antennas. Here are the limitations I have. Using a North South orientation, the maximum wire length I could use is around 40 feet with a maximum height of 16 feet. Looking East, my maximum wire length is about 75 feet with a maximum height of 16 feet. I have tried both of these options, as well as a Magmatic Loop Antenna capable of

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handling 100 watts SSB and a vertical antenna with NVIS stringers. Although all of these antennas worked, I accepted that fact, that none of these antennas would really be effective, unless I could get them higher in the air, which just isn't an option.



I still wanted better HF performance, and after much reading, I decided that my best option would be a highly functioning Vertical Antenna. Several seemed to stand out, with heights ranging from around 18 up to 50 feet. After reading many reviews from other Hams, QST and other sites I focused in on the 6BTV-6 from Hustler. If installed following the manufactures instructions the antenna provided fair performance, however when configured and installed using DX Engineering's re-engineered installation and setup procedures many hams reported very good performance.

Another thing that appealed to me about the 6BTV-6 is its 24-foot height along with coverage of all HF Bands except for 160 Meters. Having made up my mind, I ordered the 6BTV-6 along with a radial plate, radial wires, coax feed kit and tilt base (see drawing below).

Now the real work started. I first determined where to place the antenna. It needed to be some distance from the metal in my birdcage, have a clear path where it could be tilted over and secured in bad weather. The 6BTV-6 installation manual states that it does not have to be guyed, however DX Engineering offers a reenforced 6-foot initial antenna section which I installed, since it is the most likely part to fail and I did not wish to guy the antenna.



Next with the help of a non-ham friend, we set the antenna support pipe in concrete, buried PVC pipe to run the feed line through, set the radial plate, and installed the tilt mechanism. Once the concrete set up etc., the next job was to lay out the radial field, which consists of forty, 40 ft. runs of # 14 copper wire running out at all angles from the radial plate. This took about 30 hours over the course of 4 weeks.

"The greatest waste in the world is the difference between what we are... and what we could become!"

Ben Herbster (American Clergyman)

Why so long? Each radial had to be made by hand, by measuring and cutting the wire, installing a crimp ring, soldering it, connecting it to the radial plate, stretching it out and anchoring it to the ground.



Now came the moment of truth, the actual assembly, installation and tuning of the antenna. I was assisted by a fellow ham. The DX Engineering installation manual gave very specific instructions of how to assemble each section of the 6BTV-6. All of these turned out to be spot on except for the 80-meter section. This took several iterations before we got the SWR below 1.5 (see Figure 1 for SWR Results).

Frequency/Meters	SWR	Impedance
10M 28.3-29.7 MHz.	1.6	46 Ohms
15M 21.2-21.450 MHz.	1.25	60 Ohms
20M 14.150-14.50 MHz.	1.4	45 Ohms
30M 10.1-10.150 MHz.	1.6	60 Ohms
40M 7.125-7.3 MHz.	1.6	55 Ohms
80M 3.6-4 Ms.	1.4	60 Ohms



My completed HF antenna!

I have been using the 6BTV-6 for close to a year now, driving it with a low of 55 watts and as much as 550, with very good results on 80 meters, where I participate in a bunch of NETs. I have much better results with both DX signals than with any of my previous antennas and results on all HF bands have improved. Is the 6BTV6 a silver bullet? No, but it is an effective antenna when properly installed, and well worth its cost and the work required to install it properly.

Considering my inability to actually get an antenna really up in the air, my 6BTV6 vertical provides a best-case solution, and so far, I have been lucky with no complaints from my neighbors or the HOA.

By a MERT Member (*trying to support MERT... and enjoy this wonderful hobby!*)

MERT Spotlight... "I went for HAM and came back with Turkey"

My goal was to combine a West Virginia fishing trip and Amateur Radio field trial with my new portable (Ham)box and new mobile antenna system. I made plans to travel by the Auto-train from Sanford Florida to Virginia, loading all my fishing gear, Ham radio

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equipment and meeting my son at a remote cabin in Sladyfork, WV.

The area has no cell service for at least a 50-mile radius, so Ham radio is a perfect communication system. On arrival at the cabin, I set up the antenna system in the front yard and coms box inside powered by a 12v battery. With in just a short time I was on 40-meters HF contacting stations in Canada, North Carolina and Georgia. The whole system was extremely easy to tune to frequency and received very good single reports!



Randy Williams (WD8MGZ) - CERT Liaison - showing his new Radio Go Kit.



Ouch! This hurt.

Everything was going according to plan, as I made my return trip home to West Virginia, wild turkeys attacked my car head-on causing huge damage to the front of my SUV. Lucky the car was still drivable but had multiple parts dangling from the vehicle including turkey feathers). I was afraid the Auto-train might not let me board the return trip to Florida. In true WV hillbilly fashion, a little ty-wire, duct tape and we were good to go!

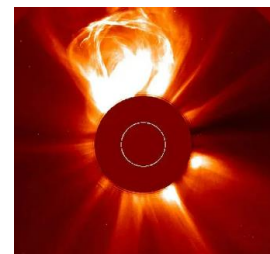
So... as Thanksgiving dinner approaches my friends may ask, "I thought we're having ham for dinner this year".

"No, it is turkey!"

Randy Williams (WD8MGZ)

November Meeting Guest Speaker

MERT invites you attend our November 18th Monthly Meeting focused on protecting your expensive radios and electronics from the effects of Solar Flares, Coronal Mass Ejections and other super charged events! The meeting begins at 10:00 am at the EOC.



CME photo courtesy NASA

Want to learn more about Amateur Radio and supporting Emergency Communications at the Marion County Sheriff's Office Division of Emergency Management? Join MERT!

Interested in learning more about MERT? Visit <https://KG4NXO.com>

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"When we strive to become better than we are, everything around us becomes better too."

Paulo Coelho