



HAM HUM

Published by
AK-SAR-BEN AMATEUR RADIO CLUB, INC.
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Omaha, Nebraska 68101



Vol. XXVII
No. 9

September 1977

NEXT MEETING

WHEN: FRIDAY, SEPTEMBER 9, 1977

TIME: 7:30 P.M.

PLACE: C.W.A. LOCAL 7400
1920 South 44th Street
Omaha, Nebraska

PROGRAM: A BEGINNERS LOOK AT MICROPROCESSING
Mike McAllister, WBØDXA, will demonstrate some of his first attempts at programming the MC6800 microprocessor. He will also explain the various components and their functions in a working system.

Mike recently acquired this microprocessor and is willing to share with us the excitement in the world of personal computing. He is especially interested in amateur radio applications, obviously.

CW at 300 w.p.m.??? Maybe — come and see!

* * *

VISITORS WELCOME — REFRESHMENTS — EYEBALL QSOs

HAM HUM is the official organ of the Ak-Sar-Ben Amateur Radio Club, Inc., of Omaha, Nebraska, mailed monthly to all members and to others upon request.

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 Regular member and XYL 9.00
 Student member 3.50
 (due and payable each Jan. 1)

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Deadline for October issue is September 23rd

New member initiation fee\$1.00
 Quarterly for balance of year:
 Regular member\$2.00
 Regular member and XYL 2.45
 Student member 1.00

THE PREZ SEZ

Another outstanding (and standing room only) meeting again this past month. Thanks to Jerry Hall, K1TD, for a fine program on those funny little black things called ICs that do so much for us today. Wonder where it will all end?

We are rapidly getting near the fall classes for code and theory. Again we ask that those of you who are interested in helping as instructors please contact Bob Lockwood, WAØDHU, and let him know as we do need some help.

The HF station at this time should be well on its way to being operational. And we owe a lot to those of you who have given of your time, etc. We are sure it will provide many hours of good operating time to those of us who will use it, as well as a fine station for emergency communications when needed.

As I look through some of the magazines I receive each month related to amateur radio, I marvel at the new lines of equipment that seem to be cropping up every month. This reminds me that our local dealers who advertise in Ham Hum handle this equipment, so let's all help support them!

We are again planning our annual picnic this year. It will be held at Missouri Valley, Iowa, at the City Park. You will recall this is where we have held it in the past. We will have a flea market along with many other things to offer you and the harmonics. So plan to attend and have eyeballs! QSOs. The date is Sunday, September 25th, from 10:00 AM till we run out of steam. More on this at the next meeting.

73,
 Bob, WBØLYU

AUGUST 16, 1977 BOARD OF TRUSTEES MEETING

Last month's meeting notes did not appear due to this writer not meeting the printing deadline. Sorry about that!

The Board welcomes Irene Mulick, WBOMPC, as a new Board member, confirmed at the last general membership meeting, as a replacement for Don Taute, WBOPGS, who was forced to resign due to business commitments. The Board thanks Don for his service during 1977.

The upcoming annual club picnic and fleamarket was discussed. The consensus was to return the event to Missouri Valley this year. As soon as arrangements are completed, details will be distributed via all possible means.

The monthly Treasurer's report was read and approved.

The Board received a report from WOYZV on the status of the Zero QSL Bureau. Dick reports that the Bureau is up to date on sorting and mailing, and is operating in the black financially. Dick states that due to resignations, the Bureau could use some new volunteer helpers. This is an excellent way to spend a few hours and be involved in a pleasant Club activity, so let Dick hear from you!

The Board authorized the payment of \$132.96 to WBØBCB to cover the cost of materials used to refurbish the Club's towers. Anyone who helped put up the antennas at Field Day this year would have to agree that the towers and guying materials are in better shape than they have been in years!

The Board thanks Ed and all those who helped him on this project.

Following a lengthy discussion, a vote was carried to purchase the 223.34-224.94 repeater from John, WBØCMC, for \$300.00. This includes the machine, duplexer, and Comprod antenna. Several members who are regular users of this repeater have already donated a substantial sum into a fund which was established for the purchase of this repeater. Further donations to completely cover the cost would be welcomed. The repeater ID will be changed to WRØABQ, and the machine is open and operational as of now.

Tom Thiessen, KØPQR
Club Secretary

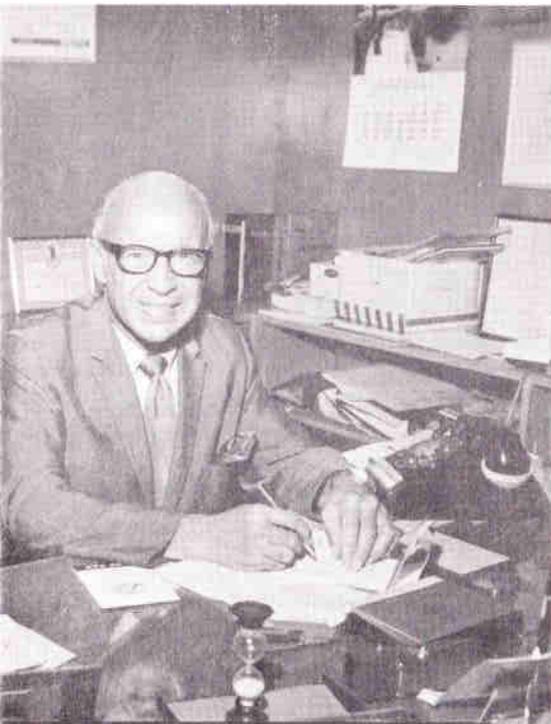
20TH ANNUAL HAMFEST SPONSORED BY PEORIA AREA AMATEUR RADIO CLUB

September 18, 1977 - Exposition Gardens, W. Northmoor Rd., Peoria, Illinois. For advance tickets (\$1.50) and further information write: Bruce Funston, K9PWQ, 304 Indian Circle, East Peoria, IL 61611.

ADDITIONS TO ROSTER

John B. Battleson, WBØPEX
4214 South 62nd Street
Omaha, Nebraska 68117
Phone: 731-8280

Robert E. Davis, WDØBYK
7523 South 76th Avenue
LaVista, Nebraska 68128
Phone: 339-5832



LEO MEYERSON ELECTED TO BOARD OF QCWA

At the annual meeting of the QCWA last month, Leo I. Meyerson, W0GFQ, was elected to their National Board.

Leo's amateur radio activities date back to 1924 and licensed in 1928. Has held same call letters through the years. Started World Radio in 1936 serving amateurs world over until 1968. In 1942 with some previous experience in grinding quartz crystals, sold the Armed Forces crystals which earned his company the coveted Army Navy E Award. President of Globe Electronics; sold in 1970. Organized a DX expedition in 1965 to British

Honduras. Past President of Council Bluffs Radio Club, and presently member of Ak-Sar-Ben Amateur Radio Club, Inc., AREC, Radio Club of America. Affiliated with Red Cross and Civil Defense. Communicator Chief, Council Bluffs, Iowa 1952 Flood Disaster. Past President Kiwanis Club and United Fund. Officer-Director several community and charitable organizations. Presently semi-retired and active on the air.

In addition to the above information from the QCWA membership files, Leo has been very helpful to the Ak-Sar-Ben Amateur Radio Club over the years. In our first Midwest Division ARRL Convention way back when, Leo was very much in evidence as the convention was sponsored jointly by Ak-Sar-Ben Radio Club and the Council Bluffs Club.

Leo has been a member of the Nebraska Chapter of the Quarter Century Wireless Association and it was they who nominated him for the office of Director of the National Association. QCWA was originally founded in the New York City area in 1947, has been growing in membership since, and has now reached a total of 11,500 members with over 8000 active and in good standing. The organization has authorized chapters be formed in various areas. If you have interest in the Nebraska QCWA Net, it meets every Saturday at 9:00 AM CDT on 3980 KHz. If you currently have a valid license and have held such license 25 or more years ago, contact Art Gaeth, W0FQB, if you desire information on membership.

Congratulations, Leo! I am sure you will enjoy this new responsibility.

LADIES ONLY

Summer is fast waning and it will soon be time for the kiddies to head back for school. MY HOW TIME

DOES FLY! One looks forward to summer vacations and before you know it, FALL is upon us, but then how fortunate we are in the Midwest to have beautiful Indian Summer days and nights to look forward to.

Boy what a turnout we had for the last meeting! A Standing Room Only Crowd! How Exciting! This is a high time of the month for me — to attend the meetings and I would not want to miss out on any of them. Our CLUB is certainly on the ball and has a lot to offer each and every individual.

In past issues, I have pretty well covered all paths leading to the NOVICE TICKET and would like to express my thoughts now to the GENERAL CLASS LICENSE.

THE GENERAL CLASS is well worth consideration of Novices and Technicians, or even an individual who wants to get a General Ticket right now! This is the MOST POPULAR CLASS in AMATEUR RADIO. This is easy to understand when you think of all the operating modes and frequencies it offers. Lots more ELBOW ROOM for the graduate Novice or Technician and the opportunity to operate such modes as SSB, RTTY, FM and Slow Scan TV. Also includes VHF, FM and Communications through OSCAR Satellites. All backed up with an increase in input power to 1000 WATTS. We know that a Technician, for the most part, has the VHF privileges that come in the General Class License, but at the same time a GENERAL TICKET gains easy

September 1977

entry for him to all the nations of the WORLD via the high frequency bands. First voice contact (A3 Emmission) with other amateurs around the world is most thrilling and well worth seeking.

Along with these privileges, however, one must work a little longer and a little harder. If you have no license, or a Novice, you must work on the Morse Code and prepare yourself for the written examination in Radio Theory, Operating Practices, and FCC Rules and Regulations. This EXAM is Element 3. Element 2 is the Novice written examination and an unlicensed applicant must take this exam for whatever license he is striving for — in other words, first pass the Novice Test and then you are eligible to take the General Test.

In code you will be tested in both sending and receiving at a rate of 13 words per minute. The receiving part is a five minute message sent in plain language, including numerals, such punctuation as the period, comma, question mark and slant bar. The FCC has recently gone to a general Comprehensive Test in Code and now you are tested on your UNDERSTANDING of the MESSAGE. In this way after your code test ends, you are given a 10 question Multiple Choice Exam on its content. You must have 8 or more answers correct.

I would recommend the new RADIO AMATEURS LICENSE MANUAL as your guide for study of FCC Rules, Regulations, Theory and Operating Practices you need to know to pass the written examination for the GENERAL CLASS TICKET. Also much help can be derived from studying the RADIO AMATEURS

HANDBOOK, AMECO THEORY COURSE, FROM 5 WATTS TO 1000 WATTS, put out by Radio Shack.

Also don't forget our AK-SAR-BEN AMATEUR RADIO CLUB CLASSES which start in OCTOBER. This is a must, GALS, and well worth your consideration! GOOD LUCK IN YOUR GENERAL ENDEAVORS!

88's

Irene, WBØMPC

TEN METER CONVERSION

Somewhere along the line someone came up with the idea to convert CB rigs to a more usable band like ten meters. It is quite easy, for example, to convert a Realistic TRC-30 (Navajo) 23 channel AM rig to ten meters.

First, the frequency determining scheme in the rig was identified. In this rig there are six 23.5 MHz (A) crystals, four 14.9 MHz (B) crystals and two 11 MHz (C) crystals. The frequency is determined by A+B-C.

At first thought it seemed practical and cheap to change the two 11 MHz crystals to 9 MHz, and thus moving the operating frequency up. It turned out that 11 MHz was the first I.F., so that idea was out.

Next, the 14.9 MHz crystals were studied. As an experiment, one was changed to around 16.9 MHz. Theoretically, the frequency should move up. The rig was tuned up and it worked fine.

When making this conversion, the operating frequencies of the radio were moved up exactly 1.725 MHz. The 5 kc's on the end makes the final

frequencies fall evenly, i.e. 28.800, 28.750, etc.

Therefore, channel 10 is now at a frequency of 28.8 MHz, the ten meter monitoring frequency for both AM and SSB.

This frequency scheme is profitable because you can monitor 28.8 and when a contact is made, you can QSY up or down to a clear frequency. Also, in times of high solar activity, the frequencies of high activity can easily be worked. The radio club in Kansas City uses this scheme says Don, WBØNVO, who has done many conversions.

So, change the 14.9 MHz crystals up 1.725 for about \$20, tune up and you're on the air on ten. Almost any type of CB can be converted. I monitor 28.8 MHz, so if you want a ten meter QSO, call me and see what it sounds like.

For more information and a frequency chart for ten contact WBØQPP.

73,

Scott Persson, WBØQPP

Phone: 556-9648

RECENT CONTRIBUTORS

Repeater 22/82

Jon J. Penner, WBØGQT

Repeater 34/94

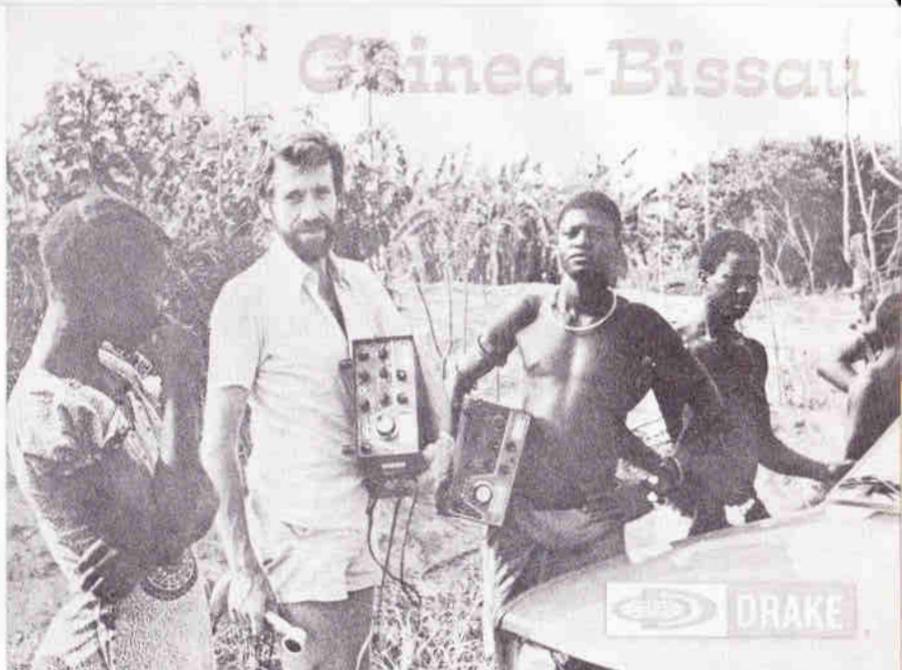
Dick L. Eilers, WØYZV

Jon J. Penner, WBØGQT

David N. Smith, K3CRF

DRAKE

Guinea-Bissau



To RADIO KØKES

Confirming 2 way QSO

	1977	GMT	MHZ	RST	MODE
Mar Apr	5	2335	14	599	2x CW SSB

Verified by SM3CXS, Joergen Svensson
Berghemsvägen 11 S-860 21 Sundsbruk
Sweden

73 de Joe

CR3AGD

operated by SMØAGD, Erik A Sjölund

Guinea-Bissau is a young nation, it became independent in 1974. The population is 900.000 from some 80 tribes. The official language is Portuguese.

I was staying in the capital city Bissau for 3 weeks. From there I worked 4.000 QSOs on 15, 20 and 40 metres. Limited space prevented me from installing antennas also on 80 and 160 metres.

Equipment:

Drake-R-4C, T-4XB, L-4B

Antennas:

HyGain 12AVQ, KLM, 40 m dipole

Organisation:

Sundsvall DX-Group, Sweden

OSL-Courtesy:

R. L. Drake Company

Thank you for your interest in my DXpedition. Since 1971 I have been operating from 14 different countries. I hope to work you also from my next country.

73 de Erik

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INTERESTING QSL CARD DEPARTMENT

Joe Nanos, KØKES, submitted this card from Guinea-Bissau, located on the western coast of Africa.

ANTENNA GAIN

This will be a short article to discuss the gain of antennas. I always get confused when someone quotes me a gain of a particular antenna. The confusion arises because I don't know what baseline or reference point he is using. Normally, in measuring HF antenna gain, the figures are referred to those obtained by using a horizontal dipole (half-wave). In the fm-communications field, the reference for gain is still a half-wave dipole, but mounted in the vertical plane. So far as the FCC rules are concerned, antenna gain is based on a half-wave dipole as a reference. This can be important because many antenna manufacturers use an isotropic source as a reference for listing the gain of their antennas. A common antenna (and the simplest) is the 1/4 wavelength whip perpendicular to ground plane. By comparison to an isotropic source, this antenna shows a gain of .3db. Additionally, the 1/2 wavelength antenna shows a gain of 2.1db over isotropic or 1.8db gain over a 1/4 wavelength antenna. The common 5/8 wavelength antenna, that we see so often on the mobiles, has a gain of 1.2db over the 1/2 wavelength or 3.3db over isotropic. Higher omnidirectional gain is usually accomplished by using stacked half-wave dipoles. As an example, four stacked half-wave dipoles on 146 Mc can provide approximately 6db gain. Usually the maximum number of half-wave elements stacked vertically will be eight (8), which should provide an omnidirectional gain of about 9db.

<u>ANTENNA TYPE</u>	<u>GAIN</u>
ISOTROPIC	.0
1/4 WAVE	.3
1/2 WAVE	2.1
5/8 WAVE	3.3
COLLINEAR	6.0

By: Dick Fenner Ken Schnell
W5AVI W5OBR

de HARC, Houston, TX.

Editors Inch:

NEW RADIO CHALLENGE

How will amateur radio fare in WARC-79 and after? The answer is based, quite bluntly, on a progression of numbers. You don't always realize it but we amateurs have use of a large percentage of frequencies, in comparison to other services using the spectrum. To keep what we have even now we will have to show growth by an increase in numbers. If our numbers are declining we have little hope of anyone making valid arguments for us, no matter how good and/or useful we are. Therefore to expand our frequency privileges we have to have more hams. Who gets them, when, where, how, it's all strictly up to us.

Will we all be able to enjoy the bands we now have when the newcomers take fist to key, mic., etc.? Yes some modes will become more crowded and it will take a little more expertise to operate. But if the operator's habits are not quite to our liking are we going to complain to our old cronies - or are you going to make a courteous an honest attempt to show

(Continued on Page 10)



THE MULICKS

By Jon, WBØGQT

Meet Tom and Irene Mulick, WBØTMI and WBØMPC. Here is an example of two dedicated hams! Tom is currently in charge of the Big Brothers/Sisters program. Irene is head of the ladies' program in our Club and writes the "Ladies Only" column in Ham Hum.

Here is the lowdown on their station. As you can see, they operate a

full line of Drake equipment including a T4XC, R4C, and a TR4C. They also have a Kenwood TR2200 for the VHF band.

Their antenna system includes an inverted vee fed into a *super* homebrew tuner, a Mosley vertical, and a 40' tower and TH3 triband beam that hopefully will be put up before the summer is over.



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Saturday — 10:00 AM — 4:30 PM

(Continued from Page 8)

the person how and why to improve his practices? If you and I don't take that first step (and then the following ones too) to assist after the license arrives then we may as well sell off the gear and let the license lapse because we won't like what we hear, and we will share the blame equally.

This is a unique challenge for ham radio, are we going to rise to the occasion? Some clubs and groups have set up the buddy system. Yes — that's used to teach swimming in camp. In other words each newcomer gets adopted by an experienced ham. Adopted is intended here to mean an

on-going relationship that survives various stages of development.

Can you and I pick up the ball and carry it? Can it be carried as a team?

Dwight B. Hill, K2KWK
de Ra Ra Rag, Roch. N.Y.

Good and bad repeater equipment performs the same, the difference is the users.

HAM HUM SWAP

NO CHARGE FOR SWAP ADS (NON-COMMERCIAL) SUBJECT TO SPACE LIMITATION. MUST BE SUBMITTED IN WRITING TO P. O. BOX 291, SEE COPY DEADLINE PAGE 2.

- FOR SALE: HW 16 Transceiver with Heathkit HG10B VFO-\$160.00;
Tentec KR20A electronic keyer, 3 months old-\$40.00
Call WBØTTL; phone 339-5832.
- FOR SALE: Robot Slow Scan TV gear: Model 70 Monitor; Model 80 Camera;
Model 61 Viewfinder. All three units for \$500.00.
Fred Fischer, WØEGP; phone 391-4193.
- FOR SALE: Mosley CM-1 Receiver-\$100.00;
Eico Transmitter 90 watts-\$50.00.
Want to buy old parts, meters, resistors, switches, etc.
Stan Swim, WBØSYG, 3507 S. 116 Ave., Omaha, NE 68144;
phone 333-1946.
- FOR SALE: Teletype gear; AFSK Mainliner AK-1 TU Unit with scope; Model
19 with Model 15 printer; Distributor; Reperforator (printed
tapes); Tables for 19 & Distributor; Paper and Tape; plus SP 600
Receiver. All for \$400.00.
Fred Fischer, WØEGP, phone 391-4193.
- FOR SALE: 220 MHz Clegg FM76 Xcvr with Omaha rpt and simplex xtals.
Includes 220 Ringo Ranger and 220 Larsen loading coil and whip.
Pkg. deal only - \$140.00.
Tom Thiessen, KØPQR; phone 556-9120.
- FOR
GIVEAWAY: I have many back issues of our Ham Hum dating clear back to
about 1955. Would anyone in the Club like to have some of
these? Also, have many other back issues such as old CQs etc.
Need room.
Call John, WØWRT; phone 556-1538 or 397-3000, ext. 3542.
- FOR SALE: Hufco frequency counter, 650 Mhz to commercial standard.
Asking \$190.00. Tom Martin, KØAMD, 2104 South 48th Ave.,
Omaha, NE; Phone: 558-7839
- FOR SALE: Brand new Channelmaster #9512 T.V. Rotator and 100 foot
cable. Charles A. Michel, KØQVL 8720 Charles St., Omaha NE;
Phone: (402) 391-3782

HAM HUM



AMATEUR RADIO EQUIPMENT

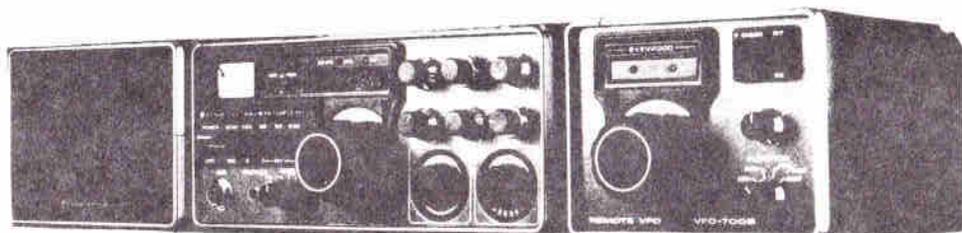
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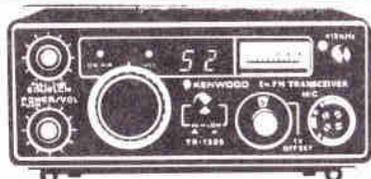


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