

RIVERLAND
AMATEUR RADIO
CLUB (RARC)
LA CROSSE, WI



THE KEY

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Staying Flexible and Adaptable: Planning for Communications Continuity

Achieving secure and resilient voice and data communications across the Emergency Communications Ecosystem is essential for public safety agencies to execute their missions. However, as emergency communications systems and functions become more interconnected, they also become more vulnerable to impacts from physical and cyber-based threats and hazards. The [National Emergency Communication Plan](#) (NECP) highlights the critical need for public safety organizations to plan for continuity and recovery of critical communications. Despite its importance, the [SAFECOM Nationwide Survey](#) found that less than half of public safety organizations build processes into their plans to ensure continuity of communications during out-of-the ordinary emergencies or disasters.

A webinar hosted by the Cybersecurity and Infrastructure Security Agency highlighted the importance of continuity capabilities in the emergency communications ecosystem and provided participants with best practices for ensuring limited loss of critical communications during incidents. Speakers discussed specific communications elements that should be considered; explained how existing capabilities should be updated or upgraded to ensure continuity based on lessons learned; and provided real-world experiences on how jurisdictions have adapted to mitigate mission impacts from communications vulnerabilities.

Continuity capabilities-building principles, practices, and resources are available at the FEMA [National Continuity Resource Toolkit](#) and other sites. It's important to periodically review and update or upgrade capabilities and leverage the NECP to understand and build emergency communications resilience. [Get additional information on the webinar series.](#)--Cyber Security and Infrastructure Security Agency (CISA), US Department of Homeland Security



PRESIDENTS COMMENTS

Happy New Year to all Club Members! There will be no President's Comments this month. Please stay tuned to next month's *The Key* for future messages from the new leadership.

There is no December 2021 Board Meeting minutes at this time. Please see future newsletter editions for more information.

Special Invitation: There are open positions on the board and we invite anyone who is a member, new and old, to partake in the Club leadership and send your notice of intent to Shawn Hicks, KD9KGQ. Email...eistim68@gmail.com.

An Introduction to Wires-X, W9UP/Room 63956

What is Wires-X ?

WIRES (Wide-coverage Internet Repeater Enhancement System) is an Internet communication system, used with Yaesu Wires-X capable radios which expands the range of amateur radio communication. For WIRES-X, an amateur node station connecting to the Internet is used as the access point and connects the wireless communication to the Internet. Users' stations can communicate with other amateur stations all over the world using a node within the radio wave range.



Wires-X Terminology

There are a few terms that must be clarified in order to understand WIRES X.

Node - Radio repeater connected to the Internet via a PC, which repeats communications of a conventional amateur radio as an access point. An example would be the W9UP repeater which is connected to Wires-X

Local Node - This is a Node within the radio communication range of a conventional amateur radio station. An example would be a radio that can reach our 444.900 repeater.

Analog Node - A Node that is a transceiver or repeater using a conventional FM format and can only repeat DTMF (Dual Tone Multi Frequencies) codes and analog audio transmission/receptions.

Digital Node - This is a Node which is a transceiver or repeater compatible with digital communications in C4FM (Continuous 4 Level FM) format. With this type of Node you can not only relay voice communications, but also text and image data transmissions. One can also repeat DTMF codes and audio transmissions/Receptions. **The W9UP connection is currently digital only.**

Conventional Amateur Station - This is a normal Amateur Radio station either an individual on a hand held radio, a mobile radio and a base station.

Room - This is a WIRES X Network community space to which multiple Nodes can connect simultaneously, like the conference call. This is a place where all amateur stations can link to each other via local Node and communicate with each other. In addition to voice communication, one can chat with text messages on the PC use for the local Node.

WIRES X user ID (node) - YAESU provide identification name with the WIRES-X node. Each node

is assigned a DTMP ID (5-digit number, e.g. 63956) and user ID (alphanumeric e.g. W9UP) up to 10 digits in length provided. Wires-X user ids are assigned by Yaesu when you register equipment to run a WiresX node.

ID List Nodes and room which currently operating WIRES are listed and published on the Yaesu website (https://www.yaesu.com/jp/en/wires-x/id/id_usa.php)

Enough already how do I connect!

Most repeaters have a default room. The default room of the W9UP 146.97 repeater, is the Riverland Amateur Radio Club. Connecting is as simple as switching to C4FM mode/DN (AMS off) and contacting the 146.97 repeater using our current settings: *146.97/PL 131.8* If you don't hear anything, give your call sign.

And that's all there is to a simple QSO.

Of course if you want to complicate things, we can do that as well. Since I don't have every Yaesu radio capable of C4FM (but I'm working on it!), I can't give details on every radio. Not to worry though, Yaesu has documentation specifically on Wires-X operation for every specific radio on their web site. Go to the Yaesu digital products web site

<http://www.yaesu.com/?cmd=DisplayProducts&DivisionID=65&ProdCatID=249>

Select your radio from the product pictures, then click on the Files Tab. For example, the FTM-100 page looks like this.

FTM-100DR

Description	Files
Amateur Radio \ Manuals \ Digital	
FTM-100DR/DE WIRES-X Node Operation Instruction Sheet (12/21/17)	(453.17 KB)
FTM-100DR/DE Instruction Manual (APRS Edition) 1803-E	(33.26 MB)
FTM-100DR/DE Instruction Manual (WIRES-X Edition) 12/20/17	(9.10 MB)
FTM-100DR/DE Instruction Manual (GM Edition) 9/26/17	(5.25 MB)
Amateur Radio Digital Standards	(997.05 KB)
Amateur Radio \ Manuals \ VHF/UHF Mobile Transceivers	
FTM-100DR/DE Advance Manual	(31.04 MB)
FTM-100DR/DE Operating Manual	(17.74 MB)
WIRES-X Connection Kit HRI-200 Instruction Manual	(6.48 MB)
FTM-100DR/DE Quick Manual	(2.61 MB)
FTM-100DR Instruction Manual (GM Edition)	(4.75 MB)

The first entry is: [FTM-100DR/DE WIRES-X Node Operation Instruction Sheet \(12/21/17\)](#)
(453.17 KB)

Click/Download the documentation for the exact steps to find rooms and switch to them. Some radios will allow you to save a favorites list. As you start to build up a set of favorite rooms, note their room id. You can also go directly to a room by entering it into your radio. The process varies, so

check the documentation.

You can all check YouTube for a number of tutorials on Wires-X with different radios.

Things to remember

- Due to the internet latency of Voice Over IP (VOIP), key down for half a second before you start talking, and keep the key down for a half second after you stop talking. This keeps you message from getting cut at the start or end.
- Also due to latency, it's a good idea to wait 3-4 seconds between transmissions.
- Above all, have fun. You can't screw anything up. You can't break Wires-X (although I did manage to block the Texas-Nexus room when I was setting up. My squelch setting was too low and I was constantly breaking in!). The settings are now correct, and so the honor is totally mine and mine alone!
- The repeater has a 20 minute Time Out timer which will cause the repeater to return to normal operation.
- Please remember to log out of WiresX when you are done with your QSO.
- The repeater is a shared resource and when you are using WiresX the repeater is busy for all. Please use it but be mindful of other nets, users etc.
- **One last thing. Nets on Wires-X are amazing. Rather than a local net, you will find heavy participation. The SADRC net (Wednesday @ 7pm CST), had over thirty check ins, including people from all over the US and Trinidad. The Zombie Alert Net room, also has lively discussion. The Zombie Alert net is carried on SADRC Thursday nights at 6pm CST. On**
- **Monday night, there is a very good technical net. MNWis Tech Net 7:30 PM on Wires-X room #21493**
- Thank you to Acentek of Houston MN who currently donates the internet connection at the repeater.

73

Wayne/K0WLO

(member, & contributor)



Club Trailer update

There has been some interest as to the current status of the trailer improvements that are under consideration by the "Trailer Committee." Some of the other factors that have come into play with it are: the demands of pressing club business, preparations for our annual Holiday Party, and other projects. As a result trailer improvements have been relegated to the back burner for now. Still there are some members who have been curious as to what is happening with this project.

To put things in perspective, here are some of the relevant projects that predate the actual work on the Trailer Project, these had to be dealt with first. Because of the pressing need to take care of the many things that need attention, some careful planning and preparation was needed. A fully functioning repeater system for normal communications as well as emergency communications is of primary importance, so it must be monitored and maintained before any other project can be considered.

Some years ago, it was noted that our basic repeater system had deteriorated to the point where some thing needed to be done to improve it's flagging performance. It was determined that first of all we needed new feed line installed on the WXOW tower so that we could assure continued efficient operation on our repeater. In 2004 a study was conducted by a committee and they found that what we could afford to put into place was Andrews Heliac coax feed line. The feed line along with all of the other hardware elements needed to complete the project were located and procured. The new feed line was installed on the tower in 2007 and has been in service ever since.

Recently, the WXOW station was going to need an upgrade of its transmitter, tower, and connecting lines, so we worked it out with their tower climber to also check over our feed line, connections and do basic maintenance on our antenna system as well. This was achieved at no extra cost to the club. Next we invested in a new Yaesu DR-2X digital/analog repeater and installed it in the cabinet at WXOW's station. That all brought our system up to date and with some adjustments it has been working fairly well.

This brings us to our communication trailer itself. It was originally supposed to be a self contained emergency communication unit. As time wore on, the things needed to achieve such a goal were determined, it had become obvious that even if we were able to make it self contained and able to get on the air anywhere, no one seemed to be interested in the sort of communication help that this could be provided by it. Other groups have a much more usable units for that purpose. Whether or not their units would be used for that purpose is not clear. Our best option with our trailer is to use it for special events, like Field Day or Parks on the Air, and as a training/educational unit.

73 de KC9HDS, Carl
(member, & contributor)



Dupe Sheets

As another operating event approaches (Winter Field Day), it might be helpful to look into the wayback machine and see how things were done before we had some of the equipment that we do today. We have become accustomed to using computers for logging, but it was not too long ago that we did not have computers. We still operated events like Field Day successfully, and those of us who were around remember dupe sheets for logging. They were able to record QSOs for the event and could be consulted to find previously contacted stations quickly and easily. I used a modified dupe sheet for Winter Field Day a couple of years ago because I was working remotely and didn't want to support the electricity needed for a computer.

Dupe sheets for a weekend-long event like Field Day would be kept on tabloid (11x17) paper. The paper would be taped to both sides of a 11x17 piece of plexiglass or similar support. The page would be oriented in a landscape fashion. A small margin would be drawn down the left-hand side, then the rest of the page divided into five equal sections. Each section was given a number in the margin at the top: 1, 2, 3, 4, 5 went across the top of one side, and 6, 7, 8, 9, 0 would go across the top on the other.

The page is also divided from top to bottom in five sections with each section labelled in the margin on the left, and both sides got the identical labels: W, K, A, N, DX.

When a station was contacted, the information would be entered in the section that corresponded with the prefix and regional number for the call. W1AW would be entered in the upper left section, K4JIB would be entered in the second row of the

	1	2	3	4	5
W					
K					
A					
N					
DX					

fourth column. Calls from regions 6 through 0 were entered on the back side. The DX calls would be mostly Canadian, but not entirely.

Separate dupe sheets were kept for each mode and each band. Most calls back in the day had only one letter in their prefix, so we would often simply enter the call suffix in the appropriate box.

Dupe sheets like this would be pretty marked up by the end of the event, but were easily able to retain the contact information for hundreds of QSOs. An operator would often be accompanied by a logger during the busy parts of the day, and a station could be identified as a dupe as quickly as today's logging computers.

This is still an effective means of keeping contest logs; particularly as portable operations become more popular. You vastly reduce the amount of electricity needed to operate a QRP station if you are not supporting a logging computer that does nothing more than keep QSO data that can be kept in a spiral notebook organized in a manner such as this.



UPCOMING Events for January 2022

- ◆ RARC Sunday Night 2Meter Net is held on the 146.970 repeater at 8:00 PM. Net control operators for November are:

January 2, 2022	Wayne k0wlo
January 9, 2022	Shawn kd9kgq
January 16, 2022	Mark kb9ofk
January 23, 2022	Rick kd9gvs
January 30, 2022	Wayne k0wlo

- ◆ Saturday morning Rag chew, weekly on the 146.970 repeater, 8:00-9:00 AM.
- ◆ **January 4...**Christmas party at Schmidty's Bar & Restaurant, 3119 State Road, La Crosse with a Social Hour at 5 PM and dinner at 6 PM.
- ◆ **January 20...**Trustee Meeting, Time: 6:30 PM, Onalaska Perkins. All members are welcome to attend.
- ◆ **January 22...**Winter Field Day, at noon, location TBD.



BUY-SELL-TRADE-ISO

There are no entries for this month's Buy—Sell—Trade—ISO. Everyone is happy with what they have.

** Send your Amateur related classified ad(s) to Kelley, NLT the 26th of each month to kellyLL23@hotmail.com.*

CLUB INFORMATION



Riverland Amateur Radio Club

PO Box 621

Onalaska, WI 54650

- * The Key is published monthly and e-mailed to members and friends of the Riverland Amateur Radio Club by the 28th of each month. The newsletter focuses on news, announcements and activities of the Riverland Amateur Radio Club. It may also consist of news and information of interest to the Amateur Radio community as a whole. Guest editorials and articles related to Amateur Radio are welcome. Contribution articles should be submitted NLT the 26th of the month. Address any correspondence or anything that should be included in the newsletter to: Kelley Becker at KelleyLL23@hotmail.com.
- * The Riverland Amateur Radio Club maintains a website at rarc.qth.com. More information about the club can be found there as well as past copies of The Key.
- * RARC also maintains a Facebook page where members add information and share their Amateur Radio adventures. Please friend us at Riverland Amateur Radio Club—RARC.
- * RARC maintains a repeater that is located on the WXOW television tower above La Crosse, MN. 146.970 pl 131.8.
- * RARC holds a weekly 2meter net on Sundays at 8:00 PM on the 146.970 repeater.
- * Trustee Meeting is held the 3rd Monday of the month at Perkins Restaurant, 9428 State Road 16, Onalaska, WI 54650 at 5:30 PM, all club members are welcome.
- * Program evening is held the 1st Tuesday of the month at 7:00 PM, elmer session at 6:30 PM at Unitarian Universalist Fellowship, 401 West Avenue in La Crosse.
- * Weekly "Breakfast Club" Ragchew on the 146.970 repeater on Saturday's from 8:00 AM to 9:00 AM. Stop by to say "hi".

Below are listed your RARC 2022 Board of Trustees and contact information.

President.....TBD

Vice-President.....TBD

Secretary.....TBD

Treasurer.....TBD

Trustee.....TBD

Trustee.....TBD

Repeater Trustee.....TBD

Newsletter Editor.....Kelley Becker, KD9LQW Email...kelleyLL23@hotmail.com