

HAMATEUR CHATTER

The Milwaukee Radio Amateurs Club

February 2014 Volume 22, Issue 2

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

Presidents' Letter

I think most of you would agree that winter should be over. I would love to start working on my outdoor projects again. The good news is the weather cooperated again with us for our swapfest. I always worry about a big snow storm hitting and causing it to be a bust. This year attendance was up. Our table says were up again this year. Most of the vendors I talked with had a great time and good sales.

We were able to help Jerry Thompson W9SFH estate with the sale of his equipment. We gave away two Baufeng radios, AES \$50 gift certificate, N3FJP software certificate, and digital volt meters from the RF Adapter Guy as door prizes. The free coffee and donuts again went over very well. The donations covered the cost of providing them. Joe will have the final numbers once we pay for the expenses of the next meeting.

I again had fun operating the club station for the MRAC Simplex contest. My furthest contact was with KB5ZJU in Plymouth. I want to thank Jerry K9FI and Cheryl KA9WOC for operating rover again this year. We also had a newcomer operating this year. There were many club members who were not on this year.

This month's meeting will be our Potluck dinner. The club will provide a main dish and refreshments.

We ask everyone to please bring something to share with everyone. This is a nice way to socialize with fellow hams over food. This will be our third year doing this as a meeting event. I hope to see everyone there.

MRAC has been asked if we will give a presentation at this year's AES Superfest. Dave WB9BWP will talk about Ham Radio history in Milwaukee. This is a great opportunity for the club to get this information out to the public. I hope to be able to record this presentation and put it on YouTube.



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, KC9JJ
- 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

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Board of Director's meeting was called to order at 6:42 pm by club president Dave, KA9WXN, present for the impromptu meeting were: Al, KC9IJJ, Michael, KC9CMT, Dave, KA9WXN, and Joe, N9UX. The Board meeting ended at 6:55 pm. The membership meeting will follow in 5 minutes or so.

At this meeting of the MRAC membership, a short Board of Director's meeting was called to order proceeding the regular meeting. The board of director's did not meet as usual on Monday January 27th due to the extreme cold snap that was inundating Southeastern Wisconsin. Dave, Ka9wxn discussed the hamfest ticket situation with Al, KC9IJJ would was to have these printed up. Dave will be delivering the tickets to the QTH of the club secretary on or before Saturday, February 1st. Joe, N9UX presented the MRAC budget for 2014 to the Board for review. The budget now shows a surplus of \$37 projected for 2014.

The repeater has a DSL modem installed that is slower than broadband but is convenient for the club to keep. Changing over to Broadband would present technical and logistical challenges. **The club would like more than one repeater control operator.** This was misreported in the October Board of Director minutes as the MRAC needing a second repeater trustee. As per FCC article 97, a club can only have one trustee, this sentence should have said that the club was looking for a few more repeater control operators. Dave, KA9WXN has been working on updating the club website. He has taken over this duty from Mark, AB9CD. WXN

Dave, KA9WXN called the membership meeting to order at 7 pm. The mic was passed for introductions and a sign-up sheet was circulated. A correction was announced regarding the October Board of Director's minutes. Dave, corrected the error before the membership. The club swapfest is February 15th, Saturday at 8 am. Dave is looking for people to work the swapfest as volunteers. The membership meeting was sparsely attended this month. The FM Simplex contest is coming up on February 9th, a Sunday afternoon. Forms for submission of contacts can be downloaded from the MRAC website. There is a handout on the front table regarding the contest. Joe, N9UX gave a presentation to the membership regarding the 2014 budget. Field day food expenses and insurance were \$200 in 2013. Our state incorporation papers were sent in and the fee paid by Joe; the club is a Not-for-profit corporation. Jerry, K9FI asked about a club roster that can be given out to the membership. The club has debated the formatting of this article in the past, so it is just a matter of deciding the design issue, then the club secretary can format and print out rosters for the membership.

Tom, W9TJP stated that the AES SuperFest will go on this year at the end of March, first of April. Dave, asked for people to work on an election committee. The club will be looking for the minimum of a new treasurer to be picked from the Board of director's. There are four positions up for election during our April election meeting. The club secretary will be sending out reminders of this important event in February and March. Mark, AB9CD brought up the problem of storage space at the Pioneer Village site. The MRAC has not had a presence there for three years, yet, storage space is still being used at the site. To maintain the storage space the club should send in a donation as it has in prior years.

Swapfest: Joe, N9UX gave the secretary the hamfest materials that came to the club post office box. MRAC will be manning tables again this year. Table orders are starting to come in, with two weeks to go before the event. The facility will be plowed and salted prior to the setup period on Friday night. Gary Sorensen the section manager from ARRL will be at our Hamfest manning the ARRL table. Update Hamfest MRAC phone number to reflect the clubs new number.

Preliminary discussion: The meeting on February 28th will be a recap on the FM simplex contest, and a report on the success of the MRAC/MAARS swapfest. The February simplex contest will be held on February 9th. February 15th is the MRAC/MAARS inter-club Hamfest.

Tonight's Program:

Tonight's program is a discussion by Dave, WB9BWP on the Juno satellite flyby of earth on its way to Jupiter. In October the NASA/JPL Juno satellite heading toward Jupiter made its closest swing past Earth in its trajectory. Ham operators were organized to send Morse code signals to the satellite as it passed. Dave had a video presentation from NASA as part of his presentation. Thousands of Ham operator's from around the world took part in the Morse code transmissions. They had to synchronize their UTC clocks to accurately coordinate this activity.

The dits and dots were of thirty second duration of Key Down. This all took place on the ten meter band.

Future meeting topics: An oscilloscope intro course, How to work and program a HT radio.

Next month, new MRAC club history DVD's will be coming out. Dave is doing all the historical work on his own.

Pancho is still looking for someone to help out during the club nets on Friday evening. We have a 10 meter and 2 meter net. At 8 and 9 pm respectively.

There will be a food & coffee gathering at Denny's with Jerry and Poncho after the club meeting.

Dave accepted motions to adjourn the business meeting at 7:57 pm. Motion made by Al, KC9IJJ seconded by Joe, K9UX. Meeting adjourned at 7:58 pm. The room was then policed of trash, chair put away and area returned to an acceptable condition as found before the meeting commenced.



Prepare for Unpredictable Spring Weather



Spring weather can be unpredictable. When severe weather hits unexpectedly, the risk of injury and death increases, so planning ahead makes sense. Prepare for storms, floods, and tornadoes as if you know in advance they are coming, because in the spring, they very likely will.

Spring is the time of year when many things change—including the weather. Temperatures can swing back and forth between balmy and frigid. Sunny days may be followed by a week of stormy weather. Sometimes extreme weather changes can occur even within the same day. Mark Twain once said, "In the spring I have counted one hundred and thirty-six kinds of weather inside of four and twenty hours."



Thunderstorms cause most of the severe spring weather. They can bring lightning, tornadoes and flooding. Whenever warm, moist air collides with cool, dry air, thunderstorms can occur. For much of the world, this happens in spring and summer.

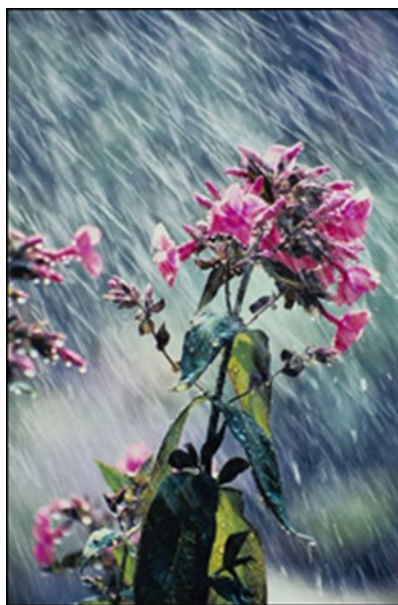
Because spring weather is so unpredictable, you may be unprepared when severe

weather hits—particularly if you live in a region that does not often experience thunderstorms, tornadoes or flooding. And when severe weather hits unexpectedly, the risk of injury and death increases. So planning ahead makes sense; prepare for storms, floods, and tornadoes as if you know in advance they are coming, because in the spring, they very likely will.

Advance planning for thunderstorms, lightning, tornadoes and floods requires specific safety precautions. Still, you can follow many of the same steps for all extreme weather events. You should have on hand:

A battery-operated flashlight, a battery-operated NOAA Weather Radio, and extra batteries for both

An emergency evacuation plan, including a map of your home and, for every type of severe weather emergency, routes to safety from each room



- A list of important personal information, including
- telephone numbers of neighbors, family and friends
- insurance and property information
- telephone numbers of utility companies
- medical information
- A first aid kit including
- prescription medication

- hydrogen peroxide
- antibiotic ointment
- over-the-counter medicines such as aspirin and diarrhea medicine
- bandages and dressings for injuries
- A 3–5 day supply of bottled water and nonperishable food
- Personal hygiene items
- Blankets or sleeping bags
- An emergency kit in your car

Prepare your family members for the possibility of severe weather. Tell them where to seek appropriate shelter as soon as they are aware of an approaching storm. Practice your emergency plan for every type of severe weather. Show family members where the emergency supplies are stored, and make sure they know how to turn off the water, gas, and electricity in your home.

Weather Hazard Awareness

Unfortunately, few of us get much advance notice of a severe weather event. Often by the time we are aware of an approaching storm, we have little if any time to prepare for it. But we do know that when spring arrives, thunderstorms, tornadoes, and floods are real possibilities. So why not take the surprise factor out of severe weather and prepare yourself, your family, and your home? Of course, you may not have to deal with extreme weather this spring, but if thunderstorms, tornadoes and floods do occur, you'll be ready for them.

The Experimenters Bench

The Metal Oxide FET - MOSFET

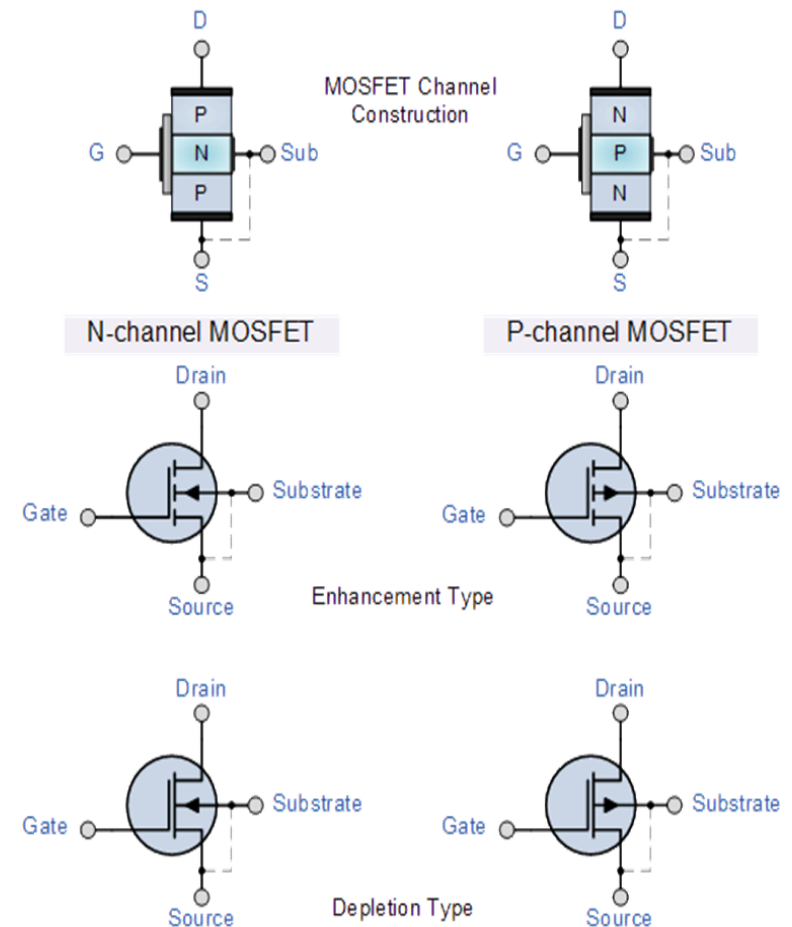
As well as the Junction Field Effect Transistor (JFET), there is another type of Field Effect Transistor available whose Gate input is electrically insulated from the main current carrying channel and is therefore called an **Insulated Gate Field Effect Transistor** or **IGFET**. The most common type of insulated gate FET which is used in many different types of electronic circuits is called the **Metal Oxide Semiconductor Field Effect Transistor** or **MOSFET** for short. The **IGFET** or **MOSFET** is a voltage controlled field effect transistor that differs from a JFET in that it has a "Metal Oxide" Gate electrode which is electrically insulated from the main semiconductor N-channel or P-channel by a thin layer of insulating material usually silicon dioxide (commonly known as glass). This insulated metal gate electrode can be thought of as one plate of a capacitor. The isolation of the controlling Gate makes the input resistance of the **MOSFET** extremely high in the Mega-ohms ($M\Omega$) region thereby making it almost infinite.

As the Gate terminal is isolated from the main current carrying channel "**NO current flows into the gate**" and just like the JFET, the **MOSFET** also acts like a voltage controlled resistor where the current flowing through the main channel between the Drain and Source is proportional to the input voltage. Also like the JFET, this very high input resistance can easily accumulate large amounts of static charge resulting in the **MOSFET** becoming easily damaged unless carefully handled or protected.

Like the previous JFET tutorial, MOSFETs are three terminal devices with a Gate, Drain and Source and both P-channel (PMOS) and N-channel (NMOS) MOSFETs are available. The main difference this time is that MOSFETs are available in two basic forms:

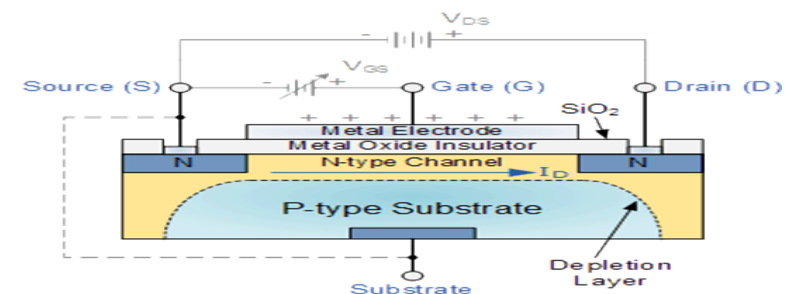
- 1. Depletion Type - the transistor requires the Gate-Source voltage, (V_{GS}) to switch the device "OFF". The depletion mode MOSFET is equivalent to a "Normally Closed" switch.
- 2. Enhancement Type - the transistor requires a Gate-Source voltage, (V_{GS}) to switch the device "ON". The

- enhancement mode MOSFET is equivalent to a "Normally Open" switch.
- The symbols and basic construction for both configurations of MOSFETs are shown below.



The four MOSFET symbols above show an additional terminal called the Substrate and is not normally used as either an input or an output connection but instead it is used for grounding the substrate. It connects to the main semiconductive channel through a diode junction to the body or metal tab of the MOSFET. In discrete type MOSFETs, this substrate lead is connected internally to the source terminal. When this is the case, as in enhancement types it is omitted from the symbol. The line between the drain and source connections represents the semi-conductive channel. If this is a solid unbroken line then this represents a "Depletion" (normally closed) type MOSFET and if the channel line is shown dotted or broken it is an "Enhancement" (normally open) type MOSFET. The direction of the arrow indicates either a P-channel or an N-channel device.

Basic MOSFET Structure and Symbol



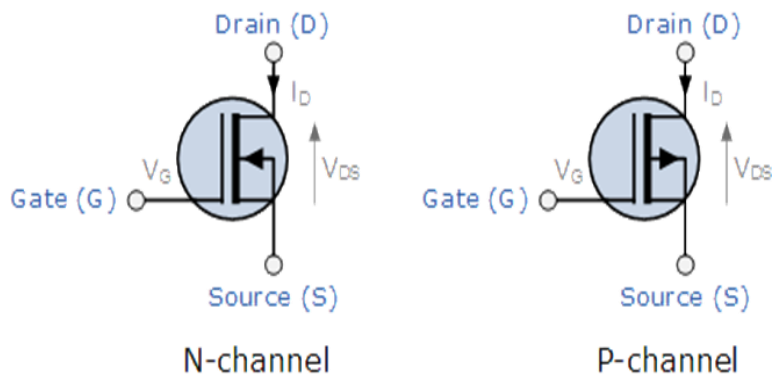
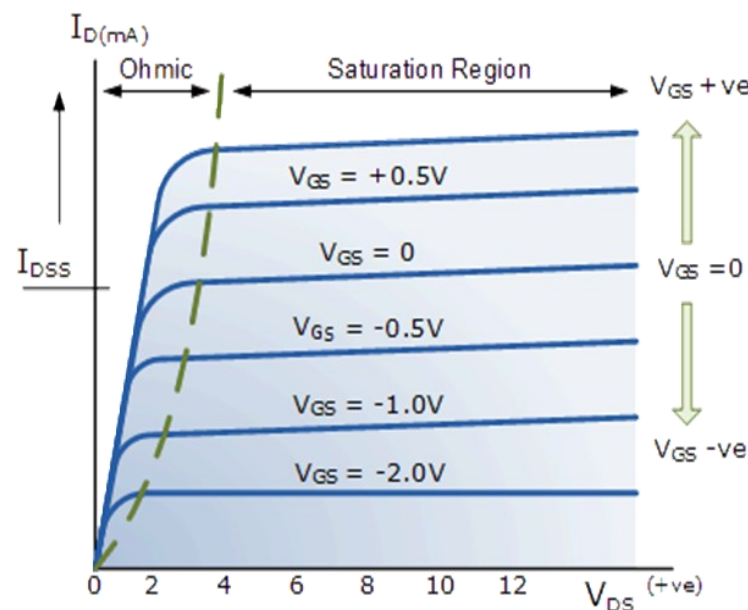
The construction of the Metal Oxide Semiconductor FET is very different to that of the Junction FET. Both the Depletion and Enhancement type MOSFETs use an electrical field produced by a gate voltage to alter the flow of charge carriers, electrons for N-channel or holes for P-channel, through the semi conductive drain-source channel. The gate electrode is placed on top of a very thin insulating layer and there are a pair of small N-type regions just under the drain and source electrodes.

We saw in the previous tutorial, that the gate of a JFET must be biased in such a way as to forward-bias the PN-junction but with a insulated gate MOSFET device no such limitations apply so it is possible to bias the gate of a MOSFET in either polarity, +ve or -ve. This makes MOSFETs especially valuable as electronic switches or to make logic gates because with no bias they are normally non-conducting and this high gate input resistance means that very little or no control current is needed as MOSFETs are voltage controlled devices. Both the P-channel and the N-channel MOSFETs are available in two basic forms, the **Enhancement** type and the **Depletion** type.

Depletion-mode MOSFET

The **Depletion-mode MOSFET**, which is less common than the enhancement types is normally switched "ON" without the application of a gate bias voltage making it a "normally-closed" device. However, a gate to source voltage (V_{GS}) will switch the device "OFF". Similar to the JFET types. For an N-channel MOSFET, a "positive" gate voltage widens the channel, increasing the flow of the drain current and decreasing the drain current as the gate voltage goes more negative. In other words, for an N-channel depletion mode MOSFET: $+V_{GS}$ means more electrons and more current. While a $-V_{GS}$ means less electrons and less current. The opposite is also true for the P-channel types. Then the depletion mode MOSFET is equivalent to a "normally-closed" switch.

Depletion-mode N-Channel MOSFET and circuit Symbols



The depletion-mode MOSFET is constructed in a similar way to their JFET transistor counterparts were the drain-source channel is inherently conductive with the electrons and holes already present within the N-type or P-type channel. This doping of the channel produces a conducting path of low resistance between the Drain and Source with zero Gate bias.

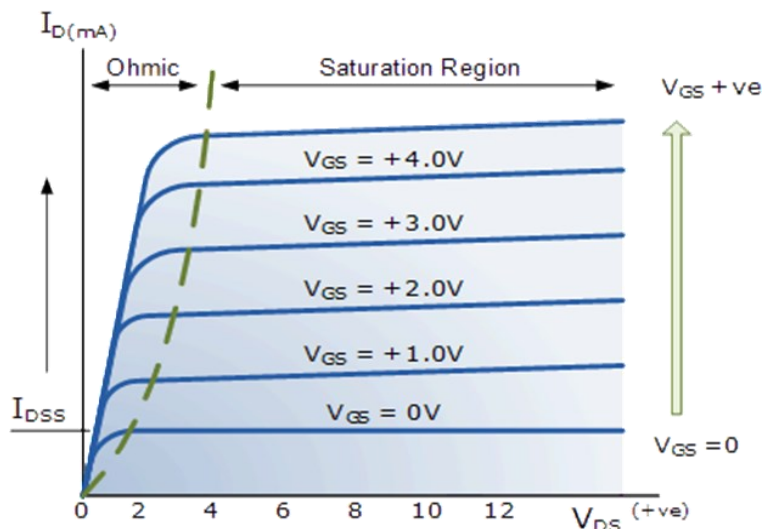
Enhancement-mode MOSFET

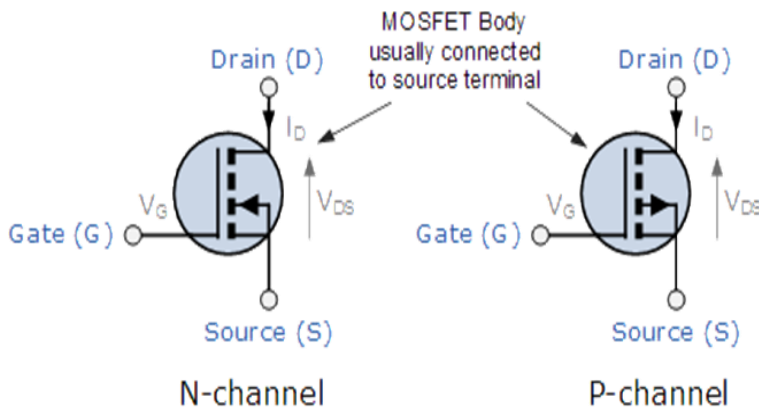
The more common **Enhancement-mode MOSFET** is the reverse of the depletion-mode type. Here the conducting channel is lightly doped or even undoped making it non-conductive. This results in the device being normally "OFF" when the gate bias voltage is equal to zero.

A drain current will only flow when a gate voltage (V_{GS}) is applied to the gate terminal greater than the threshold voltage (V_{TH}) level in which conductance takes place making it a transconductance device. This positive +ve gate voltage pushes away the holes within the channel attracting electrons towards the oxide layer and thereby increasing the thickness of the channel allowing current to flow. This is why this kind of transistor is called an enhancement mode device as the gate voltage enhances the channel.

Increasing this positive gate voltage will cause the channel resistance to decrease further causing an increase in the drain current, I_D through the channel. In other words, for an N-channel enhancement mode MOSFET: $+V_{GS}$ turns the transistor "ON", while a zero or $-V_{GS}$ turns the transistor "OFF". Then, the enhancement-mode MOSFET is equivalent to a "normally-open" switch.

Enhancement-mode N-Channel MOSFET and circuit Symbols



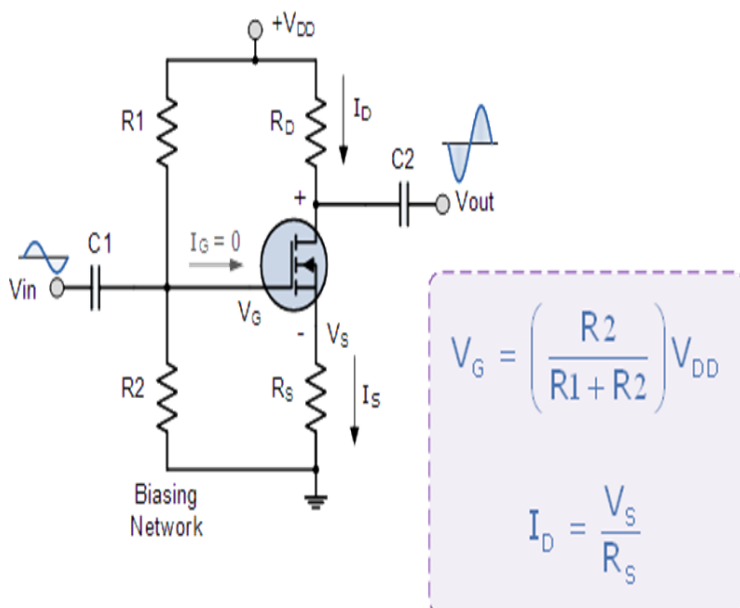


Enhancement-mode MOSFETs make excellent electronics switches due to their low "ON" resistance and extremely high "OFF" resistance as well as their infinitely high gate resistance. Enhancement-mode MOSFETs are used in integrated circuits to produce CMOS type [Logic Gates](#) and power switching circuits in the form of as PMOS (P-channel) and NMOS (N-channel) gates. CMOS actually stands for *Complementary MOS* meaning that the logic device has both PMOS and NMOS within its design.

The MOSFET Amplifier

Just like the previous Junction Field Effect transistor, MOSFETs can be used to make single stage class A amplifier circuits with the Enhancement mode N-channel MOSFET common source amplifier being the most popular circuit. The depletion mode MOSFET amplifiers are very similar to the JFET amplifiers, except that the MOSFET has a much higher input impedance. This high input impedance is controlled by the gate biasing resistive network formed by R1 and R2. Also, the output signal for the enhancement mode common source MOSFET amplifier is inverted because when V_G is low the transistor is switched "OFF" and V_D (V_{out}) is high. When V_G is high the transistor is switched "ON" and V_D (V_{out}) is low as shown.

Enhancement-mode N-Channel MOSFET Amplifier



The DC biasing of this common source (CS) MOSFET amplifier circuit is virtually identical to the JFET amplifier. The MOSFET circuit is biased in class A mode by the voltage divider network formed by resistors R1 and R2. The AC input resistance is given as $R_{IN} = R_G = 1M\Omega$.

Metal Oxide Semiconductor Field Effect Transistors are three terminal active devices made from different semiconductor materials that can act as either an insulator or a conductor by the application of a small signal voltage. The MOSFETs ability to change between these two states enables it to have two basic functions: "switching" (digital electronics) or "amplification" (analogue electronics). Then MOSFETs have the ability to operate within three different regions:

- 1. Cut-off Region - with $V_{GS} < V_{threshold}$ the gate-source voltage is lower than the threshold voltage so the transistor is switched "fully-OFF" and $I_{DS} = 0$, the transistor acts as an open circuit
- 2. Linear (Ohmic) Region - with $V_{GS} > V_{threshold}$ and $V_{DS} > V_{GS}$ the transistor is in its constant resistance region and acts like a variable resistor whose value is determined by the gate voltage, V_{GS}
- 3. Saturation Region - with $V_{GS} > V_{threshold}$ the transistor is in its constant current region and is switched "fully-ON". The current $I_{DS} = \text{maximum}$ as the transistor acts as a closed circuit

MOSFET Summary

The Metal Oxide Semiconductor FET, **MOSFET** has an extremely high input gate resistance with the current flowing through the channel between the source and drain being controlled by the gate voltage. Because of this high input impedance and gain, MOSFETs can be easily damaged by static electricity if not carefully protected or handled. MOSFETs are ideal for use as electronic switches or as common-source amplifiers as their power consumption is very small. Typical applications for MOSFETs are in Microprocessors, Memories, Calculators and Logic CMOS Gates etc.

Also, notice that a dotted or broken line within the symbol indicates a normally "OFF" enhancement type showing that "NO" current can flow through the channel when zero gate-source voltage V_{GS} is applied. A continuous unbroken line within the symbol indicates a normally "ON" Depletion type showing that current "CAN" flow through the channel with zero gate voltage. For P-channel types the symbols are exactly the same for both types except that the arrow points outwards. This can be summarized in the following switching table.

MOSFET type	$V_{GS} = +ve$	$V_{GS} = 0$	$V_{GS} = -ve$
N-Channel Depletion	ON	ON	OFF
N-Channel Enhancement	ON	OFF	OFF
P-Channel Depletion	OFF	ON	ON
P-Channel Enhancement	OFF	OFF	ON

So for N-channel enhancement type MOSFETs, a positive gate voltage turns "ON" the transistor and with zero gate voltage, the transistor will be "OFF". For a P-channel enhancement type MOSFET, a negative gate voltage will turn "ON" the transistor and with zero gate voltage, the transistor will be "OFF". The voltage point at which the MOSFET starts to pass current through the channel is determined by the threshold voltage V_{TH} of the device and is typical around 0.5V to 0.7V for an N-channel device and -0.5V to -0.8V for a P-channel device.

Early Radio: Military Communications

Battle for Dong Ha
by Major Frank Breth

On 30 April 1968, I was Major Frank Breth, the S-3 Ops/0 of 3/9, who coordinated and ran the ops for 3/9 (Bill La Montagne) from March 1968-September 1968. In August 1967 I joined 3/9 after they had come out of Operation Buffalo in the DMZ, and was assigned as CO of Mike Company.. went through Cam Lo, C-2 and the Con Thien adventure in Sept-Oct, until we were relieved by 1/9. I then was assigned to Hue as the Liaison officer from 3rd Mar Div to 1st ARVN Div. I went through the Battle for Hue and then returned to 3/9 as the S-3, replacing Ben Gardner and working for LaMontagne at the Rockpile, building LZ Stud.

John, before I go further on the DMZ, I have a very little known story about 3rd Mar Div tanks during the Battle for Hue, those tanks saved the day and were crewed by all young guys who did terrific work. That's a separate story which needs telling. If you are interested I'll write it up. Bill La Montagne and I were together on that one also in Feb - March '68.

On 30 April 1968, 3/9 in total was at the Rockpile with H&S, India, Kilo, Lima, and Mike. India was on the outposts. 3/9 was in the 4th Marine Regiment sector, just west of the 9th Marines, who had the "Leatherneck square" sector. It was relatively quiet with LZ Stud becoming a major base, more convoys on route #9, with occasional shelling from Mutters Ridge and the mountains in the west (3/3 later captured the 75mm pack which now sits by the entrance at Marine Barracks, 8th and I, in DC). It was a routine day until about 2 PM when the 3rd Mar Div CG flew into the Rockpile and said he needed us to go into action in the 9th Marines zone. He mentioned that a platoon of 1/9 with some tanks had received heavy casualties east of Cam Lo. We scrambled in to our field gear, left India with H&S to secure the Rockpile. It seemed within minutes that CH-53s started shuttling us to a site just south of the base at Cam Lo. La Montagne, Tom Mix, myself, 1st Sgt Paddock and the command group went in first to coordinate with 1/9 and TF Robbie at Cam Lo. Lima came in next with Tom Scheib as CO, then Kilo, 81s, and Mike.

As I recall everyone was on the ground by 3:30, or so. I had spoken with the CO and "3" of 1/9 ("Blackie" Cahill and Angie Fernandez) plus a rep from TF Robbie. Their info was sketchy and somewhat unsure of the total picture what had happened or what the enemy strength was. Our mission was to recover the platoon from 1/9 and get the tanks out. They had been out there 24-36 hours from what I recall. 1/9 had recently come out of Khe Sanh and apparently did not have all their companies available so we got the mission.

The TF Robbie rep (Major Bruce MacLaren) did have comms with the tanks and they said the NVA were all over and we better get there by nightfall. After getting the radio freq., call signs out, for fire support, air and the 9th Marines we moved out about somewhere between 3:30-4pm. We went out in a spread out formation, companies in column with Lima leading, Kilo, the CP and! 81s and then Mike with a platoon of tanks. They had already ambushed the tanks so we kept our tanks back so we could fix the enemy and then run the tanks up when we needed them. When we left we had about 3-4 hours until dark. We asked for an AO and he was going to be on station in about 45 minutes to an hour. Since we didn't know that ground well enough, we needed his eyes. They got there but it was just after the NVA opened up on us, Lima Company especially.

Looking at the map, Cam VU, where the tanks were pinned down just west of the village, was about 2,800 meters (about 1 1/2 miles) across fairly level plain with waist high thick grass, lots of bushes. As we moved east to Cam Vu the ground was open at least 1,000 meters to the west. The entire battalion was in column, moving well. What we did not know is that an NVA regiment was waiting us. They had laid a trap knowing the Marines would rescue their own. Fortunately 3/9 had some very experienced troops and leaders at all levels who knew how the NVA operated in the DMZ.

About 45 minutes after we started Lima ran into a well dug - in and camouflaged units which had AK-47s , RPD machine guns and 60 mm mortars... an NVA battalion of about 300 soldiers. They opened up and with the initial volley they caused numerous casualties in Lima, one platoon and part of another was hurt pretty bad but they put up a heavy volume of fire in return and the NVA slowed, giving time to pull back most of the dead and wounded. I spoke with Tom Schieb in a matter of minutes and need help ASAP. The AO just arrived on station and reported what the NVA was doing to come around Lima and rap them. They ran fixed wing and nailed a large group. I told Gene Bryan, the CO of Kilo to move up

quickly on Lima's (Tom Scheib) left flank to cover him, a Montagne and the remainder of the command group to follow Kilo so we could organize Kilo and Lima together. Rich O'Neill, CO of Mike Company took the tanks and went further to the left (North) to cut any NVA who might be trying to come around behind us. I told La Montagne that Scheib need help ASAP so he took the command group, while I took two radio operators with me running to catch up to Scheib so I could run support for him.

The three us "high-diddled" across this open terrain about 500-600 yards alone when all of a sudden a 200+ round artillery barrage fired from North Vietnam with 130mm guns landed behind Lima and just before my team about 50-60 yards. My team ducked down for about 2-3 minutes until it stopped. It was apparent that we had a large NVA unit to deal with and not some "rice farmers". These guys had fire support from the north and heavy machine guns, plus 82 mm mortars. This meant at least a regiment and they were trying to close the trap. My team and I ran about another 100 yards on a small path to close on Lima and all of a sudden came on a NVA machine gun crew loaded and pointed right at us. They were all dead...killed by their artillery strike which had just fired! Moments later we were with Lima and Tom Scheib. He was wounded and needed all the help he could get.! My team and I picked up the coordination, to the AOs, got air on station, adjusted artillery of the flanks, and briefed the Regiment "3" (John Hopkins) as what we were dealing with. Keep in mind that 2/4 and 1/3 were fighting the NVA 325th Division about 6-8000 meters east of us. We were running into a large NVA force protecting the 325th's west flank!

While I with Scheib, we were receiving heavy small arms fire, RPGs and mortar fire. All of a sudden this fire stopped as I heard Kilo assaulting "on line" to our left flank (north) closing in on us. Their fire was terrific and they did one great job as they had cut down an NVA company trying to encircle Lima. Kilo quickly caught them off guard and "cleaned them up" and tied into us. This was about 6 pm. The air was humid, hot and still with no breeze. By this time the CP. and the 81s had arrived on scene and we began getting the casualties ready for med evacs. During this time we were mortared pretty heavy by 82 mm mortars. Which caused casualties and more wounds to those awaiting med evacs. The H-34 med evac birds flew from Dong Ha down route 9 then north to us at very low level to avoid the heavy NVA fire. The corpsmen from Kilo, Lima and H&S did absolutely ! incredible work collecting, stabilizing and medevacing the wounded. I clearly remember one of the medevac birds flying low at

We watched him sit down and pull everyone out before it exploded. Another bird was on him and collected them immediately. Our medevacs continued in to darkness. Not only were there Lima's and the CP casualties but also the dead and wounded of the 1/9 platoon and the immobilized tanks we recovered.

Concurrent to all this action "Mike" was making its way with the tanks around to the left (north) of us to cut off any NVA and close to us for the night. They uncovered a large NVA force (estimated company) on their own and had a tough fight. The companies' weapons and the tanks tore them apart. This company was apparently trying to come around our back and trap us but Mike and the 3rd Tanks caught them. Mike and the tanks closed on the battalion position just after dark. We started heavy artillery fires close to us and we received no assaults that night, only mortars which were not targeted near us.

We had apparently hammered a large NVA force. Several years later I spoke with a USMC radio intercept officer who was listening to the NVA frequencies who told me they were screaming that we were "nailing them". Unfortunately, Lima Company bore the brunt of the enemy attack but held together and did their share of putting the steel to the NVA. It is interesting that every company of 3/9 and the tanks were all involved in the action. That action was a credit to the tankers and the Marines of 3/9 as they did some great work handing "Charlie" his "lunch".

The next morning we were reinforced by a Delta, 1/9. We were to keep moving east to route #1, which was about 5-6000 meters to the east. We tightened up and went into Cam Vu, which was about 300 meters away. It was a small deserted village with about 8-10 grass hootches. I remember watching our preparatory fires on Cam Vu. A Tank fired at a hooch and I saw the grass come off as the round "bounced" off the grass hut! The NVA had built reinforced concrete pill-boxes inside the grass huts. We found the "vill", but had plenty more action as we proceeded east, then south, then west again over the next four days. That's another story...the action continued for 3 more tough days as we moved to clear the area just west of Route #1.

Frank Breth, Major S-3 3/9 there on April 30, 1968

An armored column, composed of tanks, Ontos, amphibian tractors, and infantrymen from the 2d Battalion, 9th Marines moves unopposed toward the Ben Hai River inside the Demilitarized Zone on 28 July. NVA units, however, already were moving in behind the column and it would have to fight its way south to safety the following day.

Department of Defense Photo (USMC) A191240



From the Arrl News

South Pole Station's KC4AAA Now on CW: Joseph Musachia, W5FJG, a satellite engineer at Amundsen-Scott South Pole Station, reports that CW capability has been restored at KC4AAA, and operators there now are trying to get up and running on PSK31 and RTTY within the next few weeks. In late January a new 3 element 17 meter monobander was installed at 45 feet, fixed at 105° for North America. Look for KC4AAA at around 18111 kHz. Elsewhere in Antarctica, RI1ANP is on the air from Progress Station, with Nikolay Zinin, RW6ACM, as the main operator. He operates CW, SSB, and digital modes. Word is that Antarctica may come to Top Band in March. George Taft, W8UVZ, is assisting. Oleg Sakharov, UA1PBA, at RI1ANR/R1ANR (Antarctica Novo Runway), reported that a 160 meter vertical was nearly ready, and he hoped to be active this month. (RI- prefix call signs may show up as "European Russia" in loggers and online databases.) -- Thanks to [The Daily DX](#)



Next Regular Meeting

The next meeting will be on Thursday, February 27th 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:

March 27th, 2014 7 pm

Please do not call the church for information!

Club Nets

Please check in to our nets on Friday evenings.

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

Visit our website at: www.w9rh.org

Or phone **(414)-459-9741**



Chatter Deadline

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

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

or by Post to:

Michael B. Harris

807 Nicholson RD

South Milwaukee, WI 53172-1447

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

VE Testing:

March 29th, 2014

**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

March 2nd 2014 Sterling-Rock Falls ARS's Hamfest Location: Sterling, IL Type: ARRL Hamfest

Sponsor: Sterling-Rock Falls Amateur Radio Society

Website: <http://w9mep.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

- Mark Tellier—
AB9CD

Refreshments

- Hal—KB9OZN



Membership Information

The Hamateur Chatter is the newsletter of MRAC (Milwaukee Radio Amateurs' Club), a not for profit organization for the advancement of amateur radio and the maintenance of fraternalism and a high standard of conduct. MRAC Membership dues are \$17.00 per year and run on a calendar year starting January 1st. MRAC general membership meetings are normally held at 7:00PM the last Thursday of the month except for November when Thanksgiving falls on the last Thursday when the meeting moves forward 1 week to the 3rd Thursday and December, when the Christmas dinner takes the place of a regular meeting. Club Contact Information

Our website address <http://www.w9rh.org>

Telephone **(414)-459-9741**

Address correspondence to:

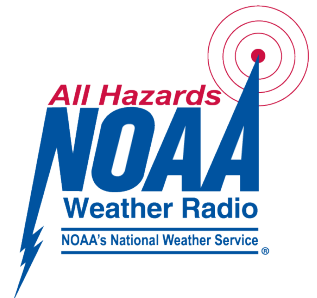
MRAC, PO Box 26233, Milwaukee, WI 53226-0233

Email may be sent to: w9rh@arrrl.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

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



Northern Hemisphere Snow Cover Anomalies

January (1967-2014)

