MERT

Marion County Emergency Radio Team

COMMUNICATIONS UPDATE

January 2022

MERT's primary role is focused on supporting all open Evacuation Shelters throughout Marion County during Emergency events. We also support EOC and emergency personnel along with Community Emergency Response Teams (CERT) with independent and mobile voice, image and data communications resources.

Mark your calendars!

The next MERT Meeting will be on January 15th at 10:00 am at the MCSO EOC (692 NW 30th Ave, Ocala, FL 34475).

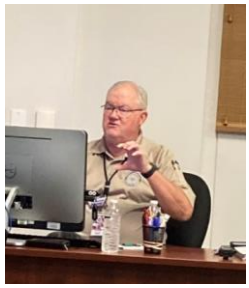
See you there!

MERT December Meeting

Leon Jurcyszyn, MERT Coordinator (K8ZAG) welcomed 16 attendees to the Monthly meeting on December 18th. Here's the Agenda:

- ✓ Pledge of Allegiance
- ✓ Attendee Introductions
- ✓ Insulin Pumps and HAM Radio
  - Leon Shared a You Tube video "Rita's Shack" reviewing a claim that a HAM operator interfered with a neighbor's insulin pump device. (See more at: https://www.youtube.com/watch?v=08tZEHjCWaw)

Decembers MERT meeting included ARES, CERT and MERT members.



Bill Gillespie (KW5BG)

- ✓ AUXCOMM Course review - Bill Gillespie, Asst. MERT Coordinator (KW5BG) presented an excellent overview on the class (also attended by Harlan Cook). For more, see the December Communications Update article.
- ✓ School Shelter Update – Harlan Cook (KN4VRM) shared more details on the expanded scope and status of adding Shelters at two local schools. (For more, see the Nov. & Dec. Comm. Update)

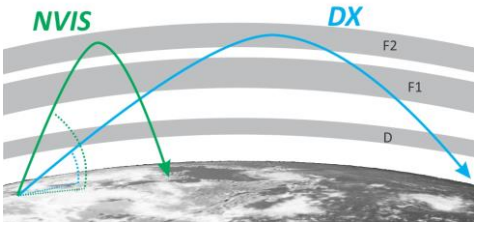
"The broadest, and maybe the most meaningful definition of volunteering: Doing more than you have to because you want to, in a cause you consider good." ~Ivan Scheier

- ✓ Grounding Overview – A technical review by Bill Sobel (K1WLS) will be rescheduled.
- ✓ A review of the new portable Baofeng GT-5R which is FCC Approved
- ✓ ARES - Hayden Kaufman (N2HAY) introduced as new Marion Co. Coordinator
- ✓ Reminder of MERT's website at WWW.KG4NXO.com as a resource for HAM's which contains many relevant forms, reference materials, ICS 205's, and web links to other valuable sites.

MERT conducts first ever……. NVIS Antenna Test

Leon Jurcyszyn, MERT Coordinator (K8ZAG) and other Members recently conducted a first ever test from the EOC of NVIS transmissions. While the first attempt was unsuccessful, much was learned. A short distance 40 Meter contact on the original antenna with Flagler County was completed, but some modifications are planned with another test planned in early 2022. Please contact Leon if you'd like to participate in the next test!

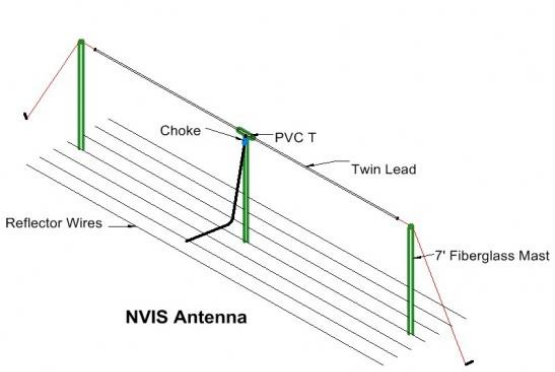
So, what is NVIS?[1] **Near Vertical Incidence Skywave** is a skywave radio-wave propagation path that provides usable signals in the near-field distance range up to 400 miles. It is used for military and paramilitary communications, broadcasting (especially in the tropics), and by HAM radio amateurs for nearby contacts circumventing line-of-sight barriers. The radio waves travel near-vertically upwards into the ionosphere, where they are refracted back down and can be received within a circular region up to 400 miles away.

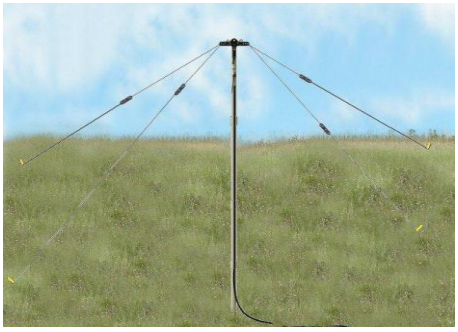


NVIS vertical propagation vs. traditional horizontal HF propagation.

If the frequency is too high (that is, above the critical frequency of the ionospheric F layer), refraction fails to occur and if it is too low, absorption in the ionospheric D layer may reduce the signal strength. There is no fundamental difference between NVIS and conventional skywave propagation; the practical distinction arises from different desirable radiation patterns of the antennas (near vertical for NVIS, near horizontal for conventional long-range skywave propagation).

The most reliable frequencies for NVIS communications are between 1.8 MHz and 8 MHz (160 Meter to 40 Meter). Above 8 MHz, the probability of success begins to



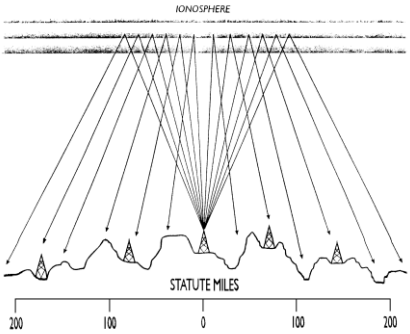


Effective Near Vertical Incidence Skywave (NVIS) antennas include many different designs.

decrease, dropping to near zero at 30 MHz Usable frequencies are dictated by local ionospheric conditions, which have a strong dependence on geographical location.

Common bands used in amateur radio at mid-latitudes are 3.5 MHz (80 Meter) at night and 7 MHz (40 Meter) during daylight, with experimental use of 5 MHz (60 Meter) frequencies. During winter nights at the bottom of the sunspot cycle, the 1.8 MHz band (160 Meter) may be required.

Broadcasting uses the tropical broadcast bands between 2.3 and 5.06 MHz, and the international broadcast bands between 3.9 and 6.2 MHz Military NVIS communications mostly take place on 2–4 MHz at night and on 5–7 MHz during daylight.



[1] Wikipedia (https://en.wikipedia.org/wiki/Near_vertical_incidence_skywave)

Hayden Kaufman (N2HAY)

Hayden Kaufman – New Marion County ARES Coordinator

During MERT's Monthly Meeting, ARES Coordinator Carl Berry (KC5CMX) announced he was stepping down and Hayden Kaufman (N2HAY) would become the new ARES Coordinator on January 1st.

Getting to know Hayden: Hayden was bitten by the HAM radio bug while in Junior High School and through the Boy Scouts. After assisting at the World Trade Center after 9/11, he decided that it was time to get involved in doing *something* and joined a volunteer Fire

Dept. in Montgomeryville, PA and later was certified as a PA Fire Police Officer and then as a volunteer EMS corps in Brooklyn, NY as dispatcher. In 2003, he passed his Technician exam and joined the NYC ARES. His HAM experience includes working the NYC Marathon, many bike rides, motorcycle runs, the NYC blackout in 2003 and Superstorm Sandy. After moving to Florida in 2016, he obtained his Telecommunicators Emergency Response Taskforce (TERT) team leader and Skywarn spotter training certificates.

Carl Berry (KC5CMX) congratulates Hayden Kaufman (N2HAY) as the new Marion County ARES Coordinator.

Hayden shares…. "I am proud to have resumed my participation and am looking forward to advancing our mission and making Marion County a recognized name in the North Florida ARES community."

Congratulations Hayden on your new ARES Leadership role!

New Shelter Updates - North Marion High School and South Ocala Elementary

As part of an initiative to increase the number of Emergency Shelters available to residents throughout Marion County, the Marion County School District and the MCSO Division of Emergency Management have instituted a joint effort addressing the challenge.

Over the past few months, MERT was requested to design and assist in setting up new radio communications facilities at the Marion County School Districts North Marion High Schools new Cafeteria and at the South Ocala Elementary School Cafeteria (which is being hardened and retrofitted for Shelter Operations).

We are pleased in sharing the MCSO Div. of Emergency Management has ordered the necessary hardware for both sites with it now being delivered by the various vendors. We anticipate the site installations will begin in February.

If you would like to participate as a Technical Advisor to the installation contractors when installation occurs, please contact Harlan Cook.

Shelter Audit Update – Belleview Elementary School

(L-R) Brady Nettina, MCSD Emergency Coordinator and Leon Jurcyszyn, MERT Coordinator at Belleview Elementary School.

Leon Jurcyszyn, MERT Coordinator (K8ZAG), Brady Nettina, Marion Co. School District Emergency Coordinator and Harlan Cook Member (KN4VRM) participated in an audit of the Belleview Elementary School in locating and re-establishing the MERT communications facilities at the school.

Since our services were installed, we've learned that building changes or maintenance activities may have resulted in the relocation of the cabling from the antenna. We are working with the School District to verify the location, restoration and improved access of MERT resources in the future.

Community Update – On Top of the World (OTOW)

Bruce Twiss, MERT Member (KI4NFA) updated attendees at the Monthly Meeting on his work to seek new HAM members in his community for CERT and MERT activities. Bruce shared he posted ads within the OTOW community paper and encourages other MERT members to do the same where a newspaper is available. Thanks, Bruce, for getting the word out about HAM radio!

On Top of the World NEWS
Where the news is always good!
OUR WORLD

HAM Radio Operators: Support the Community Emergency Response Team in the event of a disaster. Please email brucetwiss@yahoo.com.

Community Emergency Response Team
Andrea La Fave

Keeping residents safe in the event of an emergency depends on the ability to communicate effectively, especially when normal means of communication may be compromised by weather or other events.

One form of communication less vulnerable is HAM radio operation; so, Marion County and the Community Emergency Response Team both plan and rely on volunteer HAM radio operators to step in when other forms of communication are lost. If you are a HAM radio operator, or if you are willing to be trained as one, please consider becoming a volunteer by contacting Bruce Twiss at brucetwiss@yahoo.

Invitation to Attend

MERT meetings are open to all interested Amateur radio enthusiast, CERT, ARES, Skywarn members and the General Public who are interested in learning more about participating in this important volunteer Amateur radio organization.

Interested in learning more…… or becoming a MERT member? Visit https://kg4nxo.com/ and click the "Contact Us" tab!