

Q-FIVER

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

Newcomers and Elmers Meet and Greet



Robert, AK3Q, organized a very nice meet and greet for the hams who have participated in his very successful Sunday night net for newcomers and for elmers. This net is on Sunday evenings from 6:30—8:00 PM and everyone is welcome to join. There is an interesting topic as well as time for anyone to bring a question or a nice tidbit of information.



2017 Board of Directors

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

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

OH-KY-IN Repeaters

146.670 (-) Clifton

146.625 *(-) Withamsville

146.925 *(-) Colerain

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

** Fusion Repeater*

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

2017 Committee Chairs and Appointments

Newcomers/Elmers Net..... Robert Gulley AK3Q
 Technical CommitteeBrian DeYoung, K4BRI
 ARPSC Representative.....Jerry Shipp W1SCR
 Volunteer ExaminersBrian DeYoung K4BRI
 QCEN Representative Pat Maley KD8PAT
 Membership Nathan Ciufu KA3MTT
 Fundraising Bruce Vanselow N8BV
 Education Michael Niehaus KD8ZLB
 Repeater Control Ops Mgr Bruce Vanselow N8BV
 PIOTed Morris NC8V
 LibrarianHoward 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 MgrFred Schneider K9OHE
 WebMaster Ryan Williamson W1RYN
 Silent KeyBruce Vanselow N8BV
 Tech Talk Net MgrBruce Vanselow N8BV
 K8SCH QSL Mgr Bob Frey WA6EZY
 TV/RFI Dick Arnett WB4SUV
 HamFest Gary Coffey KB8MYC

The Dayton Hamvention (OK—yes it is actually in Xenia but we will still call it the Dayton Hamvention) Is May 19, 20 and 21st. Many Oh-Ky-In members will be listening on the output of the 67 repeater (146.670 Simplex, PL 123.0)

May Calendar

Tue May 2	7:30 PM	Club Meeting in St Bernard
Wed May 3	9:00 PM	Tech Talk, NCS Robert AK3Q
Sun May 7	6:30 PM	Newcomers/Elmers Net, 146.67, Topic: Dayton Hamvention —NCS Robert AK3Q
Wed May 10	9:00 PM	Tech Talk, NCS Brian K4BRI
Sat May 13	10:00 AM 1:00 PM	Monthly Mobile Foxhunt—start at Mt. Storm park in Clifton—setup 9:30—talk in 146.670 Brunch Bunch at Price Hill Chili, 4920 Glenway Avenue
Sun May 14	6:30 PM	Newcomers/Elmers Net, 146.67, Topic: HF Antennas in an Apartment —NCS Robert AK3Q
Wed May 17	9:00 PM	Tech Talk, NCS Dale, KC8HQS
Sun May 21	6:30 PM	Newcomers/Elmers Net, 146.67, Topic: Amateur Radio Astronomy —NCS Robert AK3Q
Tue May 23	7:00 PM	Board of Directors meeting at My Neighbor’s place –3150 Harrison Ave.
Wed May 24	9:00 PM	Tech Talk, NCS George N3VQW
Sat May 27	10:00 AM	Monthly ARDF Style Foxhunt—starts at 10:00 AM—location will be announced
Sun May 28	6:30 PM	Newcomers/Elmers Net, 146.67, Topic: Traffic Nets: Who, What, and Why —NCS Robert AK3Q
Wed May 31	9:00 PM	Tech Talk, NCS George N3VQW

April 4th 2017 Meeting minutes

President Michael Sien, KD8SOH, called the meeting to order at 7:31 PM, with the Pledge of Allegiance.

There were no guests. 39 attendees gave self-introductions. There were no Health and Welfare announcements.

Brag Session – Bob, WA6EZV, announced that there were already close to 50 registered for the ARDF Championship to be held in the Cincinnati area in late July and Early August. 100+ are now expected.

Ryan, W1RYN introduced the program. Fred, K9OHE led off describing construction of a 2 meter vertical antenna using an SO259 socket and electrical wire. The antenna can also be built for 222 MHz or 440 MHz. Bob, WV6EZV followed with an HF dipole that can also be built for 6 or 2 meters; a 40 – 10 meter Off Center Fed dipole, and a 2 meter tape measure antenna often used for direction finding. Jack, KE8FBT concluded the program with several original verticals he built to be used in apartment or condo windows- a 222 meter vertical dipole, a 440 full wave vertical dipole, and a cantenna.

The break began at 8:15 PM; the meeting resumed at 8:26 PM.

There was an invitation to use the club's Library.

The Minutes of the February Club Meeting were presented for approval. It was moved and seconded to approve them as printed in the Q-Fiver. The motion passed. The Minutes of the March Club Meeting were presented for approval. It was moved and seconded to approve them as printed in the Q-Fiver. The motion passed.

The March Treasurer's Report was presented. It was filed for audit.

There were no Silent Keys.

Brunch Bunch will be this week Saturday.

Technical Committee: Brian, K4BRI, reported that the 146.925 repeater is off the air. A storm knocked the 146.625 repeater was hit by lightning. The Yaesu repeater was damaged and will be repaired by Yaesu. The old Yaesu repeater will be used for the duration.. There will be no Technical Committee meeting this month.

Education: Mike, KD8MLZ, told us that there are 14 to 16 students taking the Technician Class class, 5 studying for General Class and 1 left in the Extra Class class. The test is Saturday April 22 at 9 AM. Gary, KB8MYC will be the head VE. VE's are needed.

Fox Hunt – Phil hid in Blue Ash off Reagan Highway. Brian, K4BRI, reported that he was not the winner. The next Fox Hunt will be April 15. Be at Mt. Storm Park by 9:30 AM for a 10 AM start. There will be a tape measure antenna building session; a free will offering will be available.

The national ARDF Championships will be held at the end of July and beginning of August. Many hams and others are needed to staff the various events. A practice event for volunteers will be held in early July..

Bob, WA6EZV, reported that an 80 meter fox hunting receiver may be made available for purchase and assembly.

There was no web site report other than a few comments and a request for the Repeater Usage Policy in its final form.

The Digital Group meets monthly on the fourth Tuesday of the month at 7 PM in the Basement of Centennial Hall in St. Bernard.

NVIS Day is Saturday April 22 behind the High School in St Bernard. Walk to the shelter behind the swimming pool.

Ohio Parks on the Air will be September 9, perhaps at East Fork Lake Park.

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QCEN usually meets on the third Friday of the month at Red Cross Headquarters. In May it will meet on May 12 because of the Hamvention in Xenia.

Bryon, KC8EGV, reported on ARES activities. There is possible severe weather tomorrow. On Reds' Opening Day the Rock will be staffed. There are antennas and radios installed at the 4 Cincinnati FD District Stations. There will be ICF training of Tuesday the 18th at the Rock. A mass casualty training is scheduled for May 2. The Flying Pig is in May. The Tensing trial is scheduled to begin May 25. Taste of Cincinnati is scheduled.

There was no Old or New Business.

Programs – May is CFF Bike Ride; June is Field Day; and July is the Annual Club Picnic.

Split the Pot - \$120 in tickets were sold. \$60 was won by KC8CEI.

The meeting adjourned at 8:54 PM.

Respectfully submitted, Fred Schneider K9OHE Secretary

March 28th 2017 Board Meeting Minutes

All expected members being present, the meeting was called to order at 6:53 PM.

The Minutes of the February, 2017, Board meeting were not available. President Michael, KD8SOH, will type them up.

Membership – An email has been sent to last year's members who have not yet paid their dues.

Technical Committee: The Technical Committee met at the 146.670 site on the second Tuesday of this month. A careful review of what was there was made. No date for climbing the tower has been set; WLWT has work to be done. 146.625 – a power surge or direct lightning hit damaged the Yaesu repeater at this site. It will go back for repair again. An old Vertex repeater will be used their temporarily. 146.925 was discussed briefly.

Hamfest – The site is under contract, food arranged and ARRL Sanction received. Work continues.

Web-site – The new Repeater use policy is needed and will be posted.

Programs – April - Members will be invited to talk about antenna projects they have built. May – CFF Bike Ride presentation. June - Field Day and training class. July - Annual Summer Picnic.

Old Business – The new Repeater Use Policy will be send for posting on the web site.

New Business - K-2 Towers, our landlord, is giving up their site as of the end of April. This is the location adjacent to Rumpke' dump and the location of our 146.925 repeater. The landlord has given them until the end of May to get the tower down and removed, also remove the building. Work is underway that will likely lead to permission to have a repeater at St. Elizabeth South Hospital.

The club will provide lunch for NVIS Day, April 22, behind the High School in St. Bernard.

The ARDF Championships at the end of July and Beginning of August were discussed.

Reminder post cards will be sent to last year's members who have not renewed membership.

The meeting adjourned at 8:05 PM.

Respectfully submitted, Fred Schneider K9OHE, Secretary

Brunch Bunch

The Brunch Bunch is going back out west!

The next Brunch Bunch will be held Saturday, May 13th, at 1pm. The location for May is Price Hill Chili in, of course, Price Hill.

Price Hill Chili is located at 4920 Glenway Avenue near the intersections of Glenway Avenue, Cleves Warsaw Pike and Guerley Road.

"Price Hill Chili is a traditional stopping place for generations of families on the West side of Cincinnati. Our restaurant is also well known to, and frequented by, people from all over the Greater Cincinnati, Northern Kentucky, and South-east Indiana area.

We've been serving quality food, along with friendly and efficient service, since we first opened our doors in 1962. Stop in and find out what keeps our regular customer's coming back time after time."

The Brunch Bunch has visited Price Hill Chili many times previously and we always get a great turn out when we visit there.

For a look at the Price Hill Chili menu as well as a map and directions go to:

www.pricehillchili.com



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

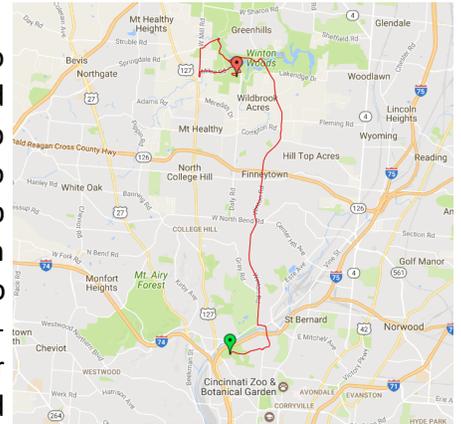
Remember that the Brunch Bunch always meets the second Saturday of every month at 1pm at a location to be announced each month. If you can't join us this month, maybe you'll be available to join us in the months ahead.



Foxhunting

The April Mobile Foxhunt had the 4 regular teams show up—We thought that maybe, just maybe some of the other hunters would appear, but nooooooo.

At the start, our first bearing was almost directly north, so we decided to not go on the highway and just head up Winton Rd. Signals changed strength some but the bearing remained pretty constant. Continuing up Winton Rd we got near to Winton Woods and the signal started to swing to the west. Marji wanted to go towards Parky’s Farm but I said go further up into the park. We went to the west in the park and took a few bearings on the main road and determined that it was on the south side of the lake—so we went through the park, went around and back into the park on the other side. We headed to where the signals were pointing, and as we got near Parky’s Farm we saw Phil’s truck in the back of the parking lot. We headed along the road to the LEGAL access to the parking lot, and then Dick appears, goes the wrong way on a clearly marked One Way street, and beats us to Phil by about 30 seconds.



Bob, and then Bill, then found Phil. It was a fine day for foxhunting.

We also held a workshop to build 2m tape measure beams in April—It was a great time and 11 antennas got built—so get out there and hunt!



<i>Team Name</i>	<i>1st</i>	<i>2nd</i>	<i>3rd</i>
Brian, K4BRI and Marji, KJ4ZKC	1	2	
Dick, WB4SUV and Janie, KJ4VCW	2	1	
Bob, WA6EZV			2
Bill, KA8TWB			

The Elmer's Corner : Radio Monitoring Part 1

Robert AK3Q



Radio counterintelligence during WWII is a topic of great interest to me, not only for the historical relevance, but also for the modern-day relevance. While it might almost seem unbelievable, shortwave (and likely amateur radio) are still being used to pass secret communications, particularly with the proliferation of digital modes available to the average user. This also means monitoring capabilities are greater than ever, and they begin to rival what governments have had for a long time. The ability to record wide swaths of frequencies for later analysis is a major move forward, and I can only imagine what those early radio counterintelligence operators would have been able to accomplish with the same abilities!

August 2017 marks the 72nd year since the close of WWII, and I thought it might be useful to look back to some of these operations as a reminder of the power of radio, and as a reminder of its potential use today.

During the 70th anniversary of D-Day several years ago, some stories surfaced of long-held secrets from WWII's battle for information. As a member of the Radio Society of Great Britain (RSGB) I get their monthly journal (excellent, by the way!) and I regularly peruse their bookstore for interesting entries. In addition to the usual radio-related offerings, there are often articles and publications focused on the clandestine aspects of the war effort, particularly about communications.

Likewise, I occasionally listen to 1940s U.K. Radio which features both war music of the era and special programming from that time, as well as radio announcements and news broadcasts from the war. These are actual news and public service announcement recordings which were played over the air. They are all interesting in one way or another, but one in particular has stayed with me regarding the enlistment of help from teenagers to monitor shortwave radio broadcasts for Axis communications. The age requirement was 12 years old and up. Hearing the public service announcement as it was broadcast back then was a real thrill!

While broadcast radio certainly played a major role in the war effort, the shortwave monitoring and counterintelligence maneuvers were vital to the success of the war effort. Shortwave radio also played a key role in finding out about casualty lists, as civilian shortwave monitors notified families of captured U.S. military personnel concerning their status as prisoners of war during World War II. (There is an interesting book devoted to those letters compiled by Lisa Spahr entitled *Radio Heroes: Letters of Compassion*.)



Centers of Operation There were numerous centers of operation for communication gathering during WWII around the world, but three stand out in particular, one in England and two in the United States, in part because of the mys-

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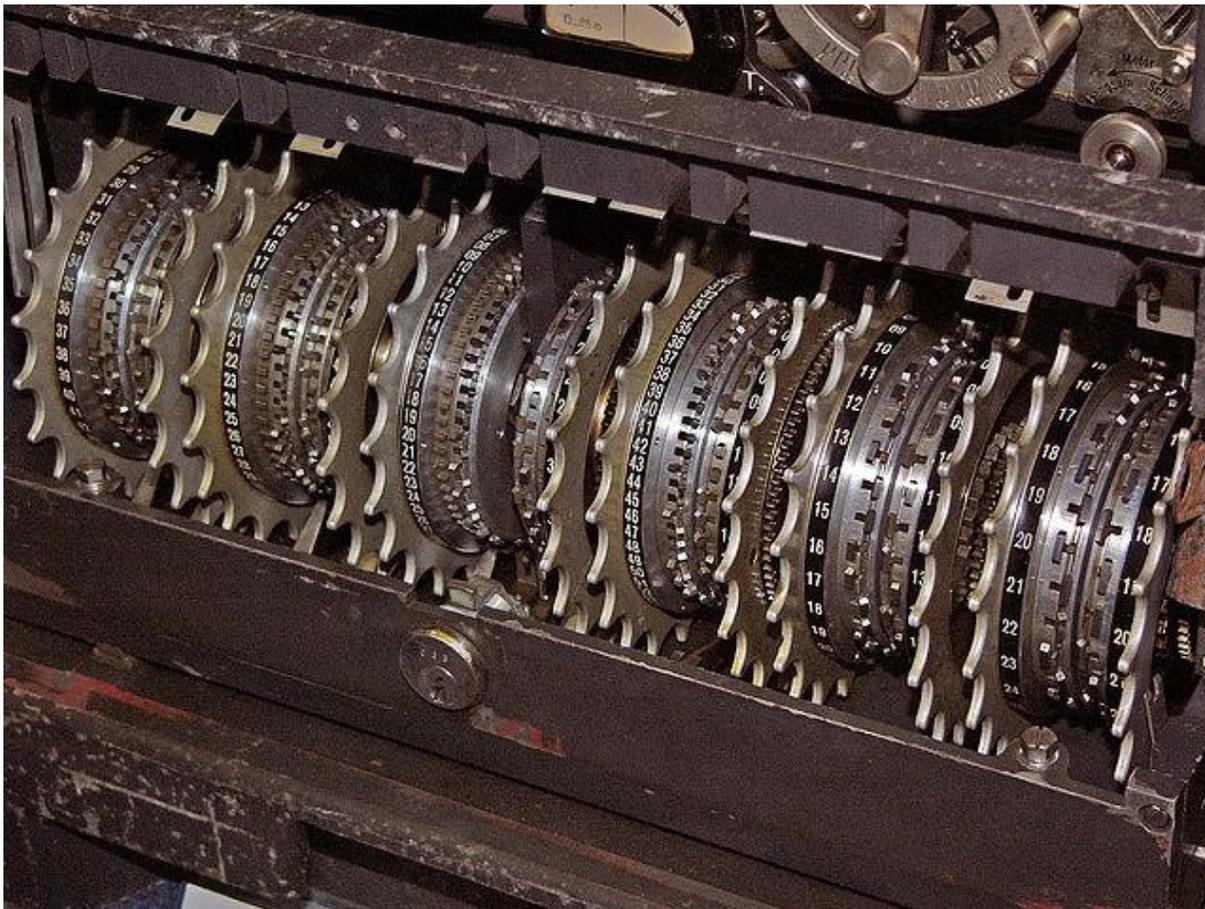
tery surrounding them. Bletchley Park is the most famous in Buckinghamshire, England, established in 1938 as a code-breaking center and training facility. While the code-breaking was done at Bletchley Park, listening stations were set up in other locations so as not to draw attention to the building, particularly regarding air attacks.

While most famously known for breaking the *Enigma* code, an even more significant achievement was the breaking of the teletype code known as the *Lorenz Cipher*. The Lorenz cipher was broken without ever having captured one of the teletype machines used to produce the code (see image below). The cipher was broken due to German operator error.

The code was designed so the machine would operate based on a codebook of 100 possible cylinder settings, after which a new codebook would be used. The sequences were never to be repeated to ensure they were one-time ciphers, the hardest of all to break. As it turned out early on in August of 1941, a message of some 4,000 characters was sent which was received incorrectly because of an improper machine setting. The receiving station requested a resend (the request being sent in the clear, no less!), which allowed cryptologists to have two versions of the text using the same machine settings, but with slight alterations such as abbreviations, which made the second text shorter.

With the two transmissions to compare, known to cryptanalysts as a *depth*, the cryptanalyst Brigadier John Tiltman sorted out the two plaintexts allowing him to figure out the keystream (HQIBPEXZMUG). Even with the keystream it was not until three months later that another cryptologist (Bill Tutte) analyzing the text identified a 41-character pattern which allowed the whole machine to be reverse-engineered.

Decryption machines were then built which aided in copying messages, with varying success rates, but a lot of human intervention was still required.



An original Lorenz machine located at the Bletchley Park museum

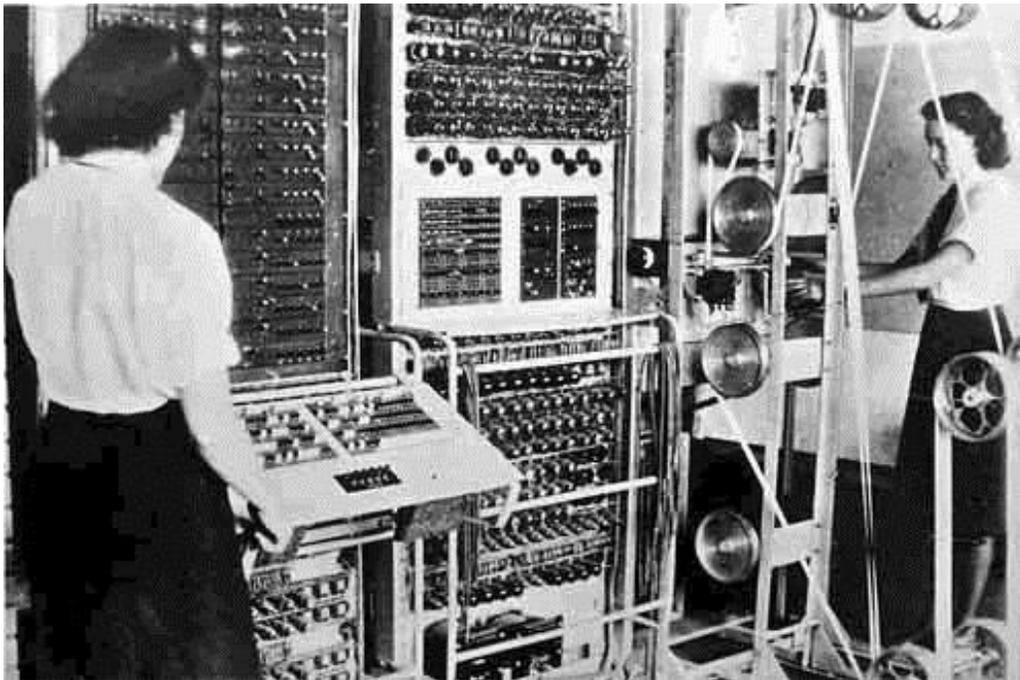
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Toward the end of the war a machine known as the *Colossus* was built which was much more robust, and a true fore-runner to more modern computers.

The machine was programmed through plugboards and jumper cables, and generated the cipher keys electronically. This meant it took less time to set the decryption machines up compared to the earlier Lorenz replicas. The machine used an optical reader which read at 5000 characters per second, meaning the tape travelled at almost 30 miles per hour! By the final stages of the war there were ten of these machines in operation, but most were dismantled at the end of the war on orders of Winston Churchill.

Ultra

The Lorenz cipher and Enigma, as well as other such high-level decryption work were classified as *Ultra*. Ultra was the designation adopted by British military intelligence in June 1941 for wartime signals intelligence obtained by breaking high-level encrypted enemy radio and teleprinter communications at the Government Code and Cypher School (GC&CS) at Bletchley Park. This was used to provide a higher level of intelligence importance than the *Most Secret* level, which had been considered the highest. This designation was also adopted by Western Allies for their highest-level intelligence.



A Colossus Machine (courtesy of the U. K. Archives)

The decryptions which came from both the Lorenz and the Enigma codes were always classified Ultra, and like the breaking of the Lorenz cipher, operator error was responsible for much of the success in cracking the Enigma code. Much of the credit for breaking the Enigma code goes to the Polish Cipher Bureau which first broke the code in 1932. By the outbreak of WWII, the Enigma machines were made far more complex, but because of the earlier work of the Polish group the Allies were able to ramp up their decryption abilities to keep pace. The Poles provided reconstructed Enigma machines and decryption techniques to the British and French in 1939.

The German Army, Navy, Air Force, Nazi party, Gestapo and German diplomats used several variants of the Enigma machines. During the earliest stages of the war the Germans used landlines for much of the planning and coordination, but later moved more and more to radio communications. Interestingly enough it was the German Air Force whose somewhat sloppy transmission practices allowed the earliest and best opportunities to break the Enigma code.

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After the war, it was found out through interviewing German cryptologists/operators that they believed the Enigma machines were just too complicated to break for the Allies to spend much effort trying to decrypt the messages. Fortunately, they were wrong.

The information gleaned from the intercepts were distributed in various ways after being cleared through Bletchley Park. The communications element of each SLU (Special Liaison Unit) was called a "Special Communications Unit" or SCU. These were highly mobile, often in cars, and capable of getting Ultra information out quickly. Radio transmissions were encoded using one-time cipher pads. A commander in the field receiving Ultra intelligence was fed a cover story crediting a non-Ultra source, including at times fake scouting missions which were intentionally visible to the enemy. They were sent to "discover" German positions already known from Ultra intelligence gathering.

In some cases, the intelligence was so sensitive it was impossible to act on it at all because to do so might reveal to the enemy their communications had been penetrated. Information did not just come from listening and communication centers connected with Bletchley Park, however, as there were numerous "Voluntary Interceptor" posts throughout the country, some 1500 radio listeners. They were listening for any useful transmissions, particularly Enigma transmissions. This small "army" of listening recruits provided valuable information as well as redundancy confirmation of transmissions, as more than one operator was likely to hear any given transmission. The *Express and Star* publication ran a very interesting story on one of these Voluntary Interceptor stations which may be found here:

<http://www.expressandstar.com/editors-picks/2014/09/19/researchers-discover-wolverhampton-mans-secret-past/>

Next time around I will explore some of America's contributions to radio monitoring during the war.

73, Robert AK3Q

The Music of Radio: A Rambling Weather Report—From the Future

By Justin Patrick Moore, KE8COY

This ramble is a bit of a breather as I continue my investigations into the myriad relationships between telecommunications and the field of music. A lot of that work has me combing the stacks in both the science and music sections of the library. And I keep unearthing more and more material to feed into that project. Piecing the next part together will keep me off the streets a little longer and direct my mind to focus on the things that are good. It's awesome have found a home for those pieces here in the Q-Fiver.

Considering the state of education these days it's no wonder there is a big push to get students interested in the STEM subjects. Yet in my mind the arts and humanities are of equal value. Science and art can be thought of as two distinct waveforms. When they meet they collapse together to create an interference pattern that has profound effects on the varieties of human culture.

One of those interference patterns is the literature of science-fiction. I don't think I'd be too far off the mark if I guessed that it is a genre beloved by many hams. What ham wouldn't like to have an ansible? This is a device and word first coined by Ursula K. Leguin in her 1966 novel *Rocannon's World*. It is a piece of tech capable of superluminal or instantaneous faster-than-light communication, that can send and receive messages over any distance or obstacle without delay, without any worries about propagation, QRM or QRN. Le Guin went on to use the ansible to great effect in a number of her other novels. Her colleagues in the SF community also picked up on it. Orson Scott Card mentions it in *Ender's Game*, and Kim Stanley Robinson puts one in his book *2312*. Until a real ansible gets invented I guess we're just going to have to deal with being at the bottom of solar cycle 24.

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The cool thing about SF is that the science in the fiction can be about anything. It doesn't just have to be explosions in space, as entertaining as those can be. Samuel R. Delany has shown that it can be about linguistics and semiotics. Or it can be about economics as evidenced in Charlie Stross' *Merchant Princes* series. Or it can be about climatology and the weather. A good SF writer can deliver a weather report from the future, and that's what I'm concerned with now in the last half of April as storm season picks up speed here in the Midwest. I just had weather spotter training back at the end of February, so weather has been on the brain. As that information condenses in my system various rain clouds and cold fronts are moving through my mind. Hopefully they won't wreak too much havoc in there, as that place is already filled with lots of debris from the storms of years past.

This week I was able to listen to sessions streamed live from the National Hurricane Conference Amateur Radio workshop. Eventually the videos will get archived, so watch the spaces at voipwx.net and nsradio.org for those to pop up, hopefully in the near future. It was fascinating to hear about the hurricane watch net that has been a staple of public service in the ham bands since 1965, meeting on 14.325 USB and 7.268 LSB. VoIP, and how it is used by hams, is something I've been curious about for awhile and it is another tool amateurs are using to save lives, and that they talked about at the conference.

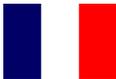
It was cool to listen to the talk when I did because I was close to finishing Kim Stanley Robinson's latest novel, *New York 2140*. Besides featuring a dazzling array of characters and some neat speculations about materials science, the book also features a whopper of a hurricane, a spinning beast that Robinson gives the name Fyodor. New York City gets pummeled, and not for the first time. Large sections of the city, such as Queens and the Bronx are mostly underwater due to a 50 foot rise in sea level. Manhattan has been transformed into what the author calls a Super-Venice as canals take the place of streets in that vast metropolis. The story itself concerns the lives of a group tenants in a large retrofitted building, one the superintendent, another a street smart cop, two "water rat" orphans, a lawyer, a hedge fund trader, an internet cloud star and others. All set against the back drop of a city transformed by the freaky weather patterns that are becoming the norm today. For those of you who have metal detectors in your garages, the story also has a cool sunken treasure element as the orphans and their mentor seek the gold rumored to be lost amidst the remains of the *HMS Hussar*. And during the hurricane when "the cloud" goes down the citizens of NYC in 2140 still rely on radio when all else fails.

While hurricanes may not be a huge threat to Cincinnati other destructive storms are. Tornadoes in particular. An SF novel I would recommend in this vein is *Heavy Weather* by the great cyberpunk Bruce Sterling. First published in 1994 it concerns a group of storm chasers, a motley bunch of atmospheric scientists and weather hackers who use the latest tech to document and research the weather. Alex Unger is a man with a number of recalcitrant medical problems. He reluctantly joins the chasers after his sister Janey abducts him from an illegal Mexican clinic. The group is led by the scientist Jerry Mulcahey who also happens to be his sisters lover. Which makes him all the more irritating to Alex, now also going through withdraw from a number of medications. He copes with this by throwing himself into working with the group as they tour the southwest, in preparation for meeting and documenting an F-6 tornado. The Fujita scale for tornado measurement only goes up to F-5, so an F-6 is only theoretical. But what happens when the jet stream spikes down from out of the stratosphere to add to the emergent power of destructive weather? Read the book to find out.

While we know the accuracy of a weather forecaster is never completely 100% correct, I'm routinely amazed by the accuracy of information from the NWS and NOAA. So it is with the accuracy of an SF writer. When Arthur C. Clarke made his proposal for geostationary satellites in an article for *Wireless World* in 1945 he was ridiculed. By 1965 it was a reality when IntelSat was launched. Now it is taken for granted. As hams our communities rely on us to provide communication services when natural disaster strikes. Robinson and Sterling speculate on the science of our time to give us a weather forecast of the future weather and good stories to boot.

Well, I guess that wraps up this rambling weather report from the future. Thanks for tuning in.

May 2017 DX Spots de KA3MTT

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	<p>1 VK9L – Lord Howe I Thru 5-8</p> <hr/> <p>3W9DQ - Vietnam thru 5-10</p> <hr/> <p>FS - St Martin thru 5-15</p>	<p>2 S79J - Seychelles thru 5-10</p> 	<p>3</p>	<p>4 Z68BG - Kosovo thru 5-23</p> 	<p>5 MJ - Jersey thru 5-11</p> <hr/> <p>PY0NY - Fernando de Noronha thru 5-15</p>	<p>6 OJ0W - Market Reef Thru 5-7</p>
7	8	<p>9 DU9 - Philippines thru 5-16</p> <hr/> <p>D44TWO - Cape Verde Is Thru 6-2</p>	<p>10 8R1 - Guyana thru 6-8</p> 	<p>11 E51LYC - N. Cook Is Thru 5-23</p>	<p>12 T88MZ - Palau thru 5-19</p> 	<p>13 HR9 - Honduras thru 5-27</p> 
14	<p>15 9H3Q - Malta thru 5-27</p> <hr/> <p>HC8 - Galapagos thru 5-29</p> <hr/> <p>JD1 - Minami Torishima Thru 7-15</p>	<p>16 E44WE - Palestine thru 5-30</p> 	17	<p>18 ED9T - Ceuta & Mellila Thru 5-21</p>	<p>19 PJ7 - St Maarten thru 5-23</p> <hr/> <p>E31AA - Eritrea thru 5-29</p>	<p>20 LX44FF - Luxembourg Thru 5-21</p> 
21	<p>22 FG - Guadeloupe thru 6-7</p> 	23	<p>24 PJ6 - Saba & St Eustatius Thru 5-30</p>	25	26	27
28	<p>29 MEMORIAL DAY</p> 	30	31			

The next meeting of the Oh-Ky-In Amateur Radio Society will be Tuesday, May 2nd at 7:30 PM

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!

OH-KY-IN Amateur Radio Society

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