QRZ NEWS

A MONTHLY PUBLICATION OF
SOUTHERN PENNSYLVANIA AMATEUR RADIO CLUB, INC
PO BOX 1033 - LANCASTER, PA 17608-1033
(Founded June 1960)
AN AFFILIATED SPECIAL SERVICE CLUB OF THE ARRL, INC.
"Public Service through Communication"
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Repeaters: 145.230 - 449.975 - Packet 145.030 - ATV 923.250, FN10se

January 2010

President's Message

A Matter of Perspective

We are just two days back from our flight home from Iowa. If you have been watching the news you are aware that it was really cold out there. During the two weeks we spent visiting our daughter the temperature range was often double digits below zero and usually single digit figures above zero for highs. (This "visit" was for the purpose of installing new kitchen cabinets and a dish washer so I was usually inside.)

Although I did hear some of the locals commenting on the cold, for them these temperatures are not that unusual. This brings me to the subject of this month's column.

As a former airplane fixer and amateur pilot I tried to keep up on aviation safety reports. These reports often included aircraft accident reports, not out of morbid curiosity but rather in an effort to learn from others mistakes. It was interesting to note that two or three educated, often aviation savvy, persons could witness an incident and come away with completely different observations of what had happened. Often these discrepancies were the result of the observers being at different locations in reference to the incident. Things look totally different from different perspectives.

The same could be said of the state of Amateur Radio today. While some may say our days are numbered and Ham Radio is no longer relevant in this Internet society I beg to differ. Some people's view of us is a bunch of old men huddled around a big radio talking nonsense to some other old men at some other location. This is somewhat true and that is OK, and have you ever looked over someone's shoulder and seen the mindless stuff they text to each other or exchange on Facebook? What these observers are missing is all the new modes and methods of communications that we can use and the exiting things we can do with them. Things like Amateur Television, Data Communications, Automatic Position Reporting, Field Day, and Contesting and Emergency Communications to name a few.

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It is the aim of the Board of Directors to bring the excitement of Ham Radio to the forefront. We are continuing in our efforts to streamline the business portion of our meetings and to offer interesting, informative, and diverse presentations after these meetings. We are looking for presentations on any aspect of Ham Radio. We are also looking for Hams or Non Hams who are involved in hobbies or professions of interest to other Hams or Non Hams. If you have an interest you would like to share please contact any Club officer and we will schedule a date.

I am looking forward to a great 2010. Things are looking up and there are huge opportunities for the growth of Ham Radio in Southern Pennsylvania.

73s,
Harry Bauder, WA3FFK

MINUTES OF THE DECEMBER 2009 MEETING OF THE SOUTHERN PENNSYLVANIA AMATEUR RADIO CLUB (SPARC)

Held Wednesday December 16, 2009 at the Rapho Township Municipal Building

The meeting was called to order by President Harry Bauder, WA3FFK, with 8 members and guests present. The usual round robin with introductions of all present followed.

Gerry Wagner brought in coffee and donuts for the club and also volunteered to take the minutes in the absence of the club's secretary.

The Minutes from the November 18, 2009 meeting were read and approved.

The Treasurer's report was given by Ted Freedman. Ted also noted that all members and officers are covered under our current liability insurance policy.

Old Business:

Dave and Harry took the old GMC pickup truck used to pull the Field Service Van back to the county Emergency Training Center. It is no longer on SPARC property and no longer our responsibility.

Since the club-owned Ford pickup truck is rarely used and costly to keep, SPARC plans to sell it early next year. Ted will not renew the registration in anticipation of selling.

New Business:

Harry reported that getting the mortgage paid off is high on the list of priorities of the BOD. Paper prices are up so this may once again be a source of extra funds. Members are encouraged to bring their paper along to meetings and give it to Dave.

The board is working on a list of responsibilities for all its members.

Our diesel oil tank is due for inspection in February.

The club received two emails from WB3DQD seeking help on his base station. Some members offered that it was a grounding problem. Harry will take care of this.

Steve Hass reported that it would take $371 per month to pay off the loan based on its renegotiated rate and duration. He challenged the members to pick up or sponsor a month's payment (or portion of a month). Steve did sponsor this month in memory of his "elmer". This may be an

action for the BOD to communicate with the members at large.

With the departure of Ross Kauffman, we need a new Field Day chairman. Jon Rudy, K3QF, accepted the appointment as Field Day Chairman.

The business portion of the meeting was adjourned. For the technical part of the meeting Harry Bauder gave a presentation with pictures of his New Zealand / Australia trip last year.

Respectfully Submitted,

Gerry Wagner, KB3SSZ

Field Day 2010

By Jon Rudy, K3QF

In these frigid winter months my thoughts go to warmer days. Speaking of summer, Field Day is on the 26th of June this year. Through an obscure democratic process known as "railroading," I was nominated as the SPARC Field Day coordinator since Ross, W3ZKU moved out of the area. I would like your reflections about what went well, what should be changed, and how we can attract more operators and would-be hams to this event. Send your comments to Jon Rudy, jonK3QF@gmail.com. Thanks...

Robert's Rules of Order: Definition

Railroading; Traditional method for expediting the election of someone to a tough job.

Recycle Update - Please Note

SPARC has paid off 80% of the original mortgage on our Rapho Twp club site mostly with money earned from recycling. We need all hands to finish the task.

The recycle market has improved somewhat and Dave Payne, N3LOM, is now recycling the same grades of recycle paper as before with some added requirements. SPARC cannot afford to pay transportation costs at present or expected recycle prices.

We recycle three grades of paper. It is important that these grades be separated else we get the lowest price for all the paper.

Newspapers and office paper are prime recycle material. They are typically clean and the low recycle content of the paper supports several cycles through the paper making process.

Each time paper is recycled, the fibers get a little shorter and the resulting paper is weaker. Paper manufacturers control quality by controlling the amount and quality of the recycle paper they add.

Plastic and glue are no, nos of paper making. No window envelopes or magazines with those horrid plastic packets of perfume samples, plastic stickers, etc.

Glue is a problem in the paper recycling process and must be minimized. Stapled catalog and magazine bindings are ok. Magazines and books with the flat glued bindings must be handled separately. Phone books and QST are examples of glued bindings. There is no need to remove covers from the phone books.

Corrugated cardboard has a lot of glue and must be flattened and separated from other paper. This is a separate grade from other paper.

Please take recyclables, paper and metals, to Dave Payne's mini recycling center at 1373 Malleable Rd, Columbia or to a SPARC club meeting. Recycling is not restricted to club members. We support green.

The SPARC heavy duty pickup used for transporting recycled paper is now for sale. If you know anyone who might be interested, contact Dave Payne, N3LOM.

Coming Events

Sunday, 3 January 2010 0000UT Earth at perihelion, 91,402,485 miles from the Sun.

Tuesday, 6 July 2010 1100UT Earth at aphelion, 94,508,351 miles from the Sun.

See QRZ News for March 2009 for a summary relating Es propagation to meteors and aphelion/perihelion.
http://www.k3ir.org/QRZ_News/QRZ_News_March_2009.pdf

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Wednesday, 20 January 2010, 7:00PM
SPARC monthly membership meeting at the Rapho Twp. Municipal Bldg., 971 N. Colebrook Rd. Rapho Twp.
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23-25 January 2009 ARRL VHF Sweepstakes
Begins 1900 UTC Saturday, ends 0359 UTC Monday (Start 1400 EST Saturday – End 2259 EST Sunday)
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Wednesday, 17 February 2010, 7:00PM
SPARC monthly membership meeting at the Rapho Twp. Municipal Bldg., 971 N. Colebrook Rd. Rapho Twp.

Chris Patterson, W3CMP, will give a report on the 8R1DB six meter DXpedition last summer.

Editor's Notes

Dave Sarraf, N3NDJ has taken on the job of coordinating the technical presentations at club meetings. The objective is to have the talks, round tables, etc. scheduled several months ahead so there can be specific publicity.

Please send your suggestions for topics to Dave. If you have a topic you would like to present, please volunteer.

The MWL (Microwave Lunch) group has been asked to again make a presentation at

the York Springfest in April. If you have suggestions for topics on operation above 900 MHz, please send then to me. These topics can also be presented at SPARC meetings. We recycle everything we can.

Is there any interest in an LF demonstration? Maybe this could be done at the club site in warmer weather. One of the problems at LF is ambient noise. The club site should be a good choice. Best propagation is after dark.

You have no doubt seen some of the many 'Armageddon in 2012' programs on television. The media is having a ball with this. Sky & Telescope magazine ran a debunking article in the November issue which shoots down the claims of heightened risk of a cataclysmic event. That article is available on line at http://www.skyandtelescope.com/news/69774827.html.

Asteroids have hit the Earth with disastrous consequences for life in the distant past and it could happen again. The big difference today is that there is an active survey for near Earth objects that pose a threat. Methods for deflecting asteroids are being sought. Asteroid Apophis is the main target on the list at this time.

See http://www.nasa.gov/home/hqnews/2009/oct/HQ_09-232_Apophis_Update.html for more information.

Note that asteroids and comets have no respect for any calendar created by humans.

73,
George, W3FEY

Update on DL3OCH

In the January 2009 issue of QRZ News, we reported on the EME activities of Bodo, DL3OCH. Later in 2009 Bodo went to Nigeria for an extended job assignment, but he did not leave EME or hamming behind. See http://www.youtube.com/watch?v=sztmmg7FJLs for an update on the activities of Bodo, 5NØOCH.

ARES/RACES

As part of the SPARC commitment to emergency communications, the SPARC repeater system is maintained as available for linking with other area repeaters.

Lancaster County RACES VHF Net is held on the first Tuesday of the month at 2030 hours local time. Presently being held on the 145.310 MHz repeater.

The Lancaster County primary ARES/RACES repeater is on 145.310 MHz with minus offset and 118.8 PL.

Combined York County Amateur and ARES/RACES NET convenes at 8:30 PM (2030) Mondays on 146.97.

Pennsylvania RACES HF Nets are held at 3993.5 kHz LSB on all Sundays except holidays.
The statewide net is on the first Sunday of the month at 0800 hours local time.
The Central Area (including Lancaster County) net is at 08:30 local time.

SPARC Nets

SPARC holds nets on the 2nd, 3rd, 4th, and 5th Tuesday (every Tuesday except the first) at 2030 local time on 145.230 MHz minus offset and a PL of 118.8.

Club Officers

President Harry Bauder – WA3FFK
Vice-President: George Gadbois – W3FEY
Secretary - Dave Sarraf. - N3NDJ
Treasurer - Ted Freedman - K3KSA
Repeater Trustee - Dave Payne - N3LOM
Past President - Mike Warner – N3XPD
Board of Directors - Jim Silvius – KW3E

Nearby Nets of Local Interest

York County Sponsored Nets:

Combined York County Amateur and ARES/RACES NET convenes at 8:30 PM (2030) Monday on 146.97.

Tuesday Nets (Note new schedule for Technical Net)
Elmer/DIGITAL NET -- Tuesday, 8 PM on the York 146.97 Repeater --
The first 15 minutes or so will be open to questions. DIGITAL Communications testing will continue after that.
Friday Digital Net
Friday evenings starting at 8 PM on the 146.610 (PL:131.8 Hz) EARS repeater on Ephrata Mountain.

This is an excellent Digital net called by Bob, AB3GF. Check in is by digital, BPSK125.
It is an informal, well run net with plenty of Digital transmissions along with discussion by voice.
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Delaware Co. Mobile Sixers Net Schedule
Sunday 2000 50.550 MHz USB

PACKRAT MONDAY NIGHT NETS
TIME FREQUENCY NET CONTROL
7:30 PM 50.145 MHz K3EOD FM29ll
8:00 PM 144.150 MHz N3ITT FN20kl
8:30 PM 222.125 MHz K3TUF FN10we
8:30 PM 224.58R MHz W3GXB FN20jm
9:00 PM 432.110 MHz WA3EHD FN20kd
9:30 PM 1296.100 MHz W2SJ FM29LW
10:00 PM 903.125 MHz W2SJ FM29LW

Visit the Mt Airy VHF Radio Club at: www.packratvhf.com or www.w3ccx.com

2M Northeast SSB Net Mon – Fri, 0700 check on 144.200MHz for possible DX openings. 0730 – 0830 net on 144.176MHz. This is a very long running net that runs from NJ up the coast to CT and beyond.

QRZ News Publication

QRZ News is published monthly on the second Wednesday of each month, one week before the monthly meeting. Deadline for article submission is the second Tuesday of each month.

We operate on an exchange basis with other non-commercial publications. Articles printed in QRZ News may be reprinted in a not for profit publication provided proper credit is given. Reprinted articles require permission from the original source.

QRZ News is archived at http://www.k3ir.org/QRZ_News.html. Documents are in PDF format.

Dave Payne, N3LOM, recently found a paper copy of the first quarter 1999 issue of QRZ News. This is the oldest copy of QRZ News in the archive. The next oldest copies are from 2001.

MARS Gets New Name As It Fine Tunes Mission

On Wednesday, December 23, the Department of Defense (DoD) issued an *Instruction* concerning MARS, effective immediately. This *Instruction* gives the three MARS Services --Army, Air Force and Navy/Marine Corps --a new focus on homeland security and a new name Military *Auxiliary* Radio System. The *Instruction* is the first major revision to MARS since January 26, 1988 --as such, the first revision since the 9/11 attacks and Hurricane Katrina, two major events that changed the way Amateur Radio dealt with emergency communications.

The DoD defines a "military auxiliary" as "an organized body of volunteers prepared

to supplement the uniformed services or any designated civilian authorities by provision of specialized autonomous services when called upon or when situations warrant," and gives the Civil Air Patrol and Coast Guard Auxiliary as examples of auxiliaries.

In the past, MARS had focused primarily on emergency communications and health and welfare support. The DoD's *Irstruction* now directs the three MARS services to provide "contingency radio communications" to support US government operations, DoD components and "civil authorities at all levels," providing for national security and emergency preparedness events. MARS units will still continue to provide health and welfare communications support ”to military members, civilian employees and contractors of DoD Components, and civil agency employees and contractors, when in remote or isolated areas, in contingencies or whenever appropriate." MARS must also be capable of operation in "radio only" modes --without landlines or the Internet -- and sustainable on emergency power (when public utility power has failed); some MARS stations must be transportable for timely deployment.

The *Instruction*, however, does not mention which of the three MARS .services will take the lead when responding to events. According to sources, this has been seen as a critical issue in conforming to the National Incident Management System (NIMS) that calls for "unity of command," As now constituted, the three separate MARS services are supposed to "interoperate," but command-wise, each operates independently. Some MARS members had urged clarification on this issue to avoid confusion during an emergency, sources said.

The Secretaries of the Army, Air Force and Navy are to encourage participation in MARS, the *Instruction* states, saying this may be accornplished "by establishing and funding an active MARS program within each Military Department, which shall then assign a MARS licensed staff representative to manage operations, readiness, planning, procedural and technical development, documentation, standards, training, equipment, program and membership administration, and other matters necessary for mission accomplishment."
The Secretaries are also tasked with bringing new personnel into their MARS services. The *Instruction* calls on them to establish programs "to promote interest, recruit qualified volunteers, sponsor them for basic background checks and furnish them suitable training in contingency support communications."

The *Instruction* also dictates that MARS leaders will now report to three DoD officials; before this revision, they only reported to one person. The Assistant Secretary of Defense for Homeland Security and Americas Security Affairs (ASD [HD&ASA]) now has primary responsibility for the MARS Defense Support of Civil Authorities (DSCA) mission. In addition, MARS leaders will report to the Assistant Secretary of Defense for Networks and Information Integration/DoD Chief Information Officer (ASD [NII]/DoD CIO) and the Assistant Secretary of Defense for Logistics and Material Readiness (ASD[L&MR]). In the 1998 charter, oversight of MARS was assigned to a single top official, the Assistant Secretary of Defense for Command, Control, Communications and Intelligence.

This revision --which was years in the making --keeps the Navy/Marine Corps MARS intact; until now, members of this

MARS service were concerned that their part of MARS might be terminated by Navy commanders.

The *Instruction* also gives some new perks to MARS members. Active duty military personnel who are affiliated with MARS may be able to earn Reserve points based on service in MARS and, in cases of permanent change of station, qualify for weight exemption for transportation of MARS communications equipment. All members may be considered for benefits associated with DoD civilian service, such as access to DoD morale, welfare and recreation Category C recreational facilities and access to DoD credit unions.

Membership in any of the three MARS services is open to qualified active duty, Guard and Reserve personnel, as well as those in civilian agencies who report to civil authorities or their supporting organizations (including nongovernmental organizations) and private US citizens who meet age, education and other criteria such as an FCC-issued Amateur Radio license --imposed by a DoD Component MARS office.

Thanks to 'The Heterodyne' newsletter of the Mobile Sixers Radio Club for this MARS update.

Lightning Protection for Antennas and Solar Panels – Part 1

We all need to know how to protect our systems from lightning damage. The protection of solar photovoltaic systems requires the same techniques used to protect radio equipment. There are many do's and don'ts articles in circulation, but few really explain electrical rules being applied. This article will provide some simplified electrical theory as it relates to lightning protection to help you understand the requirements, and what to do if things don't work as expected. My goal is to keep it simple enough for beginners without boring more experienced hams.

Michael Faraday, 1791 – 1867) was an English chemist and physicist who contributed to the fields of electromagnetism and electrochemistry. The portion of his work important to our present discussion is the discovery of the relationship between electricity and magnetism. It is the basis of how our radios work and incidentally explains what happens when lightning strikes.

First let's consider the fundamentals of charge. I think everyone is familiar with the Bohr model of the atom wherein negatively charged electrons in one or more shells surround a positively charged nucleus. The nucleus contains positively charged protons and some uncharged neutrons. Hydrogen is the sole exception. There is just one electron and one proton in the hydrogen atom. There are no nuclear reactions going on in anything we are working with so we will ignore them and state laws of physics without considering nuclear effects.

The electrons are very small and mobile and the protons are very heavy and stay in the nucleus with their friends the neutrons. It doesn't take a lot of energy to dislodge one or more electrons from an atom so that you create free electrons and a positively charged atom or molecule called an ion. Air is composed mostly of nitrogen and oxygen molecules. Both of these gases form molecules of two atoms each in the normal state, i.e. O^2 and N^2.

Charge is a quantity of electricity, usually electrons, but don't forget those positively charged ions that want to meet with an electron, more about them later.

Remember the rule that like charges repel each other and opposite charges attract each other. This rule is important in our lightning protection designs. This is how a Faraday shield works.

You have no doubt heard the DC rule that electricity follows the path of least resistance. For all circuits where alternating or transient currents are present, we must use the impedance which includes the effects of capacitors and inductors. When dealing with lightning transients, inductance is the significant contributor so we'll forget about capacitance for now.

Inductance is the property in an electrical circuit where a change in the electric current through that circuit induces an electromotive force (EMF) that opposes the change in current. When lightning strikes, the discharge current goes from zero to 10s of thousands or rarely hundreds of thousands of amperes in a few microseconds. Even a very small inductance will produce a large reactive voltage drop. Large potential differences result in currents seeking a lower impedance path.

Now let's look at what is happening that causes lightning. When weather conditions are right, rising air currents interact with rain drops causing them to become charged to very high voltages relative to the earth below. Potential differences can also develop between adjacent clouds to produce cloud to cloud lightning. We don't care about that.

Air is a very good insulator, but eventually the potential difference between earth and ground is too much and an arc results. This starts as a leader from the cloud toward the ground looking for a good path. When a good contact is found, the current increases rapidly as a plasma is formed. In a plasma, essentially all the molecules in the air are ionized and the resistance drops dramatically as the current increases dramatically. Without a time lapse camera, the main discharge is the only part you see. Note that positive ions in a plasma are free to move. They also interact with magnetic fields.

Incidentally, this is why fluorescent lamps must be ballasted. When the mercury vapor forms a plasma, the resistance drops dramatically and without current limiting the device would self destruct.

Ground currents rush from all directions toward the point of the strike. Your house is in the way? No problem, just plow through whatever conducting paths can be found. This is a big problem that will be addressed with our lightning protection designs.

Now look at the problem we have. Most of what I just described is completely out of our control. The part we can change is the little connector between the sky and the ground. The good news is that it is the only part we care about. The methods to protect from lightning are focused on providing the lowest possible impedance path to ground from our antennas or solar panels without going through our equipment on the way. Include your house as something you want to protect.

The probability of a lightning hit is small for most installations. Urban locations tend to share hits with neighbors which reduces requirements somewhat. Rural, high elevation, locations are the most likely to get hit. I'll talk more about this in future

articles. It is time to get to some 'do it now' recommendations.

The first step is to provide a preferred path to ground. Our grounds need to have both low DC resistance to ground and low inductance. Ground rods should all be of service entrance quality, i.e. 8 foot Copperweld or heavily galvanized rods. Service entrance ground connections require #4 bare copper wire and this is a good recommendation to use throughout.

When you put up an antenna or solar panel, there should be a dedicated ground rod associated with each installation. If the antenna is physically close to the solar panels sharing is ok, but do not use the service entrance ground as the primary ground for your tower, antenna, solar panel etc. The objective is to conduct as much of the lightning surge directly to ground without going inside your house.

Route the ground wire from antenna and panels to a ground rod with sweeping bends (low inductance) and as short as possible. You may want to start the construction of a Faraday shield around your entire house. A Faraday shield can be very sparse and still provide protection. If you are starting near the peak of a roof, go to the nearest corner and down the edge to a corner ground rod. Remember that like charges repel so they stay on the outside of the shield. If your solar panels cover a large area on the roof, consider a second ground going down the diagonally opposite corner from the first. Is this overkill? Maybe it is, depending on your location.

Your best protection is to have everything in your house at the same potential. Connect all your grounds together outside the house. The Service Entrance ground must be a singular connection between the AC neutral and the service entrance ground rod. Do not use the neutral ground wire or connector for anything else. The service entrance rod must be connected to all your other grounds with one or more separate connectors. Telephone, cable, satellite, solar panels and your antenna grounds must be connected together and to the service entrance rod. The objective is to keep everything at the same potential

Remember that the discharge currents in the ground come from all directions toward the strike point. You want a preferred path that does not go through your house. Bury some of your heavy ground wire outside your house connecting all the various ground rods together. Bury the wire deep enough to help lower your resistance to earth and avoid being chopped when you forget and dig up the plants near your house. More detail on this in future chapters.

The highest priority 'do it now' is to connect your antenna and solar panel grounds to the service entrance ground rod. Solar panels have heavy wires providing a nice path for lightning to enter your house. A little insulation doesn't mean much to a bolt that just jumped several thousand feet of air.

Sometimes, lightning doesn't hit where you think it will. Remember the hunting scenario of the cloud to ground leader? Do not overlook the possibility that the lightning might hit the power line and head for your very fine station ground through the AC lines to your rig. See how cleverly this avoids your lightning arrestors?

There's a lot more to be said about lightning protection, but that will have to wait for future issues.

Does anyone have a good video sequence of a leader and subsequent strike?

I have searched in vain for a copy of the General Electric lightning demonstration at the 1939 New York World's Fair wherein a person sitting in a car is perfectly safe as the lightning discharge hits the roof and discharges to ground from each wheel. The conducting car body is the Faraday shield and the repulsion of like charges keeps the charge on the outside of the car. Does anyone know where to find a copy of this photo?

Thanks to W3HMS and W0BR for valuable suggestions and background material.

73,

George, W3FEY

What's all this LF stuff – Part 1

This is a question that you may ask yourself and in fact it is the last place where hams can homebrew and in fact must build their own equipment. There are no rice boxes available here. Today the LF band at 135 Kc is a worldwide ham band but unfortunately not in the US. When we asked for that assignment the power distribution companies evoked home land security and we were denied its use. Power companies use frequencies around 135 Kc to monitor their transmission lines.

There are some exceptions however, several hams applied for an experimental license and proved that there would be no issues with the power companies. They were able to work across the pond to make contact with European hams. In order to do that, they had to try to build antennas that were at least –35 Db down from a full sized one. This isn't easy when you consider how long they get at those frequencies. The usual configuration was some kind of inverted L with a large loading coil and variometer at the base. This would allow you to tune the antenna for that frequency. The 135 Kc band is less than 3 Kc wide so there was no need to make an antenna tune a wide range. Just tune to your transmitter and it worked.

As far as modes go it is pretty obvious that it has to be narrow. An SSB signal would take up the entire band. CW is the choice. Using really long dashes and long integrating programs you could see CW with signals that you were unable to hear. More on that later.

The other fun band, which requires no license, is the loafer band centered on the watering hole at 185 Kc. This is all part 15 stuff and the limit is a transmitter of 1 watt input into an antenna and feed line and ground system of less than 50 Ft. Everyone runs the transmitter at the base of the antenna and usually class E which will run 90 + percent efficient. The ERP under these limitations is around an mw or so, don't cheat. At 185 Kc and the power limit can allow distances of several thousand miles and these distances have been worked. Guys will run real esoteric software keying schemes.

What about 600 meters? This band has a good chance to become a US ham band as it is in many countries and there are a bunch of guys in the US running propagation tests under special licensees and depending on their license hundred of watts ERP. I believe Canada has that as a ham band but with a 1 watt ERP. Even so 600 can be a real fun DX band and contacts between North America and the rest of the world happen regularly. One of the issues worldwide is that this frequency was historically used as a marine band and some

want to keep it unused as a kind of memorial to the marine service. Some of the best operators however are retired Coast Guard ops who are having a ball. See Operating on the 500kHz (600m) band http://sites.google.com/site/g3xbmqrp/Home/500k

Next month I will cover in depth what you need to receive at these frequencies. We will explain the kind of keying modes used and receive antennas you can build.

Bob Riese, K3DJC

Ed Note: See December QRZ news for an inexpensive converter for LF. http://www.k3ir.org/QRZ_News/QRZ_News_December_2009.pdf

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K3IR club site, 1715 Breneman Road, Rapho Twp. Lat. 40.16700, Long. 76.45480, 600' ASL, FN10se

This is a good portable operating site for the January, 23-24 VHF contest. If you are not a SPARC member, there is plenty of parking space outside the fence for rovers. Rapho Twp. clears snow on Brenaman Rd. The parking area is not cleared. The long term forecast looks good for the contest.

January VHF Contest circa 1954, W1UIZ/1 Mt. Pack Monadnock, Jaffrey, NH

L-R; Unk; W1UIZ/W3FEY; NH Park Ranger; W1WID(SK)
There wasn't much snow on the road, but the climb was long and hard. I used up a box of 50 cross chains. The ranger told me he had never seen anybody change a cross chain so fast. Secret method was I was using a tool made for big trucks. Note the long handles. See fire tower ahead.

3KW Onan 1800RPM generator provides power for the contest operation

W1WID looking over the terrain

Ranger cabin where we operated and slept. Wood stove for heat kept the operating room warm. The sleeping area required a very good sleeping bag. Saturday night the temperature fell to -14° in Jaffrey. Guess by park ranger -20° at mountain top.