

# MRAC Hamateur Chatter

The Milwaukee Radio Amateurs Club

August 2014 Volume 22, Issue 8

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

## Presidents' Letter

First, I want to thank everyone who attended this year's annual MRAC/MAARS picnic. It was great fun seeing everyone enjoying themselves. There were 60 people in attendance, so thank you to all of our members, friends, and families who joined us. I want to personally thank Barry W9BLS for cooking again this year. I also want to thank Dan N9ASA, Pat N9LKH, and Tiff for helping with setup. This year, we had a Yaesu FT-890 and a FT-400 set up for people to operate, and we even checked into the Saturday Night Fusion Net on our repeater, with probably the most check-ins for this weekly net. We are always looking for feedback on ways to improve our picnic. If you have any ideas, please let me know.

September 25th is the next MRAC meeting. We will have the presentation **Mr. Fuszard Goes to Hartford: A Tour of NCVEC, ARRL Convention and W1AW**. I will also share information from my trip to Hartford for the National Centennial Convention. If any other members attended, please share your stories and photos with us at the next meeting. It would also be great if everyone could invite one friend to our meetings. Let's get the word out about our club!

Finally, I would like to take time during the meeting to discuss what you, the members, would like to see for regular club activities. It's important for us as a club to provide both educational and social events to help promote interest in ham radio. Some ideas include:

- Do we want to start a HF net on 80 meters?
- Should we have monthly breakfast outings?
- Should we start holding classes again?
- Do we want to offer equipment check out for new hams?

What can we do as a club to increase the number hams, as well as keep our current members interested and active in the club? Please bring your ideas to the meeting for some good discussion.

73 Dave, KA9WXN



### MRAC Officers:

#### Terms Expiring in 2016

- President – Dave, KA9WXN
- V-President– Dan, N9ASA
- Secretary – MiBH, KC9CMT
- Treasurer – MBH,,KC9CMT
- Director – Vacant

#### 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](http://www.w9rh.org)

Mail correspondence to:

**M. R. A. C.**

**PO Box 26233**

**Milwaukee, WI**

**53226-0233**

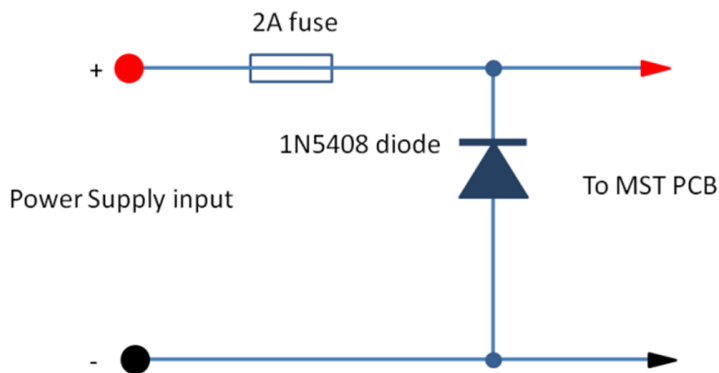
## Reverse Polarity Protection

If you connect your MST and DDS VFO to a power supply with the wrong polarity you are sure to blow something. To protect against accidental reverse polarity two possible prevention methods are described here.

### Method 1

The first method uses a fuse and a power diode and the circuit is shown below.

When the power supply polarity is correct the diode is reverse biased and does not conduct. However if the polarity is reversed, the diode conducts and limits the reverse voltage across the MST to about -0.8V. If the power supply is capable of supplying more than 2 Amps the fuse will blow and disconnect the power supply completely. It's a simple but effective system and the only downside is that you will need a replacement fuse if you happen to blow one. The 1N5408 diode is quite rugged and will withstand the short circuit current until the fuse blows.

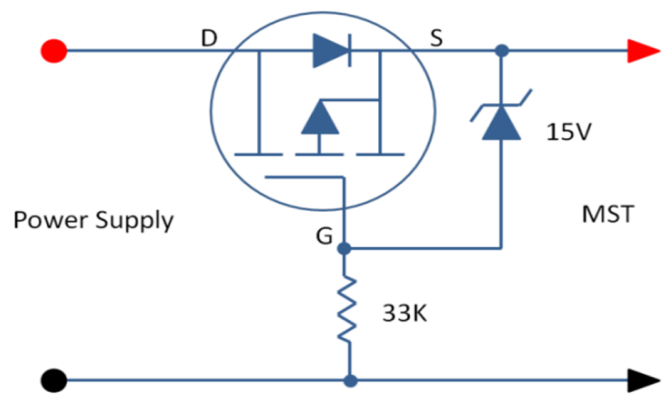


1. Install a fuse holder on the rear panel close to the power supply input connectors. A M205 holder is small enough to be unobtrusive.
2. Wire the positive power supply connector to the supply side of the fuse holder.
3. Wire the load side of the fuse holder to the MST PCB.
4. Solder a 1N5408 diode between the load side of the fuse holder and the negative power supply input connector. The banded or Cathode end goes to the positive connector.

### Method 2

***This idea is kindly supplied by Bruce VK2ZZM.***

It's a more modern approach but requires a bit more effort to implement than method 1. You could wire it in across the power supply connectors spaghetti style, but a more elegant solution would be to make up a small PCB to hold the components. As shown below a P channel power MOSFET (IRF4905) is used and it is not obvious at first glance how it works, so hopefully this explanation will help.



Firstly ignore the 15V Zener, we will get to that later. Secondly remember that for a P channel MOSFET to be turned on the Gate must be at least 4V negative with respect to the Source. In other words  $V_{GS}$  must be less than -4V. We will assume a 12 volt DC power supply is used.

As part of the internal structure of a MOSFET a diode is connected between the Drain and Source terminals and is normally reverse biased.

However in this circuit if power is applied with the polarity shown, the internal diode will be biased on and the Source voltage will be a volt or so below the Drain voltage.

The Gate however is effectively at ground potential because of the 33K resistor and so the Gate voltage is 11V negative with respect to the Source. In other words  $V_{GS}$  is -11V and this turns on the MOSFET.

Once turned on the Drain to Source becomes a very low resistance, bypasses the diode, and supplies power to the MST.

If the power supply is connected with reverse polarity the internal MOSFET diode will not conduct. As a result the Gate to Source voltage never exceeds -4V and the MOSFET remains off protecting the MST.

Let's look at some practical considerations. The Zener diode is included to protect the Gate from excessive voltages. The IRF4905 is rated for  $\pm 20V$   $V_{GS}$  and while this seems adequate in this application the Zener is cheap insurance against unwanted spikes.

If you choose another MOSFET, ensure it is a P channel type, has at least a 60V  $V_{DS}$  rating, can handle the required current and has a very low On resistance. The IRF4905 data sheet shows a maximum On resistance of 0.02 Ohms. The prototype device measured around 20mV drop from Drain to Source at 2A load current.

## Heat Wave: A Major Summer Killer

### A National Problem

Heat kills by taxing the human body beyond its abilities. In a normal year, about 175 Americans succumb to the demands of summer heat. Among the large continental family of natural hazards, only the cold of winter-not lightning, hurricanes, tornadoes, floods, or earthquakes-takes a greater toll. In the 40-year period from 1936 through 1975, nearly 20,000 people were killed in the United States by the effects of heat and solar radiation. In the disastrous heat wave of 1980, more than 1,250 people died.

And these are the direct casualties. No one can know how many more deaths are advanced by heat wave weather-how many diseased or aging hearts surrender that under better conditions would have continued functioning.

North American summers are hot; most summers see heat waves in one section or another of the United States. East of the Rockies, they tend to combine both high temperature and high humidity although some of the worst have been catastrophically dry.

### NOAA's National Weather Service Heat Index Program

Considering this tragic death toll, the National Weather Service (NWS) has stepped up its efforts to alert more effectively the general public and appropriate authorities to the hazards of heat waves-those prolonged excessive heat/humidity episodes.

Based on the latest research findings, the NWS has devised the "Heat Index" (HI), (sometimes referred to as the "apparent temperature"). The HI, given in degrees F, is an accurate measure of how hot it really feels when relative humidity (RH) is added to the actual air temperature. To find the HI, look at the Heat Index Chart. As an example, if the air temperature is 95°F (found on the left side of the table) and the RH is 55% (found at the top of the table), the HI-or how hot it really feels-is 110°F. This is at the intersection of the 95° row and the 55% column.

**IMPORTANT:** Since HI values were devised for shady, light wind conditions, EXPOSURE TO FULL SUNSHINE CAN INCREASE HI VALUES BY UP TO 15°F. Also, STRONG WINDS, PARTICULARLY WITH VERY HOT, DRY AIR, CAN BE EXTREMELY HAZARDOUS

**Heat Index/Heat Disorders:** Possible heat disorders for people in higher risk groups.

Heat Index of 130° OR Higher: HEATSTROKE/SUNSTROKE HIGHLY HIGHER LIKELY WITH CONTINUED EXPOSURE, Heat Index of 105°- 130°: SUNSTROKE, HEAT CRAMPS OR HEAT EXHAUSTION LIKELY, AND HEATSTROKE POSSIBLE WITH PROLONGED EXPOSURE AND/OR PHYSICAL ACTIVITY. Heat Index of 90°- 105°: SUNSTROKE, HEAT CRAMPS AND HEAT EXHAUSTION POSSIBLE WITH PROLONGED EXPOSURE AND/OR PHYSICAL ACTIVITY.

Heat Index of 80° - 90°: FATIGUE POSSIBLE WITH PROLONGED EXPOSURE AND/OR PHYSICAL ACTIVITY

Note on the HI chart the shaded zone above 105°F. This corresponds to a level of HI that may cause increasingly severe heat disorders with continued exposure and/or physical activity.

The "Heat Index vs. Heat Disorder" table (next to the HI chart) relates ranges of HI with specific disorders, particularly for people in higher risk groups.

### Summary of NWS's Alert Procedures

The NWS will initiate alert procedures when the HI is expected to exceed 105°- 1 10°F (depending on local climate) for at least two consecutive days. The procedures are:

- Include HI values in zone and city forecasts.
  - Issue Special Weather Statements and/or Public Information Statements presenting a detailed discussion of
    - o Extent of the hazard including HI values
    - o Who is most at risk
    - o Safety rules for reducing the risk.
    - o Assist state/local health officials in preparing Civil Emergency Messages in severe heat waves. Meteorological information from Special Weather Statements will be included as well as more detailed medical information, advice, and names and telephone numbers of health officials.
- Release to the media and over NOAA's own Weather Radio all of the above information.

### How Heat Affects the Body Human

Human bodies dissipate heat by varying the rate and depth of blood circulation, by losing water through the skin and sweat glands, and-as the last extremity is reached-by panting, when blood is heated above 98.6 degrees. The heart begins to pump more blood, blood vessels dilate to accommodate the increased flow, and the bundles of tiny capillaries threading through the upper layers of skin are put into operation. The body's blood is circulated closer to the skin's surface, and excess heat drains off into the cooler atmosphere. At the same time, water diffuses through the skin as perspiration. The skin handles about 90 percent of the body's heat dissipating function.

Sweating, by itself, does nothing to cool the body, unless the water is removed by evaporation, and high relative humidity retards evaporation. The evaporation process itself works this way: the heat energy required to evaporate the sweat is extracted from the body, thereby cooling it. Under conditions of high temperature (above 90 degrees) and high relative humidity, the body is doing everything it can to maintain 98.6 degrees inside. The heart is pumping a torrent of blood through dilated circulatory vessels; the sweat glands are pouring liquid-including essential dissolved chemicals, like sodium and chloride onto the surface of the skin.

### Too Much Heat

Heat disorders generally have to do with a reduction or collapse of the body's ability to shed heat by circulatory changes and sweating, or a chemical (salt) 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 temperature of the body's inner core begins to rise and heat-related illness may develop.

Ranging in severity, heat disorders share one common feature: the individual has overexposed or over exercised for his age and physical condition in the existing thermal environment.

Sunburn, with its ultraviolet radiation burns, can significantly retard the skin's ability to shed excess heat. Studies indicate that, other things being equal, the severity of heat disorders tend to increase with age-heat cramps in a 17-year-old may be heat exhaustion in someone 40, and heat stroke in a person over 60.

Acclimatization has to do with adjusting sweat-salt concentrations, among other things. The idea is to lose enough water to regulate body temperature, with the least possible chemical disturbance.

### Cities Pose Special Hazards

The stagnant atmospheric conditions of the heat wave trap pollutants in urban areas and add the stresses of severe pollution to the already dangerous stresses of hot weather, creating a health problem of undiscovered dimensions. A map of heat-related deaths in St. Louis during 1966, for example, shows a heavier concentration in the crowded alleys and towers of the inner city, where air quality would also be poor during a heat wave.

The high inner-city death rates also can be read as poor access to air-conditioned rooms. While air conditioning may be a luxury in normal times, it can be a lifesaver during heat wave conditions.

The cost of cool air moves steadily higher, adding what appears to be a cruel economic side to heat wave fatalities. Indications from the 1978 Texas heat wave suggest that some elderly people on fixed incomes, many of them in buildings that could not be ventilated without air conditioning, found the cost too high, turned off their units, and ultimately succumbed to the stresses of heat.

### Preventing Heat-Related Illness

Elderly persons, small children, chronic invalids, those on certain medications or drugs (especially tranquilizers and anticholinergics), and persons with weight and alcohol problems are particularly susceptible to heat reactions, especially during heat waves in areas where a moderate climate usually prevails.

### Heat Wave Safety Tips

**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 (like proteins) that increase metabolic heat production also increase water loss.

Drink plenty of **water or other non-alcohol fluids**. Your body needs water to keep cool. Drink plenty of fluids even if you don't feel thirsty. Persons who (1) have epilepsy or heart, kidney, or liver disease, (2) are on fluid restrictive diets or (3) have a problem with fluid retention should consult a physician before increasing their consumption of fluids.

**Do not drink alcoholic beverages.**

**Do not** take salt tablets unless specified by a physician.

**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 some time each day (during hot weather) in an air conditioned environment affords some protection.

**Don't get too much sun.** Sunburn makes the job of heat dissipation that much more difficult

### Know These Heat Disorder Symptoms

**SUNBURN:** Redness and pain. In severe cases swelling of skin, blisters, fever, headaches. First Aid: Ointments for mild cases if blisters appear and do not break. If breaking occurs, apply dry sterile dressing. Serious, extensive cases should be seen by physician.

**HEAT CRAMPS:** Painful spasms usually in muscles of legs and abdomen possible. Heavy sweating. First Aid: Firm pressure on cramping muscles, or gentle massage to relieve spasm. Give sips of water. If nausea occurs, discontinue use.

**HEAT EXHAUSTION:** Heavy sweating, weakness, skin cold, pale and clammy. Pulse thready. Normal temperature possible. Fainting and vomiting. First Aid: Get victim out of sun. Lay down and loosen clothing. Apply cool, wet cloths. Fan or move victim to air conditioned room. Sips of water. If nausea occurs, discontinue use. If vomiting continues, seek immediate medical attention.

**HEAT STROKE (or sunstroke):** High body temperature (106° F. or higher). Hot dry skin. Rapid and strong pulse. Possible unconsciousness. First Aid: **HEAT STROKE IS A SEVERE MEDICAL EMERGENCY. SUMMON EMERGENCY MEDICAL ASSISTANCE OR GET THE VICTIM TO A HOSPITAL IMMEDIATELY. DELAY CAN BE FATAL.** Move the victim to a cooler environment. Reduce body temperature with cold bath or sponging. Use extreme caution. Remove clothing, use fans and air conditioners. If temperature rises again, repeat process. Do not give fluids. Persons on salt restrictive diets should consult a physician before increasing their salt intake.

*\*For more information contact your local American Red Cross Chapter. Ask to enroll in a first aid course.*

Produced as a cooperative effort of NOAA's National Weather Service, the Federal Emergency Management Agency, and the American Red Cross. NOAA/PA 85001

# Welcome



## Hamilton's Run

10 October 2005

John Culbertson

In February 1967, Luther Hamilton was a PFC in the United States Marine Corps assigned to Hotel Company, 2nd Battalion, 5th Marine Regiment working out of An Hoa Combat Base in I Corps South Vietnam.

The 5'9" Bartlesville, Oklahoma native didn't look at all like a poster Marine. Boyish looking and clean cut with a shock of red hair and a mischievous face, the slender teenager was exactly what the Corps was looking for during the Vietnam War. Hamilton was fearless and had a wild streak a mile long. He never turned down a challenge, nor let anyone know that he would even consider it. Few people that watched Luther Hamilton grow up were surprised when he enlisted in the Marine Corps right out of high school. It had seemed like the normal course of events.

Hamilton found a home in the Corps. He enjoyed the tough training, finding it the ultimate challenge. In return, the Corps turned young Luther Hamilton in to one of America's new breed of baby faced killers, young warriors who would soon set world class standards for bravery, aggressiveness and a total disregard for their own personal safety on the field of battle.

Hamilton's fire team was set up along the south bank of the Thu Bon river, out in the middle of Arizona Territory, west of An Hoa Combat Base. Hotel Company was in a blocking position while Echo and Foxtrot Companies moved out twelve miles to the east on a massive sweep designed to drive VC forces up against the Son Thu Bon. Hamilton's fire team was Hotel Company's northern most position in a thinly spread two thousand kilometer line that was supposed to keep any VC from crossing the river alive. A two-gun battery of 105mm howitzers had been set up at nearby Phu Loc 6 to fire artillery support and illumination in case the Marines needed it.

The four-man position was manned by PFC Cross, Corporal Lewis, Corporal Ybarra and Hamilton and contained a well camouflaged bunker with several individual fighting positions out in front. After 2400 hours the fire team went on 50% alert. Cross and Lewis went to sleep in the back of the bunker while Hamilton and Ybarra took security up in the fighting positions across the front. Cross was the team's radio operator and wasn't very happy about being out in Arizona territory. With just over a week left in-country, Cross was too "short" to be sitting out on a blocking force with only three other Marines. Lewis, the ranking man on the team, was also the newest having just transferred in from the 1st of the 26<sup>th</sup> Marines. Everyone had known some new guy who had gotten zapped in the bush being too careless, but the same went for some very "short" people who caught the "personalized" bullet being too cautious and too uptight. Cross was uptight, and hiding in the bunker was definitely being too cautious. Manuel Ybarra was a short, stocky Marine who was strong as a bull. Because of the difficulty everyone had pronouncing his Spanish surname, all the troops call him "Yogi".

A few minutes after 0200 hours, all hell broke loose a click down river. Hamilton didn't know what was happening but he could tell that the firing was coming from Marine weapons. He wouldn't find out the details until much later, but another Hotel 2/5 position manned by Marines Kirby, Burns, Blocker and Culbertson had just opened up on four shallow draft boats that dozen VC were using to cross the river. The Marines had waited until the VC were in midstream right in front of their positions, and had killed every one of them.

Unknown to the four Marines in Hamilton's position, at the same time the twelve VC had shoved their boats in to the river downstream, another squad of VC was doing the same thing 500 meters upstream.

When the Marine fire team down stream had opened up on the VC out in the river in front of their positions, the four Marines at Hamilton's position became alert and moved to the front of their bunker immediately. All eyes strained down river in the direction of the heavy firing that was still going on.

Simultaneously, the second group of enemy craft were crossing the river heading directly for Hamilton's fighting hole, out alone and fully exposed on both flanks and to its rear. The VC boatmen where quietly propelling the low profile boats with bamboo sweep oars when they spotted the faces of Hamilton's squad peering over the edge of the embankment. Without a moment's hesitation, the VC squad opened fire with their rifles then hurled three ChiCom grenades over the top of the berm. The burst of VC small arms fire drove the four Marines down in to their holes just as the grenades bounced in to the bunker and exploded.

Inside the dugout the shrapnel that was not absorbed by the red clay and sandbags sought out the four Marines seeking shelter against the front wall of the bunker. Red hot shards of grenade casing tore in to them with a vengeance. PFC Cross, outboard of the four Marines, took the brunt of the grenade shrapnel in his body and helmet. The Kevlar panels of his vest stopped much of the deadly shrapnel, preventing it from penetrating his torso. Likewise the Marine's steel helmet and strong plastic liner kept lethal slivers away from his head and brain. But there was nothing to protect Cross's exposed face, and the ChiComs had made a mess of it.

A large piece of shrapnel impacted the Marine's jaw, cutting away the lower side of his face and knocking him senseless in to the dirt floor of the bunker. The wounds were terrible.

Some of the shrapnel that missed Cross lightly wounded the other three Marines, but they quickly dismissed their own wounds as inconsequential when they saw how badly Cross had been hit. There were no corpsmen in the bunker that night, just a bunch of scared, wounded Marines about to learn that the furnace of battle is the birthing ground of veterans.

"God above, turn him over. I can't see his face!" Hamilton yelled at the other two Marines down on their knees staring in to Cross's mangled countenance. "Jesus, where is the fucking corpsman when you need him? Shit!"

Ybarra applied a couple of battle dressings to the Marine's wounded face, while muttering, "This looks bad, Luther."

When Corporal Lewis screamed for Hamilton to get [on the radio](#) and call for a medevac, they quickly discovered that the radio had been smashed by the same blast that wounded Cross.

Hamilton dropped to one knee and stared in to Cross's glazed eyes. The battle dressing were already soaked through with his blood. The Marine knew immediately that if Cross didn't get to a hospital soon, he was as good as dead.

"I'm going for help," Hamilton hissed as he started to remove his gear. Ybarra and Lewis tried to talk him in to staying in the bunker, warning him that Charlie was out there waiting in the darkness. Besides, it was seven clicks back to Phu Loc 6 and twelve kicks back to An Hoa across open rice paddies and over jungle covered hills.

Ybarra had once seen a whole team of Force Reconnaissance Marine up on the DMZ near Cam Lo after the North Vietnamese had ambushed them. After the Marines had been cut down, the NVA had tied their arms behind their backs with poles through them. They had cut out their tongues and sliced of their private parts, which they then placed in their gapping mouths. Charlie could be bad if he caught you alive! Neither one of the Marines wanted to see Luther Hamilton throw his life away.

But Hamilton was adamant. Cross was his friend, and he only had a week left in Nam. He wasn't going to let him die without trying to get him some help. Hamilton shucked off his helmet, flak vest and web gear and set his weapon against the front wall of the bunker. Taking only Lewis's .45 automatic and his web belt and holster so he could travel light, Hamilton told them that he was going to run all the way to Phu Loc 6. An Hoa was too far, and he didn't think Cross would last that long. Warning his two companions to keep Cross's head elevated and the pressure dressings on, he told them he would see them, soon, then Luther Hamilton disappeared over the parapet in to the night.

Hamilton ran down along the river trail, then turned south. After a hundred meters he cut sharply to the west away from the river and picked up a secondary trail that led across the southern edge of a huge rice paddy before turning in to the main street of a sleeping Vietnamese village.

Hamilton avoided entering the hamlet proper, opting to fog along the backside of the huts while keeping a close eye on the building for any sign of movement. There was nothing! Not even a dog barked as the Marine passed in the darkness. Soon, he had left the hamlet far behind.

Getting his second wind, Hamilton reached another matrix of rice paddies. The murky, shallow water glowed iridescent in the night, shimmering in the pale moonlight like light playing across the face of black star sapphire. Luther knew that the quarter moon over his shoulder would not easily project his silhouette to any watching VC, but it was enough illumination to make detectable the movement of someone running through the night. Instinctively, Hamilton sought out tree lines and the shadows of paddy dikes to mask his movement. Occasionally, he was forced to break out in the open to cross roads, berms or high spots in the trail.

Now in a ground eating rhythm, Hamilton ran through numerous rice paddies, covering one only to find another in his path. The short ones he covered in a sprint, the long exposed ones he traversed with a combination of crawling, duckwalking and jogging, trying to take advantage of all the cover afforded by drainage ditches, dikes, tree lines and an occasional abandoned hut.

While Hamilton was taking his chances out in the darkened Vietnamese countryside, things back at the bunker were going to hell in a hurry. Cross coughed to life, disgorging a torrent of blood and saliva that splattered the faces of his two comrades as they looked on in horror. Lewis ordered Ybarra to get the bloody dressing off Cross's face before he choked to death. When Ybarra did this, he discovered that he could no longer control the flow of blood. After awhile, Cross sputtered and emitted a low, shallow moan then grew suddenly quiet. His two companions were visibly upset. Watching their fellow Marine lie there and die in his own gore with only a week left in-country was more than they could handle. And now, somewhere out there in the darkness, Luther Hamilton was putting his life on the line to save a fellow Marine who was already beyond help.

As Luther rounded a brush-covered hillock, another row of huts came in to view. He held his breath. Just ahead, a quarter of a mile away, lay the vague outlines of the sandbagged bunkers on the Marine perimeter at Phu Loc 6.

He made no sound as he reached the back of the huts and crept out in to the open field behind the village. In his haste to reach Phu Loc 6, Luther made several wrong turns before lurching on to the dike that led away from the village. As he passed the last of the huts, angry shouts broke the silence behind him. He heard the high-pitched, clipped voices screaming in Vietnamese. "DONGLAI...DONGLAI," came the shouted command to halt. With sudden burst of adrenalin, Luther picked up speed as he ran along the trail across the paddy dike.

"MARINE, MARINE YOU DIE TONIGHT," came the next high-pitched nasal threat from a small group of VC who had picked up Hamilton's trail and were now pursuing him through the darkness.

The path was hard and dry as Hamilton sped along. His muscles were screaming in pain, but he could not stop now – not this close to the end. The perimeter wire around Phu Loc 6 was only 400 meters away. Luther Hamilton's heart was pounding in his chest and his lungs were on fire, and a squad of bloodthirsty VC were hard on his heels, but he had to reach Phu Loc 6 to get help for Cross.

Suddenly, a line of green tracers passed over Hamilton's head and ricocheted off the hard ground at his feet. The VC realizing they couldn't catch him before he reached the safety of the Marine positions, had decided to bring him down now. They stopped their pursuit and opened fire in earnest.

Hamilton jinked to the side and leaped off the trail on to the main road running up to the entrance to Phu Loc 6. Only a hundred and fifty meters to go! Another angry volley of full automatic fire passed just over Hamilton's head. He looked aback over his shoulder and saw that the VC were walking their tracers in on him.

It was then that scarlet tracers tore through the night from the direction of the Marne perimeter. Hamilton knew that he would never survive the deadly crossfire that he now found himself in. But then he noticed that the Marines on the wire at Phu Loc 6 were not shooting at him. They had spotted Hamilton's pursuers and had figured what was going on in time for to direct their M-60s to lay down a base of fire on the VC trying to bring down the running Marine.

Hamilton never stopped once, but as he approached the wire he yelled back an obscenity at the fleeing VC. Then he was through the wire and in to the arms of a Marine sentry posted there.

"Where in the hell did you come from, man?" You almost got your butt blown, away but some dude yelled you were a Marine!"

Hamilton, stood there bent at the waist with his hands on his knees. He was trying to suck air in to his burning lungs while his hear tried to decelerate enough for him to tell someone about Cross lying wounded out by the river. By the time he could talk, the Golf Company Sergeant on the radio had just apprised him of what had happened up on the perimeter wire. The Gunny told the sentry to put Hamilton on the radio.

Hamilton quickly told him what had happened at his position out along the Song Thu Bon, and that he had left a badly wounded Marine back there who needed help immediately. It was then that the Gunnery Sergeant reported to Hamilton that they had already picked up a transmission from another Hotel Company position in order to radio Battalion that they had been hit. He had also reported that Cross had died five minutes after Hamilton had left to go for help.

Devastated by the news that Cross was gone, Hamilton allowed himself to be led away where a Navy corpsman check him out. Luther Hamilton had lacerations to his knees and elbows from crawling over two miles along paddy dikes, but he would heal. The next morning he caught the early supply chopper back to An Hoa. Luther reported directly to the Battalion Headquarters of Lieutenant Colonel W. C. Airheart, Commanding Officer, 2<sup>nd</sup> Battalion, 5<sup>th</sup> Marine Regiment, 1<sup>st</sup> Marine Division. With Colonel Airheart was Hamilton's CO, Captain J.J. Doherty.

Hamilton stood at attention while the Colonel commended him on his bravery and told him that he was being put in for a Bronze Star with 'V' for his actions.

When Hotel Company returned to An Hoa the next day, everyone wanted a word with the unit's newest hero. Luther Hamilton, rumor had it, had run sever miles at night through enemy country, was chased and fired upon by a platoon of VC, and had survived without a scratch. Bronze Star! Bullshit, PFC Luther Hamilton deserved a Navy Cross – he had balls made of steel.

## Encryption 101: Understanding Encryption

### A hands-on approach for those of us who aren't good at math

By [Andy O'Donnell](#), About.com Guide

[WPA2](#), [WEP](#), 3DES, AES, Symmetric, Asymmetric, what does it all mean, and why should you care?

All these terms are related to encryption technologies used to protect your data. [Encryption](#) and cryptography in general, can be difficult topics to wrap your head around. Whenever I hear the words cryptographic algorithm, I picture some nerdy professor writing equations on a chalkboard, muttering something to himself about the Medulla Oblongata as my eyes glaze over from boredom.

### Why should you care about encryption?

The main reason you need to care about encryption is because sometimes it's the only thing between your data and the bad guys. You need to know the basics so that you will, at the very least, know how your data is being protected by your bank, e-mail provider, etc. You want to make sure they're not using outdated stuff that hackers have already cracked.

Encryption is used just about everywhere in all kinds of applications. The main purpose for the use of encryption is to protect the confidentiality of data, or to aid in the protection of the integrity of a message or file. Encryption can be used for both data 'in transit', such as when it is being moved from one system to another, or for data 'at rest' on a DVD, USB thumb drive, or other storage medium.

I could bore you with the history of cryptography and tell you how Julius Caesar used ciphers to encode military messages and all that type of stuff, but I'm sure there are a million other articles on the net that could provide far more insight than I could give, so we'll skip all that.

If you're like me, you want to get your hands dirty. I'm a learn-by-doing type of person. When I started my study of encryption and cryptography before I took the CISSP exam, I knew that unless I could "play" with encryption, then I would never truly understand what was happening behind the scenes when something is encrypted or decrypted. I'm not a mathematician, in fact, I'm horrible at math. I didn't really care to know about the equations involved in the encryption algorithms and whatnot, I just wanted to know what's happening to the data when it's encrypted. I wanted to understand the magic behind it all.

### So, What's the best way to learn about encryption and cryptography?

While studying for the exam, I did some research and found that one of the best tools to use to get hands-on experience with encryption was an application called [CrypTool](#). CrypTool was originally developed by the Deutsche Bank back in 1998 in an effort to improve its employees understanding of cryptography. Since then, CrypTool has evolved into a suite of educational tools and is used by other companies, as well as universities, and anyone else who wants to learn about encryption, cryptography, and cryptanalysis.

The original Cryptool, now known as Cryptool 1 (CT1), was a Microsoft Windows-based application. Since that time, there have been several other versions released such as Cryptool 2 (a modernized version of Cryptool, JCryptool (for Mac, Win and Linux), as well as a purely browser-based version called Cryptool-Online.

If studying encryption and cryptography still sounds a little on the boring side, fear not, the best part of anything crypto-related is the part where you get to code-break. Cryptanalysis is a fancy word for code-breaking, or trying to figure out what the decrypted message is, without having the key. This is the fun part of studying all this stuff because everyone likes a puzzle and wants to be a hacker of sorts.

The Cryptool folks even have a contest site for would-be code-breakers called [MysteryTwister](#). The site lets you try your luck against ciphers requiring only pen and paper, or you can step up to more complicated challenges that require some programming skills coupled with some serious computer power.

If you really think you've got what it takes, you can test your skills against the "Unsolved Ciphers". These ciphers have been analyzed and researched by the best of the best for years and have still not been cracked. If you crack one of these then you might just earn yourself a place in history as the guy or gal who cracked the uncrackable. Who knows, you might even land yourself a job with the NSA.

The point is, encryption doesn't have to be a big scary monster. Just because someone is awful at math (like me) doesn't mean they can't understand encryption and have fun learning about it. Give Cryptool a try, you could be the next great code-breaker out there and not even know it.

Cryptool is free and is available at the [Cryptool Portal](#)

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

## Next Regular Meeting

The next meeting will be on Thursday, September 25th, 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:

**October 30th, 2014 7 pm**

**Please do not call the church for information!**



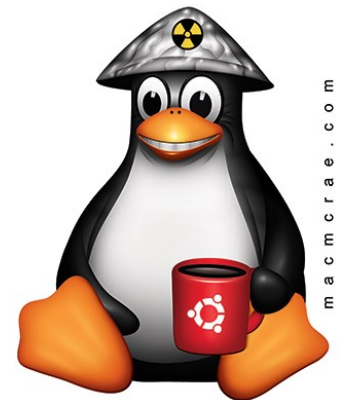
## Club Nets

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](http://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: [Kc9cmt@earthlink.net](mailto:Kc9cmt@earthlink.net)

**or by Post to:**

Michael B. Harris

807 Nicholson RD

South Milwaukee, WI 53172-1447



## VE Testing:

August 30, 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

August 23, | [Circus City Swapfest](#) Location: [Baraboo](#), WI  
Type: ARRL Hamfest

Sponsor: Yellow Thunder Amateur [Radio](#) Club

Website: <http://yellowthunder.org>

Sept. 27th, ORC fall swapfest Location: Cedarburg, WI  
Fireman's' Park, 6am—noon

Website: [ozaukeeradioclub.org](http://ozaukeeradioclub.org)

## MRAC Working Committees

### 100th Anniversary:

- Dave—KA9WXN
- Dan—N9ASA

### Net Committee:

- Open

### Field Day

Dave—KA9WXN, Al—KC9IJJ

### FM Simplex Contest

- Joe – N9UX
- Jeff – K9VS

### Ticket drum and drawing

- Tom – N9UFJ

### Newsletter Editor

- Michael-KC9CMT

### 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:

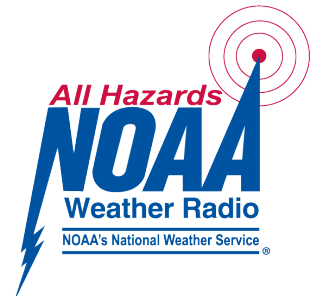
**MRAC, PO Box 26233, Milwaukee, WI 53226-0233**

Email may be sent to: [w9rh@arrl.net](mailto: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  $\pm$  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)



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](mailto: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

