Q-FIVER

OH-KY-IN

K8SCH

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

At its January 24, 2017 meeitng, the Board of Directors approved this policy. Please be prepared to ratify that action during the February 7, 2017 Club Members Meeting to give it the full weight of the members.

ALL OH-KY-IN K8SCH repeaters are recorded 24 hours each day.

The OH-KY-IN/K8SCH Acceptable Repeater Use Policy

The OH-KY-IN Amateur Radio Society, the owner of the K8SCH repeaters, accepts and follows the values contained in The Radio Amateur's Code, originally written by Paul M. Segal, W9EEA, in 2016, as modified as it appears on the ARRL website:

"The Radio Amateur is
"CONSIDERATE...He/[She] never knowingly operates is such a way as to lessen the pleasure of others.
"LOYAL...He/[She] offers loyalty, encouragement and support to other amateurs, local clubs, the IARU Radio Society in his/[her] country, through which Amateur Radio in his/[her] country is represented nationally and internationally.
"PROGRESSIVE...He/[She] keeps his/[her] station up to date. It is well-built and efficient. His/[Her] operating practice is above reproach.
"FRIENDLY...He/[She] operates slowly and patiently when requested; offers friendly advice and counsel to beginners; kind assistance, cooperation and consideration for the interests of others. These are the marks of the amateur spirit.
"BALANCED...Radio is a hobby, never interfering with duties owed to family, job, school or community.
"PATRIOTIC...His/[Her] station and skills are always ready for service to country and community."

The Society expects that all users of its repeaters will follow the tenets of this Code.

All Amateur Radio Operators are governed by the Regulations/Rules set forth in the Code of Federal Regulations, Part 97, that were enacted by the Federal Communications Commission to apply to Amateur Radio Operators. Included in these Regulations are Sections that impose duties on Amateur Radio repeater

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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

SPECIAL SERVICE CLUB

Oh-Ky-In Life Members

John Phelps N8JTP

Kenneth E Wolf N8WYC

John W Hughes AI4DA

Karl W Kaucher KJ4KWR

Howard Hunt NG8P

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 ....Bob Frey WA6EZV

TV/RFI ....Dick Arnett WB4SUV

There was no foxhunt in January mainly due to weather. There will be a foxhunt in February on Saturday, Feb 11th starting from Mt Storm Park. Also, stay tuned for ARDF practice events to be announced soon!

February Calendar

Wed Feb 1	9:00 PM	Tech Talk, NCS Robert AK3Q
Sun Feb 5	6:30 PM	Newcomers/Elmers Net, 146.67, Topic: **Working with Weak Signal Digital Modes** —NCS Robert AK3Q
Tue Feb 7	7:30 PM	Club Meeting in St Bernard - ARDF and the USA/IARU Region 2 Championships
Wed Feb 8	9:00 PM	Tech Talk, NCS Brian K4BRI
Sat Feb 11	10:00 AM	Monthly Mobile Foxhunt—start at Mt. Storm park in Clifton—setup 9:30—talk in 146.670
	1:00 PM	Brunch Bunch at **Chili Time, located at 4727 Vine Street, 45217**
Sun Feb 12	6:30 PM	Newcomers/Elmers Net, 146.67, Topic: **More Electronics Skills** —NCS Robert AK3Q
Tue Feb 14	7:00 PM	Technical Committee meeting at My Neighbors Place
Wed Feb15	9:00 PM	Tech Talk, NCS Dale, KC8HQS
Sun Feb 19	6:30 PM	Newcomers/Elmers Net, 146.67, Topic: **Trying Out the Satellites** —NCS Robert AK3Q
Wed Feb 22	9:00 PM	Tech Talk, NCS George N3VQW
Sun Feb 26	6:30 PM	Newcomers/Elmers Net, 146.67, Topic: **Weather Spotting** —NCS Robert AK3Q
Tue Feb 28	7:00 PM	Board of Directors meeting

owners and operators. It is the responsibility of every Amateur Licensee to know and understand the Regulations, found in Part 97 of the Federal Code of Regulations.

FCC Regulation 97.101(a) provides: "In all respects not specifically covered by FCC Rules each amateur station must be operated in accordance with good engineering and good amateur practice. Section 97.103 (a) provides "The station licensee is responsible for the proper operation in accordance with the FCC Rules." The ARRL booklet FCC Rules and Regulation for the Amateur Radio, 2014 edition, explains this Rule :"These simple sentences underscore the responsibility of each operator to use good judgement and common sense when pursuing their interests. It means each licensee must continue to learn how stations interact properly, cooperate with fellow amateurs and treat each operator on the air with respect."   In addition, the ARRL book provides, at page 14, [A] repeater owner or trustee may set more stringent standards for the use of their repeater[s] ...than required by the FCC."

Repeater users should always remember that other members of the general public can monitor repeaters for any reason. If those people would be offended by the users language or conduct on a repeater, that language or conduct is objectionable.

The OH-KY-IN Amateur Radio Society expects the users of its repeaters to operate as if the repeaters are G rated. Anything, topic, language, etc., that would be offensive to a G audience is not welcome on any K8SCH repeater and will lead to enforcement of the policies contained in this document.

The FCC Rules also requires that each repeater owner has the responsibility to require that each repeater it owns is properly used. This is accomplished by the actions of the OH-KY-IN's Trustee (acting as a control operator) and control operators. FCC Rule 97.105 provides: "The control operator must insure the immediate operation of the station, regardless of the type of control."

The Regulations allow the owner/operator of an amateur radio repeater to ban certain amateur radio users from use of their repeaters when those amateur radio users conduct violates what the owner/operator finds objectionable. Ruled Section 97.205(e) states, in part: "Limiting the use of a repeater to only certain users is permissible." There is no FCC Regulation that requires a repeater owner/operator to allow users that it does not want to use a repeater. Thus, if the owner/operator of an amateur radio repeater determines that a user of that repeater uses objectionable conduct, the owner/operator has every right to revoke the privilege of such user to use the repeater. In practice, an offending user can be banned from using a whole repeater system.

Acceptable Use Policy

The OH-KY-IN Amateur Radio Society, acting through its designated Trustee and/or its Board of Directors, will have the final say on any repeater systems operation and/or user access, as allowed by the FCC. This Policy may be reviewed periodically and revised. Users are responsible for reading, understanding, and adhering to this Policy. Conduct on the repeaters will be governed by this Acceptable Use Policy. Questions may be sent to the Society's President at president@ohkyin.org.

Amateur Radio Operators are required to be "self-policing". Each user is expected to do this in two ways – by ensuring that their own conduct of operations is above reproach, and also exhorting and challenging other operators to use their best practice on the air.

1. All K8SCH repeaters are "G" rated at all times. Language that is not suitable for all listeners is not acceptable on the K8SCH repeaters.

2. Do not violate any provision of FCC Part 97. **Period.** If it becomes apparent that a user is willfully ignorant of, and/or disregarding any FCC regulation(s), that user may be asked by the Trustee or a control operator to immediately cease transmissions and to review FCC requirements before returning on-air with the K8SCH repeaters. Alternately, the repeater in use at the time of violation may be shut down with or without warning.

3. Each user must identify him/herself as required in the FCC Regulations. See FCC Rule 97.119(a).

4. Emergency use, Service Nets, and Special Events sanctioned or authorized by OHKYIN hold absolute priority over routine use of Systems resources. Do not use the word "break" to enter an ongoing QSO unless you need help with an emergency situation. Repeater users must immediately allow emergencies to be handled properly and to a conclusion and shall not interfere with any emergency communication. Use of the word Break, Breaker or similar words are to be used ONLY in emergency situations.

5. DO NOT REBROADCAST OR OTHERWISE ANNOUNCE LAW ENFORCEMENT OR PUBLIC SAFETY ACTIVITY!! Placing these personnel or their work at risk **will not be tolerated.** This offense is likely to cause immediate banning of the offender from the K8SCH repeaters. There shall be no rebroadcasting of any radio, television, or other medium at any time without the written consent of the Board of Directors obtained prior to such use of any K8SCH repeater.

6. IGNORE JAMMERS and others who try to disrupt a repeater's normal operation. Without a reaction in an ongoing QSO, such interference tends to go away on its own. Comment about, speaking to, or otherwise recognize a jammer or other interferers with an ongoing QSO only serves to encourage the offending activity. The repeater may be shut down without warning if Jammers and other offenders are in any way recognized, commented about, etc. In such a case there will be no comment about why a repeater was shut down when the repeater is turned back on.

7. Do not monopolize the use of any K8SCH repeater. Allow a sufficient time between transmissions so that any amateur radio operator may interrupt an ongoing QSO, such as request the opportunity to contact another amateur radio operator to engage in a QSO on another frequency. By the same token, an amateur radio operator may not interrupt an ongoing QSO to change the topic, or for some other improper purpose. In such a case, that user should wait until the ongoing QSO is over or use a different frequency. Promptly acknowledge any station seeking to be recognized. Again, always yield to a user with an emergency need. Do not monopolize use of any repeater. Long winded QSO's belong on simplex or other ham bands.

8. There shall be no use of obscene, indecent or profane language, indecent profane or suggestive (sexual or otherwise) language. There shall be no critique or criticism of any person's body, mind or soul. Use of Citizen Band language is prohibited. Likewise, use of Jargon is prohibited. Use of slang is discouraged.

9. Refrain from discussing religion or politics. Criticizing or ridiculing (as opposed to discussing, clarifying, or edifying) anyone's religious and/or political beliefs will not be tolerated. Discussion of religion, religious beliefs and politics are all strongly discouraged.

10. Harassing or baiting/ridiculing of any ham operator is unacceptable.

11. Do not belittle, berate, defame or speak ill of others. This includes individuals, groups, nations, etc. Using words such as idiot, stupid, hate monger, etc. in reference to any person, entity or group will not be tolerated. Intimidation is prohibited, whether direct or implied.

12. You may collect information which may help locate a jammer. Report that information to the Club's Trustee.

13. Repeater users may not conduct any business on any repeater. This is a stricter rule than the FCC's Rule.

14. Repeater users shall not engage in, suggest, advise or recommend and criminal action or activity.

Repeater users may advertise their personally-owned ham radio equipment for sale, but shall not state any price or complete any transaction while using a repeater. All other business transactions of any kind are prohibited regardless of whether or not permitted by FCC Regulations.

ENFORCEMENT POLICY

The OHKYIN Amateur Radio Society, the repeater owner, and assigned Control Operators prefer *NOT* to intervene in any given conversation held on the System's repeaters. Users are expected to follow the Acceptable Use Policy. When-users exceed the boundaries described above, or exhibit behaviors deemed to be out of line with intent expressed in them, then access to K8SCH repeater resources is subject to evaluation, restriction, and enforcement

Except as set forth above, enforcement usually proceeds as follows [deviation for the process set forth here is authorized in especially objectionable situations]:

1. First warning: Except as set forth above, a verbal reminder, email, phone call, or private message will be given by control operator, the Trustee or other authorized person. Multiple violations may be subject to a Written Warning.

2. Written Warning – The offending amateur radio operator is given a formal written warning and offender is placed under routine observation by Control Operators. Ordinarily this will follow a verbal warning, but this is authorized in more serious offenses as the initial enforcement action.

3. Continued violation after Written Warning: The offending radio amateur will be formally banned from the repeater or repeater system in writing. Attempts to use the repeater for other than bona fide emergency use only after being banned will lead to a complaint filed with the FCC, and relevant civil law options may be exercised. The OH-KY-IN Amateur Radio Society retains the right to bypass all warnings to issue an immediate ban for gross violations of the Acceptable Use Policy.

4. In addition to or in place of warnings, a repeater may be turned off with or without warning for continued violations of the Acceptable Use Policy.

5. Recordings may be used to begin an FCC enforcement action, when requested by the FCC, and to respond to legal requests in any form. Repeater input frequencies may be recorded as an aid to enforcement of this policy and to support number 6 below.

6. The Club's Trustee or Board of Directors may call upon club members with special expertise, including radio direction finding and recording, and/or ARRL Official Observers to gather evidence to support complaints to be sent to the FCC seeking enforcement of violations of this policy, repeated violations of FCC Rules, or to support responding to FCC or Law Enforcement requests.

The January 3, 2017, meeting of the OH-KY-IN Amateur Radio Society was called to order by the President at 7:32 PM. The meeting began with the Pledge of Allegiance.

There were no Guests or Upgrades. 34 people gave self-introductions.

Health and Welfare: It was reported that Stan Cohen, W8QDQ, died.

Brag Session – Jerry, W1SCR reported that he was now walking without a cane.

The President swore in the 2017 Officers for 1 year terms, and 1 Director for a 3 year term. The Officers are:
    Michael Sien, KD8SOH, President;
    Ryan Williamson, W1RYN, Vice-President;
    Fred Schneider, K9OHE, Secretary; and
    Brian DeYoung, K4BRI, Treasurer.
    The new Director is Bruce Vaneslow, N8BV.

The President announced that the Business Meeting would take place first this evening, followed by the program.

Silent Key: See Health and Welfare, above, regarding W8QDQ.

The January Lunch Bunch will take place on Saturday January 14. Announcements have been emailed several times.

Technical Committee: Brian, K4BRI, reported for the Committee. The 146.670 repeater is not transmitting tones [fixed since]. The 146.925 repeater runs OK. The 146.625 repeater has a "crappy" antenna. The 440 repeater is on the air. All repeaters except the 146.670 are in Fusion Mode; they can do ordinary FM or digital. The Tech Committee will meet one week from tonight at 7 PM. Interested persons are invited.

Classes: The Extra Class License Class will begin Monday February 13 at the Hamilton County Communications Center, just west of the Sheriff's Offices on Hamilton County just south of I 275. All classes run 7 PM to 9 PM. Classes for the General and Technician Licenses will begin March 23. Tests for each License Class will be on Saturday April 22. There is an effort to have a class for instructors.

Fox Hunts: Brian, K4BRI reported on the last Fox Hunt. Dick, WB4SUV, won. The next hunt is this Saturday, Mt. Storm Park, 10 AM; arrive early.

The Tech Talk Net meets each Wednesday at 9 PM on the 146.670 repeater. Questions are welcome!

The Elmers Net willl meet at 6:30 PM beginning this Sunday. Checkins are taken periodically. Join the Net. Best Repeater Practices is the topic this Sunday.

Digital Group: The group will resume monthly meeting beginning Tuesday January 24 at 7 PM in the building next door. Jerry, W1SCR, also announced that he has arranged for our meetings for all but one month in the usual room, and a different room will be available to us for that month. The man who keeps this room clean is very happy with us – we leave it clean, chairs put up to tables, etc. Therefore the rent is rolled forward.

QCEN: Pat, KD8PAT reported that the next meeting will be Jan. 20 at 7:30 PM, Red Cross building.

ARES: Pat, KD8PAT reported that the next meeting will be the third Tuesday of January. A simplex ARES exercise will be held on January 14, 10 AM to 6 PM, on 6 meters and up. Additional information is in the Ohio ARRL Section Newsletter for the past several months.

Old Business: The President announced that 2016 Awards should have been presented at the December meeting. They were given out:
    Justin, KD8COY, Meritorious Service;
    Mike, KD8ZLB, Meritorious Service;
    Brian, K4BRI, Ham of the Year.
    In addition, an award for Meritorious Service was presented to Eric, N8YL, who was

not able to attend.

New Business: Nominating Committee: John, KD8MMY, Mike, KD8ZLB, and Fred, K9OHE, volunteered.

Ryan, W1RYN, will ask questions about why are we here, what programs to do waant to see, etc. as part of this evening's program.

Up-coming programs, as currently scheduled:
        Feb – ADRF
        Mar – ARRL night
        Apr – Building Antennas, possible workshop
        May – Cystic Fibrosis Ride
        Jun – Field day
        Jul1 – Summer Picnic
        Aug – Open
        Sep – Digital Group
        Oct – QSL Cards
        Nov – Winter Field Day
        Dec – Annual Holiday Party

The meeting recessed for 10 minutes at 8:17 PM. The meeting reconvened for the Program at 8:25 PM.

The first part of the program was a slide show of the new website, presented by George, N3VQW.   The new site uses Word Press, more of a blog that before.

The second part of the program was by Ryan, W1RYN. He asked" Why do you come to these meetings?" and "What do you want to happen in these meetings?" Responses were:
        "I want to find out what I can do with Amateur Radio and what would I like to do."
        "Find out about new technologies."
        "As I young man if found OH-KY-IN was the best club in the region, with informative
        meetings done professionally. Continue to do that."
        "Tell us how to get better. Keep topics interesting, especially topics core to amateur
        radio."
        "Tell us how to get better. Balance programs, old material and new developments.
         I want to be up to date. I like the new content in the Q-Fiver."
        "I was licensed last year at a free test. I was not made welcome there. I like the
        Elmer's Net, Website and Events."
        "Meetings are the hub, especially specialties. I come to find out what is going on.
        Find out about a variety of areas of ham radio." We need to be welcoming, even to
        repeaters.
        I pick up what is going on, talk with people, like what is going on
        George invites people to meetings on the repeaters.
        A place where there is no contact with cell phones.
        Got into ham radio, the Red Cross and have opened shelters, joined the Red Cross
        club [QCEN], then OHKYIN, became a teacher [of ham radio classes].
        Thankful that the club supports Elmer's Net, has worked with Gary; likes the variety of
        things, is member of RSGB and ARRL, some English groups [ham radio clubs] meet
        weekly with weekly presentations.
        Repeaters. Why are people not on the repeaters – if you aren't get on, use them and
        talk about using them properly.

President Michael talked briefly about Winter Field Day.

Split the Pot was won by NU8H, David Sharp. The pot held $130, he received $65.

At 9:05 PM it was moved and seconded that the meeting be adjourned. "Meeting is Adjourned"
was announced.

Respectfully submitted, Fred Schneider K9OHE, Secretary

December Board Meeting notes

Minutes of OH-KY-IN Amateur Radio Society Board of Directors
December 27, 2016

The Board of Directors of the OH-KY-IN A.R.S. met at My Neighbors Place, 3150 Harrison Avenue, Cincinnati, OH 45211 on December 27, 2016. All the 2017 members of the Board attended,

Notes of the November meeting appeared in the Q-Fiver.

At last report there were 144 members of the Club in 2016.

Brian, K4BRI, the treasurer, presented a Preliminary December Treasurer's Report.

Brian also presented the Technical Committee report. Earlier this day a group visited the site of the 146.670 repeater. A TDR instrument was used to try to find the cause of problems with the repeater's antenna. The TDR found things in very good shape to the top of the hardline running 783 feet from the repeater to the height of the antenna. The exact location of the problem is probably at the base of the antenna. It may be necessary to replace the antenna. Brian recommended that we do not use a fiberglass antenna with an antenna connector on its base, as the antenna is not braced and there are very high winds at the tower's 600 foot level, causing movement of the antenna. The jumper from the hardline to the antenna is replaced with every climb to the antenna. Unfortunately it has proved impossible to find a suitable, approved climber for over a year. We will try to coordinate with any WLW climber.

Other than this issue, this repeater is running well. The 146.925 repeater went off the air.   Gary, KB8MYC, found a loose power cord plug, likely caused by racoons that live there. Rewiring the electrical connection would cure the problem. The 146.625 repeater is running with an old Vertex repeater for the time being and has antenna problems; various antennas have been tried at various heights. More work is needed. The UHF repeater is on the air. Brian was thanked for his ongoing work on our technical needs.

The Board reviewed Club meeting programs for the year. Officers and a new Director will be installed early in the January meeting. The President will send a tax letter to a donee. 1 needed report to the Ohio Attorney General's office has been sent; 6 more are needed.

The Ohio Sales Tax office sent a letter notifying the Club that it's Vendor's License will be canceled. The Board decided to let the License lapse, as it appears that occasional sales will not trigger a Sales Tax.

The Board discussed problems with a few users of our repeaters. It was decided that a Repeater User Policy is needed. A comprehensive policy will be considered at the next Board Meeting.

Respectfully submitted,
Fred Schneider, K9OHE, Secretary elect

Special Board Meeting Notes

Special Meeting of the Board of Directors
OH-KY-IN Amateur Radio Society

On Tuesday, January 10, 2017, during the Technical Committee meeting, a Special Meeting of the Board of Directors was called by the Club President, Michael Sien. All Officers and Directors were present.

A motion was made and seconded to waive notice of the meeting. The motion passed.

A motion was made and seconded to increase the amount for purchasing a new battery for the 146.670 repeater for emergency power, from not more than $150.00 to not more than $200.00. The motion passed.

A motion was made and seconded to adjourn the special meeting. The motion passed.

Respectfully submitted, Fred Schneider, K9OHE, Secretary

Brunch Bunch

The next Brunch Bunch will be held Saturday, February 11th at 1pm. The location for February is Chili Time Restaurant in Saint Bernard. Chili Time is located at 4727 Vine Street, 45217, across from the corner of Vine Street and Tower Avenue. Chili Time is a very short distance from the location of the OH-KY-IN club meetings.

The Brunch Bunch is returning once again to Chili Time in February since this will be the 6th anniversary of the Brunch Bunch. "It's still hard to believe that the Brunch Bunch has gone so very strong and has been held without a miss on the second Saturday of every month for this long."

Chili Time is a "storied joint, known for its chili, hot dogs, breakfast all day & other casual fare since 1963".

For a look at the menu as well as a map and directions to the restaurant, please go to:

www.chilitime.net

By the way, Chili Time is aware that their website still has problems. In the meantime, just keep scrolling up or down.

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

Robert AK3Q   **02/17**

Last month I wrote on the topic "Learning Should Never End," something I believe wholeheart-edly. To show I practice what I preach, I am writing this month about my experiences with two very interesting weak signal digital modes, JT-65 and JT-9.

I know some of you have already used these modes, so you already experienced what I have been enjoying, but for the those who have not tried them I would highly encourage you do so, but fair warning! The Surgeon General (or somebody similar) has declared these modes very addictive and could cause long-term addictive behavior!

A Little Background

I had heard of these modes before, of course, but brief descriptions of them did not really seem very interesting. I have used WSPR off and on for some time, particularly to see where my signal was getting out to around the world. I find it fascinating to see all the places one tiny signal can go.

As I was talking one day to a friend of mine and fellow ham, Jim WB4TCX, he mentioned he much preferred using JT-65/JT-9 and PSKreporter.info to see what was happening, and where he might make contacts. After going to the site I realized it was similar to the WSPR map, but is showing other users with these 2-way communication modes.

He also told me about the number of countries he had worked on 30m (I believe at the time around 89), and almost all 50 states. Well, that got me a little intrigued, and so I downloaded the newest version of the WSJT-X program, version 1.70. After tweaking a few settings I was off to the races, as they say, and the ride has been quite fun!

How the Programs Work

The basic idea behind the programs is to slow things down, way down, so that signals can be received under difficult propagation conditions (sort of like the ones we are having right now in our solar cycle decline!). These programs were originally designed for Earth-Moon-Earth (EME) work, but have been adapted for terrestrial HF work. By slowing down the digital transfer times, each transmission can contain numerous repetitions of the data, along with error correcting technology. This means if even only a small portion of the signal is received due to interference or other issues, the signal can get through.

This is not a ragchew mode, nor is it one which offers much latitude in the message. Each transmission is limited to 13 characters, and a standardized format is used (but with some variation allowed). Think of these modes as similar to a contest – you pass along the critical information and move on. In fact, this is initially why I did not think I would be interested in this mode – I generally like to talk to people and find out about them, etc.

To my surprise, I have become quite addicted to these modes (see above warning!) and during these times of low propagation it is a another way to enjoy the hobby. Would I prefer voice contact? Of course! But I prefer this over no contact at all, and there are some side benefits which make these modes actually useful in testing equipment. A part of the information transmitted with each contact is a signal report, but not the ubiquitous "5-9" regardless of what you are actually transmitting or receiving! You send and receive a signal report in dB in relation to the actual signal-to-noise level measured by the software. In other words, it is a true signal report, accurate as far as possible based on the software, and thus a very good measure of actual transmit and receive capabilities.

This allows for testing of antennas, not only for propagation, but also for direct comparisons. Do you have a dipole for 20 meters and a vertical which also covers 20 meters? Now you can test the two and see how each antenna performs, not just based on who heard you, but at what strength you were heard. This is like having a field strength meter hundreds or thousands of miles away testing YOUR equipment! Can you imagine how much that would cost in time and equipment?! With these modes the service is free!

Since working these modes for about 2-1/2 weeks at the time of this writing, I have worked all 50 states between the two modes (awaiting confirmations for some, of course!). I have also worked: Antarctica (twice); Australia (twice); Bolivia (an all new one for me!); Guadeloupe; Columbia; N. Ireland; South Africa; Asiatic Russia (on 80m no less!); Hawaii (4x); Uruguay; Sint Maarten; Canary Islands; England; Germany; New Zealand; Cayman Islands; Guatemala; Azores; Alaska; Trinidad and Tobago; Canada; Mexico Argentina; Netherlands; Brazil and Puerto Rico. Whew! And that is without a contest going on and in rather poor propagation conditions. That's 1/4th of the way to Digital DXCC in a little over 2 weeks!

What a blast! And if I can do it with my small lot and less-than-stellar antennas, so can you! These modes are also perfect for those with indoor antennas as the power levels are low, usually around 10-20 watts, easily enough to work DX and stateside without causing interference to most neighbors, even in apartments.
I hope you will give the software a try. You can find it here at:
http://www.physics.princeton.edu/pulsar/K1JT/wsjtx.html

You will need some method of connecting to a computer soundcard (Windows/Linux/Mac) from the radio, and if possible, separate audio processing from the regular computer sounds. I have not tried the software on Linux yet or Mac, but if they are like Windows, system sounds will have to be turned off so as not to disrupt the signals without a separate soundcard. There are dozens of options for alternative soundcards for these operating systems, and a quick search of the Internet will yield lots of advice for what ones work well with the software. You will also need a utility which can synchronize your computer clock to within one second of the NIST standards – something for which free utilities are readily available.

I can't wait to try some of the other programs in the WSJT-X suite – each one sounds exciting!

73, AK3Q

Part 3: AUDREY (Automatic Digit Recognition)

By Justin Patrick Moore, KE8COY

This installment continues the exploration of the development of speech synthesis. So far I've investigated the invention of the Vocoder and how it was used in the SIGSALY program in WWII. In this episode I explore the other side of the speech synthesis coin, speech recognition. Without the ability for machines to recognize speech on the one hand and the ability to synthesize it on the other, the wunderkind of today's consumer electronics, Siri, Dragon and Alexa, would not be possible. With both in place humans can now speak, and sometimes yell with exasperation, to a wide range of interconnected devices; and our smart phones and Echo Dots will speak back to us. As developments in Artificial Intelligence take off the little computer in your pocket may soon speak up for itself and yell back.

In a way it could be said that speech recognition systems began in the 19th century when sound waves were first converted into electrical signals. By 1932 Harvey Fletcher was researching the science of speech perception at that temple of telecommunications, Bell Laboratories. His contributions in this area showed that the features of speech are spread over a wide frequency range. He also developed the articulation index to quantify the quality of a speech channel. Articulation indexes are used in measuring the effectiveness of hearing aids and in industrial settings. Harvey is also credited with the invention of an early electronic hearing aid, and is notable for overseeing the creation of the first stereophonic recordings and live stereo sound transmissions, for which he was dubbed the "father of stereophonic sound".

Interest in speech recognition didn't end with Fletcher. In 1952, over half a century before Siri or Alexa could respond to a voiced question of where to find the best noodle shop in town, or when the end of the world will be, AUDREY was on the scene. She derived her name from her special power: *Au*tomatic *D*igit *Re*cognition. She was a collection of circuits capable of perceiving numbers spoken into an ordinary telephone. Due to the technological limits of the time she could only recognize the spoken numbers of "0" through "9". When the digits were uttered into a mic on the handset AUDREY would respond by illuminating a corresponding bulb on the front panel of the device. It sounds simple, but this marvel was only achieved after overcoming steep technical hurtles.

S. Balashek, R. Biddulph, and K. H. Davis were the creators of AUDREY. One of the obstacles they faced was to craft a system capable of recognizing the same word when it is said with subtle variations and inflection. The spoken digit "7" for example, when said multiple times by even one person is subject to slight differences. Duration, intonation, quality, volume and timing all change the sound of the word with each individual utterance. To recognize speech amidst all these variables AUDREY focused on the sound parts within the words that have the most minimal variation. In this way the machine did not need to have an exactly spoken match. Roberto Pieraccini put it this way, saying there is less variety "across different repetitions of the same sounds and words than across different repetitions of different sounds and words."

The exact matches came from the part of speech known as formants. A formant is a harmonic of a note that is augmented by the resonance of the vocal tract when speaking or singing. The information that humans require to distinguish speech sounds can be represented in a spectrogram by peaks in the amplitude/frequency spectrum. AUDREY could locate the formant in the spectrum of each utterance and use that to make a match.

AUDREY also required that there be pauses between words. She couldn't isolate or separate individual words when said in a string. In addition designated talkers had to be assigned, talkers who could produce the

specific formants, otherwise she might not recognize a digit. For each speaker the reference patterns of the formants drawn electronically and stored within her memory had to be fine tuned. Yet despite all the limitations around her use, the researchers proved that building a machine capable of recognizing human speech wasn't a pipe dream.

AUDREY was expensive because she was state of the art and all analog. The six-foot high relay rack she kept occupied with all her vacuum-tube circuitry required a lot of upkeep. And she drew a lot of power that really hiked up the electric bill. The invention never really went anywhere in terms of being used as a tool in Ma Bell's vast monopoly. It could have been used by toll operators or wealthy customers of the telephone for voice dialing, but manual dialing remained simple, fast, and cheap.

Creating a system that had uniform recognition of words as uttered by multiple people was a dream that had to be fulfilled by other researchers down the line. They built on the sweat equity and foundation of those who went before. The fact that a machine can be made to decipher strange human vocalizations at all is sheer wonder. While others may be fond of Siri, Dragon and Alexa it is AUDREY who will always remain in my heart.
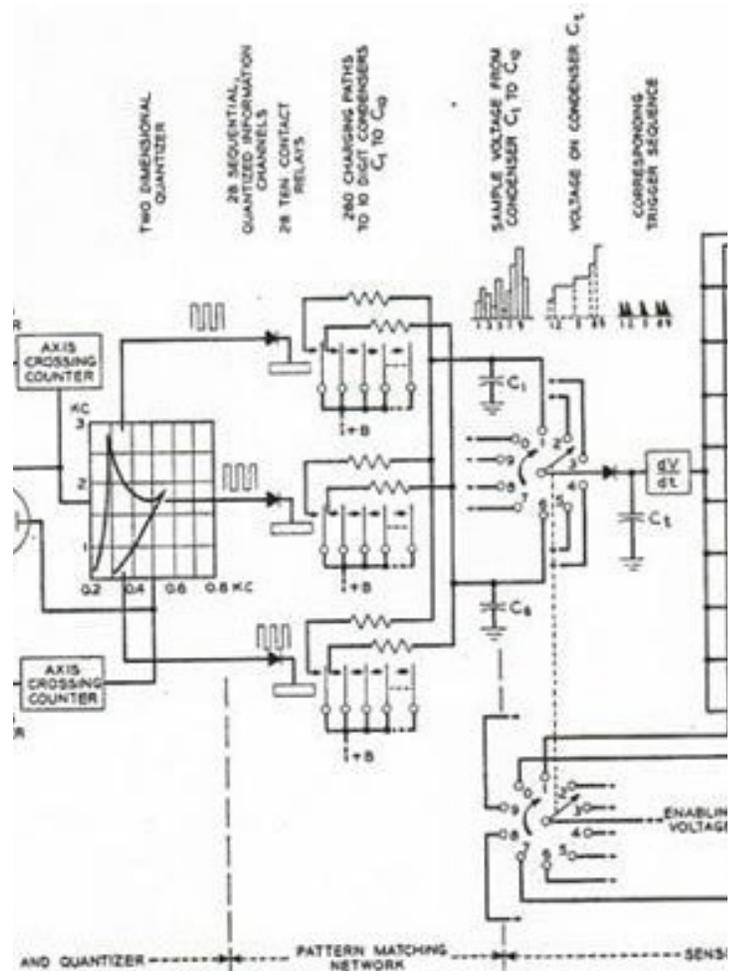
Sources:

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Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1 TL8TT - Central African Rep thru 2-14 ——————— 3B8HE - Mauritius Thru 2-14 ——————— 6W2SC - Senegal Thru 3-3	2 FG - Guadeloupe Thru 2-8	3 PY0F - Fernando De Noronha thru 2-8 ——————— 9X2AW - Rwanda Thru 3-11	4
5 3X - Guinea thru 2-26	6 V5 - Namibia thru 2-18	7	8 E51AMF - S.Cook Is thru 2-18	9 V31VP - Belize Thru 2-14	10 CE0Y - Easter Isl Thru 2-17 ——————- HP - Panama thru 2-22 ——————- KG4 - Guantanamo Thru 2-24	11
12	13 XX9D - Macao thru 2-26 ——————— 5J0NA - San Andres & Providencia thru 2-27	14 V4 - St Kitts & Nevis thru 2-20	15 PY0F - Fernando de Noronha thru 2-21	16 VP6EU—Pitcairn Isl thru 3-5	17 T88DT - Palau thru 2-21 ——————— V63DX-Micronesia Thru 2-24 ——————— PJ7 - Sint Maarten Thru 2-25	18
19	20	21 CE0Z - Juan Fernandez thru 2-24	22 8P9AL - Barbados Thru 3-7	23	24	25
26	27	28				

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!

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

Topic: ARDF and the USA and IARU Region 2 Championships

The meeting program will include a basic introduction to ARDF, and a description of the upcoming championships to be held in the Cincinnati area this year.

Participants and volunteers will be needed for this event, so come find out how to compete and volunteer to help make this a great event!

OH-KY-IN Amateur Radio Society

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