



The ORC Newsletter

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.



ORC Repeaters on 146.97, 224.18 and 443.750 MHz - Callsign W9CQO

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Volume XXIX

November, 2017

Number 11

From the President

de Kevin Steers (K9VIN)



Well folks, antenna weather is upon us. Last Saturday, in northern Wisconsin, it flurried all day with high winds, to boot. This created the perfect excuse, which kept me from climbing my tower. Had I had help, I may have gone up, but my only neighbor is thin-skinned, and would have gotten no entertainment out of it. While my rotor works fine (finally), the antenna is not pointed in the correct direction. An easy mistake to make and a little embarrassing, running out on the deck repeatedly (and realizing that you can't see a beam's heading with a flashlight). I promise this will be the last you will hear of my rotor. I have made nearly every mistake a person can with the installation, and hope you have laughed and learned along the way.

I had good results stringing up a 160M dipole constructed with stainless steel welding wire. As I suspected, I struggled soldering the stainless wire and resorted to wire nuts, at the balun. It seems to work well, but it is unconfirmed if it is any improvement over my OCF Windom antenna, though the Windom should have some vertical radiation, based on its design. I will spend the winter bugging folks on the air for honest comparisons. If the dipole is no better, I may make the bold move to turn the dipole into a 160M loop, which will certainly require discussions with my neighbors, or some clandestine wire hanging activity.

I finally got my Ameritron AL-84 amp on the air. I picked it up at Dayton for a song, and then re-tubed it, with Chuck's help. Preliminary results are promising, and I hope to put it into service more as the days grow shorter. My last change to the station is to wire up a lead from the Yaesu transceiver to the Amp to trigger it. Currently it is a manual effort that, I am told, builds character.

73, K9VIN

Mark Fielkow, KB9PXE – SK



Mark Fielkow, KB9PXE, sadly became a silent key on Tuesday, October 17, 2017.

Mark was a lifelong resident of Milwaukee and a graduate of Washington High School.

His interest in amateur radio began while he was involved in CB radio in the 1970's. Mark obtained his first ham license in 2003. His "Elmer", Todd Fast (N9DRY), encouraged him to get his General License in 2006 and his Extra the following year. Mark joined the ORC in 2009.

Mark worked 15 years as a Volkswagen engine mechanic while he developed his sideline business as a locksmith. Eventually, Mark's locksmith business grew to the point of having to give up his engine mechanics job to devote himself full time to the locksmith trade. Mark specialized in security systems, high security locks and, as a special interest, antique locks which often required him to fabricate new parts.

Mark was a faithful attendee at the ORC meetings and will be missed.

DX'ing & Contesting

De Gary Sutcliffe (W9XT)



Last month I mentioned the opening of the new 630 and 2200 meter bands. To transmit on these bands, you first must get the OK from the Utilities Technology Council. Basically, FCC regulations prevent you from transmitting within 1 KM of a power line using these frequencies for control. You go to their web site and enter your information and they have 30 days to check if you are too close. If you don't hear from them, you can begin operations. I applied the day it opened and got an email with my permission to use both bands just under a month later.

I didn't want to get too far into this before I knew I would be allowed to operate. I have started on a transmitter for 630 meters, but so far all I have mostly been listening. Digital modes seem to rule on this band. I have heard a couple of stations calling CQ on CW. QSOs seem to be mostly JT9, but all I have seen are a few stations calling CQ. I have not left the receiver set up for JT9 that much though.

At this point it seems to be mostly stations using WSPR, the weak signal beacon system. I have been monitoring 474 KHz with WSPR when I get the chance. From time to time I let it run all night and check what I have picked up in the morning. This is definitely a night time band.

There are a number of beacons transmitting on 630M. WD8DAS in Madison seems to be on all the time W9XA in Batavia IL is on frequently. I can usually hear them when they are transmitting at any time of day, but otherwise the other stations disappear during daylight. Many of you probably know Kermit, W9XA, who is our ARRL Central Division Director.

During darkness I have been typically hearing 5-6 stations across the country at any given time. I usually have been mostly using my 160M inverted L but have been playing with other antennas to see how they work. I have picked up Hawaii a few times an hour or so before sunrise. The signals were very weak, around 30 dB below the noise level. That is even weaker than most moon bounce signals! I have not heard anything across the Atlantic yet. Transatlantic propagation seems rare, at least during the short time I have been monitoring. The only station I have seen making it over the pond is AA1A on the coast of Massachusetts.

If you have a radio less than 15 years old or so, it probably has a general coverage receiver and you should be able to listen on 630 M (472 MHz) and maybe 2200 M (135 KHz). You can listen for CW or monitor WSPR and JT9. If you downloaded the WSJT-X software mentioned a couple of months ago in this column for FT8, you are already set to go. WSJT-X has all the modes used on 630 M.

You can also see who is hearing who by going to <http://wsprnet.org>. Click on map in the upper right side. Scroll below the map and you can see a box for band selection. Pick MF for 630 M and LF for 2200 M. Then hit Update to redraw the map. You will see a Google map of all the stations logged into the network. Most of them will be just listening but a fair number are also transmitting. Click on a station and it will show who it is hearing and if transmitting, who is hear it. Originally, I was going to do a 630 M CW transmitter but have decided to make a WSPR transmitter to start. It will probably be a while before I finish it. I'm not sure what to do about an antenna yet. That is going to be a challenge.

November is a big month for contesting. The ARRL Sweepstakes are this month. The CW weekend starts on Saturday November 4. Phone is two weeks later, November 18. This contest really challenges your copying skills since the exchange is so long. I went over the details last year and you can look at the details in the club newsletter archives. Complete rules are found at <http://www.arrl.org/sweepstakes>

As usual the CQWW CW weekend competes with Thanksgiving weekend events, with it starting at 00:00 UTC Saturday November 25 (6:00 PM Friday local). The rules are the same as the phone weekend discussed last month except it is CW. This is probably my favorite contest. I like DX CW contests because of the strategy required. Last year I was not up to an all band effort which requires operating as much of the 48 hour contest as possible to win. Instead I did a 20 meter, low power assisted effort and finished in first place in North America. I was very pleased with that. I will be on again this year, but don't know what category I will operate.

DX wise, the higher bands have been getting better as we get deeper into fall. I had other obligations during the CQWW phone contest, and didn't get on, but indications were that 15 meters were pretty good. That pretty much matches my observations of general operating the last couple of weeks.

I have been playing around a bit with FT8 chasing DX mostly on 17 and 12 meters. I just want to see how long it takes to get 100 countries with FT8. The country total is 63 worked so far. (I worked 3 new ones just while proof reading this article!) About 25 of those are just from a few hours the last two days. A couple of days ago, Jerry, N9AW from Milwaukee passed 100 countries on FT8. I could probably be higher, but I have been concentrating on 17 and 12 to pick up new band countries for my regular DXCC. There seems to be more interesting DX on 15 and 20.

I don't have beam antennas on 17 and 12 meters. I am running less than 50 watts most of the time, so my FT8 set up could hardly be described as a big gun. If you have a small station, don't do CW, etc., FT8 is a great way to work DX.

There are several DXpeditions on the schedule for November. The big one is VK9MA from Mellish Reef. An international group will be on by the time you read this and be there until November 16. 160-10M, CW, SSB and RTTY. There have been several DXpeditions to other VK9 islands the last few weeks. Unfortunately signals from that region have been weak. Some of the best openings have been long path (signals coming from the east) around 4:30 PM local time on 40 meters.

Montserrat used to be a pretty common country being in the Caribbean. It was a favorite spot for many contestants going down there for the DX contests. In 1995 there was a big volcanic eruption that devastated the island. Most of the population had to be evacuated. Another eruption in 2010 did additional damage. To this day a large part of the island is off limits. As can be expected ham activity dropped way off. A group of primarily German hams will be active from there as VP2MDL November 6-20. 160-10 meters, CW, SSB, RTTY, PK31.

Another Caribbean island being activated is St. Barthelemy. A group of mostly Polish hams will be using TO2SP November 16-30. 160-10m CW, SSB and RTTY.

San Andres Island will be activated November 11-25 by a group of Argentinean hams November 11-25. 160-6M. Phone, CW, RTTY, PSK31 and FT8 are mentioned. Look for 5K0T.

A group of Italian hams will be on from Guinea Bissau November 13-26. 160-10 meters, CW, SSB, and RTTY. They plan to have four stations running using the call J5T.

Ghana will be on the air November 20-29 being activated by a group of Slovenian hams with the call 9G5W. They list 160-10 meters although they say the focus will be on the low bands. CW, SSB and RTTY.

The Galapagos Islands used to be a sure multiplier during contests when the HC8N contest station was active. Since then not much has been heard from this island famous for its unique wild life. It will appear again as HC8LU November 29-December 7. 160-6M, SSB, JT64 and PSK31. They also plan to try FT8.

Some of the operations listed are there to participate in the CQWW CW contest at the end of the month. There are a lot of other smaller groups going to interesting places for the contest. They are often on before the contest for a few days, so it is a good time to just listen around to see what you can find. I bet a lot of them will be on FT8 and easy pickings.

That wraps up November. There is a lot going on!

THE COMPUTER CORNER

No. 237: Hams, Keep Your Eyes and Ears Open

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

This was sent to notify us of “threat actors”, who target several infrastructure sectors in the US. I have reprinted only about half of the email, to give you a taste of what it covers. For the entire document, which you should read, go to: <https://www.us-cert.gov/ncas/alerts/TA17-293A> This is serious stuff, and those of us in the ham community have an obligation to keep alert and notify authorities of suspicious activity. That is all I will say. Read the following and access the TA17-293A document for a complete read.



From: "US-CERT" US-CERT@ncas.us-cert.gov **Date:**
20-Oct-17 Friday 10:06 PM

Subject: TA17-293A: Advanced Persistent Threat Activity

Targeting Energy and Other Critical Infrastructure Sectors

U.S. Department of Homeland Security US-CERT National Cyber Awareness System:

Overview: This joint Technical Alert (TA) is the result of analytic efforts between the Department of Homeland Security (DHS) and the Federal Bureau of Investigation (FBI). This alert provides information on advanced persistent threat (APT) actions targeting government entities and organizations in the energy, nuclear, water, aviation, and critical manufacturing sectors. Working with U.S. and international partners, DHS and FBI identified victims in these sectors. This report contains indicators of compromise (IOCs) and technical details on the tactics, techniques, and procedures (TTPs) used by APT actors on compromised victims' networks.

Description: Since at least May 2017, threat actors have targeted government entities and the energy, water, aviation, nuclear, and critical manufacturing sectors, and, in some cases, have leveraged their capabilities to compromise victims' networks. Historically, cyber threat actors have targeted the energy sector with various results, ranging from cyber espionage to the ability to disrupt energy systems in the event of a hostile conflict. [1] Historically, threat actors have also targeted other critical infrastructure sectors with similar campaigns.

Analysis by DHS, FBI, and trusted partners has identified distinct indicators and behaviors related to this activity. Of specific note, the report Dragonfly: Western energy sector targeted by sophisticated attack group, released by Symantec on September 6, 2017, provides additional information about this ongoing campaign. [2]

This campaign comprises two distinct categories of victims: staging and intended targets. The initial victims are peripheral organizations such as trusted third-party suppliers with less secure networks. The initial victims are referred to as “staging targets” throughout this alert. The threat actor uses the staging targets’ networks as pivot points and malware repositories when targeting their final intended victims. The ultimate objective of the cyber threat actors is to compromise organizational networks, which are referred throughout this alert as “intended target.”

Technical Details

The threat actors in this campaign employed a variety of TTPs, including:

open-source reconnaissance,
spear-phishing emails (from compromised legitimate accounts),
watering-hole domains,
host-based exploitation,
industrial control system (ICS) infrastructure targeting, and
ongoing credential gathering.

Using Cyber Kill Chain for Analysis

DHS leveraged the Cyber Kill Chain model to analyze, discuss, and dissect malicious cyber activity. Phases of the model include reconnaissance, weaponization, delivery, exploitation, installation, command and control, and actions on the objective. This section will provide a high-level overview of activity within this framework.

Stage 1: Reconnaissance

The threat actors appear to have deliberately chosen the organizations they targeted, rather than pursuing them as targets of opportunity. Staging targets held preexisting relationships with many of the intended targets. It is known that threat actors are actively accessing publicly available information hosted by organization-monitored networks. DHS further assesses that threat actors are seeking to identify information pertaining to network and organizational design, as well as control system capabilities, within organizations.

Forensic analysis identified that threat actors are conducting open-source reconnaissance of their targets, gathering information posted on company-controlled websites. This is a common tactic for collecting the information needed for targeted spear-phishing attempts. In some cases, information posted to company websites, especially information that may appear to be innocuous, may contain operationally sensitive information. As an example, the threat actors downloaded a small photo from a publicly accessible human resources page. The image, when expanded, was a high-resolution photo that displayed control systems equipment models and status information in the background.

Analysis also revealed that the threat actors used compromised staging target networks to conduct open-source reconnaissance to identify potential targets of interest and intended targets. “Targets of interest” refers to organizations that DHS observed the threat actors showing an active interest in, but where no compromise was reported. Specifically, the threat actors accessed publicly web-based remote access infrastructure such as websites, remote email access portals, and virtual private network (VPN) connections.

Stage 2: Weaponization Spear-Phishing Email TTPs

Throughout the spear-phishing campaign, threat actors used email attachments to leverage legitimate Microsoft Office functions to retrieve a document from a remote server using the Server Message Block (SMB) protocol. As a part of the standard processes executed by Microsoft Word, this request authenticates the client with the server, sending the user’s credential hash to the remote server prior to retrieving the requested file. (Note: It is not necessary for the file to be retrieved for the transfer of credentials to occur.) The threat actors then likely used password-cracking techniques to obtain the plaintext password. Once actors obtain valid credentials, they can masquerade as authorized users.

Stage 3: Delivery

When seeking to compromise the target network, threat actors used a spear-phishing email campaign that differed from previously reported TTPs. The spear-phishing email used a generic contract agreement theme, with the subject line “AGREEMENT & Confidential”, and which contained a generic PDF document, titled “”document.pdf”. (Note the inclusion of two single apostrophes at the beginning of the attachment name.) The PDF itself was not malicious and did not contain any active code. The document prompted the user to click on a link should a download not automatically begin. (Note: No code within the PDF initiated a download.) The link directs users to a website via a shortened URL, which may prompt them to retrieve a malicious file.

In previous reporting, DHS and FBI identified the common themes used in these spear-phishing emails, all emails referred to control systems or process control systems. The threat actors continue to use these themes, specifically against intended target organizations. Email messages include references to common industrial control equipment and protocols. The emails leveraged malicious Microsoft Word attachments that appear to be legitimate résumés or curricula vitae (CVs) for industrial control systems personnel, as well as invitations and policy documents that entice the user to open the attachment. The list of file names has been published in the IOC.

Stage 4: Exploitation

Threat actors used distinct and unusual TTPs (i.e., successive redirects) in the phishing campaign directed at staging targets. Emails contained a stacked URL-shortening link that directed the user to [http://bit\[.\]ly/2m0x8IH](http://bit[.]ly/2m0x8IH) link, which redirected the user to [http://tinyurl\[.\]com/h3sdqck](http://tinyurl[.]com/h3sdqck) link, which redirected the user to the ultimate destination of [http://imageliners\[.\]com/nitel](http://imageliners[.]com/nitel). The [imageliners\[.\]com](http://imageliners[.]com) website contained an email address and password input fields mimicking a login page for a website.

When exploiting the intended targets, threat actors used malicious .docx files to capture user credentials, however, DHS did not observe the actors establishing persistence on the user’s system. The documents attempt to retrieve a file through a “file:\” connection over SMB using Transmission Control Protocol (TCP) ports 445 or 139 and User Datagram Protocol (UDP) ports 137 or 138. This connection is made to a command and control (C2) server — either a server owned by the threat actors or that of a compromised system owned by a staging location victim. When a user is authenticated as a domain user, this will provide the C2 server with the hash of the victim. Local users will receive a graphical user interface (GUI) prompt to enter a username and password. This information will be provided to the C2 over TCP ports 445 or 139 and UDP ports 137 or 138. (Note: A file transfer is not necessary for a loss of credential information.) Symantec’s report associates this behavior to the Dragonfly threat actors in this campaign. [3]

Use of Watering Hole Domains

One of the threat actors’ primary uses for staging targets is to develop watering holes. The threat actors compromise the infrastructure of trusted organizations to reach intended targets. [4] Although these watering holes may host legitimate content by reputable organizations, the threat actors have altered them to contain and reference malicious content. Approximately half of the known watering holes are trade publications and informational websites related to process control, ICS, or critical infrastructure.

Using a similar SMB collection technique, the actors manipulated these websites by altering JavaScript and PHP files that redirect to an IP address on port 445 for credential harvesting.

The compromised sites include both custom developed web applications and template-based frameworks. The threat actors injected a line of code into header.php, a legitimate PHP file that carried out the redirected traffic.

There is no indication that threat actors used zero-day exploits to manipulate the sites; the threat actors more likely used legitimate credentials to access the website content directly.

Now go read the entire document. <https://www.us-cert.gov/ncas/alerts/TA17-293A> Happy computing!

Vintage Amateur Radios

de Bill Shadid, W9MXQ



This month we stay with Collins and move to a market changing product from the 1950's – the KWM-1 Transceiver. This radio began a trend in ham radio that continues to this day, the ubiquitous SSB/CW Transceiver. In 1957, Collins Radio Company followed the 1955 introduction of the 75A-4 Receiver and KWS-1 Transmitter station with the KWM-1 Transceiver. The KWM-1 was a true station in a box with all operations within a single cabinet. This is the concept that we use to this day. Critical were internal circuits designed to do double duty and be used for both receive and transmit. Up to that point, most "transceivers" were nothing more than a separate receiver and transmitter in the same cabinet. Here is a complete station based on the KWM-1.



The KWM-1 Transceiver and the 516F-1 AC Power Supply

The above picture does not clearly show the speaker mounted in the hinged top cover of the transceiver – but you can faintly see the mounting screws for that speaker at the right front area of the top cover. Collins also offered a separate Station Console, the Model 312B-2, to further compliment the home station, provide a station wattmeter, a phone patch, and provide for a front facing speaker. The 312B-2 is pictured here in another view with the KWM-1 Transceiver . . .



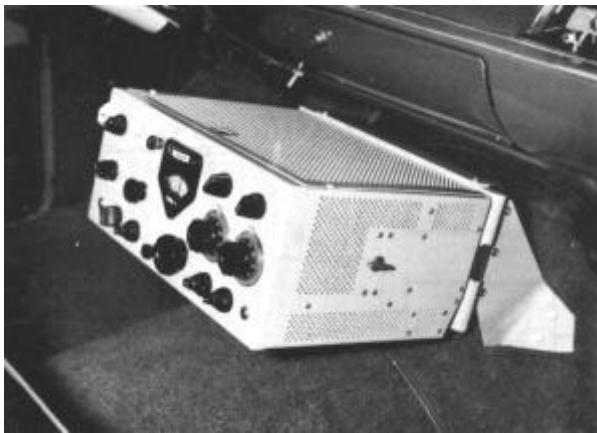
The KWM-1 Transceiver and the 312B-2 Speaker
(the 312B-2 included a Speaker, Wattmeter, and Phone Patch)

A bit of clarification is in order here – every Collins KWM-1 I have seen or owned has had the speaker in the top cover, as shown and mentioned. However, I have never been 100% certain if this internal speaker was standard equipment or a common add-on in the field. I strongly suspect it to have been a common feature added by many or most users. Supporting this notion is the speaker's wiring – by a cable exiting the back to connect to the rear panel speaker socket. But, after sixty-years such things become harder and harder to quantify.

Collins, at the time of the product design, decided to focus on only a portion of the high frequency spectrum and release the transceiver covering only 14 to 30 MHz (Megacycles in those days). But, while band switched in 100 kHz band segments, the radio was general coverage in its range depending on the crystals selected to be inserted in the 399B-1 Crystal Oscillator Assembly at the upper left-hand corner of the front panel. These assemblies could hold up to 10 range crystals allowing 10 ranges of 100 kHz each. A user could use multiple 13C-1 assemblies – removing them and installing another group of ranges at will. If you look carefully at the front panel pictures, above, you can make out the small clips at each side of the 13C-1 units shown installed. So, the radio, with the correct range crystal would cover the entire spectrum from 14 to 30 MHz Today these radios could cover the 17 and 12-meter bands in addition to 20, 15 and 10. This idea of changing the 13C-1 was not common in the days when the KWM-1 was new. It would likely be nearly impossible to find extra 13C-1 units today.

There were also the 399B-1 DX Adapter that allowed split frequency operation, the 399B-2 DX Adapter that was for export sales only, and a 399B-3 Novice Adapter that provided for crystal control of the KWM-1 transmitter section. The 399B-3 would have allowed Novice operators of the time to meet restrictions for Novice class licensees who wanted to use the KWM-1 on 15-meter CW. These 399B-(x) adapters mounted under the transceiver's chassis. The rest bears investigation as I have never seen one of these units installed. It is important to know that when using the 399B-1 or 399B-2 DX Adapters the radio was crystal controlled on transmit – with a selection of seven transmit crystals available for use. I have no personal experience using any of these three Adapters but do have additional information if anyone is interested.

So, why just cover such a limited frequency range? Later, other manufacturers did the same thing but focused on 80, 40, and 20 meters. (National NCX-3, Galaxy 300, Eico 753, etc.) So, why? At the time the KWM-1 was going on the market, Solar Sunspot Cycle 19 was heading for its forecast maximum in 1960. Times were good for 20, 15, and 10-meters. Later manufacturing cycles from other manufacturers focused on the Sunspot Low of about 1965 (between Cycles 19 and 20) – when the 80, 40, and 20-meter bands would be at their best. Also at the time of the KWM-1, removing the larger output tank circuit components for the lower frequency bands relieved pressure on the designers for getting all the necessary RF components in a package that could fit under the dash of a car – another important component of the KWM-1 design. Observe this typical installation of a KWM-1 Transceiver in an automobile of the day.

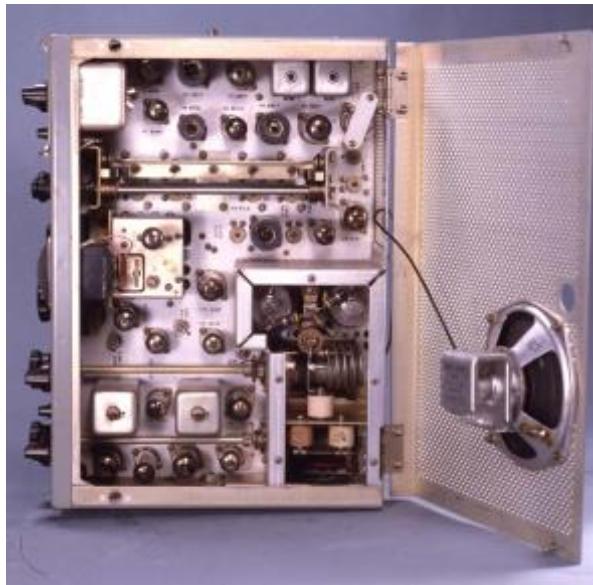


Typical mobile installation of the KWM-1 Transceiver in an automobile of the late 1950's. Mounting used the Collins 351-D1 Mobile Mount. Not visible in this view is the Collins 516E-1 DC Power Supply. The 526E-1 is probably mounted on the other side of the firewall, in the engine compartment. However, some installations used a separate battery, along with the 516E-1 mounted in the trunk of the vehicle.

A logical question follows about why other manufacturers managed to get all the HF bands in a similar sized package. Indeed, so did Collins only a short time later with the KWM-2 Transceiver (chronicled in an upcoming installment). They quickly improved in becoming more efficient with packaging the components in smaller and smaller cabinetry. That is a trend we see every day in electronics.

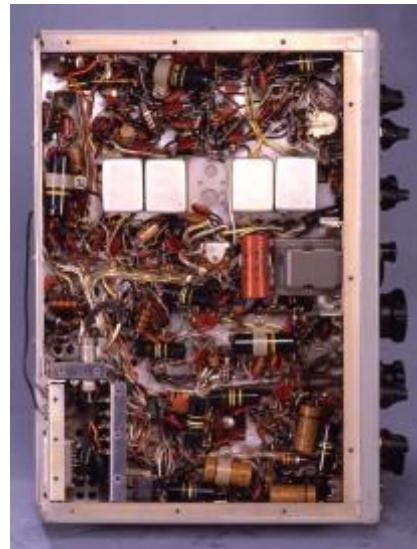
The KWM-1 introduced what became a standard Power Amplifier for the rest of Collins Radio Company history with vacuum tube Transmitter/Exciter products. Collins chose to use a pair of the 6146 Beam Power Tetrodes developing a power input of 175 watts CW and PEP SSB (about 100 watts output). This extended through the Collins KWM-1 life cycle and all products until the introduction of the all solid-state Collins KWM-380 Transceiver in 1979.

To get an idea of the internal complexity of the KWM-1 design. I show two pictures of the interior of the radio. Please note .



Top Interior View

Speaker is mounted on the Hinged Cover.
S-Line/KWM-2 Owners will note similarities.



Bottom Interior View

See component density with
multiple layers of components.

I regret that I no longer have a Collins KWM-1 Transceiver in my collection. The pictures here are from WA3KEY, The Collins Collector Association, and The Collins Radio Association. I have restored three of these radios – one of which was my own. It has been perhaps ten years since I owned one. They are very nice to use, have very pleasing audio, but as was happening with Collins at the time, were very difficult to use on CW. It seems that Single Sideband had smitten

Collins founder Art Collins, Chief Executive Officer of Collins Radio Company at the time. Even AM was absent from the Mode Switch.

In my last installment, the Collins Gold Dust Twins article in the October Newsletter, I said that the article this month would cover the Collins S-Line. The KWM-1 shown here is so significant in the market that I felt it deserved comment first. So, back on schedule next month with the Collins S-Line – the 75S- Series Receiver and the 32S- Series Transmitter.

UPCOMMING EVENTS

**MRC Amateur Radio Fest – November 4, 2017 – ELKS Club across from HRO on Good Hope
Breakfast at Jim's Grill in Echo Plaza in Cedarburg – November 4 at 7AM
Membership meeting – November 8, 2017**

This Month in ORC History: 32 Years Ago

Edited by Ben Evans, K9UZ

The following is an edited version of the minutes from the ORC meeting on November 13, 1985.

MINUTES OF THE NOVEMBER 13, 1985 ORC MEETING

- by Cindy Douglas, KA9PZG, Secretary -

The REGULAR MEETING was opened at 7:31 PM by WB9RQR, Stan Kaplan, ORC President.

The Secretary's report was accepted as published in the November 1985 issue of the ORC Newsletter.

The Treasurer's Report was given by WB9LNL, Tom Oehler, Treasurer, and accepted by the members.

OLD BUSINESS:

ORC CLUB NAME CHANGE PROPOSAL: AA9W handed out information flyers outlining pros and cons of changing the club name. It was decided to have a referendum type vote at the January meeting to see if a majority of the membership cares to pursue the issue further. At the December meeting we will try to come with a selection of names to be considered.

SWAPFEST COMMITTEE UPDATE: KA9DDN reported that tickets and flyers are available now. The next swapfest committee meeting was arranged for November 20 at the home of WA9UVK. The strategy for advertising will be to concentrate more on the southeastern Wisconsin hamfests rather than going into northern Illinois.

NEW BUSINESS:

NOMINATING COMMITTEE – 1986 OFFICERS: Joe Porth, N9DPE, and Jim Albrinck, KA9QLP, were appointed as the nominating committee.

UPCOMING SWAPFEST: The group was reminded that the 146.91 Friendly Fest at Serb Hall will be held on November 24.

FIELD DAY 1985 RESULTS: The results of our Field Day expedition were discussed. ORC came out 12th in the 4A classification nationwide.

The meeting was closed at 8:08 PM.

Refreshments were served by Bob Williams, W9DQS.

Bob Paquette, who owns and operates Select Sound Service in Milwaukee, gave a very interesting talk and slide presentation on the history of the microphone. Bob has a microphone museum which is likely the largest in the nation. We were told that people are sometimes referred to him by the Smithsonian for information about microphones.

Ozaukee Radio Club

September, 2017 Meeting Minutes

Ben Evans (K9UZ), Secretary



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

Announcements:

Robert (KD9JLE) passed his Technician Class license exam. – Kevin (K9VIN) told the group to check out the crystal radio during the break that was brought in by Stan (WB9RQR) and built by Stan and Bill Howe. Kevin also brought one of his own.

Chris Kelling (KC9UXC) came to the meeting to talk about his efforts to bring an ARISS contact to a Wisconsin school and invite ORC members to help out. The ARISS program allows students around the world to talk to crew members on board the International Space Station via amateur radio. The Milwaukee Radio Amateur Club (MRAC) is sponsoring this effort for a local school's application for an ARISS QSO by providing the equipment and operational support enabling direct communication between students and the ISS crew. However, other local ham radio operators are invited to participate in this effort as well.

Program:

John S. (W9FAD) gave a presentation on the topic of AC induction motors.

50/50 Drawing:

Pat (W9JI) was the winner of the 50/50 drawing.

Auction:

Stan (WB9RQR) conducted the auction. About 9 items were sold or given away.

Officer Reports:

Kevin S. (K9VIN) President – K9VIN gave members an oral summary of the actions taken by the ORC Board the previous week, which are as follow:

- Robert Eskola has been appointed the Second Vice-President to

serve out the rest of the term.

- It has been made official that the St. Mary's Curling Center in Cedarburg is approved as the venue for the Spring 2018 Swapfest.
- The Scholarship Committee will be authorized to make the decision to move the administration of the ORC Annual Scholarship Award from the Foundation for Amateur Radio to the ARRL Scholarship Foundation.
- The Scholarship Chairman or his/her designee who is a member of the Scholarship Committee will be made a voting member of the Board in matters regarding the Scholarship Fund.
- The following ORC members are approved officially as members of the Scholarship Fund Project Committee: Tom Ruhlmann, Chairman; Ed Rate, Treasurer; Chuck Curran; Stan Kaplan; John Strachota; Gary Drasch.
- The Scholarship Fund Project will be authorized to establish an eBay account to facilitate the sale of donated equipment on eBay.

Pat V. (W9JI), 1st VP – Real progress is being made on the formation of the club inventory. A list was received from Tom T. (KC9ONY), the Repeater VP. If any members are in possession of club property, let Pat know. He would like to get the inventory done by end of year.

Robert E. (KD9JLE), 2nd VP – No report.

Tom T. (KC9ONY), Repeater VP – No report.

Ben E. (K9UZ), Secretary – The minutes from September's meeting is in the newsletter.

Treasurer – Ben E. (K9UZ) gave the September treasurer's report in Treasurer Dave B.'s (N9UNR) absence. Club income in September was \$686.39, almost all due to the Fall Swapfest. Expenses for the month totaled negative \$390.66 mostly due to money coming back from the reservations for the Corn Roast site and the Field Day site. The net income, then, was \$1,077.05. The income for scholarship was \$556.37 for equipment sales and interest, \$501 of which was from the swapfest. Tom R. (W9IPR) clarified that the net profit for the club from the swapfest was \$216. Gary D. (K9DJT) asked what the bank balance for the club was, and the answer was about \$20,000. Nels (WA9JOB) pointed out that some of the money is segmented for various uses, such as the repeater fund. Tom (W9IPR) said that the allocation of funds should be specified in the upcoming budget. A motion to accept the report was made by Ben, seconded by Nels and passed without debate.

Committee Reports:

Tom R. (W9IPR), Scholarship – Report on the Fall Swapfest is in the newsletter. Gate income was \$625, representing an attendance of 125 people. This is down by about 75 people compared to last year. However, there were about another 25 non-paying, for a total of about 150. There were only eleven vendors, likely impacted by the Radio Expo Hamfest in Belvidere, Illinois, which also likely affected the attendance. The conflict was known, but the Chicago FM Club wouldn't commit to a firm date before our club had to commit to a date for our swapfest. The number of buyers wasn't what it used to be, but both the club and the scholarship made a profit of \$216 and \$501, respectively. The

Cedarburg High School Robotics Club broke even on the concessions, and expressed interested in doing this for us again. Tom thanked everyone who got involved with the swapfest, especially Jim A. (K9QLP). Robert (KD9JLE) commented that our flyers at HRO kept going to the bottom of the rack even when our swapfest was imminent, and he twice put them on the top. Ken B. (W9GA) commented that he sold very well.

Old Business:

There was no old business.

New Business:

Ed R. (AA9W) reminded members that he can write tax exemption letters, so please feel free to donate to the Scholarship Fund. Tom (W9IPR) said that he doesn't want "junk" for donations. In response, Stan (WB9RQR) encouraged members to give him their old computers so he can fix and resell them, or recycle them by taking them apart.

Tom (KC9ONY) reported that two more QSL cards were received from the Lighthouse Event.

Stan (WB9RQR) talked about the crystal radio built by him and Bill Howe that was brought into the meeting. Stan explained its design and how it worked. He said it was his wish to have the radio displayed in a place where people can come and look at it, perhaps a library or other public place.

Adjournment:

A motion to adjourn was made, seconded and passed. The meeting was adjourned at 9:11 PM.

Attendance:

There were 38 members and 1 guest 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

AGENDA

November 8, 2017

1. 7:00 – 7:30 PM – Network & Rag Chew
2. Call to order: Introductions. Kevin Steers (K9VIN)
3. Announcements, Bragging Rights, Show & Tell, Upcoming events, Etc.,
4. Program: 50/50 – Kristian Moberg, KC9TFP
5. Fellowship Break
6. Auction – Stan Kaplan (WB9RQR)
7. Presidents Report – Kevin Steers (K9VIN)
8. 1st VP Report – Pat Volkmann (W9JR)

9. 2nd VP Report – Robert Eskola. (KD9JLE),
10. Repeater VP report – Tom Trethewey, (KC9ONY)
11. Acceptance of Minutes : Ben Evans (K9UZ),
12. Treasurer's report – Dave Barrow (N9UNR)
13. Committee reports.
 - A. Spring Swapfest
 - B. Other:
14. OLD BUSINESS
15. NEW BUSINESS
16. Adjournment to ?

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465 Beechwood Drive
Cedarburg WI* 53012

First Class

Next ORC Meeting

Grafton Senior Citizens Center

1665 7th Avenue, Grafton
Wednesday, November 8th 2017
7:00 PM – doors open
7:30 – Membership Meeting