HAMATEUR CHATTER

The Milwaukee Radio Amateurs Club

May 2012, Volume 20, Issue 5

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

Presidents Letter

Were you at the April meeting? If not, what did you miss? Well, the program was by an engineer (Darren Rook KC9SSL) of West Mountain Radio. The talk was on digital mode operating and West Mountain products for that. The company makes a whole range of products for digital operating as well as battery and DC power control and distribution. This program was only about the digital products as Darren will be back in September to talk about the power products. You do know West Mountain is located in Waukesha, don't you? The company was founded in Connecticut and the founder decided to retire and a company in Waukesha decided to buy it and move it here. So, not only do we have an amateur radio store in Milwaukee but we have an amateur radio equipment manufacturer located here too. Does it sound like a commercial for West Mountain? Good. They deserve a commercial. They donated a brand new item to the club to auction off. Come to the auction this month to find out about it.

What else did you miss at the April meeting? Certificates were handed out to people who operated the radio for our 95th anniversary special event during Superfest at AES. Besides the operators (including Gordon West who did have his mailed to him) certificates were issued to AES and Ray Grenier K9KHW who provided the location, radios and antennas for the operation. Maybe AES will mount their certificate out in public view.

One other big item which was presented at the meeting was the unveiling of the plaque issued to MRAC by the City of Milwaukee in recognition of our 95th anniversary. Reading the plaque, the list of items I wrote about last month and the club history book one can see we have not been sitting on our hands for the last 95 plus years. No other group in Milwaukee (city), the county, even the state can boast of all the things we have done. Wouldn't you like to be part of that? Wouldn't you like to be part of the club history for the next 95 years?

More new members. Dean Berglund KC9REN and Darlene Berglund KC9SBN. Counting all in family memberships, we have picked up 9 new members since last fall. Welcome to you all. I don't know what brought each of you here, but I sure would like to know what will keep you as a member. Feel free to email the club or if you want to contact me directly, email to my call sign at arrl.net.

While he was not a club member (he did live in Racine) I'm sure over the years many of you have met or spoke with Lloyd Gorsiski WB9RGO. For many years he had an imposing VHF signal in southeastern Wisconsin. A few weeks ago Lloyd succumbed to his health issues and became a silent key. If you are in the club Yahoo group, you saw mention of this as soon as the news became available.

We also had elections for 4 directors at the April meeting. I wish I could welcome some new faces to the board, but barring that, Michael KC9CMT, Joe N9UX, Mark AB9CD, and Dave (not me) KA9WXN were (re) elected. They join Al KC9IJJ, Hal KB9OZN, and Dan N9ASA who have one year left on their terms of office. And yes, my name is not on the list. It was pointed out to me by some (mainly those on the board) that maybe not everyone was paying attention and let me slip away. I'd like to think everyone was paying attention and made sure I did get away.

MRAC Officers:

Terms Expiring in 2012

- President – Dave,WB9BWP
- V-President– Vacant
- Secretary – Mike, KC9CMT
- Treasurer – Joe, N9UX
- Director – Mark, AB9CD
- Director – Dave,KA9WXN

Terms Expiring in 2013

- Director – Al, KC9IJJ
- Director – Hal , KB9OZN
- Director – Dan, N9ASA

The Club Phone Number is: (414) 332-MRAC or

(414) 332- 6 7 2 2

Visit our website at:

www.w9rh.org

Mail correspondence to:

M. R. A. C.

P.O. Box 240545

Milwaukee, WI 53223

Letter From The President, Continued….

Don't worry, I still get to annoy everyone through the business portion of the June meeting. By the way, the June meeting program is still up in the air, the May board meeting will firm that up. Also by the June meeting which director will take on which officer job will also be known.
Finally, this year Field Day (June 23-24) happens before the June meeting and probably before the June newsletter, so we best talk about it now. MRAC will once again be partnering with MAARS (145.13 repeater) for Field Day (does any other club in the area work with another club?). We have also invited Milwaukee County ARES to join us (they didn't want to make an official commitment to us, just keep it casual). We will be at Konkel Park in Greenfield at 52nd and Layton Ave (across the street from Greenfield Fire, Police, Library). The area is just east of the volleyball courts. For those of you who thought Pioneer Village was too far, well…

The ARRL created Field Day in 1933 as both a summertime outdoor contest and a test of a groups capabilities of quickly setting up a station in the "field" and making contacts (like maybe in a real emergency). Have you been to a Field Day operation? The club has operated in them all. Numerous transmitters are operated on various bands and modes using the club call sign W9RH to make contacts with other Field Day stations in the US and Canada. I am the license trustee and hold an Extra class license. Any person operating under W9RH is able to operate using full Extra class privileges (with proper control operators present). That means everyone can operate as if they were an Extra. Here is your chance to get a taste of HF radio operations (and maybe more as last year 6M was open for most of the weekend).

What sort of things other than just making HF contacts happen at an MRAC Field Day. Well let's see, over the years we have had the usual, phone, CW, digital (PSK), plus ATV, QRP, satellites, packet, APRS, VHF SSB, ARRL bulletin reception, formal message handling. All logging is via networked computers. Besides radio there have been telescopes (ever see "live" sun spots?), movies, RC Airplanes, picnic lunch and dinner, even eggs for breakfast, We have used AC power, generator power, solar power, even bicycle power. There have been public official visits, newspaper coverage, TV news coverage (with video and even video of my ugly face), CQ magazine even sent a photographer up from Florida to photograph our operations (we scored 3 months in the 2012 CQ calendar including the cover!). We've had beams mounted on extension ladders, towers, wooden masts, verticals, dipoles, long wires, even custom built unique antennas which saw their debut at a Field Day. We've done special training (a recent bonus point category), had a number of people get on the air for their first time, even given Novice code tests (I did that too). We have operated from parks, camp grounds, historical sites, museums, Nike missile sites. Do we get the highest score? No. Does everyone who attends have a good time? We do our best to make sure that happens. We will go out of our way to make sure everyone who wants to operate gets a chance. Never been in a contest or even on HF? We'll answer your questions and help you through the process. All that is more important than just how many points did we score (of course it is always nice to beat the last year). Would you like to have a good time? Want to do some radio? Want to do some fun stuff? Come out to Field Day. Watch the club Yahoo group and the Friday night nets for any last minute info.

See you at the auction and at Field Day!

2012 MRAC FM Simplex Contest Wrap-Up

Thanks to everyone who participated in the 2012 MRAC FM Simplex contest. I am happy to announce the MRAC was able to return to winning the club competition. Activity was down a little this year, but we received many positive comments from the participants.

As a reminder, if you worked the club station, you can receive a special 95th Anniversary QSL certificate by sending a QSL request to the club email address, w9rh@arrl.net. Please include standard QSL information in your request.

See you on the air next year, Feb 10, 2013!

-Joe N9UX

Certificate Winners!

1st Place Mobile
K9IZV

1st Place HT
KX9M

1st Place Base
W9GA

1st Place 2m
K9IZV

1st Place 70cm
(tie) K9IZV, W9GA

1st Place 6m
KX9M

1st Place 1.25m
W9GA

Club Winner
Milwaukee Radio Amateurs' Club

Membership Minutes

Membership Meeting, April 26th, 2012

Meeting called to order at 7:03 pm by Dave DeFebo, WB9BWP, Club President.

The hand Mic was passed around for introductions of present & potential new members. New member certificates were presented to Dean, KC9REN and Darleen, KC9SBN. Tonight is the annual election with the addition of a presentation. Next month is the annual May auction. There will be no business meeting in May due to the auction. The club will accept donations from the auction proceeds, by this is not a requirement of the sellers. There will also be no raffle in May due to the auction.

At AES SuperFest, our club ran a special event station using the expensive ($10,000) equipment array belonging to AES. Participation certificates were handed out to Pancho, Al, KC9IJJ, Mark, AB9CD, Dave, WB9BWP, Tom Fuszard, K9FY. The city of Milwaukee will be presenting a placard to the club recognizing our 95th anniversary. Dave, WB9BWP is offering copies of the club history DVD to members until supplies run out. Loyd, WB9RGO was recognized as becoming a silent Key as of this last weekend.

Our club will be running our field day effort from Konkel park in Greenfield again this year. Dave, KA9WXN and Al, KC9IJJ will be heading up the field day committee this year. Anyone interested in participating should see them for information.

Election meeting is now being called to order by our club president, Dave, WB9BWP. Members offered for election to the four director's positions open are Joe, N9UX was nominated by Al, KC9IJJ. Dan, K9ASA nominated Dave, KA9WXN. Dan K9ASA nominated Michael, KC9CMT, Al, KC9IJJ nominated Mark, AB9CD. Nominations were called for from the floor. None were offered. The nominations were then closed by motion of Darleen with a seconding by Dan, K9ASA. Nominations are now closed. The four names offered were then elected by a show of hands by the membership.

The club would like to welcome our next set of four director's of our club: N9UX, KA9WXN, KC9CMT, & AB9CD. The annual April election cycle is now completed.

Dave, WB9BWP then gave a short presentation as to how he would like the club to be run, namely using committees to do the work suggested by the Board of Director's. The club asked for names of people to be net operators' for the club. Pancho has been running both the clubs' nets for a very long time. He enjoys this activity, by could use a break from time-to-time.

Our club presentation tonight is from West Mountain Radio. "Using a RIGblaster for digital soundcard modes" by, Darren Rook, KC9SSL of West Mountain Radio Company. The agenda started with a brief overview of who is West Mountain Radio and what they sell. They are a company based in Waukesha and sells a number of products for amateur radio. They make the RIGblaster, the ClRspeaker, a RIGrunner for DC power. This uses Anderson Powerpoles that are used widely within the Amateur radio community. Also the PWRgate, Computerized battery analyzer (CBA). The RIGblaster is an audio path between the radio and the computer. This can be used for a number of Digital modes. The presentation model was the RIGblaster Advantage, which is their most modern configuration.

Digital criteria is different for the various modes. Many people use PSK31 & JT-65A for their ability to put signals out of the noise level. Airlink Express software is a free digital package that supports the RIGblaster family. It is similar to Digipan which many people also use. In Airlink, the audio device needs to be selected, this bypasses the computer soundcard. Use RTS for PTT. Use DTR for FSK. Airlink uses a multichannel display along with the normal waterfall feature of all digital software.
PSK Reporter is an automatic propagation reporter, the software automatically sends received QSO information to an Internet server. Airlink express software is compatible with this software package. An computer with Reporter on will log contacts without the operator being present. JT65-HF software, this package is for very low signal HF contacts. This is an open source package written by Joe Large. Can receive signals at the -25db SNR. The TX rate is very low with this package. Around 13 characters per minute. WSPR is a beacon software package that links up with a website the logs its data. Website: http://www.WSPR.com. And this completes the presentation by West Mountain Radio.

Silent Key Report

Lloyd G. Gorsiski, age 77, passed away Monday, April 23, 2012 at Season's Hospice, Waukesha, WI. Lloyd was born in Racine, March 25, 1935 son of the late Stanley and Mabel (Nee: Potterville) Gorsiski.

Lloyd was a graduate of William Horlick High School "Class of 1954". On June 4, 1955 at the EUB Lutheran Church in Racine he was united in marriage to Barbara M. Halbur. Lloyd retired from Sears in 1985 after thirty-two years of employment. He was actively involved with the Explorer Scouts Drum and Bugle Corps and volunteered for many years with the Racine County Emergency Management. An avid sailor and life member of the Racine Yacht Club, Lloyd also was an avid amateur radio buff who belonged to the Amateur Radio Organization Quarter Century Wireless Association Inc. Chapter 162 and Chapter 55, ARRL, Milwaukee Repeater Club Inc., and the Wisconsin ARES/RACES. In his spare time he enjoyed building car and ship models, trips to the casino, but more than anything he cherished time spent with his family, especially his grandchildren. He will be deeply missed.

Membership Minutes Concluded:

Dave took over the mic and announced that there were handouts at the main speaker desk that could be used up by the membership. Pancho K9IOA won some diagonal cutters by answering a question about the HamChatter articles this month.
Mark is taking orders for field day items.

A small business meeting called to order at 8:27 pm by Dave, WB9BWP. The minutes of the March meeting were accepted as published by a voice vote of the membership. The treasurer was not in attendance tonight, so we did not have a report. Dave told the store of the lady waiting for the men's restroom at AES SuperFest. She was the attendant and had to change towels. Steve from Viking Communications asked if we were running in the red financially, no, we are projected to run in the black all of this calendar year. Even so, we need to find and recruit new members to the club. Dues change to $20 on April 1st. You would then be on the roster through the next fiscal year. Dave again asked for field day volunteers. So far, there have been no volunteers. The Cedarburg Strawberry Festival is running the same time as the ARRL field day, they are having a presentation on NASA satellites and are looking for a few amateur radio people to help with the NASA presentation.
Other summer events; the MAARS/MRAC joint picnic will be held on August 11th at Greenfield park across from the swimming area. This starts at noon and runs until 7 pm. Our club will run a special event station from the picnic to celebrate our 95th anniversary. The station will be W9RH. Certificates will be handed out to people that operate the special event station.

At the auction next month, club pins will be offered for sale. Photos are being uploaded to the Yahoo group so stay tuned. Steve stated that the first Saturday in May is the Cedarburg Swapfest. May 8th.

A motion was made to adjourn the meeting at 8:45 PM by Pancho K9FI and seconded by Michael, KC9CMT. The meeting was adjourned and the room returned to an orderly condition by our club members. The raffle immediately will follow the meeting.

Board of Director's Meeting Minutes

Board of directors meeting called to order at 7:00 pm by Dave DeFebo WB9BWP, club president.
Director's present: Mark, AB9CD, Al KC9IJJ, Dave WB9BWP, Michael KC9CMT, Dave KA9WXN, Hal, KA9OZN, Dan, N9ASA, Joe, N9UX.

Absent: None.

Preliminary discussions:

Next month's meeting is scheduled for Memorial Day. So far, the meeting is still scheduled to take place at the Menominee Falls library. Mark will check with the library when he has a chance.

All states that he has been compensated by the MRAC for food expenditures during the February meeting. This months presidents letter published in the chatter was lengthy. The club hopes that all club members will read this important article. Some individuals have complained that much of the information in the chatter presidents letter is too negative.

The City of Milwaukee has sent the club a template of the certificate that they will be presented to the club in accordance with the MRAC 95th anniversary this year.

Joe, N9UX gave a short treasurer's report. The club is running in the black so far this year, mainly due to the success of the Swapfest. Our club CD was rolled over this spring into another bank issued CD. The interest rate is acceptable to the Board of Director's. This transaction will be shown in the next treasurer's report. Interest that accumulates in the CD account is being credited to the checking account. April saw two new members joining the club this, Darleen & Dean, call signs:

The club received $15 from the donation jar at SuperFest. The club needs to have a formal budget calculated to track financial progress. There is a tentative budget on the BOD Yahoo group file section. The Board of Director's has asked the club secretary to put together a list of membership classes, paid & Life insurance is now $200 per year. The new insurance carrier has been given new membership figures that adjusted the rate downward. The State of Wisconsin is starting to ask for more information from 503 non-profit organizations.
This club was the first to start a Email newsletter mailing. Thursday's meeting is still scheduled to be West Mountain Radio. They will give a presentation on their products and how they can be used in HF radio Digital Communications. Dave, WB9BWP talked with one of their engineers during the recent AES SuperFest and he committed to giving a presentation. Dave received a automated reply to his email query to this company. Reference # 2D1728. If West Mountain does not make the meeting, Dave KA9WXN will give a backup presentation.

Elections: The board is shrinking from 9 to 7 spots this election cycle. Four Board of Director's positions are open this year. Club officers will have to be decided upon by the Board of Director's. Officer positions are two year terms, director's are also two year terms with ½ the Board up for reelection during each membership cycle. The Board discussed assigning specific duties to club officers, such as director of membership services, business manager etc... For the last fifteen years or so, the club director's have met every month. So far this election cycle, there are no interested candidates outside of the present Board of Director's.

The May meeting is the club auction again this year. The June Board meeting will consist of handing off duties between incoming and outgoing officers and director's. There will be no business meeting during the May meeting. Mark, AB9CD has offered to help Joe, N9UX with the accounting duties at the May auction meeting. Auction flyer's will continue to be given out a various functions up until the auction night. June's meeting this year is after Field Day this year.

Board of Director's Minutes Concluded

The Board has discussed giving a rundown on Field Day or having someone else come in to give a presentation. Astronomy observation has been mentioned for a presentation. The club could also setup a radio to work with during a forth coming meeting. It could conceivably be part of this years special event station as part of our anniversary year.

Discussions are under way to get storage space at the Redemption Lutheran Church basement area where we hold our meetings.

The picnic this year will be held along with the MAARS group. Discussions are underway to run a special event station during this years picnic. Saturday, August 11th 2012 this year. August 18th this year is the 10 ghz contest.
FM Simplex contest results need to be uploaded to the club website. The club would like to have rosters printed up. This will have to be done commercially as it was in the past.

The special event station at AES SuperFest was a success. Gordon West WB6NOA created a pileup when he took the mic at the station. Operator certificates will be both mailed and handed out to those that took part.

Swapfest 2013, we should have flyer's ready for the South Milwaukee Hamfest. Dave, KA9WXN will be discussing this with his employers, who operate the facility.

Dave received a letter from the city of Greenfield authorizing us to use Konkel park again this year as our field day site. The club is considering purchasing field day pins, T-shifts, and/or hat from ARRL for our site this year. A decision will have to be made soon on this. What equipment does the club need to procure from the pioneer village site this year? We really should move all of the equipment stored there if we are not going to use their facility again. Pioneer village seems to be in no hurry to empty this storage space. Our club will continue to send them a fee each year to maintain a storage area. The caretakers of the pioneer village site seem to prefer the MRAC people to use their museum area. We are less intrusive then the Lefrog people that used the site in 2011.
Ham Classes: The club is still working on running a technician class this fall. More work will be done in this area during future meetings. Various time schedules and locations were discussed.

PR: We need to continue to print up flyer's to advertise club functions. A new members packet should be put together and disseminated to each new member. Club functions should be discussed during the club nets.

A motion was made to adjourn the meeting at 9:40 pm by Mark, AB9CD, seconded by Michael KC9CMT. Meeting adjourned at 9:45 pm.

Silent Key Report #2

Brian White K9LCQ passed away Sunday, May 20th. He was only 55. Brian was a member of the club from 1996-2009 serving as an officer or board member for much of that time.

Next Regular Meeting

The next meeting will be our clubs annual auction on May 31st 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.

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) 332-MRAC or 332 - 6722

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: **Kc9cmt@earthlink.net**

or by Post to:

Michael B. Harris

807 Nicholson RD

South Milwaukee, WI 53172-1447

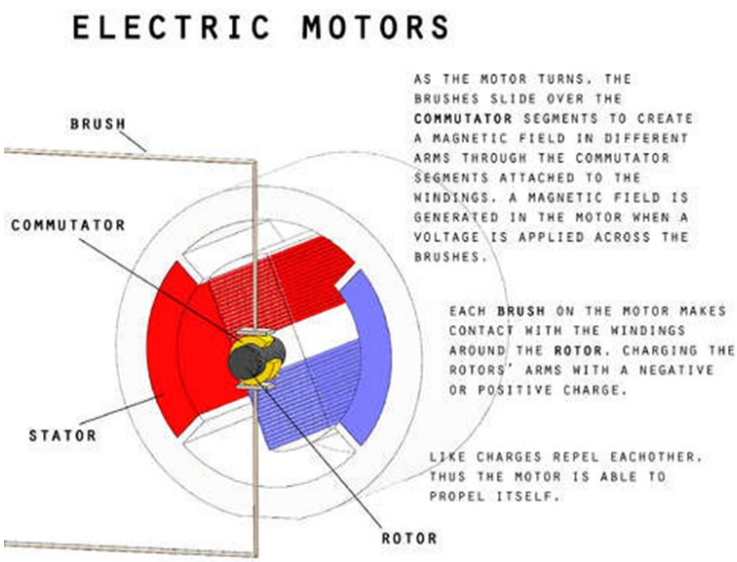
Electric Motors

Used with permission, by audreyobscura (audreyObscura.com) Posted to: **www.instructables.com**

Some of our favorite hobbyist electronics utilize motors to mobilize, making them fun and awesome! Including a motor in your project could be challenging, especially if you have never worked with them before.

The following will explain how motors work, and break down some of the most commonly used kinds of motors.

The Fundamentals



Before we can really begin addressing how a motor works, lets focus on what a motor does. A motor uses electromagnetism to create motion, converting electrical energy into mechanical energy.

Magnetic fields produce physical force that can move things. Every magnet has a magnetic field with a north pole and a south pole. If you try to push the north poles of two magnets together, they will repel each other. The same thing happens if you try to push two south poles together. If two poles are the same, they will repel each other. If, however, you play with two magnets and bring the north pole of one close to the south pole of another, they will attract each other and stick strongly together, opposite magnetic poles attract each-other.

An electric motor uses the attraction and repelling properties of magnets to create motion. There are two magnets in a standard electric motor: a permanent magnet, and a temporary magnet. The temporary magnet is a special kind of magnet, called an electromagnet. An electromagnet is created by passing an electric current through a wire. The permanent magnet has a magnetic field (a north pole and a south pole) all the time, but the electromagnet only has a magnetic field when there is a current flowing through the wire. The strength of the wire's electromagnetic magnetic field can be intensified by increasing the current through the wire, or by forming the wire into multiple loops.

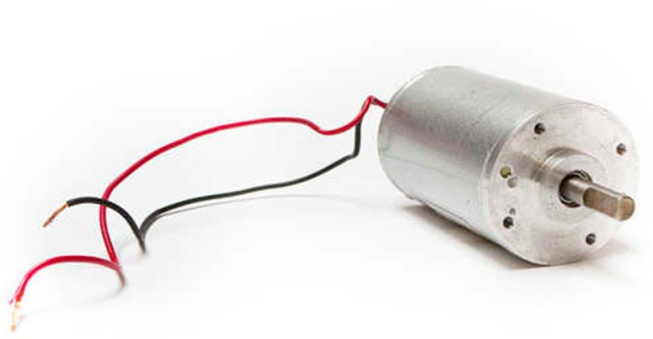
In an electric motor, the electromagnet is placed on an axle so it can spin freely inside the magnetic field of a permanent magnet. When an electric current is passed through the wire, the resulting temporary electromagnetic field interacts with the static permanent magnet, and attractive and repelling forces are created. This excitation of the wire, or electromagnet, propel it to spin on its axle, and an electric motor is born.

Motors are classified by having the following properties:

- There's a permanent magnet (or magnets) around the edge of the motor case that remains static, so it's called the stator of a motor.

Inside the stator, there is a wire coil, mounted on an axle that spins around at high speed - this is called the rotor.

DC Motors

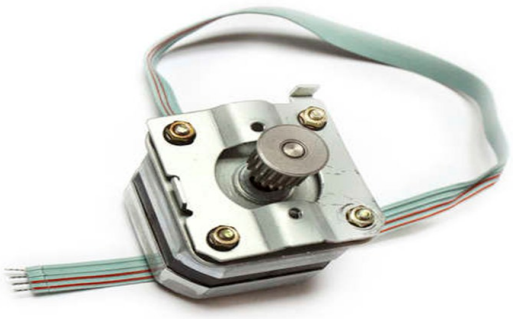


DC motors are in many ways the simplest electric motors. Most DC "brushed" motors operate in the same way. There is a stator and a rotor. The magnets on the stator and a coil on the rotor which is magnetically charged by supplying current to it. The presence of brushes (static, permanent mechanisms) within the motor, which propel the electromagnetic rotor forward.

Utilizing a DC power source, very few controls are needed. Speed of the motor can be controlled by the amount of current reaching the coils from the battery to the commutator.

If you reverse the leads, or wires, coming off of the motor - the motor will spin the opposite direction as it was previously.

Stepper Motors



Like the other motors we have previously discussed, a stepper motor consists of a rotor and a stator. *Unlike* the other motors, the stepper motor's rotor is a permanent magnet that rotates inside a cage of electromagnets. The stator is made up of multiple coils that which are mounted in the motor's case. When current passes through these coils, the rotary shaft of the motor (which is a permanent magnet) aligns itself according to pole of energized electromagnetic coil. When motor coils are energized in a particular sequence, the motor shaft aligns itself according to pole of coils, and rotates.

The rotor is propelled by sequentially applying a pulsed voltage to these coils. The coils in the stator-casing drive the permanent magnet rotor by alternating which coil has an electromagnetic current running through it. The stepper motor steps at a specific resolution for each pulse.

Stepper motors are an excellent choice for your hobbyist needs for many reasons. They are often an inexpensive way to mobilize your project, they rarely have any kind of mechanical failure, and they are ideal for open loop positioning control. When you terminate the current running through the electromagnetic coils, stepper motors will hold their position firmly when they are not spinning.

These motors are designed to spin continuously, forwards or backwards. If you hook the battery leads of a stepper motor up to a battery, the axle will spin. If you reverse the leads, it will spin in the opposite direction. There are some stepper motors that are wired to prohibit this from happening, so just verify what kind of motor you have before you try omnidirectional rotation.

Servo Motors

The typical servo motor is designed to sweep, and hold, at any position between 0-180 degrees of rotation. This makes them ideal for robotics and projects that complete simple motions, or gestures. (think of the deer that people mount in their front yards during winter that look like they are looking around) Industrially, servos are used to provide actuation for various mechanical systems such as the steering of a car, the control surfaces on a plane, or the rudder of a boat, and even focusing mechanisms in most modern cameras.

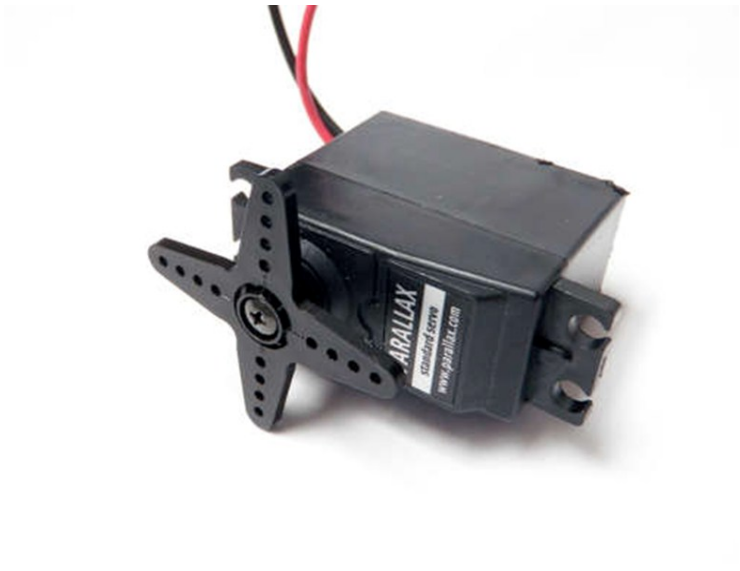
Servo motors will most often have three wires: power, ground, and signal. The power wire is typically red, the ground wire is typically black or brown. The signal wire is typically yellow, orange or white.

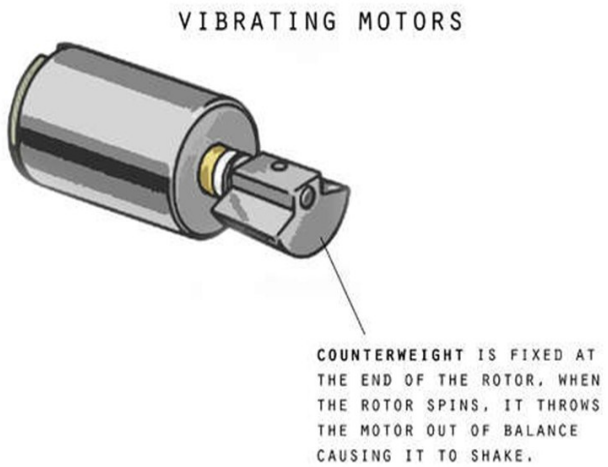
In radio controlled servos, like steering systems on RC cars, an electric motor is mechanically linked to a potentiometer. A standard RC receiver sends pulse-width modulation (PWM) signals to the servo, through the signal wire. The electronics inside the servo translate the width of the pulse into a position. When the servo is commanded to rotate, the motor is powered until the potentiometer reaches the value corresponding to the commanded position.

The control signal is a digital PWM signal with a 50 Hz frame rate. Within each 20 millisecond (ms) timeframe, an active-high digital pulse controls the position. The pulse nominally ranges from 1.0 ms to 2.0 ms with 1.5 ms always being center of range. Pulse widths outside this range can be used for "overtravel" -moving the servo beyond its normal range. This PWM signal is sometimes (incorrectly) called Pulse Position Modulation (PPM).

A servo pulse of 1.5 ms width will typically set the servo to its "neutral" position or 90°, a pulse of 1.25 ms could set it to 0° and a pulse of 1.75 ms to 180°. The physical limits and timings of the servo hardware varies between brands and models, but the neutral position is almost always at 1.5 ms.

Vibrating Motors





The Experimenters Bench Continued

Vibrating motors are commonly found in mobile devices, and are frequently used as means to covertly signal the occurrence of an action.

Vibrating motors are constructed in the same way many as DC and stepper motors, except at the end of their rotors, they have a counter weight extending off of the edge. As the rotor spins, the counter weight is 'thrown' in a circular motion causing the entire mechanism to to shake.

The intensity of vibration depends on the size of the motor, as well as the counterweight.

Above we see a motor that is fixed to a piece of sheet metal. Notice how the sheet metal undulates at the vibrating motor spins.

Step 6Where to start?

Selecting which kind of motor you will need for your project will be based how you are hoping to automate your piece. If you are seeking to attach a camera to a motor to pan left to right, a servo motor will be ideal. If you are trying to drive gears forwards or backwards, you will need a stepper motor.

A really excellent intermediate control device to use, is an Arduino, or a like-style microprocessing board. The wonderful thing about these boards is that they are variable input/ output devices and can be programed to complete multitude of tasks, including motor automation.

The following steps will outline how you can combine the motors we have already talked about with an interface like the Arduino.

Step 7Using a Stepper Motor with an Arduino

Working with the Arduino coding platform, there is a wide range of example libraries to get you started. Connecting a stepper motor to an Arduino is a different than connecting a DC motor to the board. Because stepper motors have to pulse in a specific way for the rotor to spin, there is a special Stepper library and function built into the Arduino code platform.

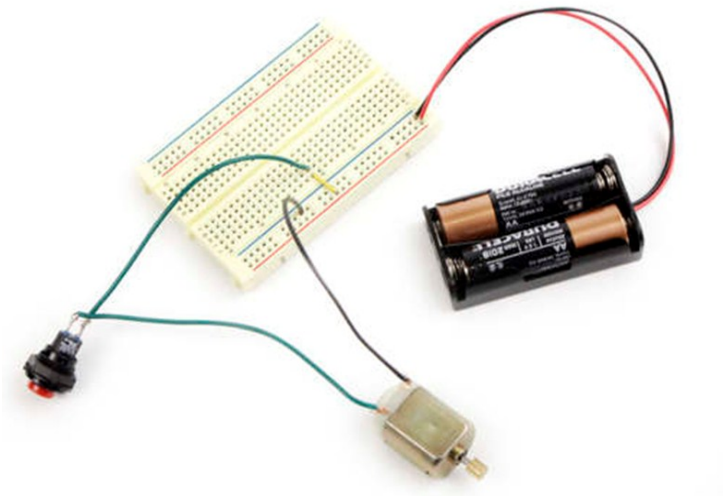
Opening the Arduino software, browse to "File>Examples>Stepper>stepper_oneRevolution"

This program drives a unipolar or bipolar stepper motor, by attaching the motor to digital pins 8 - 11 of the Arduino. After the sketch is loaded on to the Arduino board, the motor should revolve one revolution clockwise, then one revolution moving counter-clockwise.

The example code is an excellent point to start from, you can certainly make edits to the sketch to suit your needs. The delay is listed in microseconds, so if you want there to be no break between it's revolutions, you can set delay to delay (10). Or if you want it to spin for a long time you can change stepsPerRevolution to equal = (1000000)

How you modify the sketch will depend on what you are trying to accomplish with the motor. Playing with some of the other sketches in the example sketch library will help you develop a greater understanding of how stepper motors are able to communicate with Arduino Boards.

Step 8 Using a DC Motor/Vibrating Motors

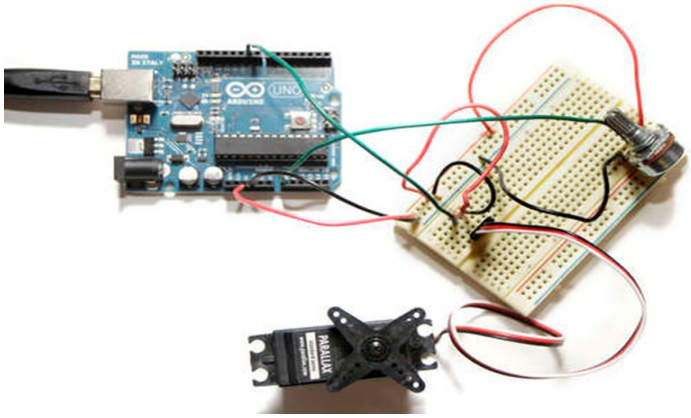


Using a DC motor/Vibrating motor without an arduino:

Some of your project needs will not require you to use a microprocessor like an Arduino. If you are making a plushy toy for a kid (or adult), and want to embed a vibrating motor within it, its probably best to just have a simple push-button circuit to activate the motor.

In that instance the motor would be wired directly to your power source - with a momentary switch wired to your positive lead from the motor.

Step 9Using a Servo Motor with an Arduino



Just like the stepper motors, servo motors have a dedicated code library within the Arduino Platform.

Opening the Arduino software, browse to "File>Examples>Servo>Knob"

Experimenters' Bench Concluded...

This program drives a servo motor, by connecting the motor to PWM pin 9 of the Arduino, and a the potentiometer to analog 0. The potentiometer will determine the position of the servo by sending a variable resistance current to the A0 port on the Arduino, which the Arduino code then interprets to a pulsed signal to the servo. After the sketch is loaded on to the Arduino board, the motor will rotate based on the position that the potentiometer is turned to.

Early Radio: Military Communications

Shot Down By Greg Bucy

"Where did the fire come from", asked the Lt. Col., commanding the armor column, as we straggled out of the four-foot tall elephant grass and approached a tank. I opened my mouth to tell him from the base of the mountain but couldn't say a word - I realized I had cottonmouth so bad I couldn't speak. "Where did the fire come from", he asked again. Once again I tried to mouth the words, but no sound would come. At that moment any further conversation was drowned out by the approach of the Cobra less than ten feet over our heads. Although expended, my wingman, Dave Watson, was making another low level pass over us just as he had when we began running from our burning helicopter. In an effort to answer the colonel's question, I turned and looked back toward the "Black Virgin", Nui Ba Den, pointed at her, and whispered, "from the base". As I turned, I saw my crew huddled together, Ed Schenk, my pilot clearly exhausted but still running on adrenaline, with our wounded crew chief Del Herne on his back, and our gunner Floyd Jackson who had carried Herne most of the way, now supporting our wounded passenger, a grunt, his arm still in the sling it was in when we had picked him up. Their faces wore the mask of those who meet death face to face, the frenzied long and knowing look of wide eyes in emotionless pain. The colonel seemed satisfied with the answer and motioned for us to follow him. Behind the column of tanks and APC's I could see a Little Bear landing, a resupply ship no doubt, since these troops had been in heavy contact all day. As we approached the ship I could see the crew hurriedly tossing things to those on the ground, but as soon as we got there they stopped, helped the five of us aboard and took off for Tay Ninh. As we climbed aboard, they still had ice bags on the deck, and as the effects of our adrenaline wore off I could tell Herne who had been shot in the hip was in obvious pain from his as yet untreated wound. So he sat on the ice as we flew to the field hospital in Tay Ninh.

The day had begun like so many others in Cu Chi; first, the crews assembled, discussed any planned missions, then while one pilot did the pre-flight the other read the log and discussed the ship's condition with the crew chief. The pilots would then man the `scramble shack' on the flight line while the crew performed any last minute maintenance. When finished the crew would join the pilots (it was common for the crew to spend an extraordinary amount of time on their ships). As members of B Co. 25th Avn Bn, the Diamondhead's, it was our primary job (although we had many missions) to provide attack support for elements of the 25th Infantry Division when they were "in contact" with the enemy. Toward this end we maintained two Light Fire Teams (two armed helicopters which fought as a unit) on alert status 24/7. These teams would be dispatched on a moments notice to provide rocket, minigun, and M60 machine gun fire, in support of the ground troops engaged with the enemy. Simply put, our job was to provide immediate overwhelming fire power at the precise location on the battle field which would inflict maximum damage on the enemy and force the withdrawal of any who might survive our onslaught. Our teams consisted of various helicopters, usually either two Cobras, or two `Charlie' Model gun ships, each armed with rockets and/or miniguns or some combination of the two. The Cobras were faster, more maneuverable, and more heavily armed, but the `Charlies' had four extra eyes and two M60 machine guns, which in the hands of experienced crew compensated for the `apparent' weapon load advantage of the Cobra. So we occasionally flew as a `Charlie' and Cobra team, with the lead being the `Charlie'. Such was the case this day the 8th of January 1970. Heavy fighting often required both fire teams, this call was usually made by the ground commander. If in his judgment the situation on the ground required constant intervening fire -i.e. the enemy would not disengage - he would call for both. So while one team was rearming another would be supporting the troops. Again, this was the case this day. The primary team lead by George Conger (a Cobra team) was scrambled, followed shortly by my team (the Diamondhead 50 team). When the phone rang in the `scramble shack' the crew ran to the ships - with the exception of Ed, pilot of the lead ship, who got the phone and took the mission particulars. When he came running out with our destination and radio contact we took off on our second mission of the day.

We were to return where we had been earlier that day, the northern slopes of Nui Ba Den and Nui Cau, mountains with a saddle between them, which rose very steeply from the surrounding flat land. All of us were familiar with this area; I had been in Vietnam nearly eighteen months, and had seen battle after battle fought in this area. It's proximity to the Cambodian border allowed the enemy to get large numbers of troops into this area. We controlled the bottom and top, and the enemy had the area between, an area honeycombed with caves and fortified fighting positions. The mountain top positions had to be resupplied by air, because no one could make it up the slopes, and the enemy on the slopes could not take the top though there were times when they tried in great numbers and with great ferocity. As we arrived on station I was briefed by George and then by the ground commander. A ground unit of the 3/22 Inf., was conducting a ground sweep of the earlier area of contact and had made it to an area about 200 meters from the base of the slope, where they had become pinned down by heavy fire. As they had attempted to withdraw, the enemy positioned some of their forces to their rear (between the grunts and the armor column about 1000 meters behind them that was supporting them); other infantry elements moving in to support them had in fact become engaged. When we arrived they were in effect surrounded, at very close range, and taking heavy fire from the slopes. The armor could no longer support them with fire to their rear since it would have involved shooting toward those trapped. We began placing suppressive fire between the element trapped and the armor column, to allow them a way out. On our first pass, we took very heavy machine gun fire from the slope (we were flying parallel to it) as we broke. As we lined up for our next pass, we could see the muzzle flashes of machine guns on the slope as they fired (at us I suppose).

Since we were firing very close to friendly troops I was flying at about 500 feet. The machine guns appeared to be up slope at about 200 feet elevation. After several passes on the machine guns, they were silenced, and I believe disabled because I was shooting at muzzle flashes I could see through my cross hairs, and by that time I'd gotten to be a pretty good shot. The ground fire had gotten less intense and we turned to other targets. The ground element called numerous times for critical Dust Off. Dust Off made several attempts to get in to them, but was turned away by ground fire. Dust Off would get to within 100 meters of them at an altitude of 50 feet or less and then have to turn back. The friendlies were so close and virtually invisible in the elephant grass that there was little we could do to suppress for Dust Off. When Dust Off left, we expended our heavy ordinance in the area to the rear (North) of the friendlies and on the slope.

As I advised the ground commander we were expended except for door gun in the Charlie (Dave's Cobra was totally expended) and nearly out of fuel, the ground element once again requested critical Dust Off. I advised the ground element that we would make an attempt to pick up his wounded, to have them and smoke ready, and that I would approach from his Northeast (Dust Off had approached from the Northwest). I then briefed the crew and started the approach. As we approached I told ground to pop smoke, both gunners were firing at the slope some 300 to 400 meters to our front, as we neared touch down both gunners stopped firing and I turned our tail toward the mountain and landed. As I looked over my left shoulder the wounded got up out of the grass, one walking with his arm in a sling and one stretcher borne, carried by four others, no more than 30 feet away.

Both gunners resumed firing to our rear, and within seconds the walking wounded climbed aboard; then, almost simultaneously, Del Herne, crouched over his M60, jumped up and started to slap at his hip, the guys with the stretcher now less than 10 feet away dropped back into the grass. As Jackson (behind me on the right side of the ship) continued firing at the slope behind us, Herne made his way up to the console between Ed and myself, still slapping his hip where he had obviously been hit. I turned to the front and initiated takeoff in an extremely nose low attitude. The `Charlie' had plenty of power since it was empty. As I started to pull the nose up to a more normal attitude, I heard my wingman say, "You're on fire, 50 you're on fire." At that point, and believe it or not, as my life flashed before my eyes, my "Army Training" as an aviator took over, because without thinking I lowered the collective, and flared the ship. The ship hit the ground, I have no idea how hard, and slid along until it nosed over into a bomb crater. I remember almost standing on the tail rotor pedals and pulling back on the cyclic. Apparently we had sufficient rotor speed to back out of the crater, because the ship came to rest almost level.

Stunned, I tried to move and couldn't, and after briefly thinking myself paralyzed, I realized my shoulder harness had locked. So I undid my seatbelt and harness then reached up with my left hand and turned off the switches (haven't a clue why, Army Training I guess); I looked around the ship and was amazed that no one was on board.

It was then I noticed the battery compartment to my front was burning. I threw my `Chicken Board' (body armor) which was setting on my lap, secured by the shoulder harness, to the side, and tried to slide the armor plate beside my right arm back to get out - it wouldn't budge. I climbed over the radio console, headed for Ed's door, which I noticed, was open.

Just as I was about to dive out, I saw Ed lying on the ground, and about at the same time, realized we were still taking fire. I could hear bullets hitting the ship, hitting in the grass, and in general `popping' as they went by. Ed, who was facing me, raised his head, and said, "I came back to tell you not to get out on this side there are briars everywhere." To this day I can't help but chuckle when I think about that. Bullets or briars, for me it was an easy decision; I'll take briars every time. So I dove out, briars an all. Ed and I crawled a few meters (he was right about the briars, we both got cut up) from the ship, which seemed to be taking the worst of it although it was nearly consumed in fire. I asked, "Where's the crew?" After saying he didn't know we both began to call out.

Seconds later, our gunner Jackson jumped up and shouted, "We're over here." (On the other side of the bomb crater) Immediately they started to draw fire, and I could tell Jackson had them moving, and in the right direction, north, because I could see the grass moving although I couldn't see them. I called out for them to join us at the north end of the crater, the way they were headed. When we joined up with the crew and our passenger, we took stock of our situation. We were still taking fire, although it was sporadic unless someone stood up, we had one gun, Ed's 38 with 5 rounds, either Jackson or our passenger may have had an M16 but no ammo, and we had two wounded. One who could walk and one who couldn't, although Herne tried valiantly, he was shot in the hip and it was just not possible for him to get far. We weren't sure how far we'd flown, but it couldn't have been very far (100 to 200 meters at best). We knew there were enemy troops in the area, probably small groups, but we had not taken any fire from beneath us as we made our approach, and if we egressed via the same route maybe we'd get lucky. Just after we set off, Dave flew over us, not ten feet above our heads, moving at a high rate of speed and justifiably so, because he was being shot at from what appeared several directions, but mainly from our rear. While he was in the area it became apparent we needn't worry about them shooting at us, they were going to shoot at him.

As we left, I knew the armor column was in front of us, deployed in line, so I didn't have to navigate precisely. At times we could see a few feet at best, but the mountain behind us loomed large and the occasional tree made for good bearings, with luck we could make it out. Hopefully, Dave would let them know we were coming out. The grass was tall enough that at times you could almost stand erect, and even though we continued to take fire for sometime, Dave got the brunt of it. Jackson and Ed took turns carrying Herne piggyback, though Jackson, a big guy, carried most of the load. We moved very quickly. Amazingly Jackson kept up carrying Herne. When he could hardly stand, Ed took Herne. Though it was only around 800 meters to the armor column, which as walks go is not that far, at times that day the column seemed a lifetime away.

Thunderstorms, Hail, Wind and Lightning

Thunderstorms...

Affect relatively small areas when compared with most other storms. The typical thunderstorm is 15 miles in diameter and lasts for 30 minutes. Despite this size, all thunderstorms are dangerous. Severe thunderstorms produce large hail or winds of at least 58 mph. Some wind gusts can exceed 100 mph and produce tornado-like damage. Many communities will sound their outdoor sirens for very damaging straight-line winds. When a severe thunderstorm threatens, stay inside a strong structure. Mobile home occupants should go to a more permanent structure.

Hail...

Is another product of thunderstorms that annually causes nearly one billion dollars in damage throughout the United States. Many of the losses are incurred by farmers. The most common diameter is pea size, but hail can be as large as golf balls and baseballs. In extreme cases, hail can reach grapefruit size. Large hail stones fall at speeds faster than 100 mph and have been known to kill people.

Thunderstorm Winds...

Thunderstorms can produce strong wind gusts. These straight-line winds have been known to exceed 100 mph. For this reason, you should treat severe thunderstorms just as you would tornadoes. Move to an appropriate shelter if you're in the path of the storm.

The strong outrush of wind from a thunderstorm is often called a downburst. One of the primary causes is rain-cooled air, which accelerates rapidly downward, producing a potentially damaging gust of wind.

Strong downbursts are often mistaken for tornadoes. They can produce extensive damage and are often accompanied by a roaring sound similar to that of a tornado. Downbursts can easily overturn mobile homes, tear roofs off of houses, and topple trees. People who are camping are especially vulnerable, due to trees toppling on their camp sites.

Lightning...

Every thunderstorm produces lightning, which on a national basis kills more people than tornadoes in a given year. Lightning kills around 100 Americans annually, with about 300 injuries. In Wisconsin and Minnesota, there have been many deaths and injuries over the years, most in areas such as camp grounds, although people have been injured indoors when talking on the phone.

The following are some lightning safety tips...

- All thunderstorms produce lightning. It is surprising that so many people are not aware of this.
- Get inside a building or enclosed vehicle. Many fatalities occur when the warning signs are ignored.
- If caught in an open area with lightning all around, crouch down immediately! Put your hands on your knees but do not lie down on the ground.
- Do not use a telephone or electrical appliance. A nearby lightning strike can travel through the phone or power lines right into the home.
- Avoid seeking shelter beneath lone trees.

Myths and facts about lightning…

Myth: If it's not raining, there is no danger from lightning.
Fact: Lightning often strikes away from heavy rainfall, and may occur as far as 10 miles away from any rainfall.

Myth: Rubber soles of shoes or rubber tires on a car will protect you from being injured by lightning.
Fact: Rubber provides no protection from lightning. However, the steel frame of a hard-topped vehicle provides increased protection from lightning (if you are not touching metal in the car).

Myth: People struck by lightning carry an electrical charge and should not be touched.
Fact: Lightning-strike victims carry no electrical charge and should be attended to immediately.

Myth: Heat lightning occurs after very hot summer days and poses no threat.
Fact: What is referred to as "heat lightning" is actually lightning from a thunderstorm too far away for thunder to be heard. However, the storm may be moving in your direction.

Watches and Warnings, and How to Receive Severe Weather Information

Watches...

Are issued when conditions are favorable for tornadoes, severe thunderstorms or flash floods. If you are in a watch area, continue with normal activities but also make plans to seek shelter if necessary.

Warnings...

Are issued when severe weather has been reported or is imminent. Seek shelter immediately if you are in or near the path of the storm. Warnings are issued by county and city names. Make sure you know the name of the county in which you live and the cities that surround you.

Advance Information...

The forecast and warning process begins one or more days ahead of time, when the threat area is determined. Hazardous weather outlooks are issued early every morning, and updated as conditions warrant.

If a Watch is Issued...

Local weather offices are staffed with extra personnel. State officials are notified and they pass the information to the county and local level. Counties and cities activate their spotter groups as the threat increases. TV and radio stations pass the word to the public.

If a Warning is Issued...

Warnings are disseminated swiftly in a multitude of ways, including TV, radio, and over the internet. Advances in technology have allowed people to receive warnings via cell phone, pager, and numerous other methods. Spotters provide important reports on the storm, and emergency officials carry out the plans that the emergency managers have developed. Updates are issued frequently until the immediate threat has ended.

Sirens...

Counties and cities own the sirens and therefore decide how and when to activate them. The National Weather Service does not sound them. There are many different policies by counties and cities. Some will activate them across the entire county for a tornado warning only. Others will activate sirens countywide for tornado warnings and all severe thunderstorm warnings. Some will activate sirens across the entire county for tornado warnings and severe thunderstorms that have winds of at least 70 or 75 mph. Others will activate sirens only for portions of counties. Also, local officials may sound the sirens anytime they believe severe weather is a threat, even if there is no warning from the National Weather Service.

Sirens normally sound about 3 minutes and then go silent. It is very rare to keep the sirens sounding for the entire warning, since that will cause the backup battery to run out, which would be critical in the event power goes out. Furthermore, the siren motor will fail much more quickly if the siren sounds continuously. Some jurisdictions may repeat siren activation every few minutes. There is no such thing as an "All Clear" for storms.

Media...

Media outlets receive the warning information and disseminate it to you, often by interrupting programming. Many television stations use a crawl and other visual means.

NOAA Weather Radio...

The tone alert feature of NOAA Weather Radio will activate specially built receivers, sounding an alarm to alert you to the danger. It sounds its alert anytime the National Weather Service issues a warning, even in the middle of the night. Make sure you have a NOAA Weather Radio, as you can not always depend on sirens, phone calls or seeing the warnings on television.

Tornado Safety Information

Before the Tornado...

Tornado watches highlight the area where tornadoes are most likely to develop. Continue with your normal activities, but keep informed of the latest weather information and be ready to get to shelter in case tornadoes develop quickly.

In the Home...

Go to the basement if possible. Get under a table, work bench, or some other sturdy furniture to avoid falling debris. A stairwell is also a good place to hide during a tornado.

If You Cannot Get to a Basement...

Go to a small interior room on the lowest floor. Closets, bathrooms, and interior halls afford the best protection in most cases, or try to hide under a bed. Get under something sturdy or cover yourself with blankets. Stay away from windows.

In an Apartment, School or Office Building...

Move to the inner-most room on the lowest level or to a pre-designated shelter area. Stay away from windows. If in a hallway, crouch down and protect your head from flying debris. Avoid areas with glass and large roof expansions.

In a Mobile Home, Car, Truck or Other Vehicle...

Abandon these as quickly as possible. Seek a sturdy shelter or permanent structure. Remember that many deaths occur when people try to drive away in a vehicle, but get caught in the deadly winds. Avoid bridges since they act as wind tunnels.

Heat Waves

Minnesota's Third Deadliest Weather Factor Since 1990...

The third greatest number of weather fatalities in Minnesota since 1990 has been due to excessive heat. Fourteen people have died from high heat and humidity. Only tornadoes and flooding have killed more people in the last 21 years.

Wisconsin's Deadliest Weather Factor Since 1982...

The greatest number of weather fatalities in Wisconsin since 1982 has been due to excessive heat. 116 people have died from high heat and humidity. This total is more than tornadoes, flooding, blizzards or anything else. The 1995 summer heat waves hold the record as the number one weather-related killer in Wisconsin since it became a state in 1848. Most deaths occurred in the major urban areas in southeast Wisconsin, but there have been a number of fatalities in the rest of the state as well.

In the last 10 years, a national average of 219 people have died as a result of health problems directly related to excessive heat. Considering this death toll, the National Weather Service has stepped up its efforts to more effectively alert the general public to the hazards of heat waves.

Based on research findings, the National Weather Service devised the Heat Index (HI). It is an accurate measure of how hot it really feels when the relative humidity is added to the actual air temperature. It is important to note that since heat index values were devised for shady, light wind conditions, exposure to full sun can increase values by up to 15 degrees.

Heat disorders generally have to do with a reduction or collapse in the ability of the body to shed heat by circulatory changes and sweating. In other words, a chemical imbalance caused by too much sweating. When heat gain exceeds the level the body can remove, or when the body cannot compensate for fluids and salt lost through perspiration, the inner-core temperature of the body begins to rise and heat-related illnesses may develop. Ranging in severity, heat disorders share one common feature: the individual has over-exposed or over-exercised for his/her age and physical condition in the existing thermal environment.

Sunburn, with its ultraviolet radiation burns, can also significantly retard the ability of skin to shed excess heat.

Safety tips...

The National Weather Service will issue advisories or warnings when the heat index is expected to have a significant impact on public safety. The common guidelines for the issuance of excessive heat warnings is when the maximum daytime index is expected to reach 110 or 115, and the nighttime low temperature does not fall below 75 or 80 degrees.

Here are some tips to follow to ensure that heat-related problems do not impact you…

Slow down. Strenuous activities should be reduced, eliminated or rescheduled to the coolest time of the day. Individuals at risk should stay in the coolest available place, not necessarily indoors. Dress for summer. Lightweight, light-colored clothing reflects heat and sunlight and helps your body maintain normal temperatures.

- Put less fuel on your inner fires. Foods such as proteins that increase metabolic heat production also increase water loss. Drink plenty of water or other non-alcoholic fluids. Your body needs water to keep cool. Drink plenty of fluids, even if you don't feel thirsty. However, those who suffer from epilepsy, heart, kidney or liver disease, are on fluid restrictive diets, or have a problem with fluid retention should consult a physician before increasing their consumption of fluids.

- Do not drink alcoholic beverages.

Spend more time in air-conditioned places. Air conditioning in homes and other buildings markedly reduces danger from the heat. If you cannot afford an air conditioner, spending time each day in an air-conditioned environment during hot weather affords some protection.

Be careful not to get too much sun. Sunburn makes the job of heat dissipation that much more difficult.

Special Event Naval Station

ATTENTION ALL AMATEUR RADIO OPERATORS - Museum Ship Weekend Event **June 2-3, 2012 0000Z June 2, through 2359Z June 3, 2012.**

BVARC and co-sponsor River Oaks Car Stereo will again sponsor, use club call KK5W and fire up the radio rooms aboard the USS CAVALLA and USS STEWART.

We will use ham radios in the radio rooms connected to the ships original WW2 antennas. A park dual radio station with Antenna trailer 3 band Yagi and BTV-6 worm burner ground mount vertical will also be used for those who can no longer board the ships. More info on MSWE Google NJ2BB on the net. This is a worldwide Museum Ship Event and our permission to come aboard the ships has been granted by the Chief Of Boat / Park Curator and the NJ2BB Battleship New Jersey Team (MSWE sponsor) has granted our status as a 2 for 1 ship contact in the event.

THIS IS ONE OF THE FEW TIMES IN THE YEAR SEA-WOLF PARK OPENS THE SHIP RADIO ROOMS TO THE PUBLIC.

Seawolf Park is a memorial to USS *Seawolf* (SS-197), a United States Navy *Sargo*-class submarine mistakenly sunk by U.S. Navy forces in 1944 during World War II. It is located on Pelican Island (29°20′03″N 94°46′45″W), just north of Galveston, Texas.

Seawolf park is unique in that it has a submarine, and the remains of a merchant ship, and a destroyer escort designed to conduct antisubmarine warfare -- the hunter, hunted, and the protector -- all in one museum area. It is the home of two preserved U.S. Navy ships, the *Gato*-class submarine USS *Cavalla* (SS-244) and the *Edsall*-class destroyer escort USS *Stewart* (DE-238), and the remains of the World War I tanker S.S. *Selma*, the largest concrete ship constructed, can be seen northwest of the park's fishing pier at 29°20′40″N 94°47′10″W .

Also preserved at the park is the conning tower of the *Balao*-class submarine USS *Carp* (SS-338) and the sail of the *Sturgeon*-class nuclear attack submarine USS *Tautog* (SSN-639).

CONTACT - BILL STONE WS5H
EMAIL dragntow@wt.net phone # 713-776-1030

'73 Bill Stone WS5H
Cavalla Historical Foundation Volunteer
Pres. - Cavalla Historical ARS N5BPS
BVARC member
TDXS member #180

QSL CARD from the Cavalla and Stewart - Contact us on the air and SASE

Event sponsored by:
The Battleship New Jersey Amateur Radio Station

Special Event Naval Station

While operation on any amateur frequency is allowed, most ships will be operating in the General portion of the bands.

SSB	CW
3,860 KHz	3,539 KHz
7,260 KHz	7,039 KHz
	10,109 KHz
14,260 KHz	14,039 KHz
18,160 KHz	18,079 KHz
21,360 KHz	21,039 KHz
24,960 KHz	24,899 KHz
28,360 KHz	28,039 KHz
50,160 KHz	50,109 KHz

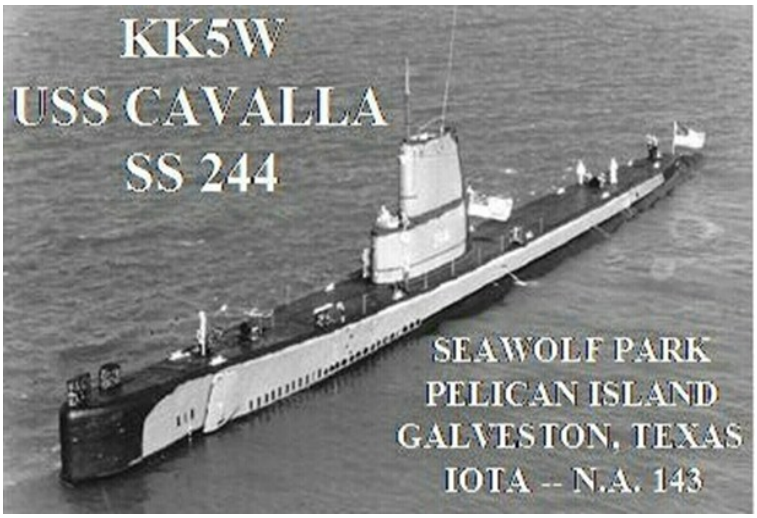
EVENT PSK 31 OPERATIONS
14.070 MHz 10.142 MHz 18.100 MHz 21.070 MHz 28.120 MHz

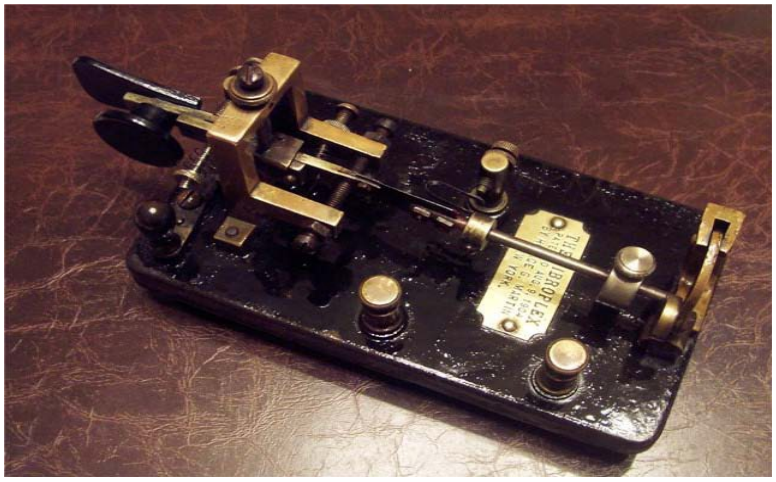
Some ships will also be on 3880 KHz - 3885 KHz and 7290 KHz Amplitude Modulation with either their ships original equipment or modern equipment.

While any operating mode can be used in this event and CW and SSB are the dominant modes, we are encouraging all the participating ships, that have the ability, to fire up their original equipment on 3885 KHz, 3600 & 3625 (in the UK), 3705 (W. Europe), 7290 KHz and 14.286 KHz in the AM mode.

SHIPS PARTICIPATING FOR 2012 - 90 Ships

Please QSL each ship directly





VE Testing:

Saturday, May 26th, 2012 - AES - 9:30 AM

Saturday, July 28th, 2012 - AES - 9:30 AM

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

Area Swapfests

May 6th, 2012 The DeKalb Hamfest. Sandwich, IL
Type: ARRL Hamfest Sponsor: Kishwaukee Amateur Radio Club Website: http://www.kish-club.org

July 7th, 2012 SMARC Swapfest 12
Location: Oak Creek, WI Type: ARRL Hamfest
Sponsor: South Milwaukee ARC
Website: http://www.qsl.net/wa9txe/

MRAC Working Committees

95th 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
- Jackie – No Call

Newsletter Editor

- Michael-KC9CMT

Webmaster

- Mark Tellier—AB9CD

Refreshments

- Hal—KB9OZN

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) 332-MRAC (6722)**

Address correspondence to:

MRAC, Box 240545, Milwaukee, WI 53223

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)

An ARRL Affiliated Club

The HamChatter is a monthly publication of the Milwaukee Radio Amateurs' Club.
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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- ARES Walworth ARRL News Line

Mon.8:00 PM 146.445 Emergency Net

Mon.8:00 PM 146.865- ARES Net Walworth

Mon.8:45 PM 147.165- ARRL Audio News

Mon. 9:15 PM 444.125+ Waukesha ARES Net

Mon.9:00 PM 147.165- Milwaukee County ARES Net

Tue.9:00 AM 50.160 6 . Mtr 2nd Shifter's Net

Tue. 7:00 PM 145.130 MAARS Trivia Net

Tue. 8:00 PM 7.035 A.F.A.R. (CW)

Wed. 8:00 PM 145.130 MAARS Amateur Radio Newsline

Wed. 9:00 PM 145.130 MAARS IRLP SwapNet d FM-38 Repeaters (IRLP 9624)

Thur. 8:00 PM 50.160, 6 Mtr SSB Net

Thur. 9:00 PM 146.910 Computer Net

Fri. 8:00 PM 28.490 MRAC W9RH 10 Mtr Net SSB

Fri. 9:00 PM 145.390 W9RH 2 Mtr. FM Net

Sat. 9:00 PM 146.910 Saturday Night Fun Net

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 146.91 Information Net

Sun 8:00 PM 28.365 10/10 International Net (SSB)

Sun 9:00 PM 146.91 Swap Net

Field Day Tip: Tick Removal

A rural nurse discovered a safe, easy way to remove ticks where they automatically withdraw themselves when you follow her simple instructions.

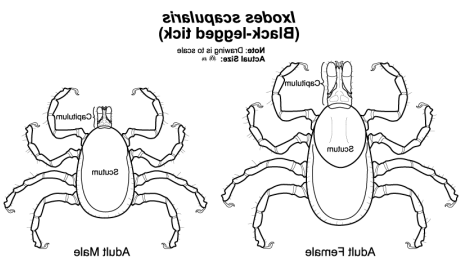
Summer is almost here and the ticks will soon be showing their heads. Here is a good way to get them off you, your children, or your pets. Give it a try. Please forward to anyone with children, hunters or dogs; or anyone who even steps outside in summer! A School Nurse has written the info below--good enough to share--and it really works!

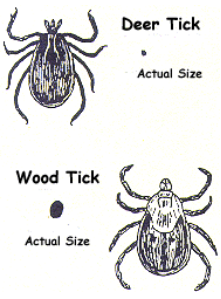
I had a pediatrician tell me what she believes is the best way to remove a tick. This is great because it works in those places where it's sometimes difficult to get to with tweezers: between toes, in the middle of a head full of

dark hair, etc."

"Apply a glob of liquid soap to a cotton ball. Cover the tick with the soap-soaked cotton ball and swab it for a few seconds (15-20); the tick will come out on its own and be stuck to the cotton ball when you lift it away. This technique has worked every time I've used it (and that was frequently), and it's much less traumatic for the patient and easier for me.."

Unless someone is allergic to soap, I can't see that this would be damaging in any way. I even had my doctor's wife call me for advice because she had one stuck to her back and she couldn't reach it with tweezers. She used this method and immediately called me back to say, "It worked!"





Female Dog Tick

Male Dog Tick