

MERT

Marion County Emergency Radio Team



Marion County Sheriff's Office
Division of Emergency Management

COMMUNICATIONS UPDATE

August 2024

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!"***

MERT Monthly Meeting

No Meeting in August

The next meeting is on
September 21st @ 10:00
am.

All Amateur Radio
operators are Welcomed!

Are YOU ready?



Harlan Cook (KN4VRM)
MERT Coordinator

Each Spring is the start of new training and exercise season where members refresh and renew our knowledge and skills focused on fulfilling our Mission supporting the school Shelters with backup emergency communications capabilities. I want to thank those members who have regularly participated in those events and activities to become... and remain skilled and prepared to act!

Here in Florida, we regularly see and read about the devastating impacts from hurricanes and the resulting weeks long power, cellular and Internet outages. As a result, MERT developed its own "Personal Go Bag Recommendation" for members to have ready when they deploy to a Shelter (visit website... KG4NXO.com then tab "MERT Shelter Reference").

Ok.... What's the point? Are YOU prepared at your residence for a long-term service interruption? I encourage everyone to take a fresh look at the above document line by line and then ask yourself... "If power and all other services went off for an entire week, do I have everything I need to comfortably survive and thrive in my residence? By taking a few minutes now, you'll help prepare you and your family before the rush of an approaching hurricane throws a wrench into your... "I'll get around to it." plan.

"Your talent determines what you can do. Your motivation determines how much you're willing to do. Your attitude determines how well you do it" — Lou Holtz

I invite those members who haven't participated in a while to come and join us again. Your attendance and contributions in meeting our objectives is needed. Your knowledge and experience makes the entire team stronger and more capable in MERT meeting its Mission. "When all else fails. Call MERT!"

My sincere thanks to all!

HR Cook



MERT needs YOU!

Meeting Documentation Manager Position Open

We sincerely thank Gray Moffett (KC3DWY) for filling this position over the last 2 years. Gray's support included conducting our "MERT Annual Meeting Report" and the "Annual Highlights" Summary of 2022 and 2023.



**Gray Moffett
KC3DWY**

What does the Meeting Documentation Manager do? This individual completes an annual report of the Annual Activity Highlights and conducts the Annual Meeting. If you can help for 5 hours **per year**, please contact the MERT Coordinator or Assistant Coordinator. ***Thank You Gray for your great support over the last two years!***

Your Part in MERT EOC Tower Maintenance

As a member, your help is needed to inspect the EOC tower every time you visit the radio room and report any antenna issues, loose cables or light failures. This will ensure small problems can be addressed quickly – before it turns into a major problem. Thanks!



(Left Photo) The re-cabled EOC tower used updated materials and procedures aimed at achieving a long life of at least 20 years. Your help to inspect it every time you are at the EOC is an important part to achieving that goal.

(Right Photo) MERT rewired the lighting unit and upgraded the bulbs to long lasting LED types. In addition, a light controller was added which turns on 1 hour before sunset and off 1 hour after sunrise. Thanks for reporting any light failures immediately.



"Great opportunities to help others seldom come, but small ones surround us every day." – Sally Koch

Shelter Emergency Radio Kit (SHREK) Update



MERT SHREK Kit

During the MERT Test Exercise on July 17th, a faulty microphone cable led a member to recommend we add a short Cat 5 cable to every SHREK kit to be used as a backup. Simple, easy and a great idea!

MERT Coordinator Harlan Cook shares that project has been acted upon and the spare cables have been received and added to the SHREK kits. The cables were also added to the inventory list for future audit reference.



This is another great example how member suggestions and ideas help keep MERT advancing its reliability and capabilities.

(L-R) A big thanks to Phil Lewis, Ray Woody and Nick Kiddev for adding the new cables to all the SHREK kits!

MERT Test Exercise July 17th

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GENERAL MESSAGE (CS 213)			
GENERAL MESSAGE (CS 213)			
1. Message Name (Optional) <u>None</u>			
GENERAL MESSAGE (CS 213)			
2. Message Name (Optional) <u>None</u>			
GENERAL MESSAGE (CS 213)			
3. Message Name (Optional) <u>None</u>			
GENERAL MESSAGE (CS 213)			
4. To Name and Address <div style="display: flex; justify-content: space-between;"> 1. To Name and Address 2. To Location </div>			
GENERAL MESSAGE (CS 213)			
5. Message Name (Optional) <u>None</u>			
GENERAL MESSAGE (CS 213)			
6. From Name and Address <div style="display: flex; justify-content: space-between;"> 1. From Name and Address 2. From Location </div>			
GENERAL MESSAGE (CS 213)			
7. Subject <u>Call Springs Extension</u>			
		8. Date <u>10/11/52</u>	9. Time <u>1:30 PM</u>
10. Message See back for info on subject matter. Please refer to serial as per subject. <u>1st info to</u> <u>2nd Bill Page</u>			
<div style="display: flex; justify-content: space-between;"> <div> 1. Approved by Name <u>None</u> 2. Approved by Title <u>None</u> 3. Approved by Signature <u>[Signature]</u> 4. Approved by Date <u>10/11/52</u> </div> <div> 5. Approved by Title <u>None</u> 6. Approved by Signature <u>[Signature]</u> 7. Approved by Date <u>10/11/52</u> </div> </div>			

[illegible][illegible]

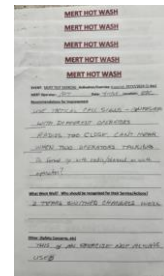
Members participated in a multifaceted exercise on July 17th having these objectives:

- A. The Exercise IC will assign four Radio Operators for the necessary EOC Stations identified as Channels 1 thru 4.
- B. Each SHREK kit team will assign a Team Leader, Scribe and Radio Operator (positions can be combined if necessary).
- C. Working together, use the SHREK kit to set up an active radio station with full communications capabilities.

"You have not lived today until you have done something for someone who can never repay you." – John Bunyan

- D. Make contact with the EOC Radio Room confirming transmission and receive capabilities are fully operational.
- E. Pass a test ICS-213 General Message successfully from each Teams radio station to the EOC Radio Room.
- F. Receive radio confirmation the traffic was received by the EOC Radio operator.
- G. Complete forms ICS-213 General Message; ICS-214 Activity Log; and ICS-309 Communications Log fully and completely then submit to the Exercise Incident Commander.

The exercise included surprises and curve balls requiring unique solutions and procedures for success. Hot Wash comments included feedback on the planning and the execution elements with all participants feeling it was a “real feel” exercise.



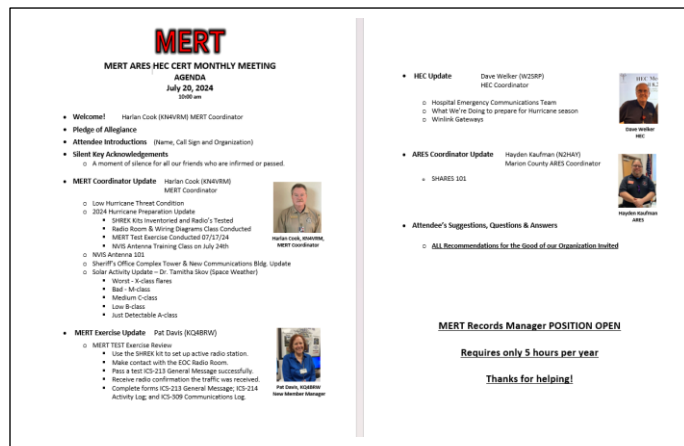
NVIS Antenna Update

MERT completed a series of classes on the theory, importance, setup and operation of Near Vertical Incidence Skywave (NVIS) antennas. The classes culminated in the setup and operation of MERT's NVIS antenna on July 17th. Operational tests included a 40 meter contact with member Ryan Salom's father 60 miles north of Ocala.



MERT members constructing and testing the 40/80 Meter NVIS antenna MERT owns on July 17th.

Monthly Meeting – July 20th



The monthly meeting had 22 participants from multiple organizations this month including ARES, HEC and MERT.

Thanks to all for attending!

MERT thanks the following speakers for their time and great information provided:

Pat Davis – New Member Manager MERT TEST Exercise Review

- ✓ Use the SHREK kit to set up active radio station.
- ✓ Make contact with the EOC Radio Room.
- ✓ Pass a test ICS-213 General Message successfully.
- ✓ Receive radio confirmation the traffic was received.
- ✓ Complete forms ICS-213 General Message; ICS-214 Activity Log; and ICS-309 Communications Log.

Dave Welker – Hospital Emergency Communications Team (HEC)

HEC Update

- ✓ Hospital Emergency Communications Team Exercise Results
- ✓ What We're Doing to prepare for Hurricane season
- ✓ Winlink Gateways – Importance and Reliability Discussion

Hayden Kaufman – Marion County ARES Coordinator (ARES)

An Introduction to SHARES

- ✓ SHARES 101 (MERT will post the presentation in Quick Links very soon)

MERT thanks each of the guest speakers for their interesting and very informative presentations.

MERT Completes Equipment Transfer to New Communications Building

MERT has completed the move of all its equipment into the new state-of-the-art communications building at the Sheriff's Office Complex with both repeaters and Winlink Gateway now online. Harlan Cook (MERT Coordinator) and Leon Jurcyszyn (Past Coordinator & Technical Advisor) completed the project.



"You do not find the happy life. You make it!" — Camilla Eyring Kimbal

Overcoming HOA Antenna Restrictions – A New Idea!



The “Birdhouse” amateur radio antenna for 2 Meter/70 cm operations.

In Marion County, many amateur radio operators find themselves residing in a deed restricted community having extreme limitations on almost all antennas. (Note: Only exception are FCC broadcast television antennas.)

One new idea we received recently was an extremely creative 2 Meter/70 cm “Birdhouse” antenna. The operator shares prior tests using other antenna types around the residence only provided noisy transmit/reception quality. The new antenna is located further away from the structure which significantly improved the 2 Meter and 70 cm radio quality. Our thanks to the ham for sharing this unique and creative solution with us!

NEW MEMBERS WELCOMED!



(L-R) Harlan Cook, MERT Coordinator; Nick Kiddey – New Member; and, Bill Gillespie, MERT Assistant Coordinator; presenting Nick his Division of Emergency Management uniform shirt and Welcoming Memo.



(L-R) Harlan Cook, MERT Coordinator; Phil Lewis – New Member; and, Bill Gillespie, MERT Assistant Coordinator; presenting Phil his Division of Emergency Management uniform shirt and Welcoming Memo.

On behalf of the entire MERT team and the Division of Emergency Management, MERT extends a very warm welcome to Nick Kiddey (W4NFK) and Phil Lewis (W4EVV). We are confident that your skills, experience and dedication will contribute significantly to our objectives and mission supporting the Marion County Shelters whenever open in providing emergency communications support.

Nick and Phil have completed the Level 1 and 2 New Member Orientation workbook and met the 6-month probation period. **Welcome!**

MERT Coordinator

HR Cook

MERT Member Update

"Communications Update" likes to share information about our members special interests. This month, we have an interesting article by Kraig Pritts (KA2LHO) and his special interests in Parks on the Air (POTA). For more information, visit: [Parks on the Air | POTA | Parks program for amateur radio.](#)

"As some know, my wife and I have travelled extensively through the state of Florida operating HF ham radio from each of the 67 counties, 121 Florida State Parks (including many of the State Trails), two of the three National Forests, plus several National Wildlife Refuges and National Monuments.

It is a wonderful way to see our state.... but we still have many more State Parks to operate from and are looking at plans to do that over the next couple of years. One of the barriers of getting into every state park for ham operations is that some are pedestrian only, only accessible by boat, underwater or other similar circumstances.

To facilitate our goal of operating from as many of our Florida State Parks as we can, I decided to compile the components to fabricate my own very portable QRP¹ HF station.

The result is shown in the photos below. Because of the included battery pack, the unit is not light but can easily be managed in a small backpack or even carried in one hand (for me at least).

You will see from the photos that this unit is a multi-band, multi-mode 5-watt QRP unit. I have not yet put it on the air (still need to add my micro-CW paddles, but it comes with a variety of power connectors and microphone. To this I added a lithium battery back, some heavy-duty stretch-bands to hold everything together, an antenna tuner and a telescopic antenna rated for 20 Meter operation.

Before you laugh, please note: All radio and antenna connections are standard BNC or PL259 coax connectors so it would be easy to connect about any antenna to this radio. For now, I will experiment with the telescopic antenna, again anticipating operations where our vehicle will not be available.



Above (L) CW paddles in straight key position attached by magnets. (C) The handle for his rig. (R) CW paddles in an iambic mode on top of his battery.

I plan to attach my (CW) paddles in a manner that will allow me to use them **as iambic paddles or as a straight key by only using one side** of the two paddles (yes that is a thing, and I have done it). This will provide flexibility and efficient use of space. As far as power goes, during an operation in an Ohio State Park, my first contact that morning was an operator in Australia running 5 watts on a battery with a wire up in a tree. It is a challenge, but it is possible.

So on with the photos. Disclaimer—there is no expectation for you to do this, but it may open the door to your own creativity....

Let's get started....

To the right you see the transceiver. It measures about 4 inches across and about 3 inches high. The black box at the bottom is the antenna tuner. More on that later.



Above is the “business end” of the transceiver. One port doubles for the microphone (included) and CW key/paddle input. A second port is for earphones which are important if you are operating in an outside environment. Any standard earphone with the stereo plug should work fine.

The test button sends a lower power carrier for tuning purposes like “big” radios such as the Icom 7100 or Yaesu FT857 can do. As noted previously, in my configuration this sits on top of the battery pack secured via heavy stretch bands.



To the left you can get an idea of the length of the battery unit with the transceiver on top. This is where I will attach the CW paddle/key.

To the right you see the QRP antenna tuner. Still learning about this unit but I can confirm that it does work. Via adjustments I



can quickly see the power out increasing and the reflected power being reduced. This testing has all been with the telescopic antenna mentioned previously.

This tuner has an internal battery, but the “system” battery pack has a USB port which allows charging the tuner via a micro-USB plug when needed and power the transceiver at the same time. As noted previously this sits on the side of the battery pack and is affixed with strong double-sided tape and heavy duty Velcro.



WOW that is a lot of cables!!! Welcome to ham radio. Managing cables is one of the major challenges of the hobby. In this small space it is even more interesting.

To the left is power central for the operation. The battery pack is on the bottom. It comes with AC chargers, auto chargers and various cables for different power outputs (which are identified for each port on the bottom of the battery).

You can see the power available on the meter and there is an on/off button on the left side. This unit powers the tuner (when needed) and the transceiver. You also see the BNC antenna connector and the same cable going to tuner connection on the right. The tuner accepts a standard PL259 coax plug as noted previously.

What about size?

The battery pack is the primary weight for the entire unit. As it sits in these photos (no CW paddle/key yet) my postage scale shows it at exactly 3 pounds. The CW paddle will increase that weight slightly.

The length of the unit (including plugs and cables is just under 8 inches. Height, including the transceiver knobs but not the antenna, is about 4 ½ inches. The width, including the antenna tuner is about just over 4 ½ inches.

The unit will fit easily in a backpack or, depending on the user, can be carried in one hand. It is fully powered from the battery pack shown below and recharges quickly from AC power or and auto power port.

Cost/Source

Antenna Tuner (\$65) Amazon - [Surecom SW-102HF 1.5-70MHz V.S.W.R. & Power Meter](#)

Battery Pack(\$57) Amazon-[LiFePO4 Battery Pack LF4106, 2000 Cycles Rechargeable 12.8V 6Ah 76.8Wh Lithium Iron Phosphate Battery](#)

Transceiver (\$80) eBay ([5W usDX SDR QRP HF Transceiver QCX-SSB to SSB 3-Band All Mode with Handheld Mic](#))

Antenna (\$20) eBay [14MHz Ham Amateur Radio 20 Meter Band HF QRP BNC Telescopic Antenna](#)

In summary...

I have “played” with QRP in the past but not at any serious level. With the knowledge that many in parks thrive on QRP operations, and the desire of my wife and me to see more of our state via our state parks and other similar entities, we are going to do some experimenting. Since Silver Springs State Park is across the road from us and we have an annual pass for Florida State Parks, we now can explore some “new ones” that previously were unreachable for us, and hopefully get then on the air as well.

Kraig Pritts KA2LHO”

Note 1: QRP operators limit their transmitted RF output power to 5 W or less.

PLEASE SPREAD THE WORD ABOUT THE MARION COUNTY EMERGENCY RADIO TEAM (MERT).

WE NEED NEW AND ACTIVE MEMBERS TO FULFILL OUR MISSION IN SUPPORTING ALL THE OPEN SHOOLS WHENEVER ACTIVATED FOR CITIZENS SHELTER AND SAFETY.

Learn more about MERT at.... KG4NXO.com