Next Meeting: January 26, 2016 at 7:30 PM **JAN/FEB 2016**

Letter from the MARC President

I hope everyone had a safe and a Happy New Year. We ended 2015 with a great holiday party and our best attendance yet. It was great to see everyone there – including a visit from Santa and Mrs. Claus.

As we have mentioned before, we have a new Net Control Manager – Todd Tew, K1TEW. Todd is actively working with Miguel Ramirez (KC2HMG) to provide coverage on our Wednesday night nets. In addition, Todd and Miguel have completed plans to start up a 'drive home' net that will be operational soon. See page 5 for more info. Thanks to Miguel and Todd for keeping the nets alive!

I'm happy to tell you that we have secured the Newtown Public Library as our meeting location for the remainder of 2016. Please remember that we meet the 4th Tuesday of the Month. Thanks to Rich Russo (KB3VZL) we have a full slate of programs for 2016 – please see the web site for details.

I know it's a long way off but we will soon be starting planning for Field Day. Our Field Day co-captains are Jeff DeKonty (AB3WM) and Jim Foster (W3JNF). Please let them know how you can help out so that we can have another successful event.

I hope to see you all at one of our upcoming meetings, public service events or other club activities. Thanks for your continued support of MARC.

73/ Steve Werner - KD3WK
MARC President

VOX

It's time to renew your MARC membership! You can pay your dues at any club meeting or send a check to: MARC, P.O. Box 557, Eagleville, PA 19408. MARC dues are $15 for a Full Member who is a licensed amateur radio operator, $5 for an unlicensed individual as an Associate Member and $5 for a family member of a Full Member who is also a licensed.

Congratulations to Jim Smith, K3RTU, who had an article published in the November issue of the "K9YA Telegraph" (Robert F. Heytow Memorial Radio Club's Newsletter).

Seeking a volunteer to serve as promotions manager for the hamfest (place free listings on websites, coordinate distribution of flyers, promote event to other clubs, obtain doorprizes, etc). Contact Mike, KF3CD at kf3cd@arrl.net if you can help.

INSIDE THIS ISSUE OF REMARCS:

FROM THE EDITOR'S DESK

Although I have not been quite as active on ham radio these days as I used to be, I do regularly monitor the .06 and .13 repeaters when I am in my car every day. I remember not so long ago, there were always fellow MARC members and other local hams on our repeaters to talk to and most days and evenings, there were lively conversations happening on a wide range of subjects. I recall that I often had to wait my turn to jump in, especially during the usual morning and afternoon "drive times".

In recent years, it seems to me that the MARC repeaters have been eerily quiet. When someone identifies themselves, there is often no reply. It has me wondering, why the lack of activity? There are many newly licensed hams and our club has a robust number of members so it's not because there are fewer hams around. Also, it's not like there's a shortage of gear or that it's expensive either because you can now buy a brand new dual-band HT for under $60!

When I do hear activity on our repeaters, I sometimes hear folks that are not MARC members. When you talk to a non-MARC member, it's a great opportunity to invite them to a club meeting or to visit our website, to promote the hamfest or to stop by our Wednesday night net, etc.

I recall my early days in ham radio in the 80's, my first VHF radio was an ICOM IC-2AT HT (remember the thumbwheels on top?). I listened to the MARC repeaters for a long time (days, maybe weeks!) before jumping in to actually talk. I remember being nervous making my first few repeater contacts but I was immediately made to feel welcome. I quickly made new friends and before too long, I was talking like an old pro. Everyone I talked to was very friendly, which prompted me to join MARC. Ever since then, I have always felt that MARC members are an especially friendly and welcoming group. Wouldn't you agree?

When was the last time you used a MARC repeater for a chat or participated in one of the club nets? When was the last time you answered the ID of a fellow ham you didn't know? It might just be a nervous new ham making one of his first contacts or it might be a new friend.

Hope to hear you on the air!

73 de Mike, KF3CD

MARC Info

wb3joe@marc-radio.org
http://www.marc-radio.org

MEMBERSHIP MEETINGS:

4th Tuesdays of the month at 7:30 PM
(Doors open at 7:00 PM) at The Newtown Public Library, 201 Bishop Hollow Rd. in Newtown Square.

BOARD MEETINGS:
2nd Tuesdays of even months, 7:00 PM
Paoli Hospital, Willistown Meeting Room, Paoli, PA.
Members may attend as observers.

WB3JOE REPEATERS:
(CTCSS or PL = 131.8 hz)
145.130 - / 147.060 + / 147.360 + /224.420 - / 224.5 - /445.675 - /444.050 -
The 145.13 and 147.06 2-meter repeaters are linked. The 147.36 MHz, the 224.50 MHz and the 444.050 MHz repeaters are linked.

WEBMASTER:
Dennis Silage K3DS
k3ds@marc-radio.org
610-353-4829

2-METER NETS:
Club Net, Wednesdays, 8:30 PM

These nets occur on linked 145.13 - / 147.06 + Repeaters

NET MANAGER: Open

NET CONTROL OPS:
Miguel Ramirez, KC2HMG and Todd Tew, K1TEW

DUES:
$15 Full (licensed Amateurs)
$5 Associate (unlicensed persons)
Family rate $5/ham - after first member pays full dues

NEWSLETTER:

The REMARCS editor is Mike, KF3CD. Do you have something to contribute to REMARCS? Please let Mike know by sending an e-mail to kf3cd@arrl.net.

UPCOMING EVENTS

SATURDAY, JANUARY 9 @ 9 AM
Monthly Breakfast Meeting

TUESDAY, JANUARY 26 @ 7:30 PM
Club Meeting- Satellite Communication, Brian Kelly, AA3BK

TUESDAY, FEBRUARY 9 @ 7 PM
MARC Board Meeting

SATURDAY, FEBRUARY 13 @ 9 AM
Monthly Breakfast Meeting

TUESDAY, FEBRUARY 23 @ 7:30 PM
Club Meeting- ARRL HQ, Mary Hobart, K1MMH

SATURDAY, MARCH 12 @ 9 AM
Monthly Breakfast Meeting

TUESDAY, MARCH 22 @ 7:30 PM
Club Meeting- Lightning and Grounding,
Ron Block, NR2B

SATURDAY, APRIL 9 @ 9 AM
Monthly Breakfast Meeting

TUESDAY, APRIL 12 @ 7 PM
MARC Board Meeting

TUESDAY, APRIL 26 @ 7:30 PM
Annual Junque Action

SATURDAY, JUNE 25 AND SUNDAY, JUNE 26
Field Day

SATURDAY, JULY 9
MARC'S Valley Forge Hamfest

PHILA AMATEUR RADIO EMERGENCY SERVICES NET INFORMATION

All interested amateurs are invited to participate in the Philadelphia ARES Net, Sunday's at 9:00 PM, hosted on the Phil-Mont Repeater System; 147.030 MHz (+offset 91.5 PL); 444.80 MHz (+offset 186.2 PL) When control operators are available, Echolink node 29742, WU3I-L, is on the repeater. Backup link is KB3IV-L.

There is always a different topic of interest to the amateur community discussed with an informal round table of comments and suggestions.

Visit the Philadelphia ARES web site at

http://www.harcnet.org/aresindex.html

MARC Board of Directors 2014-2015

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To 9/30/2015 -
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- W3NWA Dieter Hauer K3DK
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MARC BOARD MEETING MINUTES – December 12, 2015

Officers Present: Steve KD3WK, Jim K3RU, Rich KB3VZL, Doug NE3U, Dennis K3DS, Chris N3GBJ, Jeremy N2ZLQ, Jim W3DCL, Michael N3OMR.
Officers excused: Lou WX3I, Bob N3JIZ, Dieter K3DK
Meeting started at 11:00 AM

1. Approval of minutes of October 13, 2015 Board Meeting
2. Treasurer's report – not available
3. Upcoming general meeting programs
a. Programs for the following months have been scheduled (subject to change): Jan 26, Feb 23, Mar 22, Apr 26, May 24, June 25 -26 (Field Day), Jul 8 (Hamfest setup), Jul 9 (Hamfest), Jul 26, Sep 27, Dec 10 (Holiday party).
b. Programs for the following months are yet to be determined: Aug 23, Oct 25, Nov 22.
4. Old business
a. An application for new members has been redesigned and will automatically transfer to a membership database to minimize/eliminate transcription of information.
b. Loaner equipment status – no new equipment identified as being required immediately.
c. Elmer program – no new info
d. Newtown Public Library has approved the club's attendance for all of 2016 meetings. We will be notified if renovations are to be started and a backup location is already in place.
5. New business
a. Hamfest: Date is July 9. Strategy for future events. Consider better advertising such as direct announcements to other clubs and use of local resources such as Town Talk and other local papers. No change in fees anticipated.
b. Thoughts for 2016: Jim Smith suggested looking into reviving the swap net.
6. 2016 Board Meeting Schedule
a. Feb 9
b. Apr 12
c. Jun 14
d. Aug 8
e. Oct 11
f. Dec – Prior to Holiday party

Everyone is invited to attend the Phil-Mont Mobile Radio Club's 20th Annual Ham Radio Auction-Fest on Thursday, January 14, 2016 at 7pm at Wolcoff Auditorium at Roxborough Memorial Hospital, 5800 Ridge Ave. (Ridge Ave & Jamestown St.), Philadelphia, PA 19128.

This is an indoor auction of amateur radio equipment and ham-related computer gear. (Sellers may set a "minimum" or starting bid.) There are no tables for rent and no outside vendors. Admission is free, and all are invited to attend. However, Sellers (only) pay the club a $2 registration fee, plus a commission of 10% of the selling price (maximum of $30 per item). It's an annual fun event. Bring gear you want to sell, or just come and buy some bargains. We look forward to seeing you there. Talk-In: on W3QV/R. For more info, contact: Ed Masarsky, KB3IV at info@phil-mont.org or visit http://www.phil-mont.org/

MARC VE Test Session results- November 7, 2015

The following 4 VE's took part in the session: Dick K3ITH, Jim AB3OM, Josy WQ3E, and Brian AA3BK. Technician earned = 0, General earned = 1, Extra earned = 1, Passed an element but did not upgrade = 0, Did not pass an element = 0, Total candidates served = 2, Total elements administered = 2

The following successful candidates gave permission for their names to be published in REMARCS:

Jason Hitchings, KC3FRQ, Downingtown, PA.- General
David Fraile, KC3FJO , Lancaster, PA.- Extra

The next MARC VE Test Session will be on Saturday, February 6, 2016 at the Lower Providence Township Building in Eagleville, PA.

Reminder: As a benefit of MARC membership. members are entitled to one free VE test session per year.

MARC's New 'Drive Home' Net

Stuck in your car on your drive home from work or are you already at home and have some time to spend with friends? If so, then please tune into MARC's new Drive Home Net!

The MARC Radio Club Drive Home Net will be held on Wednesday afternoons at 4:30 PM, beginning on January 6. We plan to eventually hold this net every Monday, Wednesday, and Friday at 4:30 PM, if it is successful. It's an open Net and a great place to get together with friends at the end of the day, whether you're at home or on the road. Remember when operating mobile, your first priority is your driving. Keep your eyes on the road! MARC nets are conducted on our linked repeaters on 147.06 in Newtown Square and 145.13 in Paoli. The PL tone is 131.8.

The Needle Telegraph

The link to the youtube video below was sent to your editor by fellow MARC member Kevin Perot, K3NTD. I didn't know about Needle Telegraphs and found this piece of history so interesting that I just had to share it here. Sending and receiving messages by Needle Telegraph was painfully slow but eventually lead to Morse code and key lever designs. This video focuses on the development of the Needle Telegraph and the details related to line coding strategies and how time/tempo played a role in information transmission.

https://youtu.be/xcjgm6ctzAw

Cooke-Wheatstone Double Needle Telegraph, circa 1830's

Some Thoughts on Backpack QRP
By Jim Smith K3RTU

Once I retired I had more time to enjoy hiking. I began to think about taking my QRP rig with me and operating in some of my favorite hiking spots. Since 2008 I have spent many happy hours operating QRP in state parks mostly here in Pennsylvania or in the Clearwater, Florida area. Like anything else that you do over and over again, you sooner or later start to learn from your mistakes.

If you will indulge me I would like to pass along some of the things I learned the hard way about what I call Backpack QRP. First, let me start out by saying that to me Backpack QRP means actually hiking some distance, for instance, though a wooded area, along an abandoned rail line or along a beach. Then picking a spot where setting up an antenna is possible and spending several hours operating either with CW or SSB.

The antenna one uses should be of prime concern both for its key role in getting your signal out and for its ease of transport. At first I used a number of dipoles, but getting wire antennas up at an adequate height and free of entanglements in a wooded area, is at many times a real chore. I finally found that three different types of antennas suited my purposes, and I usually carry one or possibly two of them with me in my backpack. They are as follows, in my order of preference, and for ease of deployment: a multiband vertical, an end fed sloper and a TMV or tape measure vertical. The multiband vertical I use is my trusty Buddistick which has never failed to produce good results for me.
I also have recently acquired an MP1 by Super Antenna Corp., which so far has also produced very good results. Using a vertical such as these two requires at least one counterpoise wire per band. I sometime use one counterpoise tuned to the band being operated, but to make the antenna more omnidirectional I frequently use as many as four. How well do these two antennas work? Well consider this, my three longest DX contacts have been made with the Buddistick, but more on this later.

The end fed sloper I mentioned is very simple to deploy. The lower end of the wire is connected to a 9 to 1 UNUN attached to a tent peg or even a tree trunk. The 9 to 1 UNUN helps obtain a match and allows a coax connection to the rig. The length of the wire, of course, affects the SWR on each band, but a wire approximately 30 to 50 feet in length usually will lower the SWR enough to permit a tuner to give a good match. There are many internet sites which give more information about this type of antenna. Lastly, the TMV is also a good performer, but check out Glen Thibodeaux's KF5FNP excellent article in the August 2014 issue of QST magazine for a description of it, and how to build one. The TMV, like the end fed sloper works best with some counterpoise wires and of course both require that you find a tree big enough for your needs. I hope you're starting to see why I like verticals.

Before I leave the subject of antennas for Backpack QRP, I'll make one more point which will probably sound like heresy….I now use RG-174 coax instead of RG-8X or even RG-58. Why, you might ask would I be so foolhardy as to use such a high loss cable? A 20 to 40 foot length of RG-174 weighs a lot less than the same length of the other cables and takes up a lot less space in a backpack! As for the loss, well if you keep the length of the cable under about 20 to 45 feet in length you will lose no more than 1 db between 10 and 40 meters respectively. If you still are skeptical check out Steve Yates's AA5TB web page and get the exact figures for each band. As AA5TB so aptly puts it "you already lose 13 db when you go from 100 Watts down to 5 watts so what is one more db going to hurt". By the way, 14 db works out to be only slightly more than two S units.

Since we are on the subject of reducing weight in the backpack I can't fail to mention batteries. I first started out using SLA's. Their biggest drawback is their weight! The 7 or 8 Amp hour size weighs about 6 pounds, but can give you several hours of operating time before the voltage drops to where your rig won't operate. Oh, you say 6 pounds isn't so much. Well, consider that along with the battery, you will also have the rig, antenna, coax, antenna tuner, etc. The answer to the battery weight problem is finding a Lithium battery pack that you can afford. Lithium batteries can be very expensive, but are very light to carry for the amount of power they can supply. I use a 14.5 Amp hour Lithium Iron Phosphate battery that weighs only about 2.5 pounds.

The rig you use is entirely up to you. All three of mine are great rigs for backpacking. They are in order of weight: IC-703P, FT-817nd and KX3. Both the KX3 and the FT-817nd have battery compartments that hold 8 AA batteries, but must be operated at reduced power, say 3 watts or less, when using AA batteries. I've been able to work DX with both running less than 3 watts! A big advantage of the KX3 is that it uses very little current on receive. As you can see I like having a rig with both CW and SSB capability for the flexibility it gives me. Of course, rigs that have only CW capability are even more compact, lighter and use less current on receive.

Can Backpack QRP operating be rewarding? For me the answer has been a resounding yes. So far I've been able to work 30 states and over 45 countries. My longest contact has been 8200 miles into Swaziland on the East coast of Africa with the Buddistick antenna. Do you see why I like the Buddistick?

Try Backpack QRP sometime and you might be surprised and like it. Of course a big plus is that you might even get a little exercise and a few new states or countries in your log at the same time.

How I Became a Ham
By Anthony Yakonick, N3MQM

My introduction to radio came while listening to my uncles big console short wave radio. A few years later for Christmas, I received my own shortwave radio and a CB based walkie talkie. I enjoyed listening to the stations around the world but the US blues stations really drew me in, I soon realized where the rock and rollers were getting their influences.

By the early 1970s, just before the CB craze, I was able to buy my own CB, with license KNB2526. It seemed that everyone had a CB and I did some sideband work but then it was so bad I gave up. I found a few amateur operators and worked with them a bit but soon realized that code and dyslexia was too much of a learning curve and I lost interest.

In 1991, the action in the Gulf started to heat up and out came my old short wave radio, then soon a Sangean short wave radio followed, with sideband. Now I could hear the hams! In 1992, with renewed interest, I looked around in the magazines and found MARC. I studied and found MARC's VE tests and showed up. I met Carter Craigie, N3AO and I took the test and sometime later I was a newly minted no-code tech. I played with FM for a few years and participated in Field Day, then I got involved in raising a family and once again lost interest in radio for a while. In 2007, the code requirement was dropped and I upgraded to General and have been active and enjoying ham radio ever since.

Gizmo the cat, patiently listening for DX (ME0W?) in "Yak's Shack."
Rig: Icom 706 MKII with LDG Antenna Tuner
Antenna: 100 ft. dipole fed with ladder line

Holiday Party

Saturday, December 12, 2015

Additional photos, courtesy of Mike Lebrun, N3OMR, can be seen at:
https://www.dropbox.com/sh/ydk6kaquhqdun4n/AAD76eI5FeL9MVsd6_zi98vfa?dl=0















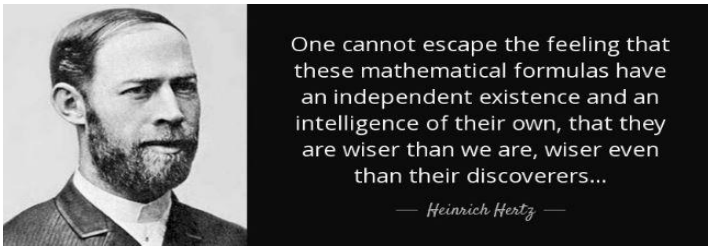

The Brilliant Heinrich Hertz

The great German physicist, Heinrich Hertz, made possible the development of radio, television and radar by proving that electricity can be transmitted in electromagnetic waves. Hertz was the first person who successfully demonstrated the presence of electromagnetic waves, by building an apparatus that produced and detected VHF/UHF radio waves.

Born on February 22, 1857 in Hamburg, Germany, Hertz came from a wealthy, educated and incredibly successful family. When Hertz began conducting experiments at the University of Bonn, he was aware of the revolutionary work that was left behind by James Clerk Maxwell, who had produced a series of mathematical equations that predicted the existence of electromagnetic waves. This challenged experimentalists to produce and detect electromagnetic radiation using some form of electrical apparatus.

Hertz took up that challenge to show that Maxwell's theory was correct and that light and heat are electromagnetic radiations. He proved that electricity can be transmitted in electromagnetic waves, which travel at the speed of light and possess many other properties of light. The most dramatic prediction of Maxwell's theory of electromagnetism, published in 1865, was the existence of electromagnetic waves moving at the speed of light, and the conclusion that light itself was just such a wave.

The first clearly successful attempt was made by Hertz in 1886. For his radio wave transmitter, he used a high voltage induction coil, a condenser (capacitor, Leyden jar) and a spark gap - whose poles on either side are formed by spheres of 2 cm radius - to cause a spark discharge between the spark gap's poles oscillating at a frequency determined by the values of the capacitor and the induction coil. This first radio waves transmitter is basically, what we call today, an LC oscillator.

To prove there really was radiation emitted, it had to be detected. Hertz used a piece of copper wire, 1 mm thick, bent into a circle of a diameter of 7.5 cm, with a small brass sphere on one end, and the other end of the wire was pointed, with the point near the sphere. He added a screw mechanism so that the point could be moved very close to the sphere in a controlled fashion. This "receiver" was designed so that current oscillating back and forth in the wire would have a natural period close to that of the "transmitter" described above. The presence of oscillating charge in the receiver would be signaled by sparks across the tiny gap between the point and the sphere (typically, this gap was hundredths of a millimeter). In this experiment Hertz confirmed Maxwell's theories about the existence of electromagnetic radiation.

In more advanced experiments, Hertz measured the velocity of electromagnetic radiation and found it to be the same as the velocity of light. He also showed that the nature of radio waves' reflection and refraction was the same as those of light and established beyond any doubt that light is a form of electromagnetic radiation obeying the Maxwell equations. While carrying out his experiment on electromagnetic waves, Hertz also accidentally discovered the photoelectric effect in which light falling on special surfaces can generate electricity.

Apart from the electromagnetic or electric waves ("Hertzian waves"), Hertz also showed that their velocity and length could be measured and that light and heat are electromagnetic waves.

During 1892, Hertz was diagnosed with a head cold and then an allergy and his health remained poor. He died of blood poisoning at the age of 36 in Bonn, Germany on January 1, 1894, and is buried in Ohlsdorf, Hamburg. His experiments would soon trigger the invention of the wireless telegraph, radio by Marconi and others and TV and his research earned him the honor of having his surname assigned to the international unit of frequency (one cycle per second).