

HAM HUM

AK-SAR-BEN RADIO CLUB, INC. - Omaha, Nebr. 68101 Post Office Box 291 - Downtown Station



Vol. XXVI No. 2

February 1976

NEXT MEETING

WHEN:

FRIDAY, FEBRUARY 13, 1976

TIME:

7:30 P.M.

WHERE:

NATIONAL GUARD ARMORY

6929 Mercy Road, Omaha

WHAT.

PROGRAM ON RTTY to be presented by Robert A. Conley, WBQLYU; Donald E. Fey, KQOPZ; James D. Howard, K5TNP/O; and Michael L. McAllister,

WBØDXA.

(Here's an opportunity for you to learn more about the inside and outside of a teletype unit, how it functions, and how easy it is to get involved in this fascinating

mode of communication either on HF or VHF.)

* * *

VISITORS WELCOME - REFRESHMENTS - EYEBALL OSOs

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



Next copy deadline: February 20th

Published b	y
AK-SAI	R-BEN RADIO CLUB, INC.
Post Off	fice Box 291
Omaha,	Nebraska 68101
Editor: Dic	k Eilers, WØYZV
Phone	HOME: 397-3999 BUSINESS: 342-1402 - EX. 20
Associate E	ditor: John Snyder, WØWRT
Phone	HOME: 556-1538 BUSINESS: 397-3000 - EX. 3761
Associate E	ditor: Ervan Heinz, WAØEEM
Di.	HOME: 553-2033

Annual Dues:							
Regular member	*: :	CONTRACTOR N	SACE	1000	 	. \$7.5	0
Regular member :	and	XYL				. 9.0	0
Student member							
(due and payable	eac	h Jan.	1)				

New member initiation fe-	e	¥	,			k	\$1.00	
Quarterly for balance of y								
Regular member						,	\$2.00	
Regular member and XYL	ecci.	ů		*	*	*	2.45	
Student member				*			1.00	

BUSINESS: 554-2656

Phone

CLUB CHANGES NAME

Effective January 21, 1976, the new name of Ak-Sar-Ben Radio Club, Inc. is AK-SAR-BEN AMATEUR RADIO CLUB, INC.

This change is the result of the adoption of an Amendment to the Articles of Incorporation voted at the annual meeting of the corporation on December 12, 1975. It became official upon filing in the Office of Secretary of State.

This will mean a change in all printing, including the masthead in Ham Hum. We hope to have some of these changes made by next month.

JANUARY MEETING

Our January meeting was quite informative. Guest speakers were Paul auer, WØFIR, Midwest Division prector, and Dick Dyas, WØJCP, Vice-Director. Mrs. Paul Grauer was also present.

Ed Eichler, WBØBCB, touched on a variety of subjects related to our Club. He expressed the Board's apology to those members and families in attendance at the Christmas party for the unusual length of the business meeting. Several suggestions were offered to avoid similar circumstances at the 1976 Christmas party. At an appropriate Board meeting, the Trustees will discuss your suggestions.

Charlie Michel, KOQVL, raised the question regarding the permanence of our regular club meeting at the National Guard Armory. It was explained that the Radio Club is on an indefinite status, subject to the National Guard use of the classroom and armory. Each meeting night the Club must have a N.G. personnel present. Hopefully these requirements will not cause any problems. There are not too many places in Omaha that will host 100 people. We are grateful to the National Guard for their facilities.

The January issue of Ham Hum arrived late as you well know. Personnel who normally prepare our Club magazine was called to jury duty ulting in the delay. The Editor makes note that because of higher postage rate, Ham Hum deadline will be moved up so Ham Hum can be mailed third class and yet arrive in time before the next meeting.

Marty Griffin, WAØGEH, briefed the members on the convention and specifically on the Chairman's committee meeting for budget preparation.

Art Gaeth, WØFQB, explained the Big Brothers and Sisters program. (To interject a side note — what are you doing for the growth of amateur radio?) Why not see Art and give a prospective amateur in your neighborhood a chance to find out about the most thrilling hobby in the world. Do something besides twist your knobs — get out and tell the amateur radio story.

AUCTION! Yes, March 28, 1976 Sunday, marks the Radio Club's annual auction. 75 and 2 meter communicators get the message out to Iowa and Nebraska nets. Remember, March 28th, Holiday Inn High Rise, 72nd and Grover. Buffet dinner at noon for those who wish. More details at February 13th Club meeting. Don't forget!

Bob Lockwood, WAØDHU, has resigned as EC for Douglas/Sarpy County for various personal reasons. Evidence of his three-year tenure was well appreciated by the applause and congratulations for a job well done. His dedication to amateur radio must inspire all of us.

Jay McAleer, WAØLLQ, brought several electronic dictionaries, a donation from Heath, and Paul Grauer contributed ARRL books for the drawing. Mrs. Grauer drew the magic numbers for those who received the prizes.

Paul Grauer introduced Dick Dyas, WØJCP, the newly elected Vice Director for Midwest Division. Paul then gave us the story of ARRL with particular reference to the fact a Board meeting would be attended shortly and that he and Dick were making preparations for the meeting. Part of the preparation was to carry on discussion with us as well as meeting with the League officials. Paul also gave us an update of happenings at ARRL and indicated some of the problems we are facing, after which he went into a question and answer period.

Many thanks to Paul and Dick for coming to our meeting. After refreshments, we adjourned the meeting.

KØKES TO EXECUTIVE COUNCIL

At the January 9, 1976 meeting, the membership approved the selection of Joe Nanos, KØKES, to fill the Board vacancy created by the resignation of Bill Leatherwood, WAØZUR. Good luck, Joe, for your term in 1976!

NEBRASKA CHAPTER QCWA NEWS

Officers for 1976, Nebraska Chapter QCWA, are: Pres., WØUFD; Vice-Pres., WØMW; Secy., WØFQB; Treas., WØVYX; and Directors, WØGEQ, WØLEF, WØMYT, WØWKP and WØZNI. Total membership 62.

Art Gaeth, WØFQB, Secy. Nebraska QCWA *********

RECENT CONTRIBUTORS

Ham Hum Postage Millard J. Edgerton, WA6VZZ

Autopatch 22/82

David L. Daniel, WAØSVO Charles F. Kelly, WAØUZX & XYL Marjorie, WNØKHO John H. Lapsley, WAØTIF Patrick J. Murphy, W6HXT Erwin A. Petersen, WBØIQA

Repeater 10/70

Robert A. Conley, WBØLYU Martin J. Griffin, WAØGEH Gary D. Maples, WØOXT

Repeater 34/94

Erich J. Bahr, WØHRK Jack T. Barnett, WAØCMK Norval E. Bowen, WAØNPF & XYL Connie, WAØMYF Chester L. Doll, KØPTG Richard W. Harper, WBØMWB William D. Hewitt, Sr., KØIPT Charles F. Kelly, WAØUZX & XYL Marjorie, WNØKHO James B. (Jim) Kerkhoff, WBØMMC Joseph A. McCool, WBØNFF Patrick J. Murphy, W6HXT/Ø Ronald L. O'Brien, WAØSCM James B Wilson, Sr., WBØJPN & XYL Kay *******

A second-floor tenant called the party below and shouted: "If y don't stop playing that blasted saxophone, I'll go crazy!"

"I guess it's too late," came the reply. "I stopped an hour ago."

The Ansars

AMATEUR RADIO/ PUBLIC SERVICE/ PUBLIC RELATIONS

In the January issue of Ham Hum, on Filbert, KØAJO, raised certain points that I feel are well worth discussing at some length. The overall flavor of Don's letter was criticism of certain public service activities which have been conducted on the 34/94 Omaha repeater. My reply will be in two parts. First, a general discussion of the relationship of Amateur Radio and public service, followed by a response to some specific allegations that Don has made.

The very first paragraph of the FCC Amateur Radio Service rules and regulations states that one of the fundamental purposes of Amateur Radio is expressed in the following principle:

"Recognition and enhancement of the value of amateur service to the public as a voluntary noncommercial communication service, particularly with respect to providing emergency communications."

You will note that we, as radio amateurs, are charged with providing that recognition and enhancement of the value of our radio service, and that such public service, while directed to emergency communications, is in no way limited to emergency communications.

I also reference paragraph "C", of ticle III, of the Articles of incorporation of the AK-SAR-BEN Amateur Radio Club, Inc. It states, as follows, that one of the objects and purposes of the club is:

"To promote the use of amateur radio in connection with all public

and civic affairs, such as, fund raising drives and campaigns, community service in general, and any other similar cause."

There can be little doubt that we are directed by both the FCC and the constitution of our radio club to maximize our value as a communication service to the general and specific public. If we fail to do so, then we are not providing any reason for our continued existence.

If we recognize the necessity for amateur radio to be active in the area of public service, the next question to be answered is, what is "public service." In my own opinion, public service consists of meeting a need for volunteer radio communication. I don't believe that public service must be only those situations which are emergency/life or death in nature. In fact, most amateur public service communications operations are fairly routine, unglamorous, and at times downright dull. Yet, they do meet somebody's need for communications. Perhaps we should examine requests for amateur communication on the basis of the following criteria:

- Does a primary means of communication already exist or is one available? If so, then maybe there is no need for amateur communications.
- If primary communications exist, amateur radio may still be of service by filling a particular void in the primary communications system or by acting as a link between two primary systems which cannot otherwise directly communicate.

 Finally, while a primary communications system may exist, and apparently be fully capable of handling expected communications, there may be a need for amateur radio to act as a standby or back-up system, to handle that which is unknown or unexpected.

I feel that if we can meet the above criteria, then we have a valid case for providing amateur radio public service communications. Note, I did not base these criteria on the amount of amateurs participating in the operation, the number of people or institutions served, or the importance of the traffic handled, if any, Very often, we are called to provide amateur communication on a "just in case" or "what if" basis. The information being handled is important to someone, or they wouldn't have asked us to handle it! We should judge public service on the basis of whether or not we are meeting a public need. It is unimportant how limited that public is, how small the need is, or how insignificant the traffic might be to us. Everytime we assist people or organizations, we gain friends for amateur radio. Friends who will tell their friends. Organizations that will tell their state and national associations about what ham radio did for them

Finally, I would like to refute some of the statements that are contained within Don's letter, as many of them are not fact, but simply implication, innuendo, and half truth.

First consider the following quotes from his letter: "too much repeater time...too many occasions...too many projects...over-commitment of our facilities and personnel..." To the best of my knowledge, outside of the weather watch activity, there has never been more than one public service operation per month on the Omaha repeater. In some months there I been no public service activity at all. Assuming that we schedule one public service project per month, that means the repeater will be "tied up" exactly 12 days out of 365. Since most public service operations take only an afternoon or an evening to complete. you can't even say that the repeater will be tied up 12 complete days. Does this constitute "too many," "overcommitment," or a disproportionate use of the repeater for public service to the detriment of routine ragchewers? I personally consider 12 public service operations a year to be a sad under-utilization of our excellent communication systems and abilities.

We hold our weekly AREC net on the repeater, but where does actual AREC training come from? It comes from public service operations! They are the best way we can have actual practice in traffic handling, net control dispatching, and on the spot decision making/problem solving. The weekly net serves only to pass general information and has only minimal training value. There is no way the amateur community of greater Omaha could have performed as well as it did following the May 6th tornado, unless we had the prior practice we did via previous public service operations.

Another criticism was directed the canoe race/raft race of last summer.

Let me state the following facts, and you be the judge:

- The races were sponsored by the Douglas County Bicentennial Committee and the Great River Raft Race Association, both nonprofit organizations.
- Amateur radio, via the river checkpoints, was used to insure the safety of all participants by keeping an accurate and timely accounting for all rafts or canoes.
 - Amateur radio provided communications for those participants who left the race prior to completion, often leaving the race in isolated areas where there was no readily accessible other form of communication.
 - Amateur radio provided information to many spectators who waited at the finish line for news of their friends, neighbors, relatives, and spouses.
 - 5. To the best of my knowledge, amateurs have not conducted operations on the Missouri River using the repeater. Any lessons learned last summer, and there were some, will assist us should we have to conduct operations on the river in the future.

Objection was raised to "perpetual 'weather watches' for the Omaha Public Works Department." The facts are:

 Public Works has requested this information to augment information they already receive. They want the information and they welcome the information. It is obvious that they would not ask for this information if they had their own means to gather it.

- The more information that Public Works has from as many sources as possible, the easier and quicker it is for them to plan the clearing of the streets of ice and/or snow, to the benefit and safety of all motorists.
- 3. Weather watch activities for Public Works have not been conducted more than three times this winter, always on an informal basis and never for more than a few hours at a time. I hardly consider this to be "perpetual" or even excessive!

I agree with Don that the repeater should not be relinquished to anyone and everyone who should so desire its use for some communication operation. However, all past public service operations have been scrutinized by members of the Club Board and/or the leadership of the AREC. I feel that these individuals are mature adults who are quite capable of making the proper decisions. Let me also point out that our repeater receiver site on top of the Woodmen Tower exists, not because hams are good guys and need a high point for their repeater in order to carry on effective ragchewing, but because the Red Cross intervened in our behalf to convince the building management that our occupation of a cost free spot on the top of that building was necessary for effective public service and emergency communications. Please consider this factor when you are prone to criticize a public service activity on 34/94.

In closing, I will issue two challenges to Don. First, try getting out there and assisting your fellow amateurs who believe in public service.

Come out with them in the freezing cold while they pick up toys for tots. Spend your Sunday afternoon and burn your gasoline while on a bike-a-thon. The guys who perform these public service operations don't deserve one word of criticism and they should get pages of appreciation and thank you's from all hams.

Second, I think we are all aware that our hobby may be headed for trouble. We sure could use some of your time and some of the 26 years of experience as a public relations consultant to help us all sell the ham radio story.

Don's letter does call my attention to a flaw in the communications within our Club. Had we — the Board, the Repeater Committee, and AREC — adequately informed all members as rules and policy were formed for use of the repeater, and the reasons and purposes of public service projects over the years, perhaps some of Don's letter would have been different.

I urge every ham who has an opinion of any kind on the above subjects, to express it in writing or verbally to the Club President, any member of the Board of Trustees, Repeater Committee or AREC. A comment to Box 291 will be delivered to the Board.

Gary D. Maples, WØOXT Emergency Coordinator Douglas/Sarpy County AREC

Small boy to mother: "Can I help Dad put on the snow chains? I know all the words."

de W6SD Carrier

RECEPTION FOR GAETHS

WØFQB and YF will be celebrating their 50th Wedding Anniversary via an open house at the Trinity Methodic Church, 6001 Fontenelle Blvc. Omaha, on Sunday, February 22, 1976, 2:00 to 4:00 p.m. All friends invited. No gifts please.

Art Gaeth, WØFQB 1/12/76

MEMBER NEWS

Robert A. Conley, WBØLYU, was recently appointed by ARRL as Route Manager and Official Relay Station for Teletype for the Nebraska area.

* * *

Scott Woskoff, WBØLYT (age 18) passed his extra class exam and code on Thursday, January 15th.

Jim Wickham and Jim Peterson, WBØQGV, passed the general class exam.

Pat Scolla, WBØEGR passed the advanced exam.

Congratulations to you all!

ANYONE ASSIST?

WØAP advises that W8QZ, Springfield, Ohio, would like to schedule a Nebraska SSTV station to comple WAS. If you can assist, conta-WØFQB, who will supply information and return postal card towards scheduling, Tnx.

Art Gaeth, WØFQB

CHRISTMAS PHONE PATCHES APPRECIATED



December 30, 1975

Amateur Radio Operators c/o Mr. H. L. Tinley 2014 Smith 107th Street Omaha, Nebraska

You made three very happy patients at Douglas County Hospital through your Christmas calls to their relatives. I'w sure you realized that it had been some time since they had talked with them,

On behalf of Debbie, Linda and Nettie, a big Thank You. You made the Holiday Season much more joyful for them.

You are all wonderful to give of your time to bring this happiness to our patients.

Cratefully,

(Mrs.) Ruth C. Blankenship Director of Diversional Activities DOUGLAS COUNTY HOSPITAL AND ARNEX

RCB:cmw Enc.

COVETY EGAIN DF COMMISSIONESS

MICHAEL LAWREST DEDXGE A REGIEWICE

WHEN ANY THEY DATED DANN C. UNITE

I WOTOKN

(More on next page)

E. C. BURTCHARD 9906 BEDFORD OMAHA, NEBRASKA 68134

December 1975

Dear Hugh:

On behalf of the many hospitalized American War Veterans I want to thank you and all the people that made it possible, Sunday December twenty first, to visit by short wave and telephone to their families back home.

May the good Lord bless you for your interest in your fellow man.

Thanks.

V. A. Hospital Volunteer.

Douglas County Hospital Polunteer Services This Certificate is issued to Amuteur Hadio Operators In grateful acknowledgment for Volunteer Services issued this 30th day of Obcember 1975 Director of Diversional Activities

REPEATER UPDATE (As of 1/19/76)

Behind the scenes work continues on the club supported repeaters. ough some things must be postponed for warmer weather. Last year, the club Board of Trustees authorized the purchase of a Comm Prod gain antenna to be placed at the 34 receiver site on top of the Woodmen Tower. This antenna would replace the existing four pole which has seen many years of service at the site. This new antenna is now available, but it does present some installation problems. A Comm Prod antenna is a fiber glass pole approximately 20 feet long. which does not disassemble. Our problem is getting the antenna to the top of the building. It won't fit in an elevator and it won't bend enough to go up a stairwell! Anybody have any ideas on how to get the antenna to the top of the building?

Recently, the final tube in the 34/94 xmitter was replaced as its power output had fallen to about 20 watts. The 5894 final tube is not replaced as soon as power output falls off of a maximum of 60 watts, as each 5894 costs \$46.00. However, the new 5894 only loads to about 40 watts. A check of the SWR indicates that it is about 3 to 1. Apparently, the 94 transmit antenna needs some work also (in warmer weather!).

A 100 watt solid state amplifier, conated by WBØBMV, has been tested d found to be perfectly operational. A driver unit for this amplifier is presently in the works. A solid state 12 VDC power supply was donated by WBØMSN and will be used to operate this combination. Sometime

this spring, this solid state system will replace the existing tube type 94 xmitter, hopefully giving higher power and greater reliability.

Progress on a remote receiver for 22/82, to be located in west Omaha, has been slow, but is continuing. With luck, this will be operational by this summer.

The repeater committee is still in need of 450 MHz transmitting equipment to be used for control station purposes.

If any repeater user or club member has a question or suggestion about our repeater facilities, please contact any member of the repeater committee, the Club Board of Trustees, or any club officer.

Gary Maples, WØOXT
Secretary, Repeater Committee

FORMER MEMBER NEWS (Via John, WØWRT)

Dear John and Ak-Sar-Ben. Season's Greetings from sunny Palo Alto — W6 land. Working mostly 2 in FM. Am a charter member of AMCOM Repeater Club, Inc. located on ridge above Hayward, CA, just across the bay from us. Freq. 147.63/93, WR6AEV. Open to all 24 hours.

Enclose some \$'s for postage on Ham Hum.

73s to all, "Edgie," WA6VZZ *********

If at first you don't succeed, you are like the rest of us.

deW6SD Carrier

February 1976

HAM HUM

Page 11

SOME GENERAL POINTS TO CONSIDER ON FM

- Signal strength is proportional to audio in an FM receiver. Not true. A common misconception; audio volume in an FM receiver is solely a function of deviation (modulation). In addition, band width is solely a function of audio levels and has nothing to do with audio frequencies.
- 2. Signal strength is measured in "S" units on FM. Not true. As a signal increases in strength in an FM receiver, it causes a reduction of noise in the IF and at about the point of limiting the noise level drops about 20 db from its no signal level. Hence, the strength is referred to as the amount of quieting produced at the audio and after the 20 db point, any further increase in signal will produce no (or little) further decrease in noise; this point is considered as full quieting.
- 3. On VHF (specifically 2 M) which will increase the range the most? Assume the transmitter is 1 watt into a quarter wave antenna on the roof. (a) Raise the power to 100 watts; (b) Change the antenna to a 5/8 wave; (c) Raise the height of the antenna to 50 feet above the house; (d) Go to a beam antenna 50 feet above the house.

In the case of VHF, the primary factor in determining the range in point to point communications is the antenna and its location, especially its height above average terrain. Secondly in importance are transmitter power and equally important, receiver sensitivity.

- 4. Occasionally one hears a new-comer to VHF (FM) talking on the repeater and a common line is, "You sure have a good signal out here in North Omaha for only a watt in LaVista." He has not take the time to realize that he's not hearing the 1 watt in LaVista but the 60 watt repeater, and it's the repeater who is hearing the 1 watt from LaVista.
- 5. Most amplifiers for FM are not linears. They are Class C and non-linear as can be. Since FM has a constant amplitude, it follows the same transmitter techniques as CW. Even though it uses low level modulation, the sidebands produced are due to a change in carrier frequency rather than amplitude so the amplifiers non-linearities don't hurt a thing; the efficiency is much higher, and no audio distortion results.
- The four most common causes of distortion on FM are: (1) Too much modulation; (2) Carrier off frequency (2) KHz or more usually); (3) Malfunction in the transmitter audio section; (4) Malfunction in receiver (in which case everybody sounds bad).

Most repeaters are old commercial equipment designed for ± 5 KHz deviation and many are not tolerant of much more. If your transmitter is adjusted higher than 5 KHz deviation, it will usual cause the squelch circuit to cloon audio peaks resulting in a chopping out, especially if the signal is weak.

Finally, I hope the above will be helpful to those not too familiar with VHF or FM and to the newcomer to 2M.

John Gebuhr, WBØCMC

ADDITIONS TO ROSTER

Earl A. Coolman, WBØPHP 13608 Wright Street Omaha, Nebraska 68144 Phone: 333-0599

Merna Filley (XYL of WBØKHR) 2630 North 70th Avenue Omaha, Nebraska 68104 Phone: 553-8626

Wayne L. Goetz, WBØHEU 6734 Curtis Avenue Omaha, Nebraska 68104 Phone: 571-7321

Doni Halbert, WBØQMW (XYL of KØBOY) 7109 South 79th Street Omaha, Nebraska 68128 Phone: 331-1433

G. H. (Gil) Hoellerich, WBØKTZ 1626 South 107th Street Omaha, Nebraska 68124 Phone: 397-0374

John Kruse, WNØPHN 1301½ South 10th Street maha, Nebraska 68108 Phone: 341-8871

Donald R. McMullen, WBØMUC 12241 Kuehl Circle Omaha, Nebraska 68137 Phone: 895-2178 February 1976 William F. Seipel 9653 Camden Avenue Omaha, Nebraska 68134 Phone: 571-4712

Wayne Van Riper, Jr., KØKKT 6916 North 57th Street Omaha, Nebraska 68152 Phone: 573-5640

Kay Wilson (XYL of WBØJPN) 6616 North 46th Avenue Omaha, Nebraska 68152 Phone: 455-4259

"Sir, did I hear correctly," asked the new secretary, "I'm to make twenty-six copies of each letter?"

"Yes, that's right," replied the boss.

"May I ask why?"

"Sure. We file one under each letter of the alphabet. Then we're sure of finding them."

Masonic Bulletin

The teacher looked up from her desk and said, "Frankie, why aren't you doing your essay?"

"I ain't got no pencil," replied Frankie

"My, my!" exclaimed the teacher, "such English! You should say, 'I have no pencil. He has no pencil. You have no pencil. We have no pencil.'"

"Well," replied Frankie, "who's got all the pencils, anyway?"

The Kleinknecht Encyclopedia

HAM HUM

Page 13

HAM HUM SWAP

FOR SALE: Heathkit SB-301 Receiver and SB-401 Transmitter, Excellent

Heathkit SB-301 Receiver and SB-401 Transmitter, Excellent

condition. Has worked over 200 countries. WØKH, Charlie Wolfmeyer; phone 571-2234

WANTED: I would like to wish Happy New Year to the members of

AK-SAR-BEN RADIO CLUB, INC. and all readers of HAM HUM.

Charles Michel, KØQVL

FOR SALE: Hallicrafters HT-44 Xmtr; Hallicrafters SX-117 Rcvr; Hallicrafters

PS-150-120 Power Supply & spkr - \$250.00

Jerry Coufal, WBØDEK; phone 731-4482

FOR SALE: Robot SSTV, camera and monitor. Like new.

AND Jay C. McAleer, WAØLLQ; phone 339-3448

WANTED: Novice receiver for Handi Ham.

Jay C. McAleer, WAØLLQ; phone 339-3448

REPEATER COMMENTS

Sitting in a motorized wheelchair in the Haven House Care Center, 1540 North 72nd Street, with my Regency 2 meter rig on the air 24 hours a day, I have the opportunity to monitor the repeater frequency constantly, and would like to add to the comments of D. H. Filbert, WØAJO, on page 13 of the January Ham Hum and those of WBØCMC.

Violations of FCC Rules regarding business transactions occur several times each day. Long discussions of private projects, such as the construction of touch-tone pads, where to buy parts, or a specific kind and model of rig, all tie up the repeater frequency tile legitimate inquiries are waiting.

This location is in the heavy damage area of the 1975 Tornado; in fact, this building was severely damaged. If such a disaster came today, this would be an ideal observation point and communications center to help direct emergency vehicles avoid obstructed nearby traffic ways — but not if the repeater was tied up with trivia. I agree that this should be a subject to be discussed at a Club meeting, and certain useful and legal rules set up concerning the use of the facility.

It is sometimes impossible to distinguish call signs, and I heard a comment on that by an employee of the FCC Monitoring Station who recently visited me here in the Care Center. He also mentioned the practice of many repeater users who do not use the correct sign-out procedure. I, for one, am guilty of this violation, and will "do it right" in the future. If I slip, please call it to my attention; I will not take offense and will appreciate it.

de Royal Enders, KØLYO

NOT \$150 OR \$75 -- LOOK AT THIS LOW PRICE!

Basic Scientific Calculation, with a Memory Register and an 8-Digit Display and Built-in Rechargeability

Here is a calculator offering a lot of figurework ability in a small size—an achievement of Sharp's technical and research know-how. The EL-8109 can do both trigonometric and inverse trigonometric figuring, logarithmic functions, and a host of other calculations.

- . X to Y power calculations
- Radius/degree conversion
- Square root extraction
- Exponential functions
- Reciprocal calculation
- . Chain multiplication and division
- Constants in calculation
- . Memory register

Size: 31/4" x 53/8" x 11/4"

Power: Three (3) Penlight Batteries Included

AC Adapter/Charger Included.







Sharp EL-8109

HERE IS A CALCULATOR ALL' THE SCIEN HAM THE USE THE SCIEN TIFIC FUNCTIONS TO DO THE EVERYDAY PROB-ON CIRCUIT LEMS AND DESIGNS. ANTENNA

SAVE YOUR RIG!

SHUR-LOCK FOR 2 METER MOBILES

- SHUR-LOCK will accommodate a unit with overall dimensions including mounting bracket up to 3½" High and from 4½" to 9¼" Wide.
- Prevents access to rig's mounting hardware
 No special tools
- Ing hardware
 No special tools
 Tempered steel no pick lock
- Also great for tape decks
 Satisfaction Guaranteed
 Special pry-proof hardware

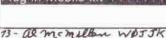


\$14.95

THE ATLAS 210x/215x

- Solid state SSB/CW transceivers
- · 200 watts P.E.P. input
- No transmitter tuning

210x or 215x \$649 AC Console 110/220V \$139 Portable AC Supply 110/220V \$ 95 Plug-in Mobile kit \$ 44





ATLAS 210X/215X



\$199.00

THE DD-6 DIGITAL DIAL PLUGS INTO ANY ATLAS. THE VERY BRIGHT LED DOT MATRIX DISPLAY READS TO 100 Hz., BOTH XMT& RECV. JUST 1.25×4.5×5 In.

BOX 864 PHONE: 1601 AVE. "D (712) 323-0142

Council Bluffs, Iowa

Bluffs, Iowa -51501

STORE HOURS ARE: TUES. -WED. -FRI..... NOON TO 5 PM.
THURS. NOON TO 8 PM & SAT. 9 AM TO 5 PM.