

HRAC meets the second Wednesday of each month at 7:00 pm at HACC, Shumaker Public Safety Center, Gate 5 on Industrial Road in Harrisburg (Elmer Time starts at 6:30PM)

CLUB OFFICERS

PRESIDENT

Tim Lehman
KB3OZA
(717) 982-8550
KB3OZA@arrl.net

VICE PRESIDENT

Terry Snyder
WB3BKN
(717) 896-0256
WB3BKN@DJTerry.com

SECRETARY

Pete Lehman
KB3WIH
plehman0@gmail.com

TREASURER

Joe Stepansky
KQ3F
(717) 657-9792
KQ3F@comcast.net

TRUSTEE

Steve Gobat
KA3PDQ
ka3pdq@juno.net

NEWSLETTER EDITOR

Terry Snyder WB3BKN
HRAC.Newsletter@Yahoo.com
Personal Email:
(WB3BKN@DJTerry.com)

Webmaster

Gary Cappello KV3Q
Webmaster@w3uu.org

Harrisburg Radio Amateur's Club Newsletter

From The Desk of The President.....

The weather continues to warm and the rain seems to be abating somewhat; not so many rainy days in a row, at least. Looks like I will finally be able to get up on the roof and make some antenna repairs. And hopefully, the weather will improve to the point where I can pack up some gear and go operate in the field once in a while. If you haven't tried it, I highly recommend it.

It doesn't have to be a big deal. Just take a small rig, simple antenna and battery to a local park and set up under a shade tree. Make a few contacts and maybe even get a chance to demonstrate ham radio to the general public. Nothing like having fun and promoting the hobby at the same time.

Here we are, just a bit more than seven weeks to go until the Firecracker Hamfest. Flyers have been printed and distributed, ARRL representatives invited, ARRL convention status confirmed. Nothing left to do (I hope) until a couple of days before the hamfest when we have to get tailgating spaces marked off and get the sound system set up. And if anyone has any influence with the weather man, tell him to make sure we have good weather for this year's event.

We can always use more promotion for the hamfest. If you need flyers, I'll have some at the meeting. Take a few and post them around your neighborhood; laundromats, diners, post offices and grocery stores make good spots and most have community bulletin boards for just such material.

Hope to see you at the meeting.

73,

Tim KB3OZA

April Meeting Minutes

The April 13, 2016 meeting of the Harrisburg Radio Amateurs Club was called to order at 1905 HRS by the president, Tim (KB3OZA).

Secretary Report - The minutes of the March meeting were published in the newsletter. Doug (K3DRE) made a motion to accept the minutes seconded by Chuck (N3WL). Motion PASSED

Treasurers Report – Joe (KQ3F) presented the treasurer’s report. Doug (K3DRE) made a motion, seconded by Glenn (K3SWZ) to accept the report. Motion PASSED

Equipment Trustee – No Change

Repeater – Steve (KA3PQD) and Terry (WB3BKN) will be going to the repeater site to make some repairs to the repeater.

VE Committee – The next test session will be on April 16th. On April 17th the VE team will be assisting a test class at Holy Spirit Hospital.

Membership Committee – Tim (KB3OZA) reported 98 current members 74 are ARRL members.

Newsletter – Please submit articles to Terry (WB3BKN) by the last week of the month

Web page – Not Present.

EMCOMM – Terry (WB3BKN) reported that there will be an EMMCOMM conference at the Giant Center on Thursday

DXCC – No Report

Entertainment – Terry (WB3BKN) reported that this month’s presentation will be about DMR.

Hamfest – Tim (KB3OZA) reported:

- The club received convention approval from the ARRL
- The website listing is up for the Hamfest
- Fliers, food, and Parking are all lined up
- The club is still on the lookout for a new Winterfest location

Field Day – Preparations are being made

Elmer Time – Terry (WB3BKN) did a presentation about on-air etiquette. Next month will be coax connectors.

Old Business – The trailer project is still ongoing

New Business –

- Doug (K3DRE) is looking for ACS volunteers to operate at PEMA
- Glenn (K3SWZ) will be doing a QSL mailing soon
- May 14th is Armed Forces crossband day
- There was discussion about a Mt. Davis Special Event station and a Tunnel operations
- There was discussion about the PA QSO party bonus station

Good of the Club –

- The Ham Luncheon will be on April 28th.
- Thank you notes for license anniversary certificates were received.

CONTINUED ON NEXT PAGE:

Adjournment – There being no further business to conduct, Doug (K3DRE) made a motion, seconded by Richard (KB3YRC), to adjourn. Motion PASSED

Meeting adjourned at 1956 HRS.

Neat New QRP Transceiver

Recently, I was told about a new QRP transceiver for digital modes. I went looking and found a site called “The Transverter Store” run by Serge, UT5CW in Ukraine. <http://transverters-store.com/> He makes a complete line of VHF/UHF transverters, low power HF digital transceivers, as well as some other associated products. I purchased the 20 Meter PSK-31 version that is crystal controlled on 14070.0 KHz, which is the common PSK-31 frequency.

It arrived in a few weeks, after making it’s way through U.S. Customs with no problem. I was amazed at how small it was. This transceiver is fully self-contained. All you need is +12 VDC, a 20 Meter antenna and a computer with a Sound Card. The computer must be running Digi-Pan (available free on-line) or an equivalent digital communications program. It is connected to the computer by two STEREO audio cables. (Mono cables will not work!) As soon as it is powered up, you see the “water fall” and see the presence of signals on the band.

Operating it is just like another transceiver in the PSK-31 mode, except there are no controls! It really works! Power output is only 1.5 watts. The first day I had it on the air, I worked 5 or 6 states, plus 6Y5 and CO7. Conditions were not good that day... I did copy a few Europeans. Serge makes PSK-31 models for 15, 20, 30 and 40 Meters, plus JT-65 models for 15, 20 and 40 Meters.

The price is \$125 U.S, including shipping. I determined was that it would be nice to have a bit more power... I e-mailed Serge and inquired if he ever considered building an amplifier. He said in his prompt reply, that he offers a 10 watt amplifier. It has just not made it to his web site. (I think it has been recently added) The price for the amplifier is \$120 U.S, shipped.. He does take PayPal, which makes it painless to deal with him... I am sure this radio would be perfect for back-packing, portable, etc. I am an old RTTY’er and not into the “digital modes of the week”, but this is a blast to play with!

73

Glenn Kurzenknabe, K3SWZ

New Cumberland, PA



Weekly HRAC Net

The weekly information net is held every Wednesday at 8:00 PM on the 146.760 repeater,, except for the second Wednesday of the month, which is club meeting night.

The next VE Testing session will be on **Saturday June 18, 2016** in the HACC Shumaker building at Gate 5 on Industrial road, Harrisburg, PA. Pre-Registration is required. Please arrive by 8:30am

As a reminder the question pool for Extra Class will change on 7/1/2016



Pirate alert!

From Southgate Amateur Radio News

'The Daily DX' reports:

The ever-persistent Hassan, the pirate from Baghdad, Iraq, continues to plague the Amateur Radio bands.

This guy has been pirating and bootlegging multiple calls for several years. He has been heard bootlegging the calls Y11HR, Y11H, Y11HRP and Y11HI and pirating the calls Y11BGD, Y11IRQ, Y11DZ and most recently TA7/Y11RZ.

Unfortunately in Iraq there does not seem to be any enforcement to take Hassan off the air, much less do anything about the situation.

Therefore let's get the word out not to work or spot Hassan, who operates on 20 Meters SSB, usually around 14178-14188.

In fact the best policy is to ignore him completely on the air.



Please send any articles for the newsletter to hrac.newsletter@Yahoo.com

EMCOM Rally

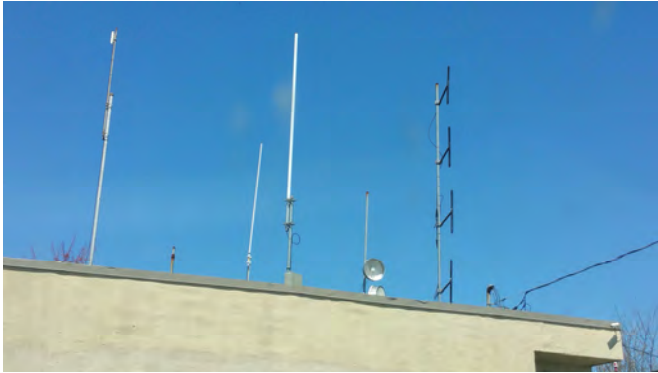
This past month I had the opportunity to attend a day rally of EMCOM related people and equipment. It seems that just about every agency was represented in some way, including some from close states. I counted three choppers that landed throughout the day too. Here are a few pictures of the day.

Terry WB3BKN



Repeater

Have you ever wondered what a repeater looks like? We were doing measurements, and maintenance on the 146.76 repeater, and on my 224.18 repeater in the past few weeks, and took some pictures to share with you.



The top picture shows the repeater building. The antenna on the right with the 4 black pieces along the length of it is a Telwave antenna for the 146.76 repeater. The second antenna from the right is the antenna for the 224.18 repeater.

Steven Ka3PDQ is checking the '76 antenna with an antenna analyzer. The short cabinet houses the 224.18 repeater, and the taller one next to it is the '76 repeater. In front of him is the duplexer. That is what allows the transmitter, and receiver to share one antenna without the powerful transmitter signal to get into the receiver.

Next you see the repeater cabinet for '76. At the top is a weather alert receiver, below that is the controller, which provides the ID, and a way to shut the repeater down remotely, among other functions. On the bottom is the actual transmitter and receiver, a Motorola MSF 5000. above that is the power supply, and power amp. The amp is capable of 100 watts, but is operating at a lower power of 50 watts.

Terry WB3BKN

HRAC (W3UU) bonus station for the 2016 PA QSO Party

It may seem early, but the 2016 PA QSO Party will be here before you know it. For 2016, the Harrisburg Radio Amateur Club will be the bonus station for the PA QSO Party, which runs October 8-9. We were selected, in part, due to the successfully innovative bonus station(s) we ran the last time we did this.

The significance of being the bonus station is that each contact with you is worth 200 points, *in addition* to the normal 1 point for SSB and 2 points for CW/Digital. So you become not just one of the in-state “hunted”, you technically become “super hunted”.

So how do we intend to implement this bonus station? There are several options:

1. One station with either a single or multiple transmitters. This is the way bonus stations used to operate until HRAC shook things up with a new idea.
2. One station in each HRAC county. This is what we did last time. We had one station each in Dauphin, Cumberland, Perry and York counties, all signing W3UU/county. This means that the Dauphin county station signed W3UU/DAU, the Cumberland county station signed W3UU/CUM, etc, allowing callers to differentiate among the stations. Everyone could contact each W3UU in the different counties and they could also contact each W3UU on different bands/modes. So you could contact W3UU/DAU on 40 CW, on 40 SSB, on 20 CW, etc. Then do the same for W3UU/CUM, W3UU/PER and W3UU/YOR. We also had a mobile station running around eastern PA, using the same W3UU/county callsign as the fixed stations. One condition was that the mobile station was not allowed to transmit from the counties where we had fixed stations operating.
3. Multiple stations in each HRAC county, operating on different bands/modes. This means that any club member who wants to operate as W3UU/county can do so, there just needs to be coordination among stations within a county as to who operates which band/mode. For example, you could have the following scenario:

W3UU/DAU on 40 (CW and/or SSB), another W3UU/DAU on 20, another W3UU on 80, etc. Or...

W3UU/DAU on CW (any band), another W3UU/DAU on SSB (any band), another W3UU/DAU on digital (any band).

Repeat either scenario with the other counties.

Option 3 also involves the trailer operating from counties outside the fixed station counties, and possibly a mobile station (skeptical on the mobile, but it's possible). You can also look at this option as a large distributed multiple-operator multiple-transmitter operation. You can have a station with beams and amps, or a station with wires or a vertical and no amp (barefoot), it doesn't matter. You'll still be popular, just louder with the first station.

I'd like to do option 3. Yes, it's more complicated and will require scheduling and real-time coordination, but I also see it as more fun. Don't want to operate the full 22 hours of the PA QSO Party? No problem. Pick the hour(s) and band(s)/mode(s) you want to operate and we'll do our best to accommodate everyone.

So that's the initial information on this year's bonus station effort. If you don't know what a QSO party is, there's plenty of time for you to find out. Future newsletters will list major QSO parties being held that month, so you can listen in and get a feel for how these things work. You can even make a few contacts, if you like. We'll also list the significant rules for the PA QSO Party well in advance, so everyone understands what's required.

But the key is to have fun, because if we're not having fun, what's the point? I think we can put together an outstanding effort, but that will rely on the membership. You don't have to be a hard core tester, just someone wanting to give out contacts in one of the more enjoyable contests around.

If you have any questions, or want to volunteer your station, email me at kq3f@comcast.net.

The Joys Of ERP

By Steve VE7SL

Amateurs and U.S. experimental license holders operating on the LF and MF bands, are limited in the amount of power they are legally able to run. Unlike the HF bands, where maximum power limits are expressed in either DC power input or PEP output, LF and MF operators are required to observe ERP or EIRP limitations. Canadians operating on 2200m are limited to 1W EIRP and to 5W EIRP on 630m.

Although this doesn't sound like much, mustering this amount of effective power can be quite a task on either band, especially on 2200m. This is due to the very poor efficiencies encountered when using antennas that are so small in size compared with what would be considered 'normal'. For example, a typical 1/4 wave vertical used on 40m is about 33' high and with a good radial system can achieve efficiencies in the 80% range, while the equivalent antenna for 2200m would be 550m or about 1800' high ... a little large for most suburban backyards!

The equivalent of a normal 2m 'rubber-duddy' antenna when built for 2200m would be over 600' tall, while one designed for 630m would be around 170' high! A 2" stub used on your 2m hand-held would be the same as a 56' vertical on 630m. Consequently, most LF / MF backyard antennas will realize efficiencies of less than 1% and likely, quite a bit less.

In order to reach the maximum radiated power levels allowed usually requires several hundreds of watts, especially on 2200m, where near kilowatt levels are needed. These small radiated power levels might seem discouraging but they don't account for radio's great equalizer ... propagation. More than anything else, RF loves to radiate, and at times, what can be achieved on these bands with such low effective radiated powers is stunning

It would seem that Industry Canada did us no favors when they stipulated LF / MF power levels to be measured in EIRP and not the, much easier to calculate, DC power input level ... or perhaps they did. I think that, unlike on HF, imposing EIRP rather than DC input power limits puts everyone on an even playing field. Amateurs with lots of real estate and room for a larger, more efficient LF antenna, will be required to run much less power to reach the allowable EIRP and 'stay legal', compared to someone with a small backyard in the suburbs ... the latter can legally generate the higher level of DC input power required to reach the EIRP limits since their smaller antenna is operating at less efficiency. However, determining EIRP is not as cut and dried as measuring input power.

With some fairly sophisticated (ie. expensive) field strength measuring equipment, not typically found in amateur radio operations, ERP / EIRP can be readily determined. This means that for most amateurs, alternate methods must be used.

Neil, WØYSE in northern Oregon, who runs an experimental 630m station under the call of WG2XSV, has produced an excellent treatise on calculating your station's EIRP level, providing a step-by-step procedure to follow.

In order to determine your ERP / EIRP, you must first determine your antenna's radiation resistance. Two methods of calculating the antenna's radiation resistance for both verticals and top-loaded verticals (inverted L's or T's) are demonstrated, using the physical size of the antenna in relation to the frequency of operation. Once this value is known, the antenna current is measured while transmitting. These two values allow the Total Radiated Power (TRP) to be calculated. The TRP is then multiplied by 3 to yield the EIRP or by 1.82 for ERP. Roughly speaking, 5W EIRP is the equivalent of 3W ERP. Thanks to Neil for this helpful resource.

An alternate method of roughly determining ERP / EIRP values is an interesting new online 'antenna simulator' at the 472kHz.org site. Using known physical sizes along with your ground quality description, the calculator will indicate what total power output is required to produce various levels of ERP and EIRP as well as expected antenna currents, at 472kHz. It's a good starting point if you are either planning a new antenna system or perhaps, repurposing an HF antenna such as an 80m inverted-L or an HF center-fed dipole for use on 630m.

There are also a number of online calculators, such as found here, that will indicate your ERP / EIRP value when you plug in your antenna's 'gain' figure along with your TPO value. Some of the better antenna modeling programs can produce estimates of your antenna 'gain' at 630m and from there it is a simple matter of calculating what power is needed to reach the legal level.

I'm sure there will be a lot more information and discussion about this topic once the LF and MF bands are released in the U.S.A. but in the meantime, calculating your ERP / EIRP levels is not as hard as it might initially seem ... and is likely accurate enough for most agencies overseeing amateur radio activities.

Why an Amateur Radio Operator is called a HAM

By Gerry Crenshaw (WD4BIS)

(This was previously published in the Amateur Radio Communicator MARCH/APRIL 1994)

Have you ever wondered why we radio amateurs are called "HAMS"? Well, according to the Northern Ohio Radio Society, it goes like this: the word ham was applied in 1908 and was the call letters of one of the first Amateur wireless stations operated by some members of the HARVARD RADIO CLUB. There were Albert S. Hyman, Bob Almy and Peggie Murray. At first, they called their station Hyman-Almy-Murry. Tapping out such a long name in code soon called for a revision and they changed it to HY-AL-MU, using the first two letters of each name.

Early in 1909, some confusion resulted between signals from Amateur wireless HYALMU and a Mexican ship named HYALMO, so they decided to use only the first letter of each name and the call became HAM.

In the early pioneer unregulated days of radio, Amateur operators picked their own frequency and call letters. Then, as now, some Amateurs had better signals than some commercial stations. The resulting interference finally came to the attention of congressional committees in Washington and they gave much time to proposed legislation designed to critically limit Amateur activity.

In 1911, Albert Hyman chose the controversial Wireless Regulation Bill as the topic for his thesis at Harvard. His instructor insisted that a copy be sent to Senator David I. Walsh, a member of one of the committees hearing the bill. The Senator was so impressed, he sent for Hyman to appear before the committee. He was put on the stand and described how the little Amateur station was built. He almost cried when he told the crowded committee room that if the bill went through, they would have to close up the station because they could not afford the license fees and all the other requirements that were set up in the bill.

The debate started and the little station HAM became a symbol of all the little Amateur stations in the country crying out to be saved from the menace and greed of the big commercial stations who did not want them around. Finally, the bill got to the floor of Congress and every speaker talked about the poor little station "HAM."

That's how it all started. You will find the whole story in the Congressional Record. Nationwide publicity associated station HAM with Amateurs. From that day to this, and probably to the end of time, in radio, an Amateur is a HAM.



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For Sale (PRICE REDUCED!!)

1986 F350 460CI

ALL RADIOS INCLUDED

Attached is a picture of the inside of the truck.

It is an old picture and lot of equipment has been added.

It has mono band radios for 6,2,220,440 and 1.2 ghz

It has 3 dual band radios, low band for Dauphin County, SGC HF radio and

auto tuner. It has a 440 ATV transceiver and a satellite receiver for 1.2 ghz FM ATV. It has a VHS VCR, a GPS receiver, a small color monitor for use with ATV and the VCR. In the rack there is a GMRS repeater and a two meter repeater. The repeaters are just bolted in the rack and would need re-crystalled and tuned and duplexers if one wanted to try and use them. The truck itself is a 1986 Ford F350 ambulance, with a 460ci engine 4 barrel carb, automatic transmission. The Air conditioning has been removed. The truck gets about 6 miles to the gallon going downhill. It has not been inspected for 2 or 3 years. It is sold as is and includes all the radio equipment.

I hope this answers your questions. The reason we are selling it is the public service events that we once did have all but gone away with everyone having a cell phone in their pocket. We used to provide communication support for 20 events a year. **\$2,000.00** Contact Steven Gobat Ka3pdq@arrl.net
717.439.0090 7am to 9pm REACT Communications Truck



DMR expansion in Central PA

DMR also known as **Turbo**, is making a big impact in the Central PA area. There is a repeater on Reeser's Summit, and one will soon be on Blue Mountain. Both of them are VHF (2 Meters) repeaters. Both are connected to the net and have talk groups with two talk paths on each.

DMR, unlike other formats, is available from many radio manufacturers, rather than one manufacturer for each format. DMR radios have prices for the very popular Tytara portables of around \$120.00. There are many other suppliers, so look around the inter-web for radios, however, the TYTara is the most common in our area. That means that there is help available when it comes to programming it, and help to get you started in DMR. Get your radios and get ready.

For help, send us an email and we will get you connected with the right DMR Elmers.

WB3BKN@DJTerry.com



SUCH A HAM

SH-005



Stan & Cliff have been working all day on installing my clothesline, Mary.

Copyright © 1999 by Greg Troom, NOUJR



"Harold!!! What are you doing wasting money on more USELESS radio equipment!!!"

Monthly Ham Radio Lunch

The last Thursday of each month there is a Ham Radio Lunch at the "Old Country Buffet" at noon (unless it is a major holiday).

This restaurant is located on Route 22 in Colonial Park in the vicinity of Value City Furniture, K-Mart and Home Depot.

It's a great way to meet new people!

From the Editor's Desk

Keep those cards and letters coming in. Take pictures of things that you do and share them with us.

Tnx 73

Editor: Terry WB3BKN (AKA Perry White)

Proofer: Jim WF3J



Great Cesar's Ghost!! Where are all of my reporters??

HRAC MEMBERSHIP APPLICATION

MAIL TO:
Tim Lehman (KB3OZA)
PO Box 453
Hummelstown, PA 17036
717-982-8550

Make checks payable to HRAC—Membership is \$15.00 (\$7.50 if over 65) per year.
Family Membership is \$25 (Hams must reside in the same household)
Dues end December 31st.

NAME _____ CALL _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

PHONE _____ E-MAIL _____

ARRL Member: Y _____ N _____ * YEAR FIRST LICENSED _____

SIGNATURE _____

I agree to abide by the guidelines of the membership and The Harrisburg Radio Amateur's Club, Inc.

