



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 Web site: www.ozaukeeradioclub.org
Facebook: facebook.com/orcwi

Volume XXVII

July, 2013

Number 7

From the President

De Ken Boston (W9GA)

I certainly hope that all of you who came out to field day at Lazy Days this year had a good time. I know that it is a taxing event due to the amount of work erecting the big tent, and the various antenna towers and operating positions, but this is proof to the local, state and federal officials that Amateur operators can indeed 'deploy' a fully operational emergency communications center, and proceed to pass thousands of contacts between similar emergency comm. Centers across the USA. To all who were there, congratulations and thanks for a job well done.

I think that we were more successful this year in getting more of the club members involved in actual operating at the various phone stations. We do see a decline in CW operators, and this might mean a greater effort in the future to add Digital modes in lieu of CW operations on some of the bands. We also face problems with the tower erection and takedown, and may need to look closer to alternative antenna choices. This year presented a decrease in propagation, with very little sporadic E propagation, which has the effect of low contact numbers on the 6, 10 and 15 meter bands. Janice presented the score rundown recently for this year, and the last two years, with the comments being made that a nice score in 2011 was really the result of great band conditions.

Probably the best tool that we have available to the club is the message forum present on our website. This forum can be used to 'hash' out the various initiatives that we have ongoing within the club, and acts as a virtual 'meeting'. I have just begun to use this, and explore what is there, and now see that there are a bunch of tabs and links present on the pages that need explanation. It is therefore timely that Brian, N9LOO, will be presenting a program that will address this new feature, and will be able to answer the many questions that the members can throw at him.

So check out the website, and the message forum, prepare your questions and make the drive and join us at the senior center this Wednesday, July 10th at 7:30 PM. Doors open at 7 PM so come early and get some face time in with your fellow HAM operators.

73 Ken W9GA

Herbert (Herb) Roehner – WA9UVK – SK

Herb was a member of the ORC for as long as I can remember and he used to teach the Morse code at the ORC amateur radio classes along with Ed Rate (AA9W). Herb celebrated his 90th birthday at an ORC meeting in 2005 and passed away May 11th at the age of 98 as a resident of the Woodland View Assisted Living facility in Fredonia.

His family emigrated from Germany when he was 8 years old. Herb became an electrician and founded his own company by the name of Electrosound. Herb eventually went to work for Allen-Bradley from which he retired after 30 years in 1975. Herb is survived by his three children, Gerald, Marlene and Martin. Herb was always cheerful and a real gentleman who will be missed by his many ORC and amateur radio friends through the area and world. It should be noted that in a final act of generosity Herb and his son donated his HAM radio equipment to the scholarship fund so that some younger HAM's might share in some of the same opportunities he had.



A memorial gathering will be held on Monday July 8th from 3 p.m. to 6 p.m. at Mueller Funeral Home & Crematory in Cedarburg.

DX'ing & Contesting

De Gary Sutcliffe (W9XT)

There is not a lot on the contest and DXpedition schedule this month. That is OK with me. I am usually pretty burned out after Field Day, and I find it hard to spend a lot of time in the shack when the weather is warm. There is too much to do outside. Also DX conditions are not as good this time of the year. The higher bands have more absorption and the lower bands have more static from thunder storms.

One of the things I want to do this year is get antenna work done early so I don't run out of time with antennas on the ground or otherwise not working when the snow comes back like happened the last two years. I managed to get the 6 meter beam down for repair two weeks before Field Day. It took longer to fix (water in the matching section) than I expected. It has now been sitting on the ground for over 3 weeks waiting of the combination of me being home and no rain with low winds.

The biggest contest this month is the IARU contest. It is a short one, only 24 hours. It starts at 1200 UTC (7:00 AM CDT) on Saturday July 13, and you can work the entire 24 hours if you want. Use all of the standard HF bands 160 – 10 meters excluding the 30, 17 and 12 meter bands. You can operate CW only, phone only, or mixed mode. There are QRP, low and high power categories.

The exchange is the signal report and IARU zone. This is not the same as the more commonly used CQ zone. We are in IARU zone 8. Contacts with your own zone are 1 point, other zones in the same continent are 3 points, and contacts in other continents are 5 points.

Multipliers are the number of zones worked on each band. IARU member society headquarter stations are also multipliers. The ARRL is our IARU member society, and headquarter station W1AW often operates portable from a big gun contest station.

I usually don't operate this one because it falls on the same day as the South Milwaukee Hamfest. This year they are on separate weekends, so there won't be that conflict.

Next year the IARU contest will be extra special because it is the vehicle for the World Radio Team Championships. These are sort of the Olympics of the radio contesting world. They are held every few years. About 50 teams of two operate this contest. Each country is allowed some number of teams. The sponsor for a given year will set requirements for making a team. This time you got points for operating certain contests over the last 3 years. You got more points depending on how well you did relative to the winner. I am way down on that list because I didn't operate a lot of the smaller ones and was in categories of the big ones that don't generate many points.

The teams operate from the same area. Last time it was in Russia. Next year it will be in New England. The sponsors go to great efforts to ensure each station is as identical as possible. There is an umpire/observer present at each station to

make sure the rules are obeyed. The contestants don't know their call signs until just before the start so their friends won't work just them.

This is really a big deal. It is the only time where you have the world's best operators all operating from the same location with similar stations.

There is nothing really exciting on the DXpedition schedule this month. Most are just guys going places not all that rare and operating when they have time between other activities.

That wraps it up for this month. Enjoy your summer!

Computer Corner

No. 184: USB

Stan Kaplan, WB9RQR

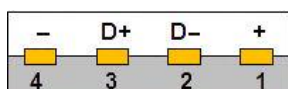
715 N. Dries Street, Saukville, WI 53080-1664 (262) 268-1949

skaplan@mcw.edu

That rectangular-shaped slot you plug your memory stick into is really neat, and I'd like to explore it in this month's column.

Compaq, DEC, IBM, Intel, Microsoft, NEC and Nortel began developing USB way back in 1994, and Intel began producing the first integrated circuits supporting USB a year later. USB appeared in January 1996, with the moniker USB1, and all PC chipsets since February 1996 include USB support. USB1 could transfer data as fast as 12 megabits per second (= 12,000,000 bits per second). Since there are 8 bits in a byte, that's about 1.5 megabytes per second if my math is correct. USB2 followed in April 2000, and could move data at 480 megabits per second, or 60 megabytes per second, 40 times faster than USB1. In November 2008, USB3 appeared, and could pump data at the astounding rate of 3.2 Gb/s (about 400 megabytes/second), 10 times faster than USB2. Windows 8 is the 1st Microsoft Operating System to have USB 3 support built-in.

So why USB? Basically, it is a replacement for the old parallel (printer) and serial ports. Old machines had one parallel port and one or two serial ports. If you had more devices than that, you were out of luck, unless you added more cards to supply additional ports. With USB, you can have up to 127 devices (printers, cameras, keyboards, flash drives, mice, etc.) on a single USB bus (though they all will share the bandwidth). A modern printer may not only have a USB cable to plug into the computer, it may also have several USB sockets itself. Thus, you could theoretically plug your keyboard and mouse into those printer sockets and they will work.



A typical USB 1 or 2 socket or plug (type A) is shown here. As you can see, there are only 4 contacts (wires), plus the cable has a shield that connects to the socket or plug housing. For power, contact 1 and 4 provide 5 volts at least 0.5 watts. Contact 2 and 3 are data lines. In the cable, a red wire feeds contact 1, black or blue feeds 4, green feeds 3 and white or gold feeds 2. Only 4 contacts! A far cry from the old parallel socket with 25 contacts or serial with 9! Well, not quite. USB 3 has 8 wires plus a shield in the cable. But it also transmits data at an astounding rate. It is also backwards compatible, so if you purchased a new laptop recently with a telltale blue USB 3 socket, you can plug in your old USB 2 data stick (flash drive) and it will work fine (but at USB 2 data rates). Clever engineers arranged it so your flash drive connects to the four contacts shown above, but not to the other USB3-only contacts that are buried deeper in the connector.

When you plug a device into a USB socket on your computer, the device first sends a message telling the computer what the device is. This message, called a class code, says, "I am a mass storage device ... 08h" in the case of a flash drive, or "I am a printer ...07h", or "I am a keyboard, mouse or joystick ...03h". Of course, the device only sends the hexadecimal code shown (08h, 07h, 03h), but the English translation above is what those codes mean. There are a bunch of those codes, identifying everything from Wi-Fi adapters to webcams to fingerprint readers to pulse monitors and more. Whatever the device is, Windows fetches drivers to service

it, or tells you that you need to supply it with a driver. For most common devices, Windows has the drivers built right into the Operating System. Hey, that's called "plug and play".

USB connectors will wear out through repeated connects and disconnects. The life cycle of a typical type A USB male connector, such as the connector on the end of a cable that plugs into the socket shown above, is about 1,500 connects. So, if something is not working, as it should, don't disregard a bad cable end, or even a bad connector on your flash drive.

There are all sorts of USB connector shapes and sizes, beyond the typical type-A shown above in the illustration. There is a type B (probably connecting your USB-capable printer to its cable), mini-A, mini-B (mini's are no longer supported), micro-A and micro-B. Take a look at the plug on your cell phone through which you recharge the battery. It is most likely one of the micros. Your camera has another. Those micro connectors will last through about 10,000 connects/disconnects, thank goodness!

Since the last half of 2004, most computers have been capable of booting from attached USB mass storage devices. This includes flash drives. There are lots of computer-geek folks that carry a complete copy of the Linux operating system on a bootable flash drive ("thumb drive", "memory stick", "memory dongle"). They plug it into their Windows machine and reboot when they get tired of Windows and want to play around with Linux. It works!

Happy computing!

"Everything that can be invented has been invented." Charles Duell, Commissioner, US Office of Patents, 1899.

A Helping Hand?

Joe Sturmberg (KA9DFZ) has a Hallicrafters S-85 receiver that is in need of repair. It was renovated by Roger Zaun about four years ago. Joe will pay for any required parts and labor. If you can assist Joe you can call him at 262-252-4546 in Menomonee Falls.

Understanding Test Equipment©

de Gary Drasch, K9DJT

Before we start discussing any particular test instrument, let's take a look at something which applies to all, i.e., **Accuracy, Resolution & Repeatability**. The fore mentioned is not only of interest in test equipment but also to measurement of all types. Examples include dimensional (rulers, micrometers, calipers), temperature, weight, time, and even a rifle scope. Basically, if it can be measured, *Accuracy, Resolution & Repeatability* apply.

So what is the difference between the three? What makes for a good measurement device? Do more digits on a meter or markings on a ruler make them more accurate? And what is this repeatability thing? In order to demonstrate the difference, I would like to draw an analogy to a bow and arrow target. If you envision it as a gun shooting target, that is OK too.

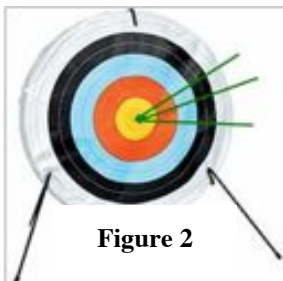


Figure 2

We all know that being **Accurate** is the ability to hit the bull's-eye. Figure 1 shows three arrows all placed exactly in the center of the of target, which makes for not only a very *Accurate* shooter, but also a

high *Resolution* and *Repeatable* one. OK, now let's look at figure 2. This time the shooter again placed three arrows into the bull's-eye but not dead center as before. Is it still *Accurate*? For practical purposes we can say it is. After all, they are in the bull's-eye. So how *Accurate* do you need to be? And how much are you willing to pay for it? Instrument *Accuracy* is typically specified as a +/- percentage of reading. This example is

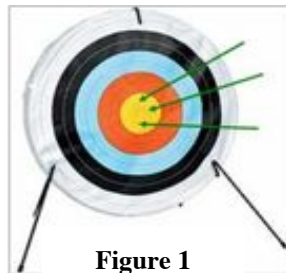


Figure 1

fitting of the expression often heard which says, "It's good enough for ham radio." I am not sure if it is acceptable for a guidance system though.



Figure 4

When looking at figure 3, you will notice I added some additional rings to the bull's-eye, or more digits to the meter. Has the *Accuracy* change? No, but the **Resolution** of the target has. The point being, more digits does not make for a more accurate instrument. Now that the instrument has better *resolution*, we can say it is not as *accurate* as it could be. But again, how important is it as it relates to the type of work you are doing.

Ah, now for **Repeatability**. Referring to figure 4, we can see there were three arrows which hit the target but each in a different place. None near or really close to any other. It's easy to understand



Figure 5

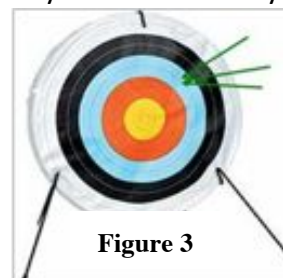


Figure 3

this is not *Repeatable* shooting. Now looking at figure 5, we again have three arrows but this time grouped together in one spot.

This is very *Repeatable* shooting but not *Accurate*. Figure 2 is reasonably repeatable and reasonably accurate.

In conclusion, when purchasing a piece of test equipment, know in advance how accurate it needs to be for your application, and remember more digits do not necessarily mean it is any more accurate. Look for something which fits your accuracy needs, and which is repeatable,

meaning each time you probe a test point, you get the same reading. It shouldn't be different each time you go back to it. Make some known measurements to build confidence and trust in

the instrument so you can focus on your analysis without questioning your test equipment.

Please look for *Understanding Test Equipment* on the "Radio Chatter" forum board.

Field Day as it was!



The new tent is 50 ft. long.



Gary and Bruce are chasing the Satellites



The chow was never ending.



Bob (W9LO) checked things out.



Operations continued into the night. Janice was “womanning” the 40 Phone station.



Up she goes!



Things don't always work out as planned.



Vic was manned the 80/15 meter CW station. We worked all states as monitored by Stan

ORC 2013 Field Day Points Summary (as W9LO, 5A WI)

By Janice Hoettels, KA9VVQ, Field Day Points Captain

By Janice Hoettels, KA9VVQ, Field Day Points Captain

Below are the results of the club's Field Day efforts. I've provided comparative numbers from 2012, when the club was 4A, and from 2011 when the club was 5A. This year we ran as 5A, although we were undermanned to keep all 5 transmitters going throughout the Field Day period. This helps to explain why this year's numbers are down substantially from the past 2 years.

VHF/UHF								
Band	Mode	QSOs			Multiplier	Total Points		
		2013 (5A)	2012 (4A)	2011 (5A)	x1 or x2	2013 (5A)	2012 (4A)	2011 (5A)
23 cm	CW	0	1	0	2	0	2	0
70 cm	CW	0	0	0	2	0	0	0
70 cm	Phone	0	4	0	1	0	4	0
2m	CW	1	0	0	2	2	0	0
2m	Phone	7	16	0	1	7	16	0
6m	CW	6	2	0	2	12	4	0
6m	Phone	36	47	334	1	36	47	334
Satellite	Phone	2	5	5	1	2	5	5
VHF Total		52	75	339		59	78	339
HF								
Band	Mode	QSOs			Multiplier	Total Points		
		2013 (5A)	2012 (4A)	2011 (5A)	X1 or x2	2013 (5A)	2012 (4A)	2011 (5A)
10m	CW	9	0	278	2	18	0	556
10m	Phone	22	0	524	1	22	0	524
15m	CW	121	75	158	2	242	150	316
15m	Phone	142	163	55	1	142	163	55
20m	CW	410	334	482	2	820	668	964
20m	Phone	757	1097	1266	1	757	1097	1266
40m	CW	406	616	767	2	812	1232	1534
40m	Phone	668	866	770	1	668	866	770
80m	CW	74	117	81	2	148	234	162
80m	Phone	68	119	98	1	68	119	98
GOTA	Phone	14	19	45	1	14	19	45
HF Total		2691	3406	4524		3711	4548	6290
VHF +HF Total Points						3770	4626	6629
Power Multiplier (150W or less)						X2	X2	X2
Claimed QSO Score						7540	9252	13258
BONUS POINTS								
Description						Points		
						2013 (5A)	2012 (4A)	2011 (5A)
100% Emergency power (100 points per transmitter, max 20 transmitters)						500	400	500
Media publicity						100	100	100
Set-up in public place						100	100	100
Info.booth						100	100	100
NTS message to ARRL SM/SEC						100	100	100
W1AW Field Day message						100	100	100
Formal NTS messages handled						100	100	100
Satellite QSO completed						100	100	100
Natural power QSOs completed (minimum 5 QSOs)						100	100	100
Site visit by invited elected official						100	100	100
Site visit by invited served agency official						100	100	100
Educational activity bonus						100	100	100
Youth element achieved (2 kids <18 y/o x 1 QSO x 20 points per kid)						0	40	0
GOTA bonus*						0	0	0
Summary submitted using b4h.net applet						50	50	50
Total Bonus Points Claimed						1650	1590	1650
Total Claimed Score (claimed QSO points + claimed bonus points)						9190	10824	14908

*None of the GOTA ops. completed 20 QSOs to obtain GOTA bonus points.

The ORC Scholarship for 2013 is awarded

This notice concerning our [Scholarship Program](#) comes from the Foundation For Amateur Radio. We provide a \$1000 grant to F.A.R. each year and they are authorized to select from candidates that meet our requirements. If you have any questions about the ORC [program](#), contact me.

Ed AA9W
Scholarship Program Chairman

----- Original Message -----

Subject: 2013 Ozaukee Scholarship Award
Date: Mon, 24 Jun 2013 13:10:40 -0400
From: David Prestel <dave.prestel@gmail.com>
To: Ed Rate <etrade@milwpc.com>

The 2013 Ozaukee scholarship has been awarded to Christopher Palm, KC9JTL. I have notified him and have asked him to send a thank you note to you, together with a photograph.

Chris' contact information is as follows:

Christopher Palm, KC9JTL
E8853 Carlson Ridge Rd.
Westby, WI 54667

608-634-6455
kc9jtl@gmail.com <<mailto:kc9jtl@gmail.com>>

Dave Prestel, W8AJR
FAR Scholarship Committee

Tips, Tails & Tools

There is a colorless art masking fluid available at hobby stores that can be used to mask items and printing on panels when restoring their painted surfaces.

Upcoming Events

July 6th (Saturday) is the South Milwaukee swapfest in Oak Creek.

Ozaukee Radio Club Minutes of June 12, 2013

Gary L. Drasch (K9DJT) - Secretary

President Ken Boston, W9GA, called the meeting to order at 7:35 p.m.
Everyone introduced themselves by name and call sign.

Announcements/Show-and-Tell:

Ken Boston, W9GA, said he has handouts from Dayton for those interested.

Nate Seidler, KC9TSO, commented that he came upon a lady standing over a snapping turtle in the middle of the road and reminded everyone to be careful when driving in the dusk and rain.

Program:

Leon Rediske, K9GCF, went over the history of standings relating to Field Day. Operators should download the logging software at home so they will be familiar with the system before the event. He also suggested members should stop in at the different transmitting tents and try something new. In addition, he reminded everyone that help is needed in all areas.

50/50 Drawing:

Art Davidson, AC9CD, ran the drawing, and Kevin Steers, K9VIN, was the winner!

Auction:

Stan Kaplan, WB9RQR, did an outstanding job as usual of being our auctioneer.

Business Meeting:

Ken Boston, W9GA, said the Central States VHF yearly conference will be taking place in the Chicago area late July. Contact Ken regarding details.

Ken did a recap of the barn clean up and said there needs to be another clean up in the near future.

Committee Reports:

1st VP Report: Art Davidson, AC9CD, said the survey was sent out to the membership regarding the Post Everything Party (PEP). He is planning to send out again.

Art is also looking for someone to do the 50/50 drawing.

2nd VP Report: Brian Skrentny, N9LOO, said there wasn't anything really new. Working on a survey for club members. He will be doing the program at the July meeting explaining the "Chat Room" which is a club forum which we all have access to.

Repeater VP Report: Tom Trethewey, KC9ONY, reported the amplifier is repaired and working. He also reminded the club to look for Wally, W9KFR, on 2 meters.

Secretary's Report/Minutes: Stan Kaplan, WB9RQR, motioned to accept last month's meeting minutes and Janice Hoettels, KA9VVQ, seconded the motion. The motion passed.

Treasurer's Report: Stan Kaplan, WB9RQR, made a motion to accept the treasurer's report. Leon Rediske, K9GCF, seconded the motion. The motion passed.

Dave Barrow, N9UNR, said the club should decide if it is going to do a Corn Roast or not after Field Day, maybe at the in July meeting. He also said that if we send out flyers for the Fall Swapfest, we should keep it within 75 miles or closer.

Old Business:

There was none.

New Business:

There was none.

Adjournment:

Stan Kaplan, WB9RQR, moved to adjourn and Kristian Moberg, KC9TFP, seconded the motion. Passed. The meeting adjourned at 9:10 PM.

Member Attendance:

There were 27 members and 1 guest present.

Actual attendance sheet is available upon request in a PDF format. Please contact Gary via eMail at: k9djt@sbcglobal.net

Respectfully submitted,

Nancy Stecker, KC9FZK
Acting Secretary

AGENDA

July 10, 2013

1. 7:00 – 7:30 PM – Network & Rag Chew
 2. Call to order: Ken Boston (W9GA)
 3. Introductions.
 4. Announcements, Bragging Rights, Show & Tell, Upcoming events, Etc.,
 5. Program:
 6. 50/50 – Gabe Chido (WI9GC)
 7. Fellowship Break
 8. Auction – Stan Kaplan (WB9RQR)
 9. Presidents Report – Ken Boston (W9GA)
10. 1st VP Report – Art Davidson (KC9PXR)
 11. 2nd VP Report – Bryan Skrentny (N9LOO)
 12. Repeater VP report – Tom Trethewey (KC9ONY)
 13. Acceptance of Minutes Gary L. Drasch (K9DJT)
 14. Treasurer's report – Dave Barrow (N9UNR)
 15. Committee reports.
Other:
 16. OLD BUSINESS
 17. NEW BUSINESS
 18. Adjournment to ?

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The ORC Newsletter

465 Beechwood Drive
Cedarburg WI* 53012

First Class

Next ORC Meeting

Grafton Senior Citizens Center

1665 7th Avenue, Grafton
Wednesday, July 10th

7:00 PM – doors open

7:30 – Membership Meeting