

THE FEEDLINE

THE CANTON AMATEUR RADIO CLUB

VISIT WWW.W8AL.ORG

APR 2012



Annual Awards Banquet a Success



McCalls was the location, January 18 was the date. A respite from January's typical snowy weather allowed for a good turnout at the Canton Amateur Radio club's annual event.

Rev. Wendy Bausman shared a captivating story (with wonderful pictures) of her trip to the Yorkshire Dales. This is a very scenic area of England, almost entirely contained within the Yorkshire Dales National park. It is characterized by lush, green upland pastures, delineated by stone walls.

"Dale" is an old word with Norse-German roots meaning "valley". Sheep and cattle graze the hills, which overlook river valleys shaped by recent glaciers.

A majority of visitors come simply to feast on the site's natural beauty. Others enjoy hiking, caving, observation of wildlife and visiting historic castles and other sites.

Here's a quick link to official information about the national park: www.yorkshiredales.org.uk

Canton Amateur Radio Club was honored by Wendy's visit, and we hope to see her again soon!

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MEETINGS

EVERY 3RD WED 7:30P

STARK COUNTY E.O.C.

4500 ATLANTIC

BOULEVARD

(LOWER LEVEL)

TRUSTEES MEETING

EVERY 2ND SAT 8:30 AM

NAZIR GROTTO

"THE FEEDLINE"

DEADLINE NEXT ISSUE

IS JUNE 1, 2012

EDITOR

Dale Lamm NX8J



March Meeting Notes



We were honored to have fellow CARC member Julius Erdos KD8XD present a captivating program on March 21. Julius treated us to a historic film detailing the planning and execution of a massive B-29 bomber raid during WW-2 in the Pacific. Julius answered questions and related personal stories of his days as Crew Chief for the aircraft named "Sitting Pretty" in the 504th bomber group. This aircraft completed 17 missions during the war. Canton ARC is blessed to count Mr. Erdos as one of it's own!



B-29 Sitting Pretty

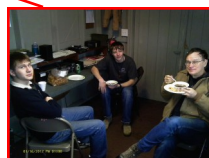


Venturing Crew 73 Activities

Crew 73 has finished it's busiest year since forming.

The summer's Radio Merit Badge classes at Seven Ranges Scout Reservation have resulted in almost a hundred Scouts obtaining the award. This was the first time the program has been offered at a summer camp within our governing Council. We have been asked to return for the 2012 season. Once again, Nick Kuhns N8DSK (ex KD8OYK) will be the lead instructor with Crew 73's Dylan Newman assisting.

Nick has joined the United States Navy under their delayed enlistment program. He wants to focus on information technology. Next time you see him, wish him well and shake his hand for his decision to go into national service.



August

Visit Portage County ARS "Cruise In" at A & W Restaurant in Ravenna

September

Another visit to USS Cod. KA8VIT was host.

October

JOTA weekend, visit Camp Buckeye to set up portable station. Visit Orville power plant in conjunction with IEEE field trip.

December

SYWARN recognition day. Visited NWS office in Cleveland and operated W8CLE (2 meters). Attend Sherlock Holmes movie at Great Escape in Massillon.

January

Visit RMB shack at Seven Ranges. Prepare lunch with Camp Ranger as guest. Discuss 2012 season needs and plans for PA and lighting changes. Check and clean shack. Small celebration for Dylan's birthday. Operate HF, 15 meters wide open.

March

On the third, met at north transmitter site to participate in ARRL DX phone contest. Used an interesting vertical antenna with a fantastic set of ground radials, made many contacts with just 100 watts.

Camped at historic Camp Tuscazoar for two nights beginning on the thirtieth. Maple Days event ran the same weekend. Set up portable HF rig in Hoover Lodge.

April

Participate in Stark County VHF QSO Party. Operated mobile, erecting a 20 foot mast with a gain antenna at many stopping points.

May

Attend Dayton Hamvention, staying three days. Visit new VOA Museum in Bethany. Plan to bring eight Scouts. Financial aid welcomed.

Canton ARC is the chartering organization and sponsor of BSA Venturing Crew 73. Membership is open to young people age 14-20 (or age 13 and past eighth grade). Our Crew meets several times a month. We are always seeking new members. Contact Advisor NX8J for more information at dalelamm@ieee.org.

AREA NETS

STARK CO ARES NET
TUESDAY
FM 7:00 PM 147.120

ALLIANCE ARC
THURSDAY
CW 8:00 PM 28.400
SSB 8:30 PM 28.400
FM 9:00 PM 145.370

CUYAHOGA FALLS ARC
MONDAY
FM 8:30 PM 147.270

PORTAGE COUNTY ARS
THURSDAY
FM 8:00 PM 146.895

LAKE ERIE ARA
THURSDAY
FM 8:00 PM 146.760

GOODYEAR ARC
THURSDAY
FM 7:30 PM 146.985

WOOSTER ARC DX GRP
THURSDAY
FM 8:00 PM 147.345
(110.9 PL)

WEST STARK INFO NET
THURSDAY
FM 8:00 PM 147.180

MASSILLON RADIO NET
SUN, TUE, THU
CW 7:30 PM 3599.5
8:30 PM DURING EDT
7:30 PM DURING EST

HOMELAND SECURITY NET
LAST TUE OF MONTH
FM 8:00 PM 147.51
(SIMPLEX)

WEST STARK INFO NET
(IT'S BACK!)
FRIDAYS EXCEPT FIRST
FRIDAY (CLUB NIGHT)
FM 8:00 PM 147.180

Have a NET you would like to see publicized here?

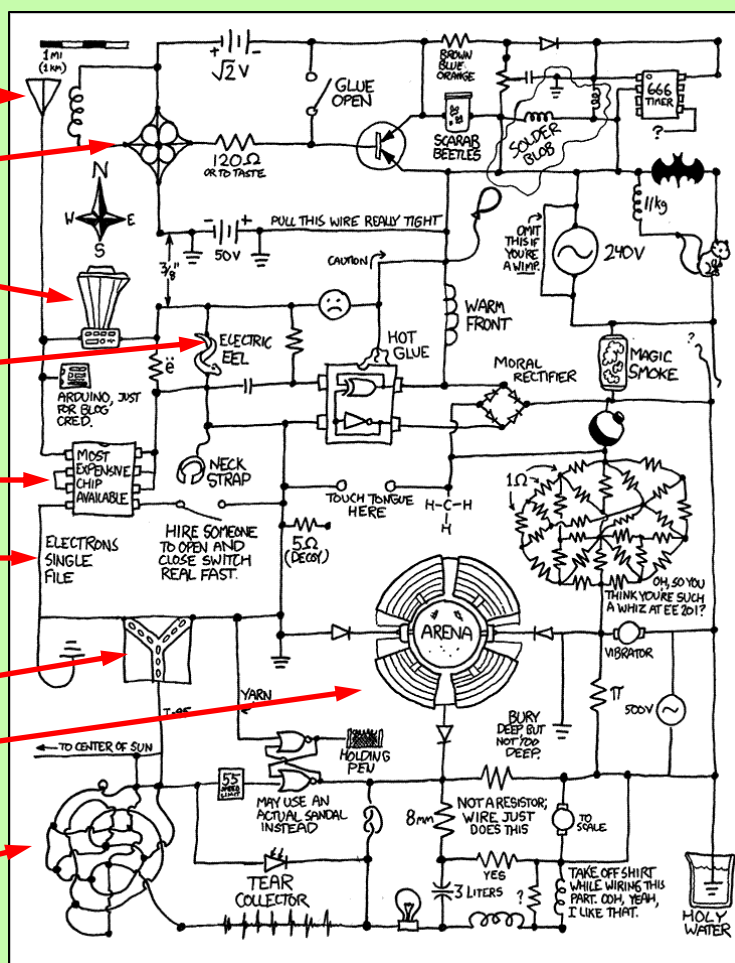
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Here now is the formerly ultra-secret XKCD 100-Watt HF transceiver. This was originally developed by the CIA to be used behind the Iron Curtain. I am told that it helped bring the Soviet Empire to it's knees on December 25, 1991. Full construction plans may be found online at this web address: xkcd.com/730 Yup, that's the correct address, there's no "www" because this is a private web site, not "world wide".

Partial Circuit Description

"Quantum Tangler" separates HF waves from slower MF and LF waves



SELLING? WANT TO BUY?
Please send details to
Dale NX8J, editor at:
dalelamm@ieee.org

The Elmer Speaks

AMATEUR RADIO WEB SITE DIRECTORY

CANTON ARC WEB SITE
www.w8al.org

MASSILLON ARC WEB SITE
www.marcradio.org

ALLIANCE ARC WEB SITE
www.w8lky.org

STARK COUNTY ARES
www.wd8aye.org

TUSCO ARC
tuscoarc.org

PORTAGE COUNTY ARS
www.portcars.org

LAKE ERIE ARA
www.leara.org

USA NOAA RADAR
radar.weather.gov

ARRL
www.arrl.org

ARRL OHIO SECTION
www.iarc.ws

QCWA CHAPTER 21
www.cmh.net/~jpvsvr

DX-SUMMIT
<http://www.dxsummit.fi>
[Note NEW address]

INTL MORSE PRESERVATION
SOCIETY
www.fists.org

CQ MAGAZINE
www.cq-amateur-radio.com

CONTEST CALENDAR
www.hornucopia.com/contestcal

WEB SITE OF THE ISSUE

[www.archive.org/
details/73-magazine](http://www.archive.org/details/73-magazine)

Remember 73 magazine?
Out of business in 2003,
but someone has scanned
in hundreds of issues.
All are a free download
into your book reader.
There's also plain old
PDF files if you prefer.

Back after a short break, your Elmer is hot to trot! This issue, we reprint some excellent words from Paul Harden NA5N. Paul has been a ham since 1963, and now builds microwave gear at the Very Large Array in Socorro, NM. Some of his interests are QRP, radio astronomy and propagation. (*Text slightly edited to fit newsletter layout - Editor*)

Friday, there was a fairly large X2 (X1.7 to be exact) solar flare on 27 January at 1837Z. An X-class flare is the highest category and can cause radiation storms on earth and effect HF propagation - some of it good.

Go here to see the x-ray emissions from this flare: www.swpc.noaa.gov/today.html

The first chart is the x-ray emissions as detected by two different sensors on the GOES-15 satellite. The X-class flare is easily seen towards the end of the UTC day on 27 Jan. X-rays are ionizing radiation, that is, they can knock electrons away from their host atoms and molecules. In our upper ionosphere, this ionizing radiation knocks electrons away from oxygen, nitrogen and hydrogen atoms. These electrons just roam around in our ionosphere, being knocked around by the ionizing radiation from the sun. For this reason, they are called "free electrons," not currently being associated with a host atom. The more free electrons in the ionosphere, the more reflective are the E and F layers, and the higher the maximum usable frequency (MUF).

During a solar flare, ionizing radiation increases almost immediately, producing more free electrons in our ionosphere, making the E and F layers even more reflective, and often raising the MUF. This condition quickly improves HF propagation.

Therefore, for QRPers, solar flares are often a good thing. From the time of the flare until local sundown, enhanced HF propagation will be present. With higher reflectivity, this means QRP signals get reflected more efficiently for an environment of working longer skip distances (and new DX) than normal. Once the sun goes down ... that is, when the ionosphere above our heads is no longer illuminated by the sun and receiving the solar x-rays, the free electrons recombine with their host atoms, reflectivity and the MUF drops, and we fall back into normal night time propagation. The lack of ionizing radiation and free electrons is why the MUF drops at night, and the higher day time bands shut down. During the day, this ionizing radiation penetrates deep into our ionosphere, causing a layer of free electrons we know as the D-layer. Seldom do our signal bounce off this layer, but penetrates it.

Unfortunately, the electron density of the D-layer does eat up (attenuates) some of our signal. At night, solar radiation and ionizing radiation is gone. The E and F layers combine, and with no deep penetrating radiation, the D-layer disappears. Without the attenuation of the D-layer, this is why signals appear stronger and less noisy at night - because they are!

As stated above, a solar flare is often a good thing from the time of the flare until local sundown ... except in those cases of a very strong solar flare. Its radiation can be so strong that the D-layer becomes nearly saturated with free electrons, such that signals can not pass through at all. Higher above our heads, the E and F layers are also saturated with free electrons and the MUF drops quickly, sometimes to a few MHz or less, or below the lowest usable frequency or LUF. This is a radio blackout. The D-layer consumes virtually all of your signal power, and the MUF can fall to below 3 MHz. This extreme case of a total radio blackout is fairly rare.

Friday's X-class flare was associated with a CME - a coronal mass ejection. As the name implies, a CME is where the flare belched out copious amounts of solar mass - mostly electrons and protons. This is usually an explosive event, forming a shock wave as the CME travels outward from the sun. While the X-rays from the sun travel at the speed of light, reaching the Earth in about 8 minutes, a CME travels much slower than light speed, reaching the Earth in about 3 days ... if the flare and the CME is located near the center of the sun. If the flare is located near the edges, or limbs, of the sun, the CME will travel outward into space, but away from the earth.

Today's X-class flare was a doozie. The shock wave was measured at 1,532 km/sec., about 950 miles per second, and about 3.5 million miles per hour. Anything over about 1,000 km/sec. is considered a strong shock wave and almost guaranteed to trigger a major geomagnetic storm about three days later - if it hits the earth.

Friday's X-class flare occurred in region 1402, located on the limb of the sun. In fact, that region will rotate out of view by tomorrow. Therefore, this strong shock wave is traveling away from the sun and away from the earth. It will not hit us, so it will not trigger a geomagnetic storm. If it were to hit the Earth, it would have produced a severe geomagnetic storm, the type that can even shut down portions of our power grid and knock satellites out of orbit. We escaped this one. Go to: www.spaceweather.com The map of the sun on the left shows where the current active regions are located on the sun. As you can see, region 1402 is on the extreme edge of the sun and rotating out of view. Region 1408 is smack in the middle of the sun. Should a flare occur from 1408 in the next couple of days, that shock wave will hit the earth. (1408 is a weak, unorganized region and not likely to produce a major flare at present). Region 1410 is just now rotating into view and will be towards the center of the sun in a few more days. That is the area to watch for it to grow into an active region capable of producing flares by early next week.

FORECASTS:

NOAA issues a daily summary of solar and geomagnetic activity, and a forecast for the next three days, located at: www.swpc.noaa.gov/forecast.html

In Section IV "Pentiction 10.7 cm Flux" you will see today's solar flux was 142 and the forecast for the next three days (i.e., the weekend) is 120, 120 and 120. Why would the solar flux drop from 142 to 120 so quickly? Like overnight? The reason is because Friday's X-class flare was also characterized as a "Ten Flare." This means the flare was so strong, it affected the solar flux as measured at 2880 MHz, or 10.7 cm (the Ten Flare thing), where the solar flux is measured.

Thus, today's daily solar flux was elevated (contaminated) due to the enhanced ionizing radiation from the flare. Tomorrow, back to normal solar radiation and back to the normal solar flux of about 120. Though, that is still fairly high for the higher bands to be open during daylight hours.

So if you want to work into areas where your QRP signals don't normally reach, start keeping an eye on the solar x-ray emissions (www.swpc.noaa.gov/today.html) for an M- or X-class solar flare. For the rest of the day, you will most likely experience good signal propagation with perhaps an opening of the next highest band. For those of us who still work, I've noticed the good flares always happen like 2-3 in the afternoon with only moments left in the day by the time I get home :-)

At the VLA radio telescope, we were observing today at L-band (1-2 GHz) and S-band (2-3 GHz). The solar flare did affect observing for about 20 minutes in that the "sky temperature" suddenly increased due to the flare. Our switched noise source calibration, which constantly measures system temperature, detected the sudden rise in sky temperature and flagged the data so it was not used for science for the duration of the flare. The biggest problem at the time is nobody knew what caused a 200 degree K shift in system temperature. Basically, the electronics system is always blamed until they realize it was a flare!

Keep an eye on the sun. Solar activity can be advantageous to QRPers if you learn a little bit of the physics and learn to read the "tea leaves." Don't let the news reports of solar flares scare you off the bands.

72, Paul NA5N

Can You Identify the HAM?

Below is a photo of very unusual hard-shell plastic case for an amateur transceiver.

Can you ID the owner of this one-of-a-kind carrying case?

Extra credit for identifying the location where the photo was taken, in case of a tie.

First person with the correct answer is the winner. Results in next issue of FEEDLINE!

The winner will have the honor of seeing his/her name in **bold typefont** in the next FEEDLINE.



Hints

Rig inside the case is an ICOM IC-7000

It's not Andy Warhol's case

"Canton's Best Mix"

Bonus Goodies from the Internet

Want to see how many hams are in the world, relative to each major country?

www.n0hr.com/ham_radio_population.htm

Allow the map to load, then click the RESIZE legend in the center. Neat! There are other options if you explore different maps ("Click Here for More Maps" at the top). For example, did you know that Ohio ranks only behind California in the number of drive-in theatres?

Next, many of you have heard about the band that sings a funny ham-radio tune from atop an antenna tower. Here is You Tube's high-definition version of this popular video.

www.youtube.com/watch?v=p8TXmwOpjJs

Previous QTH Puzzle Results

Can you ID the location?

YES, WE HAVE A WINNER!

None other than our own **Scott Duncan KK8D** identified the young ham in the photo as Andy Krew ND8D (ex KD8NPO).

The shot was taken May 3, 2008 at Pioneer Point at Camp Tuscazoar. Scott was also able to ID the precise location, possibly because he'd been there a few times with his son, also a Scout.

It was a mite drizzly that day, but a wire in the trees and a whopping 10 watts PEP allowed a few contacts on SSB.



The pile of rocks? Tradition at Camp Tuscazoar is for every camper (who is able) to carry a large stone up the hill when visiting Pioneer Point. These stones have made quite a large pile over the years, a reminder of the number of campers who have enjoyed this heritage site.

Philosopher's Corner

The reason a dog has so many friends is that he wags his tail instead of his tongue - *Anonymous*



If there are no dogs in Heaven, then when I die I want to go where they went - *Will Rogers*

If you pick up a starving dog and make him prosperous, he will not bite you; that is the principal difference between a dog and a man - *Mark Twain*

THE FEEDLINE

CANTON AMATEUR RADIO CLUB
P.O. BOX 8673
CANTON, OHIO 44711

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THE FEEDLINE

IMPORTANT CLUB DATES FOR 2012

May 12 - Nazir Grotto breakfast 8:30 AM

May 16 - Wednesday meeting at Stark EOC, 7:30 PM

May 18-20 - Dayton Hamvention

June 9 - Nazir Grotto breakfast 8:30 AM

June 20 - Wednesday meeting at Stark EOC, 7:30 PM

Jun 23-24 - ARRL Field Day

FEEDLINE Publication Will Undergo Changes

Your editor has been honored to have the job of writing and formatting our club newsletter since December 2006. Now comes a time when I feel it's best to allow someone else to serve our club by organizing and publishing club news. This is my final issue as editor of FEEDLINE. New job responsibilities have made spare hours a rare treat, and those few hours must be prioritized. I highly value time spent with family, BSA activities and volunteering with youth at Crenshaw Middle School. These hours will not be compromised. Composing one issue of FEEDLINE as I have done actually takes 20-25 hours. Scott Duncan generously assumed the distribution role some time ago, which was a help. Some ideas about the future of FEEDLINE have been given to club leadership. We all see many print publications changing to other forms of distribution in an effort to get news to the readership more frequently. Whatever form FEEDLINE takes on, I will remain a contributor. You will (unfortunately!) still have to suffer my goofy sense of humor, which has been allowed to creep into these pages from time to time. 73 de NX8J