HAMATEUR CHATTER

The Milwaukee Radio Amateurs Club

May 2014 Volume 22, Issue 5

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

Presidents' Letter

Just finished attending the 2014 Dayton Hamvention. This year had some of the strangest weather that I can remember. Most days were in the mid 40s with some sleet or small hail. I still had a good time walking around looking at equipment of all types. It is amazing what 20,000 hams can do to the local wireless internet. Many of the cell companies couldn't handle the amount of data that us hams were trying to use. I think everyone was trying to check the weather at the same time.

At last months meeting we had a presentation on the balloon launch that we participated in. There were many good questions asked of our guests. I think this was one of the best programs we have had. It was nice to see the membership interacting and getting excited. Some of us talked after the meeting, about how nice it would be if we can find a club project. We are looking for ideas that could lead to a club project. If you have any ideas please let us know what you think would be of interest.

This months meeting is the our annual club auction. Dave WB9BWP will again act as our auctioneer for the event. Please bring any items that you looking to get rid of. Please tell your friends about the auction. The more people that show up, the more fun it will be.

Field Day is a less than a month away. We will again be doing a multi-club effort with Gateway Technical and MAARS. We are looking to run at least 3 stations again this year.

It would be nice to see more members come out and operate. We are a very laid back group that is more interested in having fun than winning. The field day site is at **Konkel Park Located at 5151 West Layton Ave, Greenfield, WI 53220.** We will begin setup around 1pm on Friday afternoon. Our goal is to be able to check into the 10 meter net that evening.

MRAC Officers:

Terms Expiring in 2014

- President – Dave, KA9WXN
- V-President– Dan, N9ASA
- Secretary – Mike, KC9CMT
- Treasurer – Joe, N9UX
- 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

Mail correspondence to:

M. R. A. C.

PO Box 26233
Milwaukee, WI

53226-0233

Combined Meeting Minutes

Board of directors meeting called to order at 7:01 pm by Dave Shank, KA9WXN club president. The Board of Directors' meeting took place on April 21st at the Menominee Falls public Library.

Director's present: Michael KC9CMT, Dave KA9WXN, Joe N9UX, Mark Morgan KB9RQZ, Dan N9ASA, Al KC9IJJ.

Absent: Hal, KB9OZM The MRAC is still one short on it's board of directors.

Preliminary Discussions: The Board of Director's minutes were accepted as published in the April Chatter by a motion forwarded by Michael, KC9CMT seconded by Al, KC9IJJ. Joe, N9UX, did not have a report on the treasury due to the early meeting this month of May. Joe did though, go over a brief explanation of what the treasurer of our club does. The new board member, Mark Morgan, KB9RQZ was welcomed and briefed on what a member of the MRAC board does.

Meeting programs: The May meeting is the annual club auction. The club does not require any fees from their auction, but encourages donations to the club. The club needs four directors' positions filled this year. Our June meeting will be the 26th this year, the week before ARRL field day. A show and tell session has been planned for June. In September, Joe N9UX will bring in and discuss his Raspberry Pi based TNC.

Field Day: The farmers market will be at Konkel park in Greenfield again in 2014 during our field day effort. The dates in 2014 are the 27th – 29th of June.

Special Project Committees & Committee reports: Michael, KC9CMT has consented to stay on as the club secretary for another term. Dave, and Dan will also be staying in their present positions. The club needs to find a new treasurer. Discussions regarding the new treasurer has been tabled until next month. The MRAC/MAARS joint picnic will be on August 9th, 2014 at Greenfield park. The FM Simplex contest in 2015 will take place on February 8th. The annual MRAC/MAARS food gathering will be during the February 2015 membership meeting on February 26th.

Repeater Report: Dave, WB9BWP is the repeater trustee. The club would like more than one repeater control operator. A club control operator should be a extra class operator to have the privileges necessary to operate the club callsign during field day or any other special event.

New Business:

Swapfest Committee: Next years Swapfest will fall on February 14th, Valentines day. The club does not think that this will be a problem. Next years complimentary tickets should be ready by the November membership meeting. Swapfest entrance tickets need to be ready by the first week on January.

Special Projects: The club needs someone to take over the FM simplex contest for February of 2015. The club now has a Facebook page. All club members are invited to join in. The club is looking for a location for setting up a special event station. The USS Cobia at the Manitowoc maritime museum was mentioned as a overnight special event. An event at the Discovery museum at the Lake front has received considerable mention at board of director meetings. Dave, KA9WXN will be attending the ARRL 100th anniversary convention this year.

We have contacted ARRL in the hopes of getting a framed document from them celebrating our clubs' being the oldest active amateur radio clubs' in the country.

A motion was made to adjourn the meeting at 8:15 pm by Dave, KA9WXN seconded by Al, KC9IJJ. Meeting adjourned at 8:20 pm. The room was returned to an organized condition as it was when the room was opened

ARRL Centennial Convention Attracting Growing List of Vendors and Exhibitors

Upward of 7 dozen vendors and exhibitors already are planning to be on hand for the ARRL National Centennial Convention in mid-July.

Convention activities begin on Thursday, July 17. The 60,000 square feet exhibit hall will be open all day Friday and Saturday, July 18 and 19, at the Connecticut Convention Center in Hartford, for what promises to be the largest gathering of its kind in the Northeast.

"We're very excited that so many of our *QST* advertisers, business partners, fellow societies, and radio clubs from around the country and the world will be coming to Connecticut for the Centennial Convention and to help the League celebrate its 100th birthday," said ARRL Business Services Manager Deb Jahnke, K1DAJ. "It's going to be quite a show!"

It's anticipated that some vendors may offer "show specials" during the 2 days the spacious exhibit hall is open. In addition, there will be two major prize drawings. The ARRL and R&L Electronics will co-sponsor a drawing for a $5000 grand prize gift certificate, and ARRL and FlexRadio will co-sponsor a drawing for a $2500 gift certificate. "The certificates will be redeemable at the co-sponsors' respective establishments," Jahnke explained.

Winners will be drawn from eligible registrants at the end of the convention on Saturday, July 19. The winners do not need to present during the drawings.

The exhibit hall also will be the place to network with other ARRL members and friends. Conventioneers from all 50 states and more than a dozen countries have already registered. Those attending the convention also will want to visit the large ARRL exhibit area, featuring program representatives, officials, and a store full of the latest ARRL publications and membership gear.

Thousands of League members and friends are expected to gather in Hartford, ARRL's birthplace, to celebrate the organization's first 100 years of members "Advancing the Art and Science of Radio." Register now to be among them!

Severe Thunderstorm (Hail, Lightning, and Wind)

Severe Thunderstorm - A thunderstorm which produces tornadoes, hail 0.75 inches or more in diameter, or winds of 50 knots (58 mph) or more. Structural wind damage may imply the occurrence of a severe thunderstorm.
Approaching (severe levels) - A thunderstorm which contains winds of 35 to 49 knots (40 to 57 mph), or hail 1/2 inch or larger but less than 3/4 inch in diameter.
Thunderstorms may produce none of the above conditions but by definition produces lightning.
Severe thunderstorms may also be a supercell. A supercell is - A thunderstorm with a persistent rotating updraft. Supercells are rare, but are responsible for a remarkably high percentage of severe weather events - especially tornadoes, extremely large hail and damaging straight-line winds. There are three predominate types of supercells: High Precipitation, Low Precipitation, and Classic.

They frequently travel to the right of the main environmental winds (i.e., they are right movers). Radar characteristics often (but not always) include a hook or pendant, bounded weak echo region (BWER), V-notch, mesocyclone, and sometimes a TVS. Visual characteristics often include a rain-free base (with or without a wall cloud), tail cloud, flanking line, overshooting top, and back-sheared anvil, all of which normally are observed in or near the right rear or southwest part of the storm. Storms exhibiting these characteristics often are called classic supercells; however HP storms and LP storms also are supercell varieties.

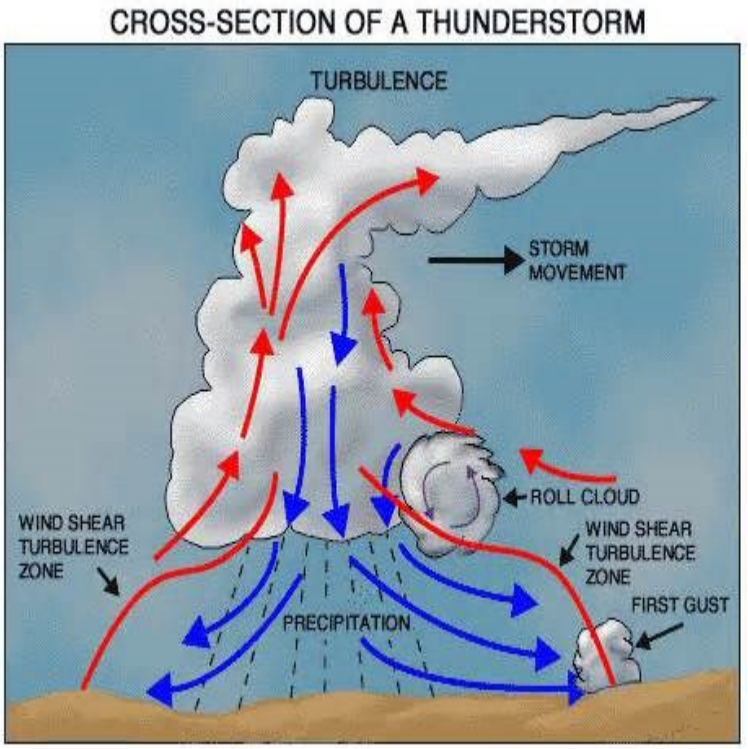
High Precipitation (HP) - HP Storm or HP Supercell - High-Precipitation storm (or High-Precipitation supercell). A supercell thunderstorm in which heavy precipitation (often including hail) falls on the trailing side of the mesocyclone. Precipitation often totally envelops the region of rotation, making visual identification of any embedded tornadoes difficult and very dangerous. Unlike most classic supercells, the region of rotation in many HP storms develops in the front-flank region of the storm (i.e., usually in the eastern portion). HP storms often produce extreme and prolonged downburst events, serious flash flooding, and very large damaging hail events.

Low Precipitation (LP) - LP Storm (or LP Supercell) - Low-Precipitation storm (or Low-Precipitation supercell). A supercell thunderstorm characterized by a relative lack of visible precipitation. Visually similar to a classic supercell, except without the heavy precipitation core. LP storms often exhibit a striking visual appearance; the main tower often is bell-shaped, with a corkscrew appearance suggesting rotation. They are capable of producing tornadoes and very large hail. Radar identification often is difficult relative to other types of supercells, so visual reports are very important. LP storms almost always occur on or near the dry line, and thus are sometimes referred to as dry line storms.

Hail - formed when water droplets are carried into the storm multiple times. Each time a new layer of water freezes to the stone, resulting in an increasing hail stone size. Eventually the hail stone becomes too heavy and falls to the ground. Large hail is dangerous to property and animals, especially when driven by strong winds.

Lightning - produced when an electrical discharge occurs within convection. Lightning is typically characterized as cloud to cloud, cloud to ground, and in-cloud. Cloud to ground is most hazardous to animals. A lightning bolt can have a positive or negative charge.

Wind (convective) - produced by thunderstorm outflow or downdraft. There are also Derechos, Derecho - (Pronounced deh-REY-cho), a widespread and usually fast-moving windstorm associated with convection. Derechos include any family of downburst clusters produced by an extratropical MCS, and can produce damaging straight-line winds over areas hundreds of miles long and more than 100 miles across. Strong winds can also occur ahead of a severe storm or tornado. This may be in relation to the surface pressure gradient, amplified by the approaching thunderstorm.



Welcome

The Schottky barrier diode

The Schottky diode or Schottky Barrier diode is an electronics component that is widely used for radio frequency (RF) applications as a mixer or detector diode.

The Schottky diode is also used in power applications as a rectifier, again because of its low forward voltage drop leading to lower levels of power loss compared to ordinary PN junction diodes.

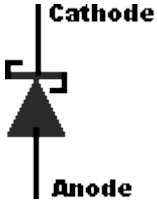
Although normally called the Schottky diode these days, named after Schottky, it is also sometimes referred to as the surface barrier diode, hot carrier diode or even hot electron diode.

Schottky barrier diode history

Despite the fact that Schottky barrier diodes have many applications in today's high tech electronics scene, it is actually one of the oldest semiconductor devices in existence. As a metal-semiconductor devices, its applications can be traced back to before 1900 where crystal detectors, cat's whisker detectors and the like were all effectively Schottky barrier diodes.

Schottky diode symbol

The Schottky diode symbol used in many circuit schematic diagrams may be that of an ordinary diode symbol. However it is often necessary to use a specific Schottky diode symbol to signify that a Schottky diode rather than another one must be used because it is essential to the operation of the circuit. Accordingly a specific Schottky diode symbol has been accepted for use. This Schottky diode symbol is shown below:



Schottky diode symbol

Schottky diode advantages

Schottky diodes are used in many applications where other types of diode will not perform as well. They offer a number of advantages:

- Low turn on voltage
- Fast recovery time

Low junction capacitance

Applications

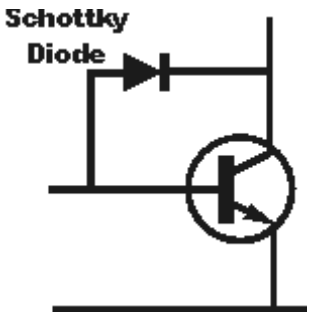
The Schottky barrier diodes are widely used in the electronics industry finding many uses as diode rectifier. Its unique properties enable it to be used in a number of applications where other diodes would not be able to provide the same level of performance. In particular it is used in areas including:

RF mixer and detector diode: The Schottky diode has come into its own for radio frequency applications because of its high switching speed and high frequency capability. In view of this Schottky barrier diodes are used in many high performance diode ring mixers. In addition to this their low turn on voltage and high frequency capability and low capacitance make them ideal as RF detectors.

- ***Power rectifier:*** Schottky barrier diodes are also used in high power applications, as rectifiers. Their high current density and low forward voltage drop mean that less power is wasted than if ordinary PN junction diodes were used. This increase in efficiency means that less heat has to be dissipated, and smaller heat sinks may be able to be incorporated in the design.
- ***Power OR circuits:*** Schottky diodes can be used in applications where a load is driven by two separate power supplies. One example may be a mains power supply and a battery supply. In these instances it is necessary that the power from one supply does not enter the other. This can be achieved using diodes. However it is important that any voltage drop across the diodes is minimized to ensure maximum efficiency. As in many other applications, the Schottky diode is ideal for this in view of its low forward voltage drop. Schottky diodes tend to have a high reverse leakage current. This can lead to problems with any sensing circuits that may be in use. Leakage paths into high impedance circuits can give rise to false readings. This must therefore be accommodated in the circuit design.

- ***Solar cell applications:*** Solar cells are typically connected to rechargeable batteries, often lead acid batteries because power may be required 24 hours a day and the Sun is not always available. Solar cells do not like the reverse charge applied and therefore a diode is required in series with the solar cells. Any voltage drop will result in a reduction in efficiency and therefore a low voltage drop diode is needed. As in other applications, the low voltage drop of the Schottky diode is particularly useful, and as a result Schottky diodes are normally used in this application.

Clamp diode - especially with its use in LS TTL: Schottky barrier diodes may also be used as a clamp diode in a transistor circuit to speed the operation when used as a switch. They were used in this role in the 74LS (low power Schottky) and 74S (Schottky) families of logic circuits. Schottky barrier diodes are inserted between the collector and base of the driver transistor to act as a clamp. To produce a low or logic "0" output the transistor is driven hard on, and in this situation the base collector junction in the diode is forward biased. When the Schottky diode is present this takes most of the current and allows the turn off time of the transistor to be greatly reduced, thereby improving the speed of the circuit.



An NPN transistor with Schottky diode clamp

Schottky diode technology & structure

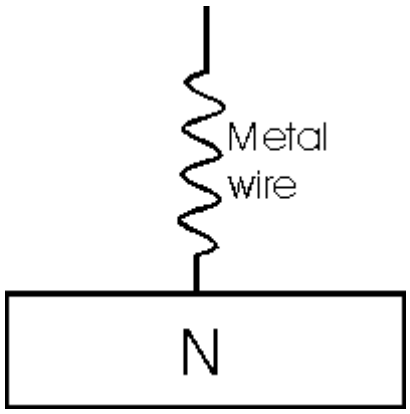
Although it may appear a rather straightforward form of component when compared to others, Schottky diode technology has much to offer. The Schottky diode structure while appearing straightforward is able to offer performance that no other form of diode can provide.

As a result, Schottky diode technology has developed to enable it to be used in areas that would otherwise not have been possible.

Basic Schottky diode structure

The Schottky barrier diode can be manufactured in a variety of forms. The most simple is the point contact diode where a metal wire is pressed against a clean semiconductor surface. This was how the early Cat's Whisker detectors were made, and they were found to be very unreliable, requiring frequent repositioning of the wire to ensure satisfactory operation. In fact the diode that is formed may either be a Schottky barrier diode or a standard PN junction dependent upon the way in which the wire and semiconductor meet and the resulting forming process.

Point contact Schottky diode

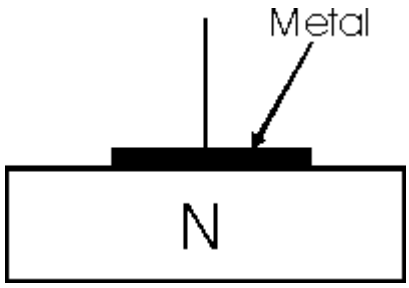


Point contact Schottky diode

Vacuum deposited Schottky diode structure

Although point contact diodes were manufactured many years later, these diodes were also unreliable and they were subsequently replaced by a technique in which metal was vacuum deposited.

Deposited metal Schottky diode



Deposited metal Schottky barrier diode

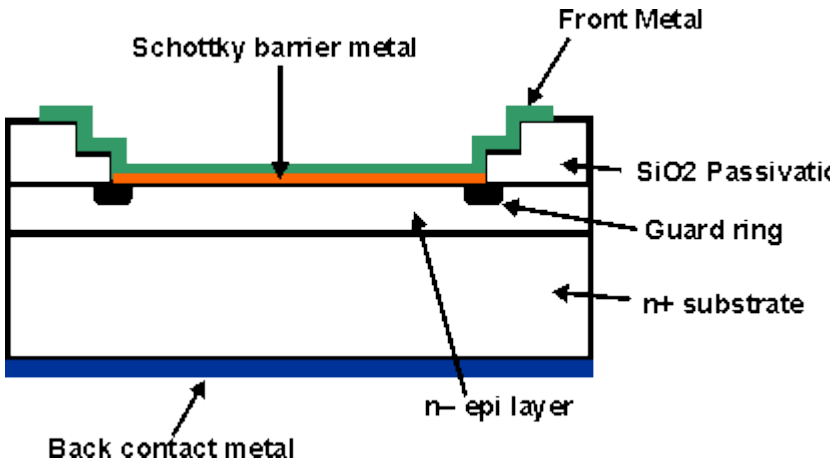
Schottky diode structure with guard ring

One of the problems with the simple deposited metal diode is that breakdown effects are noticed around the edge of the metalized area. This arises from the high electric fields that are present around the edge of the plate. Leakage effects are also noticed.

To overcome these problems a guard ring of P+ semiconductor fabricated using a diffusion process is used along with an oxide layer around the edge. In some instances metallic silicides may be used in place of the metal.

The guard ring in this form of Schottky diode structure operates by driving this region into avalanche breakdown before the Schottky junction is damaged by large levels of reverse current flow during transient events.

Schottky diode rectifier with guard ring



Schottky diode rectifier structure showing with guard ring

This form of Schottky diode structure is used in many forms of Schottky, but particularly in rectifier diodes where the voltages may be high and breakdown could be more of a problem.

Schottky diode structure notes

There are a number of points of interest from the fabrication process.

The most critical element in the manufacturing process is to ensure a clean surface for an intimate contact of the metal with the semiconductor surface, and this is achieved chemically. The metal is normally deposited in a vacuum either by the use of evaporation or sputtering techniques. However in some instances chemical deposition is gaining some favor, and actual plating has been used although it is not generally controllable to the degree required.

When silicides are to be used instead of a pure metal contact, this is normally achieved by depositing the metal and then heat treating to give the silicide. This process has the advantage that the reaction uses the surface silicon, and the actual junction propagates below the surface, where the silicon will not have been exposed to any contaminants. A further advantage of the whole Schottky structure is that it can be fabricated using relatively low temperature techniques, and does not generally need the high temperature steps needed in impurity diffusion.

The Schottky barrier diode

The Schottky diode is a very useful form of diode. It is widely used within electronics circuits because it has some particularly useful characteristics.

The Schottky diode characteristics mean that it can be used where other forms of diode do not perform so successfully.

Schottky diode characteristics

The Schottky diode is what is called a majority carrier device. This gives it tremendous advantages in terms of speed because it does not rely on holes or electrons recombining when they enter the opposite type of region as in the case of a conventional diode. By making the devices small the normal RC type time constants can be reduced, making these diodes an order of magnitude faster than the conventional PN diodes. This factor is the prime reason why they are so popular in radio frequency applications.

The diode also has a much higher current density than an ordinary PN junction. This means that forward voltage drops are lower making the diode ideal for use in power rectification applications.

Its main drawback is found in the level of its reverse current which is relatively high. For many uses this may not be a problem, but it is a factor which is worth watching when using it in more exacting applications.

The overall I-V characteristic is shown below. It can be seen that the Schottky diode has the typical forward semiconductor diode characteristic, but with a much lower turn on voltage. At high current levels it levels off and is limited by the series resistance or the maximum level of current injection. In the reverse direction breakdown occurs above a certain level. The mechanism is similar to the impact ionization breakdown in a PN junction.

The Schottky Diode Power Rectifier

The Schottky diode finds many uses as a high voltage or power rectifier. The Schottky diode rectifier has many advantages over other types of diode and as a such can be utilized to advantage.

The Schottky diode has been used as a rectifier for many years in the power supply industry where its use is essential to many designs.

Advantages of using a Schottky diode rectifier

The Schottky diode rectifier offers many advantages in power rectifier and power supply circuits. There are a number of aspects of the Schottky diode rectifier that makes them ideal components in many power supply applications:

- ***Low forward voltage drop:*** The low forward voltage drop offered by Scottky diode power rectifiers is a significant advantage in many applications. It reduces the power losses normally incurred in the rectifier and other diodes used within the power supply. With standard silicon diodes offering the main alternative, their turn on voltage is around 0.6 to 0.7 volts. With Schottky diode rectifiers having a turn on voltage of around 0.2 to 0.3 volts, there is a significant power saving to be gained. However it is necessary to remember that there will also be losses introduced by the resistance of the material, and the voltage drop across the diode will increase with current. The losses of the Schottky diode rectifier will be less than that of the equivalent silicon rectifier.

Fast switching speeds: The very fast switch speeds of the Schottky diode rectifier mean that this diode lends itself to use in switching regulator circuits.

Schottky diode rectifier design considerations

Schottky diode rectifiers offer many advantages, but when they are used, there are a number of design considerations to account for. These should be acknowledged in the circuit design being undertaken.

Some of the points to be taken into account include the following:

- ***High reverse leakage current:*** Schottky diode rectifiers have a much higher reverse leakage current than standard PN junction silicon diodes. Although this may not be a problem in some designs it may have an impact on others.

- ***Limited junction temperature:*** The maximum junction temperature of a Schottky diode rectifier is normally limited to the range 125°C to 175°C but check the manufacturers ratings for the given component. This compares to temperatures of around 200°C for silicon diode rectifiers.

Limited reverse voltage: As a result of its structure, Schottky diode rectifiers have a limited reverse voltage capability. The maximum figures are normally around 100 volts. If devices were manufactured with figures above this, it would be found that the forward voltages would rise and be equal to or greater than their equivalent silicon diodes for reasonable levels of current.

Early Radio: Military Communications

C Battery Stories
The 1/92nd Field Artillery
Association - Vietnam
Recollections of Sgt. David A. Powell
Gun 4, C Btry, 1st Bn 92nd Artillery
Phu Nhon, Pleiku Province, Vietnam
6 Jan to 1 Feb 1971

My memories of this period of my tour of duty range from very hazy to very crisp and clear. We convoyed from Artillery Hill south on QL14, turned west on TL6D where we hooked up with the "Pleiku Bypass" (Hwy 509 south). We always took the bypass when we had the guns and the ammo with us to avoid getting into a bad situation in downtown Pleiku. The bypass took us down to highway 570, which went southeast back into QL14/19 just north of Dragon Mountain. Right around Dragon Mountain the highway splits and QL19 heads west to Oasis and Duc Co and QL14 heads south. Just south of Plei Both Drane QL14 splits again, if you take the left fork (southeast) you will be on LTL7B that will take you to LZ Weigt Davis and beyond that, Cheo Reo. We continue south on QL14 and approximately 1KM south of Highway TL6D (that heads west to Plei Me) we arrived at the Phu Nhon District Headquarters and LZ Miller, as it is now known. I have no knowledge of what its name was before we arrived and it probably doesn't matter.

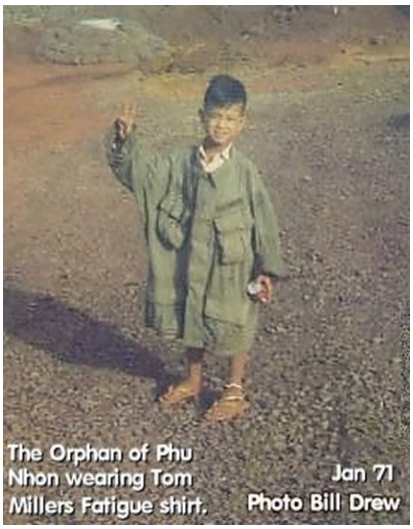
As we pulled into the main gate (heading east) the District Headquarters was straight ahead of the convoy. The U.S. and South Vietnam flags were flying in the breeze. I remember thinking this was going to be a pretty secure and safe place to be, and with 4 months left in country, I was on the downhill side of my tour. The convoy turned right (south) inside the compound and drove past the 20th Engineer Bn. part of the compound. We (the platoon and support crew) were there to provide fire support for the engineers working in the area. We continued past the water tower into our area (the entire southwest corner) of the compound. Coordinates AQ86799

We pulled the guns into their pits and dropped off the ammo, fuses, and powder. The Engineers had done a fairly decent job of getting us started with overhead cover for the main ammo storage, FDC, gun pit ready racks, and hootches, for that we were thankful. Don't get me wrong there was still "a shit load" of work to be done, but most of the heavy stuff they did with their equipment. When you think about it, the Engineers were almost contemptuous toward us. Maybe, because they had to share chow with us, or because, sometimes we beat them to the showers. But let's face the facts we took our fair share of cold showers and we kept a lot of their young Asses alive to work another day. We kept them alive, to go home and face yet another enemy. But that's another story.

We had two dusters on our perimeter. I don't know if they were there when we arrived, but they were there before nightfall. We always slept a little better when they were watching our flanks. It had to be hard sitting in that "can" when we fired those pigs off over their heads.

One thing I do remember is, the perimeter wire was so overgrown with weeds and grass, you couldn't see what you did or didn't have out there. One of the first things we did was set it on fire to get rid of the growth. We found there were dud 82mm mortar rounds from who knows where (from ARVN mortar crews or from Charlie?) imbedded into the soil out there. Also visible to us were "Betty's" three fingers, sticking out of the ground, warning us not to venture too far out into this area without the proper equipment.

The days passed and turned into weeks. The men of Charley Battery continued to build defenses, around and over the holes that were pushed into and around the battery area. They were spent quite "normally" for an artillery battery. Daily checks of the perimeter wire and claymore mines. Building guard posts. Firing registration and fire support missions in the day and night. Basically, "making the house a home".

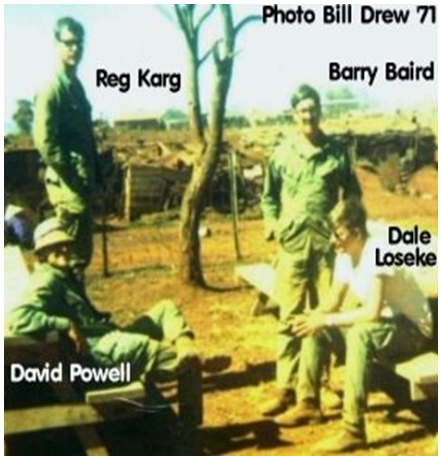


I don't remember when the orphan kid first showed up. I don't know from where he came. Maybe from the shacks around the compound, we always thought they were empty I don't know he was just there one day. He took to PFC Tom Miller like a baby chick and like a mother hen; PFC. Miller took to him. Although Miller and I were in the same gun crew, I didn't know much about his background or how he was raised. I didn't know if he was drafted or if he enlisted. I didn't know if he was married, or whether he had children at home. I took a couple of pictures of Tom and the kid crashed together. I know they really touched my heart (and I believe, the hearts of the men in Gun 4). Tom used to share his meals and bunk with the kid. The only time they were apart, was during fire missions and their daily "toilets." Nearing the end of January our observation tower was completed. I took a series of six photos of the compound (from the top) spanning from one Duster on the east, to the other Duster on the west. Together, they give a really good view of the job everyone had accomplished at Phu Nhon.

Authors note: Looking at those pictures while writing this piece, it is easy to see why on 16 March 1971, the VC/NVA decided to overrun the District Headquarters and Territorial Artillery Platoon areas of the compound to the north of the C (Plt) 1/92nd Firebase. The place was a shambles with plenty of places to hide and lots of civilians with which to take advantage.

Anyway, the place was pretty comfortable. The perimeter wires were clean, or as clean as you could get it with "Betty" out there. The claymores were in their own little cubbyholes. The hooches were almost complete and covered with multiple layers of sandbags. The Duster crews had overhead protection for sleeping. The perimeter foxholes were finished and covered. The alternate (night) aiming circle was set up on top of FDC. The "Fall Back" foxholes on top of FDC and Gun 4's hooch were standing at the ready. We built another shower with two large holding tanks to take care of the added personnel. Hey, we even had perimeter lights. Like I said The place was pretty comfortable. Little did we know how uncomfortable our new home was about to become!

On the morning of 1 February 1971 at 0100hrs (oh dark thirty), we were asleep in our hooch when we were awakened for a fire mission. The VC/NVA were attacking the village of Plei Poe to our south approx. 7-10KM (1KM west of LZ Lonely.) No big deal, just like a thousand other times before it, right? Wrong! This time when we came out of the hooch into the night it was raining! Raining live, honest to goodness 82mm mortar rounds from a couple of VC/NVA tubes close enough for us to hear them leave. The sound I will never forget "Thoomp" "Thoomp" (kind of like the sound a firecracker makes when you put it down a long pipe). We counted the seconds before impact, so in-between them leaving the mortar and impacting the firebase, we could continue with the fire mission. They were still overshooting the gun pit, but you could tell they were walking them back toward us, as the elapsed time increased with each volley. The men of Gun 4 were doing instinctively what each one of them was trained to do. At the same time we were all counting the seconds off in our heads 8, 9, 10 DOWN! Each of us was taking cover wherever and however we could.



I was kneeling down (on my left knee) between the trails of the gun, thinking I had a pretty good spot with all that steel around me. Unfortunately, when the mortar rounds landed in the gun pit, they landed about one and a half feet from the gun, one on the left front of the gunners' tire and one on the AG's side between the trail and the ammo rack.

What I do remember very clearly was the flash of light, the searing heat, the sounds of the explosions, and the blackness that followed the detonation of those two mortar rounds. When I shook myself back to consciousness, I was laying spread-eagle between the azimuth sign and the ready rack for the "Firecracker" and "Willie Peter" rounds, on the parapet wall close to the entrance to the gun pit. Along with my flak jacket and steel pot, I was wearing a gray sweatshirt and sweatpants. When I looked down at my body to survey the damage, I saw a pretty horrible sight my left arm, abdomen (I forgot to zip my flak jacket), and left leg were soaked with blood. The material of my sweat clothes was torn to shreds. It scared the hell out of me! The confusion around me in the gun pit and the Firebase was just as scary.

I didn't know how badly I was hurt and didn't know if I could walk. The first person I saw walking around, looking like they needed a purpose to exist, was the first person I yelled to for help.

Authors note: For reasons the reader will see I will not identify the person I called to for help other than to call him "FNG" (FNG refers to a 'F---ing New Guy' as distasteful as this term may be to some of us, it is one, we have all been and have endured.) FNG, if he were ever to read this, he would know who he is. From conversations with others from C Btry 1/92nd it is my understanding that he was sent back to Artillery Hill after this attack (the readers can judge for themselves, the reasons). Later during the "Siege of Phu Nhon" when LZ Miller was once again attacked by VC/NVA forces and re-supply was possible only by air, FNG was sent back. He was about 100 yards from the landing zone at LZ Miller when ground fire came through the floor of the Chinook and hit him in the foot. It is the authors' humble opinion; this was probably best for FNG and the men at LZ Miller.

I yelled, "FNG, FNG help me to the aid station!" FNG was in another world the terms dazed and confused or shell-shocked come to mind, when I think of the look in his eyes. FNG turned white as a sheet when he looked at me (which didn't do a lot for my confidence) and he turned around and walked away.
I didn't know if I could do it, but I wasn't about to lie there and bleed to death or become a target for whatever might come through our wire that morning. I would try walking first and if that didn't work, I would crawl to the aid station myself. When I stood up and found I could walk, I went into my own zone maybe it was the ringing in my ears or maybe it was just extreme concentration. Maybe it was the knack (which all gun bunnies have in order to sleep) to shut out the world. Whatever the reason, I don't remember anything other than being at the top of the stairs leading down to FDC, standing there and falling head first, and then just blackness again.

When I once again come back to consciousness, my clothes are cut off and open to expose my wounds. Red iodine antiseptic has been poured all over the exposed areas. I am FREEZING! Which can mean only one thing if you're in Vietnam shock was setting in. My mind once again goes blank. The next thing I remember is someone saying "Sgt. Powell the chopper is here, you're ambulatory, you can walk next to the jeep."

Authors note: The Daily Staff Journal or Duty Officers Log (DA1594's dated 1 Feb 71) lists the official count of 13 WIA and 1 KIA. They were from the 20th Engineers (4 WIA, 3 Med-evac'd), the 4/60th Dusters (2 WIA, 2 Med-evac'd) and C Btry 1/92nd (7WIA, 5 Med-evac'd and 1 KIA). The VC/NVA unit responsible for the attack is believed to be K-1, 95 Bravo.
Pope and Miller were on stretchers across the back of the jeep and the rest of us walked along beside it to where the Med-Evac chopper waited. The Medics loaded the stretchers, the rest of us (there were PFC Miller, PFC Pope, PFC Jimerson, SP4 McCurdy, SP4 Druin and me. I don't know who else, but I'm pretty sure there were more) climbed in and the chopper took off.

On the way to the MASH unit, one of the crewmen (I think it was the door gunner) aboard the chopper, told us to get rid of all the contraband we had no questions asked. Those holding turned it over. Someone may have passed a bowl around for medicinal reasons.

I had another shock-induced blackout, the next thing I knew I was waking up on a stretcher in the MASH unit. I looked around and saw Pope on his stretcher on the other side of Miller there were tears in his eyes when he said, "Sarge, we lost Tom". We watched, stunned as the doctors saved the life of a gook in the MASH unit. I thought (I can't speak for Pope) how in the hell could they expend so much energy to save that piece of meat and let Tom Miller die? I too cried (and when I go there in my mind, even to this day, I cry.)

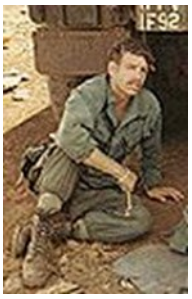
I don't know how I got there, Hell; I didn't even know where I was. The next thing I remember, I'm being loaded into a transport plane for the flight to the Field Hospital. Once at the hospital, I'm placed on a gurney and wheeled into a huge receiving area where doctors are looking at us, barking orders for IV's, catheters, and tubes in noses and other unpleasant orifices. One of the doctors asks me if he can take my picture. I say "yes," he takes it and I'm wheeled off to the operating room. And as I go out again I remember thinking how 1 Feb. 1971 will be over when I wake up. Although, it will remain forever frozen in my memory.

*FNG means 'F---ing New Guy'

4/60th Dusters expended 400 rounds at mortar flashes. A (Plt) 1/92nd Arty at LZ Weigt Davis fired 35 rounds of Illumination in support of Phu Nhon but could not fire counter mortar fire because of the 100 men RF night location 300 meters away from the mortar grid AQ878984. C (Plt) fired 71 Illumination and 47 HE in support of Plei Poe village, while taking incoming of 18 rounds of 82mm mortar.

Casualties at Phu Nhon: *C (Plt) 1/92nd 1 KIA PFC. Miller, Thomas C. (died Pleiku approx. 0500 hrs.) 5 WIA (Medevac'd) PFC. Pope, Randolph; PFC. Jimerson, Michael; SP4. Druin, Charles; SGT. Powell, David; SP4. McCurdy, James. 2 WIA (not seriously injured) SGT. Karg, Reginald; SP4. Drew, Wayne.*

2 Feb. 1971: *LTC. Wroth and LTC. Duffy attended memorial for PFC. T. C. Miller. The men of C (Plt) 1/92nd have requested the Firebase at Phu Nhon be named in honor of PFC. Miller. The village of Plei Poe suffered 11 KIA during action of 1 Feb. 71.*



LTC. Duffy and CPT. Jonas (CO of C Btry. 1/92nd) visited members of C (Plt) 1/92nd wounded at Phu Nhon in the wards of 67th Evac. Hospital, Qui Nhon. Pope and Jimerson are still in intensive care. Others will be Medevac'd to Japan or CONUS in a week to 10 days.

3 Feb. 1971: *Effective this date, C (Plt) 1/92nd FSB located at Phu Nhon is designated LZ T. C. Miller. Appropriate dedication ceremony will be conducted later in Feb. 1971.*

Coping with a traumatic event

Coping With a Traumatic Event

Highlights

- Traumatic events often cause feelings of helplessness, anxiety, and aggression.
- It will take time before you start to feel better.
- There are many things you can do to cope with traumatic events, including talking to family, friends, and clergy for support.

You may need to consider seeking professional help if you feel sad or depressed for more than two weeks, or if you are not able to take care of your family or do your job.

A traumatic event turns your world upside down.
After surviving a disaster or act of violence, people may feel dazed or even numb. They may also feel sad, helpless, or anxious. In spite of the tragedy, some people just feel happy to be alive.
It is not unusual to have bad memories or dreams. You may avoid places or people that remind you of the disaster. You might have trouble sleeping, eating, or paying attention. Many people have short tempers and get angry easily.
These are all normal reactions to stress.

It will take time before you start to feel better.
You may have strong feelings right away. Or you may not notice a change until much later, after the crisis is over. Stress can change how you act with your friends and family. It will take time for you to feel better and for your life to return to normal. Give yourself time to heal.

These steps may help you feel better.
A traumatic event disrupts your life. There is no simple fix to make things better right away. But there are actions that can help you, your family, and your community heal. Try to:

- Follow a normal routine as much as possible.
- Eat healthy meals. Be careful not to skip meals or to overeat.
- Exercise and stay active.
- Help other people in your community as a volunteer. Stay busy.
- Accept help from family, friends, co-workers, or clergy. Talk about your feelings with them.

Limit your time around the sights and sounds of what happened. Don't dwell on TV, radio, or newspaper reports on the tragedy.

Sometimes the stress can be too much to handle alone.
Ask for help if you:

- Are not able to take care of yourself or your children.
- Are not able to do your job.
- Use alcohol or drugs to get away from your problems.
- Feel sad or depressed for more than two weeks

Think about suicide.
If you or someone you know is having trouble dealing with the tragedy, ask for help. Talk to a counselor, your doctor, or community organization, such as the National Suicide Prevention Lifeline (1-800-273-TALK).

Next Regular Meeting

The next meeting will be on Thursday, May 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:

June 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

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.	

Chatter Deadline

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

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

or by Post to:

Michael B. Harris

807 Nicholson RD

South Milwaukee, WI 53172-1447

VE Testing:

May 31st, 2014
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

06/01/2014 | Starved Rock Radio Club's (W9MKS) 2014 Hamfest
Location: Princeton, IL
Sponsor: Starved Rock Radio Club
Website: http://www.w9mks.org

July 12th, 2014 SMARC Swapfest.
Location: American Legion post, Oak Creek, WI 9327 South Shepard Ave. Sponsor: SM Amateur Radio Club
WB9TIK@ARRL.ORG for information

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 .** 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 442.975+ 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