



THE WATT



CALVERT AMATEUR RADIO ASSOCIATION
NEWSLETTER
April 2013

ASSOCIATION QSO

The CARA meetings continue to be well attended. 23 members were present at the April 4th meeting including a new amateur radio operator Dave KC3ADG. CARA members welcomed Dave to the club and approved his membership.

The biggest news of the meeting was that the long process for CARA to become a 501c3 has been approved by the IRS. CARA is now officially a Non-Profit Incorporation. Dick W3RBR explained what CARA will need to do in the future to maintain this status.

Bob KF3AA invited CARA members to join him on Wednesdays at the Mount Hope Community Center. At noon there is an informal lunch meeting and in the evening the HF station will be open from 17:30 to 20:30.

The dedication of the Mt Hope station to CARA founders is to be recognized with a plaque final decisions regarding the dedication will be made at the May meeting.

The 50-50 drawing was held and won by Dean N8LWP who donated his \$35 winnings to the club. Thanks Dean!

In other news the CARA technician classes are under way. Bill N3XMZ is teaching a class of about 8 eager people who want to become hams. The classes are also being attended by several current CARA members. At time of press it was unclear if these hams were attending the class to learn the technician portion of ham radio or just to show support to the new folks.

Be sure to join us at the next meeting. FIELD DAY plans will be discussed.

The next general meeting will be held May 2th 2013 at 7:30pm at the County Services Building in Prince Fredrick.

Be sure to check out the CARA website at www.k3cal.org or keep an eye on the newsletter and an ear on the repeater for more information 73 – KB3WFV

Fox Hunt Antenna Project –



CARA members gathered at the Hallowing Point park for the fox hunt practice held on Saturday April 27th. Members had the opportunity to locate a hidden transformer in the park using their home made 3 element beams and HT's. 12 CARA members some with their spouse's wandered around the fields of the park searching for the elusive beeping of the fox. All of this activity spurred the interest of several park goers who stopped by to speak with the group about the fox hunt.

With the practice out of the way CARA now focuses on the actual FOX HUNT to be held on May 4th. Keep an eye on the club reflector and an ear on the club repeater for more details.

Fox Hunt
May 4th
2pm
Mount Harmony Elementary School

Hope to see you there
KB3WV



CQ CQ CQ – CARA news and announcements

- The time has come for membership renewals. Membership renewals/registration forms have been sent out by e-mail. Please be sure to fill out the forms and send in your club dues. Don't have the forms ? You can find the membership application forms and more information about a CARA membership on the CARA web site or click on the link provided for you here: [K3CAL Join CARA](#)
- Be sure to join the CARA net every Monday night @ 7:00 pm on the 146.985 repeater, negative offset with a 156.7 PL.
- CARA breakfast meetings are held every third Saturday of the month. At Dream Weavers in Prince Fredrick
- CARA Lunch. Wednesday May 1st @ 12 noon. An informal get together of fellow hams and friends at the Mount Hope community center in the CARA radio room. Bring your own food and drink
- The next Association general meeting will be held May 2nd 2013 @ 7:30 pm at The County Services Building in Prince Fredrick Maryland.

- Up Coming CARA Events

May 1st	Technicians Classes (every Wednesday thru June 5th)
May 4th	CARA First Annual Fox Hunt
June 22 - 23	Field Day
Aug 10 - 11	Maryland QSO Party
Aug 17 -18	ILLW Lighthouse weekend

The Amateur Behind The Microphone – WA1MNQ

Amateur radio has licensed operators from all walks of life. Many of them are in a line of work that can be very closely related to the ham radio hobby in ways you have never thought of.

Mike WA2MNQ works for a company that repairs equipment that is



used in industrial manufacturing. Some of this equipment uses high output triodes commonly refer to as tubes. These tubes are not your standard 3-500z. In fact the tubes used in the machines that Mike works on make the standard ham or broadcast tube look like a child's toy.



The BW1185J2 is a water cooled power triode of coaxial ceramic/metal construction, intended primarily for industrial service. It has an integral water jacket and a rated output power of well over 240 KW! That's right Two hundred forty THOUSAND watts!. Or in other words one very big RF signal.

This monster tube weighs in at just over 34 pounds and measures 17-1/2 inches tall with a diameter of 7-1/2 inches. This beefy tube has a ferocious appetite for AC power. The filament needs 12.6 volts at 380 amps. This requires commercial power of 480 volts 3 phase at 400 amps per phase to feed this beast. All this power generates a lot of heat that is removed with 1-1/2 diameter copper

cooling lines flowing 30 to 40 gallons of water per minute.

All of these heavy duty numbers for this heavy duty tube are used in an inductive heater for industrial manufacturing. It is basically a self- excited oscillator or MOPA (Master Oscillator Power Amplifier) use to heat material inductively. There are tens of thousands of applications where heat is needed for manufacturing or heat treating material. You can find it being used in the processing of steel components, and the manufacturing of cable or wire such as fiber optics or direct burial wire with silicone gel. Pipe welding such as the manufacturing of EMT conduit at 700 feet per second is another manufacturing process that you may find this inductive heater with these tubes being used in.



The BW1185J2 triode is rated to work up to 30 Mhz. Typically they operate on a frequency of 455 khz in these machines and run at just over 50% over-all output to input. The power output limit of 125 KW in the unit shown in the picture is because of plate transformer ratings, the tube itself is



capable of output much higher than 125 KW. Very high RF currents, even in the water cooled copper tubing, lead to losses. Even if the tube itself is running at about 77% output, coupling losses occur as these units are usually inductively coupled to the load to be heated. Despite the losses the 125KW inductive heater with the BW1185J2 triode is one hefty RF power amplifier.

Amateur radio and the operators that use it are amazing. It is even more amazing to find the theories and principles found in ham radio used in everyday life. Look around, somewhere near you is something related to RF.

73- KB3WFV

ARES REPORT – Dennis Bowling - N3QHC



The Amateur Radio Emergency Service® (ARES) consists of licensed amateurs who have voluntarily registered their qualifications and equipment, with their local ARES leadership, for communications duty in the public service when disaster strikes.

TO: ALL CALV ARES STATIONS

DATE: April 7, 2013

Below is a tentative schedule for events that CALV ARES may or will participate in this year. Mark your calendars so we can have good participation in Drills and/or Public Service Events.

73, Dennis N3QHC

CALV ARES Schedule of Events for 2013

May 4, Saturday, Girl Scout Event, Hughesville (CHAS)

Bill/N3XMZ and I visited the CCARC meeting in February. We gave them information about this day long Girl Scout event occurring in CHAS. We said we can help support if they need help. Have not receive word back as of now.

May 11, Saturday, Marlboro Day (PGRE)

We can assist PRGE ARES for this event. This would be for volunteer only. However, those submitting names ahead of time will get a tee shirt & free food.

June 8 & 9, Saturday & Sunday, MS Cycle Event (PRGE)

We participate last year and it was fun. No plan yet but earlier I spoke with Jim Montgomery/W3KAS, PRGE EC, and he thought doing this event in simplex mode. That is always the best method for us to use however, not sure how many PRGE members have portable towers for antennas. More to come.

June 22 & 23, Saturday & Sunday, Field Day (CALV)

Opportunity for all hams to learn to operate in abnormal situations in less than optimal conditions.

July, TBA, Saturday, 3rd Quarter Region V Hospital Net (CALV, CHAS, MONT, PGRE & STMA)

Region V Hospital Drill with adjacent jurisdictions.

August 6, Tuesday, First Night Out (CALV), event not confirmed

Need to check with MDC-SEC, Jim/W3KAS, if this the date. And then decide if we want and how to participate.

October 5, Saturday, SET 2013 (CALV, CHAS, MONT, PGRE & STMA)

9:00 AM – 12:00 PM

October 13, Sunday, Patuxent River Appreciation Day Parade (CALV)

We probably will be asked to provide comms for the parade. Last year we were set to support PRAD but it was rained out.

October, TBA, 4th Quarter Region V Hospital Drill (CALV, CHAS, MONT, PGRE & STMA)

Region V Hospital Drill with adjacent jurisdictions.

The Blind Side – Stray RF and White Noise from KB3WFV

Recently the “Can you hear me now” in my cell phone got up and went. I could hear the calling party but they could not hear me. The process to replace this relative simple communication device took 3 days and left me extremely frustrated. The whole experience caused me to wonder, Do I really need a cell phone?

I decided to compare cell phones with the other means of communication that I have at my disposal, Ham radio!

Ham radio is a very cost effective way of communicating when compared to a cell phone. Once the initial investment in equipment has been made, ham radio does not require any contracts or monthly fees. There are no plans to choose, no minutes to keep track of. Data can be transmitted and received without any limits. Best of all the transceiver will never become outdated. It will transmit just as well in 10 years as it does now, no need to upgrade. Ham radio is the ultimate unlimited communication plan.

It is a no-brainer, purchase some equipment, a transceiver an antenna and communicate all over the world without any additional cost or limits. Of course, communicating using only ham radio has drawl backs. Primarily, there is the problem that not everyone has an amateur radio operator license. So unless Grandma is going to get her ham ticket chances are you won't be able to contact her. No big deal Grandma would prefer a nice hand written letter any way.

But what about that message that all working folks have gotten on their way home from a long tiring day at work ? “Honey can you stop at the store and get some (insert various absolutely cannot do without for tonight item here)” A simple 2 meter set up may work for this but of course the spouse would need his or her ticket too. For those who live outside the coverage area of a 2 meter repeater a simple HF rig and random long wire would work right ? Simply pull off the side of the road grab the sling shot and shoot a wire over a road side billboard or highway sign and check in with home before you get to far down the road. No problem.

Portable operation for communications during those trips where the day is spent wandering around a park or the mall can be a little more complicated but certainly not insurmountable. A comfortable back pack with a transceiver and a battery shouldn't weigh any more than 50 pounds and again the trusty sling shot

will get an antenna up just about anywhere. Just think, all the exercise gained from carrying around ham gear for everyday common communication needs means less time spent at the gym working off the fat that accumulated during the last 24 hour CQ contest operated. Another plus !

So far ham radio seems like a very effective way to carry out every day communications without a cell phone. But the cell phone does have several advantages over ham radio. Primarily it's "size per mile". The cell phone can communicate several thousand miles and still fit in your pocket. The amount of ham gear needed to achieve the same level of communications would fill a small truck and then some.

The cell phone can contact an individual at any time. Each individual phone has its own unique number that can be dialed at will. While ham radio has thousands of frequency's and several modes which to communicate on, it is heavily dependent on the individual that you need to contact to be on the same frequency and mode.

A cell phone will work during most weather conditions and at all times of the day and night. Some ham radio bands often won't support communication depending on the timing of day and atmospheric conditions. Despite these facts ham radio is still a very effective way to carry out simple communications.

So, there we were in the cell phone store confused bewildered and very frustrated with what seemed to be the inability to gain a simple cell phone to simply make a simple telephone call for common everyday communications, pondering the notion of using ham radio instead.

Standing there I suddenly realized that ham radio does not have voice mail !

Do I need a cell phone ? ABSOULTELY NOT, Well.... Wait.... maybe, kind-a-sort-of, hmmm ahhh yeah I do.

I now have a new phone that has plenty of "can you hear me now" in it. But as I struggle to get it to make a simple phone call I find myself considering a less expensive, a less complicated and a less demanding way of communicating..... perhaps smoke signals ?

73 – KB3WFV

Suggestion or comments for THE WATT

e-mail us at newsletter@k3cal.org

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April 2013
