



The ORC News -

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

Volume XXVIV

February, 2010

Number 2

New Board of Directors

The 2010 Board of Directors was elected at the January meeting.



Those elected were (from the left):
Nels Harvey (WA9JOB) – Treasurer
Patrick Sullivan (KC9LRK) – Secretary
Ed Rate (AA9W) – appointed Trustee
Mike Yuhas (AB9ON) – Past President
Bill Howe (KA9WRL) – President
Mark Tellier (AB9CD) – Repeater VP
Jim Albrinck (K9QLP) – 2nd VP (External)
Chuck Curren (W9POU) – 1st VP (Internal)

From the President

De Bill Howe II (KA9WRL)

As many of you know, my Dad, “Scotty”, K1AUN is now a “Silent Key”. He passed away on January 13th at 92 years of age.

He was quite the character and a man of many talents. In his younger days he was a Scout Leader, an avid pilot, a mean Banjo player

(played “black face” in Minstrel Shows up in Kaukauna) and, of course, a Ham Radio Operator!

Dad always enjoyed showing off his prized QSL cards, which included Kings and well known celebrities, which I’ll bring to a meeting in the next few months.

After graduating from the Rhode Island School of Design, he joined the Army Air Corps in 1937, serving both as a glider pilot (Waco CG-4a) and flight instructor (C-47 Transport). He was an active participant in Normandy Invasion, the Rhine invasion, and Operation Market-Garden in Holland.



“Scotty” Howe, K1AUN
Cochran Field, Macon, Georgia 1941

No. 100 BT13A “Vultee”
Pratt & Whitney 450 HP

I have his old canteen, which is inscribed "Labrador, Greenland, Iceland, Scotland, England, Belgium, France, Holland & Germany, 1944-45".

After his military service, Scotty worked as a locomotive Fireman and Engineer for the Chicago and Northwestern Railroad and for the Raytheon Corporation (for twenty three years) where he was in charge of advanced development of Sonar-related technology for the War Department and many Civilian Industries.

Dad was a Life Member of the ARRL and somewhere along the line he was an official "Listening Station", either for the ARRL or the War Department some 50 miles out in the Atlantic Ocean on Cape Cod. Allegedly, the antenna arrays were something to behold!

In his retirement, he summered on Cape Cod and wintered in Deland, Florida. He was an active Shriner and 50 year Mason, but found time to check into many Amateur Radio Nets, including the Milwaukee/Florida Net and the Rooster Net on the East Coast.

K1AUN had a great sense of humor. I'll miss his phone calls and his favorite jokes. By the way, his last words to me were "I'm enjoying poor health".

Mike Greenfield, N9JIY SK

De Vic Shier (KB9UKE)

Mike Greenfield passed away on Saturday January 9, 2010. Mike was a member of the ORC and the Washington County Amateur Radio Club where he had held various positions as a club officer. He was also an Assistant Emergency Coordinator for Washington County ARES. He could be found on 2 meters but his favorite mode was CW. He had been the manager for the Wisconsin Slow Speed CW Net and he was a member of FISTS CW Club.



I first met Mike at an ORC meeting. After that we sometimes talked on 2 meters during drive time commutes. Mike liked unique things including uncommon modes of communications. Some of you will remember that he gave a presentation on Heliography-sending Morse code with mirrors. Most of our 2 meter contacts were on simplex which he preferred over using a repeater. He even had a HF rig in his truck so he could do CW while mobile using a 9ft CB whip.

But it was when I joined the Washington County ARES group that I got to know Mike on a personal level. He and I, along with Richard Engel (K9RWE) had been appointed as AECs for the Washington County ARES group. He showed up at one of our planning sessions on his scooter, removed his helmet and donned a smart looking Greek fisherman's cap. While I focused on the problems we faced, Mike focused on the progress we had made. He encouraged all of us with his positive attitude and smile. Over the past 2 years Mike has been a sparkplug in building the Wash ARES group; he set up a weekly net, established monthly meetings, acted as moderator and secretary, and represented the group at the SE Wisconsin District ARES meetings.

Mike has made a huge impact on the Wash ARES group and for that I thank him. When I

remember Mike I will picture him with a wide grin and a smart cap as he drives off in this little red pickup with plates of N9JIY.

Contesting

De Bob Truscott (W9LO)

It's time to start thinking about THE WISCONSIN QSO PARTY again. Mark your calendars, and reserve some time for it on Sunday, March 14, from 1:00 PM to 8:00 PM, local time. That date also happens to be the first day of daylight savings time, so be sure to set your clocks ahead 1 hour before going to bed on Saturday night. As usual, we'd like to see as many club members as possible get involved. The more logs we submit, the better chance we have of recapturing the club plaque. It doesn't matter if you have 10 Qs or 500 Qs, we need them all. You may work phone, CW, or a combination of the two, 80 through 10 meters, plus VHF/UHF. There's fun for everybody, regardless of your class of license. And a thing that's been missing for several years is a mobile station. Mobiles can be very productive because they are permitted to work any station from each county they visit, plus they get a 500 point bonus for each county from which they work 12 or more stations. So who wants to give it a shot? The more the merrier, but it's time to start assembling and testing your stations if you do. How about you, WI9M? You're all set—all you need to do is find a driver.

For more details visit www.warac.org, the contest sponsor. As of today, Feb. 3, the 2010 rules are not posted, but I assume they are the same as the 2009 rules, which are.

Coming up in February:

Feb. 7 North American Sprint—CW

Rules at www.ncjweb.com

Feb. 13 CQ WW RTTY WPX

Rules at www.cqwxrtty.com

Feb. 14 North American Sprint—phone

Rules at www.ncjweb.com

Feb. 20 ARRL DC Contest

Rules at www.arrl.org/contest

Feb 26 CQ WW 160 Meter SSB

Rules at www.CQ160.com

Feb 27 North American QSO Party Digital

Rules at www.ncjweb.com

Have fun contesting. Bob, W9LO

VHF & UHF

De Todd Sprinkmann (KC9BQA)

The ARRL January VHF Sweepstakes saw improved activity in/near S WI for the 2nd straight year. The improved activity was especially strong in N ILL on both FM and SSB.

Band conditions were quite good to the south on Sat. afternoon and evening. Signal strength improved as you went above the 144 band. Saturday was clearly the better day to contest.

The FM activity period of 2-5pm on Saturday appears to have been a bust in the area around Milwaukee and north. I was very busy on SSB, but watched the LED S-meter on an FM rig. That S-meter rarely lit up. In Jan 2009, many ORC, Sheboygan and Milwaukee hams supported the FM activity in a big way.

I asked for ORC scores to see if someone from the Club would win a plaque. I received no emails with scores, so no plaque.

There is much good news with respect to my multi-state push for more weak-signal (meaning beyond the horizon, or DX) activity on VHF/UHF. We have big numbers of check-ins to weekly SSB and FM nets. Contests have gotten busier. After doing this promotion for a few years, some trends are emerging. For instance, the La Crosse region turned out 20+ hams for the Jan. contest, much like last year. Prior to 2009, I never heard more than 3 hams in that area.

With ORC, it's a different story. When the nets started up last summer/fall, we had at least 15 unique ORC check-ins over a several month period. I now think they were perhaps curiosity-seekers, which is natural, and was appreciated. A lot of you helped get the nets off to a solid start.

Nowadays, we have 3-4 ORC check-ins that I can think of. They are loyal, and I'm grateful for them. Because I promote the nets via email twice weekly to at least 15 different groups within 500 miles of WI, we have plenty of "business" and many in the weak-signal community are spreading the word about what is happening in Wisconsin, every week.

But with ORC, it is probably time for a break.

In any club of say 100 hams, it would be unusual to have more than 10-20 with a true interest in weak-signal VHF/UHF. ORC is probably no different. After a year and a half, I am not likely to turn on any new light bulbs.

I've explained contests, propagation, operating procedures and antenna projects. I've issued at least 150 invitations to SSB and FM nets. Told you about my website, which has all the info you really need. Spoken to both the ORC swapfest and an ORC meeting. Tried Field Day twice in the VHF/UHF van. Glad I did all of that. Still appreciate the Operator of the Year award that was presented last fall. Very kind of ORC to recognize my efforts.

I'm going to continue doing what I have. I'm just no longer going to include ORC in the twice weekly reminders. I will send reminders with the dates of various contests and sprints.

Those of you who want my info, you know where to get it. <http://www.kc9bqa.com>

You know about the weekly SSB and FM nets. You know I adore V/UHF contests. If you ever want help, just email. If you want to keep getting weekly net reminders, ask me to add you to an individual email list.

Whatever it is you enjoy about hamming, promote it in a friendly and encouraging way. Amateur radio needs this.

73, Todd KC9BQA

Half Million Mile QSOs

By Gary Sutcliffe, W9XT

The concept of bouncing a signal off the moon and receiving it on the other side of the world on VHF has captured my imagination since I became aware of the technique early in my ham career. Making moon bounce or EME (Earth-Moon-Earth) contacts became a ham radio life goal of mine.

VHF signals normally travel line of sight. A well equipped 2 meter CW or SSB station might have a reliable range of only 150 miles or so. Hams using FM have even less range. Occasionally we will have an inversion in the atmosphere and the range can go out several hundred miles. Tropospheric bending, or Tropo, is a bane to repeater users when a re-

peater in another state interferes with the local one. Weak signal VHF'ers love it though

The 2 meter band has some other interesting propagation modes. Signals can be bounced off the northern lights, or aurora. The signal is distorted by the aurora. SSB signals sound like Donald Duck and CW signals have a buzzing sound. CW is the normal mode on aurora because of the weak nature and distortion of aurora signals.

Another technique is to bounce signals off the trails of shooting stars, or meteors. This is usually done during meteor showers that happen a few times a year and meteors can occur at rates of 50-100 per hour on a good shower. Contacts are usually scheduled and follow a pre-defined sequence. When a meteor enters the atmosphere it forms an ionized trail. If the meteor is large enough, the trail can reflect 2 meter signals for a fraction of a second, up to maybe 30 seconds for a really large one.

Aurora and meteor scatter can provide contacts up to around 1400 miles. A few stations in the center of the United States have managed to work all of the continental states using these terrestrial modes, but working Alaska or Hawaii or more than a few DXCC countries is not possible. Other than using satellites, the only option is to bounce the signal off the moon.

The technical challenges of transmitting a signal and receiving the reflection off the moon are enormous. The distance the signal must travel is close to a half million miles. The moon only reflects about 7% of the signal that reaches it. The receive frequency will change due to Doppler shift because the moon is moving. The polarization will change due to Faraday rotation as the signal travels through the ionosphere, causing deep fades. Oh yeah, you also have to keep your antenna pointed at the moon as it moves across the sky.

This all leads to a minimum path loss on 144 MHz of about 250 dB. The difference between 1 μ W (.000,001 W) and 1KW (1000 W) and is only 90 dB. There is still a lot of loss to make up. Big antennas on both ends are a big start.

Narrow bandwidth receivers, and low noise front ends improve the situation. Low loss coax, high quality connectors and relays are a must.

Even with good conditions and monster antennas and legal limit amplifiers on both ends, signals may be below the noise level. Trained ears can copy slow speed CW down to maybe 15 dB below the noise. Joe Taylor, K1JT, came out with software that really lowers the bar for making EME contacts. Joe's program WSJT has a number of modes for weak signal work including meteor scatter, but JT65 is designed for EME. JT65 uses DSP (Digital Signal Processing) techniques with a PC and sound card to dig deep into the noise to pull out signals. It can sometimes pull out signals 30dB below the noise level.

JT65 is not a conversational mode. It takes a full minute to transmit call signs and signal report. Your PC's time must be set within a second of UTC. QSOs follow a set sequence similar to meteor scatter contacts.

I made my first EME contacts a few years ago. I was running a 13 element Yagi with no elevation control and 150 watts. By taking advantage of signal ground enhancement at moonrise I was able to squeak out a couple of contacts with monster stations using 32 very large Yagis and full power. This taste of EME led to a goal of building my station to make contacts with more modest stations.

I finished the first phase of this project at the end of December 2009. I put in a small tower with two 13 element Yagis with full azimuth and elevation control. I'm still running 150 watts. This is a very small station, QRP in the moon bounce world. Still, in the last month I have made a little over 20 contacts in 12 countries in North America, Europe and Asia. I also picked up a few new states toward my 2 meter WAS including California and Montana.



The stations I am working are still the bigger ones. The smallest stations I have been able to work are using 4 fairly large Yagis (12 or more elements) and a KW. There are probably about 100 stations in the world in that range, so the potential contacts are limited.

One thing I have learned is how important every dB is when you are working on the edge. The moon's orbit is not perfectly circular. The distance to the moon can vary by as much as 30,000 miles. This can affect the path loss by a bit over 2 dB. Radio noise from the sun or deep space can reduce the S/N by a few more dB depending on where the moon is located in the sky. Most of my signal reports are -24 dB to -29 dB (relative to the noise level). Signals of -27 dB are about the best you can get regular decodes in JT65, so I'm right on the edge.

Future plans are to go to 4 Yagis and an amp that will get me about 600 Watts. That will give me about 8-9 dB, and will greatly open up the number stations that I can work. WAS and maybe DXCC on 2 meters will be possible. One thing the moon bounce enthusiasts do is track the number of different stations, or "initials" they work. Like many these guys I am listing my initials on my web site, www.w9xt.com.

I am not the only ORC member active on 2M EME. Ken, W9GA, can also be found on 2 meters at moonrise. Ken is running a single Yagi without elevation control but runs a KW.

Ground gain along with more power lets him be heard by stations that can't copy my signal.

If you have an all mode 2 meter rig, at least 100 watts output, a fairly large beam and a PC, you might have all you need to join Ken and I on the moon and make QSOs with a path length of almost a half million miles. That is something only a very small percentage of hams have accomplished.

Baraboo D-Star Repeater

From: Steve Schulze
<steven9udo@centurytel.net>

On Sunday, January 31, 2010 (sometime in the afternoon) we will be changing frequency on the Baraboo D-Star port C to 145.310

The system will then be connected to the combining system and will be utilizing the same antennas as 147.315. This will give us increased range due to the height of these antennas compared to the existing antenna.

I have the change posted on dstarusers.org, dstarinfo.com and on the YTARC web site.

Where have all the "HAM's" Gone

De Jim Albrinck (K9QPL)

The Hams in the Milwaukee Area were always busy with public service events when I moved here in 1984. We had the City of Festivals Parade; the Great Circus Parade; numerous runs and bike rides and, closer to home, the Fish Days Parade in Port and the Grafton Christmas Parade. Now, with the exception of the Saukville River Cleanup, and an occasional Walk for Something, we receive few, if any calls. Why is that? Who has taken the place of the Hams?

I looked into this after we were no longer requested to help with the Grafton Christmas Parade and discovered the following:

- Because of the cost of putting on a parade, two major parades were canceled.
- Police Departments have become more hesitant to issue permits for parades, runs, walks, bicycle tours, etc., because of traffic and police overtime concerns.
- The Ham community, like it or not, has aged and has more difficulty recruiting members to brave the elements and man various "posts".
- Since 1984, the cell phone, with its myriad of capabilities (voice, texting, internet access, and video) has become a consumer mainstay. As one parade chairperson told me, "We just hit the "speed dial" on our phones and we're in contact. We don't have to be tethered to a Ham and we don't need to tell the Ham; who tells his counterpart; who receives the answer from the parade official; who relays it back, etc, etc." Granted we have Ham TV, Packet, WinLink2000, voice, etc., but we need to push the buttons.
- The advent of easily obtained Business Band, GMRS, and FRS radios. For reasons outlined above, many groups have invested in these inexpensive devices and are self-contained.
- Many Police, Fire, EMS, have improved radio systems, many channels, and an active reserve or auxiliary, which is well trained and capable of filling many functions.
- I read accounts of major disasters each month in Radio Resource, Urgent Communications, etc., and hams are usually being place in the last line of defense for Communications emergencies. On the plus side, public safety officials are urging local agencies to setup a liaison with their local Ham Club and conduct drills with them so that both groups become familiar with each others procedures.

Where have all the Hams gone? From the above list, I think you know the answer. Hope-

fully another major disaster won't happen here to convince the population and authorities that Hams can provide communications when the infrastructure fails. Let's be ready!

Post Everything Party

De Paul Schumacher

I have secured the Grafton American Legion Post for the Post Everything Party, Friday, March 26, 2010. Cocktails at 6 pm and dinner to follow.

I will be contacting a caterer and follow with more details.

Club Static

Our condolences to Jeanette and the family of Mike Greenfield (N9JIY), an ORC member and friend of so many.

Our condolences to Joe Strumberg (KA9DFZ) on the death of the wife. Joe's wife, Marlene, had been in a hospice care for some time. Services were held at Schmidt and Bartelt in Wauwatosha.

Our condolences also to our President, Bill Howe upon the death of his father "Scotty" (K1AUN) January 13th.

Next Meeting - February 10 - Show and Tell Program Night

Bring your favorite project for the **Members Show and Tell** night on February 10th. If your project is too big to bring in ... or you think its too little ... just tell everyone what you did - or you could tell us about something that you want to add to your shack. Let's see if there are some ham or computer hobby interests of the other folks at the meeting that we didn't know about! There will be something on the remailer too

just before the meeting mentioning **Show and Tell Program Night** again.

Minutes—Jan. 13th, 2009

De Chuck Curran (W9POU)

Bill Howe KA9WRL called the meeting to order at 7:30 PM. Introduction of all present followed.

ANNOUNCEMENTS:

Stan Kaplan WB9RQR showed a wrap up \$15.00 USB keyboard for your computer. It is totally flexible and will coil up into a very small size.

Bill Howe KA9WRL gave a Jamboree on the Air award to Tom Nawrot, AA9XK

Bill Howe KA9WRL provided an explanation of how the 50/50 raffle works, and also mentioned the member picture taking going on in the basement. Each member was asked to have their picture taken, in the building basement, during the meeting.

PROGRAM:

Terry Koller, KA9RFM, provided a demonstration of scale, but 100% functional steam and Sterling engines. A group of 5-6 were each shown, explained and then operated. Great interest by many was shown and a series of questions followed the presentation.

ELECTIONS:

Elections for the club officers were held at this meeting. Mike Yuhas, AB9ON, opened the elections by first thanking the contributions of Tom Nawrot AA9XK and Tom Schroeder for their contributions upon their leaving the board.

The nominee's for the club officer's were as follows below:

President	Bill Howe KA9WRL
1st Vice President	Chuck Curran W9POU
2nd Vice President	Jim Albrinck K9QLP
Repeater Vice President	Mark Tellier AB9CD
Secretary	Patrick Sullivan
KC9LRK	
Treasurer	Nels Harvey WA9JOB

All the people were introduced, and then Bill Howe KA9WRL opened the floor to additional nominations for all offices. Additional nominations were asked for again, but none were forthcoming.

Dave Barrow N9UNR motioned to accept all nominated candidates in a single vote. This was seconded by Stan Kaplan, WB9RQR. The floor voted 100% in favor, thus completing the elections with the people listed above becoming the club officer's.

50/50 RAFFLE RESULTS:

Mike Eibs, KC9QNN won the raffle this evening

AUCTION

Stan Kaplan WB9RQR and Jon Gilmore KB9RHZ ran the auction. Some of the items acquired by bidders were a large spool of CAT 5 cable, two sets of computer speakers, a small air compressor, a flat screen monitor, empty cigar boxes for parts storage or whatever, a HP DeskJet 500 printer with 5 new ink cartridges, 3 sets of Microsoft Office 2000 and on and on -----

MINUTES:

Minutes for the December 16, 2009 meeting were accepted. Joe Holly AA9HR motioned to accept as written, and Patrick Sullivan KC9LRK seconded the motion. 100% vote to accept then followed.

TREASURER'S REPORT:

Mike Yuhas, AB9ON, motioned to accept the treasurer's report that had been presented by Nels Harvey, WA9JOB. Joe Holly AA9HR seconded the motion and it was followed by a 100% vote in favor.

REPEATER REPORT:

Nels Harvey, WA9JOB, indicated that the repeaters are working. The Belgium radio was replaced and the link is now functional again.

COMMITTEE REPORTS:

Hats & Jackets were brought up. We need to order 12 hats at a time at a cost of \$15.00 each, while jackets are 4 per order with a cost of \$50.00, more for the largest sizes. Dave Barrow N9UNR motioned to purchase one dozen caps. Mike Yuhas seconded the motion, followed by a 100% vote in favor of the motion. Contact Ed Frac, AA9WW, in order to purchase a hat.

The Post Everything party will be held on a Friday in March, with the exact date still pending.

The May 1, 2010 Swapfest is all set to go and will be held at Circle B Recreation Center on Hwy 60 as always. The event is listed on the ARRL web site and many brochures have already been circulated at other Ham Fests in the region.

The combination Corn Roast and Light House events are going to be held on the same day in Upper Lake Park in Port Washington. This is already well arranged and many are expected to attend.

The AES Superfest was brought to the attention of the club membership. It will be held on April 9th and 10th, 2010 at the AES building on 5710 West Good Hope Road in Milwaukee.

Mike Greenfield, N9JIY, passed away earlier this week and services will be held on Friday, January 15th

OLD BUSINESS: None

NEW BUSINESS: None

ADJOURNMENT: Kent Christiansen, N9WH motioned for adjournment; it was seconded by Stan Kaplan WB9RQR and a 100% vote in favor followed.

MEMBERS ATTENDING TONIGHT'S MEETING:

Stan Kaplan WB9RQR, Jon Gilmore KB9RHZ, Ed Rate AA9W, Kent Christiansen N9WH, Dave Barrow N9UNR, Jim Albrinck K9QLP, Nels Harvey WA9JOB, Patrick Sullivan KC(LRK, Joe Holly AA9HR, Bob Krubsack WQ9N, Michael Eibs KC9QNN, Chuck Curran W9POU, Steve Cotey KC9QNO, Tom Nawrot AA9XK, Nancy Stecker KC9FZK, Mike Yuhas AB9ON, Ed Frac AA9WW, Ray Totzke W9KHH, Ken Boston W9GA, Mark Teller AB9CD, Gary Sutcliffe W9XT, Tom Murtaugh W9VBQ, Mark Fielkow KB9PXE, Todd Fast N9DRY

AGENDA

February 10, 2010

1. Call to order – Bill Howe (KA9WRL)
 2. Introductions.
 3. Announcements, Bragging Rights, Show & Tell, Upcoming events, Etc.,
 4. Program:
 5. Fellowship Break
 6. Auction.
 7. Acceptance of Minutes as printed.
-
8. Treasurer's report – Nels (WA0JOB).
 9. Repeater report – Mark Tellier (AB9CD)
 10. Committee reports.
May 1, 2010 Swapfest -
Post Everything Party -
Other -
 11. OLD BUSINESS
 12. NEW BUSINESS
 13. 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, Feb. 10th

7:30 PM