

Q-FIVER

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



The President's Corner

Wow!! The Milford Hamfest and Field Day made June a great radio month – not to mention Dave Core's History of Amateur Radio presentation at the beginning of the month! There was a whole host of ways to enjoy our hobby, so I hope you got involved in at least one event this month!

While the results will take some time to tally for Field Day, rest assured this was one of the best Field Days ever! There were quite a few visitors who were made to feel very welcome, and some newbies got their feet wet, literally, helping with setup! As we have come to expect, the rain did not disappoint, but at least we were able to work around it without get drenched like last year!

The food was great, the picnic was special as always, and the steak-out at midnight – need I say more?!! Thanks as always to Chef John for making the magic happen!

Thanks also to all who contributed so heartily to make this another great Field Day! Eric will have a wrap-up down the road, so I will let him bring you many more details.

The Milford Hamfest was a blast! Their new venue was excellent, the crowds were good, and the vendors were plentiful. We again thank Milford for their hospitality, and hope they allow us to return the favor at our Hamfest.

Speaking of our Hamfest, September will be here before you know it, so we have already had our first planning meeting. If you missed that one, plan on attending this Thursday at 7 PM at Aiken High School. As the old saying goes, many hands make light work! We'll see you there!!

Dave's presentation on the History of Amateur Radio was quite good – even after a long business meeting Dave kept folks' attention with great info and visuals, taking us back to the very beginnings of radio. Great job, Dave!!

Finally, our July presentation will be on Packet Radio – an old technology but still viable and gaining some resurgence in popularity thanks to the advent of newer radios having built-in TNC control and software with packet capabilities.

See you all at the July meeting!

Cheers! Robert AK3Q

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OH-KY-IN Repeaters

146.670 (-) Clifton

146.625 *(-) Edgewood

146.925 *(-) Delhi

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

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



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 Tech Talk Net MgrBruce Vanselow N8BV
 K8SCH QSL Mgr Bob Frey WA6EZV
 TV/RFI Dick Arnett WB4SUV
 HamFest Gary Coffey KB8MYC

The July Foxhunt will be a ARDF style foxhunt at Harbin Park in Fairfield. Starts are at 10:00 AM. Loaner equipment will be available, as well as an easy option

July Calendar

- | | | |
|------------|----------|---|
| Sun Jul 1 | 6:30 PM | Newcomers/Elmers Net, 146.67,
Topic: Mobile Antennas as a Base |
| Tue Jul 3 | 7:30 PM | Club Meeting in St Bernard—Topic: Packet Radio—George Gardei N3VQW |
| Wed Jul 4 | 9:00 PM | Tech Talk, NCS Robert AK3Q |
| Sun Jul 8 | 6:30 PM | Newcomers/Elmers Net, 146.67,
Topic: Cube Sats |
| Tue Jul 10 | 7:00 PM | Board of Directors meeting at My Neighbor’s place –3150 Harrison Ave. |
| Wed Jul 11 | 9:00 PM | Tech Talk, NCS Eric N8YC |
| Sat Jul 14 | 10:00 AM | Monthly ARDF Style Foxhunt at Harbin Park in Fairfield |
| | 1:00 PM | Brunch Bunch at Century Inn, 10675 Springfield Pike |
| Sun Jul 15 | 6:30 PM | Newcomers/Elmers Net, 146.67,
Topic: What's above 2 meters? |
| Wed Jul 18 | 9:00 PM | Tech Talk, NCS Dale, KC8HQS |
| Thu Jul 19 | 7:00 PM | Technical Operations Group meeting at the 146.670 repeater site |
| Sun Jul 22 | 6:30 PM | Newcomers/Elmers Net, 146.67,
Topic: Experimenting with VHF/UHF Antennas |
| Wed Jul 25 | 9:00 PM | Tech Talk, NCS George N3VQW |
| Sun Jul 29 | 6:30 PM | Newcomers/Elmers Net, 146.67,
Topic: More Pi, Please! Raspberry, That Is! |

Minutes of June 2018 Member Meeting

The meeting was called to order at 7:33 PM by Robert AK3Q with the Pledge of Allegiance.

Guests: 4

New Licenses or Upgrades: Drew KE8JTL passed his tech exam, congratulations!

Self Introductions: 48

Health and Welfare: Nothing

Brag Sessions:

- Pat KD8PAT had an article about her amateur radio hobby published in this summer's issue of Spin Off magazine, a magazine devoted to yarn spinning.
- George N3VQW has his new packet station up and running.
- Cesi KD8OOB made his first two QSOs via satellite to Illinois and Texas using an HT.
- Kitty W8TDA worked NZ using CW.
- Steve K8WDA worked Canary Islands on 6m.

Prior Meeting Minutes: Accepted as printed in the Q Fiver.

Treasurer: Robert AK3Q presented the May report for Brian K4BRI. The report was filed, subject to audit.

Membership: 125 at last count.

Silent Keys: None

Tech Operations: Eric N8YC had nothing new to report.

Fox Hunts and ARDF

- Bob WA6EZV reported a successful on foot ARDF-style fox hunt for May at Bicentennial Park in Mount Airy Forest. It was an 80m hunt and proved more difficult than anticipated
- June's hunt will be this Saturday, June 9th at Mount Storm Park at 10:00 AM. It will be a mobile hunt with setup at 9:30 AM. Either ride along with a veteran or borrow some equipment and try it yourself!

Nets

- Bruce N8BV reported that Tech Talk is still going strong with about 25-32 check-ins each week. Robert AK3Q is net control for this week, so bring some questions!
- Robert AK3Q reported the Newcomers and Elmers Net this past Sunday had a record 45 check-ins! Currently averaging 35-40 check-ins a week. This was also the sixth anniversary of the net!

Website: Rocky KE8DZS reported nothing new this month except some Field Day information has been posted.

Digital Group

- Jerry W1SCR reported another good turnout for the May meeting.
- The group meets on the 4th Tuesday of the month next door in St Bernard's Centennial Hall, 110 Washington Ave., St Bernard, OH 45217 at 7:00. The format is very open with many topics being discussed, so bring what you want to play with and show off.

QCEN:

- Pat KD8PAT reported the June meeting has been changed to Friday, June 22nd, the Friday before Field Day. The meeting will start at 7:30 PM, but stop by beforehand starting at 6:30 PM to play with the radios. Meetings are at the American Red Cross, 2111 Dana Avenue, Cincinnati, OH 45207.
- QCEN will have their doors open to all for Field Day. Stop by if you don't want to operate outdoors or would like to use the indoor plumbing! They have new filters on their 20m and 40m operations to reduce interference between the CW and digital operations.

ARES: Nothing reported.

Old Business

- Field Day is almost upon us! See details below.
- Bruce N8BV needs volunteers for this year's Red White and Blue Ash as it is our biggest fund raiser. It will be on Wednesday, July 4th at Summit Park in Blue Ash. Contact him for details or to volunteer at n8bv@juno.com.
- Bruce N8BV also told us the June Brunch Bunch will be meeting at Cabana on the River this Saturday, June 9th at 1:00 PM. Cabana on the River is located at 7445 Forbes Road in Saylor Park, just off River Road/U.S. 50.
- Cesi KD8OOB is getting a group together to host a booth at this year's Cincinnati Mini Maker Faire on Saturday, September 15th and Sunday, September 16th at the Hamilton County Fair Grounds. Anyone interested in participating, please contact him at kd8oob@gmail.com.
- Gary KD8MYC informs us that our own hamfest is approaching. It will be on Saturday, September 22nd at Aiken High School in College Hill. There will be a planning meeting this Thursday, June 7th at 7:00 PM at Aiken High School for anyone interested in helping out.

New Business

- Justin KE8COY has put together flyers for both the club's Field Day and Hamfest. Please take some and post them around town.
- Robert AK3Q and Steve AA8SW put together a new column in the Q Fiver called Exam Corner, to be a General Class exam primer. Please check it out and provide some feedback.

- Robert AK3Q also reported the club has sent out 64 letters to hams who have passed a license exam between December 2017 and May 2018, talking about a club and what it has to offer. The intent is not to poach from other clubs, but to provide a resource for hams to use their new license privileges.
- Bob WA6EZV needs volunteers to help some local Boy Scouts work on their radio merit badges. The plan is for the second weekend in October and will probably consist of a fox hunt, antenna build and a GOTA station.
- Mike KD8ZLB was contacted again regarding volunteers for this year's CF bike ride. It looks like there is no interest from the club, but if individuals can help out, contact Mike at kd8zlb@gmail.com and he will get you connected.
- Field Day is coming up on Saturday June 23rd and Sunday June 24th. Eric N8YC reports the club will again be at Mitchell Memorial Forest and that we will remain 3A as that is our sweet spot. We will have a strong digital presence this year with FT8 added to our PSK31 operations. There will be an emphasis on activities for new hams. There are signup sheets floating around, so please put your name on a timeslot so we can have all 24 hours covered on all three transmitters. Setup starts on Friday at 2:00 PM and help will be needed on Sunday after 2:00 PM with teardown. The club will host the annual summer picnic at field day at 6:00 PM with food prepared by Chef John N8JTP; please bring a covered dish to share, but stay away from egg and cream mayonnaise and dressing due to heat and instead stick to oil based dressings. For those camping out and operating overnight, there be the annual Midnight Steakout! Bring your own steak/pork chop/chicken breast/ Portobello mushrooms to grill out and spices, peppers, onions and mushrooms will be provided (however a donation would be nice). Mike KD8ZLB will have the GOTA station up and running, so please bring family and friends so he's not lonely operating my himself! More info will be forthcoming on the email reflector.
- Bob WA6EZV received a QSL card for the club call K8SCH for a QSO made during Ohio State Parks on the Air. Please provide the log so we can send a return QSL card.

The meeting was recessed at 8:23 PM and resumed at 8:32 PM

Program:

- Dave Core K8WDA presented on the early history of amateur radio. Great presentation! Thanks!
- Next month's program will be Packet Radio, presented by George N3VQW.

Split the Pot: The pot held \$172 with \$86 going to Robert AK3Q.

Reminder from Robert N8JMV that the Milford Hamfest will be next Saturday, June 16th.

Reminder to grab flyers for OH-KY-IN's field day and hamfest.

The meeting was adjourned at 9:11 PM.

Respectfully submitted, Cesi DiBenedetto KD8OOB, Secretary.

Field Day 2018

I want to thank everyone who came out to participate in this year's event! Where I usually like to highlight each and every one by name there are just too many names this year, I'm afraid I'll forget someone. Every one of you that came out this year pitched in a hand and got the job done! There were new faces and old, everyone stayed busy from setup to teardown. And, there were a few that I was afraid we were picking on too much but no...they said what's next! Thank you all!

And then there was what we came out there for, the station operation:

Team SSB, with some of our top DXers completed a great standing as usual with several 1 hour pileups.

Team Digital, with many challenges this year with the introduction of FT8, they overcame those challenges one by one to exceed what we did last year! I cannot stress enough how impressed I was on the collaboration of the digital team. Each one stepped up for the next, worked through each issue and came up with a resolution. I'll leave it up to Cesi DiBenedetto, KD8OOB in an upcoming article he is writing on our digital efforts this year, so stay tuned.

Team CW, did it again! Just over what we did last year! With the usual team of just a few CW operators we have in this club, the same people just keep cranking out the QSOs! And, we had a few new aspiring CW operators who were eager to chip in.

Team GOTA and VHF did their usual and important functions of getting unlicensed, new hams or rusty hams on the air as well as completing all of VHF Ops, Solar, and NTS Traffic Bonus Points .

Where no Field Day is the same, this one certainly came with a few curveballs. The weather sort of cooperated except for Friday, but those rains really were no hindrance. A generator/power issue right at the start of operating showed how well we can reconfigure and supply the necessary amps! But other than that, it was just little things and I could not be happier with what we accomplished.

Two people I must mention is of course Chef John Phelps, N8JTP and Rocky McGrath, KE8DZS. But first, we had talked about a few new ways in conducting our Friday Wild Mike's food run. I asked Rocky if we could do something to improve how we do this. With no hesitation, he stood up and took the job! He came up with a streamlined plan and ordering system and he personally took all of our orders, took them to the restaurant and worked with them to get all of our individual orders back to the park. We shut down their carryout for half an hour! But this worked very well for us and I think it greatly increased the participation in the dinner and it was an incredible way to end a hard day's work! And the food was still hot! (In more ways than one...)

Chef John, as usual gave us the best possible eats, unparalleled to most Field Day events. Through two breakfasts, the picnic, the Steakout, coffee throughout, and a lunch on Sunday he did the hardest job of anyone on that site and just got the job done! And I threw in a culinary curveball which he graciously let me get away with, however, we found out two chefs cannot work together in the same kitchen...at the same time! Expletives withheld!

I had at least 3-4 people come up to me and say this was one of the best FD events ever. It gets better every year, one item at a time it seems. And it shows, we had several visitors to our site this year that came out to see what it is we do and how we do it!

Tentative Score as follows (I do not have the GOTA/VHF yet and this does not reflect added Bonus Points that will be added):

SSB Phone 920 QSOs
Digital 173 QSOs
CW 818 QSOs
Total RAW Score 2902

Thanks to all for a another GREAT Oh-Ky-In Field Day.

Eric, N8YC

My First Field Day as a Ham

When I was a child acting up and driving my father crazy, he told me he could retaliate and drive me crazy by putting me in a round room and telling me to sit in the corner. It's even easier than that to drive a Ham Radio operator crazy. Sit them all down at a picnic table with a steak in front of them and offer them A1 sauce.

I thought I wasn't feeling well all-day Saturday, because I'd been working very hard moving my father-in-law to assisted living. My symptoms came to a head while I was trying to eat my A1 negative steak. I had to leave the table for a while, and things progressed from there to an emergency room visit early Sunday morning. Since my symptoms came to a head at the steak table, I now suspect the multiple sets of eyes glaring A1 intolerance at me burned holes in my aura, a metaphysical state from which I am still recovering. I'm now afraid to walk down the A1 aisle at the grocery store.

How on earth can people be so A1 intolerant when I had the rare "privilege" of watching those same people - a group of well-educated adults from a first world country that has no shortage of food - eat bugs that wore shells before their demise. That sounds like a job for A1. Maybe watching people chew on molluscs - and chew and chew and chew - pushed my illness over the edge on Saturday night. A person with a vivid imagination watching people chew on nature's gummy bears creates an ick factor that is a little tough on the digestive system. Add to that vivid imagination the knowledge that the goetta had pork brains in it - I think a trip to the emergency room was inevitable.

As human physiology requires, what goes in must come out. Therefore, there was a lot of discussion about bathroom procedures. There was the modern bathroom with plumbing a stone's throw away, or over yonder as we'd say back home. I'm told there was also an outhouse, a pit pot, and a tree-line for the men. Yet, everyone spoke of these things in hushed terms around us lady-folk. I finally had to inform everyone that I'm from the Appalachian Mountains, and it is considered good manners for the men to turn away from the table first; therefore, why was everyone so reserved when discussing an outhouse where everything occurs behind closed doors? I think you all didn't eat and drink enough, or you wouldn't have been so shy. The person who ate two hamburgers, four hot dogs, four metts, and the typical picnic side items wasn't at all shy about accepting a ride to the facilities over yonder.

In addition to the food fiascos, I had the privilege of meeting the woman who owns the electronics store my husband supports. Day after day boxes arrive, and day after day our money flies out the door. I told her when the boxes start to arrive spritzed in her favorite perfume, I will become suspicious. The sad part is I liked her a great deal -- even if my husband's purchases did pay for her current car. Why did she have to be so gosh-darn nice - so nice that I had to take the attitude of it's only money, after all - and rent, and clothes, and food, and A1 sauce, and toilet paper. No, I don't have an attitude! I just said I liked her, darn it, didn't I? Besides, if corn cobs and pages from the Sears Roebuck catalogue were good enough for those who came before me, who am I to have a high falutin need for toilet paper anyway?

Because of all of this, I feel like I didn't contribute anything to field day - other than watermelons and maybe intermittent humor, and you're welcome for that. I missed my shift logging due to becoming so sick I left for the emergency room a few hours later. I did not add one contact to our numbers for Field Day, so I hope writing an article for the newsletter will be enough of a contribution to make up for that. In hindsight, I realize I should have focused only on my father-in-law's move that had unexpectedly been moved up to Field Day weekend by his early release from the hospital instead of spreading myself so thin. On the other hand, I would have missed out on the pockets of fun I did have in spite of my symptoms. Even though I tell the stories with my typical smart-aleck humor, all of the things I wrote about and more were great fun.

Thanks to everyone who made contacts. Thanks to Julia who is so bright and energetic that she kept me upbeat most of the day even when I felt like crawling under the picnic table and surrendering to the increasing symptoms. Thanks to the club for working so well together from set up to take down and everything in between. Thanks to Chef John for all of the great food he worked so hard to prepare. Everyone except the snails, may they rest in peace, are very grateful to him for his contributions. And, thank you all for being so warm and welcoming to my wonderful doggie-friend, Elbert, who was especially grateful for the meaty vittles.

Thank goodness the Milford Ham Fest earlier this month was so low key. I don't think I could have stood any more excitement this month.

The Exam Corner #2

By Steve Weeks, AA8SW

The subject last time was Electrical Safety in the Ham Shack. For #2, let's finish the safety subject with RF Safety. Again, I will briefly discuss what you need to know about an aspect of that subject, then show you the only exam questions that could appear on that aspect, and follow each one with a hint as to how you can remember the right answer. The correct answer is in **bold**.

- An RF signal, if strong enough, can heat human tissue and possibly cause other damage (think: microwave oven). The risk varies by RF frequency as well as power level and "duty cycle". Duty cycle is the percentage of power that your station is actually emitting, averaged over a period of time ("time averaging"), compared to a constant 100% transmission at that power level. Most amateur radio emissions have duty cycles far less than 100% -- for example, in a typical CW conversation, you are sending only about half of the time (and listening to the other ham sending the rest of the time) so the duty cycle is automatically 50% or less, and even while you are sending, the key is down only part of the time, so the overall duty cycle might be only 30 or 40%. Power density at the place where a person is located is also affected by the type of antenna and how close you are to it -- you don't want to stand right in front of a directional antenna operating at high power.

G0A02 Which of the following properties is important in estimating whether an RF signal exceeds the maximum permissible exposure (MPE)?

- A. Its duty cycle
- B. Its frequency
- C. Its power density
- D. All of these choices are correct**

G0A01 What is one way that RF energy can affect human body tissue?

- A. It heats body tissue**
- B. It causes radiation poisoning
- C. It causes the blood count to reach a dangerously low level
- D. It cools body tissue

Hint: Like a microwave. But the wrong answers here are ridiculous, so even if you forgot the answer, you should still get the question correct by eliminating the wrong ones. It is often possible on this test to eliminate one or more unreasonable wrong answers to improve your chances in case you have to guess.

G0A07 What effect does transmitter duty cycle have when evaluating RF exposure?

- A. A lower transmitter duty cycle permits greater short-term exposure levels**
- B. A higher transmitter duty cycle permits greater short-term exposure levels
- C. Low duty cycle transmitters are exempt from RF exposure evaluation requirements
- D. High duty cycle transmitters are exempt from RF exposure requirements

Hint: the FCC limits total exposure over a period of time, so if the exposure is zero part of the time, it can be higher at other times and remain, on average, within the rules.

G0A04 What does "time averaging" mean in reference to RF radiation exposure?

- A. The average amount of power developed by the transmitter over a specific 24 hour period
- B. The average time it takes RF radiation to have any long-term effect on the body
- C. The total time of the exposure
- D. The total RF exposure averaged over a certain time**

Hint: time averaging means averaged over time. Those key words along with "RF exposure" appear in both the question and the answer. Don't make the mistake of thinking that an answer is too obvious so it must be wrong, like you may have seen on some other standardized tests -- with very few exceptions, the General exam is not designed to be tricky and the obvious answers are almost always the correct ones.

- Do you have to do anything to be sure your station is not exceeding recommended RF exposure levels? Not in most cases. However, if your output power exceeds a certain level for each frequency that is published in an FCC chart (in Section 97.13 of the amateur radio rules), you have to evaluate the exposure you are causing. That evaluation can be a calculation based on an FCC method or using a website, or you can measure your emissions with a field strength meter. If you are one of the few whose calculated or measured levels exceed the guidelines, you have to take common-sense measures to reduce human exposure – such as keeping people farther away from your antenna, or making sure that you don't point a directional antenna at a neighbor's house.

GOA08 Which of the following steps must an amateur operator take to ensure compliance with RF safety regulations when transmitter power exceeds levels specified in FCC Part 97.13?

- A. Post a copy of FCC Part 97.13 in the station
- B. Post a copy of OET Bulletin 65 in the station
- C. Perform a routine RF exposure evaluation**
- D. All of these choices are correct

Hint: this is yet another example of the wrong answers being silly.

GOA03 How can you determine that your station complies with FCC RF exposure regulations?

- A. By calculation based on FCC OET Bulletin 65
- B. By calculation based on computer modeling
- C. By measurement of field strength using calibrated equipment
- D. All of these choices are correct**

Hint: for the exam you have to know that all 3 of these approaches are possible, but in reality you would just go to the ARRL website, put in your station data and get an answer.

GOA09 What type of instrument can be used to accurately measure an RF field?

- A. A receiver with an S meter
- B. A calibrated field strength meter with a calibrated antenna**
- C. An SWR meter with a peak-reading function
- D. An oscilloscope with a high-stability crystal marker generator

Hint: key word "field" appears in both the question and the answer. Again, you may instinctively think that this is too obvious – to measure the strength of a field, you use a field strength meter. Don't outsmart yourself; go with the obvious answer.

GOA05 What must you do if an evaluation of your station shows RF energy radiated from your station exceeds permissible limits?

- A. Take action to prevent human exposure to the excessive RF fields**
- B. File an Environmental Impact Statement (EIS-97) with the FCC
- C. Secure written permission from your neighbors to operate above the controlled MPE limits
- D. All of these choices are correct

Hint: what must you do if you find a problem? Fix it! Another obvious answer that is again the correct one.

GOA10 What is one thing that can be done if evaluation shows that a neighbor might receive more than the allowable limit of RF exposure from the main lobe of a directional antenna?

- A. Change to a non-polarized antenna with higher gain
- B. Post a warning sign that is clearly visible to the neighbor
- C. Use an antenna with a higher front-to-back ratio
- D. Take precautions to ensure that the antenna cannot be pointed in their direction**

Hint: if pointing an antenna at a neighbor causes a problem, don't point it at them.

- G0A11 What precaution should you take if you install an indoor transmitting antenna?
- A. Locate the antenna close to your operating position to minimize feed line radiation
 - B. Position the antenna along the edge of a wall to reduce parasitic radiation
 - C. Make sure that MPE limits are not exceeded in occupied areas**
 - D. Make sure the antenna is properly shielded

Hint: this one is easy if you remember that the key word, MPE, means maximum permissible exposure.

- Touching a bare metal antenna while it is transmitting can cause a nasty RF burn – or a fall if someone is climbing a ladder or tower at the time. Avoid this by setting up ground-mounted antennas with protection against unauthorized access; and turn off the transmitter and disconnect the feedline before working on an antenna, whether on a tower or otherwise.

- G0A06 What precaution should be taken when installing a ground-mounted antenna?
- A. It should not be installed higher than you can reach
 - B. It should not be installed in a wet area
 - C. It should be limited to 10 feet in height
 - D. It should be installed such that it is protected against unauthorized access**

- G0A12 What precaution should you take whenever you make adjustments or repairs to an antenna?
- A. Ensure that you and the antenna structure are grounded
 - B. Turn off the transmitter and disconnect the feed line**
 - C. Wear a radiation badge
 - D. All of these choices are correct

That's the end of installment #2. One question on the exam is guaranteed to come from the list above.

Comments are welcome -- contact me at aa8sw@att.net, or Robert at ak3q@ak3q.com.

Field Day 2018 Digital Mode Operations

Field Day 2018 is done and in the books, and OH-KY-IN's activities were a great success! This year, the club operated station SSB2 exclusively in digital modes. Last year, SSB2 was used for both phone and digital operation and this year we decided to instead operate exclusively as digital, so long as there were digital QSOs to be made.

Last year, we operated using the PSK31 digital mode. PSK31 is a real-time, keyboard-to-keyboard chat protocol and software that uses the computer and its soundcard to encode and decode the data as a series of tones using phase shift keying at 31 baud. These tones are sent back and forth between the computer and the transceiver using a soundcard interface. The transceiver itself uses upper side band to send and receive the tones via RF. Other baud rates such as 10, 15 and 63 are available. The 31 baud is a nice balance between speed and rejecting noise and interference.

This year, the ARRL allowed the use of FT8 for digital modes for Field Day. Introduced last July, FT8 is an extremely popular weak signal digital mode developed by Joe Taylor K1JT. There are several major differences between FT8 and PSK31. Like PSK31, it uses the computer and its soundcard to encode and decode digital data into an audio stream that a soundcard interface transfers to and from a radio transceiver that uses USB modulation on RF. But unlike PSK31, FT8 is not conversational: the messages are limited to a handful of canned responses of small size, typically 13-15 characters, which the computer automatically sends and receives. With PSK31, the user controls the conversation, even if using macros and canned responses, but there is no automation with regards to what response is sent and when. FT8 is also a talk/listen protocol, where the software listens for 15 seconds and then transmits for 15 seconds, unlike PSK31 where the user can listen for as long as they want and can transmit whenever they want and for however

long they want. FT8 also utilizes automatic error correction and powerful algorithms to decode the tones so as to pull messages out of the noise floor. -15 dB is fairly normal with -20 dB not being unheard of. PSK31 is susceptible to noise and interference and relies on the user to glean meaningful information from the message.

While the hardware needed to run FT8 is essentially identical to PSK31, FT8 needs a time source that is more reliable than the computer on which it's running. If the computer time skews too far from the actual time, the encoding and decoding algorithms will not work correctly, and the 15-second exchanges will be out of sync. The computer typically synchronizes its time with a pool of time servers on the internet. Since OH-KY-IN operates its Field Day without ready access to the internet, Rocky KE8DZS provided a Raspberry Pi with a GPS shield to provide a reliable time source to all computers on the OH-KY-IN Field Day LAN.

For this year's Field Day, the digital operators attempted to use FT8 for their QSOs. As previously mentioned, FT8 uses canned or generated responses, sequenced by the software. A typical FT8 QSO might look like the following:

Transmit	Receive	Description
CQ K8SCH EM79		K8SCH calls CQ with grid square
	K8SCH W1ABC	W1ABC answers
W1ABC K8SCH -12		K8SCH sends a calculated signal report
	K8SCH W1ABC R-17	W1ABC ACKs and sends its own report
W1ABC K8SCH RRR		K8SCH ACKs reception report
	K8SCH W1ABC 73	W1ABC sends 73 to end the QSO

While there are slight variations to the FT8 QSO sequence, none of them include a means of sending a class code and section code as required by Field Day. Many ideas were discussed on Facebook groups, web forums, email lists and even on-the-air practice sessions, but nothing was solidly agreed upon. Most variations revolved around ending the QSO with class and section codes like "3A OH K8SCH 73" or "3A OH 73" or "3AOH K8SCH 73", but this caused problems as either one or both callsigns were omitted and the program could not complete the automated sequence. Some with shorter 1x1 callsigns dropped the 73 completely in an attempt to squeeze the longer Field Day exchange like "W1ABC W1W 3AOH" into the 13-character message limit, but this would cause sequencing problems with the FT8 software. And many people did not modify their message for Field Day at all. This resulted in many busted QSOs that could not be logged for Field Day.

The digital operators tried FT8 several times throughout the 24-hour period, but found the rate of viable Field Day QSOs was very low: at least two out of three QSOs were bad due to lack of the required exchange. Eventually, the digital operators dropped FT8 all together and used PSK31 exclusively. At the end of the operating period, 173 QSOs were logged, a 28% increase from last year, and many lessons learned for next year.

The digital team also received the annual ARRL Field Day Bulleting from W1AW using both RTTY and PSK31. This can be used to compare and correct the phone and CW versions.

Hopefully the ARRL will either come out with an agreed-upon method of putting the Field Day exchange in the FT8 QSO or the software itself will be modified to include an exchange specifically for Field Day and other types of contests. Regardless, all the digital operators had fun and learned something. Operating digital on Field Day will continue to be a must and FT8 will in the thick of it!

73!

Cesi KD8OOB

Foxhunts and ARDF

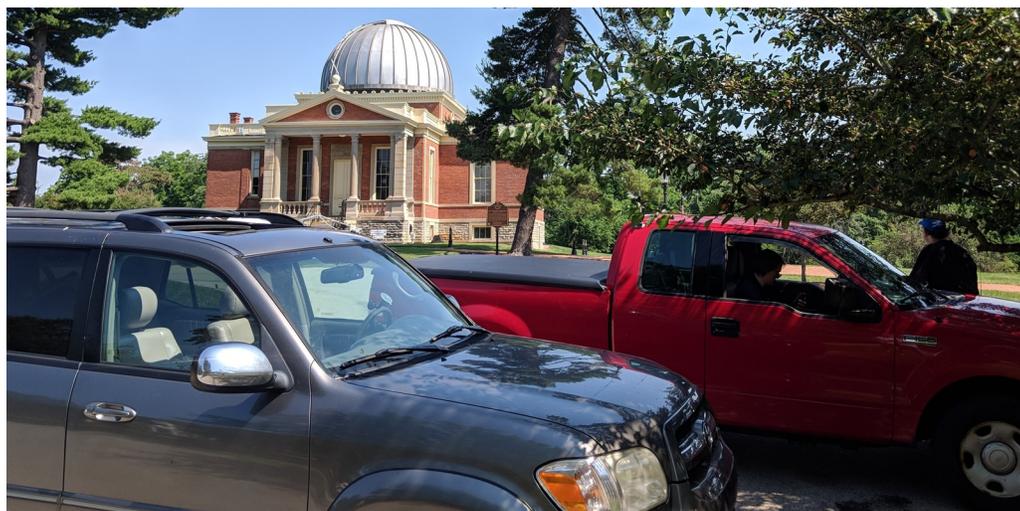
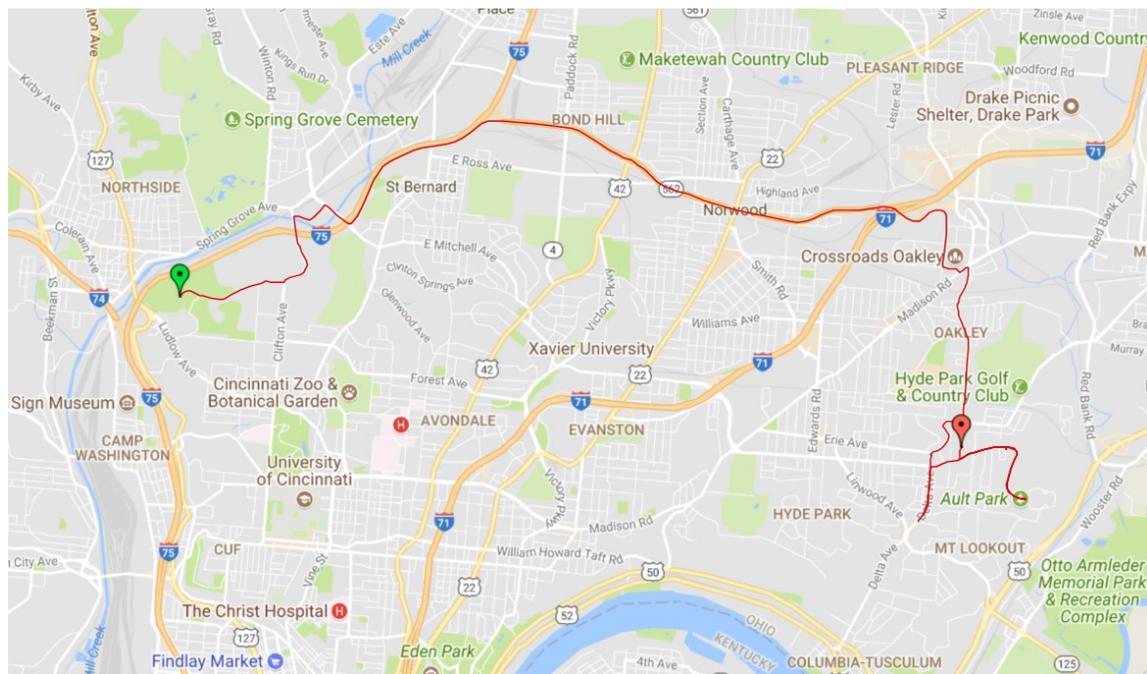
The monthly foxhunt in June was a standard mobile hunt with Phil, KG8AP, serving as the fox. There were 4 teams at the start.

We got a good signal to about 110 degrees at the start, so we headed down to 75 and then the Norwood lateral. The signal was then from due south, so we started thinking Lunken? Ault park? We went through Oakley and got onto Delta Ave, and as we were proceeding towards Lunken we found we had passed it—Aha! Ault Park! So we turned around and headed into the park—but as we were entering the park we found we had gone past it again. So we turned around and headed out of the park to Observatory drive—wait—Observatory???

So we swung a hard right went to the Observatory and there he was!! We were very much first, with Dick arriving some time later, and Bob and Bill having to call off due to timing.

July is another ARDF style hunt—this time on 2m. It will be at Harbin park in Fairfield, and starts will begin at 10AM. We will have maps, compasses, and loaner equipment if needed—please let us know if you would like to try it! It will be a longer course than we have had recently but there will be some easy options.

73—Brian, K4BRI



Brunch Bunch

The next Brunch Bunch will be held Saturday, July 14th, at 1pm. The location for July is Century Inn located 10675 Springfield Pike (State Route 4) in Glendale. Century Inn is very near the intersection of Springfield Pike and Congress Avenue (State Route 747).

Century Inn is the oldest Tavern in Ohio and Ohios first draft beer was sold there. Built in 1806, Century Inn is know for its Fried Chicken dinner.

You can find a map as well as the menu at:
www.thecenturyinn.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



June Brunch Bunch at Cabana on the River

July 2018 DX Spots de KA3MTT

Sun	Mon	Tue	Wed	Thu	Fri	Sat
<p>1 4K - Azerbaijan thru 7-10 ----- VQ5Z - Turks & Caicos Thru 7-11 ----- OX3LX - Greenland thru 7-14 ----- P29RR - Papua New Guinea thru 7-26</p>	<p>2 TF - Iceland thru 7-9</p> 	<p>3 FP - St Pierre & Miquelon thru 7-17</p> 	<p>4</p> 	<p>5 KH7 - Alaska thru 7-10</p> 	<p>6</p>	<p>7 VP2V - Br. Virgin Is thru 7-14</p> 
<p>8</p>	<p>9</p>	<p>10</p>	<p>11</p>	<p>12</p>	<p>13 3D2 - Fiji thru 7-17 ----- A25A - Botswana thru 7-20</p>	<p>14 MD0XAL - Isle of Man Thru 7-21</p> 
<p>15</p>	<p>16</p>	<p>17</p>	<p>18 YJ0GA - Vanuatu thru 7-25</p> 	<p>19 PJ2 - Curacao thru 7-24 ----- V6J - Micronesia thru 7-31</p>	<p>20</p>	<p>21</p>
<p>22</p>	<p>23</p>	<p>24</p>	<p>25</p>	<p>26</p>	<p>27</p>	<p>28</p>
<p>29</p>	<p>30</p>	<p>31</p>				

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, July 3rd at 7:30 PM

Program:

Packet Radio
By
George Gardei N3VQW

OH-KY-IN Amateur Radio Society

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