The VHF Transmitter

Keystone VHF Club, Inc. W3HZU Founded 1955 – York, PA

VOL 58 No 8 **CIRCULATION 150** **November, 2013**

A Month to Remember!

By Dick Goodman, WA3USG

This hasn't been one of our better months. We are making slow yet steady recovery from the lightning strike but ran into other problems. Our antenna work party to install the HyGain TH-7 beam had to be aborted due to physical interference from the 180 foot tower's guy lines. Additionally, Tim, W3TWB, Greg, KE3CW, and Dan, N3EEI who were on the 60 foot tower trying to do the installation felt that the tower was not up to supporting that large of an antenna and the new 6 meter beam. I will not question their decision.

Speaking of the new 6 meter beam … A rather large crew of us assembled that antenna. It is a 5 element loop array with a model designation of LFA-Q. It is a monster but unfortunately it has an SWR of 10 to 1 across the entire 6 meter band. The 12 page assembly manual has no element dimensions in it so it is impossible to ascertain that the antenna has really been put together correctly after it has been assembled. We e-mailed the company that designed & built it and found that they did not know what the dimensions were either. We are fairly certain that we have the very first LFA-Q sold in the USA.

Over the last 20 days we have been e-mailing back and forth (to the tune of 15 e-mails) and are no closer to resolving this problem then we were at the beginning. There are also other factors that cause us to doubt the physical integrity of this antenna. The illustration of the antenna in the assembly manual is different then from what we received. Two boom reinforcing struts and a wire cable boom support are in the illustration but not on our antenna.

Until last week, the antenna was assembled and supported on a mast at the club site about 5 feet above the ground. We noticed that there was considerable sag in the double booms … this would be minimized if the missing supporting elements were present. We also had concerns in reference to the antenna surviving through any icing conditions in this area.

Our greatest concern however was the company's inability to give us any information about its dimensions. Therefore, we sent an e-mail stating that we want to return the antenna and get a refund of the $500 it cost. **See page 8 for further details.**

On Thursday, October 17 we were having our normal evening Tech session at the club. Tim Barefoot, W3TWB and I worked for over an hour cleaning up the storage shed and finding components of the 2 meter repeater that Tim built many years ago. After that, we both drove to a local pizza shop & picked up 6 pizza's. Walt Bilous, K3DQB brought in a group of new Hams from YTI for their first look at a radio club and we were all going to enjoy pizza for dinner.

After dinner, Tim took a group of YTI students into the repeater room to give them a tour. One of the students called out that Tim had fallen. We rushed in and found Tim had fallen against the ATV repeater and had cut his face up. Brand new club member Justin Hoyer, N2JEH and Trustee, Jeff Patterson, KB3RCT were the first to reach him. For the first 30 seconds or so we thought that perhaps he had tripped and knocked himself out but almost immediately after that, we found that he was not breathing and had no pulse.

Justin immediately started CPR with Jeff keeping his airway clear We called 911 and ensured that they were aware that this was a dire emergency. It was pouring rain that night and the visibility was extremely poor. One of our members stood out in the road to direct the ambulance in. We also moved cars out of the way and cleared all obstructions from the clubhouse so the EMT's could get through.

Justin continued CPR for a good 20 minutes until help arrived. Justin also is a firefighter and has had experience in emergency medical treatment … with his training and expertise, he automatically took charge. When the EMT's

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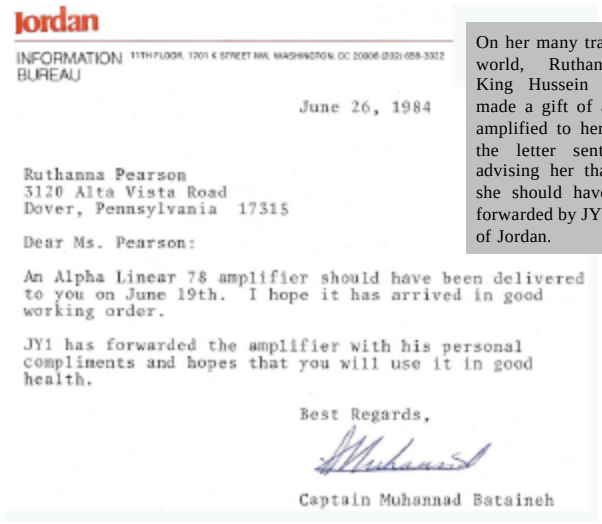
Ruthanna Pearson, WB3CQN
A Silent Key

Ruthanna Pearson, 85, died at Country Meadows at Trolley Road, York, on Thursday, October 17, 2013. Born May 22, 1928, in York, she was a U.S. Navy veteran of the Korean War and a member of the Blue Mountain Waves Unit # 12 and a member of Shiloh Evangelical Lutheran Church, past president of the church council, and a member of Shiloh American Legion Post #769. Ruthanna was an avid amateur radio operator and belonged to the York Amateur Radio Club and the Keystone VHF Club of York.

She was also a member of the Australia, Japan, and Young Ladies Radio Societies, as well as New Zealand, Central PA DX Club, and Israel Radio Societies. She had awards from all over the world, having been licensed in and operated from Australia, Jordan, and Austria. Ruthanna traveled around the world, including to St. Petersburg, Russia, where she met some Russian Amateurs who showed her their part of the world.

Ruthanna was an amazing person and both attended and helped organize many Keystone VHF Club activities.



Jordan
INFORMATION BUREAU

June 26, 1984

Ruthanna Pearson
3120 Alta Vista Road
Dover, Pennsylvania 17315

Dear Ms. Pearson:

An Alpha Linear 78 amplifier should have been delivered to you on June 19th. I hope it has arrived in good working order.

JY1 has forwarded the amplifier with his personal compliments and hopes that you will use it in good health.

Best Regards,

Captain Muhannad Bataineh

On her many travels around the world, Ruthanna befriended King Hussein of Jordan. He made a gift of an Apha Linear amplified to her. To the left is the letter sent to Ruthanna advising her that the amplifier she should have received was forwarded by JY1, King Hussein of Jordan.

NEXT MEETING
Thursday, November 7, at the York County EOC
on Davies Road

Continued from Page 1

arrived, they took over and worked on Tim for an additional 20 minutes trying to restart his heart. As well as CPR, they used their defibrillator at least 5 times in an attempt to get things going again … all to no avail.

When they evacuated Tim from the club, he was on a Lucas machine that was doing chest compressions and maintaining bloodflow. He was initially sent to Memorial Hospital because it was closer. There, the doctors had to continue CPR for another hour and a half. By this time, his XYL Sandi had arrived. Sandi was told that they didn't think Tim was going to make it. She asked if she could see Tim, they took her to where Tim was being treated. From what I was told, she took hold of Tim and told him "Don't you dare leave me" … and fortunately Tim always listens to Sandi … they got a pulse.

At that point, they were able to stabilize him and he was moved to the Intensive Coronary Care unit at York Hospital. He was still on life support and not conscious. They decided to perform a procedure called "Therapeutic Hypothermia" on him to prevent damage to his brain and other internal organs. They lowered his body temperature down to about 92 degrees F for a period of about 36 hours. They restored his temperature back to normal on Saturday afternoon. Sandi was told that he probably would not wake up until the next day … Tim surprised everyone as he always does and woke up that night at 9 PM.

The diagnosis for Tim's attack was "Sudden Cardiac Arrest". Further testing revealed that the problem was "electrical" in nature and there were no blockages or damage to his heart.

What happened after this is nothing short of a miracle. Keep in mind that the survival rate for this entire scenario is about 5%. Everyday, Tim kept getting stronger. He had to undergo Dialysis for a few days until his Kidneys recovered and had some possible Liver damage but at this time, it looks like that will be extremely minimal. Best of all, we got the old Tim back!

As I type this, it has been precisely 2 weeks since this event happened. Tim is now home recovering. He has an internal defibrillator but it looks like he will be able to live his life with very few limitations.

The Value of CPR And the Right Person Performing it

By Dick Goodman, WA3USG

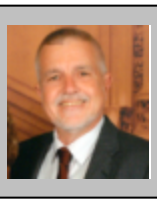
If we are ever to realize how valuable the skill of performing CPR is, it was surely demonstrated on the evening of Thursday, October the 17th.

On this day Justin Hoyer, N2JEH saved the life of our friend and club member, Tim Barefoot. While there were others of us present who were qualified in CPR, Justin is a strong person … he has some muscle to him and Tim is a big guy. It took a lot of power and above all skill to correctly do CPR on Tim. I am reasonably certain that without Justin's skill and presence of mind, Tim would not be with us today.

Justin continued CPR on Tim for a full 20 minutes until help arrived. Jeff Patterson, KB3RCT worked with Justin and between the two of them, saved Tim. What they both did is something that will stay with me for the rest of my life. I can only hope that I would have had the presence of mind to do what they did if they hadn't been there. I think that a lot of the other guys are pondering that too.

While what happened to Tim was terrible, he couldn't have picked a better place for it to happen. He had CPR in less then 1 minute from when he collapsed. He also had a group of friends there who were familiar with emergency procedures and got help on site as quickly as they did.

There was a lot of teamwork going on at the club that night. The phonecall to 911 happened even before CPR was started. We realized visibility would be bad outside and we ensured the ambulance would not overshoot the club. We cleared stuff out of the way and above all, we kept our cool. I am extremely proud to be part of an organization that can do all of this.



From The President

Dick Goodman, WA3USG

Okay gang! I think that things have finally hit rock bottom and now we have nowhere to go but up!

Our lightning damage, while bad, was not as severe as we thought. Not including the repeater, we probably have about $2,500 in total damage. We have a $1,000 deductible policy on our building and grounds. Damage to equipment under this policy will probably come out to about $1,500 so we will most likely get approximately $500 from that. Our other policy which covers itemized equipment will probably get us close to $1,000 as long as the insurance company pays the replacement value. Both of these companies have no problem with us taking more then 2 months to submit the claim and it has taken us awhile to ascertain exactly what has been damaged.

We still don't know what the decision will be on getting the Master III back on line. This was our main 2 meter repeater and is owned by the South Central Pennsylvania Task Force and administered by York County. Since it was not club property, we could not insure it and it received the most damage of any club property. The county has sent it to Moyer Communications for evaluation and the results don't look promising. I spoke with the service technician about 2 weeks ago. The CAT-1000 controller is damaged beyond repair and all the system modules have issues. I also have been informed that many of these items are Depot level repairable which means they may have to go all the way back to Motorola for repair.

Nate Kirschman, WN3I … you are "The Man" for letting us continue to use your Quantar repeater with its superb audio! Meetings with yourself, Bob, WB3AWJ, Chris, KB3TWW and Kevin, KA0JQO are causing us to take a hard look in regard to getting our own permanent repeater back on line no matter what the outcome of the Master III is.

… and speaking again of the Master III, I realize that our County point of contact, Tom Graybill, KB3ETG is supporting us. Tom, please realize that we all know you are doing everything in your power to get us back on line. We understand the realities of funding and will be okay no matter what the outcome of this is. We are proud to have the relationship that we do with the county.

The Technical Committee has undergone a dramatic reorganization and we have quite a few new and very technically competent members! If you are interested in taking part in the Technical committee, or working with them, please contact me. If you have fundamental knowledge of DC & AC electronics, and if you are genuinely interested, we will train you.

In the last couple of weeks, we have gained several new committee members. Bob Poff, WB3AWJ who has been a techie in the club a lot longer then I have has consented to join us. Bob will initially be getting our 70 CM repeater completely resystemized to AllStar. This means that some of us will be learning about Lenix! Nate Kirschman, WN3I will be helping us to get a replacement 2 meter repeater on line so he can get his Quantar back. I know that Nate has a busy schedule and really appreciate his coming to help us. Chris Shover, WB3TWW has also joined this elite group and will be helping us procure and install a replacement repeater. Chris and Kevin, KA0JQO put the 146.79 repeater up at Reesers Summit. We used this machine to support the Three Creek Century Bicycle ride last month which covered an area from Carlisle, Camp Hill, and all the way out past Newville … with excellent coverage everywhere along the route. Dan Melato, KB3JSV works in the field of I.T. Dan will be upgrading our network and replacing much of the equipment that was damaged by the lightning strike. I myself am old I.T. guy but when I talk to Dan, it makes me realize what I have forgotten … or never learned! When I was working in the field, MS/DOS 6.22 was still hip!

I'm glad we got another guy to admit to belonging to this group … Kevin Magloughlin, KA0JQO. Kevin is putting together the replacement repeater for Nate's Quantar. Thanks for joining us Kevin. I think that both you & Chris make quite a team.

Continued on Page 3

"Presidents Corner" … Continued from Page 2

Tim Barefoot, W3TWB, Greg Hagens, KE3CW and myself, Rick Goodman, WA3USG are also holding down slots in this committee. The above three members have been doing this for about 30 years now and while we want to still take an active part, we kinda want to "Pass the torch" to you newer guys.

Tim Beck, KB3OFE still helps us out and currently is working with the ATV repeater. I'm afraid with all that has been going on in the last two months, ATV has not been on our minds. This is still a major club project gang. I am as guilty as everyone else. I haven't turned my ATV equipment for almost 2 weeks now.

Tim is working on streaming video directly from the user via the Internet to a computer connected to the ATV machine via a protocol known as "Web RTC."

Until recently, he was hoping to use the Raspberry Pi, a small microcomputer board developed in the U.K. for the video to be streamed to. It may turn out that this will not be quite robust and/or fast enough to handle the stream. Tim is working with Bob Poff, WB3AWJ to possibly use a computer that would be shared with AllStar. If Tim is successful, this will probably be the first ATV repeater in the U.S. that has a digital video link to it accessible by the end user. It is good that throughout all of the last several weeks of pandemonium, that this is still progressing … we are still doing some of electronic pioneering and hope to be a major player in ATV in this area.

First Test of Web RTC Video Streaming to The ATV Repeater - A Resounding Success!

On the evening of Wednesday, October 30 at about 7:30 PM. Tim Beck, KB3OFE conducted the first fully functional test of video streaming to the W3HZU Amateur Television (ATV) Repeater. The first test was local streaming from Mechanicsburg by Dick, WA3USG. This went off without a hitch.

This is live broadcast video being received in Mechanicsburg from the clubs ATV Repeater. Dick, WA3USG, streamed video from his computer to the club where it was input to the ATV repeater & transmitted back out on 439.25 MHz. Image quality was excellent! This was being received at a distance of 25 miles from the club site.

Then at about 8:30 PM, Fred Merker, K3TAZ, an ATVer in Finksburg Maryland successfully streamed video to the ATV repeater from his QTH!

Above - Images from Fred, K3TAZ in Finksburg, Maryland as broadcast on 439.25 MHz. and received by WA3USG in Mechanicsburg

Fred not only streamed video from his shack, he also rebroadcast the Chesapeake Amateur Television Society's (CATS) ATV Net out of Baltimore … with both video & audio over our ATV machine.

The audio quality was excellent and throughout the over 1 hour period that Fred was transmitting, there was not one single glitch from either the video/audio input stream or from the traditional analog NTSC output.

Tim hopes to provide a simple Web page that members may access with their computer & web cam. This will enable anyone to get on ATV using the repeater. Ultimately, we will also get the NTSC receiver back on line and Amateurs who have video transmitters may also access the repeater by more traditional means on 426.25 MHz. Both processes should yield excellent video quality.

Schedule of Keystone VHF Club Sponsored VE Testing for 2013

Laurel VE Group Testing sponsored by Keystone VHF Club are held the second Saturday of the odd months. All tests are at 10 AM, pre-registration is appreciated except the Hamfest. Contact, Ralph Brandt at ralph.brandt@comcast.net or phone 717-792-1017.

Locations are York EMA Office at 120 Davies Road, York, or Keystone VHF Club on Deininger Road, York, near the Rocky Ridge Park

Testing dates:

November 9 at York EMA Office.

Local area nets:

Capitol Area Traffic Net starts **Monday at 8 PM** on the South Mountain Radio Amateurs (SMRA) repeater on 146.46 (67.0 tone), 1 MHz offset. All properly licensed radio amateurs are invited to check in.

The Combined Club ARES/RACES Net meets **Monday at 8:30 PM** on the Keystone 146.97 Repeater (Tone: 123 Hz).

South Mountain Radio Amateurs (SMRA) Net on **Monday at 9 PM** on the 145.43 (Tone: 67 Hz) repeater located in Mt. Holly Springs. ***After the normal FM net, a group moves off to 144.210 MHz and operates SSB.***

The Keystone VHF Club Digital Net on **Tuesday at 8 PM** on the York 146.97 Repeater.

The Digital Familiarization Net on **Wednesday at 8 PM** on the SMRA 145.43 Repeater.

The Keystone 75 meter net on **Tuesday at 9 PM** on a frequency to 3820 to 3840 KHz (+ or – the QRM). In the Summer, the net is suspended.

The Quarter Century Wireless Association (QCWA) net meets on Wednesday 9 PM on the York 146.97 repeater. **(Net currently not held)**

A local FM Simplex Net runs **Thursday at 8:30 PM** on a frequency of 146.55 MHz.

The South Central PA 10 Meter Net **Friday at 8 PM** on 28.495 MHz USB

WLO Marine Radio in Mobile AL has begun broadcasting a RTTY news service on 8473 kHz. It appears to run continuously. They alternate between 45 Baud Baudot and SITOR Mode-B FEC ("AMTOR" to we hams). Its kind of fun to copy, and a good way to test out your RTTY setup.

**** Listed below are some local 10 meter nets ****

Ham Shack Talk Net - Monday at 9 PM: 28.335 MHZ.

South Central PA SSB Net - Friday 8:30 PM: 28.495 MHZ.

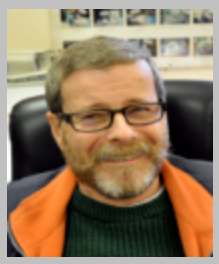
Delaware Lehigh Valley ARC Net - Sunday 4:00 PM: 28.430 MHZ

Do Drop In net - Sunday 8:30 PM: 28.450 MHZ

Penn- Mar Club net - Friday. 8:30 PM: 28.495 MHZ.

10 Meter Ragchew Net - Every evening starting 7:30PM: 28.600 Mhz

Larry, N3LED



Thierry, KB3TPX

Jeff, KB3RCT

Trustees Report - It's that time of year again. The semiannual W3HZU cleanup work party. This fall cleanup will be November 16th. We will meet for breakfast at 8 AM at Stony Brook restaurant and begin work about 9. Lets get the club ready for the winter! Bring on the snow!

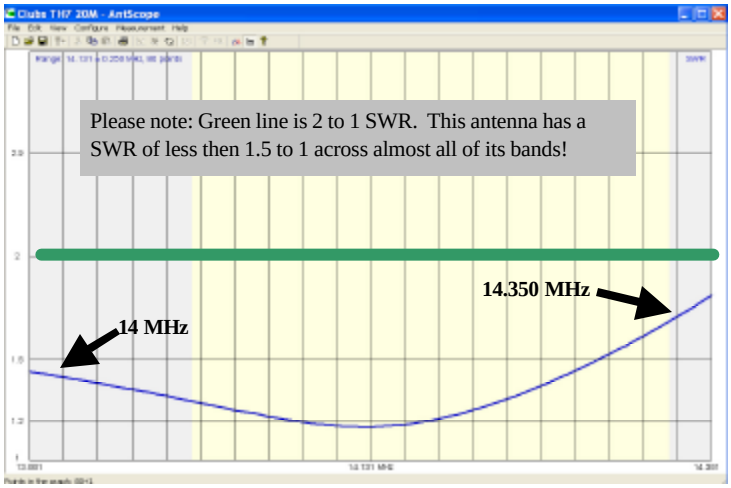
Scheduled Club P.S. Events for 2013

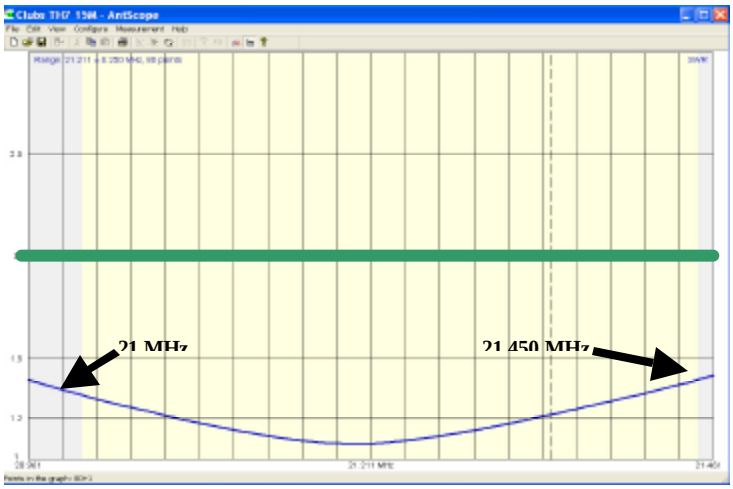
* **Dec 8 The Jingle Bell 5K Run (Jack, KC3JD) ***NEW**
* **Dec 24-25 Glen Rock Carolers (Stan, AB3EM)**

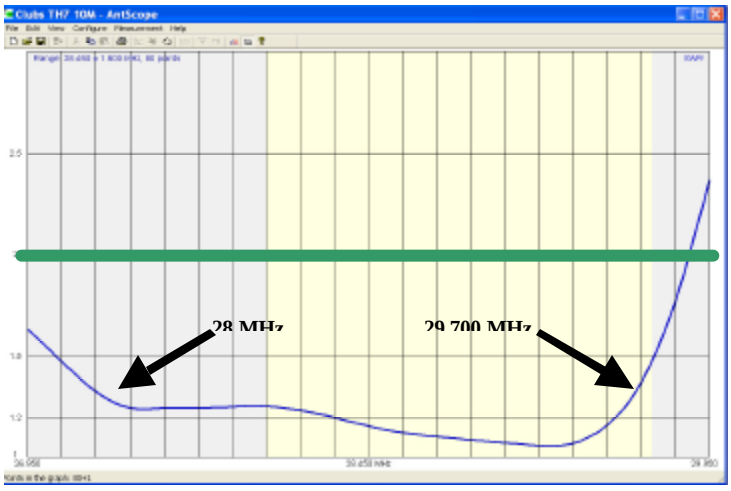
FOR SALE/WANTED

For sale: HyGain TH-7 DXX 7 element Triband beam. This is a big antenna folks! **$150.00 for club members**

This antenna is assembled and up at the club. It was donated to us by Jim, K3JIM but unfortunately will not fit on our tower without becoming entangled with the guy lines from our 180 foot tower. It has beautiful SWR curves on 20, 15 & 10M. See right side of this page … these were actually measured at the club.







Act now! You will <u>never</u> find an antenna this good for this price again!

We will help you take it down and will even transport it for you

Non Club Member Price $400.00

Original Price $869.00

Call Dick Goodman, WA3USG at 717-697-2353
Or e-mail wa3usg@verizon.net

After 1 week we will advertise in QRZ.COM

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Boy Scouts on the Move at KVHFC! Jamboree on the Air (JOTA)

Wow! What a gang we had up at the club over the last few weeks! On October 5th and 12th we sponsored the Radio Merit Badge. It focuses on 3 types of radio communication: broadcasting, shortwave listening (yes this still exists, my favorite to listen to is Radio Cuba) and amateur radio (or ham radio). Of the 3, only ham radio allows two way communications. Hams as we are called, not only have a great hobby that allows us to talk to people all over the word, but is also used as emergency communication in the local, state and federal levels. Did you know that after hurricane Katrina not only were all local and state communications compromised but even federal communications were effected. Hams from all over the country went into the areas and provided emergency communications. Cell phone service was out, land lines were gone. Hospitals could not communicate with each other in some cases. After Katrina most hospitals (yes here in York) put 2 meter ham radio stations in their buildings. Our EOC/911 center that we toured last year, they have ham radio capabilities as well.

Jeff Patterson, KB3RCT and Alan Frame, WB3FTD also mentored Scout Packs 6 and 20 at the club where they participated in the 2013 Jamboree on the Air. They worked other scouts all over the country and obviously as seen in these pictures, had a great time doing it.

The Jamboree-on-the-Air, or JOTA, is an annual Scouting event that uses amateur radio to link Scouts around the world, around the nation, and in your own community. Held on the third full weekend of October each year, this worldwide jamboree requires no travel, other than to a nearby radio amateur's ham shack. Many times the hams will come to you by setting up at a Scout camporee, or perhaps they already have a ham shack at your council's camp. There are many ways to get your Scouts involved in JOTA.

Scouts of any age can participate, from Cub Scouts to Boy Scouts and Venturers. Once at the ham radio station, the communication typically requires speaking into a microphone and listening on the station speakers. However, many forms of specialized communication can also take place, such as video communication, digital communication using typed words on the computer screen transmitted by radio

Having the scouts at a Ham radio club adds an additional sense of adventure to the whole experience. The club house with all of the operating positions, the towers, all the antennas … these are things that they don't get to see in their everyday life. It adds a real sense of excitement! Jeff, KB3RCT and Allan, WB3FTD both enjoyed working with the boys and have provided something that they will never forget. It should be noted that activities for both Cub Scouts and Boy Scouts have been plentiful at the club since it has existed. In the past, we have even had scout troops camp out overnight. Another Keystone VHF Club tradition! Want to help? Contact Jeff, KB3RCT or Alan, WB3FTD!

THANKS GUYS!!

Getting W3HZU Back on the Air

By Richard Goodman, WA3USG

Quite a few folks like to come to the club and get on HF. Many of our new members have VHF/UHF transceivers but either don't have the real-estate to have a dedicated HF antenna or simply don't know if they want to invest in what it would cost to get on the air on the HF bands.

Right now, you can get on the air on HF at the Keystone Club house. We have a Yaesu FT-920 transceiver which covers 160 through 6 meters. We also have a Kenwood TS-2000 which covers 160 meters all the way through 1.2 GHz.

The Yaesu FT-920 is our main HF rig. While it does not have the frequency coverage that the TS-2000 has, I think that on the HF bands, it has a superior receiver. It is also a nice big radio. When you push a button, you don't have the tendency to accidentally push the one next to it too! The 920 has nice loud audio and is simpler to use. We have had this rig for over 15 years and I liked it so much, I got one for my home shack when they were still available.

About 8 years ago, we purchased the Kenwood TS-2000 in order to get on 144 MHz, 432 MHz, and 1.2 GHz SSB & CW. While we still have a Kenwood TS-711A which covers 144 MHz all modes, we were having problems with it. It is a 20+ year old radio.

While the TS-2000 above is a very capable radio, on the HF bands it doesn't perform quite as well as the FT-920. We also do not currently have it configured to be connected to our HF antennas. It is a smaller rig and uses more menu driven controls then the 920. It does perform quite well on VHF & UHF (all modes) where the 920 cannot go.

There are separate operating positions for each of these radios. Again, the FT-920 is our main HF rig with the TS-2000 being relegated to the VHF & UHF frequencies.

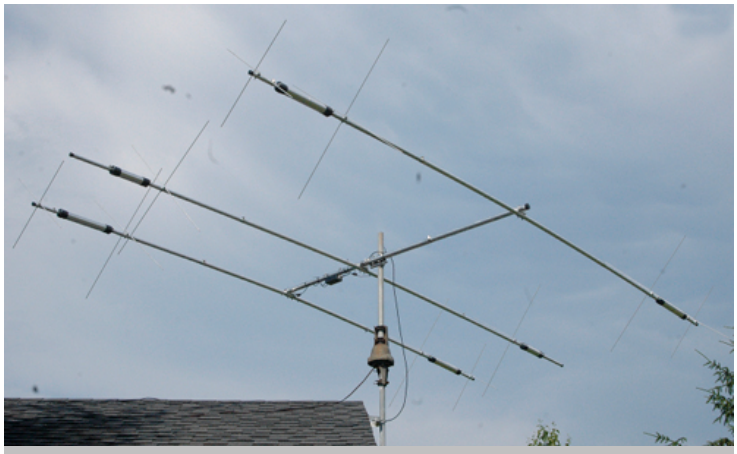
What I wanted to talk about in this article however, is getting on the HF bands from the club. While we are primarily a VHF club, we do have a lot of folks who would like to come up and operate on HF. While we have radios that can operate on all of the HF bands, we are not quite as flexible with our HF antennas.

Currently the club has several antennas for the these bands. We have a HyGain High Tower Model 18-HT. This is an all band vertical that covers 160, 80, 40, 20, 15, and 10 meters. It does not cover the WARC bands on 12 & 17 meters. While it performs adequately, it is a vertical antenna and requires many ground radials to achieve optimal performance and we do not have an adequate number of radials.

We also have what is known as a Cage Dipole for the 40 meter band. This is an excellent antenna and we would be hard pressed to get better performance on this band with anything else. We have an Alpha Delta DX-CC multi band dipole that covers 80, 40, 20, 15, and 10 meters. This is also an excellent antenna on 80 and 40 meters. It is adequate on the higher bands but for bands higher then 40 meters, a beam would be considerably more efficient.

We had hoped to put up a HyGain TH-7DX beam. Jim Walsh, K3JIM donated this to the club about a year ago. While this would give us truly world class performance on the 20, 15, and 10 meter bands, it is a huge antenna. It is 7 elements, weighs in at about 70 pounds, and has a longest element of over 30 feet in length. We attempted to erect it on the 60 foot tower on the side of the clubhouse but ran into problems with it becoming entangled with the guy wires going to our 180 foot tower.

Our climbers Tim Barefoot, W3TWB; Greg Hagens, KE3CW;, and Dan Shortencarrier, N3EEI also expressed serious reservations in regards to that tower being able to safely handle the TH-7 and an additional 6 meter beam.



Ralph Brandt, K3HQI came forward and donated this antenna to the club. It is a Cushcraft MA-5B. While it doesn't have the gain of the Th-7DX, it covers the same bands. Additionally, it also covers the 12 and 17 meter WARC bands. It's biggest advantage is its size. Its boom is a mere 7.3 feet in length with it's longest element only 17 feet in length. Its weight is 26 pounds. This antenna should be easy to install on the 60 foot tower.

While this antenna has considerably less gain then the TH-7, I don't feel that this will have a major impact on us. About 3 years ago, I replaced my Hygain TH-6DX (which has gain figures very close to the TH-7) with a pre owned Mosley MP-33 WARC. The Mosley should perform very close to how the MA-5B does. I had my TH-6 up for over 23 years. After switching over, I have not noticed a difference in performance between the two antennas. I imagine that the TH-7 might yield almost a One (1) S- unit advantage over the MA-5B but look at the S meter while receiving any station. A typical QSO might vary anywhere from an S8 to S9+10. In most cases, the difference between these antennas is going to be lost in the noise.

The advertised gain figures in dB for the two antennas are listed below (Forward gain/Front to back):

	10M	***12M***	***15M***	***17M***	***20M***
TH-7DX	*9.6/22*	*N/A*	*8.7/22*	*N/A*	*8.0/22*
MA-5B	*5.3/10*	*1.0/0*	*4.8/12*	*1.0/0*	*3.6/18*

Note that a 6 dB difference in gain yields exactly 1 S-Unit.

If you look at the logic above, you may think that it's flawed. For example I have a 20 meter dipole. There are many times when I see a 3 to 4 S-unit improvement on a signal when I switch to the beam. That would require the beam to have a 24 dB gain over the Dipole. Neither of these antennas do. What is happening here? Chances are that the station you are receiving is not off the broadside of the dipole which is where it receives & transmits best, therefore attenuation comes into play. Also the entire beam is usually up and in the clear … it may be steered directly towards the station. In most cases the Dipole is not all the way up in the clear … this results in even more attenuation..

Continued on Page 7

Getting W3HZU back on the Air … Continued from Page 6

All of these factors add up and a beam with only 5 to 10 dB gain over a Dipole can show a 3 or 4 S-unit advantage over a conventional Dipole. Either the TH-7 or the MA-5B will perform in this manner with the TH-7 showing only another S-unit.

There are some cases where the TH-7 would be better. It has a better front to back ratio. This means that when the antenna is pointed away from a station, that station would be attenuated more on the TH-7 then on the MA-5B. If we were a big contest club, this would be more of an issue but we are not big into HF contesting. The TH-7 also has an SWR less then a 1.5 to 1 all the way across 10, 15, and 20 meters. The MA-5B has a 2 to 1 SWR bandwidth across about 120 KHz on any of its bands … but we can use a tuner with the MA-5B and operate anywhere.

So what's the bottom line here? It's that either antenna will work fine for the way we operate.

There are two major advantages of the MA-5B that makes it a very acceptable for our use. It has both the 12 and 17 meter WARC bands. On these two bands, it is simply a rotatable Dipole but since it is up in the clear it is a good performer. This will give us two bands that we never had before. It is also a much physically smaller antenna. Let's give our climbers a break! That antenna will probably take about an hour or two to put up …with no crane necessary … and it's small enough so that we could add a 6 meter beam on top of it without overloading the tower.

I got this antenna from Ralph a couple of weeks ago. Right now it's in my shed and depending on the status of our climbers, Ralph & I will get it together. I have all of the parts and I'm sure that we could have it together and tuned in a day. Again, the club thanks Ralph, K3HQI for his donation!

Once this antenna is up, we will have excellent capabilities on all bands from 160 through 6 meters. I think we will have more folks coming up to operate. While we want to have a good performing station, we also want to keep this fun … for everybody … especially the guys who have to put this up!

The Keystone VHF Club Annual Holiday Party - January 25, 2014

Pepe' sez
"Keep le date free"
Location:
Fairview Firehall
(same as last year)
Menu - Turkey dinner with all the trimmings, ham, deserts, wine & beer & great fun and fellowship all for

$10.00

"Cheap at half the price!"
Ooops … I meant
"Cheap at twice the price!!"

The Jingle Bell 5K Run

By Jack Dellinger, KC3JD

The York Twp EMA was contacted by the Arthritis Foundation (Central Pennsylvania) about support for an event entitled "Jingle Bell 5K Run". This event takes place on Dec. 8, 2013 (early afternoon).

Representatives of the Arthritis Foundation attended an exercise held at the York Twp EMA on Oct. 28 to gain understanding about Ham Radio communications. The representatives were impressed and have invited the Ham Community to help provide communications for the event.

This year the event will have approx. 800 runners!! They expect this event to grow in numbers of runners in the coming years. The run takes place in the vicinity of Apple Hill Medical Center, Monument Rd. York Pa. This event should only take about 3 hours...

I will be attending a Jingle Bell 5K Run meeting on Nov.11, 2013 to gain more info. I also understand that on Dec.2, 2013, at noon time, there will be a volunteers training session at the Revolutions Stadium in York. (I need to check this date again as it is a Monday).

For this first year of our participation I believe 5 to 10 operators will be plenty. If you are interested in participating as a communicator, please put Dec 2 & 8 on your calendar. Please send me an email if you are interested.

Walt K3DQB I think this would be a great event for the 'new' Hams to get their first taste of EmComm!!! We could double them up with experienced operators.

The Michaux Team Challenge (MTEC) Wrap-up

By Richard Goodman, WA3USG

On Sunday, October 27 the Cumberland Valley Amateur Radio Club provided communications support for the Michaux Team Challenge (MTEC) Triathlon. This annual event takes place in the Michaux State Forest near Caledonia State Park.

This year it consisted of 32 teams of 4 persons each. It is an extremely competitive event where all teams are shuttled to the starting location out in the forest. Each team is then given a map and they have to navigate on foot a distance of about 3 miles to where their mountain bicycles are located (Check Point 1). At this CP, they have to get a document signed showing that they in fact arrived here. As each team departs, they are then given another map which details the route to the next CP. No one is allowed to help them and they must figure the route out themselves.

From our check point each team bicycles on single track mountain bike trails approximately 25 miles to Long Pine Lake where they have to endure a "challenge" and then paddle across the lake in four man rafts. From there, they race back to their bicycles and ride an additional 5 miles to the finish line. The first team back wins.

The Keystone Club provided 3 members to assist in this event. Rich Reese, KR3EE manned the Finish line. Sandy, N3ECF and myself manned Check Point 1 (CP1) where all of the participants left their bicycles before being shuttled to the starting point. We should be the first ones seeing the teams after about a 3 mile run.

The race started off at exactly 9 AM. We figured that we would see the first team come through by 10 AM. About 15 minutes after the start, we were informed by the Hams at the starting area that the first team looked at their map and departed at a very rapid pace going exactly in the wrong direction! All of the other teams followed them. To make a long story short, after they got deeper into the forest where no one could reach them by vehicle, they separated and all went off in different directions … all wrong!

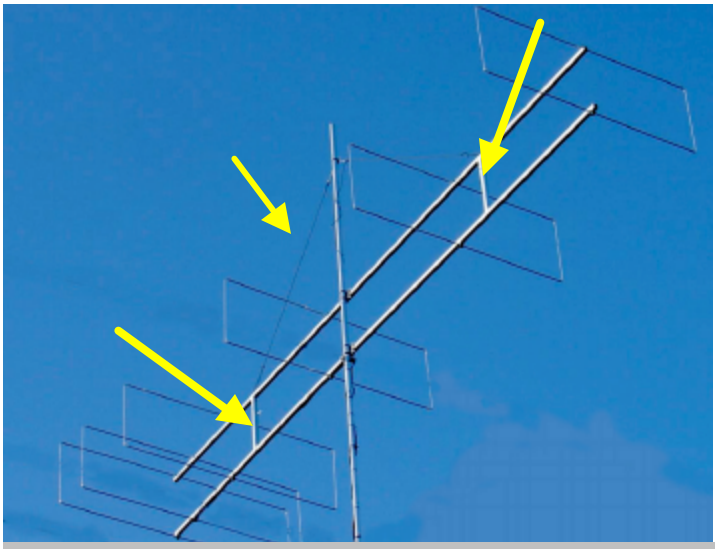
The first team arrived at our CP at about 11:30 … and the last didn't clear us until 1 PM! Some of them went 12 miles to cover the 3 miles from the start. As they raced away from our CP on their bicycles, we noticed that many teams immediately turned in the wrong direction! We did hoop & hollar to help them at this point otherwise they would have been out in the woods all night! Several times it took a bit of yelling and jumping up & down to get the cyclists turned around! I am not sure what went on at the other check points but from what I can determine from the participants that were coming into us, they simply were not taking the time to adequately study their maps!

Believe it or not, the rest of the race went well with all but two teams (who got hopelessly lost) finishing by 4:30 PM! Poor Rich, KR3EE didn't see anyone for a long time at the finish. He had to be getting just a little bored! We certainly did a great job keeping track of the teams who made it and it was really one hell of a good time! Please join us next year … it's a great day spent outside!

The Innovantenna LFA-Q
5 element 6 meter beam (our experience)

By Dick Goodman, WA3USG

In January of this year four of us drove to Tuscarora Summit to operate the ARRL VHF contest . We tent camped out on the top of the mountain … brrrr! (see the February issue of the newsletter). While we were there, we met another group of Hams who highly recommended antennas built by a company called Innovantenna Inc based in the U.K. Upon returning to civilization, we decided to purchase a 6 meter antenna from this company. They offered a 5 element beam designated LFA-Q. This antenna looked very interesting and had some impressive gain figures. Its most striking characteristic however was that the elements were actually closed loops rather then straight linear elements.



This is the picture on the Innovantenna web site that describes the 5 element, 6 meter antenna. Note the supporting elements and wire line boom supports (yellow arrows). They are not on our antenna. An e-mail to Innovantenna yielded the fact that this was a picture of the 6 element beam, not the 5 element. Yet this picture is on the front of the 5 element assembly manual. Without the forward & rear vertical boom supports, it is easy to accidentally turn the upper or lower booms independently from the other thereby bending & distorting the loops.

We followed the assembly instructions in the 13 page assembly manual to the best of our ability. It should be noted that there are absolutely no dimensions given for any of the element lengths or element spacing in the manual. Since the double booms are predrilled where the elements are to be attached, element spacing was not an issue. If the antenna doesn't tune correctly however, how do you verify that you have the correct elements in the right spot? If we knew the element lengths, we could simply measure them and know for a fact we assembled the antenna correctly.

After the antenna was assembled, we made up the feedline and RF Choke and swept the antenna with a Rig Expert AA-600 antenna analyzer. The SWR was 10 to 1 across the entire 6 meter band (and everywhere else).

We hoisted the antenna up to the top of a fiberglass mast so that the bottom of the loops was over 15 feet above the ground … no change. We made up a new feedline and choke just in case there was a problem with the first one … no change. At this point, it was getting late and we simply concluded that we had done something wrong.

The next day, we had some different club members look at the antenna. They could find nothing wrong with how we assembled it. We had set in the 30mm inside loop dimensions as specified on page 12 of the assembly manual. The antenna was swept again and this time rotated completely around in a 360 degree circle. There were no objects of any kind within 20 feet of the antenna … the SWR did not change at all.

Then we noticed something that we thought was strange. The First Director loop was larger then the driven element loop. We needed the proper element dimensions! At this point I e-mailed Innovantenna. I received a prompt response and was told that they did not have one of the LFA-Q antennas on site at the USA facility but would get me information from the U.K. They also asked me if I would send them the element lengths from our antenna. I did this.

The next day I received a phone call from Innovantenna U.S.A. I was given the element dimensions for all 5 loops. I found that 4 of the elements could be brought almost into the proper width by collapsing the loop ends all the way in … the 30mm spacing called out on page 12 was not correct . The first director however was almost 4 inches too long. I was given a dimension of 2030 mm (79 59/64 inches). The measured length of this element was 83 3/4 inches. A few days later, I was told by Innovantennas U.S.A. that the dimensions I was given "may not have been precise"!

More e-mails followed. Innovantennas wanted to know what our element spacing was … I sent this. They wanted to know how the booms were labeled, I sent this.

By now 20 days had passed. Another issue had me greatly concerned. I have looked all over the Internet for someone else who has this antenna. A Google search of "LFA-Q" only took me to the Innovantenna web site. There are no reviews, no discussions, and absolutely no evidence that anyone else on the planet has one of these.

Yes … we are experimenters and we will do what we can to help iron out minor problems in products directed to us … but … we paid $500 for this antenna! It should work … the company should have simply sent us the exact dimensions of all the elements. Innovantenna U.S.A. told me that they didn't have the antenna or the documentation from the U.K. on hand … but they had 20 days to get it! We should not have to assist in R&D for an antenna that we paid $500 for.

… and yet there is another concern. The antenna is assembled on a mast sitting next to our picnic pavilion. I think that both booms are drooping more then is healthy. The wire boom support shown in the photograph would correct this but only if the front & rear vertical supports were there … and they are not. Even the loop assemblies seem flimsy. I don't think that this antenna would survive icing common in this area. We did disassemble the antenna and have packed it in the original shipping container for return.

I deeply regret coming down on this company so hard but this antenna does not seem to be ready for prime time! They did e-mail me however and have offered to refund our money. They do not want the antenna back and we may keep it to experiment with. We are currently waiting to see how they return payment.

Keystone VHF Club
General Meeting Minutes of
October 3, 2013

By Sandy Goodman, N3ECF – Secretary

The General Club Meeting held at Keystone VHF Club was called to order by Pres. Dick WA3USG at 19:02. There were 36 members present and 9 guests, of which 7 were Walt Bilous's YTI students. Six of those students recently received their Technician License.

TECHNICAL HAPPENINGS: Thierry, KB3TPX, described his project to erect a 42 foot tower.

SECRETARY REPORT: Sandy, N3ECF. In the September minutes, the abbreviation for September needs to be corrected. Steve, WB3EFA, moved to accept the September minutes with correction, 2nd by Don, N3OSO. Motion carried.

TREASURER REPORT: Linda, KB3EBV, reported for September: Income: $613.12; Expenses: $491.41; NET Total of positive $121.71. Balances: Club CD $7,607.41; Bill Hurst CD $2,516.36; Checking Acct $2,790.75; Trustee Acct $177.49; Total $32,092.01. Ralph, K3HQI, moved to accept the report; 2nd by Paul, N3VI. Motion carried.

COMMITTEE REPORTS:

TRUSTEE REPORT – Jeff, KB3RCT, reported that the fall work party will be November 16th, meet at 8 AM at Stoney Brook for breakfast, then 9 AM at the club to work. A larger recycle can has been placed at the club house for cans and plastic bottles. Crunch the cans down first.

TECHNICAL COMMITTEE REPORT - Dick, WA3USG, & Tim, W3TWB

The damage from the lightening strike has mostly been determined. The hit was from a spike on the electric line in front of the club. Other than the repeater, there is about $1500 in damage. We have 60 days to complete our claim. Some of the damage is located in network equipment, internet links, TV screen cameras, sound cards, with the antenna rotor being the biggest expense. Within 48 hours, Nate, WN3I, had a substitute repeater in place. Jack, KC3JD, told us that the Task Force gave us the repeater via grant money. We can't insure that repeater because it's owned by York County (DHS). It is being checked out under county funds. It is possible that the repeater may not be replaced. Tim, W3TWB, made a request to buy a new Rotor Control, for about $800. That piece of equipment is covered by our insurance. Jack, KC3JD, made the motion for that purchase. Dan, KB3JSV, seconded the motion. Motion carried. Linda, KB3EBV, will move funds into the Trustee account so that Jeff, KB3RCT, can make the purchase.

A discussion was held about the high performance TH-7 antenna that was donated by Jim, K3JIM. Tim, W3TWB, described the failed efforts that were made to get the antenna up on the tower. It's too much to have both the TH-7 and a 6-meter antenna on the same tower. Jim agreed that the club could sell the TH-7 if possible. It will first be offered to the Hilltoppers club. Tim, W3TWB, moved to sell that antenna for $150, with a second from Dan, KB3JSV. The motion was approved.

Another discussion was held on the 6-meter antenna that was purchased from Innovantenna. We purchased the antenna for $500. It hasn't been used by anyone else. It's a 5 element loop beam that we waited to put up with the TH-7 antenna. However we had an SWR of 10:1. The company couldn't tell us the proper element lengths. One element is too long. Dick recommended that we first ask for replacement of the bad element. If that doesn't work, then we'll ask for our money back. Their other antennas seem to be good. But nothing is known about this

For the antennas on the 100 foot tower, Tim, W3TWB, described the work that needs to be done to take antennas down. We will hire a crane to remount the antennas. Tim also moved to recycle the hardline, metal, and wire we have hanging around. Rich, KR3EE, seconded that motion, which was approved.

Linda advised that the CD worth $7600 is coming due in mid-November. With the expenses coming up, we may want to consider cashing in part of that CD. That decision will be tabled until November's meeting.

EMCOMM/PUBLIC SERVICE NEWS – Sandy, N3ECF: 2 public service events were completed in September, KTA Hike and the Three Creek Century Bike Tour. YARS did a demo (for about 6 visitors) at the York New Salem Fire Station on September 14. In October there will be a Vigilant Focus Drill in hospitals. Hanover Hospital will participate on Oct 2, and Wellspan Rehab Hospital will drill on Oct 3. A YARS banner was also created for use at drills and public service events. Other York clubs have been asked to contribute toward the $48.75 cost along with the Keystone VHF Club.

VE/ED REPORT - Ralph, K3HQI: There was no test in September. At the Lebanon Technician Class, YTI students attended over the 3 night sessions. There were 9 students, 7 of whom passed the exam. There will be a Technician Class in York on October 19 & 20. Technical sessions still occur at the Keystone club on Thursday evenings other than the meeting night. Shrewsbury club will have VE exams on October 12th.

CONTEST REPORT - The PA QSO contest is October 12-13. The Red Lion Hilltoppers are the Bonus Station (celebrating their 60th anniversary). They will cover all bands using the W3ZGD call sign. ARRL Side Band sweepstakes occurs on November 16.

NEWSLETTER/WEBSITE – Dick, WA3USG, published the newsletter.

OLD BUSINESS:

1. SPCG approved $15 toward the YARS banner.
2. Jeff, KB3RCT, will have Boy Scouts at the club for their Merit Badge work, and will participate in the October 19 & 20 JOTA.
3. The second reading was done for Justin Hoyer, N2JEH, who was then voted into membership.
4. Jeff, KB3RCT, reported for the Nominating Committee. They candidates for all positions. If anyone else is interested in running, tell one of the committee members.
5. Tim Beck, KB3OFE, has resigned as Vice President, and as the Technical Committee chair.

NEW BUSINESS:

GOOD OF THE CLUB -

We received a letter from John Hotchkiss, W7CNL, (from Boise, ID) containing 2 50-year old QSL cards from W3HZU that were in a collection that he bought on Ebay. The recipient who made the contact was K3ORU. Dick asked if anyone would be willing to be a QSL manager for the club. We have group of card that we need to answer. Dan, KB3JSV, volunteered.

Chris Palm, WY6Z, has some stuff that's good for arthritis. See him.

50-50: Tim, W3TWB, won $21.

Adjourned at 20:26.

KEYSTONE VHF CLUB OF YORK, PA

W3HZU

Membership Application

Name: _____ Phone: _____ _____ - _____

Address: _____ Callsign: _____ Expires: _____

City: _____ State: _____ Zip: _____ Lic Class: _____

Occupation: _____ E-Mail: _____

Membership Desired

Full → Full Club Privileges
$20.00 annually & one time $5.00 Application fee

Family → Sponsoring members call: _____
Privileges same as Full membership
$5.00 annually & a one time $5.00 Application fee

Associate → Repeater Support
$20.00 annually & a one time $5.00 Application fee

Are you a member of:

ARRL	Y-N
ARES	Y-N
RACES	Y-N
QCWA	Y-N

Special Areas of Interest (circle all that apply)

AM Antenna building ATV Contesting CW Digital (Packet, RTTY, PSK-31, etc) DX FM HF QRP Satellites SSB SSTV SWL Tower climbing LF DSP UHF/Microwaves VHF Astronomy Photography Other: _____

Application & Dues Mailing Address:

Make checks payable to: ***Keystone VHF Club Inc***. Mail to: ***PO Box 20143 York, Pa. 17402-0140***

FOR CLUB USE ONLY
First Reading Date: _____ Second Reading Date: _____
Date voted IN-OUT: _____ Date Dues Collected: _____
Applicant Sponsored by: _____