



# Short Skip

Volume 67 Issue 10

October 2018

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 Webmaster, John, W9WY

## REPEATERS

Freq	Location
147.000	Merrillville
147.240	St. John
442.075	Merrillville

All Lake County ARC Repeaters are open to all amateurs. All repeaters must have a PL of 131.8 set in order to access.

## FROM THE PARADE STAND

by Tim, N9CA, LCARC President



I find it poignant the May 2018 Dayton/Xenia Ohio Hamvention Expo's theme was "Amateur Radio... Serving the Community". Their message was aimed right at all of us.

Hamvention 2018 focused on forums about emergency communication and displays of Amateur Radio emergency communication vehicles. Disasters are not the only times that Amateur Radio operators contribute to their communities. Hams devote many hours to help keeping participants safe during parades, festivals, walks, runs, marathons and numerous other community activities by providing auxiliary communication.

This September just a few weeks ago Hurricane Florence swept onto the eastern US shores. ARES volunteers from North and South Carolina counties pitched in to support emergency communication in the face of power and telecommunication outages and heavy rainfall. There was great need after conventional communications failed there.

Radio amateurs set up and organized communication networks to assist local government and emergency agencies, as well as to handle health-and-welfare traffic for affected residents, to let their family members outside the affected area know they were all right as did Red Cross radio volunteers in the field.

The Salvation Army Team Emergency Network (SATERN) was activated on September 14 and 15. The net's primary mission was the receipt and delivery of outbound health-and-welfare messages from affected areas.

The Hurricane Watch Net (HWN) activated for 38 hours, shortly after Florence made landfall. HWN operated on two frequencies simultaneously -- its "home" 20-meter frequency of 14.325 MHz and its 40-meter frequency of 7.268 MHz funneling important information via WX4NHC at the National Hurricane Center (NHC). They passed over 200 pieces of traffic mostly on 40m.

WX4NHC also monitored the HWN and the Voice over Internet Protocol Hurricane Net (VoIP-WX) on EchoLink Conference WX-Talk, node 7203 or IRLP 9219.

August 25th 2018 marked the one year anniversary of Hurricane Harvey that wreaked floods and rains onto Texas.

September 20th 2018 marked the one year anniversary of Hurricane Maria that devastated Puerto Rico. With eyes toward the future, ARES Puerto Rico is currently recruiting volunteers, holding meetings and training sessions for preparedness.

What about us? As a Club, we have a great opportunity. An open request follows below asking us to be involved. Please contact myself, James Harney, or Andy Finick and volunteer alongside us. I promise it will be both interesting and that you will make a few new friends.

On November 7th, 2018 from approximately 8AM - 3:30PM the District 1 groups from the District Planning Council, Healthcare Emergency Preparedness Coalition and Northwest Indiana Information Sharing and Security Alliance will be conducting a Full Scale Exercise. The exercise will be challenging various facilities with power outages and communication failures. There are other objectives but these are primarily for your expertise. In the scenario we will see a communication failure among several healthcare agencies. As a redundancy for their back up communication we would like to implement some of the NWI Amateur Radio groups and place them in those facilities. The radio operator would in turn relay vital information to a centralized amateur radio center to distribute to the proper 911 centers or to the appropriate group. We have a few nursing homes and hospitals wanting to exercise this capability to validate their emergency operation plans for communication redundancies.

*continued on page 1*

# MEETING MINUTES

September 14, 2018 — Russ, KB9HO

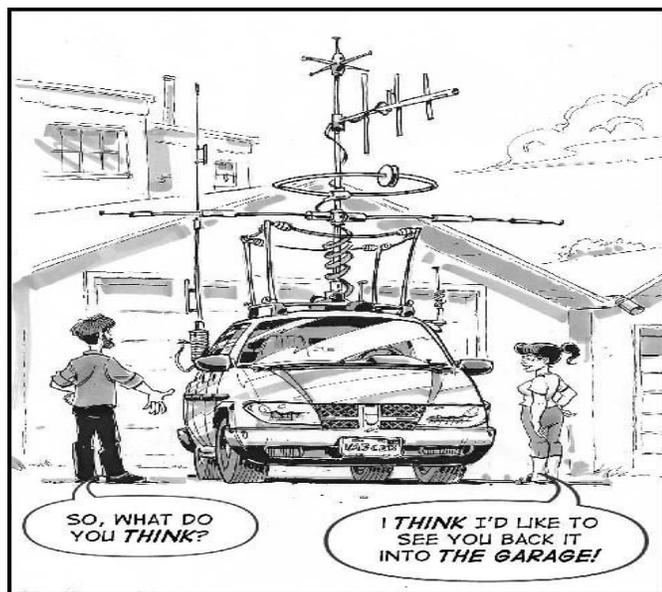
- Meeting called to order at 7:35PM
- Treasury's report Business entity report filed and funds OK.
- Repeater, club website, and Short Skip are doing fine.
- DXCC convention at Schaumburg
- Solar flux is poor with digital modes helping to keep up activity.
- WSJT-x is the software for the digital modes as FT-8
- Program on the Digital modes presented by Tim N9CA.
- Next program will be the history of antennas by Bill N4GIX.
- Meeting adjourned at 9:00PM

# NEED HELP?

Call on these Elmers

- Tim, N9CS, asked people to be Elmers. Here is the list: Tim N9CA
- Bill N4GIX
- Bill Young N9QLS
- Russ KB9HO
- Andy W9FXT.
- Also it was mentioned ark K9MQ is an ARRL Tech Specialist and can be called on.

The club has been informed that Bowman Electronics in Valparaiso will do tower climbing and antenna repair. Give them a call at: (219) 462-7933 or stop and see them at: 504 Marquette St, Valparaiso, IN 46383



Scan this code to go directly to our web page [w9lj.org](http://w9lj.org)

# PARADE STAND

Continued from 1

Paul Petrie, MBA, PHR, EMT, SHRM-CP [petripx@lakecountyn.in.gov](mailto:petripx@lakecountyn.in.gov)

Deputy Director Lake County Homeland Security & Emergency Management Agency

The WSJT-X Development Group has announced a new "candidate release," WSJT-X 2.0 rc1. This beta version of the popular digital mode suite incorporates many new FT8 and MSK144 features that will be of particular interest to the Amateur Radio contesting community. It includes all FT8 DXpedition Mode changes already developed in WSJT-X 1.9.1. "Enhancements to the FT8 decoder ensure that in most situations decoding sensitivity is slightly better than for the old protocol. Symbol rates and occupied bandwidths are the same as before, and false-decode rates are significantly lower".

The 2018 ARRL Simulated Emergency Test (SET) is just ahead. The primary ARRL-sponsored national emergency exercise is designed to assess the skills and preparedness of Amateur Radio Emergency Service® (ARES®) volunteers as well as those affiliated with other organizations involved with emergency and disaster response. Although the main SET weekend this year is October 6 - 7, local and Section-wide exercises may take place throughout the fall. Those who already take part in public service and emergency activities are getting ready for the annual SET, a dress rehearsal, next month. But, the 2018 ARRL SET is an open casting call for all radio amateurs interested in expanding their emergency preparedness knowledge and skill

At the national level, ARRL has established formal working relationships with partner organizations and agencies, such as the Federal Emergency Management Agency (FEMA), the American National Red Cross, the Salvation Army, the National Weather Service, the National Communications System, the Association of Public-Safety Communications Officials- International (APCO-International), Citizen Corps, National Voluntary Organizations Active in Disaster (NVOAD), REACT International, Society of Broadcast Engineers (SBE), United States Power Squadron, and Boy Scouts of America. Detail on these organizations and how they work with ARRL and Amateur Radio operators are on the ARRL website.

Next Club meeting: Friday October 12th at 7:30pm. The program presented by Bill Leaming/N4GIX will be; "The First Radio Stations and Their Antenna".

# OCTOBER PROGRAM

The program presented by Bill Leaming/N4GIX will be; "The First Radio Stations and Their Antenna".

# HANDY HINT, COILED CORD FOR SOLDERING GUN

By Steve Mollman-KD9HL and NWI DX Club Newsletter

Have you ever set your soldering iron down and inadvertently burned its cord? One way to help avoid that happening is to replace the cord on the soldering iron with a coiled appliance cord. Either use one off of an old appliance or they are sometimes available from electrical supply stores. Most cords stretch out to from three to ten feet or so but compress to less than a foot.

Be sure to use a cord having wire diameters equal to or greater than the cord you are replacing.

Want to make your own? It turns out it's fairly easy to convert your straight cables into coiled ones. Here's what you need:

- A piece of small diameter tubing or doweling. ½” diameter seems to be a good size for lamp type cords.
  - Masking tape-Blue painter's tape works well.
  - A hair dryer or heat gun
1. Using tape, secure one end of your cable to one end of the tubing, leaving a tape spot.
  2. Tightly wrap the cord around tubing, working your way to the other end. Once you've got about another 6” or so remaining, apply another piece of tape.
  3. Turn on your hair dryer or heat gun and point it at the coiled cable for about two minutes. If the resulting coil is “looser” than you want, repeat. Keep the heat gun 3-4 inches away, and make sure to heat the cable all over, not just on one side. Because you're applying heat (albeit indirect), there's the risk of damaging your cable or shortening its lifespan

4. You're done! Let the cable cool completely -- at least 5 to 10 minutes. Then remove the tape, slide out the tubing, and presto: one nicely coiled cable.

This hint is also useful for other type cables. One that comes to mind are those ubiquitous USB charging cables for cell phones, GPS devices and other gadgets. For those thinner cables use a piece of tubing or rod that is smaller than what we used for the soldering iron. Even a full-length pencil would work well for those applications.

You can read more about the NWI DX Club and see past newsletters at their web site which is: <http://nwidxclub.weebly.com/> -ed



ing about 6 “of cord from the end. Once you've got about an-



# NEW BETA VERSION WSJT-X 2.0 BOASTS MAJOR CHANGES

ARRL News09/20/2018

As promised, the WSJT-X Development Group has announced a new “candidate release,” WSJT-X 2.0 rc1. This beta version of the popular digital mode suite incorporates many new FT8 and MSK144 features that will be of particular interest to the Amateur Radio contesting community. It incorporates all FT8 DXpedition Mode changes already developed in WSJT-X 1.9.1.

“Enhancements to the FT8 decoder ensure that in most situations decoding sensitivity is slightly better than for the old protocol. Symbol rates and occupied bandwidths are the same as before, and false-decode rates are significantly lower,” the user notes explain. “The decoding threshold for MSK144 is a fraction of a dB higher than before, owing to the slightly larger message payload and higher code rate.” WSJT-X 2.0 introduces no significant changes to the JT4, JT9, JT65, QRA64, ISCAT, Echo, or FreqCal protocols.

The new features are summarized on the WSJT-X website and in the Quick-Start Guide to WSJT-X 2.0. Contest-related changes include:

- Support for standard ARRL Field Day exchanges, such as 6A SNJ.
- Better support for North American VHF contests with improved handling of grids and /r rover call sign designators.
- Six-character locators and call sign suffix support for portable operators, focused on EU VHF contesting
- Support for standard contest exchanges in the ARRL RTTY Roundup, such as 579 MA or 559 0071.

- Support for call signs of up to 11 alphanumeric characters, to accommodate non-standard and compound call signs.
- Support for new exchanges should expand the ability of contesters to use FT8 and other WSJT-X protocols during contests that allow digital contacts and where the exchanges is a traditional signal report and state/province/country.

According to the release notes, WSJT-S 2.0 also offers “significantly better sensitivity” (about 1 dB) for the WSPR decoder. In addition, color highlighting of decoded messages provides worked-before status for call signs, grid locators, and DXCC entities on a by-band basis. Color highlighting can also identify stations that have — or have not — uploaded their logs to “Logbook of The World” (LoTW) within the past year.

For the convenience of beta-testers, the -rc1 and -rc2 releases will offer receive and transmit capability for both the new FT8 protocol and the older one. Starting with -rc3 and the full release of WSJT-X 2.0, only the new protocol will be supported. In contrast, the new MSK144 protocol replaces the old one from the outset, with no backward compatibility.

Those participating in WSJT-X beta tests are expected to report their experiences to the developers and upgrade to the general availability release when it becomes available. [Visit the WSJT-X web page for more information.](#)

# A PRIMER ON MICS FOR HAM RADIO

*A Communicator Reprise: September 2012*

All Hams use them as a basic piece of operating equipment but most never give it a second thought—the microphone.

A microphone colloquially called a mic or mike is an acoustic-to-electric transducer or sensor that converts sound into an electrical signal.

Both Thomas Alva Edison and Emile Berliner filed patent applications for the carbon microphone, in March and June 1877 respectively. After a long legal battle, Edison emerged the victor, and the Berliner patent was ruled invalid by both American and British courts.

There are basically two kinds of microphone technology, dynamic and condenser.

Dynamic mics are actually backwards speakers and generate a small amount of electricity when the diaphragm of the mic moves back and forth under the pressure of the sound waves hitting it.

Condenser mics are powered or biased by electricity and so are more sensitive; they use a more lightweight diaphragm and are better at picking up nuances of sound. "Large diaphragm" condenser mics are more sensitive and more expensive than "small diaphragm" types.

Pickup Patterns isn't what you get when you drive your truck in circles in the snow, but refers to the relative sensitivity of a microphone to sounds coming from the side. A pickup pattern can be...

Omnidirectional picks up equally well in all directions

Unidirectional picks up mostly from one direction

Cardioid picks up in a heart-shaped pattern (hey, you think your dad was kidding when he said studying Latin would come in handy sometime?)

Exotica ribbon mics, tube mics, and most other technologies are probably way out of your budget anyway... except for the PZM (Pressure Zone Microphone), which is patented by Crown and was used by Radio Shack for many years. The current Radio Shack mic is not considered to be much good, but if you can find one of the older ones, you can modify it for serious use.

Plugs everyone is used to teeny little 1/8" plugs found on consumer mics, 1/4" plugs found on guitar cables or the little square plastic ones on your transceiver mic that look like an over-sized telephone plug. Forget all that. Professional mics have XLR plugs and balanced cables, which have the following characteristics.

The plugs lock in and don't rip out easily when someone trips over something.

the cables have three conductors, which not only make them thicker and more resistant to rough handling, but also means that they're less likely to pick up buzz, hum, etc.

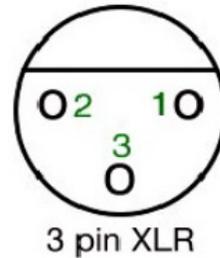
## Balanced vs Unbalanced

An unbalanced audio path has two conductors. One carries the audio signal and the other is the shield/ground. There is nothing at all wrong with an unbalanced signal but at times can be susceptible to picking up interference from radio frequencies or electro magnetic fields causing noise and buzz and picking up the occasional unwanted radio station! In fact, a lot of gear is unbalanced on the inside even though it has a balanced input and output. Including some high end consoles.

A balanced signal has three conductors. It relies on a sum and difference principal.

Sum and difference is the combining (summing) of two signals that are out of phase from each other. Whatever doesn't cancel out is what you're left with (difference).

When two identical signals of identical amplitude (volume) are combined and one is 180 degrees out of phase from the other you have complete cancellation of that audio. However, if one of those signals is a different amplitude, you don't get complete cancellation. And it's this principal that makes a balanced audio path work.



The output from a balanced piece of gear will have the audio signal on XLR pin 2 (hot). That same signal will be present on pin 3 (cold) however that signal is at a lower amplitude than the signal on pin 2. The shield/ground will be on pin 1.

When the signal reaches a balanced input, the signal on pins 2 and 3 are combined with either pin 2 or pin 3 (usually pin 3) out of phase. If that cable happens to pick up interference along the way, it will be on all pins, in phase together and at the same amplitude. When it gets to the input, pins 2 and 3 are combined out of phase and any signal exhibiting the same amplitude (the noise) will cancel out completely. Since the audio is at different amplitudes, it doesn't cancel out and you're left with the difference: clean audio!

Heil, Shure and Sennheiser are manufacturers of premium microphones. They generally come with XLR plugs but Heil in particular provides a vast array of adapters to interface their mics to almost any make of transceiver. Bob Heil [K9EID] is a ham himself and has devoted a great deal of time to perfecting mics that sound good despite the poor conditions often encountered with HF Amateur Radio.

All amateur radio transmitters (except the new Yaesu FTdx9000) unfortunately use an unbalanced microphone input. It's sad, but true. In connecting a balanced microphone, equalizer, or audio device that uses balanced signals, care has to be taken in how the balanced signal is UNBALANCED in order to feed that unbalanced input.

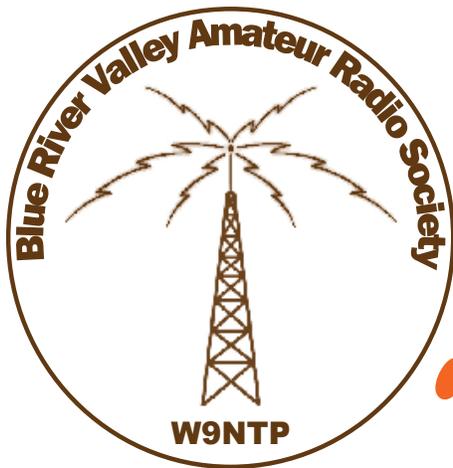
So you can't generally just plug a mic with an XLR cable into a radio jack, even with a properly wired adapter. That's because the mic will almost certainly have a lower impedance than the input of what you're plugging it into, and that means that unless you correct things with a matching device, it will sound like junk.

One option for HF home use is to invest about \$45 in a small mixer such as a Behringer Xenyx 802. This unit comes with 1/4" and XLR jacks but will adapt to almost any mic. It will even provide 'phantom' power to condenser mics when the radio does not provide it. The output of the mixer goes to your radio and you have full control over what your mic sounds like, particularly of you want to adjust the equalizer to punch through HF interference. I purchased mine at a music store here in Surrey and the difference is noticeable.

VHF and UHF Transceivers generally come with low cost and sometimes low quality microphones. The mic on your handy talkie or a typical handheld mic is a condenser

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# BLUE RIVER VALLEY AMATEUR RADIO SOCIETY



# 2018 SHELBYVILLE TAILGATE

**PLACE: SHELBY COUNTY FAIRGROUNDS  
500 FRANK ST, SHELBYVILLE, IN 46176**

**DATE: SATURDAY, OCTOBER 20, 2018      TIME: 8:00AM to NOON**

**SETUP: 7:00AM SATURDAY (INSIDE AND OUT)**

**Talk-in Frequency: 145.48 MHz 88.5Hz PL**  
<http://www.brvars.com>

The Shelbyville Tailgate 2018 will be held on October 20 at the Shelby County Fairgrounds. We have use of the Family Arts Building so that folks can setup their tables on the inside or outside, weather depending. We will be open at 7:00AM for anyone wishing to setup their table space. At 8:00AM we will open to the general public. Admission is free. No charge for inside or outside vendor space. Soft drinks, Coffee and Sausage Gravy and biscuits available while supplies last. No charge but donations will be accepted. **NO ALCOHOLIC BEVERAGES ARE PERMITTED BY THE SHELBY COUNTY FAIR ASSOCIATION.** These folks own the property so we have to play by their rules. Your cooperation will be appreciated. We will be closing up shop around Noon.

This will be an old-fashion tailgate event where hams can get together, chew over old times and embellish their recollections of ham radio past. You can buy, sell or trade your ham related gear and visit with all of your ham radio friends. This tailgate event carries on in the tradition started by Ralph Polston, K9SEW, some years ago when he started having tailgates in his side yard. We are trying to maintain the spirit of those events and perhaps widen the circle of folks who might come visit with us. See you there. 73

## PRIMER ON MICS FOR HAM RADIO

### *Continued from 4*

microphone. Manufacturers use different plugs and pin configurations though most amateur supply houses stock adaptors.

If you are participating in an event where you may be on the radio as Net Control for an extended period, a headset and boom or desk mic and a foot pedal are a must. Not only does it leave your hands free but the audio quality and lessened background noise will provide much better communication. My Heil desk mic and Heil headset will interface with all my transceivers (and even my computer) with adapters.

Hints on using your mic effectively

If using a handi talkie, invest in a hand-held microphone. It will be healthier not having that antenna radiating right beside your brain and also more comfortable in use.

Talk across the front of the handheld mic rather than directly into it. This will provide a less harsh and therefore clearer sound.

Push the 'Talk' button and pause a second. This will permit the repeater and any interface equipment with an opportunity to fully power up and avoids a portion of your transmission being cut off.

In closing, be careful about switching mics from one transceiver to another. Not only are different makes using mics with different pin connections but some manufacturers use different mics with the same plug on different models within their own brand. Transceivers generally carry a small voltage on one of the mic pins to power the condenser element. If this voltage is shorted because a pin is connected to another point inside the mic, say to ground, damage to the transceiver may result.

There is an excellent site with pin-outs for different mics at <https://www.scribd.com/doc/54320681/Microphone-Pinouts>