The Parasitic Emission

Volume 40 • Number 1
January 2014

In this 20-Page Issue...

Supporting Amateur Radio Club Activity

Project Launch Assist (Page 3)

WPA ARES Tech Initiative 9

Repeater Council Notes 11

QCARC Contest Report 13

K3HWJ Groundhog Day 17

Happy New Year!

ISSN 2156-0080

Submission Guidelines

by Joe Shupienis W3BC, Editor

EVERY MONTH, the *Club Connections* section highlights the activities and provides (hopefully) up to date contact information for each participating club.

This newsletter is read by prospective hams and others interested in Amateur Radio in your community. It's very important for them to be able to contact your club officers, find your current website, and find out when and where your next club meeting will take place.

We are especially interested in news about your club's meetings, activities, members, events and plans, including timely notices about special events, licensing classes and VE Exams.

We also seek articles of interest to radio amateurs on the wide range of amateur radio topics, including operating, technical, construction, equipment reviews, DX, nets, Public Service, digital communication modes, computer systems and applications, history, and entertaining, amateur radio-related fiction and non-fiction stories.

No article is too large or too small for publication.

Editorial Policy

It is our editorial policy that we *only* publish original, non-copyright, written and photographic material which has not been published elsewhere. Exceptions may be made, at the discretion of the Editor, to publish important or interesting information that has been published in media not usually seen by the majority of our readers, or bulletins and announcements of general interest and importance to our readers with written permission of any copyright holders.

Hate speech, promotion of criminal or unlawful activity, trade secrets, confidential or classified information, libel, defamation, indecent, lewd, profane, obscene, false, misleading, inflammatory or irrelevant content and political material will not be published or accepted.

Signed *Photographic Model Release* forms ***must*** be available for all recognizable images of people, except images made in public locations, including club meetings open to the public. *Model Releases* are ***ALWAYS*** required for images of identifiable children and minors. It is acceptable to maintain a blanket *Model Release* for each person for all images taken over a period of time, (for instance a *Release* for photos taken "at all Podunk ARC activities in 2014.")

Credit or attribution ***must*** be given for all Copyrights and Trademarks of written and photographic submissions.

Publication Deadline

Please submit all information for publication in the next month's edition no later than the **4th** Monday of each month. Please note: The 4th Monday is NOT always the "last" Monday.

Publication Date	Deadline
February 2014	Monday, January 27
March 2014	Monday, February 24
April 2014	Monday, March 24
May 2014	Monday, April 28

Please submit large articles, items containing multiple submissions from the same group, multiple photos, or material (text and photos) that will require significant editing earlier than the deadline.

Text Specifications

Plain text that is ready to cut and paste into the publication is preferred if it is possible for you to do so. You may use a word processor or Notepad. You can even type the article into an email.

> *It may not be possible to process or even decipher Microsoft® Publisher™ or Works™ documents, due to the ever-changing file formats for those programs. Please use something else!*

Photo Specifications

In this age of digital cameras and email, it's pretty easy to submit photos. Professionals attach one photo to an individual email, the subject is the name of the article the photo goes with, and the text of the message is the caption of the photo, followed by the names of recognizable people in the photo. Please keep captions short and on topic.

How to Submit

Please send all material by email to:

submit@parasiticemission.com

Legal Notices

The Parasitic Emission (ISSN: 2156-0080) is published monthly by **Joe Shupienis, 96 Third Street, Falls Creek, PA 15840**

The Parasitic Emission is published monthly for all Radio Amateurs residing in central Pennsylvania. This electronic edition is provided free of charge by email, and may also be downloaded from:
www.parasiticemission.com
which also makes available selected back issues, current issues and more.

– . . . –

The current, online, interactive version of the calendar, which contains regional club activities and events in upcoming months may be accessed at *calendar.parasiticemission.com*. You may use that calendar to enter amateur radio events of interest to local amateurs which are intended for publication, subject to review and approval.

On The Air

by Joe Shupienis W3BC

HAPPY NEW YEAR! We made it through "Lucky" 2013 and now we are looking at the next 365 days. What do they hold in store for Amateur Radio?

My crystal ball doesn't get very good reception anymore since the switch to digital television, but I don't need one to predict that the future will be what we make it. Over the past several years, progressive local clubs have been laying the groundwork for a positive ham radio future by offering regular licensing and upgrade classes, and conducting frequent VE exam sessions. The results have been very encouraging – dozens of new and upgraded local hams have been served by these efforts, and we all owe a huge debt of gratitude to those individuals who have unselfishly conducted these vitally important Amateur Radio activities for the public good and to the benefit of ham radio.

I have repeatedly said in these pages that "making new hams" is the single most important activity for every club. Equally important is the necessity for clubs to follow through once the new hams are licensed. However, not having a plan beyond conducting VE exams often means the newly-licensed hams are going to be left "hanging out to dry" which has terrible consequences, and is a leading cause of what I call "failure to launch."

Introducing: *Project Launch Assist*

AFTER A GREAT deal of thought and research into this perceived problem of new hams failing to become active, several unquestionable facts became clear:

- Many of today's new hams are not becoming involved in local activities, meetings and social events
- Many new hams are not even getting on the air and a number of those who do succeed in getting on the air still seem to "lose interest" in amateur radio and are never heard from again
- A sizable number of today's new hams seem to believe that they have to find their own way and "go it alone"
- Few new hams appear to have a mentor or "Elmer" nor do they seem to understand the need to find one—or even to ask another ham for help
- New hams are not being invited to be part of the local group and they are not always made to feel welcome, accepted and respected by their local amateur radio community

With a little thinking, you can determine many more of these unfortunate facts. Indeed, that's the first phase of our *Project Launch Assist*: Identify the problem. But remember, identifying a problem is **not** the same as placing the blame!

MOST OF THE time, when you're looking for problems, they can be pretty easy to find. So easy, in fact, that's as far as many of us ever get before throwing up our hands in despair and giving up—or worse yet, going on a crusade to place the blame on somebody else. In the words of Walt Kelly's comic character, Pogo, "We have met the enemy and he is us," so let's agree here and now that "fault-finding" is not a productive course of action, and that we will avoid it at all costs.

Instead, let's begin with the end in mind by defining desirable outcomes and noting where we're falling short of those goals. For example, one desirable outcome might be for new hams to get on the air and participate in a weekly net. That has an easily-measurable performance objective—one which we can accurately measure by keeping count of the new hams' check-ins, and if we see a pattern of declining activity by new hams, then, *voila!* we have immediately identified a new problem.

As you can see, this will not be a one-shot process, but an ongoing effort. To be meaningful, it will take some time and patience to complete. The more time and effort we devote to it, the more truth we will uncover—and some times, truth can be... well, it can be downright unpleasant.

Since we have already agreed beforehand to avoid fault-finding, blame-placing and finger-pointing, then our finding, facing and accepting some unpleasant facts does not have to be a hurtful undertaking. Instead, we can recognize that we live in an imperfect world, and that mature adults focus upon finding solutions rather than upon placing blame. After all, the goal of *Project Launch Assist* is to **help new hams,** not to punish the old ones!

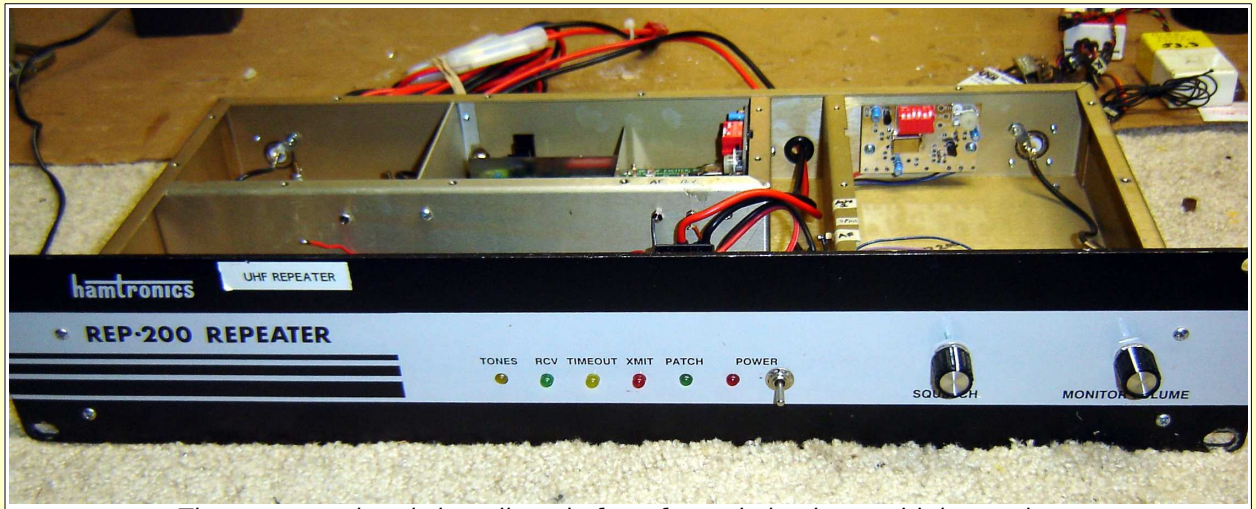
SO, FOR PHASE 1 of *Project Launch Assist*, our clubs have been given a mission, and we should invite every concerned member—**especially new hams**—to help carry out these activities. *Your mission, should you choose to accept it is :*

- *Determine reasonable **goals and milestones** new hams need to achieve that will lead them to become active and increase their enjoyment of their new hobby*
- *For each of these goals and milestones, to identify **standards of measurement** which will define "success"—for example checking into a weekly net 3 out of 4 weeks each month.*
- *Keep track of the **success rate** for each of the goals and milestones, in order to identify "problems", which are now defined as "goals where the standards are <u>not</u> being met"*
- *Share this **new knowledge** we have created with each other through this publication.*

Phase 1 will take two or three months to complete, and if you take a few moments to email all the information you collect to phase1@parasiticemission.com, sharing your results will be easy. Phase 1 will be complete when we have identified the most common problems facing new hams, and Phase 2 will follow with a focus on gathering as much relevant information about the problems as possible. Your help is needed and here's your chance to play a major part in solving some of ham radio's most important problems!

I'll see **you**... *On The Air!*

Hanging newly-licensed hams "out to dry" can have consequences



The repeater chassis is well made from formed aluminum with internal compartments to prevent signal leakage between circuit boards. The front panel has the receiver local volume and squelch control at right, the on-off switch and a row of LED lamps for status monitoring. The front panel is designed to be installed in a 19 inch rack.

Repairing a Repeater

By Pete Carr WW3O

I WAS GIVEN a very interesting present at the Elk County Amateur Radio Christmas Party in December 2012. Rick N3RJH handed me a Hamtronics® UHF repeater that had been hit by lightning about 10 years ago. It had been sitting on a shelf all that time and now it was going home with me!

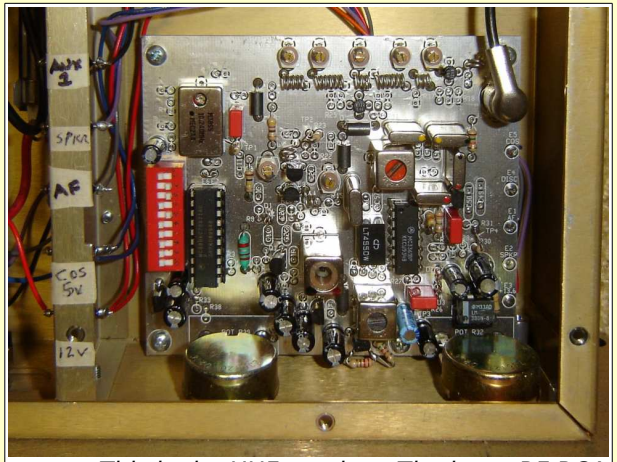
A repeater is a receiver that is connected directly to a transmitter. It has various timers and announcement functions tied to it but that's basically it. A repeater is used to retransmit an incoming signal on a different frequency. There are duplexers and power supplies along with a high mounted antenna that give it great range but the repeater itself is the key component.

Most of today's repeaters are either modified commercial mobile radios or factory made units. The mobiles are generally very old and documentation for them is hard to get. The new factory made repeaters are terribly expensive and usually computer controlled so repairs on them are not to be taken lightly. In the middle of these types is the Hamtronics REP200 line of repeaters. The line includes both VHF and UHF units which share a similar physical layout and the same COR/CWID board.

As you can see from the pictures they are separate boards built into compartments for RF isolation. They are 12 volt powered from an external supply and make about 15 watts of power from the exciter/PA. The Hamtronics web site maintains an excellent collection of documents on each part of the repeater as well as a discussion on setup and troubleshooting. Anyone interested in learning about repeaters can gain a lot of knowledge from this resource.

As I mentioned, the repeater is powered from an external power supply. There is only a single fuse inside the repeater on the COR board as surge/over-voltage protection. That fuse is the pigtail type with wires at the ends that solder down onto the COR board. BTW, COR stands for Carrier Operated Rely which is not truly accurate since the board is all solid state switching. This board has a programmed IC chip that carries the repeater call sign and additional message information. A timer triggers this information at a timing interval so that FCC rules are followed.

THE SECRET TO all good radio repair is to CHECK THE POWER SUPPLY! In the case of this repeater there are several. First is the 12 volts coming into the chassis via the fuse. Then, there is a 5 volt regulator that is fed from the 12 volt supply and powers the IC chips on the COR board. That's the big three-legged



This is the UHF receiver. The input RF RCA connector is under the chrome shield at the top right corner of the board. The Squelch and local Volume pots are at the bottom. On the left side of the board is the red colored DIP switch bank next to the frequency synthesis IC chip. These set the receiver frequency. Various voltages and audio outputs are fed to the COR board through feed-through terminals on the left side of the receiver enclosure.

The secret to all good radio repair is to CHECK THE POWER SUPPLY!

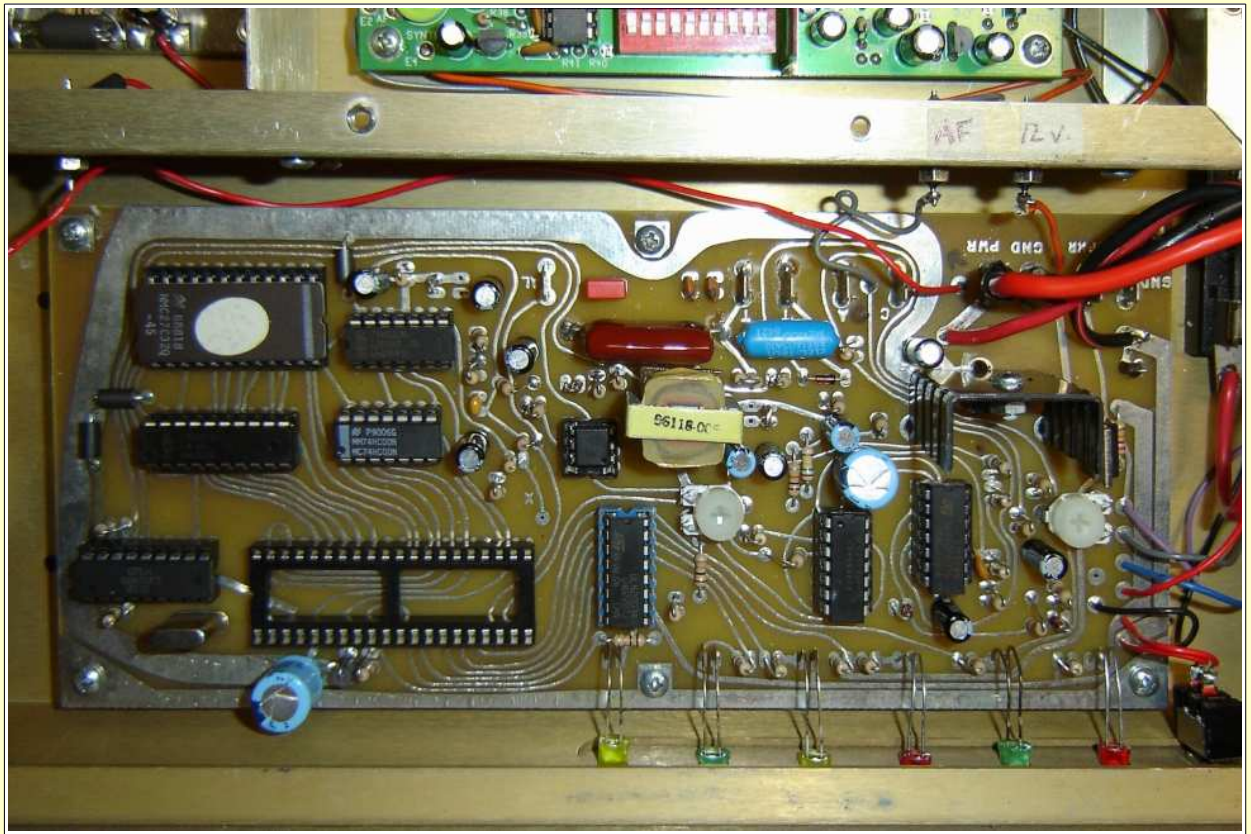
transistor on the black heat sink on the right side of the board.

The receiver uses 12 volts, 5 volts and 8 volts to run various circuits so there are two different regulators to test. These are small, low current devices that resemble transistors. A similar arrangement is used on the exciter board while the power amplifier (PA) runs straight from the 12 volt line.

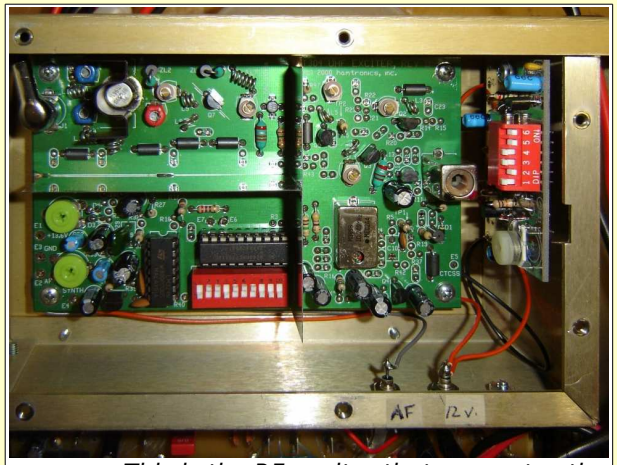
The operating sequence of the repeater is that signal enters the repeater receiver via the N type RF connector on the rear of the main chassis. The receiver reduces the RF to audio and also produces a 5 volt control voltage that goes through the COR board to turn on the exciter circuit.

Audio from the receiver discriminator is fed through the COR board to the audio input of the exciter. It also feeds audio from DTMF tones to circuits on the COR board for control of various repeater functions. For example, the Morse Code speed for the identifier of the station ID message is controlled in this way. Also, there are a group of LED indicators on the front panel that show the various operations and states.

The COR board is the heart of the repeater. It performs all the timing and routing functions and takes some extensive research to work on. Unfortunately, the schematic for it is spread over several pages and the technician is directed back and forth between them to follow the sequence flow. The good side is that, once you are familiar with the flow, it's easy to track voltages through the circuit with a multimeter.



The COR board is the heart of the repeater. At top left is the 12 volt power input terminals. A chassis mount tubular fuse holder was added in place the soldered-in fuse that was blown. At top left is the programmed message/ID chip with a white dot on top. At the right side middle is the heat sink and 5 volt regulator IC. Along the bottom are LED lamps that indicate function states of the repeater. The power on-off switch is to the right of the LEDs.



This is the RF exciter that generates the transmit carrier. It makes 2.5 watts of RF and the RCA type connector at top left sends that to the power amplifier. At the bottom middle is the row of 10 DIP switches that set the transmit frequency. The smaller separate board at right is the PL tone encoder with a row of 6 DIP switches for the PL tone frequency. Audio comes from the receiver Discriminator output through the COR board to the exciter. 12 volts for the exciter and PL tone boards enters next to the audio feed-through.

The COR board is the heart of the repeater.

EACH OF THE boards in the repeater was designed to be sold as a separate item and therefore has a separate schematic and description. I downloaded a manual for each board from the Hamtronics web site and then marked up the voltages and routes using colored marker pens. As an example, I found that the discriminator audio works fine and also lit the “RX” LED on the front panel

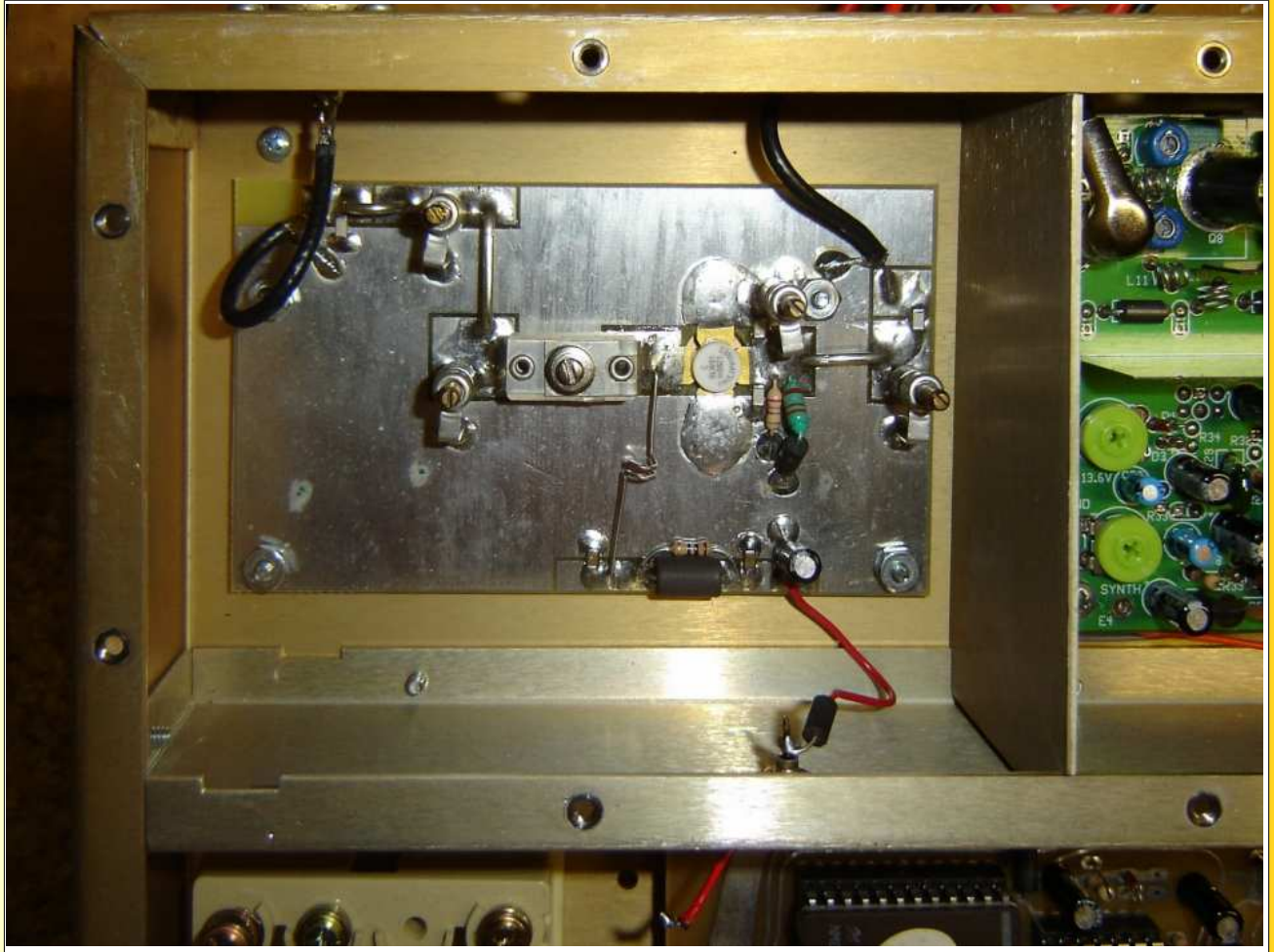
when signal was received. However, the local speaker audio was missing. The schematic indicated an audio IC fed from the discriminator that was fed from the 12 volt line. That was toast and had to be replaced. As with most of the ICs on the boards, this one had an IC socket so is a plug-in replacement.

Although the 5 volt Carrier Operated Switch from the receiver was present on the COR board it would no turn the exciter on. There is a TIP30 transistor that does that and it was also toast. That's a solder-in type part. I changed that when I changed the 5 volt regulator of the COR since the board had to be lifted from the chassis anyway.

The exciter worked just fine on initial testing but the Power Amplifier was blown. That's a single transistor and hard wired to the 12 volt line. It takes 2.5 watts of RF from the exciter and makes about 15 watt at the output RF connector on the rear of the chassis.

One item did make me curious. The RF connector from the antenna to the receiver is an RCA type. Similarly the cable from the exciter to the PA board has an RCA connector on one end and is soldered at the other. RCA plugs and jack are generally used for audio connections while UHF connectors, such as the ones on the rear of the chassis are “N” type. This feature is not mentioned in any of the repeater literature.

The PA board is not switched from the COR board. It is active all the time but only produces signal when the exciter is turned on. I believe that this was why it got cooked in the lightning strike.



This is the power amplifier of the repeater. It takes in 2.5 watts of RF and outputs 15 watts to the N-type connector on the rear of the chassis. It uses a single MRF-654 transistor and is wired directly to the 12 volt power from the power supply.

A COMPLETE REPEATER system also has a duplexer and an antenna. The cables from the repeater input and output RF connectors on the rear pf the chassis go to the two connections on the duplexer. The antennas connects to the other side of the duplexer and had better be very well grounded. The damage to this repeater was from the power line through the 12 power supply and into the relatively unprotected power input. There isn't so much as a metal oxide varistor (MOV) in the 12 volt line to absorb the spikes.

The schematic shows various test points on each board that can be used for troubleshooting. A good example of this is TP-4 on the receiver board just after the discriminator chip output. I took a set of earphone with alligator clips and went from TP-4 to ground and had audio. Then I went to the audio output IC for the local speaker output and had nothing. There are test points on the COR board that give access to the timing pulses. A good oscilloscope is needed to get the information from these.

One item did make me curious...

This repeater uses frequency synthesis to generate the 442.200/447.200 MHz signals. There was no indication of the operating frequency on the chassis and Ed Zettle, W3LQA, the original purchaser, was a silent key. I had to key up the exciter into a frequency counter to get the output frequency and then add 5 MHz to get the receiver frequency. Most vintage repeaters use crystals which are clearly marked for frequency, but this one was a bit of a mystery due to its use of frequency synthesis.

Similarly, there are two PL tone boards, one in the receiver and the other in the exciter sections. Evidently the unit was ordered with both TX and RX PL tone capability. I found that they both were set using thumb wheel switches. The Hamtronics web site had a page for the TD-5 PL tone board which included the DIP (dual inline pin) switch positions for 173.8 Hz. These are stand-alone boards and can be used to add PL decoding to any VHF/UHF transceiver that doesn't have that feature.

The repeater was working fine except for the MRF-654 PA board power transistor. That was ordered from RF Parts. I lifted the PA board and soldered in the replacement. I cut the tabs on the old transistor and unsoldered them individually to reduce heat stress on the circuit board solder "lands." Once the lands were cleaned and prepped it was an easy matter to tack the new transistor in place and then flow lots of solder around the tabs. As with most MOSFET devices, this transistor is static sensitive so it needs to be handled with care to prevent accidental damage from electro-static discharge.

While this repeater is low power and "low-tech" by today's standards it is an excellent trainer for anyone who wants to learn about the technology. All the parts are thru-hole mounted, spaced so testing won't short anything out and well documented. It will run several days from a common car battery so it would be excellent for emergency use. Finally, these repeaters can be found for sale at hamfests and on various Internet web sites.

Resources:

www.rfparts.com; source for transistors and connectors.

www.hamtronics.com; download site for repeater documents.

www.mouser.com; source for IC chips and small electronic parts.

www.repeater-builder.com; Web site for schematics and documents for repeater builders.

www.artscipub.com/repeaters; Comprehensive list of active repeaters.

This repeater is an excellent trainer to learn about the technology.

Basic Concepts

by Joe Shupienis W3BC

I Have My License... Now What?

YOU STUDIED HARD, you passed your test and now you have that magical piece of paper with your call letters on it. You put it on display in a place of honor, and when you look at it, you still can't quite believe that you are now, officially, a licensed Radio Amateur! At this point, you just know you are about to take those sometimes-scary first steps of an exciting new adventure, but what will that adventure be?

Now is the time that many new hams get stuck, and some of them never get beyond this very first stage. Amateur Radio is such a big hobby, and there are so many new things to learn and do, that many beginning hams just don't know where to start. Sadly some newly-licensed hams never manage to get started, and as time goes by, their interest in ham radio fades into the background.

If it sounds like we're describing your situation, please *don't despair!* Ham radio *can* be overwhelming, and sometimes the more experienced hams you talk to may seem to offer all sorts of conflicting suggestions about how you should proceed. Good advice can be hard to come by—especially when it isn't sought out or offered.

HERE ARE SOME guidelines you may find helpful. First, always remember why you became interested in Amateur Radio in the first place. Try to focus your first efforts on reaching that goal.

Next, you ***really*** need to find an "Elmer"—a mentor or guide who can help you find your way, and explain the mysteries as they arise. Your Elmer should be somebody who "gets" you—who understands what your goals are, and be the kind of ham who has "been there and done that." A good Elmer is also the first to admit that he or she doesn't know everything, even though it may seem that they really do to you the newbie.

Just like you try on new clothes before buying them, it's a good idea to take your new Elmer for a test drive: Ask questions and see if the answers are helpful. Good Elmers are not walking, talking radio encyclopedias — they will *share* the wealth of their knowledge by teaching you *how to do things for yourself* instead of just answering and doing everything for you. Remember that most of the fun in any activity, *including ham radio,* is getting down and dirty, really doing new things and participating in actual activities to the fullest!

12 Things To Do Your First Year

1. *Go to a Ham Radio Club meeting*
2. *Find an "Elmer"*
3. *Help out at a Club Activity*
4. *Put up an outside antenna*
5. *Participate in local nets*
6. ***OPERATE AT FIELD DAY!***
7. *Go to a hamfest*
8. *Get SKYWARN certified*
9. *Study to upgrade your license*
10. *Study NIMS and EmComm Courses*
11. *Join your local ARES and/or RACES*
12. ***JOIN THE ARRL!***

NOTHING SUCCEEDS LIKE success, and before long, you will have gotten the itch to participate in bigger and better activities than just you and your Elmer can do. This is where your local Radio Club can be really worthwhile. Active Radio Clubs offer a plethora of educational, operating, Public Service, social and other fun-filled good times to their members, families and guests.

You need your local radio club, and it needs you. It takes a lot of work to set up all of these events and activities, but when a number of hams get together to cooperate and share the responsibilities, many hands indeed make light work. In this way, clubs also provide a unique opportunity for you to make life-long friends with like-minded people who share that special bond of having the common interest we find in Amateur Radio.

The next time you look at your license, think of it as a license to learn. You can get a lot more out of ham radio by taking advantage of all the many opportunities ham radio offers to learn new skills and knowledge. Some examples are learning how to take part in emergency communications, learning how to operate efficiently on the air, learning how to act as the net control station for a net, studying for the exam to upgrade to a higher license class, learning how antennas work—and how to build them, learning how to build electronic circuits and use test equipment and tools—the list of learning opportunities is endless!

BY NOW, YOU probably find yourself ready and raring to get started. That's the spirit—don't let the wet-blankets or the buzz-kills curb your enthusiasm! Remember that it's all right to do things for the fun of it, and ham radio offers plenty of fun-filled activities, meetings, events and gatherings, all year long, on the air, at club meetings, functions and out in public.

Don't miss out, and always remember to invite your friends and families too! The more the merrier! Now put this newsletter aside for the moment and go make that phone call, visit that Elmer, go to that meeting and above all—enjoy yourself!

It's all right to do things for the fun of it, and ham radio offers plenty of fun-filled activities!

WPA ARES Launches New Tech Initiative

by Harry Bloomberg W3YJ
WPA Section Emergency Coordinator

WESTERN Pennsylvania ARES has begun a program to introduce use of emerging technologies into our digital emergency communications. The hope is that we will be better able to send complex information for our served agencies and attract tech-minded hams to ARES.

The technologies we hope to introduce into our ARES operations are:

- D-STAR™ for digital voice, position reporting, messaging, and data.
- Broadband-Hamnet™ (BBHN™), formerly known as High Speed Multi Media Mesh™ (HSMM-Mesh™) for high-speed short-distance data transmission using modified Wi-Fi® equipment on the 2.4 GHz band operating under FCC Part 97.
- Automatic Packet Reporting System (APRS™) for position tracking, instant messaging, and situational awareness.
- Winlink™ for interoperating with other ARES groups using email.

The model for this tech rollout is our successful effort to introduce Narrow Band Emergency System (NBEMS). We began introducing NBEMS in 2008. At that time all messages passed during ARES operations were done using voice. In contrast, during the 2013 Simulated Emergency Test (SET), the number of digital messages greatly surpassed voice traffic. Recent ARES operations in support of Red Cross and RACES/ACS have been a mix of voice and digital with all formal traffic being passed digitally.

We were able to achieve this level of digital proficiency through a very carefully planned program that included training materials written for operators who have the computing skills of typical hams, a series of hands-on workshops, webinars™ sponsored by ARRL Atlantic Division, articles in *QST*, and regularly scheduled local and Section-wide training nets. NBEMS is now deeply embedded in our culture and we can consider introducing other forms of digital communications.

WE WILL BE taking a similar approach to NBEMS in introducing these new technologies. After we have become proficient in using these new tools, we will write documentation and training guides. We will also be holding lectures and workshops at our annual Emcomm Conference which will be held June 14, 2014 at the University of Pittsburgh at Johnstown. You can also be expecting us to hold training sessions throughout the Western PA ARRL Section.

Our initiatives in D-STAR and BBHN are already bearing fruit.

Under the leadership of John Szwarc N3SPW, ARRL D-STAR Technical Specialist for Western PA, we have organized a weekly Western PA ARES D-STAR net. This net meets every Monday night at 9PM on the REF063 reflector. The reflector is a direct outgrowth of the net. Initially the net was borrowing a reflector from another D-STAR group. Once the D-STAR repeater operators in Western PA began talking to each other, we were able to provision our own reflector. This net regularly attracts over 20 check-ins and provides a common meeting place for D-STAR operators to exchange tips, debug systems, and discuss the technology. We also held our first ever D-STAR net during the 2013 SET.

Other hams leading the D-STAR effort are Sam KE3PO, Al N3FKE, and Mike KE3JP. The REF063 reflector is provided by Ed WA3YOA and North Hills ARC.

We will be holding lectures, workshops and training sessions throughout the Western PA Section.

We have published the first round of D-STAR documentation on the Western PA ARES website at http://wpaares.org. Topics in this documentation include an intro to D-STAR, basic radio settings, using a reflector, hardware suppliers, a listing of WPA D-STAR repeaters, and info about our net.

Our next steps will be introducing the D-RATS™ messaging program. We will learn how to install and use D-RATS and develop training materials.

The other technology we've where we've had some early success is BBHN. This is a technology that uses custom firmware developed by the ham community that is installed into inexpensive Wi-Fi routers. This new firmware allows the routers to automatically connect into a mesh network with the potential for redundant data paths. The beauty of BBHN is that the mesh is formed automatically and seemingly magically whenever one router hears the signal of another. Because the firmware creates the mesh, hams don't need to be turned into network engineers to deploy a robust high-speed network on the fly.

Channels 1-6 of the Wi-Fi bands cover the 2.4 GHz ham band. This means that as long as we use only these channels we can operate under amateur radio rules and operate at higher power and with higher gain antennas than we could otherwise.

What can you do with such a network? One potential use would be to stream video or transmit high-res photos from a disaster scene or aid station to a command post. The network could also be used to send data very quickly to an NBEMS or D-STAR station for long-haul relay.

Approximately ten hams gathered recently at the University of Pittsburgh campus for a BBHN install-fest. By the end of the get-together, we had learned how to install and configure the firmware on Linksys® routers one can buy new for less than $50. We assembled a small mesh and used FTP to send a file through the mesh.

A few weeks later five of us gathered at a local Panera Bread®. One ham brought along a $50 Internet surveillance video camera. We created a mesh network that included a wireless access point and plugged in the video camera. Not only was the video transmitted through the mesh, we were able to view the video on our smartphones™.

WE HAVE A long way to go with our BBHN initiative. Our next steps will be to experiment with high-gain antennas and more powerful commercial-grade wireless routers to see what the range of transmissions can be and conduct some tests to determine what is possible with BBHN and how it can be best used. We also need to come up with a tool set and methods so that a typical ham can set up and use a mesh. We also must write instructions and documentation as we've done with D-STAR and NBEMS.

Are you interested in joining these tech initiatives? We have set up the following YAHOO!® groups. Please join the group you'd like to work with. Yes, you can join more than one!

- wpaares-dstar for D-STAR
- wpaares-hsmm for Broadband-Hamnet.
- wpaares-aprs for APRS
- wpaares-winlink for Winlink

We are most in need of hams with knowledge of Winlink.

So...are you bored with amateur radio? Want to learn something new and put your knowledge to use in serving the public? Join these YAHOO! groups and I assure you: not only will you learn a lot, *you will have fun!*

Harry Bloomberg W3YJ
Section Emergency Coordinator
Western Pennsylvania ARES
w3yj@arrl.net

Trademark Information:

We also need methods for typical hams to set up and use a mesh.

Western Pennsylvania Repeater Council

WPRC Meeting Notice

THE JANUARY 2014 meeting of the Western Pennsylvania Repeater council will be held on Sunday, January 19, 2014 at 1:00 pm in the meeting room of Panera Bread, 108 Trinity Pointe Drive, Washington, PA 15301. (In the Walmart Plaza just off I-70 exit 19B)

This is a change in venue due to renovations at the Washington County 911 / EMA Office, the usual January meeting location.

Meeting Notes

by Tom Brew K3WS, Secretary

I would like to extend a "Thank You" to the 36 people who gave of their time and attended the October 20th WPRC, Inc. meeting at the Logan Township Municipal Complex in Altoona, PA. It is only with your participation we can effectively do our jobs and serve you to the best of our abilities. It is with your attendance we all can positively affect forward thinking and continuous improvements. And the food was great!

A special thank you to Jeff Blake N8PSU our host for this great meeting location. It was great to see Jeff and enjoy the comfort of the Logan Township Municipal Building. Pictures have been posted on the WPRC, Inc. Facebook page (Photographers Jack KC3BGR and Joe W3BC)

As everyone in attendance already knows John AB3QW was the lucky winner of the $50.00 gas card provided by Mr. John Szwarc, N3SPW of the Philipsburg Amateur Radio Association www.philipsburg-ara.org. The WPRC, Inc. also raffled off several repeater directories. We hope to see more raffles at future meetings and other individuals and organizations are welcomed to provide items to give away.

Please give us advanced notice for consideration and publication.

Several people provided food to share and I do not think anyone went home hungry. Pot Luck lunch seems to be a hit and will now be part of every meeting. A special thanks goes out to Emma Venesky, N3VRN, (Patton, PA) for cooking the pasta and meatballs, and to Chris Venesky, KA3JIB for transporting the food to Altoona on Sunday morning.

Congratulations to Tom Cooney Jr. W3SF our newly elected Treasurer and Paul Plants W3PLP our re-elected Chairman. Both have been elected to a full 2 year term. See the last page of this report for a special message from Mr. Cooney Jr.

Note: Both positions were a unanimous vote called by the Secretary Tom Brew K3WS as Mr. Cooney Jr. and Mr. Plants were the only candidates for each position to receive a 2nd on their nomination.

As voted on and approved by the members in attendance at this meeting, WPRC, Inc. 2014 membership dues will remain $15.00 so please proactively renew your membership and retain your voting rights and support the further improvement of WPRC, Inc. Let's see how many renewals we can receive by the January meeting.

Western Pennsylvania Repeater Council meeting, Washington, PA Sunday, January 19, 2014

The Quad-County Amateur Radio Club

Serving Radio Amateurs in Clearfield, Jefferson, Elk and Cameron Counties since 1975

Meeting Notice

The January Meeting of the Quad-County Amateur Radio Club will be held on **Friday, January 17, 2013 at 7:30** pm in the Hiller Building *Quiet Lounge* on the Penn State Du Bois Campus. Following the meeting, free refreshments will be served.

The program will be ***Learn to Solder – A Hands-On Demonstration.*** You will have the unique opportunity to practice soldering large and small items, using soldering guns, large and small soldering irons and as a special bonus, you can actually practice soldering using a professional **hot-air soldering/rework station** and learn how to solder those flea-sized SMT (**Surface Mount Technology**) components! (Yes, it **is** humanly possible!)

Upcoming Events

Monthly Club Breakfast

Saturday, January 11, 9:30 am
Arrowhead Restaurant
US 322 East of Clearfield

Order from the menu, and enjoy a good time with your fellow club members.

Friends and families are welcome!

Minutes

by Joe Shupienis W3BC, Secretary

THE REGULAR December meeting of the Quad-County Amateur Radio Club was called to order at 7:34pm, Friday, December 20, 2013 by President AB3OG in the Coca-Cola Room of the DuBois Diner (since the Penn State Campus was closed for intersession.) Following the salute to the Flag, the members observed a moment of silence in remembrance of silent keys. A round of introductions followed

Attendance: 11 members and one guest were in attendance: KB3VWX, W3BC, KB3LES, KC3AOV, KB3WBT, N3WWT, KB3ZTN, KA3DEO, W3BEV, KB3FPN, AB3OG and guest KA3MKY.

Secretary

The Minutes of the Regular November meeting were read by Secretary W3BC. On a motion by KB3LES, seconded by KB3FPN the August minutes were approved as read.

Treasurer

Treasurer W3DWR was unable to attend. Members were reminded that 2014 dues are now due and payable.

Committee Reports

Activity Coordinator K3WBT reported that 15 members and guests attended the Christmas Dinner in Clearfield, and a good time was had by all. Punxsutawney Area Amateur Radio Club President KB3FPN invited interested hams to help out at the PARC Groundhog Day Special Event Station K3HWJ on Saturday, February 1st. President and Scouting Liaison AB3OG reported he will contact the Bucktail Council office regarding once again putting on a demonstration for the Cub Scout Klondike derby at Camp Mountain Run on February 8th.

Education & Training Coordinator W3BC reported that Spring classes for new licensees and upgrades will be scheduled for after the first of the year.

Nets – A message from Net Manager W3DWR was relayed requesting volunteers to be Net Control for the Sunday Evening Quad-County FM net.

Programs – The January program will be on learning how to solder. Program coordinator W3BC asked for a volunteer to assist in setting up programs.

Public Information – PIO W3BC informed the group that the renewal for the qcarc.org domain and 12 months of website hosting is due. The amount is $74.00. Moved by W3BC and seconded by KB3LES to pay the bill. Motion carried.

Technology – Coordinator KB3WBT discussed upcoming technology activities, including VHF and UHF beacons.

Old Business

There was no old or unfinished business.

New Business

W3BC announced that he has been working on a new initiative for *The Parasitic Emission* titled "Project Launch Assist." This project will address ways that local clubs can better include and involve newly licensed hams in club activities, and help them start out "on the right foot" in Amateur Radio.

Good of the Order

There were no additional business items or announcements.

Adjournment

There being no further business before the club, on a motion by KB3WBT and seconded by KC3AOV, the meeting was adjourned at 8:29 pm. Refreshments were served by W3BEV and the members present enjoyed a social hour after the meeting.

At a Glance

Quad-County ARC Information	
President	**Louis "Peach" Caltagarone AB3OG** *president@qcarc.org*
Vice President	**Lars Kvant KB3WBT** *vp@qcarc.org*
Secretary	**Joe Shupienis W3BC** *secretary@qcarc.org*
Treasurer	**Doug Rowles W3DWR** *treasurer@qcarc.org*
Executive Board	Bev Hudsick W3BEV Don Jewell KB3LES Herb Murray W3TM Jack Lovesky AA3AZ Kevin Snyder KA3YCB
Staff	**Activities:** Lars Kvant KB3WBT **Education:** Joe Shupienis W3BC **Membership:** Doug Rowles W3DWR **Net Manager:** Doug Rowles W3DWR **Liaison, ARC:** Greg Donahue KB3WKD **Liaison, BSA:** Peach Caltagarone AB3OG **Program Coordinator:** Joe Shupienis W3BC **Public Information:** Joe Shupienis W3BC **Public Service:** Kevin Snyder KA3YCB **QSL Manager:** Jeff Rowles KA3FHV **Technology:** Lars Kvant KB3WBT/SM7FYW **Trustee:** Bryan Simanic WA3UFN **VE Liaison:** Bryan Simanic WA3UFN
Repeaters	N3QC/R 53.07-1 [173.8] Rockton **N3QC/R 147.315+ [173.8] Rockton** N3QC/R 443.850+ [173.8] DuBois N3QC-1 144.390 APRS Digipeater
Nets	**1900 Sunday 147.315 Quad-County FM Net** **1900 Wednesday 147.390 Hamshack Net**
Online	www.qcarc.org, info@qcarc.org **@qcarc**
Mail	The Quad-County Amateur Radio Club, Inc. PO Box 322 Falls Creek, PA 15840-0322

SPECIAL SERVICE CLUB

American Radio Relay League Affiliated Club

Special Service Club

Quad-County Contest Report – Fall 2013

by Joe Shupienis W3BC

WOW! THE dauntless QCARC contest team warmed up the ionosphere during several on-air operating events in October and November. Thanks to the generosity of Club President Peach Caltagarone AB3OG, we were able to string up some pretty impressive antennas at Hummingbird Speedway and rack up some pretty impressive scores, operating from the really nice cabin overlooking Hummingbird Speedway.

Antenna Science

THE MOST impressive antenna was the N3QC Rhombic (orange in the photo), with its beam centered on Southern Europe and the Mediterranian Sea — an area encompassing the largest hotbed

of DX Contest operators in the world. In case you've never heard of a rhombic, it's a wire antenna with the wires oriented in such a way as to generate a high-gain "pencil beam" in the desired direction with a very low angle of radiation. Round-the-world communications along a narrow path are possible even in poor conditions.

The first thing you notice about the rhombic is how quiet it is. Due to its enormous size of 240 by 120 feet (2/3 of an acre!) the aperture is large enough that nearby terrestrial noise is picked up in common mode, and cancels itself out in the feed system. Which brings us to the second thing you notice: Received signals are HUGE! The large aperture means a gigantic capture area allowing the incoming wavefronts to generate strong currents along the wires. On transmit, the nearly 20 dB gain means our 500 watt signal results in an ERP of over 40,000 watts!!!

When we first hooked it to a radio, we could hear European hams on 10 meters. It was midnight in Europe, and they were just chatting with each other using low power. Tuning around the 10 meter band, I heard one station in Spain calling CQ and answered him with only 100 watts. He incredulously asked if I was really in W3. He turned his yagi toward the US and we were both astounded by the S9 + 20 dB signal strength. That was a very good sign for our upcoming contest efforts!

The rhombic is a tough act to follow, but it's highly directional and there was a need to cover areas it didn't. So up went two G5RV antennas. The first (red in the photo) hung at 43 feet and was aligned parallel to the rhombic's main beam, to provide coverage perpendicular to it. Specifically, the coverage was planned to cover Japan and the Pacific, as well as the Caribbean and South America. The second G5RV (green in the photo) was suspended at 60 feet and aligned north-south to provide coverage of the US on 80, 40 and 20 meters, and have four lobes on 15 and 10 meters to the NE, SE, SW and NW to supplement the first G5RV.

Although significantly noisier than the rhombic, the G5RVs proved to do their intended jobs and provided solid coverage to their predicted target areas, just as they were designed. Although yagis or tribanders would provide more gain and flexibility than the G5RVs, the expense and effort to install towers and beams was not feasable at this time. The G5RVs were a good compromise, and worked more than adequately. Perhaps in the future, another unterminated rhombic (bi-directional) would better serve Japan, the Pacific islands, the Caribbean and South America. (Or maybe a curtain array, say an HRRS 4/4/0.5, phase-steerable +/- 30°, centered on 330°/150°. Such an antenna would cover 80% of the world's landmass with about 16 dBi on 20-10 meters.)

The science works in practice, and I am sure that were he still with us, QCARC's first president Gary Boucher W3GNR would be very proud of our engineering work!

The Radios

WE ARE NOT wealthy. But our club *is* rich in the generosity we show each other! For example, the rhombic consists of 550 feet of wire, provided by W3BC. He also provided 50 feet of RG-8 coax (enough to reach the ground) and a 4:1 balun. WA3UFN provided 150 feet of RG-8 coax to continue the feed to the shack. W3BC also provided 500 feet of rope, and the insulators used to hold the four corners of the rhombic way up in the air. His baitcasting skills and equipment launched the support ropes over the treetops. AB3OG provided the racetrack location and permission to place the antenna there. Cost to the club: $0.00 — Value: Priceless!

When it came time to operate, W3BC transported a shackful of contest-grade radios. His classic Icom IC-751A transceiver, IC-R71E receiver, IC-2KL solid-state, fluid-cooled linear, and AT-500 automatic bandswitching antenna tuner made up one operating position for the first couple events. His newly-acquired Icom IC-756 Pro III replaced the erstwhile 751 for the Phone Sweepstakes. AB3OG brought his Icom IC-765 for the second operating position. His one-time world-champion Icom flagship rig performed admirably, allowing us to tune out the severe QRM and focus on the signals we wanted.

Additionally, W3TM brought headsets, rig interfaces, voice keyer, CW paddles and footswitches to round out the operating positions. W3BC supplied the logging computers and software. He also made up Great-Circle maps centered on our QTH, with the patterns for each antenna and band superimposed. AB3OG paid the electric bill, and kept the lights and heat running in the beautiful, modern cabin, which made operating comfortable and fun. The nicely appointed cabin was the perfect blend of rustic atmosphere and modern convenience to make our time spent there very enjoyable. Those not operating were able to follow the games on a wide-screen TV, also courtesy of AB3OG.

The Club provided food, snacks and beverages, and KA3MKY brought snacks and served up the world's best homemade chili. Nobody went hungry, and all the comforts of home were available. Again, the cost to the Club was small.

During the setup, KB3LES helped out with the heavy lifting, and brought his MFJ antenna analyzer which proved to be valuable in locatiing a faulty coax connector. That was the only equipment failure, and the CB-grade connector was completely burned up when we applied 500 watts to the feedline. (A PL-259 that meets specifications will easily handle well over 1000 watts at 50 ohms, but the cheap imitation ones sold in CB shops WILL fail at under 100 watts — catastrophically!!!) Thanks to W3TM who provided a replacement connector on a moment's notice!

For the Jamboree on the Air, WD3D brought his Kenwood transceiver and a vertical antenna. He demonstrated the ease with which an Amateur Radio Station could be set up and talk to other stations around the world!

The Operations

THERE WAS NO shortage of operating events! We started out with the Pennsylvania QSO Party on October 12 and 13. We operated the full 22 hours of the event, and had a very sucessful experience. Not only did we score 140,000+ points, but we made a "Clean Sweep" of all 67 counties! It was very easy to bust a pileup on our first call, and we received many unsolicited comments about our "big signal". Operators were AB3OG, W3BC, W3TM and WD3D.

Next was the Jamboree on the Air on Saturday and Sunday, October 19-20. Boy Scouts from the local troops were invited to attend. A number of hams were present to help out. WD3D brought a complete station, set it up and talked to the world. Club members present were W3DWR, KA3FHV, AB3OG, W3TM, KB3LES, KA3MKY, W3BC.

This was taken 10/26/13 around 7:30pm shortly before the half million point threshold…CONGRATULATIONS JOE AND PEACH!!! [KA3MKY Photo]

Then on October 25-27 it was time for the big one… The biggest contest of them all, the annual CQ World-Wide DX Contest. Could we hope to even be heard with all the world's biggest of the big guns? The answer was a resounding, YES! The rhombic showed its true colors as we again received many reports of a booming signal from all over the world. New Zealand at over 9,000 miles away was booming in on 10 meters. We often could hear "local" stations via long path, with their signals going 24,000 miles the long-way around the world with the characteristic 1/8 second delay or "echo". The "red" G5RV delivered a dozen QSOs with Japan on 10, 15 and 20 meters! We worked well over 100 countries — DXCC in one weekend! We jokingly suggested that we should shoot for a million points. The truth is that we almost made it: Our final score was over 897,000 points and if we could have had even a couple more manhours on one or the other radio, we would have likely hit the million-point mark! Ops: W3BC, AB3OG. More would have been very welcome and appreciated!!!

Finally on November 16 and 17th, we set up shop for the ARRL November Sweepstakes phone contest. We entered in the multi-operator, single transmitter category. W3BC's new Pro III was the workhorse, and the radio and antennas performed perfectly. Band conditions were fantastic. The long-path"echo" of our own signal was often heard when we let up on the transmit switch! 10 meters was wall-to-wall with stations all over the US and Canada. It was like being in one of those game show money booths, and we tried to grab as many QSOs as we could. We worked both Alaska and Hawaii right off the bat in the first few minutes, and had collected contacts in 60 different ARRL sections within the first six hours, leaving 23 to be worked for a clean sweep. By the time we shut down for the night, we had made a couple hundred QSOs, and had talked to stations in all but seven states.

We started up again on Sunday morning, and found 10 meters was good for DX but not the US. We went to 15 meters and could hear that "long-path echo" on almost every station. I've never seen conditions that good in 47 years of being a ham. We settled into systematically tuning the band, and it seemed that on every QSO we picked up one of the needed sections. Before long, we were down to single digit numbers of needed sections. Over the course of an

hour, we brought it down to the final four: Newfoundland and Manitoba in Canada, and North Dakota and Kentucky in the US. We tried tuning 20 meters, but the approaching weather front was producing S9 + 20 dB of "static" on that band. Back up to 10 meters, but not many signals, and those we heard we had already worked long before. Then on 15 meters, we almost immediately found a VY2 and the "NL" multiplier was ours. On the TV, the Steelers had just scored a field goal, so that must have been a lucky moment for Western Pennsylvania.

A little more tuning around and there was Manitoba! Now we were down to two more sections. On 40 meters, there was Nancy K9DIG calling "CQ Sweepstakes" and in a matter of seconds, North Dakota was in our log! Only one more section to go! We went down to 80 meters for an hour or two and began to give up hope of the Clean Sweep. We did work a large number of stations in an hour-long pile-up of stations who needed Western Pennsylvania, but none of them were from Kentucky. We then went back up to 40 meters to take a quick run across the band and pick up the few stations we hadn't worked yet.

The Steelers game was over, everybody had worked everybody else and boredom was setting in. We heard one guy calling CQ and answered him. He replied, with a quiver in his voice, "N3QC You blew me out of my chair with that big signal. You're the loudest station I ever heard!" Yes, our modest station was acting much more like a Big Gun than the little pistol we really were!

As evening fell, the rain was coming down and 20, 15 and 10 meters were closing when we heard a W4 calling CQ on 40 meters. Was he in Kentucky? We threw out our call. No reply. We called again a couple more times. Still nothing. And then…

Another pile-up of stations started calling us. We worked through them, and when they tapered off, we tried calling "CQ Kentucky" a couple times in the closing hours of the contest. We could visualize our hopes for a Clean Sweep sprouting wings and flying away. But up from the ashes, a friendly voice came through the speaker, "There's a Kentucky down on 3702."

Off we went!

Sure enough, the Kentucky station was there, working a huge pile-up. We got our ducks in a row, and AB3OG sent our call once along with the dozen or so other stations who sounded like feeding time at the hog trough. But thanks to the rhombic and the amp and the Pro III audio and the operating skill (along with a little luck), there was Kentucky calling N3QC!!! Peach finished the QSO and entered it in the log and then we all cheered the accomplishment. We had made our Clean Sweep!!! Of course that implies that we also worked all 50 states… In only a 24-hour period!

That Winning Season

THE WEATHER warnings started flowing in when there were still a couple more contest hours left to go. Putting safety first, we made the difficult decision to forgo the hundred or so more QSOs that would have put us over the 100,000 point threshold and opted to shut down and load all the equipment up. Mother Nature even sided with us and suspended the drenching downpour that had been going on all afternoon and evening. We tore down and removed all the equipment from the cabin, loaded it in the vehicles and then set about securing the antennas for the winter.

Sweepstakes operators were W3BC, AB3OG and KA3MKY, with a nice visit by KB3LES and his XYL Jo. We all had a great time in the Sweepstakes and all the other events. Everyone had a lot of fun and a lot of laughs. The radios and antennas worked perfectly and more than lived up to our expectations. We proved that we could get the technical part right without spending a fortune. We also proved that we could operate efficiently for long periods without succumbing to exhaustion.

The 2013 Fall contest season had come to a close. Our club suited up and showed up. We made very good scores without overworking ourselves, and probably won some awards—we definitely won two "Clean Sweep" awards—and really, really enjoyed ourselves. The founding members—now silent keys—of our Club would be very proud of our efforts, both in the technical and the competitive aspects of the events. We did our best to honor their heritage.

The only dark cloud was that we missed you. There was plenty of fun (and food) to go around, and even if you don't think you're up to contesting, you could have shared our excitement and fun while watching us win each little victory and by cheering us on. Yes RadioSport **is** a spectator sport too, and your team spirit and support would have meant a lot to those of us who were competing on the air. Can we count on your support next time? It really does mean a lot to those of us in the thick of the competition.

[Reprinted from www.qcarc.org]

The Punxsutawney Area Amateur Radio Club

Serving Punxsutawney and Jefferson County

Meeting Notice

January 14, 2014

THE JANUARY meeting of the Punxsutawney Area Amateur Radio club will be held Tuesday, January 14th at 7:00 pm at the Punxsutawney Presbyterian Church, Findlay Street. **Groundhog Day Special Event planning will be finalized at this meeting.**

Monthly Breakfast

EVERY MONTH, the Punxsutawney Area Amateur Radio Club gets together with our friends for a friendly club breakfast at the "Amish Restaurant" in the village of Panic. The food is great, the price is very reasonable and the service is outstanding.

Betsy & Clara's Amish Bakery
2147 Route 310
Reynoldsville, PA 15851

This month's breakfast will be at 9:30 am, Saturday January 25th. See you there!

Groundhog Day

PUNXSUTAWNEY PHIL, the world-famous "Seer of seers" will issue his annual weather prognostication on Sunday, February 2nd this year, and to commemorate the event, on **Saturday, February 1st,** the Punxsutawney Area Amateur Radio Club will put Amateur Radio Station K3HWJ on the air from their club station facility at the Punxsutawney Airport.

K3HWJ
The Punxsutawney Area Amateur Radio Club

As in past years, club members will set up antennas and radios to contact other hams on the air, and exchange Groundhog Day greetings.

A nice certificate is given out each year to stations contacted by K3HWJ, commemorating their Amateur Radio contact with "The Weather Capital of the World."

Hams from nearby clubs are invited to lend a hand and help out making all those QSOs on the air, as well as enjoy some fine hospitality and visit with others at the Airport facility.

There's always food, and it is a good way to have fun with your ham radio friends! Please plan on attending this very special event.

PAARC Information	
President	Steve Waltman KB3FPN
Vice President	Don Jewell KB3LES
Secretary	Peach Caltagarone AB3OG
Treasurer	Peach Caltagarone AB3OG
Nets	Monday @ 1930 147.390
Web	http://www.punxyclub.com

Meeting Notice

THE JANUARY meeting of the Headwaters Amateur Radio club will be held Thursday, January 2 at 7:00 pm in the Conference Room at the Charles Cole Memorial Hospital. Park near the helipad and use entrance "A."

Minutes

By Linda Williams

MIKE CALLED THE meeting to order at 7:00PM the Charles Cole Memorial Hospital. Tom read the November Minutes. Motion to accept by Wayne 2nd by Theresa.

Wayne read the treasure report.

Balance	$883.22
Dues collected	$60.00
Outgoing	$0.00
Balance forward	$943.22

Jim L made a motion to donate $30 to Gail for baking cookies for the meetings, Jason 2nd.

New Business

Mike talked about upcoming contest. 160meter ARRL contest Dec 6 to 8th. 10meter contest Dec 14 &15th.

Mike has information about insurance for the club equipment, more at the next meeting.

ACS/EMCOMM report

Glenn announced as of the first of the year he will resign as ACS Coordinator for Potter County due to his increasing work schedule.

Crow's Nest Report Submitted by Linda.

- Mike reported he set up a 2meter rig with antenna and power supply at the Crow's Nest. There is a hum that will need to be identified and eliminated.
- An antenna still needs to be installed on the roof.
- Jason discussed the grounding bar he put together. There was discussion on how it was put together, how it could function, and how it might be connected. He offered it to be installed at the Crow's Nest. There was question as to whether his bar would meet Code and it was recommended that the County Maintenance contact verify this before it is installed.
- As a side note, Jason suggested Adrian be requested to do a presentation on the grounding system he uses at a spring meeting.
- Mike reported an email account has been set up for the use from the Crow's Nest. This will allow messages to be sent between that station and various participants in events and incidents. (EOC, County offices, other Ham stations, etc.) The email address is: crowsnest14@gmail.com

2014 Dues - Per the club Constitution, 2014 club dues was brought up for discussion. After questions and discussion, the vote was to keep the dues the same as for 2013.

Election of Officers - Nominations for President, Vice-President, Secretary, and Treasurer were offered by members present. The results of the elections were as follows:

- President: Jim Douglas
- V. President: Don Serkleskie
- Secretary: Tom Guilfoy
- Treasurer: Wayne Stahler

- Outgoing President, Mike Perry expressed thanks to those who have served this year and those who will be serving next year. He encouraged other members increase their participation by working on one of the club committees and by doing presentations at club meetings.

VE/TRAINING - With the departure of Jim Centanni, there was question as to how many VEs were still in the club. Jason, Wayne, Carl, and Skip are all Extras, and Don can work with beginner level Hams.

Motion to **Adjourn** at 1845. *After adjournment, Jim L offered a signal generator (donated by Wayne Williams) for sale to club members. Proceeds were donated to the club.*

Headwaters ARC Information	
President	Jim Douglas K3FHC
Vice President	Don Serkleskie N3DLS
Secretary	Tom Guilfoy WA3HLC
Treasurer	Wayne Stahler, II WS3PC
Repeaters	**N3PC 146.685- [173.8] Coudersport** N3PC 443.300+ [131.8] Galeton K3CC 146.880- -OPEN- Coudersport KB3EAR 444.300+ Coudersport
Nets	Monday @ 1900 146.685- [173.8] Monday @ 1930 28.360 [USB] Monday @ 1945 1.980 [USB]
Web	www.n3pc.com

January 2014 Calendar

Amateur Radio Club Activities, Events and Gatherings

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
29 7:00pm» QCARC 2-meter FM Net 7:30pm» Clearfield County A.R.E.S. Net 8:00pm» Elk Co ARA Net 9:00pm» WAN ARES Net	**30** 7:00pm» HARC Nets 7:30pm» Punxsutawney ARC 2 Meter Net 8:00pm» Jefferson County EMA Radio Service Net	**31** **7:00pm» ARRL Straight Key Night**	**01** **12:00am» ARRL Straight Key Night (cont.)** **New Year's Day** **7:00pm» Hamshack Net** 9:00pm» Cambria County ARES Net	**02** **7:00pm» Headwaters ARC Meeting**	**03**	**04**
05 7:00pm» QCARC 2-meter FM Net 7:30pm» Clearfield County A.R.E.S. Net 8:00pm» Elk Co ARA Net 9:00pm» WAN ARES Net	**06** 7:00pm» HARC Nets 7:30pm» Punxsutawney ARC 2 Meter Net 8:00pm» Jefferson County EMA Radio Service Net	**07** **7:30pm» Indiana Co ARC Meeting**	**08** **7:00pm» Hamshack Net** 9:00pm» Cambria County ARES Net	**09**	**10**	**11** 9:30am» Quad-County ARC Breakfast **10:00am» Potter Co. ARES VE Exam Session**
12 7:00pm» QCARC 2-meter FM Net 7:30pm» Clearfield County A.R.E.S. Net 8:00pm» Elk Co ARA Net 9:00pm» WAN ARES Net	**13** 7:00pm» HARC Nets 7:30pm» Punxsutawney ARC 2 Meter Net 8:00pm» Jefferson County EMA Radio Service Net	**14** **7:00pm» Punxsutawney Area ARC Meeting**	**15** **7:00pm» Hamshack Net** 9:00pm» Cambria County ARES Net	**16**	**17** **6:00pm» Cambria Radio Club Meeting** **7:30pm» Quad-County ARC Meeting**	**18**
19 **1:30pm» Elk County ARA Meeting** 7:00pm» QCARC 2-meter FM Net 7:30pm» Clearfield County A.R.E.S. Net 8:00pm» Elk Co ARA Net 9:00pm» WAN ARES Net	**20** **Martin Luther King's Birthday** Parasitic Emission Submission Deadline 7:00pm» HARC Nets 7:30pm» Punxsutawney ARC 2 Meter Net 8:00pm» Jefferson County EMA Radio Service Net	**21**	**22** **7:00pm» Hamshack Net** 9:00pm» Cambria County ARES Net	**23**	**24**	**25**
26 7:00pm» QCARC 2-meter FM Net 7:30pm» Clearfield County A.R.E.S. Net 8:00pm» Elk Co ARA Net 9:00pm» WAN ARES Net	**27** 7:00pm» HARC Nets 7:30pm» Punxsutawney ARC 2 Meter Net 8:00pm» Jefferson County EMA Radio Service Net	**28**	**29** **7:00pm» Hamshack Net** 9:00pm» Cambria County ARES Net	**30**	**31**	**01**

February 2014 Calendar

Amateur Radio Club Activities, Events and Gatherings

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
26 7:00pm» QCARC 2-meter FM Net 7:30pm» Clearfield County A.R.E.S. Net 8:00pm» Elk Co ARA Net 9:00pm» WAN ARES Net	**27** 7:00pm» HARC Nets 7:30pm» Punxsutawney ARC 2 Meter Net 8:00pm» Jefferson County EMA Radio Service Net	**28**	**29** **7:00pm» Hamshack Net** 9:00pm» Cambria County ARES Net	30	31	01 9:00am» Groundhog Day K3HWJ Special Event
02 7:00pm» QCARC 2-meter FM Net 7:30pm» Clearfield County A.R.E.S. Net 8:00pm» Elk Co ARA Net 9:00pm» WAN ARES Net	03 7:00pm» HARC Nets 7:30pm» Punxsutawney ARC 2 Meter Net 8:00pm» Jefferson County EMA Radio Service Net	04 7:30pm» Indiana Co ARC Meeting	05 7:00pm» Hamshack Net 9:00pm» Cambria County ARES Net	06 7:00pm» Headwaters ARC Meeting	07	08 9:30am» Quad-County ARC Breakfast
09 7:00pm» QCARC 2-meter FM Net 7:30pm» Clearfield County A.R.E.S. Net 8:00pm» Elk Co ARA Net 9:00pm» WAN ARES Net	10 7:00pm» HARC Nets 7:30pm» Punxsutawney ARC 2 Meter Net 8:00pm» Jefferson County EMA Radio Service Net	11 7:00pm» Punxsutawney Area ARC Meeting	12 7:00pm» Hamshack Net 9:00pm» Cambria County ARES Net	13	14	15
16 1:30pm» Elk County ARA Meeting 7:00pm» QCARC 2-meter FM Net 7:30pm» Clearfield County A.R.E.S. Net 8:00pm» Elk Co ARA Net 9:00pm» WAN ARES Net	17 Presidents' Day 7:00pm» HARC Nets 7:30pm» Punxsutawney ARC 2 Meter Net 8:00pm» Jefferson County EMA Radio Service Net	18	19 7:00pm» Hamshack Net 9:00pm» Cambria County ARES Net	20	21 6:00pm» Cambria Radio Club Meeting 7:30pm» Quad-County ARC Meeting	22
23 7:00pm» QCARC 2-meter FM Net 7:30pm» Clearfield County A.R.E.S. Net 8:00pm» Elk Co ARA Net 9:00pm» WAN ARES Net	24 Parasitic Emission Submission Deadline 7:00pm» HARC Nets 7:30pm» Punxsutawney ARC 2 Meter Net 8:00pm» Jefferson County EMA Radio Service Net	25	26 7:00pm» Hamshack Net 9:00pm» Cambria County ARES Net	27	28	01