

HAMATEUR CHATTER

The Milwaukee Radio Amateurs Club

January 2012, Volume 20, Issue 1

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

Presidents Letter

Before the regular column stuff, don't forget February 12 is the FM simplex contest and February 18 is our (along with MAARS) hamfest. Are you a member of the club? Do you participate in club activities? How about telling others about club activities? Here are 2 big ones. Be there!

Welcome to 2012. This is the year the world is supposed to end (according to some people, others aren't so sure). This is also the year MRAC turns 95. In fact January is actually the month (we don't know the exact date). We are not the oldest club; there are about 3 or 4 others who are older (in the US). In fact in Milwaukee there were a number of clubs who actually started before MRAC, though none except for MSOE, lasted beyond the early 1920's. We can sort of nudge MSOE out of the line as school clubs have a problem of being active every year, where we can claim continuously active (even ARRL shut down during World War I, MRAC did not). Speaking of ARRL, we may be the oldest affiliated club as those which affiliated before us (I think it was only 13 others) have long since disappeared. Now 95 does not seem as important as something like 100, but why can't we use 95 to practice for our celebration when we do hit 100.

Since we did not have a column in December, I must announce the passing of yet another current or past member of MRAC. While he was not a member in recent years, Roger "Ken" Rogers W9NUE was a member of MRAC starting in 1977 and continuing for a few years. Ken passed in early December. He was a long time member of the West Allis club.

Speaking of members, MRAC finally got a new member recently. Tony Van Der Wal KC9UDS joined the club. He has been attending meetings and checking into the Friday night nets. Maybe we can hit him up for running for office (oh oh, now he won't come around anymore).

April is elections for 4 directors of the club. At the May board meeting the 4 new and 3 (or 2 as it now stands) carry over directors will decide who among them will act as President, VP, Secretary and Treasurer (they will not select from the general membership as some have mistakenly assumed). In Dave's perfect world, there are a number of committees for various club functions and those committees do most of the "work" for the club. The officers and board only provide direction and oversee finances. Unfortunately, Dave's world only exists in my twisted mind and in the (sur)real world we do have there is a list of committees with no real members and the board does just about all the work.



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 – Vacant

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

Presidents Letter concluded.

Speaking of dues, did you know that full time students get their membership for free? I've never had such a hard time giving anything away for free.

With some shuffling of duties, namely Mark Tellier AB9CD taking over the club web site, Joe Schwarz N9UX, besides being part of the committee operating the FM simplex Contest (and setting up and manning a club table at a number of hamfests), has now consented to become the club Treasurer. Thanks Joe. He may even run again in April and volunteer to continue in the job. One down and 3 more to go.

The beginning of each year is always busy for the club. Besides the normal meetings we have the FM Simplex Contest and Hamfest (both in February). Some of our meetings are also fairly special. February will feature our latest variation on a holiday (as well as any other type of celebration) party, free food! For details come to the January meeting and watch the club Yahoo group. The March meeting (falling just before Superfest) will once again feature Gordon West and Friends. Who are the friends? Wait and see.

As mentioned at the start of the column, this year the club turns 95. To celebrate we have a couple of special things planned. First, anyone who contacts the W9RH station during the FM Simplex Contest is eligible for a special certificate (see the web site and be in the contest for details). Second, during Superfest, MRAC will have control of the demo station at AES and will operate it as W9RH as a special event station for our anniversary. We could use some people to design and handle the distribution of the certificates as well as operate and monitor the station at Superfest. After all, how many times can you get to operate a new radio that you didn't pay for? Volunteer and please speak up in advance of the event. Imagine how hard it is to plan anything when no one offers to help (with serious offers) in advance.

Sounds like lots of "stuff" and lots of "radio". Are you going to do any of it?

Board of Director's Meeting Minutes

Meeting called to order at 7:06 PM by President Dave DeFebo, WB9BWP.

Present: Dave, KA9WXN Mark, AB9CD, Dave DeFebo, WB9BWP Michael, KC9CMT, Al, KC9IJJ, , Hal, KB9OZN.

Absent: Joe, N9UX.

Dave, WB9BWP made a motion to accept the minutes of the last meeting as published in the HamChatter, seconded by Michael KC9CMT. Accepted by a vote of 6-0

Treasurer report not read. Our Club has no treasurer.

PRELIMINARY DISCUSSIONS:

The Ham Nation program has been reported to be playing on Twit. See www.Twit.com for schedule.

QST Magazine Page 76 contains the results of the Field day Contest points. Money is still owed to MAARS for the join picnic this last August. Dave, KA9WXN, will submit expense report soon.

A food banquet is seriously being considered as the Meeting agenda for the February Membership meeting. This will be held jointly with the MAARS group. Advance sign-up is necessary with a dish to pass being the format. It may be possible to Email the RSVP to the club. Al, KC9IJJ & Dave, KA9WXN will work on this project.

SuperFest at AES will most likely be held on March 30 & 31st this year. Our club meeting will be March 29th. We may have Gordon West again this year as a guest speaker. He is always fun. Dave, WB9BWP will be contacting Gordon. The MRAC 95th Anniversary special event station will be run at AES on Saturday March 31st during SuperFest. Gordon West & Bob Hiel may make an appearance. The club needs operators for the Event station.

April this year is once again our time of elections at MRAC. The election of Four Board members is of vital importance to keep our Club running.

Programs:

January: General Q&A plus the FM Simplex contest.

February-March are open.

April: Elections, Plus project show & tell.

May: Club Auction.

Committee Reports:

Swapfest: Food may be available at the MRAC/MAARS swapfest scheduled for February 18th, 2012. The event will be ARRL sponsored and Promoted on their website. We have contacted CQ magazine for insertion of a promotional write up in their swapfest listing. Flyers along with complimentary tickets were sent out to area clubs in November.

Xmas Party: Christmas in February. We intend to have a food banquet at the February meeting.

Field Day: MRAC will be asking the Milwaukee AREAS group about whether they would like to join us at our field day location a Konkel Park in Greenfield. Field day this year is again before our June Meeting. Dave, KA9WXN will be talking to the Greenfield Fire Dept. regarding their possible participation in both Field Day & Ham classes.

Repeater: No problems to report this month. AB9PK called Dave KA9WXN about the possibility of linking their repeater in Superior with ours. We are still holding discussions on this matter, and more information will be forth coming. It has been suggested that having a better computer at the repeater site would make getting involved with the Rain report more probable.

Club History: New DVD's will be ready for distribution before the AES SuperFest.

A motion was made by Mark, AB9CD to raise the HamChatter mailing fee to \$20/yr. Expenses now are not being covered. The expenses incurred printing and mailing the HamChatter have been being donated by the Newsletter editor.

A motion was made to adjourn the meeting at 8:50 pm by Mark, AB9CD, seconded by Michael, KC9CMT. Meeting adjourned.

MRAC Membership Meeting

Membership meeting called to order by Dave, WB9BWP the club president.

A sign up sheet & the Mic were passed around the group for introductions. There will be no meeting in December of 2011. January's meeting will be about the FM simplex contest and a general Q & A session on anything related to radio or electronics.

Program tonight is a show & tell about antenna installations.

Tom Fuszard, KF9PU gave a PowerPoint presentation about "haming in the country". Tom takes his equipment along when he goes to Vernon County every year. The presentation covered Tom's formula for Cabin operation, Equipment & operation options.

Quirks & kinks of Cabin Operation: Vernon County Cabin Ham Shack considerations-costs & aesthetics. Tom uses a Kenwood TS-820 with a Butternut Vertical.

Jerry Wiegel K9FI: Has a tip-over crank up antenna tower that he uses. He runs hardline from his house to the tower. The tower is 50' in height. Jerry also has a Hustler antenna on a tripod.

Al Maahs, KC9IJJ: He has a number of antennas on this house & is solar/battery backed up. He has a Radio Shack Discone along with an Antron A99 10, 12, 15 & 17 antenna. In addition to a 2mtr/440 vertical on a chimney mount 17 1/2' in height.

Joe Schwartz, N9UX: Uses a mobile antenna setup to go rover. Three Yagies on a hitch mount mast. Powered by a FT-706. Further he has a 2mtr/440 Jpole Tenadyne Log periodic with a window feed-through and a copper grounding plate.

A motion was made to adjourn at 8:35 PM. Motion made by Dave, WB9BWP. Second by Michael, KC9CMT.

Room returned to condition as found upon arrival.

Respectfully submitted,
Michael, KC9CMT

Slight Changes at the AES VEC Sessions

Due to some changes at AES, we will be using a room on the east side of their building for this month's session (which takes place on the 28th). It's the same room that the clubs set up in during SuperFest.

Candidates will enter through a door on the east side of the building. Watch for signs.

Any questions, contact me via tom@supremecom.biz.

Thanks.

Tom Fuszard
KF9PU
MRAC VEC, Inc.

Next Regular Meeting

The next meeting will be January 26th at 7:00PM. We meet in the Fellowship Hall of Redemption Lutheran Church, 4057 N Mayfair Road. Use the south entrance.

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 **8:30 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

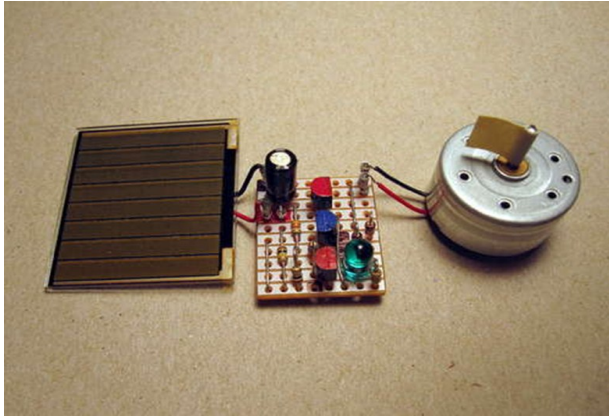
The **DEADLINE** for items to be published in the **Chatter** is the 15th of each month. If you have anything (announcements, stories, articles, photos, projects) for the 'Chatter, please get it to me before then.

You may contact me or Submit articles and materials by e-mail at: Kc9cmt@earthlink.net

or by Post at:

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

The Easter Solar Engine



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A *Solar Engine* is a circuit that takes in and stores electrical energy from [solar cells](#), and when a predetermined amount has accumulated, it switches on to drive a motor or other actuator. A solar engine is not really an 'engine' in itself, but that is its name by established usage. It does provide motive force, and does work in a repeating cycle, so the name is not a complete misnomer. Its virtue is that it provides usable mechanical energy when only meager or weak levels of sunlight, or artificial room light, are present. It harvests or gathers, as it were, bunches of low grade energy until there is enough for an energy giving meal for a motor. And when the motor has expended the serving of energy, the solar engine circuit goes back into its gathering mode. It is an ideal way to intermittently power models, toys, or other small gadgets on very low light levels.

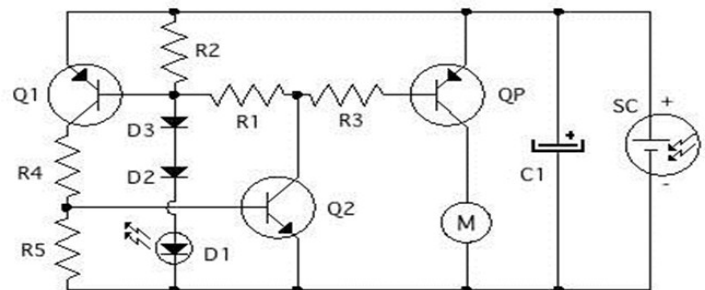
It is a great idea which was first thought up and reduced to practice by one [Mark Tilden](#), a scientist at Los Alamos National Laboratory. He came up with an elegantly simple two-transistor solar engine circuit that made tiny solar powered robots possible.

Since then, a number of enthusiasts have thought up solar engine circuits with various features and improvements. The one described herein has proven itself to be very versatile and robust. It is named after the day on which its [circuit diagram](#) was finalized and entered into the author's Workshop Notebook, Easter Sunday, 2001. Over the years since, the author has made and tested several dozen in various applications and settings. It works well in low light or high, with large storage capacitors or small. And the circuit uses only common discrete electronic components: diodes, transistors, resistors and a capacitor.

This Instructable describes the basic Easter Engine circuit, how it works, construction suggestions, and shows some applications. A basic familiarity with electronics and soldering up circuits is assumed.

If you haven't done anything like this but are eager to have a go, it would be well to first tackle something simpler. You might try the [The FLED Solar Engine](#) in [Instructables](#) or the "Solar Powered Symet" described in the book "Junkbots, Bugbots, & Bots on Wheels", which is an excellent introduction to making projects such as this one.

Easter Engine Circuit



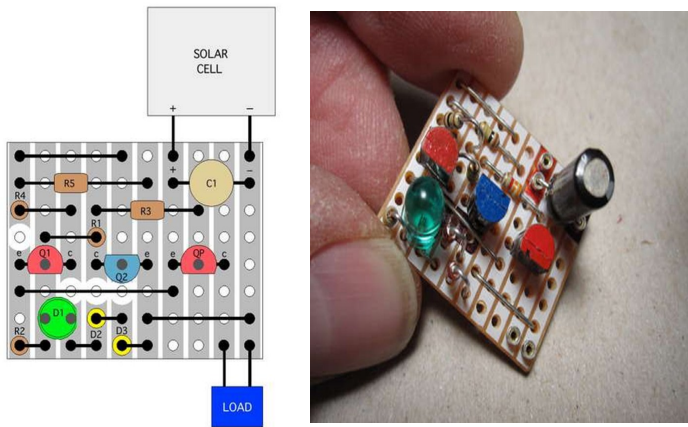
R1	470K	Q1	PNP 2N3906
R2	470K	Q2	NPN 2N3904
R3	3.3K	QP	PNP 2N3906
R4	100K	D1	LED
R5	100K	D2- D3	1N914
SC	Solar Cell	C1	Storage Capacitor

This is the schematic diagram for the Easter engine together with a list of the electronic components that make it up. The design of the circuit was inspired by the "Micropower Solar Engine" by Ken Huntington and the "Suneater I" by Stephen Bolt. In common with them, the Easter engine has a two-transistor trigger-and-latch section, but with a slightly different resistor network interconnecting them. This section consumes very little power in itself when activated, but allows enough current to be taken out to drive a single transistor that switches on a typical motor load.

Here is how the Easter engine works. [Solar cell](#) SC slowly charges up the storage capacitor C1. Transistors Q1 and Q2 form a latching trigger. Q1 is triggered on when the voltage of C1 reaches the level of conductance through the diode string D1-D3. With two diodes and one LED as shown in the diagram, the trigger voltage is about 2.3V, but more diodes can be inserted to raise this level if desired.

When Q1 turns on, the base of Q2 is pulled up through R4 to turn it on also. Once it is on, it maintains base current via R1 through Q1 to keep it on. The two transistors are thus latched on until the supply voltage from C1 falls to around 1.3 or 1.4V.

When both Q1 and Q2 are latched on, the base of the "power" transistor QP is pulled down through R3, turning it on to drive the motor M, or other load device. Resistor R3 also limits the base current through QP, but the value shown is adequate to turn the load on hard enough for most purposes. If a current of more than say 200mA to the load is desired, R3 can be reduced and a heavier duty transistor can be used for QP, such as a 2N2907. The values of the other resistors in the circuit were chosen (and tested) to limit the current used by the latch to a low level.



A very compact embodiment of the Easter engine can be constructed on ordinary stripboard as shown in this illustration. This is a view from the component side with the copper strip tracks below shown in gray. The board is only 0.8" by 1.0", and only four of the tracks must be cut as shown by the white circles in the tracks.

The circuit depicted here has one green LED D1 and two diodes D2 and D3 in the trigger string for a turn-on voltage of about 2.5V. The diodes are positioned upright with the cathode end upward, that is, oriented toward the negative bus strip on the right hand edge of the board. An additional diode can be easily installed in place of the jumper shown from D1 to D2 to bump up the turn-on point.

The turn-off voltage can also be raised as described in the next step.

Of course, other board formats can be used. The fourth photo below shows an Easter engine built on a small general purpose prototyping board. It is not as compact and orderly as the stripboard layout, but on the other hand it leaves lots of room for working, and space for adding diodes or multiple storage capacitors. One could also use just plain perforated phenolic board with the necessary connections wired and soldered below.

Step 3 Trigger Voltages

DIODES	LEDs	TURN-ON
0	1	1.8V
1	1	2.0V
2	1	2.3V
3	1	2.6V
4	1	2.9V
0	2	3.2V
1	2	3.4V

The table above shows the approximate turn-on voltages for various combinations of diodes and LEDs that have been tried in the trigger string of various Easter engines. All of these trigger combinations can be fit onto the stripboard layout of the previous step, but the 4-diode and 1 LED combination would have to have a diode-to-diode joint soldered above the board.

The LEDs used in making the table measurements were older low intensity reds. Most other newer red LEDs that have been tried work about the same, with maybe a variation of only about plus or minus 0.1V in their trigger level. Color has an influence: a green LED gave a trigger level of about 0.2V higher than a comparable red. A white LED with no diodes in series gave a turn-on point of 2.8V. Flashing LEDs are not appropriate for this engine circuit.

A useful feature of the Easter engine is that the turning-off voltage can be raised without affecting the turning-on level by inserting one or more diodes in series with the base of Q2. With a single 1N914 diode connected from the junction of R4 and R5 to the base of Q2, the circuit turns off when the voltage drops to around 1.9 or 2.0V. With two diodes, the turn-off voltage measured approximately 2.5V; with three diodes, it turned off at about 3.1V. On the stripboard layout, the diode or diode string can be located in place of the jumper shown above the resistor R5; the second illustration below shows one diode D0 thus installed. Note that the cathode end must go to the base of Q2.

Thus it is possible to effectively use the Easter engine with motors that do not run well near the basic turn-off of about 1.3 or 1.4V. The solar engine in the toy SUV in the photo below was made to turn on at 3.2V and turn off at 2.0V because in that voltage range the motor has good power.

The capacitor used in the toy SUV is like the one shown on the left in the illustration below. It is a full 1 Farad rated for use at up to 5V. For lighter duty applications or shorter motor runs, smaller capacitors give shorter cycle times and, of course, shorter runs. The voltage listed on a capacitor is the maximum voltage to which it should be charged; exceeding that rating shortens the life of the capacitor. Many of the super capacitors intended specifically for memory backup have a higher internal resistance and so do not release their energy rapidly enough to drive a motor.

A solar engine such as the Easter engine is fine for driving motors that have an internal static resistance of about 10 Ohms or more. The most common variety of toy motors have much lower internal resistance (2 Ohms is typical) and so will drain all the energy from the storage capacitor before the motor can really get going. The motors shown in the second photo below all work fine. They can often be found as surplus or new from electronic suppliers. Suitable motors can also be found in junked tape recorders or VCRs. They can usually be singled out as having a diameter larger than its length.

Choose a solar cell or cells that will provide a voltage somewhat higher than the turn-on point of your engine under the light levels that your application will see. .

The Experimenters Bench Continued

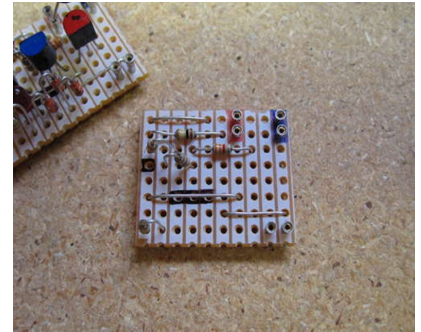
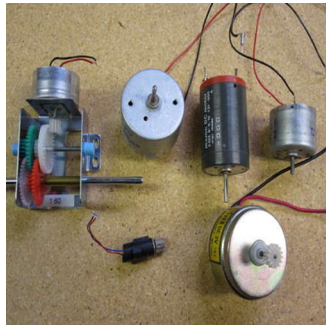
The real beauty of the solar engine is that it can collect low grade apparently useless energy and then release it in useful doses. They are most impressive when, from just sitting on a desk or coffee table or even on the floor, they suddenly pop to life. If you want your engine to work indoors, or on cloudy days, or in the shade as well as in the open, use cells designed for indoor use. These cells are usually of the amorphous thin film on glass variety. They give a healthy voltage under low light, and the current corresponds to the illumination level and their size. Solar calculators use this kind of cell, and you can take them from old (or new!) calculators, but they are quite small these days and so their current output is low. The voltage of calculator cells ranges from 1.5 up to 2.5 volts in low light, and about a half a volt more in the sun. You'll want a number of them connected in series-parallel. [Wire Glue](#) is excellent for attaching fine wire leads to these glass cells. Some solar rechargeable keychain flashlights have a large cell that works well indoors with solar engines. At the present time, [Images SI Inc.](#) carries new indoor cells of a size suitable for directly driving a solar engine from a single cell. Their "outdoor" solar cell of the same type works quite well indoors as well.

More commonly available from many sources is the crystalline or polycrystalline type of solar cell. These types put out a lot of current in sunshine, but are specifically intended for life in the sun. Some do modestly well in lower light, but most are pretty dismal in a room lit by fluorescents.

To make the connections from the circuit board to the solar cell and motor, pin tail sockets taken from inline strips are very convenient. The pin sockets can be easily emancipated from the plastic setting in which they come by careful use of nippers. The tails can be snipped off after the pins are soldered in the board.

Solid 24 gage wire plugs into the sockets nice and secure, but usually externals are connected via flexible stranded hookup wire. The same sockets can be soldered to the ends of these wires to serve as little "plugs" that fit into the sockets on board beautifully.

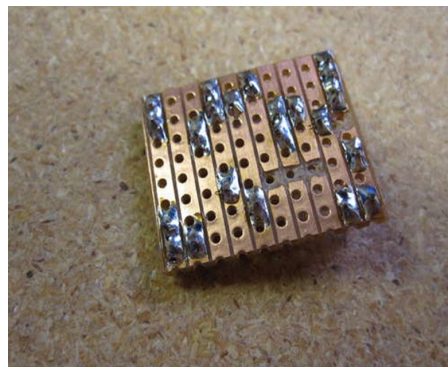
Board sockets can also be provided into which the storage capacitor can be plugged. It can mount directly into the sockets, or be remotely located and connected via wire leads plugged to the board. This makes it possible to easily change and try different capacitors until the best one is found for the application and its average lighting conditions. After the best value of C1 is found, it still can be permanently soldered in place, but rarely has this been found necessary if good quality sockets are used.



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An amusing application of the Easter engine is "Walker", a robot-like creature that waddles along by means of two arms, or rather, legs. He uses the same motor and gear train setup as a RC SUV with a gear 76:1 ratio. One of his legs is purposely shorter than the other so that he walks in a circle. Walker also carries a blinking LED so we know where he is on the floor after dark.

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N0EFA in Vietnam**Rules and regs defined:**

Impediments to MARS operators, drafted by REMFs to cut the phone patch count and keep the grunts from calling home. "Stay on your assigned freq" ?? November Zero Mike Echo Tango, November Zero Echo Foxtrot Alpha. Go up five. Up twenty. Go up 100... Gotcha! QRV? "Thanks, patch complete."

"American MARS station N0EFA, this is International Communications Monitor Ship ICC44DT in the South China Sea. Cease your transmissions on this frequency. You are interfering with official international radio communications."

India Charlie Charlie Four Four Delta Tango, this is November Zero Echo Foxtrot Alpha Slant One Portable. Please say again your exact location, over.

"No thanks!"

"This is N0EFA/1... please once more for Mofak lead... we'd like to clear him hot"

And WA4QXJ, my original call, went out many times as Maritime Mobile region 3, in the South China Sea, and many a grunt called home via that call.

And as for the Pac Bell operators that broke every rule in the book to make the calls work on the CONUS side... my favorite was Delrae in San Diego when we were working N0ANP at MCRD. Still married to her after forty something or other years...

Only real rule... run phone patches until you die!

In fact, what we did during those days was the greatest MARS of all time. We were in just the right place at the right time to do something that had never been done before, and would never be done again, at least not on the scope we did it.

When I stop and think of what we did, often working under almost impossible conditions and having to improvise with so little in the way of equipment compared to "official" military communications, it is amazing.

Ten years before SSB had not developed and become available to the extent that Collins Radio had taken it by the time we needed those S-Lines, along with the Henry amps, and Hy-Gain Log Periodic beams. Land line communications in the states probably would not have supported what we were doing either ten years earlier. And, ten years later communications had developed to the point that phone patches on HF SSB were no longer necessary. It was a unique time in history. And, even with the gear we had, we could not have done it had not the

Sun Spot Cycle been what it was in the late 60s and early 70s. Five years earlier or five years later HF communications would not have been possible without the HF conditions we needed to run phone patches the way we did, often with only 100 watts when just below the 10 and 15 meter bands, and solid with a full gallon when the band was open on 13,927.5 MHz, which was our primary frequency for patches to NORTW in Barstow.

And, for the Hospital Ships Repose and Sanctuary that could operate Maritime Mobile in Region 3 on the 15 and 20 meter bands (and the MARS Stations that sometimes pretended to be MM3), conditions were perfect for DX in the Ham bands (when not being jammed by the likes of that idiot in the LA area they finally nailed years later). I can't believe I forgot his call. Maybe Mike Linger will recall.

And then, there were the MARS Operators. A crafty and self-sufficient bunch of guys that knew how to work their way around red tape, to push and often ignore regulations, and to beg, borrow, steal, and otherwise cumshaw whatever they needed to get the job done, come hell or high water. And, not just the operators in RVN, but also the operators at our gateways, at Barstow, at 29 Palms, and other garden spots on the West Coast, as well as the civilians at places like Hughes Aircraft (N0JPJ), and at home, people like Tom in Hawaii and Gerri, K7YDO, in Washington state, and a host of others whose names and calls have escaped me.

And, finally, to every Marine, Soldier, Sailor, and Airman who called home and had to "remember to say 'over'" when they finished talking; and to every Stateside telephone operator that broke all the rules to keep the calls going; a sincere THANK YOU for making our time in NAVMARCORPS MARS in Vietnam the best damn duty anyone could ask for.

73 and Semper Fi to all,

Dan Gannon
Former RM2 and CHOP N0EFS
WA5ANF
Houston, TX



MARINES
THE FEW. THE PROUD.

VE Testing:

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

Saturday, February 25th, 2012 - AES - 9:30 AM

Saturday, March 31st, 2012 - AES (Superfest) - 8:00 - 11:00 AM

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

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

Feb. 18th, 2012 **MRAC/MAARS Midwinter Interclub Swapfest**

Location: Brookfield, WI Type: ARRL Hamfest

Sponsor: Milwaukee Radio Amateurs' Club

& Milwaukee Area Amateur Radio Society

Website: <http://w9rh.org/>

March 4th, 2012 **Sterling-Rock Falls ARS Hamfest** Location: Sterling, IL

Type: ARRL Hamfest Sponsor: Sterling-Rock Falls

Amateur Radio Society Website: <http://www.w9mep.org>

March 10th, 2012 **25th Annual Equipment Auction**

Location: Eau Claire, WI

Type: ARRL Hamfest Sponsor: Eau Claire Amateur Radio Club

Website: <http://www.ECARC.org>

MRAC Working Committees

95th Anniversary:

- Open

Net Committee:

- Open

Field Day

Dave, KA9WXN, AI, KC9IJJ

FM Simplex Contest

- Joe - N9UX
- Jeff - K9VS
- Brian - K9LCQ

Ticket drum and drawing

- Tom - N9UFJ
- Jackie - No Call

Newsletter Editor

- Michael-KC9CMT

Webmaster

- Joe Schwartz-N9UX

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@arri.net . Our YAHOO newsgroup:

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

CLUB NETS:

- Our 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 \pm 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)



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

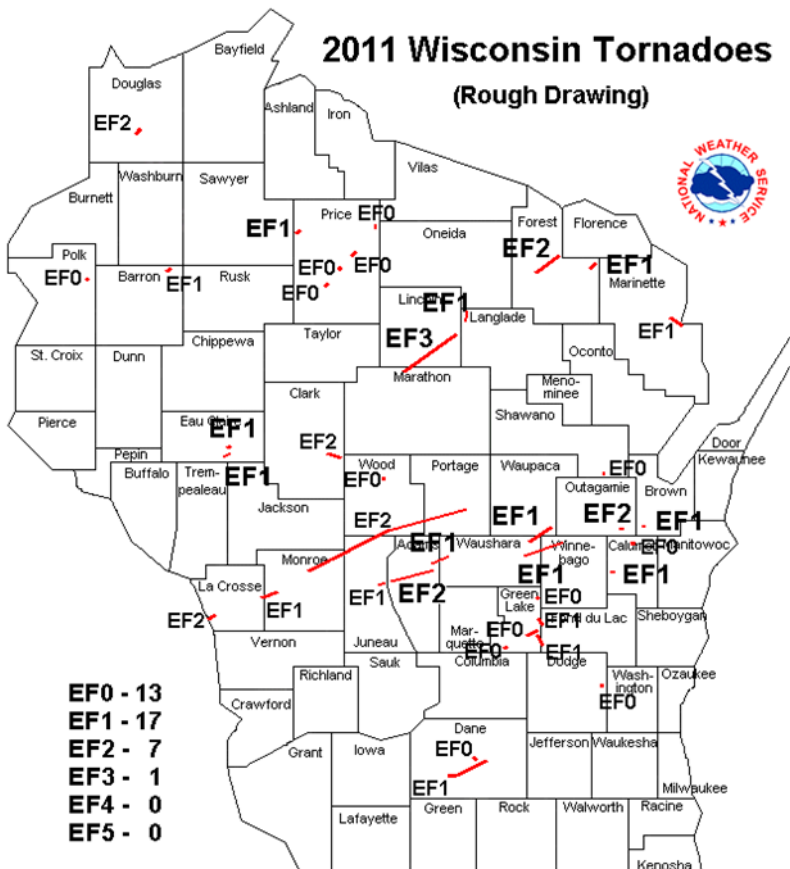
Sun 8:00 PM 28.365 10/10 International Net (SSB)

Sun 9:00 PM 146.91 Swap Net

2 meter 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.

2011 Wisconsin Tornadoes (Rough Drawing)



2011 Wisconsin Weather-related Fatalities and Injured People (only directly-related)

Numbers reflect data that was passed on to the National Weather Service. Roughly 108 people received medical treatment due to the effects of the July 17-21 heat wave. This number is an estimate based on news reports.

	Deaths	Injuries
Blizzard	1	0
Excsv Heat	5	108
Lightning	1	0
Tornado	1	5
Tstm Wind	1	11
Total	9	124

2011 Wisconsin Weather-related Monetary Loss Estimates (excluding winter weather events)

Tornado property damage = \$50.963 M
Tornado crop damage = \$91 K
Thunderstorm Wind property damage = \$9.855 M
Tstm Wind crop damage = \$4.461 M
Hail property damage = \$33.961 M
Hail Crop losses unknown