

Q-FIVER

The Official Newsletter of the OH-KY-IN Amateur Radio Society



From the President's desk....

The 2016 Cincy Prepper Expo has come and gone!!!

Wow... The two day marathon is over! This year like last OH-KY-IN, ARS participated in the above event that was held at the Sharonville Convention Center. It is my opinion that there were more booths this year but attendance on Sunday seemed a little light in comparison to last year! Those who remember last year me reporting that Ryan, Robert and I spoke to at least 600 + people! I am here to report that we spoke to at least that many this year with one exception, I brought more help and a clearly defined game plan. That plan was to have equipment there for people to see operating and more people there so that interested future Ham operators could see first-hand what we were all about.

This year our organization was given four booths and we took advantage of every bit of the space. George Gardei – N3VQW brought his Yaesu FT 450D HF Rig and a Yaesu 2 meter rig, and Ed Frambes – K8EAF brought a 2 meter HT and a wire that he ran up an extendable pole on a tripod and was hitting the repeater with no problems inside the building! Ed also brought an Elecraft KX3 QRP Rig and his Go Box for show and tell! Mike Niehaus – KD8ZLB brought his Go Box as well! But the most important asset that our club had at the show was our members!

For most of the day on Saturday, I would look across our tables and all 9 of us were talking with or showing someone something about amateur radio! We handed out flyers from the ARRL and a Club Flyer on upcoming classes along with Mike Niehaus' business cards. We also hosted a seminar in one of the halls on Saturday "Ham 101" given by Kitty Hevener - W8TDA. Her guests were Dick Arnett - WB4SUV and Robert Frey – WA6EZV who demonstrated "Fox Hunting". Sunday was quiet and was more slowly paced which worked out well because we didn't have as many volunteers.

After working this event for two years in a row I am convinced that this Expo is one of the best venues for getting information out about our club and our hobby in the community given with every natural disaster or movies about disasters people hear about Amateur Radio operators that help in times of need! I would like to thank our volunteers because without them this would not have been possible:

(Continued on page 4)

2016 Board of Directors

President

Michael Sien KD8SOH (513) 312-0691..... Michael.sien@zoomtown.com

Vice President

Ryan Williamson W1RYN w1ryn@w1ryn.me

Secretary

Ted Morris NC8V (513) 731-3451..... nc8v@hotmail.com

Treasurer

Brian DeYoung K4BRI (859) 635-3095 k4bri@arrl.net

Directors

Bryan Hoffman KC8EGV (513) 851-0525 hoffgroup@gmail.com

Gary Coffey KB8MYC..... (513) 382-3879..... kb8myc@fuse.net

Robert Gulley AK3Q..... ak3q@ak3q.com

Trustee/Licensee

Bruce Vanselow N8BV (513) 251-1555 n8bv@juno.com

Past President

Fred Schneider K9OHE..... (513) 729-0945..... fschneider@fuse.net

OH-KY-IN Repeaters

146.670 (-) Clifton

146.625 (-) Edgewood, KY

146.925 (-) Colerain Twp

443.7625 (+5) Clifton

A CTCSS (PL) tone of 123.0 Hz is required for access to all OH-KY-IN repeaters. All repeaters also transmit a CTCSS (PL) tone of 123.0 Hz

APRS on 144.390 mHz

K8SCH-10 Edgewood WIDEn

K8SCH-9 Clifton WIDEn

Packet on 145.010 mHz

K8SCH-7 Digipeater

For membership information, please contact Nathan Ciufo KA3MTT, 6323 Cinnamon Ridge Dr, Burlington KY 41005, (859) 586-2435 or Email membership@ohkyin.org. Renewals of Club Memberships are due by the end of March. Permission is hereby granted to any amateur radio group to quote or reprint from this publication, if proper source credit is given, unless permission is otherwise reserved.

THE Q-FIVER is now mailed & e-mailed, it's hoped, a week before the club meeting.

Normally copy deadline is the weekend before that. Please send your submissions for THE Q-FIVER (including notice of upgrades & callsign changes) to Brian K4BRI

These may be: snail-mailed to or dropped off at 6901 Backus Drive, Alexandria KY 41001 or telephoned to (859) 635-3095 any time



Oh-Ky-In Life Members

John Phelps N8JTP

Kenneth E Wolf N8WYC

John W Hughes AI4DA

Karl W Kaucher KJ4KWR

Howard Hunt NG8P

2016 Committee Chairs and Appointments

Newcomers/Elmers Net..... Robert Gulley AK3Q
Technical Committee Brian DeYoung, K4BRI
ARPSC Representative..... Jerry Shipp W1SCR
Volunteer Examiners Brian DeYoung K4BRI
QCEN Representative..... Pat Maley KD8PAT
Membership Nathan Ciufo KA3MTT
Fundraising Bruce Vanselow N8BV
Education Michael Niehaus KD8ZLB
Repeater Control Ops Mgr Bruce Vanselow N8BV
PIO Ted Morris NC8V
Librarian Howard Alban KD8WOY

Q-Fiver Editor Brian DeYoung, K4BRI
Field Day..... Eric Neiheisel N8YC
Historian Dale Vanselow KC8HQS
Special Publications Jo Haltermon KD4PYS
Fox Hunters Dick Arnett WB4SUV
Equipment Mgr Fred Schneider K9OHE
WebMaster Ryan Williamson W1RYN
Silent Key Bruce Vanselow N8BV
Tech Talk Net Mgr Bruce Vanselow N8BV
K8SCH QSL Mgr Gerry Weimer KD8ASL
TV/RFI Dick Arnett WB4SUV

There will be no mobile foxhunt in November. The monthly mobile foxhunt will return in December.

November Calendar

Tue Nov 1	7:30 PM	Club Meeting in St Bernard - The program will be about Winter Field Day
Wed Nov 2	9:00 PM	Tech Talk, NCS Robert AK3Q
Sun Nov 6	7:00 PM	Newcomers/Elmers Net, 146.67, Topic: Reading Propagation Charts Part 1 —NCS Robert AK3Q
Mon Nov 7	7:00 PM	Technician and General Classes—Red Cross Building
Wed Nov 9	9:00 PM	Tech Talk, NCS Brian K4BRI
Sat Nov 12	1:00 PM	Brunch Bunch at Skyline Chili in St. Bernard, 4901 Vine Street
Sun Nov 13	7:00 PM	Newcomers/Elmers Net, 146.67, Topic: Reading Propagation Charts Part 2 —NCS Robert AK3Q
Mon Nov 14	7:00 PM	Technician and General Classes—Red Cross Building
Wed Nov 16	9:00 PM	Tech Talk, NCS Dale, KC8HQS
Sat Nov 19	9:00 AM	ARRL VE Exam session—St Bernard
Sun Nov 20	7:00 PM	Newcomers/Elmers Net, 146.67, Topic: Reasons to Learn Morse Code —NCS Robert AK3Q
Tue Nov 22	7:00 PM	Board of Directors meeting
Wed Nov 23	9:00 PM	Tech Talk, NCS George N3VQW
Sun Nov 27	7:00 PM	Newcomers/Elmers Net, 146.67, Topic: Gaining Some Basic Electronics Skills —NCS Robert AK3Q
Wed Nov 30	9:00 PM	Tech Talk Net

(Continued from page 1)

Ed Frambes – K8EAF
George Gardei – N3VQW
Mike Niehaus – KD8ZLB
Jason Nivens – KD8YMD
Dick Arnett - WB4SUV
Dave DeMoss – KD8UTA

Kitty Hevener – W8TDA
Ryan Owens – AC8UJ
Robert Louie – KD8WLV
Jason Nivens Jr. – KD8ZYR
Robert Frey – WA6EZV
Gary Hammond – KD8VOQ

Our next club meeting will be on November 1, 2015 and you won't want to miss it! We will be announcing club members who are interested in running for the Board of Directors and Officers positions. I will be giving my recruiting presentation on "Winter Field Day" the other Field Day! It isn't as popular as Summer Field day but every bit as challenging come check it out!

There are so many fun and exciting activities to do in Amateur Radio. We are not a boring club we love doing activities and having our members and friends come join us in the fun! There are still so many things as a club that we want to introduce and accomplish in Amateur Radio with our club members. All we need is you! Come join us won't you?

73's and until next month!

Michael Sien – KD8SOH

October 2016 Meeting Minutes

President Michael Sein KD8SOH called the meeting to order at 7:30 PM, beginning with the Pledge of Allegiance and continuing by welcoming several guests: Loredana Monahan, who is studying for her license and hopes to secure her grandfather's old callsign; Ed Hillman N8ALN; Elizabeth Traut KI4VYO; and Shomir Wilson KG4LFD. Self-introductions followed.

Health & Welfare: Jerry Shipp W1SCR has had complications from his recent knee replacement surgery and is just back home from the hospital. Ted Morris NC8V noted that he is now cleared to drive after his knee replacement surgery.

Brag Session: Todd Brown KE8FBT recently passed the Tech exam. George Gardei N3VQW operated from Sycamore State Park for the Ohio State Parks On The Air event, making 48 contacts—but none with any other Ohio state parks! He had a lot of fun making QSOs all over the East Coast, however.

Business Meeting

Michael KD8SOH announced a change to our agenda, doing an abbreviated business meeting first to allow more time for our program and follow-ups.

Announcements: Robert Louie WD8WLV asked who might be going to the Cincinnati Maker Faire being held this coming weekend, October 8th & 9th, at the Hamilton County Fairgrounds. John Major KD8MMY announced that there is an opportunity to contact the International Space Station, scheduled for this Saturday October 8th. John has more information on the process for those interested. Mike Niehaus KD8ZLB noted that the Queen Bee half-marathon still needs 2-3 more operators. They would likely be done by Noon. Contact Steve Lewis N8TFD@fuse.net.

Library: Howard Alban KD8WOY announced the club has bought several new ARRL publications that are now available to lend. They include *Antenna Modeling for Beginners*, *Antenna Towers for Radio Amateurs*, *The ARRL Antenna Designer's Notebook*, *ARRL's Yagi Antenna Classics*, *Basic Antennas*, *The Care and Feeding of Transmission Lines*, and *Small Antennas for Small Spaces 2nd Ed.*

Minutes: Bruce Vanselow N8BV provided Secretary Ted Morris NC8V with a list of possible corrections to the August and September minutes as published in the *Q-Fiver*. The minutes were approved pending indicated corrections.

(Continued from page 4)

Treasury: Treasurer Brian DeYoung K4BRI presented the September report, which included a recap of the Hamfest income, expenses, and net gain for the club (\$1,057.23).

Education: Chair Mike Niehaus KD8ZLB announced the Fall Technician and General Class license courses will begin on Monday, October 10th, and run for a total of 5 Mondays through November 14th but skipping Halloween. Classes will meet 7:00-9:00 PM at the Red Cross Building, 2111 Dana Ave., 45207. A VE testing session is slated for Saturday, November 19th, in the lower level of St. Bernard City Hall, 110 Washington Ave., 45217.

Old Business

Sound System: Michael KD8SOH will be picking up a new microphone which should resolve our problems.

New Business

Club Material Assets: Treasurer Brian K4BRI, while noting that the club is in pretty good financial shape, also noted that some of the club's radios are in need of repair and even those which we use regularly are older and no longer of "contest quality." The Board has proposed to sell off old equipment and buy some contest-quality rigs to be usable for Board-sanction events—primarily, Field Day, secondarily contests such as ARRL Sweepstakes, thirdly other contest-type events. The Board proposes we purchase three Yaesu FT-DX1200s, including one with appropriate CW options, and a Yaesu FT-450, suitable for use at our Field Day GOTA station and at other events. Brian will hold a class before each operating event where these rigs are to be used, to make sure everyone is familiar with the controls and operation. Brian moved we approve the purchase of contest-quality equipment, with a limit of \$6,000 in total inclusive of carrying cases and accessories. *Approved*

Nominating Committee: Michael KD8SOH called for volunteers for this year's Nominating Committee. Fred Schneider K9OHE has volunteered, and we need two more tonight. They will divide up our membership list and call a third of the members to develop a slate of nominees. Michael discussed the level of effort needed to make those contacts. Ryan Owens AC8UJ and Shawn Grubb KE8BBC volunteered to serve along with Fred.

The Nominating Committee's slate is to be presented at the November meeting, at which time nominations from the floor will be entertained and the nominations finalized. Voting is at our December meeting with installation of officers and directors at the January meeting.

QSL Manager: Michael also asked for a volunteer to serve as QSL Manager for our club station K8SCH. Bob Frey WA6EZV volunteered.

Cincinnati Preparedness Expo: This Saturday and Sunday we will mount VHF and HF stations as part of our participation in the Expo. Michael KD8SOH and 8-9 other folks have agreed to help out across the two days. Bob WA6EZV, possibly with Dick Arnett WB4SUV, may also offer a foxhunting demonstration. Setup will begin at 8AM on Saturday, and we have two booth spaces near a door (to run feedlines outdoors). Michael will have badges, vendor passes, etc., arranged and available at the door for our volunteers.

Fox Hunt: Brian K4BRI noted that, due to the many events we're involved in this coming weekend, the monthly Fox Hunt has been moved to Saturday October 15th. Otherwise details remain the same as usual: gathering and set-up at Mt. Storm Park at 9:30 AM, departure promptly at 10:00 AM. Folks wanting to observe or participate should contact Brian in advance if they want to ride-along or especially if they need to borrow equipment for their own entry.

Brunch Bunch: Bruce Vanselow announced that this month's venue is Price Hill Chili at 4920 Glenway Ave., 45238.

Split the Pot: We collected \$112 yielding \$56 for [KG4DSV].

Door Prize: Howard Hunt NG8P donated a Timber Rattler hunting knife, which was won by Harry Davis WA8LOJ.

Other Giveaways: Some stationery items from Staples secured by Walt Knauber NA8R were still available at the registration table.

(Continued on page 6)

(Continued from page 5)

Final Announcements: Pat Maley, KD8PAT, announced that the next Queen City Emergency Net meeting will be October 20th at the Red Cross building, and the next ARES/Hamilton County Public Health Amateur Radio Group meeting will be October 18th.

The Business portion of the meeting then adjourned at 8:04 PM for a short break before beginning our program, “Radio Programming Using CHIRP,” by Ryan Williamson W1RYN.

Program

Ryan Williamson W1RYN introduced CHIRP to the group. CHIRP is a program that uses a spreadsheet-like layout to store and edit frequency data, etc., for loading into scanner and other radios’ memory channels. Notably it can ease the core of managing is amateur radio repeater information. The program environment website is <http://chirp.danplanet.com>, where more detailed and complete information can be found. Both fully-tested and beta versions are available for free download. CHIRP has been written to include many, but not all, manufacturers’ models of radio and scanner, and one should check the website to determine if they have covered a particular unit yet.

Other avenues exist for obtaining management and download support for radio memory channels, such as RT System, which includes 276 radio models in its environment, but is a commercially sold product; and individual manufacturers’ original software, which may not be as easy to use as CHIRP. CHIRP is available across Mac, Windows, and Linux platforms, and can be downloaded or a CD containing the program environment can be ordered. The computer intended to run CHIRP must have the Python application libraries installed, particularly Python PyGTK bindings. Unfortunately, CHIRP’s interface does not offer support for blind or visually impaired users.

Ryan likes CHIRP because it’s free, it has the functionality he wants, and it is straight-forward to use.

One needs a manufacturer-specific interface cable between the computer and radio, and unfortunately there are a lot of improperly cloned chipsets available in the marketplace. For some other problems folks have encountered using CHIRP, it has helped to give CHIRP its commands first, and then plug in the interface cable—FIRST to the USB port on the computer, and SECOND to the radio. On the computer CHIRP may recognize the USB port as being COM5, COM12, or other designations depending on the computer’s configuration—virtual COM port designations are okay.

The recommended work flow is to download the current memory location information on the radio to the computer, and observe how CHIRP distributes these data across its specific data fields. Save this file separately as a base configuration for the radio before any changes are made. Then copy the file and work from that copy to do edits, etc. That set of data can then be uploaded back to the radio. CHIRP has several hooks to net-based resources of frequency information, such as RFinder, ARRL Repeater Directory, and several others including one from the UK.

Ryan showed an example set of data he used for the Flying Pig Marathon communications and noted what fields he had set parameters for or left empty. As one walks through the available fields, CHIRP gives a dropdown menu of values one can use that are already pre-programmed. For example, for PL tone, it will only offer selections from the standard list. This makes it easier to avoid mistakes.

Later versions have a “cloning” feature that makes it easier for programming radios that can use the same data files.

Ryan recommended that, while CHIRP is very useful, one should still learn how to program one’s radio from the keypad, awkward as that may be.

The meeting **adjourned** at 8:41 and moved into a hand-on session for folks to get Ryan’s help downloading data to their own radios. The group thanked Ryan for his presentation and help.

Hamfest

The 2016 OHKYIN Hamfest Is In The Books!

It has come and gone, Hamfest 2016 was a great success. We had great attendance, and an awesome number and quality of vendors & flea marketers. As a bonus, the pre-dawn rain cleared and the weather gods shined on us! This year's attendance has continued to grow, we sold 303 tickets for the event, it gets better every year. I especially want to say thank you to club members who purchased their tickets via our mailing even though they were not able to attend. This kind of commitment, from our members, is what makes our club the best in the region.

I also want to thank the staff from the ARRL, Scott, N8SY, Tom W8WTD & Kitty, WD8TDA, for attending our event and sponsoring the ARRL forum. Their support is a huge factor in our success. Always remember, without the ARRL we would not have amateur radio as we know it today.

No set of thank you's would be complete without me personally thanking everyone who served on the Hamfest committee. I won't name them individually for fear of leaving someone out. Without this group of volunteers we simply would not be holding this event. These men & ladies certainly have the heart of a servant and their help was invaluable!

With all that said, let the planning begin for 2017. We hope to see you there.

KB8MYC



JOIN US

SATURDAY, DECEMBER 3, 2016
7:30 P.M.

MAYERSON JCC OF CINCINNATI
8485 RIDGE ROAD
CINCINNATI, OHIO 45236
FREE PARKING

TICKETS AVAILABLE AT
WWW.CINCINNATISOUND.ORG

Since the merger of **Seven Hills Chorus** and **Queen City Chorus**, Cincinnati Sound Chorus has delighted audiences with timeless songs like "Cincinnati's My Town," "Love Letters," and now more modern tunes like "Sway" and "Happy." Join us for a journey through time as we celebrate 10 years of musical highlights!

The Cincinnati Sound Chorus is comprised of 50 singers from ages 16 to 80 who come from a wide range of backgrounds and musical experience — all connected by a love of singing barbershop harmony.

The group is led by Master Director Lynn Hartmuth and is the proud 2016 Fifth Place Medalist in Harmony Heartland Region 4.

CINCINNATI SOUND CHORUS PRESENTS

"This Is Your Life"
AN ANNIVERSARY CELEBRATION



HARMONY HEARTLAND REGION 4
LEXINGTON, KY 2016

Foxhunting and ARDF

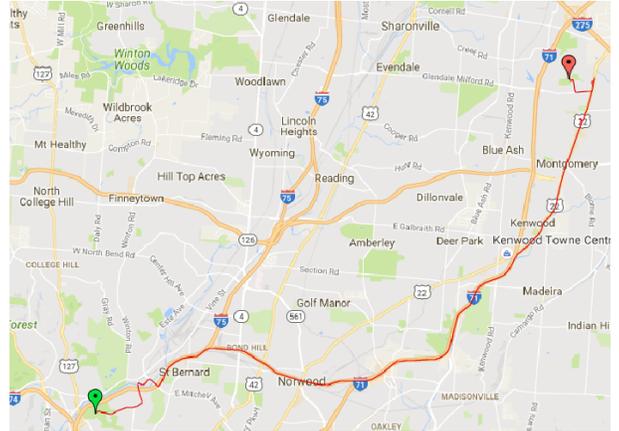
The October foxhunt had, once again, 4 teams competing—Team McFly, Bob, Dick, and myself. I knew I was in trouble right away because I was working on high tech gadgets the night before, and that always makes me lose.

First bearings were kind of weak, but I got 80 degrees so we headed out. To throw the other hunters off, I strategically decided to sit on my microphone, and Marji and I discussed embarrassing things as we headed down the hill. We took the Norwood lateral over to 71 north, and thought we had pretty good bearings and were heading in the right direction. About Reading Road I ripped off all of my tech stuff and decided to concentrate on hunting.

We got off on Montgomery Road and headed north, past the Reagan and still north. The signal would fade and come back up, but I knew that was Phil playing with the output power, as the bearings did not change.

About the hospital area just before 275, it swung directly west, so we backtracked to Pfeiffer and then Deerfield, and found a small park where, lo and behold, there was Phil! There was also two other teams that beat us, so so much for the gadgets. I may learn some day—maybe.

73—Brian, K4BRI



Before

After



DMR Hotspot

Well, I came home and have been experimenting with the DVMEGA, ON THE BLUE DV MICRO plus, and think this is perhaps the simplistic of the methods to set up a DMR "hotspot"

To do this you need the following:

DVMEGA firmware 2.27 or greater with antenna.

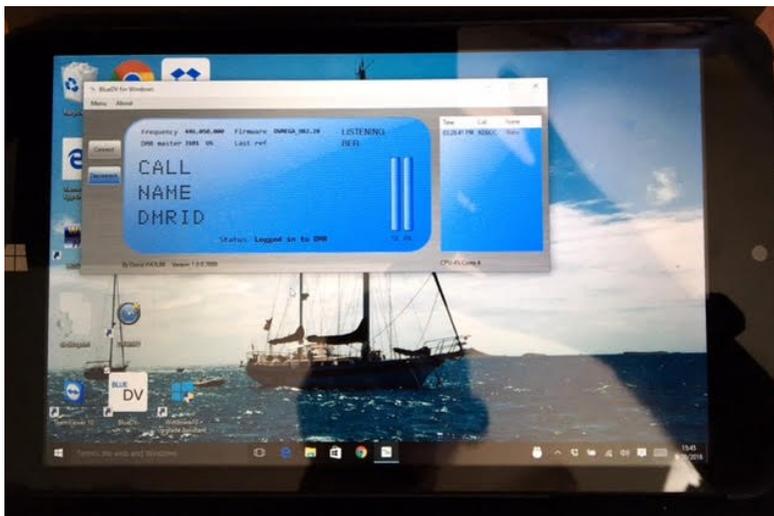
Blue DV. Micro Plus

Micro USB Cable

Blue DV SOFTWARE

Windows computer with internet connection.

I have this running fine on my WinBook 8"



The top photo is the DVMEGA with antenna mounted on the Blue.DV Micro board in the clear case. The CAMERA can be purchased most cheaply at GigaParts, you will need an antenna, if you continue one you will need to buy one as well. The Blue DV Micro I bought with the clear case from Grapevine Amateur Radio in Texas. (Below are the links to both boards)

The software is Blue DV4, FREE downloaded from <http://www.pa7lim.nl/bluedv-windows/>

Easy to set up.

Plug via USB the Blue.DV - DVMEGA Stack into Windows machine. Fire up Blue DV software. Setup is entering callsign, CCS7 I'D, radio frequency you are using, selecting US DMR server, And com port for the USB connection. Hit the connection button. Once connected to.DMR NETWORK, Program your radio and key up the talkgroup you want connected, and you are on the air!

http://www.grapevineamateurradio.com/store/?model_number=BlueDV_micro_plus

<http://www.gigaparts.com/Product-Lines/Add-On-Boards-and-Modules-Shields/DV-MEGA-for-Raspberry-Pi.html>

Jack, AB4WS

Brunch Bunch

The next Brunch Bunch will be held **Saturday, November 12th, at 1pm.** The location for November is **Skyline Chili in St. Bernard.** The Skyline Chili St. Bernard location is at **4901 Vine Street** just a very short distance from the OH-KY-IN club meeting location. **Feeling Good, It's Skyline Time!**

For a look at the menu or for a map to the restaurant go to:

www.skylinechili.com

Remember that the Brunch Bunch always meets the second Saturday of every month at 1pm at a location to be announced each month. If you can't join us this month, maybe you'll be available to join us in the months ahead.

I'm always looking for suggestions on what restaurant you think might be a good place for the Brunch Bunch to visit soon.

73,Bruce, N8BV



The Elmers Corner: A Little Planning Goes a Long Way (Part 2) By Robert Gulley AK3Q



In this edition of The Elmers Corner I want to continue talking about how to prepare for and listen to the radio, regardless of the mode. I mentioned last time how I believe listening to the radio should be an event—not an occurrence. Successful listening takes planning, preparation, and intent. So how does one go about turning an evening with the radio into an event? This time around we will look at *preparation* and *intent*.

Preparation

Preparation is closely tied into planning of course, but it does involve getting equipment together, choosing listening conditions, and assembling whatever additional items might be needed to fit the listening needs of the evening. (I am using “evening” as a generic term for any listening time available—one of my favorite times to listen is in the morning before the day gets going and I can enjoy the relative silence, my coffee, and the radio!)

As noted above, different listening opportunities will require more or less associated equipment, but of course the most basic item is the radio. If using a portable radio, the location will greatly influence reception, but this will have been taken into consideration during the planning stage. Similarly, the choice of antenna will be influenced by what one intends to receive, as well as what type of listening will be employed. There are times when I want the freedom of a portable with a built-in antenna, and so this may limit some of my other choices in terms of listening opportunities.

When I am using a tabletop radio with outdoor antennas, I am usually doing more serious listening, and this may require additional hardware such as recording devices, antenna tuners, computer hook-ups or similar preparation. I do have a dedicated shack for much of my radio work which allows me to have a good deal of my equipment ready to go, but I still find there can be a bit of preparation involved if I am doing something out of the ordinary, or when I am combining several activities. I even have two computers in my shack so that when needed I can keep one focused on the radio side of things while the other allows for easy logging, Internet connectivity, and similar uses.

As an example, I often want to verify a shortwave or AM broadcast station with an Internet stream or with a search for the station based on the frequency and suspected location. If I am using my one computer for radio control or SDR applications, having a second computer handy keeps me from having to switch software back and forth, as well as allowing for recording or demodulating of signals. It is a great use for an older, less capable computer.

I personally find it hard to listen attentively if the area where I am working is piled up with junk (I am by no means neat or exceptionally efficient—no one would ever accuse me of being left-brained!). A bit of preparation can at least put needed items in arm’s reach, and this can make the whole listening experience much better.

I usually keep at least a scratch pad nearby to jot information down, even if I am using my computer for logging. I find it useful for making notes, jotting down frequencies or details about a station that I might want to know in the future, or any such scribbles.

If I expect to record transmissions I get my Sangean digital audio recorder out and clear an area away in front of the appropriate speaker or radio to get the clearest recording possible. I also keep headphones nearby as needed for pulling out weak or inter-modulated signals and to help with clarity. I find headphones often allow me to reduce RF gain while still allowing me to hear the intended signal, which can often reduce the effects of static and other noise issues.

Preparation also makes for memorable evenings at the radio when one is able to discover new things. There are many sources of radio information, from blogs to clubs to websites, and a lot of useful infor-

(Continued on page 12)

(Continued from page 11)

mation can flow in on an almost daily basis. A spreadsheet or database program can be most useful, or even just good old-fashioned pen and paper.

I receive a daily digest from several Yahoo groups with logs shared by HF utility and military enthusiasts. We do not always have to build a better mousetrap, or even build one at all, as there are many folks involved in the hobby who happily share their information. I will confess to being quite pleased when I can add something to the collective, however, especially when some of the seasoned veterans say something like “good catch!” That just makes my day!

I would recommend making several spreadsheets based on general groupings such as shortwave, utility, aeronautical, etc. as a means of keeping the lists manageable. If they are all maintained in one list, over time that list will become confusing, or at the very least, unwieldy.

Once the type of listening is decided upon and the equipment, these lists can give direction for exploration. Conversely, the lists can be the determining factor for an evening’s radio pursuits; either way, the preparation in maintaining these lists will pay handsome dividends when we can actually sit down at the radio.

Intent

Listening becomes an event when planning and preparation combine with *intent*. Intent, or in the more modern vernacular, *intentionality*, means there is a purpose, a goal to be achieved, for which planning and preparation are a means to an end. We are, in some respects, like an archaeologist on a dig—we go where there are likely to be artifacts found, but we also know we might have to sift through a lot of dirt in the process. Not every evening at the radio is going to be a success, but when we listen and operate with intent, the odds are much more in our favor.

Having a clear picture of what we want to achieve makes it far more likely to happen. When the goals are simple they may come rather easily, provided the planning and preparation were sufficient. A night listening to my favorite programs on various shortwave broadcasts may be as simple as choosing the right radio, the right antenna, and possessing a current schedule of operation for the stations I want to hear.

On the other hand, if my intention for the evening is to bag some elusive DX stations on the amateur bands, my planning and preparation will be more involved, and I will guard against distractions. I will also allow for the unexpected surprise or serendipitous event which could take me down an entirely different path. I also suggest having a backup plan in case the original goals cannot be met. There will always be unexpected interference, poor band conditions, or any number of other things which can get in the way of hearing the intended target.

The best planning in the world cannot anticipate a solar flare or a storm which causes static crashes right on the bands I wanted to explore. Having another option or two at the ready means I can still go with the flow when circumstances require flexibility, and with all my radio interests, there are always signals worth chasing!

By managing my expectations, I can avoid the frustration of twirling the dial only to say “there’s nothing on the radio tonight!” There is **always** something on the radio—we just have to look in the right places. When the amateur bands are slow, I know there are always utility stations I can chase, broadcast AM/FM DX stations, or shortwave broadcasts which can power through almost any propagation conditions. Happy hunting!!

73, Robert AK3Q

The Music of Radio: Lev Theremin and the Vibrations of the Ether II

By Justin Patrick Moore, KE8COY

Lev Theremin's skill at invention was not lost on the Soviet machine. Not long after his musical instrument was patented, the radio watchman security device it was based on started being employed to guard the treasures of gold and silver Lenin had plundered from church and clergy. The watchman was also being used to protect the state bank. Setting up and installing these early electronic traps took him away from his primary interest in scientific research. Just as he was approaching the limits of his frustration his mentor at the Institute gave him a new problem to solve, that of "distance vision" or the transmission and reception of moving images over the airwaves. The embryonic idea for television was in the air at the time but no one had figured out how to make it a reality. The race was on and the Soviets wanted to be first to crack the puzzle.

Having researched the issue extensively in the published literature, Lev was ready to apply the powers of his mind towards a solution. In the Soviet Union parts weren't always readily available. Some were smuggled in, and others had to be scavenged from flea markets -the latter a process very familiar to radio junkies. By 1925 he had created a prototype from his junk box using a rotating disk with mirrors that directed light onto a photo cell. The received image had a resolution of sixteen lines, and it was possible to make out the shape of an object or person but not the identifiable details. Other inventors in Russia and abroad were also tackling the issue. Fine tuning the instrument over the next year he doubled the resolution to 32 lines and then, using interlaced scanning, to 64. Having created a rudimentary "Mechanism of Electric Distance Vision" he demonstrated the device and defended his thesis before students and faculty from the physics department at the Polytechnic Institute. Theremin had built the first functional television in Russia.

After this period Lev embarked to Europe and then America where he lived for just over a decade engaging the public, generating interest in his musical instrument, and doing work with RCA. As Hitler gathered power he was anxious about the encroaching war and returned home to the Soviet Union in 1938. He barely had time to settle back in when he was sent to the Kolmya gold mines for enforced labor for the better part of a year. This was done as a way of breaking him, a fear tactic that could be held over his head if he didn't cooperate: do what we say or go back to the mines. The state had better uses for him. He was picked up by the police overlord Lavrenti Beria who sent him to work in a secret laboratory that was part of the Gulag camp system. One of his first jobs was to build a radio beacon whose signals would help track down missing submarines, aircraft and smuggled cargo.

With WWII winding to a close the Cold War was dawning and Russia was on the offensive, trying to extend its reach and gather intelligence on such lighthearted subjects as the building of atomic bombs. In their efforts at organized espionage the Soviets sifted for all the data they could get from foreign consulates. Having succeeded with his beacon Lev was given another assignment. This time the goal wasn't to track down cargo or vehicles but to intercept U.S. secrets from inside Spaso House, the residence of the U.S. Ambassador. Failure to do the bidding of his boss would mean a return to the mines. His boss had high demands for the specifications of the bug Lev was to plant. The proposed system could have no microphones and no wires and was to be encased in something that didn't draw attention to itself.

The bug ended up being put inside a wooden carving of the Great Seal of the United States and was delivered by a delegation of Soviet Pioneers (their version of Boy Scouts) on July 4, 1945. Deep inside this "gesture of friendship" was a miniature metal cylinder with a nine inch antenna tail. The device was passive and was not detected by the X-Rays used at Spaso house in their routine scans. It only activated when a microwave beam of 330 Mhz was directed at the seal from a nearby building. There was a metal plate inside the cylinder that when hit with the beam resonated as a tuned circuit. Below the beak of the eagle the wood was thin enough to act as a diaphragm and the vibrations from it caused fluctuations in the capacitance between the plate and the diaphragm creating a microphone. The modulations this produced were picked up by the antenna and then transmitted out to the receiver at a Soviet listening post. Using this judiciously the Soviets

(Continued on page 14)

(Continued from page 13)

were able to gain intelligence to aid them in a number of strategic decisions. The Great Seal bug is considered to be a grandfather to RFID technology.

This wasn't the last time Lev was asked to develop wireless eavesdropping technology. For the next job his overseers upped the ante on him. No device could be planted in the site targeted for surveillance. The operation was code named *Snowstorm*. Lev used his interest in optics to figure out a method. Knowing that window panes in a room vibrate slightly when people talked he needed a method to detect and read the vibrations from a distance. Resonating glass contains many simultaneous harmonics and it would be a difficult to find the place of least distortion to get a voice signal from. Then there was the obstacle of reinterpreting the signal back into a speech pattern. Using an infrared beam focused on the optimum spot and catching its reflection back in an interferometer with a photo element he was able to pick up communications. Back at his monitoring post he used his equipment and skills to reduce the large amounts of noise from the signal.

A few years later Lev was released from his duties at the lab, but was kept on a tight leash and not allowed to leave Moscow.

HOW TO BUILD A THEREMIN FROM THREE AM RADIOS

For those amateurs wishing to build and play a theremin there are many commercial kits available on the market. However a simple theremin can be built using just three AM radios. If you don't already have these laying around the house they can easily be obtained from your local thrift store.

One of the radios will be a fixed transmitter, another a variable transmitter and the third would be the receiver. The volume knobs on the fixed and variable transmitters can be turned all the way down, as they are just used to produce the intermediate frequency oscillations that will be picked up by the receiver. The receiver radio should be set on an unused frequency in the upper range of the AM band such as 1500 KHz. If it is in use tune to a nearby space where only static is heard. The fixed and variable transmitters should then be tuned 455 KHz below where your receiver is set, in this example 1045 KHz. 455 KHz is a common difference in the local oscillator frequency, although there can be variations. As these frequencies are set the receiver should start to make a whistling type sound, the production of a beat frequency.

The next step is to open up the variable radio and look for the variable capacitor, often housed in white plastic with four screws. Find the terminal that takes the station out of tune and use an alligator clip attached to the antenna, or solder a wire from the antenna to the oscillator terminal. Now the controls will have to be adjusted slightly again. Tune the fixed transmitter until the receiver starts whistling and have fun playing with the sounds it creates.

Sources:

Theremin: *Ether Music and Espionage* by Albert Glinsky, University of Illinois Press, 2000

https://en.wikipedia.org/wiki/Leon_Theremin

How to Make a Basic Theremin by eltunene:

<https://app.box.com/s/>

[kdstzwaoc/1/17284427/181802859/1](https://app.box.com/s/kdstzwaoc/1/17284427/181802859/1)



October 2016 DX Spots de KA3MTT

Sun	Mon	Tue	Wed	Thu	Fri	Sat
FM - Martinique Thru 11-4 	5W - Samoa thru 11-9 	1 PJ4L - Bonaire Thru 11-11	2 T88AB - Palau thru 11-8	3 8P - Barbados Thru 11-9 	4 J6 - St Lucia thru 11-12 ----- XU7MDC- Cambodia thru 11-14	5
6 V63AJ - Micronesia Thru 11-16 ----- 6V1IS - Senegal Thru 11-16	7 5H3MB - Tanzania Thru 12-2 	8	9	10 TL8AO - Central African Rep thru 11-22 	11 PJ6M - Saba & St Eustatius thru 11-18	12
13	14	15 T88QR - Palau Thru 11-17 ----- J5 - Guinea Bissau Thru 11-30	16 XU7AEZ -Cambodia Thru 12-5 	17 KH2 - Guam thru 11-20 	18 TO2EE - St. Barthelemy thru 11-25	19
20 8Q7SP - Maldives Thru 12-3 ----- 9Q0HQ/3- Congo Thru 12-25	21 PJ2 - Curacao thru 11-29 ----- ZD8V-Ascension I Thru 12-1	22 HR2 - Honduras Thru 11-30 	23	24 ZL7 - Chatham Is Thru 12-1 ----- CE0Y - Easter I Thru 12-2	25 V63DX - Micronesia thru 11-30 	26
27	28	29	30 J3 - Grenada thru 12-8 			

OH-KY-IN Amateur Radio Society

Regular monthly meetings are held the first Tuesday of each month at 7:30PM local time at the St Bernard Recreation Hall, 120 Washington Avenue (corner Washington & Tower Aves) in St Bernard, just east of Vine St. Please come in the doors at street level, facing the high school. Visitors are ALWAYS welcome!

The next meeting of the Oh-Ky-In Amateur Radio Society will be Tuesday, November 1st at 7:30 PM

Silent Auction

At the August and September meetings, your Board of Directors discussed what to do with older high frequency radios and accessories owned by the club. Some of the equipment still works but is not up to date in performance capabilities. Other equipment may not be in good or working condition. The decision was made that we should dispose of most of it, keeping one working rig, power supply, microphone, and perhaps other accessories, but the rest should be sold. It was decided that during the December club meeting, our usual Christmas meeting, we will have a silent auction of the remaining equipment. All the equipment will be tested, and its condition will be disclosed for each piece or "set." A minimum starting price will be set, and all attendees may peruse the equipment on sale. Each attendee may bid on the equipment, and others may bid by raising the purchase price. At the end of the meeting the winning bids will be announced and arrangements for payment will be made. Additional information will be provided prior to the December meeting.

Fred Schneider, K9OHE, Equipment Manager and Board Member

OH-KY-IN Amateur Radio Society

Q-FIVER Editor
Brian DeYoung, K4BRI
6901 Backus Drive
Alexandria, KY 41001

Phone: (859) 635-3095
Web: www.ohkyin.org
E-mail: k4bri@arrl.net

PLEASE
PLACE
STAMP
HERE

