MRAC Hamateur Chatter

The Milwaukee Radio Amateurs Club

January 2015 Volume 23, Issue 1

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

Presidents' Letter

Happy New Year! Hope everyone had a great start to their 2015.

We are entering the busiest part of the club year. During our January club meeting on January 29th, we will discuss the Wisconsin QSO Party with some history from Dave WB9BWP. Also, Joe N9UX will discuss the February 8th MRAC Simplex Contest, especially the changes being added to this year's contest. I will again activate W9RH from the dorms at UWM. Please help us spread the word about this event to everyone. We are hoping the changes bring out some increased activity. If you know someone who lives outside the area, please encourage them to activate their area. You can find more information on our website:
http://www.w9rh.org/fm_simplex_contest.htm

Next, Valentine s Day (February 14th) will be our 5th Annual Interclub Swapfest with MAARS at the MPTV Auction Studios in Brookfield. Again, we would appreciate your help in promoting this event and in inviting every ham you know. This is our primary fundraiser, so the more people that come out, the better we as a club will do. It's also a great time to socialize and get some shopping done (maybe to get something nice for Valentine s Day?).

As always, we are looking for volunteers to help staff the event. The more people that volunteer, the more time we will each get to walk around and find goodies. Did you know we have a pizza party during the cleanup for the day s volunteers? Hard work definitely gets rewarded, so please contact me if you are interested.

Also coming up at our February 26th MRAC Club Meeting will be our annual Potluck dinner. So, the more money we raise at the Swapfest, the better food selection we can provide at the Potluck. This has always been our best social event, and I personally enjoy listening to the everyone s stories being told over dinner. I ll have more details in next month s newsletter, but go ahead and save the date for the annual food meeting as well as for Swapfest and the Simplex Contest.

Finally, Yaesu has approved MRAC for the purchase of the new Fusion repeater system, which is great news for the club. The repeater system is currently on backorder, so we hope to receive it (or have a better status update on it) next month.

I hope to see you at the January 29th meeting,

'73 Dave, KA9WXN

MRAC Officers:

Terms Expiring in 2016

- President – Dave, KA9WXN
- V-President– Dan, N9ASA
- Secretary – MBH, KC9CMT
- Treasurer – MBH,,KC9CMT
- Director – Mark, KB9RQZ

Terms Expiring in 2015

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

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.

PO Box 26233
Milwaukee, WI

53226-0233

FLED-based solar engines

Flashing LED; also, by extension, the name of a solar engine based on a flashing LED. A flashing LED is just an LED with a built-in microcircuit to cause it to flash periodically. Since the FLED draws current when it flashes, we can use FLEDs to drive a number of timing-dependent circuits (via the fact that it periodically becomes conductive).

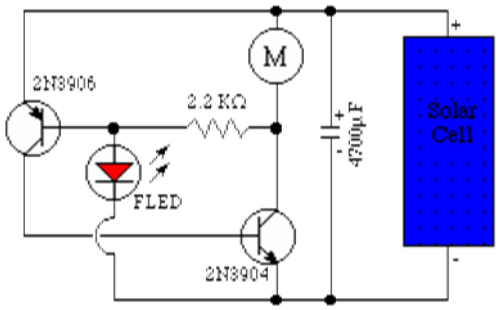
Like other LED, FLEDs are light-sensitive, and so flash faster in brighter light. Note that some FLEDs need 3 V minimum to work in, but FLEDs don't in general require current-limiting resistors (at least, I've never seen one that does).

FLED-based solar engines

Flashing your way to a solar engine

The original FLED-based SE uses a flashing LED to drive a type 1 solar engine (you'll note that it's just like the Zener-based SE, but with a FLED in the starring role). The good news is that all the parts in this solar engine are relatively easy to find; the bad news is that this solar engine design isn't particularly efficient unless you work at it.

Here's the (original) basic circuit:



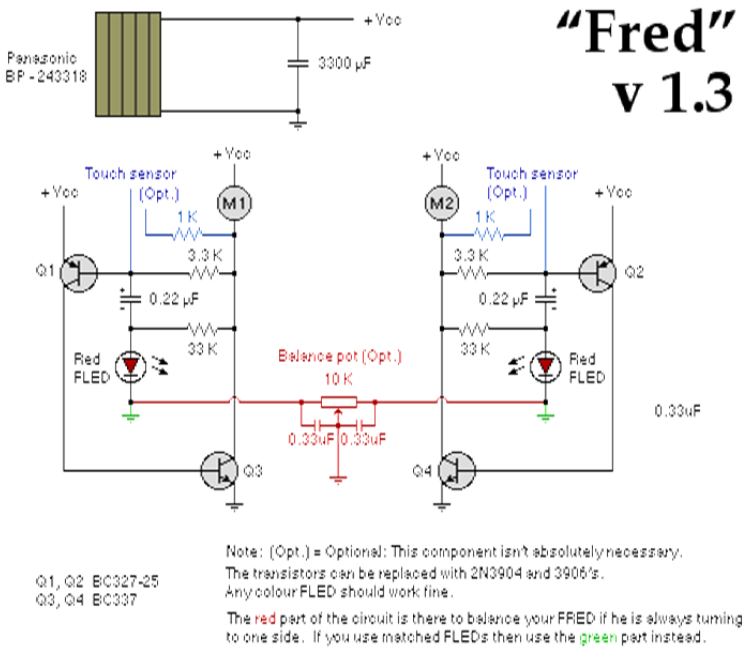
The idea here is that when the FLED flashes (at about 2.4 volts), it conducts. This makes the base of the PNP transistor (here shown as a 2N3906, but you could also use a BC327) go "low," so it triggers, which makes the base of the NPN transistor (here shown as a 2N3904, but you could also use a BC337) go "high," and when it triggers, current is applied through the motor. Note that once the NPN transistor triggers, the FLED is essentially out of the circuit; the motor is then given power until the transistors go inactive at about 0.7 V.

Wilf Rigter contributes this more-detailed explanation:
The FLED is a integrated circuit that needs a minimum voltage to operate and flash the LED. While the LED is off the current through the FLED is very low. When the LED is on, a pulse of current passes through the FLED.
The solar cell charges the main capacitor until the voltage is high enough for the FLED to start flashing. When the FLED flashes, current flows through the FLED and the base of the PNP transistor and it turns on. Now current passes through the PNP into the base of the NPN transistor and it turns on. When the NPN turns on the collector which is connected to the motor and the 2.2K resistor goes low (to GND). This places a voltage across the 2.2K resistor which provides more base current for the PNP transistor which make it turn on even more.

That is called positive feedback or latching of the circuit because both the PNP and NPN transistors remain on until the main capacitor is discharged to less than 0.7V. When the capacitor voltage drops below 0.7V the PNP and NPN transistors both turn off because of the minimum voltage required to keep the base emitter turned on.

The 2.2K resistor sets the base current for the PNP to about 1 mA, which is amplified by the beta (current gain) of the PNP by 50-100.
That 50 mA of current flows into the base of the NPN and is amplified by about 10 to drive the motor. As long as the motor draws no more than 500 mA this circuit will work fine. If the motor current is much less, then increase the resistor value correspondingly. If the motor draws more current then uses a smaller resistor. Be sure to use a PN2222 or equal for the NPN for current greater than 200 mA.

An improved (for lower power consumption) version by Ben Hitchcock is here:



Ben's circuit is presented here in two, twin, copies. If you're building a photopopper, build it just the way Ben presents it. If you're building a symet or ornament with this SE, just build half of what's in Ben's diagram.

As for the basic circuit, Ben has improved the efficiency of the solar engine through the addition of just two components -- a 0.22 uF capacitor, and a 33 Kohm resistor (he's also upped the basic FLED SE's 2.2 Kohm resistor to a 3.3 Kohm resistor, but that's beside the point).

2.2 Kohm resistor to a 3.3 Kohm resistor, but that's beside the point).

Parts list for a ("single-sided") FRED SE			
Part	Solarbotics	Digikey	Radio Shack
Storage capacitor	various	various	various
Solar cell	various	N/A	N/A
3.3 Kohm			
33 Kohm			
0.22 uF			
Red FLED			
2N3904 transistor	$0.15, #TR3904	$0.26, #2N3904-ND	$0.07, #900-5456
2N3906 transistor	$0.15, #TR3906	$0.26, #2N3906-ND	$0.07, #900-5457

Ben's use of this circuit for a photopopper takes advantage of an interesting feature of FLEDs -- they are photo-sensitive. In particular, light shining on a FLED causes that FLED's SE to be inhibited (to perform more poorly). So if you're building a phototropic FLED -based BEAMbot, you may have problems in bright light (both SEs in your 'bot are being inhibited, so neither side of your 'bot wants to fire) -- you can address this by **partially** shielding your FLEDs with heat-shrink tubing, or some paint (be careful here, you're trying to give your 'bot sunglasses, not blinders). Meanwhile, if you're using a FLED-based SE on a non-phototrope, you'll want to completely cover the FLED (with heat-shrink tubing, or black electrical tape, or dark paint.

Weather Hazard Awareness

Surviving Cold and Flu Season

Winter is a season of contrasts. On one hand, we look forward to hitting the slopes on our skis or snowboards, yet we grudgingly endure the cold and ice and risk of injury while on the mountain.

We eagerly anticipate the holidays, but most of us tend to stress about shopping lists and hazardous road conditions. We try to make the most of this winter wonderland, but there's one thing nobody wants to plan on: Getting sick.

Cold and flu season is in full swing and no amount of wishing or trepidation will keep it at bay. Rather than waiting around to get sick, we've compiled some suggestions on how to actively try and avoid any nasty winter bugs so you can make the most of this time of year.

Get a Flu Shot

Reputable studies have shown that the best way to avoid the flu virus is to get immunized annually. While getting a shot doesn't guarantee you won't contract a flu virus, it greatly improves your body's chances of defending itself.

Flu shots are quick, relatively inexpensive, and are especially important for people who are at high risk of flu complications such as pregnant women, young children, people with chronic illnesses, and the elderly.

Flu

What you need to be worried about: A seriously disgusting flu. It's not just hype; according to the Centers for Disease Control and Prevention (CDC), 22,048 flu cases have been reported in the last three months, compared to just 849 cases during the same time period last year. So your chances of getting it are really high.

What you shouldn't be worried about: Your flu shot not protecting you. People have dozens of excuses for not getting one, ranging from "It doesn't work," to "It gives you the flu." To find out why those aren't true, check out these 4 Flu Shot Myths—Debunked! from *Men's Health*.

It is true that, this year, doctors are reporting that even people who got the flu shot are getting sick—but here's why that shouldn't stop you from getting vaccinated. "The flu vaccine is very effective in younger healthy people with good, robust immune systems," says William Schaffner, MD, infectious disease specialist with the Vanderbilt University Medical Center, but he adds, it's less effective in older people and people with underlying illnesses. "It's an unfortunate paradox, that it works least well in those whom we wish to protect the most." All the more reason you should get the shot: Getting vaccinated keeps you from getting sick and from becoming a carrier of the virus and thus making others sick.

Norovirus

What you need to be worried about: Another seriously disgusting form of stomach flu that can make you miserable with projectile vomiting and severe diarrhea. It's spread, Dr. Schaffner says, because the projectile vomit can aerosolize and contaminate hard surfaces like desks and chairs. Like the seasonal flu, norovirus has periodic resurgences, and we're in one of those right now, he adds. Europe and Canada have been hit particularly hard in the past few months, and the disease is spreading in the U.S.

What you shouldn't be worried about: Catching that blockbuster on opening night. Because the strain of norovirus going around is so virulent—and because there's no vaccine that can protect you from it—the only way to protect yourself is to avoid crowds, Dr. Schaffner says. "This may not be the best time for you to go shopping at the mall." Or to see that hot new movie at a crowded movie theater. If that's not always doable, here are our 10 Tips for Avoiding the Flu in Public Places.

Weather Hazard Awareness

Whooping Cough

What you need to be worried about: Getting a cough so bad it can break your ribs. Whooping cough, or pertussis, is often called the 100-day cough because of its persistence, and many adults are left vulnerable because the pertussis vaccine you get as a child wears off over time. "Some people can cough so much, they can't breathe in, and that can trigger fainting episodes that result in broken arms and possibly concussions," Dr. Schaffner says. In January, the CDC announced that whooping cough rates are the highest they've been in 60 years.

What you shouldn't be worried about: A nationwide epidemic. The whooping cough outbreak seems to be isolated to certain states, Dr. Schaffner says, and it's not clear why one state suffers while its neighbors remain relatively disease free. Wisconsin currently is the hardest-hit state, with whooping cough rates nine times the national average; check to see how your state ranks here. Who should be worried, regardless, though? New parents. The disease rarely kills adults, but it's highly fatal in babies. Infants up to 2 months aren't able to get vaccinated, and children don't receive all five courses of the vaccine until they're 6 years old. Dr. Schaffner recommends that anyone in a family with a new baby—moms, dads, grandparents, aunts, and uncles—get a booster shot to prevent exposing an unvaccinated baby to the disease.

Wash Your Hands – Often

Once you get immunized, habitually washing your hands is the most important step in your cold/flu prevention plan. Doorknobs, handles, dishes, keyboards, and potentially any other surface all hold the potential to transmit bacteria and viruses. Always err on the side of caution. Also, alcohol-based hand sanitizers are good, but washing with soap and water is always preferable.

Warm or cold water? It doesn't matter. The length of time scrubbing with soap is the most important factor. Most experts recommend scrubbing for at least 20 seconds.

Limit Contact with Sick People

This one may seem like a no-brainer but it really is a big factor in limiting your exposure to bugs and viruses. Hugs, kisses, and handshakes are all great ways for viruses to jump from one person to another. While it may seem simple, it can get complicated when sharing a living space with sick friends or family. Washing hands and frequently disinfecting shared surfaces can help prevent the spread of viruses.

Take a quick inventory of the surfaces in your home that you touch the most. Then go to town with disinfecting wipes and sprays!

If You Do Get Sick...

- **Stay Hydrated:** Your body needs extra fluids when fighting infection and when recovering.
- **Get Plenty of Rest:** Overexertion will only prolong your recovery time.

Be Smart With Medication: Over-the-counter pain relievers like aspirin and Tylenol can help with generalized pain, while saline sprays, menthol rubs, and even hot showers can offer some relief from nasal congestion.

- Always read the directions and warning labels on each medication you take.

Don't Be Afraid To Stay Home: Healthcare professionals recommend that you stay home from work or school until you have gone 24-hours without any fever. While it may not be convenient, staying not only provided you with adequate time to rest, it also prevents you from spreading the virus to your entire office. Think about it this way: Wouldn't you appreciate it if a sick co-worker stayed home didn't put everyone else's health at risk?

Early Radio: Military Communications

Ha Thanh Experiences
1LT Gary J. Honold SFODA-104

I enlisted in the Army in September of 1962, and was assigned to the Army Security Agency. After 3 years, and some good performances in an ASA Leadership School, and a junior and a senior 6th Army NCO Academy, I was promoted to SSG E-6. I decided to make the army a career, so I applied for OCS.

After graduating from Infantry OCS at Fort Benning I volunteered for Airborne School before heading to Fort Holabird, MD for MI Branch schooling. I knew that I would soon be heading for Vietnam, and with the theory that if you're going to ride a horse, it might as well be a fast one, I applied for the Special Forces Officer's Course, and assignment to 5th Group in Vietnam.

After processing into country at Long Binh, and into 5th Group at Nha Trang I was assigned to the S-2 Office of Detachment C-1 in Da Nang. The C-Team Commander at the time, LTC Schungle, had a policy that all staff officers would be attached to an A-Team for 30 days to get a feeling for camp life and operations before beginning their duties at the C-Team. I was attached to the team without a real position…just sort of an extra body. On my first stint as the "night watch" part of my duties were to burn the waste in the pit below the "2 holer" latrine before everyone got up in the morning. Being new to the job, and not knowing exactly how much diesel to dump into the pit, I nearly blew up our deluxe facility. The 2 holer box lifted off the cement pad, rocked, and flames shot out of the holes like an inverted Atlas-Agena Rocket.

My first patrol was a fairly short AO recon northwest of the camp with SGT Davis to look at an area that hadn't been checked out in awhile. Pretty uneventful really. Very light contact with what was probably just a trail watcher, and one of the CIDG stepped on a shit-dipped punji.

Life back at the camp was pretty laid back. My bunker was a two-man affair under the ARVN Artillery Battery pit (At that time they had 3 guns, I believe, all in one large circular revetment). Oh what fun it was when they got a fire mission in the middle of the night. Can you say levitate? One day, while walking by the TOC, I stuck my head in to ask the Team Sergeant, MSG Tadeusz Sosniak, something-or-other. He was typing up the MOPSUM at the time. Just as I entered the Team XO, 1LT Eagle needed to get some carbon paper that was stored under the typewriter. "Top" paused in his typing for a moment with his fingers poised over the keyboard. LT Eagle lifted the typewriter to slide the carbon paper out from underneath. Being the wiseass that I am I said, "Ain't that just like a damned Polack. Hold your fingers up there, and wait for someone to lift the typewriter to meet them". I remember Top chasing me down the Detachment Street with both of us laughing hard enough to make it difficult to run.

On my second patrol SGT Davis and I hatched a plan over a few beers in the Teamhouse late one night to take a surprise patrol out to an area east of the camp where every man, woman, and child was known to be VC, or VC sympathizers. To keep the word from getting out (as with most A-Camps we figured that at least 10% of our CIDG were VC) SGT Davis and I went to the LLDB TOC at about 4:00 A.M. to request a patrol for first light. Because of the tunnel and bunker complex in the village we were loaded down way more heavily than normal with WP and frag grenades.

As we snaked along the old French road, and approached a facing ridge we didn't pay much attention to the CIDG lagging further and further behind the interpreter and ourselves. The interpreter was toward a head high cut bank to my left, I was just left of road center, and SGT Davis was near the right edge of the road. It wasn't until the first burst that we really noticed that the CIDG were out of sight around a bend in the road a short distance behind us….and they didn't really seem much interested in moving forward. The initial burst hit the interpreter in the right hip, skipped me somehow, and kicked up dirt beside me down the center of the road.

I threw a body block into the interpreter, who had frozen in place, knocking him into a small depression at the left side of the road. SGT Davis dove off the right side of the road behind a tree where the ground dropped into a paddy. It wasn't until then that it sank in that the radio was back with the CIDG. SGT Davis yelled, "cover me" (in the best Hollywood Western tradition). I grabbed the interpreter's and my M-16s and started spraying the ridgeline to our front. SGT Davis pulled the pin and threw a WP grenade for the cover of thick white smoke it provided, jumped up and dashed back to where the CIDG were huddled watching the excitement (or, at least from their position, listening to it), grabbed the radio, and in what I thought was a very stupid move at the time, brought it back forward.

Because of the many twists following the road in the valley the camp could not hear the FM. They had no idea we were in fairly heavy contact until a Caribou, going into Ha Thanh on a resupply asked the camp if they had artillery going out to the east because they saw a lot of smoke.

We finally got a FAC overhead, but they were shooting at him enough that he had to be a little careful lining up to fire his HE rockets until he called in a flight of A1Es. The FAC rolled in to make his marking pass, and then the A1Es followed….from the VC toward us. When the firefight was over, but before we had med-evaced the interpreter, I noticed that the cannon had stopped chewing up the ground on line, and about 15 yards from us, and I used an empty M-16 magazine to rake over a 2" X 8" piece of still very hot bomb shrapnel laying within arms reach.

When the camp found out we were in contact they actually had to draw straws to make someone stay back at the camp to maintain an American presence there. LT Eagle and MSG Sosniak had been on a "show of force" patrol with their LLDB counterparts that had turned into a 7 1/2 hour running firefight the day before, and they led the charge out of the gate. Great bunch of guys to have on your side in a fight.
When the rest of the team got there we counted 5 VC KIA (if I remember right), and then moved on to the village where we dumped some WP and HE grenades into tunnels and bunkers before returning to camp.

One evening SGT (at the time. Later SSG) Gleason….known as "Fat Jack", which was a real stretch because he was neither fat, nor named Jack….decided to reinforce the "No movement outside the wire after 6 P.M." rule. He jumped into the .50 cal bunker, went to single shot, and picked out this poor SOB walking along low on the hillside, across the paddies south of camp. He placed one round about 5 yards behind the guy. Nguyen picked up the pace, and SGT Gleason put another round about 5 yards behind him. The guy picked up the pace even more. Long story short….before it was over the guy was sprinting across the hillside with a speed that would be the envy of an Olympic sprinter. Probably not a good CA/PsyOps move, but we didn't have much for traffic outside the wire after 6 P.M. for the rest of the time I was there.

Another incident involving SGT Gleason happened one day in the Teamhouse. Keep in mind he was the small arms weapons SGT. He sat a loaded M-60 machine gun down on a table none-to-gently, and of course, firing from the open bolt, it went off. The round drilled a reel to reel tape deck sitting across the Teamhouse right through the "boiler room". Everybody came rushing in to see what had happened to find a very sheepish SGT Gleason with a still smoking M-60. The funny thing was that the only function that old tape deck wouldn't perform was fast forward. They sure don't build 'em like they used to.

The ol' pucker factor at the camp was going up even back at the end of May. We decided to have a full gear drill one evening, so that everyone would know exactly what section of the perimeter, and what bunker to go to in the event of an attack. We had gathered in the Teamhouse prior to the event when suddenly there were several KAAARUUUMPS!!! just outside the wire. Everybody grabbed up their web gear and weapons, burst out the door, and dove into their assigned trenches/bunkers for the coming attack. When nothing else happened for about ½ an hour we all started straggling back to the Teamhouse. There we met SFC Juan Medina, the heavy weapons NCO. In his beautiful, thick Hispanic accent he said, "Where did everybody go? I was just testing my final protective fire". I think it was that night that I got my nickname "LT Fuzz". I've always had a "baby face", and that night, all done up in battle rattle, LT Eagle looked at me, cracked up, and coined the name.

Early Radio: Military Communications

On another patrol I remember, SFC Medina and I were headed out with a company of CIDG for the southern border of the AO to get into position to do a BDA after a planned B-52 Strike on a staging/hospital complex where our AO met the AO of the camp to our south.

We had traveled all day, and were just pulling into our night location in a downpour. The rain stopped just after we got on top of a knob at the end of a ridge overlooking the river valley. I had strung my hammock, taken off, and wrung out my tiger fatigue pants and shirt, and laid them over my hammock to dry out at least a little. Keep in mind that normally one did not wear underwear in this climate. At least I didn't. So…there I am in my floppy tiger stripe hat, jungle boots, and precious little else, when one of the CIDG stepped on a "hockey puck" mine, and blew his foot off. SFC Medina got on the radio to call in a med-evac, and about that time we notice a platoon sized unit of armed VC moving north along the river bank below us. We were still in range of the 105s at the camp, so I decide to call in an artillery strike. SFC Medina was still manning the radio on our end, and MSG Sosniak was on the radio back at the camp. I'm standing there naked as a jay bird listening to SFC Medina asking for a fire mission in his thick Hispanic accent to MSG Sosniak taking the mission in his equally thick Eastern European accent, who is relaying it to a Vietnamese Artillery LT. 'Yard foot blown off, VC platoon just below us, and I am laughing my ass off at this scene. Between chuckles I took the mic from SFC Medina, said, "Juan, you're gonna get us killed", and then I continued to direct this goat screw in the nude.

We got the CIDG med-evaced, the VC scattered, and moved into a new night location with me fully clothed, but never did get in position to do the BDA.
SSG Gleason was the team scrounger. He could get a case of steaks with just about any captured war trinket. Fresh eggs were really a biggy. I joked that if you gave him a captured AK-47, and put him on a helicopter for the SeaBee base he could bring back the base commander in a trade.

Because we were not authorized any M-60 machine guns in our TO&E, only the old WWII vintage, air cooled, .30 cal, A6 machine gun, we could not get any ammunition for the M-60 that had been scrounged/"borrowed" at some point. The exact pedigree of our lone M-60 was lost in the dim past. One of our favorite "resupply" techniques was to invite incoming helicopter crews up to the Teamhouse for refreshments. During the festivities one of us would slip out, walk down to the strip where the chopper was parked, and twist off all but about 3 rounds of linked ammo sticking out of the M-60s they had mounted on board. All the helicopter crews had to know the game. Some just played along better than others. Might have depended on how badly they wanted a cold beer. One day LT Eagle went up with the FAC that usually flew in our AO.

They spotted a water buffalo in a free-fire zone, and decided to put an HE rocket "where the sun don't shine". Again, probably not the best of CA/PsyOps move, but we were young and impetuous. That same FAC bounced the wheel of his bird off the top of the windshield of the jeep Top Sosniak was driving back to the compound from the airfield one day. The FAC was making a low pass over the airfield, and Top, because he was celebrating rotating back to the States in a few days, and was on his last mission.

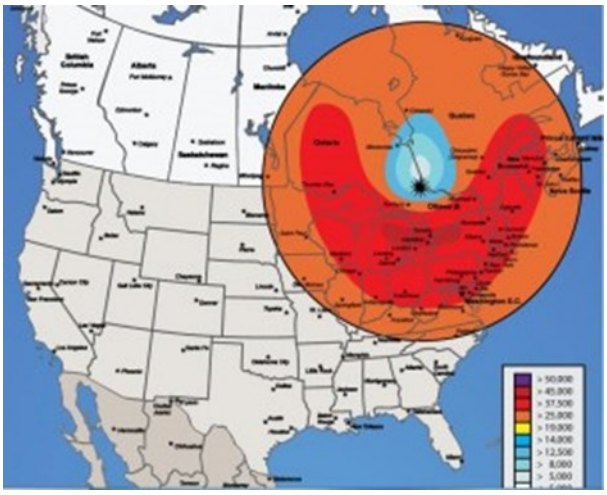
Another personality that, while not assigned to the team, was always good for a laugh was the 5th Group Veterinarian. He carried more weapons than any of the SF soldiers I knew. He was out inoculating water buffalo one day when one of the ungrateful creatures trapped him on a paddy dike, and gored him through the calf. Never being a group that let any humorous event go unrecognized, every time he walked into the club at the C-Team everyone would stand and shout Ole'.
Some time in May, or very early June, while I was there, CPT Gesregan left Ha Thanh to take over as XO at the Mobile Strike Force Battalion located next to the C-Team in Da Nang. That promoted 1LT Eagle to Team CO, and left the XO position open. I had really enjoyed being with the team, and I asked to be assigned as the XO. The Team wanted me to stay also, but the C-Team S-2 had other plans. After I had "missed" several helicopter rides back to Da Nang he ordered me to be on the next one. That ended my vision of being A-104's XO.
I apologize if I haven't mentioned someone who was at A-104 during that time period. The ones I had a close contact with like CPT Robert A. "Al" Gesregan, 1LT Banze Eagle, MSG Tadeusz Sosniak, SFC Noble Zickefoose, SSG Edward "Fat Jack" Gleason, SFC Juan Medina, and SGT Ivan Davis, I'll never forget. The other Team members….Hey it's been 40 years, and it was only 30 days, or so. Mea Culpa already.

Welcome

Prepare for a large-scale nuclear EMP attack over North-America

June 19, 2013 By M.D. Creekmore

Hello fellow survivalists / preppers, this is Seamus Finn, writing to you from the beautiful, French-speaking province of Québec, Canada.



Some of you might already have considered the risks of a large-scale EMP attack over North-America. To the few of you who have not, this is but a small amount of information that might help you survive an EMP-related TEOTWAWKI. The author does not consider himself to be an expert about this matter, but would like to share his little bit of wisdom about what he sees as the most potential survival scenario to happen in the next few years, months maybe.

First of all, here are some frequently-asked questions about EMP attacks.

1: Would an EMP affect items that are unpowered at the moment of the pulse?

Answer : Yes, it would definitely ruin any unpowered, printed-circuit, technological item that remains unprotected at the very moment of TEOTWAWKI.

2: Would a homemade Faraday cage protect my equipment?

Answer: It depends. Most industrial/military Faraday cages rely on a self-sufficient, internal power-supply that would, too, remain unaffected by an EMP attack because it is self-protected inside the Faraday cage. Most homemade designs I have seen consist of a .50 caliber ammo box or an aluminum/steel trash bin that is linked to a car battery or some other non-reliable apparatus. The idea of making a survival Faraday cage is good, but the cage needs some specifics to be considered :

The size of each hole in the cage must be smaller than the wavelength of the pulse/excess charge.

The power supply of the cage must be DC and placed inside of it, because the 3 waves of particles that follow an EMP attack can last from 2 to several minutes, so it's very likely that a power-supply located outside the cage would only protect the content for about 5 nanoseconds.

It needs not be grounded. Actually, it is better not be.

Partial Faraday Cages (such as a microwave oven or a car) MAY protect items that are inside.

Since it is impossible to really test a Faraday cage, don't rely on it too much.

3: How likely is it that a rogue country would detonate a nuclear device above North America?

Answer : Well, if I was a psychopathic, red-button-owning, aggressive dictator, I definitely would. Most countries do NOT have sufficient nuclear power to set ablaze large countries such as the United-States or Canada. The best and most reliable way to ruin these countries, considering they completely depend on electricity, would be to launch a 1MT nuclear warhead in space above North-America (see graph), rather than destroy MAYBE 0.1% of their industrial capacities with above-ground-detonations like in Hiroshima.

So here comes the main topic. I know very few survivalists who would completely refute the risk of such an attack on American soil (or space). Since it is one of the most credible man-caused TEOTWAWKI scenarios, I strongly suggest that every survivalist consider it when prepping. In this matter, this text will focus on how to adapt to the possibility of an EMP attack and the best ways to survive it if it were to happen.

The very first thing to do when prepping for such an event is to acquire skills and knowledge about the way an EMP attack would affect a post-industrialized country such as the United-States. Know that electric centrals would stop generating power. Most cars would completely stop working (forget about your nice automatic transmission sedan or pickup truck, pals), television, radio and Internet news networks as well as government emergency signals would be off, there would be no more running water and oil/gas facilities would stop working. Since urban citizens do not produce their own food, the cities would be full of hunger-driven rioters and raiders. It would be a nightmare to live in a city after the first 48 hours. Considering this, a good prepper needs to plan his bugging out routine according to the situation. Rural citizens, on the other hand, would be mostly unaffected by riots and chaos, unless there is a large city less than a hundred miles around.

A good prepper needs to learn skills and knowledge about how to work things out when completely off the grid. Basic skills such as gardening, power-generation, raising livestock and building structures are essential, but gathering and preserving food, as well as treating water on a long-term basis must not be neglected.

So now, how can someone survive such a crisis? Let's focus on getting out of the city for a minute. Remember, your car doesn't work. Actually, less than 1% of the cars would keep working after an EMP. Only some pre-90's cars would not be affected by an EMP attack. And let's say the pulse happened during the 4pm rush-hour. ALL roads are blocked by idle, useless vehicles. So unless you go by foot or on a bicycle, you better bug-in. Plan on having a good-ol' pickup truck and pray that the blast would occur at night. Still, let's say you don't have a running vehicle. You must go by foot. How far is your bug-out location? 50 miles? A hundred miles? You better have cached supplies on the way, or you might just die of dehydration while bugging out. Is your flashlight affected by an EMP? If so, forget about nighttime traveling, you'll be walking with the sun, pal. Buy yourself an oil lantern or risk having a shortage of light, especially during short days in winter.

Disaster Preparedness

Okay, you're at your BOL, what now? Did you buy/build a manual water pump inside your shelter? If not, you'll need to walk all the way to the nearest stream and then back to your shelter with several gallons of water, which is very energy and time-consuming. Did you plan on having a radio working? If not, better start building a Faraday cage right now. No guarantee it will work, but it's sure as hell better than NOT having one. Don't forget to install your power supply inside the cage, or you'll have a very bad surprise when the grid goes down. Sun goes down again; do you own candles, lanterns and other "antiques"? Did you spend most of your prepping budget on high-tech gear? A 200$ red-dot rifle sight is good, but you could also buy a basic scope instead. Or about a month of food supplies for the same price.

All these questions, a rural prepper must also ask himself. To rely on electricity is to trust international corporations and a corrupted government when it comes to basic needs such as eating, drinking and heating your home. A hobo stove is good, but a cast-iron wood stove is better, and you can use the chimney conducts to heat ALL of your home with these hot pipes. And you know the best? It's less expensive than your brand new, flat-screen TV! WOW!

On a serious note now: remember Katrina. If a regional-scale event caused such a chaos on a mid-sized city, imagine what it would do if the whole east-coast was to be in the dark for a year. Most people would DIE or evacuate. Some would die trying to stand their ground, others would bug-out and maybe make it. But what if help never comes? What if you spend a whole year waiting for federal troops to restore order, while you had NO WAY of knowing that they have been sent away in another country for a large-scale war?
If you think you are ready for an EMP attack, you are wrong. You can only be less unprepared. Be wise, be self-sufficient, be geared, and pray that it never happen.

The Thought Experiment

The Conscience Of The Machine

by **Wendell Wallach**

Computers touch nearly every facet of modern life, from desktop systems that facilitate entertainment, communication and research, to financial systems that initiate millions of transactions on world markets daily. The robots are also coming. They are already evident (although perhaps not recognized), as household appliances, manufacturing systems, museum guides, hospital delivery systems, toys, and even as lethal weapons deployed in Iraq and Afghanistan.

Soon we will have service robots caring for the elderly and homebound. Engineers have always been concerned about the safety of the systems they build. However, designers of computerized systems cannot always predict how they will act in new circumstances with new inputs, therefore safety requires that as the technology becomes more sophisticated, computers and robots will become moral reasoners. So philosophers and engineers are starting to work together to build computer systems and robots that can make moral decisions.

The development of autonomous computers and robots making decisions that can increasingly affect humans for good or bad has given rise to a new field of inquiry, variously known as Machine Morality, Machine Ethics, Friendly AI, Artificial Morality, and Roboethics. It focuses on the prospects for building computers and robots that are moral decision-makers. Designing computers and robots that will not harm humans is both a practical and a philosophical challenge.

'Machine Morality' addresses a number of questions:

- Are machines the kinds of entities that can in principle make moral decisions? If so, why? If not, why not?
- Is moral decision-making something that can be computerized? If so, how?
- Does humanity want machines making moral decisions? When? In what circumstances?
- Whose or what morality should be implemented?

As well as the computational possibilities, the philosophical issues that arise in thinking through these questions are very rich.

The ethical behavior of machines is determined by the values designed into their systems. Initially, complex machines will operate in limited contexts, and to the extent that the designers can predict all the situations a machine will encounter it will be (designed to be) operationally moral. However, as systems cross the threshold where the designers and engineers can no longer predict how they will behave with new inputs, the machines will need a kind of functional morality. That is to say, they will need to process an array of moral considerations in the selection of a course of action.

Whether machines will eventually be artificial moral agents with human-like intelligence and self-awareness is a subject upon which theorists disagree. However, this topic already stimulates serious reflection by philosophers, legal theorists, and futurologists. Discussions about when artificial agents might be held responsible for their actions, and whether they might deserve property and civil rights, have furthered the understanding of moral agency and legal responsibility. While futurology is full of fascinating and illuminating thought experiments, given the relatively primitive state of present-day AI research, the discussions tend to indulge highly speculative possibilities. For the foreseeable future, machine morality will be mainly about ensuring that autonomous systems are safe and that their actions reflect human values.

This issue offers several articles that touch upon different dimensions of machine morality. The first, 'The Challenge of Moral Machines' extends my brief introduction to this new field by outlining the basic issues.

Thought Experiment

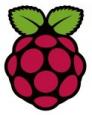
Much of the excitement arising from machine morality is due to the way in which it forces us to consider human ethics and decision-making in new ways. For example, is it essential to have emotions or consciousness to be a moral agent? Steve Torrance inquires 'Will Robots Need Their Own Ethics?' This is followed by the analysis of possibilities James Moor proposes for thinking about artificial moral agency in 'Four Kinds of Ethical Robots'. Analyzing the computational requirements for implementing a rule-based theory of ethics such as utilitarianism or Asimov's laws for robots, is one approach to building moral machines. Tom Powers' discussion on 'Machines and Moral Reasoning' considers how a computer might follow Kant's categorical imperative. Finally, the team of Susan Leigh Anderson (philosopher) and Michael Anderson (computer scientist) have been at the forefront of both philosophic reflection on and experimental implementations of moral decision-making by computers. In an article the Andersons co-authored, they introduce some of their experiments and consider 'How Machines Can Advance Ethics'.

On behalf of all the contributors to this special issue, I invite you to join us in the philosophical enquiry stimulated by the practical need to build moral machines.

Name of Net, Frequency, Local Time	Net Manager
Badger Weather Net (BWN) 3984 kHz, 0500	W9IXG
Badger Emergency Net (BEN) 3985 kHz, 1200	NX9K
Wisconsin Side Band Net (WSBN) 3985 or 3982.5 kHz, 1700	KB9KEG
Wisconsin Novice Net (WNN) 3555 kHz, 1800	KB9ROB
Wisconsin Slow Speed Net (WSSN) 3555 kHz, Sn, T, Th, F, 1830	N1KSN
Wisconsin Intrastate Net - Early (WIN-E) 3555 kHz, 1900	WB9ICH
Wisconsin Intrastate Net - Late (WIN-L) 3555 kHz, 2200	W9RTP
ARES/RACES Net 3967.0 kHz, 0800 Sunday	WB9WKO
* Net Control Operator needed. Contact Net Manager for information.	

Next Regular Meeting

The next meeting will be on Thursday, January 29th, at 7:00PM. We meet in the Fellowship Hall of Redemption Lutheran Church, 4057 N Mayfair Road. Use the south entrance. Access the MRAC Yahoo group for important details about the February Meeting.



Meeting Schedule:

February 26th, 2014 - 7 pm

Please do not call the church for information!

Club Nets

Please check in to our nets on Friday evenings.

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

Visit our website at: **www.w9rh.org**

Or phone (414)-459-9741

Chatter Deadline

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

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

or by Post to:

Michael B. Harris

807 Nicholson RD

South Milwaukee, WI 53172-1447

MRAC & MAARS PRESENT:

Mid-Winter Interclub SwapFest February 14th, 2015

Large Indoor SwapFest with Parking Onsite & Surrounding businesses

The Fifth annual MRAC & MAARS cooperative February Swapfest. Please, no weapons of any kind.

Radios | Computers

Electronics | Ham Gear

Free parking with $5 Admission.

6ft. Tables: $10 in advance,

$12 day of event. Electricity $5

Address:

12560 West Townsend Street

Brookfield, WI 53005

Event talk-in on the MRAC

Repeater, 145.390, (PL 127.3).

And 145.130 (PL 127.3)

Grounds open on Saturday From: 6am to 1pm.

Swapfest Runs From: 8am to 12 noon.

Directions:

Directions From South
Take Ramp (RIGHT) onto I-94 [US-41] towards

I-94 / US-41
At exit 316, take Ramp (LEFT) onto I-43 [I-894]
Keep RIGHT onto I-894 [Zoo Fwy] towards I-894 /

US-45
Continue North, road name changes to US-45 [Zoo Fwy].

At exit 44, keep RIGHT onto Ramp to Capitol Drive
Turn **LEFT** (West) onto W. Capitol Drive
Turn **LEFT** (South) onto N 124th St for 0.4 mi
Turn **RIGHT** (West) onto W Townsend St
Arrive 12560 W Townsend St, Brookfield, WI 53005

Directions From West & I94

Proceed East on I-94
At exit 305B, take Ramp (LEFT) onto US-45 [Zoo Fwy]

At exit 44, keep RIGHT onto Ramp to Capitol Dr.
Turn **LEFT** (West) onto W Capitol Drive for 0.5 mi
Turn **LEFT** (South) onto N 124th St for 0.4 mi
Turn **RIGHT** (West) onto W Townsend St
Arrive 12560 W Townsend St, Brookfield, WI 53005

GPS: N43 04' 48.9", W088 04' 04.3"

APRS W9RH –1

Name_____ Call_____

Address_____

City_____State_____ Zip_____ Phone_____

Email: _____

Table Reservations: $10.00 _____x $10.00 =_____

Advanced Sale Tickets $4.00 _____x $ 4.00 =_____

Electric-Inside– $5.00 =_____

Total.....=_____

Make Check Payable to MRAC & Send a **SASE** to: MRAC, PO Box 26233, Wauwatosa, WI 53226-0233.

Telephone (414) 459-9741 Our website address **http://www.w9rh.org.** Email may be sent to: **swapfest@w9rh.org, or**

Kc9cmt@arrl.net Reservations postmarked after Feb 5th will be will-call only.

Milwaukee Radio Amateurs' Club
FM Simplex Contest

Purpose: To promote FM simplex operation and VHF/UHF contesting while giving new hams an opportunity to develop their contesting skills.

Date: **Sunday, February 8th, 2015**

Time: 2m (1PM – 2 PM), 70cm (2PM – 2:30PM) ,
6m (2:30PM – 3 PM), 1.25m (3PM - 3:30PM)

Region: Southeastern Wisconsin (Grids-EN52, EN53, EN62, EN63) Contacts with other grid squares are also welcomed.

Bands: 2 meters, 70 centimeters, 6 meters, 1.25 meters

Categories: Base, Mobile, HT, and Club

Awards: Certificates given for 1st in each category and individual band with 2nd and 3rd awards based on committee discretion. Limit one award per person. Winning club is recognized on a plaque at AES Milwaukee.

Points: 2 meters-(1 point), 70 centimeters-(2 points), 6 meters (2-points), 1.25 meters-(3 points)

Special Multiplier: 1.5 score multiplier for Technician Class participants.

Bonus Points: Make a contact with the MRAC station W9RH (any band), and receive a 10 point bonus on your score.

Log Information Required: Call sign of station worked, frequency, time, and grid square.

Detailed Contest Information: Detailed contest information and entry forms can be downloaded from the MRAC web site at www.w9rh.org.

VE Testing:

January 31st 2015, 9am— 11:30am

No testing: June, July or December

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

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

Area Swapfests

Jan. 24th Winterfest 2015 **Location:** Collinsville, IL
Type: ARRL Hamfest
Sponsor: The St. Louis & Suburban Radio Club
Website: http://SLSRC.ORG

Feb. 14th MRAC & MAARS Mid Winter Interclub Swapfest **Location:** Brookfield, WI
Type: ARRL Hamfest
Sponsor: Milwaukee Radio Amateurs' Club & Milwaukee Area Amateur Radio Society
Website: http://www.w9rh.org

MRAC Working Committees

100th Anniversary:

- Dave—KA9WXN
- Dan—N9ASA

Net Committee:

- Open

Field Day

Dave—KA9WXN, Al—KC9IJJ

FM Simplex Contest

- Joe – N9UX
- Mark - AB9CD

Ticket drum and drawing

- Tom – N9UFJ

Newsletter Editor

- Michael-KC9CMT

Webmaster

- Dave, KA9WXN

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)-459-9741**

Address correspondence to:

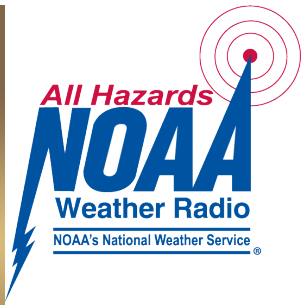
MRAC, PO Box 26233, Milwaukee, WI 53226-0233

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

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

CLUB NETS:

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



The MRAC HamChatter is a monthly publication of the Milwaukee Radio Amateurs' Club. Serving Amateur Radio in Southeastern Wisconsin & all of Milwaukee County
Club Call sign – W9RH
MRAC Website: http://www.W9RH.org
Editor: Michael B. Harris, Kc9cmt, kc9cmt@Earthlink.net

Milwaukee Area Nets

Mon.8:00 PM 3.994 Tech Net

Mon.8:00 PM 146.865- ARRL Newsline

Mon.8:00 PM 146.445+ Emergency Net

Mon.8:00 PM 146.865- Walworth County ARES net

Mon.8:45 PM 147.165- ARRL Audio News

Mon. 8:00 PM 442.100+ Railroad net, also on EchoLink

Mon. 8:30 PM 442.875+ WARC W9CQ net also on EchoLink 576754

Mon. 8:30 PM 442.150+ Waukesha ARES Net on the 1st, 3rd, and 5th Monday of each month.

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

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

Tue. 9:00 PM 145.130+ MAARS Hand Shakers Net

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

Wed. 8:00 PM 145.130+MAARS Amateur Radio Newsline

Wed. 8:00 PM 147.045+ West Allis ARC net

Wed. 8:00 PM 147.270+ Racine County ARES net

Wed. 9:00 PM 145.130+MAARS SwapNet, link to FM-38

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 SSB Net

Fri. 9:00 PM 145.390+ W9RH 2 MTR. FM Net

Sat. 8:00 PM 146.910+ YL's Pink HAMsters 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 146.910+ Information Net

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

Sun 9:00 PM 146.910+ Swap Net

Daily: Milwaukee — Florida Net 7 am, 14.290 mhz.

Thursday's 8:00 PM 448.300+ Tech Net

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

Wisconsin Amateur Radio Club Monday evening 70cm net: WIARC Net on Monday evening @ 8:00 p.m. on 442.875 MHz repeater or 147.390 repeater, EchoLink node # 576754.