The ORC Newsletter
Special Post-Spring Swapfest Edition

Official publication of the Ozaukee Radio Club, Inc. Mail all contributions to the editor, Tom Ruhlmann, W9IPR, 465 Beechwood Dr., Cedarburg WI 53012 (phone 262 377-6945). Permission to reprint articles published in any issue is granted provided the author and the Ozaukee Radio Club Newsletter are credited.

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From the President

de Kevin Steers (K9VIN)

Spring has sprung. I was so excited to see the warm weather, that I wanted to plant our herbs and flowers asap. Fortunately, my wife reminded me that Memorial Day is quite a way off, and that we should hold tight.

Well the ORC Spring Swapfest was a huge success, thanks to the many volunteers that made it possible. I appreciate the number of folks that not only helped us on Friday afternoon to lay out tables, but also those that stayed late on Saturday to ensure the rental tables were taken care of, and to assist Tower Electronics to get packed up. Tower brings their own tables, and additionally, they supply us with tables to help us to reduce expenses. This requires Jill to drive her own vehicle, pulling a trailer all the way from Green Bay, and for that we are very appreciative.

Attendance was up over last year, and I think the partnership with the Wisconsin Antique Radio Club has worked well for everyone. This year, with Scott and Jill and their Tower Electronics goodies, and another ham who rented 14 tables to sell nearly an entire estate, there was certainly something for everyone. It was great to see many familiar faces, and to see a number of hams that travelled from afar to participate in this social/swap event.

Dayton is right around the corner, so it is time for me to finalize my mobile HF installation after upgrading cars. I am hoping to make some contacts en route to Dayton, and to also use it on my weekend trips up north. Luckily, I was able to find a couple of adjustable HF coils that I am attempting to put into service. I spend a number of hours today soldering Anderson connectors and routing wires in the car.

Please begin planning for Field Day. As of this moment, we need a 20M band captain to lead the charge on that band. Please reserve June 23-24 on your calendar. It is a great way to learn how to run network cables, how to pitch tents, how to erect temporary towers, and how to work hundreds of stations in a low stress environment. You can even sit back and listen if you wish, to learn how we manage a pileup, etc.
See you all there!

73,
Kevin

DX'ing & Contesting

De Gary Sutcliffe (W9XT)

Well, it looks like the warm weather has finally arrived. It is hard to believe we had a half foot of snow a couple of weeks before we hit 80° F. It seems everything around here is a couple of weeks late. It has left me with a bit more time with ham radio activities instead of my usual spring outdoor activities.

The longer days mean that the low band openings are shorter in duration and distance. I have been interested in the new 630M band. I am building up equipment to get on the band, and so far have succeeded in transmitting a WSPR signal, but the microwatt output level has not been picked up by any other stations. I did receive a very strong signal on a separate antenna about 400 feet away.

In the meantime, I occasionally leave the receiver on 630 meters overnight and monitor WSPR stations. I record the unique call signs received. So far I have received over 60 different stations in total. As we approach summer, the number of stations received each night has been decreasing. Some of that is probably due to hams not running their beacons as conditions deteriorate, but I also hear fewer distant signals. Big west coast stations and even a Hawaiian station were commonly logged during the depth of winter have not been heard in quite a while. It is an interesting band. Keep in mind the FCC limit on this band is 5 watts EIRP.

The sunspots have been declining more rapidly than expected. There was an interesting article on SpaceWeather.com on it recently - https://spaceweatherarchive.com/2018/05/01/sunspots-vanishing-faster-than-expected/. Like predicting the snow storms we had in mid-April far in advance, long-range predictions of sunspots are still not a high accuracy thing. The article mentions there are currently 54 different models for sunspot prediction.

The big question is: What does it mean that the sunspots are declining faster than expected? That is a good question. In one scenario, it might mean we will have a shorter low period than we did last time. As you may recall, the last minimum lasted about twice as long as normal. It was also lower than usual. Long minimums predict that the next peak will be weak, which it was. So, if we have a short minimum, we should get a nice peak in a few years. That would be great! The other possibility is that we are going into an extended period of little sunspot activity like the Maunder and Dalton Minimums, where there was little sunspot activity for decades. Besides poor radio conditions, there are a lot of other side effects such as less energy from the sun causing cooling of the earth and reduced protection from deep space gamma-ray exposure.

Hopefully, the second possibility is not the result. I don't know about you, but I doubt I can wait another half dozen 11-year sunspot cycles for the kinds of 10 meter openings I experienced early in my ham career.

There are a few announced DXpeditions of interest in May. A group of Russian hams will be moving on to the next location of their Mozambique IOTA tour. They will be on from May 5-9 from Inhaca Island. The plan is for operating on 40-10 meters with CW, SSB and digital modes. The call is C98RRC.

The Mozambique mainland will also be on the air courtesy of a mostly Belgium crew. One source has them on May 4–11 and another May 2-15. The plan is to put the C8T callsign on 160-10 meters using CW, SSB,and RTTY. They also plan to be on 2-meter moon bounce. Rodrigues Island in the Indian Ocean will be activated May 11-16 by a group of French ops with the 3B9RUN call sign. They will be on 80-10 meters using SSB and FT8.

Another good island catch is Lord Howe Island. An Australian group will activate VK9LI May 11-18. The plan is to use CS, SSB,and FT8 on 160-17 meters.

As usual, there are a number of other planned operations by a single op who is traveling on vacation or business. They get on when they have time which varies from op to op. You just have to be monitoring the bands to catch them.

May is a quiet month for contests. The only big one is the CQ WW WPX Contest (CW). As usual, this is on the Memorial Day weekend. Like most 48 hour contests, this one starts at 0000Z Saturday (Friday night, May 25 local), and runs for 48 hours. Single ops can only operate 36 hours. Off times must be a minimum of 60 minutes.

The exchange is a signal report and incrementing serial number. Multipliers are the station call sign prefix. That means that KA9EAK, AA9W, AB9CD, AC9JV, K9VIN, WT9Q, W9JI as well as many other ORC members would be separate multipliers. QSO points vary depending on the band and location of the other station. Fortunately, your logging program will keep track of all that for you.

Like other CQ-sponsored contests, there are a ton of operating classes including all band, single band; high, low or QRP power; and with/without spotting assistance. That is a lot of classes. Pick a single band, a power level, and assisted/unassisted and put in 12 hours or so, and you are very likely to win a piece of wallpaper.

Because of the complex rules and QSO point schedule, you should check out the rules at http://www.cqwpx.com. Too bad it is on a holiday weekend. To me, spending a weekend on the radio during spring warm weather is hard to do.

Of course, the big ham radio event this month is the Hamvention® in Dayton or Xenia or wherever. Maybe this year it won't rain so much. Also, it is not too soon to be thinking about Field Day!

THE COMPUTER CORNER

No. 243: Keep Your Eyes Open

Stan Kaplan, WB9RQR 715 N. Dries Street Saukville, WI 53080-1664
(262) 268-1949 wb9rqr@att.net

This is just a portion of an email sent to me in April using the GovDelivery Communications Cloud on behalf of: United States Computer Emergency Readiness Team (US-CERT), 245 Murray Lane SW. Bldg 410, Washington, DC 20598, (888) 282-0870. You can get the original email, complete, at www.us-cert.gov. Remember, I have left out a considerable part and edited the remainder, all in the interest of brevity. At least you should scan this shortened document and think about what you can do to prevent yourself from being targeted.

TA18-106A: Russian State-Sponsored Cyber Actors Targeting Network Infrastructure Devices.
Written by the U.S. Department of Homeland Security US-CERT, National Cyber Awareness System: 4/16/2018

Overview: This joint Technical Alert (TA) is the result of analytic efforts between the Department of Homeland Security (DHS), the Federal Bureau of Investigation (FBI), and the United Kingdom's National Cyber Security Centre (NCSC). This TA provides information on the worldwide cyber exploitation of network infrastructure devices (e.g., router, switch, firewall, and network-based intrusion detection system (NIDS) devices) by Russian state-sponsored cyber actors. Targets are primarily government and private-sector organizations, critical infrastructure providers, and the Internet service providers (ISPs) supporting these sectors. This report contains technical details on the tactics, techniques, and procedures (TTPs) used by Russian state-sponsored cyber actors to compromise victims. Victims were identified through a coordinated series of actions between U.S. and international partners. This report builds on previous DHS reporting and advisories from the United Kingdom, Australia, and the European Union. This report contains indicators of compromise (IOCs) and contextual information regarding observed behaviors on the networks of compromised victims. FBI has high confidence that Russian state-sponsored cyber actors are using compromised routers to conduct man-in-the-middle attacks to support espionage, extract intellectual property, maintain persistent access to victim networks, and potentially lay a foundation for future offensive operations. The current state of U.S. network devices—coupled with a Russian government campaign to exploit these devices—threatens the safety, security, and economic well-being of the United States.

The purpose of this TA is to inform network device vendors, ISPs, public-sector organizations, private-sector corporations, and small office home office (SOHO) customers about the Russian government campaign, provide information to identify malicious activity, and reduce exposure to this activity.

Description

Since 2015, the U.S. Government received information from multiple sources—including private and public-sector cybersecurity research organizations and allies—that cyber actors are exploit-

ing large numbers of enterprise-class and SOHO/residential routers and switches worldwide. The U.S. Government assesses that cyber actors supported by the Russian government carried out this worldwide campaign. These operations enable espionage and intellectual property that supports the Russian Federation's national security and economic goals.

Legacy Protocols and Poor Security Practice

Russian cyber actors leverage legacy or weak protocols and service ports associated with network administration activities. Cyber actors use these weaknesses to:

…identify vulnerable devices;
…extract device configurations;
…map internal network architectures;
…harvest login credentials;
…masquerade as privileged users;
modify
……device firmware,
……operating systems,
……configurations; and
…copy or redirect victim traffic through Russian cyber-actor-controlled infrastructure.

Additionally, Russian cyber actors could potentially modify or deny traffic traversing through the router.

Russian cyber actors do not need to leverage zero-day vulnerabilities or install malware to exploit these devices. Instead, cyber actors take advantage of the following vulnerabilities:

…devices with legacy unencrypted protocols or unauthenticated services,
…devices insufficiently hardened before installation, and
…devices no longer supported with security patches by manufacturers or vendors (end-of-life devices).

Own the Router, Own the Traffic. For example, an actor controlling a router between Industrial Control Systems – sensors and controllers in a critical infrastructure—such as the Energy Sector—can manipulate the messages, creating dangerous configurations that could lead to loss of service or physical destruction. Whoever controls the routing infrastructure of a network essentially controls the data flowing through the network.

Network Devices—Often Easy Targets. Once installed, many network devices are not maintained at the same security level as other general-purpose desktops and servers. The following factors can also contribute to the vulnerability of network devices:
…Few network devices run antivirus, integrity-maintenance, and other security tools that help protect.
…Manufacturers build and distribute network devices with exploitable services just because they are designed for ease of installation, operation, and maintenance.
…Owners and operators of network devices often do not change vendor default settings or harden them for operations or perform regular patching.
…Internet Service Providers (ISPs) often do not replace equipment on a customer's property when the manufacturer or vendor no longer supports that equipment.

Impact

Russian state-sponsored cyber actors have conducted both broad-scale and targeted scanning of Internet address spaces. Such scanning allows these actors to identify enabled Internet-facing ports and services, conduct device fingerprinting, and discover vulnerable network infrastructure devices.

Legitimate user masquerade is the primary method by which these cyber actors exploit targeted network devices. For the most part, cyber actors can easily obtain legitimate credentials, which they then use to access routers. Organizations that permit default or commonly used passwords, have weak password policies, or permit passwords that can be derived from credential-harvesting activities, allow cyber actors to easily guess or access legitimate user credentials.

General Mitigation

Here is what those of us who use, but do not manage networks can do: Immediately change default passwords such as those found in routers when you buy them. Change your other passwords at least once every year, and make the passwords strong (8 characters, upper and lower case, some numbers, and symbols.

Do not reuse the same password across multiple devices; each device should have a unique password.

Happy Computing!

Stan

Vintage Amateur Radio

de Bill Shadid, W9MXQ

I am going to dwell a bit this month on a competition grade radio transceiver manufactured in the 1960's. It truly can compete in many ways, today – outstanding filter performance, some level of interference control, and that holy grail of DX radio, dual receive.

I would wager, however, that you will not guess the radio's identity (before seeing the picture, below) because it has been a long time since these radios graced the operating positions of competitive operators. In 1965, Hallicrafters began building a series of Transceivers with traditional model numbers but also included names based on storms. Below you see the start of that series with the Hallicrafters SR-400 Cyclone Transceiver:

Hallicrafters SR-400 Cyclone 80-10 Meter Transceiver

If you go back in time and look at the SR-150 HF Transceiver article, first in the SR family in modern times, you see that Hallicrafters advanced the styling of the front panel bezel design. For reference, here is a picture of the SR-150 in the W9MXQ radio collection:

The front panel size of the SR-150 and the SR-400 were identical but complexity was increased in the later model. The addition of a very effective Noise Blanker, separate CW Filter, and Notch

Filter added to the SR-400 Front Panel. Hallicrafters kept their very good system of Receiver Incremental Tuning (RIT), successfully introduced in the SR-150. The RIT feature never left the design of any Hallicrafters transceiver after that initial design introduced on the SR-150 in 1961.

There were three versions of the SR-400 Transceiver. The first two were similar with more major changes with the third, final version. Here are some points of interest in the different models:

	1	2	3
Model	**SR-400**	**SR-400**	**SR-400A**
Model Name	Cyclone	Cyclone II	Cyclone III
SSB PEP/CW Input Power	400/360	400/360	550/320
SSB PEP/CW Output Power	200/180	200/180	275/160
Final Amplifier Tubes	2x 6HF5	2x 6HF5	2x 6KD6
Internal Final Tube Matching	No	No	Yes
Amplifier Automatic Level Control (Early Speech Processing)	Yes	Yes	Yes

The SR-400 Cyclone II was essentially an upgraded SR-400 Cyclone with all realized field issues addressed. The SR-400A Cyclone III was somewhat different. Most notable was the addition of the much more powerful 6KD6 final amplifier tubes. You will note a slight oddity of this version, however, in that the more powerful final amplifiers gave an SSB power increase of over 35% in input power while close to a 12% decrease in CW power input. It is my opinion that the 6HF5 pair had been asked too much running 360 watts input while the 6KD6 was properly rated on CW at its rated input of 320 watts.

With the release of the SR-400A Cyclone III we see the inclusion of Internal Final Tube Matching. All of us are familiar with the very inconvenient need to find electrically matched final amplifier tubes in sweep tube transmitters. The 6HF5 finals had to be a matched set from the manufacturer or distributor. In the SR-400A Cyclone III Hallicrafters introduced circuitry that allowed internal matching of the tubes. I find that even different brands of finals can be accommodated. For a while, the SR-400A Cyclone III that I have in my collection held a pair consisting of RCA and Realistic (Radio Shack) sweep tubes for the pair. They work fine. Ultimately that seemed incorrect (it really isn't incorrect in Hallicrafters' design) so I replaced the pair with a new set of RCA tubes. On the other hand, the SR-400 Cyclone II that is also in my collection uses a matched pair of RCA 6HF5 sweep tubes. Ultimately, because the need to use matched tubes changed, I pay less for finals in the more powerful SR-400A Cyclone III.

Worthy of note with the SR-400 series was Hallicrafters much touted Amplified Automatic Level Control (AALC). The "AALC" feature was touted at every opportunity. It was an early form of Speech Processing. Compared to today's AF and RF Clipping Speech Processor systems it was of little impact on signals. But at a time when the idea of processing speech was usually the domain of broadcast radio, it was unique. My feeling is that it added, at best, maybe 1 to 2 dB of compression – very little to 7 to 10 dB today. But, in those days the SR-400 and its 200 to 300-watt output power this just added a bit more sparkle to the signal. That meant just one more way to get noticed on the band.

Essentially, AALC pushed the ALC in the transmitter to force higher average signal level at what I would think would have been a bit of a sacrifice in audio quality. Did it work? I really don't know for sure – but I do know that my SR-400 Cyclone II gets excellent signal and audio reports. So, something is working!

There are interesting differences in the three models that go beyond the excellent transmitter section of the Cyclone III. The choice of the very heavy duty 6KD6 in the transmitter removed a long-standing reliance on the relatively weak 6HF5 design. (I will add that this opinion is my own – but supported by many fellow collectors from this period.) At the same time as the Cyclone III was released, the Hallicrafters organization was moving Amateur Radio operations from the traditional Chicago, Illinois location to the 1963 business acquisition site of Radio Industries, Inc., in Kansas City, Kansas. Kansas City was also the home of Hallicrafters' corporate owners, Northrup Aviation. At that time, different engineers took over the maintenance of the SR-400 design and made some changes. Were those changes cost driven, based on personal preference of different engineers, or other reasons? Today, no one knows. One does not argue over the improvement on the transmitter. But, what is known is that if you are a collector of these radios you know that there is a wide group of SR-400A Cyclone III owners that go to great pains to back convert their radios to SR-400 Cyclone II status in the lower level transmitter and receiver stages.

The original, and short lived, SR-400 Cyclone (some call this the Cyclone I) was widely known to have design issues that needed improvement. As noted earlier, the need for these changes drove the introduction of the SR-400 Cyclone II. I have owned all three, and currently have a Cyclone II and Cyclone III. Here is what I know:

1. The initial SR-400 Cyclone radios could have a rather rough sound on both SSB and CW. They were uncomfortable for listening. The final amplifier tuning could be temperamental and problematic. Neither of these traits were common with Hallicrafters which were traditionally easy on the ears and simple to tune,
2. The improved SR-400 Cyclone II radio turned out to mostly be a joy to work with for both listening and transmitter tuning. This model in its later version had the proper mounting provided for an optional PA Compartment Cooling Fan. At the same time, the PS-500A-AC AC Power Supply began to come equipped with a power connector for the fan. (Later, see more information about the available power supplies, and other accessories, for the SR-400 series radios.)
3. The final SR-400A Cyclone III model incorporated the previously mentioned upgrades in the transmitter. That was very well done. But, some receiver performance issues from the first version came back. The harshness of the original SR-400 Cyclone had returned and perhaps became worse. I have a plan to accomplish the reverse engineering necessary to take the receiver sections back to SR-400 Cyclone II status. That process is well documented. At this time, my SR-400A Cyclone III is not heavily used. It should be my main SR-400 design in use at W9MXQ – and it will be in the future.

Let's look at accessories – all accessories work with all models:

Left to Right
PS-500A-AC AC Power Supply, SR-400 Cyclone II Transceiver, HA-20 DX Adapter

Above you see the PS-500A-AC Power Supply that supplies all High Voltage, Low Voltage, and Filament Voltage to the transceiver. This power supply has the connector for the PA Compart-

ment Cooling Fan, but this version of the transceiver has no accommodation for the fan to be added. (It is an early SR-400 Cyclone II).

The HA-20 DX Adapter deserves some credit for providing, to my knowledge, the very first opportunity for a ham radio operator to listen to two different frequencies (on the same band) at once. To the average person looking at the HA-20 it appears merely to be an External VFO. These Extremal VFO's were very popular with transceivers of the day. But there is more to that story with the HA-20 when used with the SR-400 series transceivers:

Check the OPERATION switch in the picture at the left. There are five modes for the HA-20 (for this list just below, R = Receive and T = Transmit):

OFF (No power to the HA-20 – SR-400 controls R & T)
STBY (SR-400 VFO controls R&T)
T (SR-400 controls R while HA-20 controls T)
R&T (HA-20 controls R & T)
DUAL T (HA-20/SR-400 control R &SR-400 controls T)

So, the SR-400 with the HA-20 connected, setting the OPERATION switch on the HA-20 to "DUAL T" allowed a roughly equal level audio on two different receive frequencies at the same time. This would allow one to listen to a DX station's calling frequency on the HA-20 while the SR-400 would play the sending frequency desired on both receive and transmit. So, you would tune the SR-400 VFO for the location of the DX station's listening frequency while having the HA-20 on the DX stations calling frequency.

Now, let's look at a not-so-well-known difference in different versions of the SR-400:

	**Hallicrafters SR-400** **Cyclone** Note "Red Ball" Hallicrafters "H" Emblem at the top center of the Readout Bezel.
	**Hallicrafters SR-400** **Cyclone II** Looks identical to the original version except that wording to the right of the bezel shows the name of "Cyclone II."
	**Hallicrafters SR-400A** **Cyclone III** The last Version of the SR-400, from the Kansas City plant, the Cyclone III. See the changed Hallicrafters "H" Emblem. Now a white square with a Blue Ball and White "H."

Color differences on the above pictures are due to photography – all Hallicrafters gear matched very well in color. My old SR-150 Transceiver matches the color of the newest SR-400A almost without any shade variance. This is a tribute to the painting process used by Hallicrafters in the

days before computerized paint matching. The only odd difference over the years with this design series (SR-150 through the end of the SR series) is the exact color of the front panel silk screening. There seems an almost indiscriminate change between light gray and white in the panel lettering and stripe band at the edges of the panel.

From my experience, Hallicrafters did as well, or even better, in matching paint and matching of design concepts from one model to another – including accessories that sat next to the radios. Collins was also good at the color matching – but not to the level Hallicrafters' attained. I have used the term, "Desk Presence" relating to Collins equipment in previous articles. Hallicrafters had a claim on Desk Presence as well.

If Hallicrafters had one failing during this period, it must be the result of the change to aluminum outer cabinets. Aluminum paint technology, now well developed, was a bit of a black art in the 1960's when these models appeared. To this day, it is hard to find an SR-150, SR-400, or other similar period Hallicrafters that does not have paint that is chipped and showing raw aluminum. With care, this issue is repairable – but the buyer of such gear today needs to be ready for this challenge.

The only other option on these radios – and then only on the late SR-400 Cyclone II – was the PA Compartment Cooling Fan. That fan was standard equipment on the more powerful SR-400A Cyclone III and not easily retro-fit to the origjnal Cyclone or early Cyclone II radios.

There were other versions of the basic SR-400 design from Hallicrafters. We will discuss them in the future. They include the SR-2000, SR-540, and the SR-750. Also, there were units based on the earlier platform SR-150 Transceiver. These were two tri-band (80, 40, and 20 meter) models, the SR-160 and the SR-500. In keeping with the storm theme, Hallicrafters used the names, "Hurricane" and "Tornado" for some of these radios. More will follow about those radios.

The SR-400 Cyclone II and SR-400A Cyclone III are great additions to my collection (with the possible exception of the work needed to be done on the SR-400A Cyclone III). Both of these radios handle strong signals very well, have outstanding Noise Blankers, excellent SSB and CW i-f Filters, and effective Notch Filters. As Hallicrafters told us back in the day, ***"You should be talking on a Hallicrafters!"***

(All Photos are shack photos from W9MXQ)

Forty Meter Nostalgia

De Ray Totzke (W9KHH)

Recently while busy with paperwork, I had the radio on the desk in the background tuned to the forty meter CW band. A slow QSO between two midwest stations, not too strong, was in progress. After a few minutes, another signal came on frequency and tuned up. Was the operator dipping his final, increasing the drive, again dipping the final, increasing the drive, over and over? After tuning, and tuning, and tuning, a long slow CQ was sent with call letters at times.

Whether or not the CQ was answered I'll never know as the paperwork was finished. The radio was turned off.

Listening to the band was like taking a flight back to the novice days long ago when the bands were crowded and stations were rock-bound. You have a crystal on one frequency and you called CQ whether or not anyone was on frequency. Receivers were not very selective letting the novice op hear many signals on many frequencies at once.

It was old times once again. For a few minutes, forty meters was alive with a QSO. Now, not so much. Tune forty CW and you find a quiet band or neighborhood noise sources. No, or few, CW QSO's. Whatever happened to "pounding brass through the night?"

2018 SIMCOM EMCOMM

De Don Zank (AA9WP)

The State Interoperable Mobile Communications Exercise, otherwise known as SIMCOM, was held this past February 6 thru the 8th. The purpose of this exercise is to "...educate, coordinate, and test Mobile Emergency Communication platform capabilities, from federal, state, tribal and local jurisdictions." Amateur Radio Emergency Communicators are provided an opportunity to work along with the emergency responders, National Guard and State Emergency government officials during SIMCOM. It is a great opportunity to test and learn how our mobile communication hardware and software will work, or not, in the field. It is good test of our operating skills and capabilities, including the software between our ears, as well.

There were several objectives established for the communicators participating. Objectives consisted of establishing communications between geographically separated branches, passing and sharing information between the branches, testing contingency operations, and completing a scenario event list. Radio communications took place on VHF/UHF/HF bands, with the Narrow Band Emergency Messaging Software (NBEMS) used to pass digital messages, which will be discussed in more detail later.

This year was a first for SIMCOM as it took place during the winter. It was also a first time opportunity for myself, AA9WP and Jon, KD9GAE, to participate. The Fitchburg Fire Department was host this year. So the remote sites consisted of the Fitchburg Fire Department, parks in Fitchburg, Sunnyview Expo Center in Oshkosh and the State Emergency Communication office in Madison.

Day one for the amateur radio operators started with class training at Wisconsin Emergency Management (WEM) office in Madison. The two morning classes, conducted by Skip Sharpe, W9REL and Denny Rybicke, K9LGU, were *Mission of Amateur Radio: Serving Agencies* and *Traffic and Message Handling.* The *Serving Agencies* class was a good refresher for our roles and responsibilities as communicators serving various agencies. The Traffic and Message Handling session focused on using the ICS-213 message form and the ARRL Radiogram. Training included hands-on message creation and copying among the attendees. The practice reminded everyone to speak at a writing speed, to use phonetics and procedural words to quickly and effectively pass traffic. For several of the attendees, this was their first time using the forms, but they quickly caught on how to use the forms and procedures.

The afternoon training session consisted of review of WEBEOC, ".. a crisis management system designed for supporting the response to emergency incidents within the state." This replaces the eSponder system. WEBEOC was used during the exercise to track status of all the groups involved and pass messages. Also reviewed was WI-CAMS, an asset management program used for tracking equipment and personnel. This would play a part in day three.

While at the State Emergency Management Operations (SEOC) I had an opportunity to check out the new Emergency Management RACES radio room. Parts of the room were still in setup but the remainder looked very good. Nice operating stations with plenty of room to work. VHF/UHF/HF and aviation radios being used in the center.

Day Two was in the field. Jon and I were assigned to McKee Park in Fitchburg. Working with our Communication Leader, Jim Burns, KD9CIV, Fitchburg Fire and National Guard members, a communication position was set up in the field house. Our setup consisted of two VHF radios, one designated for digital communications and the other for voice communications on the WECOMM Network. A VHF HT was used to monitor communications and to communicate with the Fitchburg Fire Department. Headphones are a definite requirement in a room being shared with three or four other operating positions. An indoor antenna worked fine for local communications but to connect with the WECOMM Repeater in Cambridge, an outside vertical antenna was installed. I was thankful for some very good help from the National Guard to set up and run the coax for the vertical. It was also a good learning lesson. Working in the cold with small hardware was difficult. Next time I will be prepared with some magnetic tools for holding the hardware. A HF radio that can work on 60 meters needs to be included in my mobile communications setup.

Frequencies used for the SIMCOM exercise were supplied on the Incident Radio Communications Plan ICS-205. Three of the WECOMM Repeaters, Cambridge, Plymouth and Waukesha, were removed from the network and linked together to be used exclusively for SIMCOM.

By 9 am on Wednesday, communications were established and successfully tested with the SEOC, and the four other branches. The other branches were set up at McGraw Park in Fitchburg, the cities of Oregon, Verona and Oshkosh. Simplex mode was used on VHF frequencies

except for the WECOMM channels. Several messages were received using voice mode and passed to the Communication Leader. As well, several digital messages were passed using NBEMS, including a supply request for hot water and coffee.

Our digital station worked well however others were having some difficulty, so another good learning session for all involved. This is why we practice in events like SIMCOM, to learn and test our equipment and ourselves.

In the afternoon session, our group came up with a plan to test message passing and receiving. They composed a message of 68 words, with operating instructions and an opening line from T.S Eliot. This message was passed to another Branch, who in turn were to provide the message to the emergency responders, and then to Public Health. Public Health was to post the message on WEBEOC and we would check for the accuracy. It would have been great if the other group had digital capabilities, however they didn't, so it was left to voice mode to pass this message. We ran into the normal expected difficulties of voice message handling. I had miscounted the number of words, several of the words required respelling and it just took a good amount of time. Similar difficulties occurred when another group, using voice, was passing a message for a refuel of gas and diesel. Using digital modes to pass this traffic would have been much more efficient and effective.

By 4 pm our testing was completed and it was onto day three. And day three was a more interesting setup. Jon and I were joined by Warren, K9IZV at the Waukesha-Sussex Armory. (Did you know there was a Sussex Armory?) Out mission was to set up communications on HF and VHF. Jon set up his station to use 60 meters, and this included installing an NVIS antenna outside. Another lesson learned: Sussex had much more snow than other locations. So we tramped around the snow setting up the mast and running coax into the building. Warren setup a cross band system to work from inside the building to his car radio, tuned to the WECOMM network.

We met with Jeff Whittow from WEM Finance. Our goal was to pass a request, from Jeff to Emergency Management, for sandbags from the WEM cache at the Armory. The sandbags were needed to prevent vital telephone and fiber equipment from flooding. Our first attempts were on 60-meter HF but the band did not cooperate. While several other stations could be heard, no direct communications were established. So we moved to VHF and the WECOMM Repeater. Our message was delivered to the State Emergency Operations Center and a few minutes later we received an approval message. The very interesting fact in this exercise is that the people involved in creating and approving this message are the actual individuals who would be directly involved if this were a real-world situation. So it was just more than a simulation! It also provided an opportunity to show others the capabilities and skills used in amateur radio. By 11 am, our mission had been successful and we torn down our setup. However, I regret not using NBEMS to pass a message to EOC. Oh well, there is always next year.

But we learned a few things. We learned about HF operation and propagation, especially on 60 meters. We learned that the antennas at the SEOC are not tuned for 60 meters, but will be this summer. Warren found an intermittent cable in his mobile setup. We learned that when using digital modes, a printer would be a valuable asset to record and pass messages. Later I learned, talking with Scott Ziegler, KC9IIZ and Ozaukee County Emergency Manager, that using ink jet type printers in the winter can be very difficult. That is why the Sheriffs and other emergency vehicles use thermal printers.

Next year SIMCOM will be held on May 1 to 3rd in Waukesha. Interested? Questions? Please let me know or ask. If I don't have an answer I will try and dig one up..

73 Don Zank AA9WP

The ORC Spring Swapfest

The ORC Spring Swapfest was again a great success with attendance increasing to just over 300, with participants such as the ARRL, Tower Electronics, Wisconsin Antique Radio Club, Red Cross and all the individuals selling their treasurers. Our own Gary Drasch, author of "Ham Radio is Alive and Well", was there selling autographed copies of his book. Incidentally, it is a great book and really presents the changes and expanding opportunities within amateur radio. I am sure you will find it as good a read as I did. The following photos speak for themselves. If you missed the event you missed a really great swapfest in a great facility.

Nels sold tickets at the door while Grafton Destination Imagination Club provided the concessions and Stan and Mike provided the "sounds". Loren (N9ENR) and Kristian (KC9TFP) did a great job putting this event together – Thanks.

Thanks to all the members that helped make this year a successful Spring Swapfest!
Attendance was up a bit. All the tables were filled. Plenty of food.

Thanks to Robert K4WTH for putting up the signs early this morning.
Thanks to Loren N9ENR and Kristian KC9TFP for organizing the tickets and tables.
Thanks to Nels WA9JOB and Chuck KC9YEP for manning the buyer ticket table.
Thanks to Jim K9QLP and Robert K4WTH for manning the vendor entrances.
Thanks to Mike KD9GCN for providing the sound system.
Thanks to Stan WB9RQR for announcing.
Thanks to LeFrog for loaning us 10 tables.
Thanks to Tower Electronics for loaning us 12 or more tables.
Thanks to Kevin K9VIN for securing the rental tables and printing flyers.
Thanks to Ben K9UZ for working on the swapfest announcement on the website.
Thanks to John W9FAD for helping setup on Friday.

Ozaukee Radio Club

April 11, 2018 Meeting Minutes

Ben Evans (K9UZ),), Secretary

President Kevin Steers (K9VIN) called the meeting to order at 7:33 PM. All the attendees introduced themselves.

Announcements, Show-and-Tell, Bragging Rights:
Dave KC9REP: Dave may have available in a couple weeks some used Inrico TM-7 Wi-Fi IRN Android-based radios. They are going on eBay for about $250. Dave will sell them for around $175-$200.

Gary K9DJT: The ORC shirt orders aren't in yet.

Peter W0NG: A friend has ham equipment for sale which belonged to the friend's late uncle. Peter displayed pictures of the equipment on the club's projector.

Tom KC9ONY: Tom is offering tickets and tables for the Swapfest to sell at the meeting break and after the meeting. Loren and Kristian have made enough sales so far to cover the cost of the St. Mary's Center rental.

Karen KC9WQJ: All hams are invited to an ARRL Event on April 18th, hosted by the Milwaukee Repeater Club. Kermit Carlson W9XA, ARRL Central Division Director, will lead a discussion on the direction and upcoming changes for the ARRL.

Program:
Bill W9MXQ gave a presentation on the Goals and Focus in Collecting Vintage Amateur Radio Equipment.

50/50 Drawing:
Dick AB0VF was the winner of the 50/50 drawing.

Auction:
Stan WB9RQR conducted the auction. Many items were sold, including a 64 GB Solid State Drive and a desktop PC with Linux installed.

Officer Reports:
Kevin S. (K9VIN) President – The Spring Swapfest is approaching (Saturday, May 5th). Still figuring out how many additional tables to order. The Cedarburg High School Robotics Club can't do the refreshments stand at the swapfest due to a busy schedule. Instead, the Destination Imagination group from John Long Middle School in Grafton will provide the refreshments.

One of the topics discussed at the last board meeting is to possibly take some money from the Scholarship Fund, now invested in CDs, and diversify it to other types of investments with higher yield.

Pat V. (W9JI), 1st VP – No report.

Robert E. (K4WTH), 2nd VP – On the club Facebook page, instead of paying $30 a month in promotional fees, we are actually paying according to the number of people that would look at our website.

Tom T. (KC9ONY), Repeater VP – The new repeater antenna has been assembled, and the arrangements for installation are being worked on. Also, this week is Tornado Awareness Week, and there will be drills in our area at 1:45 PM and 6:45 PM tomorrow.

Ben E. (K9UZ), Secretary – The minutes of March's meeting is in the newsletter. Motion to accept the minutes was made, seconded and approved.

Treasurer's Report – Dave N9UNR was not at the meeting, so Robert K4WTH gave the report. He passed out copies of the Balance Sheet and Income & Expenses reports for March. A motion to accept the report was made, seconded and passed.

Committee Reports:
Ken B. (W9GA), Field Day – As discussed at previous meetings, the tent used for Field Day is too heavy and is very difficult for our members to set up. After months of research, Ken ascertained that the most economical solution is to cut 14 feet off the tent at one end, shorten the poles by a few inches and double-stitch the edges where the cut is made. A commercial-grade tent of similar size (18' x 38'), bought new, would run about $3,000 or more. Ken is asking the board to approve the $1,050 that is needed for K&D to do the modifications. The proposed tent modification generated little discussion. Dave KC9REP questioned whether it would be more economical to rent a tent since the existing tent is used only once a year at Field Day. Kevin K9VIN responded that the tent was donated to us by OZARES and would also be used in the event of an emergency. Ken said a crew is needed to go to the shed, unload the trailer, load the tent and get it ready for transport to K&D.

Field Day is the last weekend in June, at Pleasant Valley Park, two miles north of Highway 60, off of Highway I.

Old Business:
There was no old business.

New Business:
There was no new business.

Adjournment:
A motion to adjourn the meeting was made by Stan WB9RQR, seconded by Bill W9MXQ and was passed. The meeting was adjourned at 9:11 PM.

Attendance:
There were 43 members present at the meeting.

A copy of the attendance sheet is available upon request in PDF format. Please contact Ben Evans via email at ben@evansengsolutions.com for a copy.

Respectfully submitted,

B. Benjamin Evans, K9UZ
Secretary

ORC MEETING AGENDA

May 9, 2018

1. 7:00 – 7:30 PM – Network & Rag Chew
2. Call to Order & Introductions
3. Announcements, Bragging Rights, Show & Tell, Upcoming Events, etc,
4. Program: Robert K4WTH, "Echolink"
5. 50/50 Drawing
6. Fellowship Break
7. Auction – Stan Kaplan (WB9RQR)
8. President's Report – Kevin Steers (K9VIN)
9. 1st VP Report – Pat Volkmann (W9JR)
10. 2nd VP Report – Robert Eskola (K4WTH)
11. Repeater VP Report – Tom Trethewey, (KC9ONY)
12. Secretary's Report – Ben Evans (K9UZ)
13. Treasurer's Report – Dave Barrow (N9UNR)
14. Committee Reports:
    A. Spring Swapfest
    B. Fall Swapfest
    C. Field Day
15. OLD BUSINESS
16. NEW BUSINESS
17. Adjournment to ?

Return undeliverable copies to

The ORC Newsletter
465 Beechwood Drive
Cedarburg WI* 53012

First Class

Next ORC Meeting

Grafton Senior Citizens Center

1665 7th Avenue, Grafton
Wednesday, May 9th 2018

7:00 PM – Doors Open

7:30 PM – Membership Meeting