



Ham Hum

April 2019 Volume LXIX, Issue 4

The AARC program on 8 March, was an informative talk by Sean-AD0QG, on the basics of popular microcontrollers and how they can be used for amateur radio. He began by describing the Arduino microcontroller; its history (originally a learning tool in Italy), its architecture (the CPU is an ATmega328), and its programming (“Sketches” in Arduino terminology). Sean also talked about the Raspberry Pi, which is more of a complete microcomputer than a simple controller. Among other features, it has USB ports, video and audio I/O, Linux operating system, and — on later models — an Ethernet interface. It costs a little more than the Arduino, but is easier to set up. Sean stated that both units are used in a number of kits and passed around several examples for the group to look at. There are a large number of ham radio projects available for the units; a Google search on “Arduino Raspberry Pi Ham Radio” will bring up several million hits. Sean mentioned a book, “Arduino BLINK sketch . The basic Arduino sells for about \$16. More info is available at <https://www.arduino.cc/>. A Raspberry Pi sells for about \$35. see <https://raspberrypi.org/>. Note: Both units require an external power supply to operate.



AKSARBEN ARC Club Meeting – March 8, 2019

The meeting was called to order at 7:00 PM by saying the Pledge of Allegiance followed by introductions by name and call. There were 28 attendees.

Officers and Board members present included: Kevin, KA0VNY; Sean, AD0QG; Brian, KE0GKB; Dave, N0JSB; Dan, N0POT; Bill, WA9ASD

Secretary's Report - Brian, KE0GKB - The minutes of the previous meeting as published in Ham Hum are accepted.

Treasurer's Report - Dave, N0JSB - As of February 28 the club accounts had balances of: Main Checking \$2,924.53 Repeater Checking \$550.62 Savings \$6,977.35, CD Life Member one \$6,437.08, CD Life Member two \$6,690.01, and CD Repeater \$1,103.10 This leaves the balance of all the club accounts at \$24,682.69. In the month of February there were deposits of \$328.08 Consisting of: \$71.00 from Refreshments, \$232.00 from membership dues, \$2.00 donation from NOUP, and \$23.08 from Amazon Smile. Monthly expenses of \$5,176.83 consisted of \$26.83 for meeting treats, \$5,000.00 Transfer to Savings and \$150.00 donation to the Red Cross.

President's Report - Kevin, KA0VNY - I have just received my contract from the Community College and they have moved my night from Tuesday to Wednesday so the board meeting will move back to Tuesday evenings, However the forth Tuesday in March will conflict with Spotter Training so for the month of March the meeting will be held on March 19.

Vice President's Report - Sean, AD0QG - Tonight's program will be "An Introduction to Micro Controllers".

ARES/SATERN/COMMUNITY EVENTS

ARES Steve NOUP - On March 23 will be the Douglas county siren test with a backup date of March 30 if the weather does not cooperate. The siren test will be at 11:00 and 11:30, If you are still available for the new day please sign up online or on the sign up sheet that is being passed around.

Spotter training will be held at 7 PM on March 26 at Elkhorn South High School 20303 Blue Sage Pkwy Omaha, NE. if you can't make that training additional nights are March 28 at the Bellevue Fire Training Facility just off Cornhusker Rd. Additional information can be found on the National Weather's website.

OMMRS - Mary, NOTRK - No Report

SATERN - There will be a SATERN meeting on Saturday April 6 at 1 PM. If you have already signed up or are interested in volunteering, please come, it will be at the Salvation Army Disaster Services Center at 10629 Burt Circle Omaha.

Community Events - Pat KOCTU - May 17 and 18 is Nebraska State Track meet.

Education Committee - Ray N0OIB- We would like to thank Ray for Volunteering for this position.

Membership Committee - Mary, NOTRK - Tonight four people have expressed interest in joining the club. They are Mark Purnell No call sign, Bret Honig KE0TEJ, Randle Scott KE0ULX and KE0UMU Randall Moore. After a brief discussion a motion was made by Ray N0OIB with a second by Dan NOPOT, they were approved by unanimous vote. Welcome new members.

Publications/Web Services Ham Hum - Brian, WE0BEP - No updates

Web Services - Mary, NOTRK/Adam, KDOMMG - The website is working.

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Repeater Committee - John, WBOCMC - The repeater is working fine.

Field Day - Adam, KD0MMG - there will be a meeting to decide the location of Field Day for 2019. The meeting will be held Saturday March 30 at 9 AM at the HYVEE on 78 and Cass in Omaha. There will be a brief meeting and then the members will go out and look at a few sites. Pat, W0OJU asked if there was any interest in going back to Boys Town for this summer's field day. It would be at 136TH and Pacific. He will be contacting Adam with more details.

QSL and Technical Committee - Eddy, K0IL - No report

Courtesy Committee - Help Wanted - This position is open please see Kevin.

Trailer/Equipment Committee - Mary, N0TRK - No Report

Public Awareness - No Report

Transmitter Hunt - Dave, N0JSB - no hunt this month.

Flea-Esta - Chris - No Report

Old Business - No Old Business

New Business - No New Business

Announcements

Pat W0OJU announced that he has returned from Belize, His Radio License V31MC was a little delayed and it was issued just a few days before he returned to the U.S. He plans on returning to Belize for the 160 meter contest in December or possible the 10 meter contest in November.

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The Nebraska State convention and Ham Fest in Lincoln will be held tomorrow March 9.

Heartland Hams Hamfest will be on April 6 at the American Legion Hall 104 North Vine Street in Glenwood, IA Also, on April 6 will be the Bellevue Hamfest located at the Masonic Lodge Dining hall 1908 Franklin Street in Bellevue.

Door Prizes - Door Prizes - [Adam, KDOMMG](#) - "Door prizes, we got em.". All tickets are retained until the December meeting for the big drawing.

Coffee and cookies are available in the break room before the program. Please donate to help offset the cost of these treats.

Also, support your local repeater. The club accepts donations for any area repeater and forwards the money to the appropriate owner.

There being no more business before the club the meeting was adjourned at 7:31 PM.

The next **Coffee and Conversation** is April 20th at the Village Inn --- 10770 M St, Omaha, NE

This is an Unofficial gathering of AARC members and other area ham radio operators to enjoy great food and talk about whatever.

Come on out... 6:30 PM — 9:30 PM.



Area Nets

Monday

7:00 PM 145.290 South-West Iowa ARES Glenwood, IA.

8:00 PM 144.250 NE Missouri SWOT.

9:00 PM 146.940 AARC Chat Net. Ak-Sar-Ben ARC Omaha, NE.

Tuesday

9:00 PM 145.310 Washington Co. ARES Washington Co, NE.

Wednesday

7:00 PM 146.670 Dodge Co. ARES Dodge Co, NE.

7:30 PM 7.122 CW Four State QRP Comfortable Net.

8:00 PM 3.564 CW Four State QRP Comfortable Net.

8:00 PM 145.310 Saunders Co. ARES Saunders Co, NE.

8:30 PM 7.122 CW Four State QRP Comfortable Net.

9:00 PM 3.580.5 PSK Four State QRP Comfortable Net.

9:00 PM 146.820 Pottawattamie County ARES Council Bluffs, IA.

Thursday

8:30 AM 7.122 CW Four State QRP 40M Morning Net.

7:30 PM 145.310- Lincoln/Omaha SATERN Net. Ashland, NE.

8:00 PM 28.350 SSB 10-Meter Net.

8:00 PM 144.250 2-Meter SSB Net.

8:00 PM 146.360 Heartland DX Association.

Friday

10:00 PM 224.760- Tone 146.2 Promote the Band Net

Saturday

12:00 PM 146.82 Swap Net Council Bluffs, IA.

8:30 PM 3.921.000 QCWA Chapter 20.

Sunday

8:00 AM 3.902.500 Swap Net.

8:30 AM 3.896.500 3900 Club.

8:30 PM 443.925+ (103.5 tone) IRLP Net.

9:00 PM 146.940- Douglas Co. ARES net, KØUSA repeater.

BOARD MEETING NOTICE

The next AARC Board Meeting is scheduled for **23 April 2019 at 6:30PM**, Peony Park Hy-Vee on Cass Street, Omaha. Board meetings are held on the fourth **Wednesday** of each month.

Club Officers & Board Members

President	Kevin Hill	KAØVNY	president@aksarbenarc.org
Vice President	Sean Edwards	ADØQG	vicepresident@aksarbenarc.org
2018 Secretary	Brian Sohl	KEØGKB	secretary@aksarbenarc.org
2018 Treasurer	Dave Rice	NØJSB	treasurer@aksarbenarc.org
2019-2021 Director	Dave Rice	NØJSB	board@aksarbenarc.org
2019-2021 Director	Dan Buchholz	NØPOT	board@aksarbenarc.org
2018-2019 Director	Brian Sohl	KEØGKB	board@aksarbenarc.org
2018-2019 Director	Barb Westcott	KCØHLB	board@aksarbenarc.org
Immediate Past President	Bill True	WA9ASD	board@aksarbenarc.org

Club Committees

Courtesy Committee	(Open)	(Open)	courtesy@aksarbenarc.org
Education	Justin Tabor	KEØBHP	education@aksarbenarc.org
Field Day	Adam Kavan	KDØMMM	fieldday@aksarbenarc.org
Flea-Esta	Chris Rice		flea@aksarbenarc.org
Membership	Mary Joseph	NØTRK	membership@aksarbenarc.org
Monday Night .94 Net	Rich Swig	WAØZQG	wa0zqg@hotmail.com
P.I.M.P.	Jim Westcott	KAØKCV	pr@aksarbenarc.org
Prizes	Adam Kavan	KDØMMM	prizes@aksarbenarc.org
A.R.E.S.	Steve Schmitz	NØUP	n0up@arrl.net
Publications	Brian Pitchanau	WEØBEP	hamhum@aksarbenarc.org
QSL Manager & Technical	Ed Edwards	KØIL	qslmanager@aksarbenarc.org
Special Events Coordinator	Pat Joseph	KØCTU	community_service@aksarbenarc.org

Technical Assistance	Ed Edwards	KØIL	technical@aksarbenarc.org
Web Services	Mary Joseph	NØTRK	web_master@aksarbenarc.org

Repeater Committee

Chairman	John Gebuhr	WBØCMC	repeater@aksarbenarc.org
Vice Chairman	Steve Schmitz	NØUP	repeater@aksarbenarc.org
Control Operator	Mary Joseph	NØTRK	repeater@aksarbenarc.org
Club Call sign Trustee	Corby Krick	KØSKW	trustee@aksarbenarc.org
Member	Russ Hilton	ADØQH	repeater@aksarbenarc.org

Other Contacts

ARRL Midwest Director	Rod Blocksome	KØDAS	k0das@arrl.org
ARRL Midwest Vice-Dir.	Art Zygielbaum	KØAIZ	k0aiz@arrl.org
EC Douglas County	Steve Schmitz	NØUP	dcares@aksarbenarc.org
EC Sarpy County	Dennis Mitchell	KCØYKN	
Exams/Vol. Council	Brian Zdan	KMØY	testing@aksarbenarc.org
NE Section Manager	Matt Anderson	KAØBOJ	ka0boj@arrl.org

AARC Ham Hum Post Office Box 24551, Omaha, NE 68124-0551

EQUIPMENT ADS

Items are sold by the Aksarben ARC and inquiries should be directed to

equipment@aksardenarc.org

Home Brew Amplifier

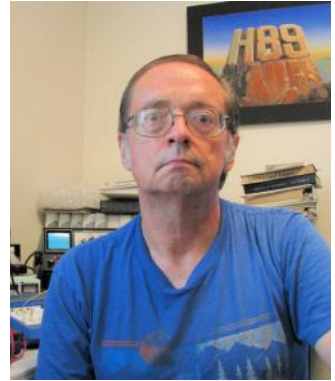
A superb construction of a full legal limit HF amp. by the book. Needs only a 3-1000Z tube and HV P.S. needs to be reassembled. See Aksarben eSwap for more details. just reduced to \$500. We deliver.

Sinclair SRL-229 Base Station Antenna. Gain 6.1 dB (8.3 dBi). Bandwidth 6 MHz (centered @ 144-148 MHz). (Also works 440) Power rating: 300 watts, polarization: vertical. omni-directional. Lightning protection: DC ground. Termination: N-male. Length: 258". Weight 25 Lbs. Rated wind velocity: 125 MPH. Rated wind with 1/2" radial ice: 105 MPH. Horizontal thrust @ rated wind and ice load: 190 Lbs. New price: \$1,338.75 + S&H. Your price: only \$500 (OBO) The antenna has had a minor repair and is in good working order.

Club Calendar

- Apr 10** Lincoln ARC meeting 7:30PM LI-COR (4647 Superior St, Lincoln, NE
Apr 12 AARC Meeting, 7:00 PM, Red Cross, 81st & Spring St, Omaha, NE
Apr 17 Heartland Hams Meeting, 7:00 PM, 403 Railroad Ave, Glenwood, IA
Apr 18 Bellevue ARC Meeting 7:30 PM, 1908 Franklin St, Bellevue, NE
Apr 19 Heartland DX Association, 6:00 PM, Village Inn, 78th and Dodge, Omaha.
Apr 20 AARC Coffee and Conversation, 10770 M St, Village Inn Omaha, 6:30 PM (Corner of 108th and L Streets)
Apr 25 7:00 PM SWIARC Meeting,, 705 N 16th, Council Bluffs, IA
Apr 25 7:30 PM PARC Meeting, 1900 E. Military Road, Fremont, NE
Apr 30 License Testing Council Bluffs, 6:30 PM, 705 N 16th St
- MAY 28** License Testing Omaha ARC, 6:30 PM 2912 S 80th Ave, Omaha, NE
Jun 6 License Testing Lincoln ARC, 6:30 PM, 2701 N 48th St, Lincoln, NE

William Wilkinson, KC0SVZ, a member of the AK-SAR-BEN-ARC since 2004. Bill became interested in electronics as a young kid. He would take apart old radios to see what was inside them, and build projects that would tend to blow fuses in his parents house. During his high school years, Bill did not become serious in electronics until after graduation in 1967. At that time he enrolled in United Electronics Institute at West Des Moines, Iowa where he learned how not to blow fuses quite so often. While at UEI, he passed the FCC exam



for the commercial second class radiotelephone license. However, he didn't try for the novice amateur radio ticket because he couldn't get interested enough to learn code. After graduation from UEI, Bill worked for Collins Radio in Cedar Rapids, Iowa where he tested and troubleshot aircraft distance measuring equipment (860E3) and the ARC-51 UHF transceiver. After a few months, Collins had a big layoff and with no seniority, Bill was included. While looking for work he spent time studying and managed to earn his first class radiotelephone license. This was about the time the Draft Board was becoming interested in him, so he decided to enlist in the Army. After Basic Training he was sent to the Signal School at Fort Monmouth, NJ. Bill spent 10 months there studying digital encryption systems— KG-13, KY-3, AUTOVON/AUTOSEVCOM, and support electronics. Upon graduation, He was assigned to the Army Security Agency HQ in Frankfurt, Germany, then later to Augsburg. At both sites he was part of a team that installed and maintained digital communications equipment at border sites between East & West Germany. Bill received his Honorable Discharge and landed a job as an electronics technician at the Heathkit Electronics Center in Omaha, NE. For the five years Bill was there, he repaired nearly every type of kit in Heath's product line; a fair number of them being ham radio products. In 1979, he was promoted to the Service Publications and Training department at the Heath factory in St. Joseph, Michigan. There, he conducted service seminars and wrote in-house service manuals and service bulletins. He enjoyed writing service manuals as it required exercising both theoretical and practical knowledge of electronics, detailed circuit descriptions, troubleshooting procedures, and schematic diagrams. The manuals included computers, robots, ham gear, televisions, test equipment, and other kits in the Heath line. Working for Heath, Bill said, was the most enjoyable job he ever had; but it eventually came to an end. Zenith Radio took over the computer product line and created a new company, Zenith Data Systems to handle it.

Just about anybody who knew anything about computers, including Bill's department, were transferred to Zenith Data Systems (ZDS). There he divided his time between writing computer service bulletins and maintaining their departments Novell Network. This went on for a few years until ZDS started losing money. Zenith Radio responded by selling ZDS to a French firm, Groupe Bull. They, in turn, started a series of massive layoffs — including Bill, just after his 19-year seniority date; so he moved back to Omaha and went to work in the IT department at US West (later QWEST). Bill wrote manuals on security software: release notes, user guides, disaster recovery manuals, and business continuity plans. It was challenging and interesting, but not as much fun as writing Heath service manuals. Bill worked QWEST for about 10 years, then got laid off as QWEST's stock was plummeting and tech writers were not on their list of critical jobs. He then went to work as an IT consultant (tech writing again) at Bass and Associates until he retired a few years later. While at US West/QWEST Bill decided to get back into electronics ; at least as a hobby. In 2004, he purchased an ARRL Technician study guide, studied it, and passed the test at the next VE session at the American Red Cross building. He immediately joined the AK-SAR-BEN Amateur Radio Club and began attending meetings. He still was not interested in learning code, so he stayed a Technician for several years. Then in 2007, the code requirement was dropped and he again cracked the books and passes both the General and Extra exams in just one sitting. Bill said that was mostly to see if he still knew anything about electronics. He spends what little time he does on the air on two meters. Besides attending the AARC monthly meetings, Bill wrked for five years editing the Ham Hum publication, until he again retired and turned the reins over to the very capable hands of Brian-WE0BEP. However, he still helps out a bit by emailing the PDF copies of the newsletter to the members who request electronic delivery.

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Aerial shot of the
Heath Company in St
Joseph, Michigan.

Hilltop Road



The Heathkit Elec-
tronics Center in
Omaha, NE

Maple Street



Bill's Workbench

In Omaha, NE

Heathkit Electronics
Ctr.

1975



MARCH Door PRIZES

Adam KDOMMG handed out door prizes to the following winners at the March meeting: Randall KE0UMU was awarded a digital multimeter, as did Brown Bag winner, Mitch WOJG. Dan N0POT won a tool bag, while Brett KE0TEJ got a 10" cast iron skillet--which could come in handy for Field Day, DX expeditions, and really small ground planes.

Much to his horror, Brian KE0GKB won the Mr. Reeh Door Prize, which turned out to be a power supply, or something. Anton Reeh's biographer, Bill WA9ASD, was able to provide more details: "It's a power supply for an old laptop. Output voltage is something like 19 V. I think the current rating is something like 2 amps. It also has a strange AC-input power connector - 3 round pins arranged in a triangle. It is probably a switching type supply. No power cord supplied.



Brian, KE0GKB



Mitch, WOJG

The Program for April 12, 2019

Digital Mobile Radio

Differentiate the characteristics of digital radio versus analog radio.