

MRAC Hamateur Chatter

The Milwaukee Radio Amateurs Club

February 2016 Volume 24, Issue 2

One of the World's Oldest Continuously Active Radio Amateur Clubs—since 1917

Presidents' Letter

First, I want to thank Dave WB9BWP for running last month's meeting while I was on vacation in Ottawa, Canada. So glad that we ended up bringing back warmer weather with us.

We've had lots of activities set for February. This month's club meeting will be our annual Potluck Dinner, also known as the "Food Meeting". Profits from our Mid-Winter Swapfest help to defray costs for this gathering, as does everyone's donation of a dish to pass. The club will provide a main course, soft drinks/water, and utensils. Chef Al KC9IJJ is still working on the menu, and we are really looking forward to seeing everyone for this fun, social event. Please feel free to invite your ham friends and others who might be interested in ham radio. This is always a great social event for the club.

Also, a reminder that we have extended our Logo Contest until our February 25th meeting, which is also the Potluck Dinner. The goal is to create a new club logo for our 100th anniversary, so everyone is welcome to submit their design concepts (even if you aren't an MRAC member!). If your design concept is selected by the MRAC membership, you will get a jacket with the new logo AND a year's free membership in the club.

Remember, we want the new logo to showcase and celebrate our 100 years as the organization. So in terms of design, it's important that the new logo is readable at various sizes (from "very small" on a business card to "very large" on a banner). We plan on using this new logo just like the ARRL used their 100th anniversary logo, and it will be prominently displayed on all of our promotion and documentation moving forward.

Not a professional artist? You can still enter your logo idea! Once the final logo is selected, we will work with a professional graphic artist to polish the logo for our use. So, please bring your designs and ideas on a 8.5 x 11 sheet of paper (in color, if possible) with your name and callsign to the "food meeting" on February 25th.

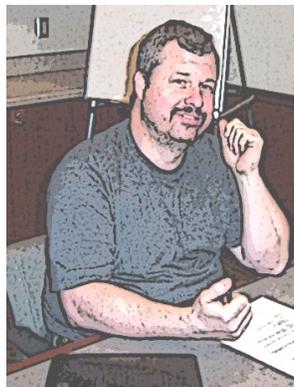
On February 13th, we held our annual Mid-Winter Swapfest. Thanks to everyone came, and a special thanks to Amateur Electronic Supply for their door prize donations and to all the volunteers who helped with set-up and teardown. Be sure to check out the photos on the Milwaukee Area Amateur Radio Society's Facebook page:

<https://www.facebook.com/513Repeater>

It was one of the coldest days we have had this winter, and I believe attendance was down again this year due to the weather. After talking with several of the attendees, the general feeling is that we need to consider making changes to how we organize, promote, and host the Swapfest in the future. We will be reviewing this feedback at the next board meeting and discussing the options. If you are interested in being a part of a Swapfest committee, please let me know.

Next month, I hope to have a report on the MRAC Simplex contest so until then, hope to see you on February 25th at the Potluck Dinner.

'73 Dave, KA9WXN



Welcome



MRAC Officers:

Terms Expiring in 2016

- President – Dave, KA9WXN
- V-President– Vacant
- Secretary – MBH, KC9CMT
- Treasurer – MBH,,KC9CMT

Terms Expiring in 2017

- Director – Al, KC9IJJ
- Director – Hal , KB9OZN
- Director – Tom, W9TJP

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(414) 332- 6 7 2 2

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www.w9rh.org

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Board of directors meeting called to order at 7:06 pm by Dave Shank, KA9WXN club president.

Director's present: Michael KC9CMT, Dave KA9WXN, Tom, W9TJP, Hal, KB9OZN.

Absent: Al KC9IJJ.

Preliminary Discussion: The Budget was presented by discussion by the treasurer. The preliminary budget figures have the club running in the red at the end of the year. The budget was approved with a minor change by a motion from Michael, KC9CMT and seconded by Hal, KA9OZN. The phone bill is our largest expense, Dave KA9WXN will call AT&T and try to get a better deal. It's also clear that the club needs to attract new members. The Treasurers report was presented by Michael, KC9CMT. The treasurers report was approved as read by KC9CMT, a motion to accept was made by Dave, KA9WXN, seconded by Tom, W9TJP. The December balance ended with \$19,568.16 in Club accounts. The Board of Directors' meeting minutes were accepted as published in the December chatter by a unanimous vote. We still will be sending the ARRL Spectrum Defense Fund \$100 in early 2016. New member certificates will be mailed if not handed out when they become available. Club dues will increase to \$20 per year effective April 1st, 2016.

Meeting programs: Dave, WB9BWP will be running the January meeting and giving a topic on a USB microscope. The FM simplex contest is on Superbowl Sunday this year, so it is being moved to February 21st 2016. February will be the Food Gathering that goes along with the MRAC/MARRS swapfest. Getting press on the Ham Nation Podcast would be good press for our 100th Anniversary in 2017. March program ? Our April meeting is the annual election, plus a presentation TBD. April 2nd is the AES SuperFest this year. The May meeting will be the annual auction as in past years. The church has been advised of all our meeting dates for 2016, clearing up their confusion.

Field Day: The MARC field day effort may be held at Konkel park in Greenfield again in 2016, and the board has discussed moving our Field day to the MATC South Campus. MATC has a radio club that could be involved. As of now it has not completely been decided. The board would like to have a working committee for the field day 2016 effort.

Special Project Committees & Committee reports:

Repeater Report: The club would like more than one repeater control operator. A club repeater control operator should be a extra class operator to have the kind of privileges that are necessary to operate field day to its fullest extent.

New Business: Dave, KA9WXN has started discussions on possible events for the club's 2017, 100th anniversary. The club is in discussions with another organization to delete the DSL and go to a better system.

We need to start planning special event stations for the entire year of 2017. Dave, KA9WXN will attempt to generate interest among the membership in forming a committee to handle planning.

The winner of the logo contest should be picked during the February meeting, 2017 is the 100th anniversary. The contest will be open to club and non-club people, must hold a Amateur Radio License to be in contest. Copy to be included in the new Logo, ARRL affiliation, Club 100th year, and callsign with Frequency. The board does want to go ahead with planning a banquet during the 100th anniversary year. Time and place to be determined.

Swapfest Committee: The swapfest setup date has been changed to the weekend before, Saturday, February, 8th, 2016. The Club's joint swapfest with the MAARS group will be on February 13th, 2016. Tickets will be printed in December, with advanced table sales and ticket orders mailed the last week on January. Photos should be taken of all club activities and uploaded to the club Facebook page and copied to the newsletter editor for insertion into the paper. We will continue to use the Google spreadsheet for the 2016 swapfest. A two meter mobile radio can be purchased from AES for a door prize, at a discounted rate. AES and ARRL will contribute gift certificates, along with books from ARRL.

Special Projects: The club needs someone to take over the FM simplex contest for February of 2017. The club really needs PR and recruitment, business cards have been printed and will be handed out at all personal activities. Joe, N9UX has talked about doing another balloon launch in 2016. **Work needs to start on the 100th anniversary celebration that falls in 2017.** The idea has been discussed about having a special event station at American Science and surplus in 2017.

Website update: Dave, KA9WXN the website coordinator for the MRAC is building another website based on WordPress. Club members have been using our PayPal account to renew their dues. The club also has a Wiki page. Dave, WB9BWP will be working on the Wiki page. Tiff has been helping Dave, KA9WXN to build the website.

Clubs throughout the country need to use the spectrum that they have been given. The 220mhz band is not used very often in the Milwaukee area. A Club calendar is a project that the Board of Directors' would like to pursue. Dave, KA9WXN has been working on this idea. A schedule of upcoming events should be printed in the chatter each month.

A motion was made to adjourn the meeting at 8:02 pm by Michael KC9CMT, seconded by Dave, KA9WXN. Meeting adjourned at 8:05 pm.

The Library room will be returned to an orderly condition as it was when we arrived.

Special Announcement

Our areas annual weather spotter training class will be held at the Oak Creek police department facility on Ryan Road. **March 26th, 2016, 6 PM.**

Why Is the US Standard 60 Hz?

by [Patrick Mannion](#)

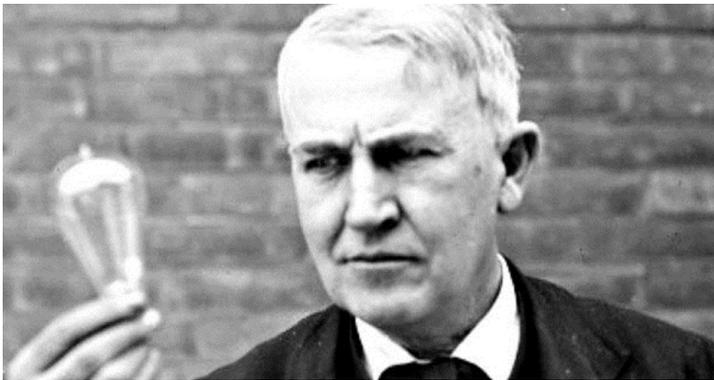
Our history determines our standards.

It's one of those things I never actually recall stopping to think about as I flew through college and then into the working world, but when I picked up [Tesla: Man Out of Time](#) by Margaret Cheney, I found why our US grid is 60 Hz (AC at 110 V). It turns out it's a combination of great genius and horrible compromise for the sake of business. As is so often the case.

The origin of 60 Hz AC, as many of you probably know, goes all the way back to Nikola Tesla, our favorite engineer. He first worked for, and then later was forced to compete viciously with, Thomas Edison. That competition is a whole story unto itself and one that has left me very cold toward Edison.

It's funny how history leaves little things out, like how Edison hired kids to kidnap neighborhood cats and dogs so he could electrify them to show how dangerous Tesla's AC distribution system was compared to his own DC system. Or how he electrified an elephant and recorded it, or invented the execution chair using AC and marketed the act as being "Westinghoused" because of George Westinghouse's support of Tesla.

What does all this have to do with 60 Hz? Well, when Westinghouse wanted to build an electrical supply grid using the kinetic power of Niagara Falls circa 1888, he turned to Tesla, as Tesla had earlier demonstrated the benefits of AC and knew a few things about electric motors and power distribution. He had already done the analysis and already figured out that 60 Hz at 220 Vac was the most efficient means of doing so.



Edison--a genius, but a genius at any cost.

However, Westinghouse's engineers had already committed to 133 Hz. In her book, Cheney said it best:

"When he so informed the engineers, he succeeded in rubbing them the wrong way and only after months of futile and costly experiments doing it their way, did they finally accept his word. Once they had done so, the motor worked exactly as it had been designed to. Sixty cycles has ever since been the standard for alternating current."

Now, this paragraph is absolutely loaded with stereotypical engineer psychology: for instance, Tesla's unerring precision and exactitude combined with a disassociation from the "feelings" of the other engineers. On the other side, the 133-Hz advocates were stubbornly typical in their disdain of this "outsider" (aka: "not invented here," syndrome) and were determined to prove out their own work.



Tesla's induction motor

Still, given the time, proving the efficiency of 60 Hz with respect to driving Tesla's induction motor was critical, as motors were the heart of the industrial revolution, which was then in full throttle.

As to how we ended up with 110 Vac vs Tesla's preference for 220 Vac, we can thank Edison, who already had an installed base of 110 Vdc, so there was a compromise to accommodate business. "A most un-American mental attitude," said Tesla's fellow Serb, Michael Pupin, who worked for Edison but had a hard time understanding why business would ignore the engineering experts.

Some things never change.

So, do you know why Europe is 50 Hz AC (15 to 20 percent less efficient)?

Telegraph Carrier Media

The electrical impulses that make up telegraph messages may be carried through wire circuits or may be broadcast as radio waves.

When Morse invented the telegraph, the only way that a message could be carried from one point to another was by wires strung directly from the transmitting device to the receiver, regardless of the distance. The wire could carry only one message at a time, and reamplification and signal correction devices had to be set up at regular points along the line. By utilizing carrier currents, which are alternating currents of a number of different frequencies, a single pair of wires can simultaneously transmit hundreds of messages, for each frequency represents a transmission channel (see Carrier Wave; Frequency). The various channels are combined at the sending station into the carrier current transmitted by the telegraph wires. At the receiving end the carrier current is passed through electrical filters, each of which transmits only a particular frequency to an appropriate receiving device. Thus, a great number of individual channels may be obtained with only one electrical circuit.

Telegraph, system of communication employing electrical apparatus to transmit and receive signals in accordance with a code of electrical pulses. Originally the term *telegraphy* referred to any form of communication over long distances in which messages were transmitted by signs or sounds.

II. The Morse Telegraph

The first electrical instruments for telegraphic transmission were invented in the United States by the American inventor Samuel F. B. Morse in 1837 and in Britain the same year by the British physicist Sir Charles Wheatstone in collaboration with the British engineer Sir William F. Cooke. Morse used a simple code in which messages were transmitted by electric pulses passing over a single wire (see Morse Code, International). Morse's apparatus, which sent the first public telegram in 1844, resembled a simple electric switch. It allowed current to pass for a prescribed length of time and then shut it off, all at the pressure of a finger. The original Morse receiver had an electromagnetically controlled pencil that made marks on paper tape moving over a clockwork-operated cylinder. The marks varied with the duration of the electric current passing through the wires of the electric magnet and took the written form of dots and dashes. While experimenting with his instrument, Morse found that signals could be transmitted successfully for only about 32 km (20 mi).

Beyond that distance the signals grew too weak to be recorded. Morse and his associates therefore developed a relay apparatus that could be attached to the telegraph line 32 km from the signal station to repeat signals automatically and send them an additional 32 km. The relay consisted of a switch operated by an electromagnet. An impulse entering the coil of the magnet caused an armature to rotate and close an independent circuit actuated by a battery. This action sent a fresh pulse of current into the line, and this pulse in turn activated successive relays until the receiver was reached. A few years after Morse developed his receiving instrument and demonstrated it successfully, telegraph operators discovered that it was possible to distinguish dots and dashes by sound alone, and the Morse recording apparatus was therefore discarded. The other fundamental principles of the Morse system continued in use in wire-telegraph circuits, however.

Because telegraphy was too expensive for widespread use, several means of sending several messages simultaneously over a single line were developed. In duplex telegraphy, the earliest advance of this kind, one message can be transmitted simultaneously in each direction between two stations. In quadruplex telegraphy, invented in 1874 by the American engineer Thomas Edison, two messages were transmitted in each direction simultaneously. In 1915 multiplex telegraphy came into use, permitting the transmission of eight or more messages simultaneously. Because of this and the development of teleprinting machines during the mid-1920s, the Morse manual telegraph system of code and key was gradually discontinued for commercial use and replaced by automatic wire and wireless radio-wave methods of transmission.

III. Automatic Telegraph Systems

There are two basic systems of modern telegraphic communication: the teleprinting system (teletype), which is still in use, and the facsimile reproduction system, which became obsolete in the 1980s.

A. Teleprinting

In teleprinting, the message is received in the form of typed words on a paper form. In this system each letter of the alphabet is represented by one of 31 combinations of five equal-interval electronic impulses, with the sequence of used and unused intervals determining the letter. The start-stop printing code uses seven pulses for each character, the first pulse indicating the beginning and the seventh pulse the end of the letter.

The transmitter or teletypewriter consists of a typewriter like keyboard and may or may not record the message on tape before it is transmitted. The receiver is basically like a typewriter without a keyboard that prints the message on a tape or a paper form. Most machines in the start-stop system are both transmitters and receivers. News organizations were among the major users of the teletype and similar communications systems. By the early 1990s, however, press associations and broadcast media transmitted both text and pictures electronically via satellite.

Weather Awareness

How to Stay Warm Tent Camping in Cold Weather



Although winter camping presents some challenges, many experienced backpackers appreciate the advantages the season offers. The average Joe dislikes the cold, so there are far fewer campers in the winter -- meaning you can enjoy your solitude. Similarly, bugs, such as mosquitoes, chiggers and ticks, go dormant in the cold, taking summer's biggest pests out of the equation. Finally, the clean, crisp winter air invigorates you, instead of tiring you out with morale-leaching heat and humidity.

Planning Ahead

- Pack a small, four-season tent that includes an insulating, solid-fabric enclosure to withstand strong winter winds and snow. Consider a double-wall design for improved insulation, but balance your needs against the added weight. Use a small tent because it's low on empty air space, which means your body heat can noticeably increase the inside temperature. Include a ground cloth to block moisture from entering the tent.

- Bring a sleeping bag rated for at least 10 degrees Fahrenheit lower than you'll experience at night; if you get too warm, you can always vent the bag. Add a bag liner, which can bring the bag's temperature rating 8 to 15 degrees lower, if your existing bag has an insufficient rating.
- Include a closed-cell foam ground pad that's at least 1 inch thick. Consider adding an air-filled pad for two layers of insulation if you anticipate extreme conditions. Ground pads are rated with an R-value between 1 and 8, with higher numbers providing better insulation.
- Pack several layers of clothes, an insulating mug, water treatment tablets and ingredients for warm drinks and soups. Don't rely on water filters, because the filtering elements can freeze and become ineffective.

At the Campsite

- Put on three layers of clothing. Wear synthetic long underwear as the base layer to wick away heat-stealing moisture. Add an insulating middle layer made from fleece or down, and cover that with a windproof and rainproof outer shell. Top it all off with a wool hat, thick socks, insulated boots and lined gloves to reduce heat loss and avoid frostbite on extremities.
- Choose a clear, dry location with ample wind cover for your tent. Position the tent with open sky toward the east, if possible, so you'll also have the advantage of the morning's rising sun to warm it up. Stay away from snow-encumbered tree limbs, leaning trunks and avalanche-prone areas.
- Place the tent's ground cloth and secure the tent on top; use extra supports in windy areas. Pack snow on the tent for added insulation in extreme conditions, similar in concept to an igloo.
- Place the closed-cell foam ground pad inside the tent with the optional air pad over it; center your sleeping bag on the pads. Store boiled water in a heatproof, sealed container in the tent; the heat from the water will help raise the inside temperature until you're ready for bed, and you can later move the heated containers to your bag for added warmth.
- Put your morning clothes -- and any slightly damp clothes -- in the bottom of the bag to warm up, so you don't immediately lose heat the next morning when you dress. Don't put wet clothes in with you, because the excess moisture will cause heat loss.

Keep a wool hat on during the night or cinch a mummy bag around your head. Don't breathe into the bag, because the moisture in your breath will conduct away heat; wear a breathable cloth over your mouth to capture moisture instead.

Tips & Warnings

- Drink plenty of liquids -- preferably warm -- when camping in cold weather; your body uses as much fluid for cold-weather thermo-regulation as it does in hot weather, but the water loss is less noticeable.

- As with all camping trips, it's best to go with at least one buddy.
- Always check weather forecasts before camping and assess the danger of avalanches, especially on slopes greater than 20 degrees.
- Watch for signs of hypothermia, which include shivering, fatigue and slurred speech. If you see these signs, change into dry, warm clothes; lie in a warmed sleeping bag, and drink warm liquids.
- Look for signs of frostbite, such as numbness, sensitivity, burning sensations and discoloration. Slowly warm frostbit areas against warm skin or in 99- to 104-degree F water. Avoid rapid reheating or rubbing the area to avoid tissue damage. Exercise caution and discretion; if you see signs of frostbite or extreme hypothermia, evacuate to a medical facility immediately.

Get Ready for Some of America's Wildest Weather

Tornadoes, floods, thunderstorm winds, hail, lightning, heat, wildfires, rip currents and tsunamis - spring is three months of danger that can imperil the unprepared. It roars in like a lion and continues to roar across the United States throughout March, April and May.

Spring is a time of transition, when late-season snowstorms can impact the East Coast and the Northern Plains, thunderstorms rip across the South and Midwest, rivers overflow their banks and heat waves begin in the Southwest. And there's one hazard that can strike the coasts at any time: tsunamis.

Don't let this dangerous season catch you unaware. Get ready for spring with just a few simple steps: **Know Your Risk, Take Action and Be a Force of Nature.**

1. Know Your Risk

Tornadoes, floods, thunderstorm winds, hail, lightning, heat, wildfires, rip currents and tsunamis can be a killer for the unprepared. Here's what you need to know about these dangerous hazards:

- Since 2003, 43 states within the continental United States have come under a tornado watch; 49 states have come under severe thunderstorm watches; and lightning strikes occur in every state.
- More than half of the total freshwater flood-related deaths each year result from motorists driving into floodwaters. It only takes 12 inches of water to carry off a small vehicle. Heat is one of the leading weather-related killers in the United States, resulting in hundreds of deaths each year. The heat wave of 1995 claimed more than 700 lives in the Chicago area alone.
- In 2014, there were 26 lightning fatalities - six in Florida alone.
- Wildfires kill 30 people, destroy 2,800 homes and burn more than 7 million acres, on average per year.
- The United States Lifesaving Association estimates that more than 100 people each year die in the surf zone waters of the U.S. and that rip currents cause the majority of those fatalities.

Since the beginning of the 20th century, 34 tsunami events have caused more than 500 deaths and over \$1.7 billion (2014 dollars) in damage to U.S. coastal states and territories.

2. Take Action

While the weather may be wild, you are not powerless. Prepare for spring hazards including tornadoes, floods, thunderstorm winds, hail, lightning, heat, wildfires, rip currents and tsunamis with these simple steps:

- You may have only minutes to find shelter before a tornado strikes. Practice a family tornado drill at least once a year.
- Whether driving or walking, any time you come to a flooded road, Turn Around Don't Drown®. Check to see if officials in charge of sports have a written lightning safety plan.
- Extreme heat comes early to the Southwest. During a heat wave, reschedule strenuous outdoor activities for the coolest time of the day.
- If you live near wildland areas, make sure your home is Fire wise and fire-safe.
- This spring break, avoid rip currents by checking the local beach forecast and talking to the lifeguard.

3. Be a Force of Nature

Being prepared is about helping your community. Share your weather and emergency preparedness story and you'll inspire others to prepare.

- Write a post on Facebook. Share with your friends and family the details of how you're weather-ready.
- Tweet that you're prepared with #SpringSafetyPrep. Help us build an online community of the prepared.

Create a Family Communication Plan so that your loved ones know how to get in touch during an emergency. And let your friends know that they should create a plan also. Look for ways to help your town prepare, such as volunteering with the American Red Cross or joining a Community Emergency Response Team.

These simple steps will help keep you safe from tornadoes, floods, lightning, heat, wildfires, rip currents and tsunamis. A little bit of preparation can make a big difference. And being ready for these hazards will help you throughout the year.

Get to Know NOAA

NOAA's National Weather Service (NWS) provides weather, water and climate data and forecasts and warnings to protect life and property and enhance the national economy. Our vision is a Weather-Ready Nation, one that is prepared for and responds to weather-related events. Here's what we're doing to prepare the public for spring hazards.

- NWS leads Seasonal Safety Campaigns (like this one) to prepare the public for seasonal weather hazards.

- NOAA issues a Spring Outlook to help the nation prepare for spring flooding and other hazards.
- NWS warns the public about severe weather through Wireless Emergency Alerts and NOAA Weather Radio.
- NWS works with local emergency managers to install Turn Around Don't Drown® signs in flood-prone areas every year.
- NWS conducts public outreach on lightning safety, including developing Public Service Announcements for fishermen.
- NWS issues Excessive Heat Outlooks, Watches and Warnings to alert the public.
- NWS provides weather forecasts that are critical for wildland firefighters and managers across the nation.
- NOAA's rip current and beach hazards safety website at www.ripcurrents.noaa.gov, along with social media, provides the public with lifesaving and educational information on all beach and surf zone hazards.
- NWS operates two tsunami warning centers that monitor Earth for earthquakes and tsunamis and issue tsunami alerts to emergency managers and the public in the U.S.

Workplace Preparedness

The Occupational Safety and Health Administration (OSHA) provides resources for workplace preparedness for and response to severe weather emergencies, including tornadoes, floods and extreme heat. Employers must ensure that workers involved in response and recovery are protected from potential safety and health hazards. OSHA also provides information and resources to assist in these efforts. OSHA and NOAA encourage workers and employers to be aware of weather forecasts, train workers on severe weather plans, and keep emergency supplies, including a battery-operated weather radio, on hand to be better prepared when severe weather strike.



America's PrepareAthon! is a grassroots campaign for action to increase community preparedness and resilience. Join others around the country to practice your preparedness!

The Shirky Principle

"Institutions will try to preserve the problem to which they are the solution." -- Clay Shirky

I think this observation is brilliant. It reminds me of the clarity of the Peter Principle, which says that a person in an organization will be promoted to the level of their incompetence. At which point their past achievements will prevent them from being fired, but their incompetence at this new level will prevent them from being promoted again, so they stagnate in their incompetence.

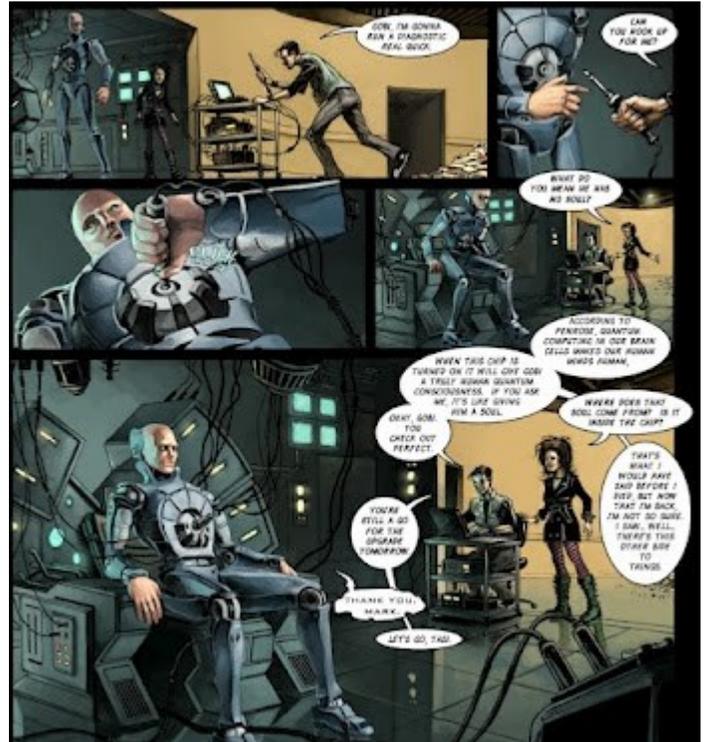
The Shirky Principle declares that complex solutions (like a company, or an industry) can become so dedicated to the problem they are the solution to, that often they inadvertently perpetuate the problem.

Unions, or example. Unions were a brilliant solution to the problem of capital management which tended to exploit uncapitalized workers. But over time as capital increased in complexity, unions complexified as well, until unions needed management. The two became one system -- union/management. So now the problem with unions is that they are locked into the old framework, the old system. They inadvertently perpetuate the continuation of the problem (management) they are the solution to because as long as unions exists, companies feel they need management to offset them, and so the two became co-dependent. In effect problems and solutions tend become a single system.

In his brilliant, classic book [The Innovator's Dilemma](#), Clay Christensen demonstrates how disruptive technologies almost always arise from the margins of an industry, where they start out as insignificant, or toy, solutions. Honda's hobbyist electric bicycles were no threat to the big four automobile companies, until electric bikes become motorcycles and motorcycles became small efficient cars. Cheap crumbly dot matrix printers were no threat to big offset printing companies until dot matrix became inkjet printers and injects became the HP Indigo 5000 on-demand printers. In each case, the solutions were marginal, barely working, at first, and therefore ignored. I think what Clay Shirky is pointing out is that many *problems*, too, are marginal at first, and therefore ignored. Established industries like to focus on established problems.



In a strong sense we are defined by the problems we are solving. Yin/Yang, problem/solution, both sides form one unit. Because of the Shirky Principle, which says that every entity tends to prolong the problem it is solving, progress sometimes demands that we let go of problems. We can then look to marginal solutions and ask ourselves, what marginal problem is this solving that might be a more appreciated problem later on?



I take it as inevitable that robots will eventually accumulate most of the abilities we associate with consciousness. But because every intelligence is different, emerging from different brains, so every consciousness will be different. Silicon-based brains operate differently than tissue-based brains, so the intelligence emerging from those different operations will exhibit different flavors of intelligence. Even different biological tissue brains exhibit different varieties of intelligence. The common misunderstanding is that there is only one kind of superior intelligence -- human kind -- and that any other kind is inferior. We tend to measure how good an intelligence is by how close it is to ours. But there is no single dimension of intelligence. It has many variables, many vectors, many levels, and many dimensions. There are, or will be, a million species of intelligence.

So too consciousness. There is an equivalent misunderstanding that consciousness is singular. You are either conscious, or not. But like the emergent power of intelligence, the emergent agency of consciousness is also multi-dimensional. There will be all types of consciousness, perhaps millions of varieties. We are blind to this possibility now because we have experience with only one type of consciousness -- our own.

But that will probably not be so for very long. Someday robots will acquire the necessary factors that will allow us to admit that, yes, they are conscious too.

The Thought Experiment

And not long after this happens I think something else will occur. Someday a conscious robot will declare to us: "I am a child of God."

There will be all kinds of responses to this announcement. Atheists will read it one way, mystics another, and fundamentalists of many religions in yet another. But in every case, they will need a response to this declaration. I am inclined to hand them a "Catechism for Robots," but that is just me. As I began thinking about what this "Catechism for Robots" might entail, I began to imagine what would happen if robots became very religious. Or maybe even more religious than humans! About this time the Cylons of the revamped Battlestar Galactica came along, with robot descendants more fundamentally religiously zealous than their human ancestors.

My musing about a robot jihad eventually morphed into other speculative theology. The only way to contain these wild scenarios was with some fiction and fantasy. This was the origins of a graphic novel I have worked on for the past 8 years. A few weeks ago I released the 210-page version of this story, called *The Silver Cord*, which begins with a young girl who astral travels. She discovers a million varieties of angelic beings trying to embody robots. You can read the whole thing in PDF form for FREE. There are also Comic Book (CBZ) and web formats, also free.

But this is not the whole story. It is a techno-epic, whose concluding half not yet produced. I hope you immediately go read the free story, and that you enjoy it so much that you'll want to join our Kickstarter campaign to fund the second half.

But please hurry, There are only 2 days left.

Early Radio: Military Communications

Run For Life

Charles McDonald

By November 1965, General Vo Nguyen Giap's regular North Vietnamese Army divisions had begun a bloody testing of the American divisions on the battlefield, and large numbers of American troops were becoming casualties. Major unit commanders needed to know what was outside the range of influence of their heaviest guns. As in every war, secret long-range patrols were the answer.

In December 1965, my home was the 5th Special Forces Group long-range reconnaissance unit known as Delta Project. Our four-man team was given an area recon mission to search for enemy activity. No information was available on our target area.

After completing our mission preparation, the team loaded aboard a Huey the next afternoon and flew to the AO. It was late in the day as we approached our area and made a false insertion, before turning north to our actual LZ. The sun had dropped behind the mountains as we neared our insertion point, now covered in deep shadows

. The chopper had flared and hovered to far out in the field, leaving us with a long run to the safety of the darkening forest. We jumped into the tall grass and sprinted for the tree line.

We found a slick, well-worn trail skirting the wood line. Dropping to the ground on line, we lay watching and listening. As the chopper departed, silence settled over us, reminding us just how alone we really were. The team was up and running again, crossing the trail as one.

There was absolute silence in the forest. It would offer us protection until dawn. We crawled into a thicket on our hands and knees until the brush opened up inside. It was a well-drained, level spot where a layer of dead, dry leaves had drifted over the damp, decomposing layer that normally covered the ground. After we set up in our RON, the team leader called the C & C (command and control) ship and whispered that we were all clear. With the C&C ship returning to base, we were on our own until 0730 hours, the time for our next sitrep – unless trouble developed during the night.

We cleared an area large enough for the four of us, removing any leaves or sticks that would make noise if we had to move around during the night. There would be no eating or smoking. To do so would only deaden our senses and give off odors that could betray us to the enemy. We sat back, quietly listening and watching our backtrail. If the enemy came, it would be from that direction. Our survival depended on our alertness.

The Search

A warm, gentle breeze blew after dark. It was refreshing. I closed my eyes, lifted my head and took a deep breath. I sniffed the damp soil, decaying vegetation and pungent leaf mold. The night was our friend now. Having never smoked, I was more sensitive to odors than most. Sound carries well in the jungle. With our vision impaired by darkness, it would be our hearing and sense of smell that would alert us to the presence of intruders.

Two hours had passed since we established our RON. We were only 300 metres from our insertion point. My hunter's sixth sense suddenly came alive. Something was wrong! There was none of usual night sounds. Where were the crickets and other insects? Everything was deadly quiet. We were in danger, and we knew it. The faint barking of a solitary animal in the distance suddenly broke the silence. It was probably only the diminutive barking deer that lived in the forests of Southeast Asia. A short time later, we heard several more animals, a little closer this time. I realized that the sound was dogs barking. The moon was up now, and we had previously decided not to travel with the moon unless we had no choice.

I reached out and grabbed Bell's shoulder, gently but firmly. Leaning over slowly, I whispered that we were going to have company before long. Those dogs barking in the distance meant that men were up and moving around in some nearby village or encampment. A single dog barking didn't mean much – maybe somebody stepping outside to take a leak. But all the dogs in the neighborhood barking as they were doing now meant that a lot of people were up and moving

. Maybe they were made nervous by the sound of our helicopter in the area earlier! What ever it was that had alerted them would cause them to search the area before much longer.

Bell listened for a few more seconds before putting his lips to my ear, "I don't like the sound of that either, but I hope you're wrong."

It was nearly 2200 hours, and it had been quite awhile since we had heard the dogs barking. We were becoming tense and a little anxious. About an hour later, we detected a slight rustling coming from the trail. Our heads slowly pivoted in that direction. The sound came from the west, the direction of the barking dogs, and it was growing louder. Then we saw a pinpoint beam of light sweeping back and forth across the trail. They were looking for us. Thank God the jungle was dry and there was no dew on the ground to leave sign of our passing. We began to hear men talking in hushed tones and the occasional sounds of metal striking metal. Now we knew for certain – the enemy was aware of our insertion.

Bell reached out and touched every man on the team, alerting and assuring him that he was not alone. He knew it would help forestall the panic that was building in each of us. We were new with Bell, and, as far as he was concerned, untested. The hunters had become the hunted.

It was nearly midnight, and we had not heard the enemy in awhile. A FAC (forward air controller) was on standby alert at some distant air base, but he wouldn't be on-station until after first light. Then he would circle off in the distance in case we needed him. It was always comforting to know he was out there, but then that didn't help us now.

Discovered

Later in the night, we again heard the dull thuds of men walking the trail between us and the clearing. They began randomly firing rounds into the surrounding jungle about 15 seconds apart. They were close enough that we could see the muzzle flashes of their weapons. Bell leaned close and whispered. "They're trying to make us give away our position."

The movement of the enemy soldiers through our area was erratic. They seemed unsure of where we were. It was at least a platoon-sized element, broken into small groups. They hadn't worked up enough courage to come into the thick stuff after us. Daylight would give them the courage. We decided for the moment to remain in place. Moving at night could give our position away, and we were a long way from help.

In the early hours of the morning, I sensed Bell stiffen. I reached over and gently but firmly squeezed his leg. "You awake?" I whispered. Bell answered quickly, "I heard it, too. We got visitors again on the trail." I felt sick.

Time to Move

The moon had set, and the darkest hour of the night had come and gone. It was now Before Morning Nautical Twilight or BMNT, the time when you are first able to see to your immediate front, the time we had dreaded through the night. There was just a hint of a grey predawn light coming from the east.

We knew the enemy soldiers had not returned the way they had come; we could only assume they had checker boarded off the area and were waiting for us to move. If we didn't flush, it would only be a matter of time before they would sweep the area for us.

I could now make out the face of each man on the team, and I knew the fear I saw was only the reflection of my own. There was also an anxiousness that came from the realization that we had to move...wanted to move. To stay was to be discovered, and to be discovered was to die. We had survived the night, now we would have to survive the day.

My mouth was dry, my hands sweaty. Fearing dehydration, I swallowed a couple of salt tablets, and drank a little water from my canteen. There would be no time to do so later. The others did the same. We brushed the leaves we had removed the night before back over the flattened areas where we had spent the night until we were satisfied that it looked natural. My heart picked up a pace as the adrenaline began to surge through my system. It was time to move.

At 0700 hours, still a half hour until sitrep, Bell directed me to take point and move east, crosswind, on an 80-degree azimuth for 100 meters. Then I was to turn due north into the wind and maintain that general direction. Tightening the sling of my rifle so it wouldn't drag, I made my night setting on my compass. I sensed Bell watching me. I knew what he was thinking, but I had always used a night setting, even in daylight. It made it easier to maintain a known direction while on the run.

We rose quietly as one, emerging from our brushy den. Our eyes scanned everywhere, trying to take in every detail as quickly as possible. It was time for us to face our fears and make them work for us. We moved out, maintaining a staggered patrol formation – five-meter intervals between each man. With our weapons at the ready, we moved cautiously, covering our individual areas of responsibility.

The Ambush

I moved forward on hands and knees, trying to avoid outlining myself while being able to see under the brush and watching for booby traps. The enemy would look for men moving upright. It would give us an edge. The four of us crept along stealthily, careful not to rustle the vegetation. Bell followed me in a crouch, his eyes at a level a little above mine. I stopped every few meters to watch and listen. There was no sound: no insects, no birds, nothing. Even the wind had laid. There was no movement among the trees and brush around us. It was as if the jungle itself was watching, waiting.

We were certain the enemy was there. I can't tell you why, but we knew. Bell stopped me with a hand signal. It was time for a sitrep to the FAC, and to report our contact with the enemy. He knew our operations center would be monitoring our commo, and would soon have our helicopter crews preparing to launch if needed.

When our transmission ended, the radio operator unscrewed the long antenna, folded it and put it into its carrier. Bell tapped his rifle, a signal for me to move out again. Before I could start, a movement just ahead, under the brush, caught my eye. I froze. A dozen birds flushed just ahead, flying past us as if we weren't even there. We remained still, sensing danger close at hand. Slowly, I flattened myself against the forest floor, peering ahead through the vegetation, trying to locate what had frightened the birds. There was nothing. But everything was too damned quiet. We waited and listened for what seemed like hours, but it was probably less than five minutes. The mood in the forest around us changed, turning back of my neck crawl.

Bell leaned over and whispered almost inaudibly, "What do you think?" I stared back over my shoulder at him, then whispered, "I think we'd better change direction...right now."

Bell pointed out a new direction. I adjusted the night setting on my compass once again. While my eyes probed the surrounding jungle, trying to observe everything at one time, I dry-thumbed the fire selector switch on my weapon, reminding myself of its location.

We moved again, our senses screaming their violation. If we were hit, we would try to break contact and run. But we would fight if we were cornered. I grew more anxious. I felt like we were moving around in a box...with hundreds of people on the outside looking in. Huge trees limited our visibility to about 30 meters. We made a very little noise, but each crackle of a dead leaf, each snap of a twig, echoed through our minds like a cannon shot. My heart beat faster. Subconsciously, I began to breathe in short, rapid gasps, nostrils flaring. Then I smelled something different. It was the odor of our sweat, of clothes saturated with incense, and the unwashed smell of those who feast on a diet of fish oil.

The Vietnamese were hidden around the base of three abandoned anthills rising from the forest floor. On a silent signal, several anti-personnel mines detonated. We were already face down in the dirt. I felt and heard a rushing sound.

When I could hear again, the sound of automatic weapons firing and bullets churning the air where we had been standing only moments before told me where the enemy lay hidden. There was little cover between the enemy and us. To stay meant death. As the smell of cordite filled my nostrils, my lower lip began to quiver.

The team recovered from its initial shock. Bell yelled over the din of enemy high-velocity rounds, "Grenades!" When he saw that each of us had one in hand, he shouted for us to pull the pins together and on command to lob them at the enemy positions. The anthills disappeared in a blinding flash. The grenades were on target. As the shooting stopped, we were up and running. We could hear the nervous chatter of Vietnamese behind us as we broke brush. Stealth no longer mattered. We were running for our lives.

Running

I lagged well behind the rest of the team and had to catch up. We were having a difficult time maintaining the pace, but it was putting a lot of distance between us and the ambush site. Ahead of us lay dense forest. I lowered my head and dug in as hard as I could, trying to catch up with my team-mates. I was near panic, almost of losing sight of them on more than one occasion. We moved through the forest at a ground-eating lope that worked our upper bodies as much as our legs. I knew I was using precious energy, pumping my arms like I was, and I would surely pay for it later. I fought for breath, ignoring the gripping pain in my side. Rounds were still popping over our heads, as the confused enemy soldiers fired blindly in our direction. Bark flew from a tree next to me. Bullets dug furrows in the ground at my feet. They were in hot pursuit. I jumped to the right to put a large tree between and me. I had to get out of their line of sight.

I saw Bell, running in front of everyone, stagger as his rucksack blew up on his back. An enemy round had hit him center-mass. He stumbled momentarily, then was up and running again. The contents of his pack had stopped the bullet.

As we ran deeper into the forest, I expected every step to be my last. A lot of weapons were being fired at us from behind. Death was in the air all around us. Suddenly, Bell, still running ahead of everyone else, ran straight into a large tree. He bounced backward, smashing into the ground flat on his back. Amazingly, he was back on his feet in a second, running as if he had run into a hay pile instead of a tree. More bark tore from a tree ahead as enemy bullets bracketed me. We ran like the wind, and the gap between the enemy and us widened.

We moved now in unison, setting a blistering pace. We had to stay together. The only sound I heard now was my own gasping and the blood pounding. My chest began to feel painfully tight. My heart felt like it was in my throat. My legs grew heavy, and I began to realize that all of us were beginning to settle into a slower pace.

Each man seemed to know that we would have to back off to continue our escape. Our initial burst of speed had put some distance between ourselves and our pursuers, but we would not be able to maintain it. This new pace was more comfortable, and we could maintain it for a long time. The enemy fire dissipated as we ran deeper into the forest.

Finally I saw the rest of the team stop ahead of me. They were trying to make contact with the FAC and report that we were in contact and trying to evade. The short antenna failed to get out, so the radio operator hurried to replace it with the long antenna.

While struggling to get my breath, I watched our backtrail for any sign of our pursuers. Soon I spotted movement among the shadows of the trees. They were coming, trailing us. Unable to make contact with the FAC, we set off running again. I began to believe I could outrun them. I just had to focus my concentration to help my body work better.

We had been running for an hour still hanging tightly together, moving easily, settling into a pace. After awhile we stopped again and made another attempt at establishing comms with the FAC. This time it worked. I could see Bell talking on the radio. The FAC was aware of our situation and was moving in over the area to give us better comms. The team leader turned and gave us the bad news: there were no suitable pickup sites anywhere in our area. But the FAC had given us a general direction to head, which would eventually lead us to one. We had a long way to go. The good news was that a flight of Air Force A1-Es (SPADS) were already orbiting nearby, waiting to come to our aid.

We were in deep kimchee. We would have to begin taking evasive action, changing directions frequently, dropping a smoke grenade after each comms check. Now we would really have to run. The Air Force SPADS were going to make air strikes between the most recent two smoke grenades as we ran. Our zig-zagging would have to be on 60-degree angles, so that the SPADS would know where we were.

As rear security, it would be my job to alert the rest of the team if I saw the enemy trying to close on us. I was to tap my rifle to warn them. I saw something move and then blend into the dark shadows. Then I spotted him. It appeared to be the same man who always appeared first when the enemy closed on us. He had to be their tracker. I wanted to kill him. I tried to get him in my sights, but I was breathing too hard. I signaled the rest of the team that we had company. We turned and ran again.

But at least this time we knew we weren't alone. We ran on. The temperature rose, and the humidity took its toll. I still hadn't gotten my second wind, and I was beginning to labor heavily. Mercifully, we stopped again. I leaned against a large tree. Wiping the sweat from my eyes, I could see nothing. After another comms check, we were off and running...but for how much longer?

We stopped again, sooner this time. At first I didn't see them, then they were there, gliding like shadows from tree to tree. I saw one...two...three small, dark forms moving nearer and nearer. I didn't wait to count more...and there were many, many more. I tapped my rifle and we were off again. This couldn't go on. Sooner or later, my legs would turn to cement, and it would be over. But once again, I kicked in to a gear I didn't know I had, as the pursuing enemy soldiers opened fire. Then I felt my second wind. I began running effortlessly. I no longer felt heavy. There was renewed strength in my stride. The cramping and dizziness were gone. My breath was coming in an even flow. The entire team seemed to have gotten its second wind. I began to feel hope that we would survive.

Extraction

We stopped again to establish comms. After talking to the FAC, Bell reported that we were only a short distance from our pickup point. Our pickup ship, along with the C&C chopper and our gunships were already orbiting the area, waiting for us to break out. I knew then that we would survive this ordeal. We would outrun our pursuers. This time when I looked back, I didn't see them. We popped smoke and began running again as the A1-Es roared in over us. Casings from their 20mm guns rained down on us.

I could see the forest lighten ahead of the team. It was the clearing. In a burst of speed, I caught up to the rest of the team and dropped to the ground with them just inside the tree line. Bell turned the radio on, then looked at me and said, "McDonald, get out there a hundred meters in the open and get your panel ready." I knew it was my death warrant.

The tall grass waved slowly in the breeze as I crawled out into the field. When I looked back at the tree line, I felt I was far enough out. Removing my red/orange panel, I began flashing it.

Soon I could hear the heavy whopping of rotor blades as an approaching Huey came in fast. There was no other sound like it. As I lay on my back, arms extended holding the panel, I watched in disbelief as the chopper passed overhead and kept going. Had they missed the signal?

No, the ship radioed Bell that it had seen our panel and acknowledged our position. I heard the roar of the gunships firing, lifted my head and saw the two Hueys hovering just above the far tree line, covering the rest of the team as they broke cover and ran for the pickup ship. I looked up as Bell ran past me screaming, "You coming?" He didn't have to ask twice. I was up and running. We piled aboard as the gunships fired into the forest. My momentum nearly carried me out the opposite door of the Huey. The ship lifted, dipped toward the forest as it pick up forward speed, then rose above the trees and was gone.

Sitting in the door looking down, I could see the blinking of muzzle flashes from the woods as the enemy soldiers fired at us in frustration. Their quarry had escaped. We had beaten them.

After debriefing, I was looking forward to a hot shower, and a cold beer. My commander, Colonel Charlie Beckwith, stopped me and asked how I felt. I gave him the only macho answer I could think of. I said, "OK!" The Colonel smiled and said, "Well, good Mac. You're going back in tomorrow."

Charles A. McDonald is a personal protection specialist in Pittsburgh, Pennsylvania. He is a retired U.S. Army chief warrant officer and served with the 101st Airborne Division and the 1st, 5th and 7th Special Forces Groups (ABN.) While serving in Vietnam, he was assigned as an advisor to the Vietnamese 7th Airborne Division, Project Delta, and as an advisor in the MACV Recondo School.



Fifth Annual MRAC/MAARS interclub mid-winter swapfest

Our swapfest on February 13th this year was a great success. We had many vendors, even though our fest coincided with the Hamfest at Orlando that drew away a staple of our fest the RF connector guy. Dave, KA9WXN and the crew from MAARS/MRAC did an excellent job setting up. When the vendors started to arrive at 6am Saturday morning there were very few logistical problems that had to be overcome.

Joe, N9UX took over the accounting of the swapfest as a special assignment for the club. Without his efforts we could not have such an event.

At approximately, 7:45am, people were already lined up at the door on this cold morning. We had designated a warming area inside the main entrance area for those arriving early to wait. Dave, KA9WXN decided to open 10 minutes early, to alleviate crowding in the warming area.

I observed that everyone seemed to be enjoying themselves. I logged no complaints this year, and even continued to sell tables on the morning of the event.



The MRAC Board of Directors would like to personally thank the following people for their time and effort in making this years swapfest a success:

Dave KA9WXN, Joe N9UX, Al KC9IJJ, Greg K9ZZZ, Bob KC9WJF, Dale AB9DW, Barry W9BLS, Jim KB9KKB, Mark NX1K, Bob KC9WJF, Tony KC9UDS, Rich KB9KYS, Pancho KA9OFA, Jerry K9FI, Dave WB9BWP, Eric N9RTM, Pat N9LKH, John KB9OSC, Coletta KC9CYQ, Bob N9PSN, in addition to those not listed that helped during the fest.

A special thanks to our friends at AES for providing gift certificates and a grand prize at cost for our joint swapfest.

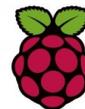


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Name of Net, Frequency, Local Time	Net Manager
<u>Badger Weather Net (BWN)</u> 3984 kHz, 0500	<u>W9IXG</u>
<u>Badger Emergency Net (BEN)</u> 3985 kHz, 1200	<u>NX9K</u>
<u>Wisconsin Side Band Net (WSBN)</u> 3985 or 3982.5 kHz, 1700	<u>KB9KEG</u>
<u>Wisconsin Novice Net (WNN)</u> 3555 kHz, 1800	<u>KB9ROB</u>
<u>Wisconsin Slow Speed Net (WSSN)</u> 3555 kHz, Sn, T, Th, F, 1830	<u>NIKSN</u>
<u>Wisconsin Intrastate Net - Early (WIN-E)</u> 3555 kHz, 1900	<u>WB9ICH</u>
<u>Wisconsin Intrastate Net - Late (WIN-L)</u> 3555 kHz, 2200	<u>W9RTP</u>
<u>ARES/RACES Net</u> 3967.0 kHz, 0800 Sunday	<u>WB9WKO</u>
* Net Control Operator needed. Contact Net Manager for information.	

Next Regular Meeting

The next meeting will be on **Thursday, February 25th, 2016**, at 7:00PM. We meet in the Fellowship Hall of Redemption Lutheran Church, 4057 N Mayfair Road. Use the south entrance. Access the MRAC Yahoo group for important details about the February Meeting.



Meeting Schedule:

March 31st, 2016- 7 pm

Please do not call the church for information!

Club Nets

Please check in to our nets on Friday evenings.

Our ten meter SSB net is at **8:00 p.m. at 28.490 MHz USB** Our two meter FM net follows at **9:00 p.m.** on our repeater at **145.390 MHz** with a minus offset and a **PL of 127.3 Hz.**

Visit our website at: www.w9rh.org

Or phone (414)-459-9741



Chatter Deadline

The **DEADLINE** for items to be published in the **Chatter** is the **15th of each month**. If you have anything (announcements, stories, articles, photos, projects) for the 'Chatter, please get it to me before then.

You may contact me or Submit articles and materials by e-mail at: W9rhmrac@Gmail.com

or by Post to:

Michael B. Harris
807 Nicholson RD
South Milwaukee, WI 53172-1447

VE Testing:

February 27th, 9:30am— 11:30am

No testing: June, July or December

Location: Amateur Electronic Supply Time: 9:30 AM (Walk-ins allowed)

ALL testing takes place at: Amateur Electronic Supply 5720 W. Good Hope Rd. Milwaukee, WI 53223

Area Swapfests

March 20th, [Hamfest 2016](#) Location: Jefferson, WI Type: ARRL Hamfest Sponsor: Tri-County Amateur Radio Club - W9MQB Website: <http://w9mqb.org>

April 2nd, [AES SuperFest](#) Location: Milwaukee, WI Type: ARRL Hamfest Sponsor: Amateur Electronic Supply Website: <http://www.aesham.com/aes-superfest>

MRAC Working Committees

100th Anniversary:

- Dave—KA9WXN

Net Committee:

- Open

Field Day

Dave—KA9WXN, Al—KC9IJJ

FM Simplex Contest

- Joe – N9UX
- Jeff – K9VS

Ticket drum and drawing

- Tom – N9UFJ

Newsletter Editor

- Michael-KC9CMT
- Pancho– KA9OFA

Webmaster

- Dave, KA9WXN

Refreshments

- Hal—KB9OZN



Welcome

Membership Information

The Hamateur Chatter is the newsletter of MRAC (Milwaukee Radio Amateurs' Club), a not for profit organization for the advancement of amateur radio and the maintenance of fraternalism and a high standard of conduct. MRAC Membership dues are \$17.00 per year and run on a calendar year starting January 1st. MRAC general membership meetings are normally held at 7:00PM the last Thursday of the month except for November when Thanksgiving falls on the last Thursday when the meeting moves forward 1 week to the 3rd Thursday and December, when the Christmas dinner takes the place of a regular meeting. Club Contact Information

Our website address <http://www.w9rh.org>

Telephone **(414)-459-9741**

Address correspondence to:

MRAC, PO Box 26233, Milwaukee, WI 53226-0233

Email may be sent to: w9rh@arrl.net . Our YAHOO newsgroup:

<http://groups.yahoo.com/group/MRAC-W9RH/>



CLUB NETS:

- The Six Meter SSB net is Thursday at 8:00PM on 50.160 MHz USB
- Our Ten Meter SSB net is Friday at 8:00PM on 28.490 MHz ± 5 KHz USB.
- Our Two Meter FM net follows the Ten meter net at 9:00PM on our repeater at 145.390MHz - offset (PL 127.3)



The MRAC HamChatter is a monthly publication of the Milwaukee Radio Amateurs' Club. Serving Amateur Radio in Southeastern Wisconsin & all of Milwaukee County

Club Call sign – W9RH

MRAC Website: <http://www.W9RH.org>

Editor: Michael B. Harris, Kc9cmt, kc9cmt@Earthlink.net

Milwaukee Area Nets

- Mon. 8:00 PM 3.994 Tech Net
- Mon. 8:00 PM 146.865- ARRL Newsline
- Mon. 8:00 PM 146.445+ Emergency Net
- Mon. 8:00 PM 146.865- Walworth County ARES net
- Mon. 8:00 PM 442.100+ Railroad net, also on EchoLink
- Mon. 8:45 PM 147.165- ARRL Audio News
- Mon. 8:00 PM 442.875+ WIARC net also on EchoLink 576754
- Mon. 8:30 PM 146.820 Waukesha ARES Net – on the 1st, 3rd, and 5th Monday of each month.**
- Mon. 9:00 PM 147.165– Milwaukee County ARES Net
- Tue. 9:00 AM 50.160 6. Mtr 2nd Shifter's Net
- Tue. 9:00 PM 145.130+ MAARS Hand Shakers Net
- Tue. 8:00 PM 7.035 A.F.A.R. (CW)
- Wed. 8:00 PM 145.130+ MAARS Amateur Radio Newsline
- Wed. 8:00 PM 147.045+ West Allis ARC net
- Wed. 8:00 PM 28.365Mhz 10/10 International Net

- Wed. 8:00 PM 147.270+ Racine County ARES net
- Wed. 9:00 PM 145.130+ MAARS SwapNet, Allstar FM-38
- Thur. 8:00 PM 50.160, 6 Mtr SSB Net
- Thur. 8:00 PM 443.800+ Tech Net
- Thur. 9:00 PM 146.910+ Computer Net
- Fri. 8:00 PM 28.490 MRAC W9RH 10 Mtr SSB Net
- Fri. 9:00 PM 145.390+ W9RH 2 MTR. FM Net
- Sat. 7:30 AM MW Classic Radio Net , Freq.–3885 AM
- Sat. 8:00 PM 146.910+ YL's Pink HAMsters Net
- Sat. 9:00 PM 146.910+ Saturday Night Fun Net
- Sun 8:00 AM, State ARES Net 3967/3977.5/145.470
- Sun 8:30 AM 3.985 QCWA (Chapter 55) SSB net
- Sun 9:00 AM 145.565+ X-Country Simplex Group
- Sun 8:00 PM 146.910+ Information Net
- Sun 8:00 PM 28.365 10/10 International Net (SSB)
- Sun 9:00 PM 146.910+ Swap Net

Daily: Milwaukee – Rag Chew Net: 7:00 AM, 3850 SSB + Florida Net 7 am, 14.290 mhz.

2meter repeaters are offset by 600KHz - - 70 centimeter repeaters are offset by 5 MHz

SSB frequencies below 20 meters are LSB and for 20 Mtr and above are USB.

