



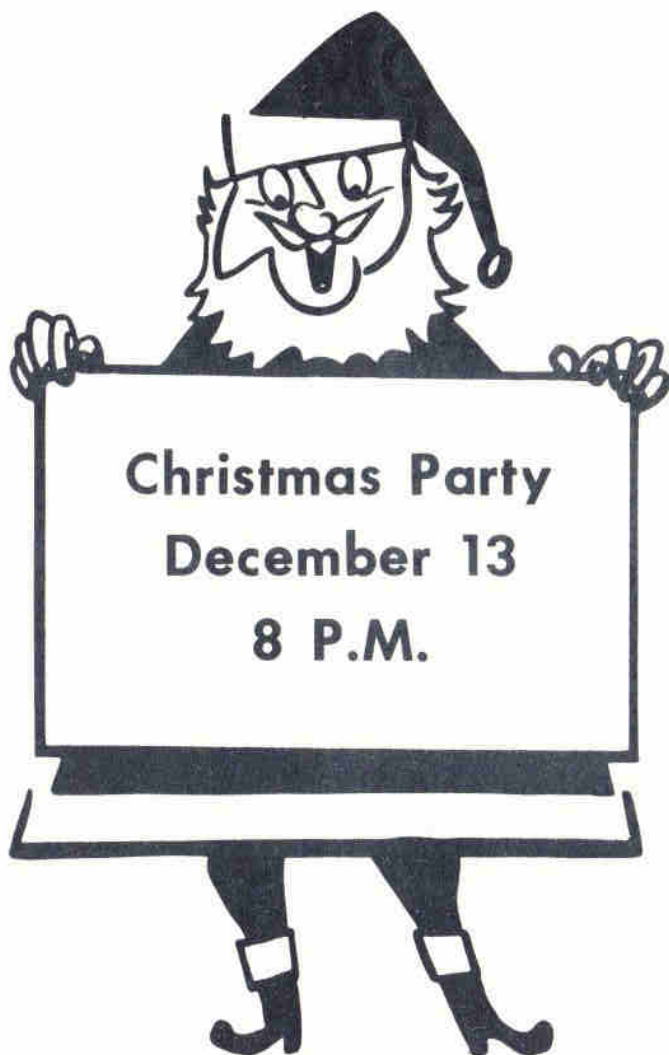
HAM HUM

Published by
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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.



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CHRISTMAS MEETING

The meeting on December 13, 1963 is the annual meeting of the Ak-Sar-Ben Radio Club, Inc. In addition to the election of officers it is our custom to have a Christmas party for the members and their families.

The meeting will be held at 8:00 P.M. in the Cafeteria of the World Insurance Company, 203 South 18th Street.

Each member is requested to bring a gift of a dollar value for exchange with another member. In addition, the Club will bring such other Christmas presents as can be procured and added to the pile of gifts so that each member will have one or more gifts. Guests also will be welcome and may bring a present or not, as they please. There will be a special drawing of a gift or gifts for guests only as well as a special drawing of a gift for the XYLs and some special goodies for the children.

For entertainment we have arranged with Red Weiner to bring us a combination program. Red is both a ventriloquist and magician and will give us entertainment suitable both for oldsters and youngsters.

Refreshments will consist of ice cream and cake - that good homemade cake which will be furnished by several of the XYLs - along with coffee or pop.

So stick the XYL and Junior Ops in the car and come to 203 South 18th Street at 8:00 P.M. on December 13th. The weatherman promises a good snowy evening and we should have a good white Christmas party.

NOMINATIONS FOR 1964

The annual meeting of the Ak-Sar-Ben Radio Club, Inc. will be held the second Friday in December and its main purpose is to elect new officers for the following year. Our Constitution calls for the election of a president, vice president, and four members of the Executive Council each year. The president and vice president are elected for a one-year term. The Executive Council members are elected for two-year term. The president stays on the Board of Trustees as the immediate past president for one additional year.

This means that four members of the Executive Council and the immediate past president remain on the Board of Trustees for one more year and they, together with the six new ones, constitute the eleven-

Board for the operation of Club.

A nominating committee is appointed each year by the president, said nominating committee composed

of the president and two past presidents. This nominating committee is to nominate the officers and members of the Executive Council to be elected at the next annual meeting.

At the meeting on December 13, 1963 the nominating committee will place in nomination the following names and we give you a brief write-up of each:

For President

Louis A. Cutler, WØVLI (presently Vice-President of the Club)

Age: 59

Address: 6227 Florence Blvd.

Phone: 455-7143

Wife: Minnie

Children: Four - all married (8 grandchildren)

Employment: Architect (self-employed)

License: General - 9 years

Hobbies: Hamming, on almost every band, very active mobile; Major in CAP

For Vice-President

Ralph E. Erts, WØSMY (presently Board member of the Club)

Age: 38

Address: 5019 Burt Street

Phone: 556-5625

Wife: Margaret

Children: Helen Anne, age 2; Susan Lee, 4 mos.

Employment: Insurance Service

New England Life Insurance Company

License: Tech - 8 years

Hobby: (Other than Ham) Model Railroads

For the Executive Council

Edmond E. Donze, WØYEV (presently Board member and Treasurer of the Club)

Age: 53

Address: 2926 S. 21st Street

Phone: 346-6867

Wife: Maxine

Children: Daughter, Barbara; Son, Fred (both married)

Employment: Carpenter (self-employed)

License: General - 8 years

Hobbies: All aspects of radio, hunting, fishing

(For the Executive Council - cont'd)

Dick L. Eilers, WØYZV (presently Board member and Secretary of the Club)

Age: 49
Address: 1318 South 78th Avenue
Phone: 391-2255
Wife: Julie
Children: Sons - Tom, Dick, Jr. and William
Employment: President, World Insurance Company
License: Tech - 18 years
Hobbies: Photography, golf

Alan McMillan, WØJJK

Age: 33
Address: 1441 Madison Avenue, Council Bluffs, Ia.
Phone: 323-9737
Wife: Donna
Children: Daughters - Deborah, age 12; Roberta, age 11
Employment: World Radio Laboratories
License: Advanced - 15 years
Hobbies: Hamming and Bowling

John W. Orr, WØPHW

Age: 40
Address: 8310 Emmet Street
Phone: 393-3863
Wife: Evelyn
Children: Daughters - Tay Lynn, age 3½; Tracey Ann, 18 mos.
Employment: Instructor - Northwestern Bell Telephone Company
License: Advanced - 23 years
Hobbies: Pure Science; Woodworking

The five remaining on the Board are:

Joseph F. Berounsky, KØQDB
Robert Dickson, KØIAM
Ralph E. Erts, WØSMY
Wendell M. Larsen, WØNPA
Robert E. Margritz, WAØBIE

Should Ralph E. Erts, WØSMY, be elected Vice-President, this would cause a vacancy on the Board which vacancy would be filled by a selection of the Board and approval by the members at the next meeting.

The CQ magazine for December 1963 has just been distributed and there is an article contained therein by Bob Brown, K2ZSQ in the VHF Amateur Section, showing an example of what can happen to an amateur causing TVI. If the facts are as given in CQ, then this case could possibly set a precedent for future rulings. I urge each of the club members to get this new issue of CQ and read the editorial by Brown. The future of amateur radio could depend on this and other similar incidents. I would like to see our Board of Directors take a stand on this after more investigation is made of the case.

Also some very necessary reading is in the December '63 QST - an article entitled "Amateur Radio and Public Service" by Ivan H. Loucks, W3GD, Chief of the Amateur and Citizens Radio Division of FCC.

After seeing how many mobiles turned out (I should say how few) for the most recent fund drive, I would say that reading this article is necessary. I would imagine that Wendy Larsen must feel discouraged with the lack of cooperation. Perhaps part of the trouble is in the lack of publicity and if so, certainly something needs to be done. The fellows in the local ragchews on 20, 10, and 6 meters could do their part in giving these drives and the club meetings a bit of publicity.

John, WØWRT

Gonset G 76 Transceiver
AC Power Supply and Speaker
DC Transistorized Power Supply
Mobile Antenna, Hi Gain 10,15,20.

Call KØTFJ

Bernie Matthews

4402 No. 52 St.

451-7194

The local post office refers many QSL cards which are not properly addressed etc. to the Ak-Sar-Ben Radio Club. Some of these cards for Omaha area hams which we are in receipt of, are listed here: We have 6 cards for an op named Bruce, his call WNØHHE; also 4 cards for either Steve or Bill, call WNØGQG or WNØGQH; WNØGBR; WØYEG; WNØFCU; Doris, WNØHRN; Harold, WØHTE; WAØEBW; and even a CB station John Moore, KGHO731. Please, help us out if you know any of these people or if you have a later call book than I do. The newest call book I own is dated Winter 1958 so obviously I can't do any good with most of the stations listed. With the price of the call book continually going skyward, I don't know if I'll ever be able to get another. Maybe OM Santa could help.

Seriously though, this does stress the importance of getting complete addresses on your outgoing QSL cards. It's hard to know just how many cards hit the 'dead-letter office' just because so many hams don't have the common sense enough to include a complete address.

John, WØWRT

Dayton L. Phifer, WØVEA
East Tryon Route
North Platte, Nebr.

November 1, 1963

Ak-Sar-Ben Radio Club, Inc.
Omaha 1, Nebr.

Hi:

In regard to the article in QST, November, 1963, Transistor Auditory Meter For The Blind. Page 32.

I have a meter, VOM, a very good one, except the meter is slightly bad, been overloaded, rest of the VOM ok, I have had, and junked out, many VOM's in similar condition.

What say we donate these VOM's, too good to throw away, too expensive to repair, to the Nebraska School For The Blind, to be rebuilt into Auditory Meters for the scholars in electronics, to use, own, keep?

I do believe that many a VOM is discarded because one can buy a new VOM, especially an import model, cheaper than he can replace the meter in a burned out VOM.

You work out the details, and when the plan is accepted by the school, put in a note to the Hams, in Ham Hum, and we can send the burnouts, prepaid, directly to the school, and be assured they do want them.

I have previously had experience with institutions that-they have their system already set up, and cannot make use of any suggested changes. So find out first if they are ready to accept and use

the information in the article, then we can send in the VOM's.

73,

Dayton

P.S. Did you ever visit a Ham's shack, watch him operate his rig, and note every time he began a transmission he turned one of the 3 minute egg timers over? To keep from becoming a long-winded bore he said. Now for a system to prevent becoming a short-winded bore?

A group of Nebraska hams are trying to collect enough money to buy a side band rig for George Botsford, KØUWK, in Ainsworth, Nebraska. He is an arthritic cripple, confined to bed and the wheel chair. Any donations should be sent to WØLFJ, Matthew G. Beha, R.F.D. 1, Box 122, O'Neill, Nebr.

**OFFICIAL BULLETIN NR 923
FROM ARRL HEADQUARTERS
NEWINGTON CONN NOV 14 1963
TO ALL RADIO AMATEURS BT**

On request of W4RLS and others, FCC has extended from November 11 to December 11 the date for filing comments on League Petition RM-499. This petition requests reinstatement of the Advanced Class Amateur License with appropriate voice emission privileges and appears in full in November QST. The extension is to allow more time for interested parties to appraise the League proposal prior to making comments. The new date for replies is December 26 AR



FROM ENGLAND

I met a grand fellow in England, G8NY, Les Luscombe. He was kind enough to take a complete afternoon off from the office and put himself at my disposal. I had a wonderful time in his "shack" and we managed to get in to the States which as you can imagine was quite a thrill for me.

He does quite a few cartoons for different amateur magazines

in England and I urged him to send me a few for HAM HUM. I had a letter today from him with a few sketches. If you could use these, possibly someone could draw them up.

Best regards.

Sincerely yours,

Hugh Tinley, KØGHK

(Ed. note: Thanks, Hugh, for the item and we will use the cartoons.)

SILENT KEY

Rudolph J. Rampacek, WØRMC
Omaha, Nebraska

NOTICE

World Radio Lab will be opened Saturdays until 5:00 P.M. - December 14 and 21st. Christmas is just around the corner!

11-19-63

Dear Sirs:

Ham Hum is most appreciated at this QTH. Keep up the good work.

My new address is

Mack Ussery, K4QWL
Route 10
Lexington, N. C.

of

FOR A BETTER SIGNAL

- Art Polley, VE1EG/WØ

Well fellows, it's about time we started some antenna talk in this column. Our article this month will consist of a 4-element semi-widespaced beam for twenty meters which I had in operation from this QTH for almost two years.

The construction is simple. It is, best of all, light weight. It has stood in all kinds of weather and taken the best of the big winds. The beam is built from hardware that is available here in the Twin Cities at a complete cost of \$75. That sounds like a lot of money to some of you fellows I'm sure, but against the cost of a commercial array with the same gain and construction of from \$200 to \$300, that seventy-five bucks looks pretty small.

I have this antenna mounted on two sections of Spaulding tower on my roof, but the average ham tower with a heavy duty rotator will handle it easily. Just this week I interlaced a two element fifteen meter beam on the same beam with excellent results, and no loss to the twenty, but best of all no additional strain on the three inch boom.

I chose this type of construction for many reasons, first of all a 30'3" boom made from irrigation tubing and all in one piece simplified construction. It only requires an adjustable wrench, a screw driver and a hack saw. All the nuts and bolts are chrome plated and available from any hardware store.

The drawing explains itself. The elements are spaced equal distance of 10' apart. The element lengths are standard. For those you who may be a little timid this will work for a three element beam on a 20' boom. Just eliminate the 2nd director and ten foot of boom.

I made my mounting plates from aluminum and 4" muffler clamps to bolt to the boom. You can make your own clamps from 1/4" threaded rod if you like. (Also available from local hardware store).

It is not hard to build or install. I feel this beam has stood the test of time and we know it works. Look at KØIKL's score in last year's ARRL test. For those who wish to build this one and run into trouble call me. I'll be glad to help.

73

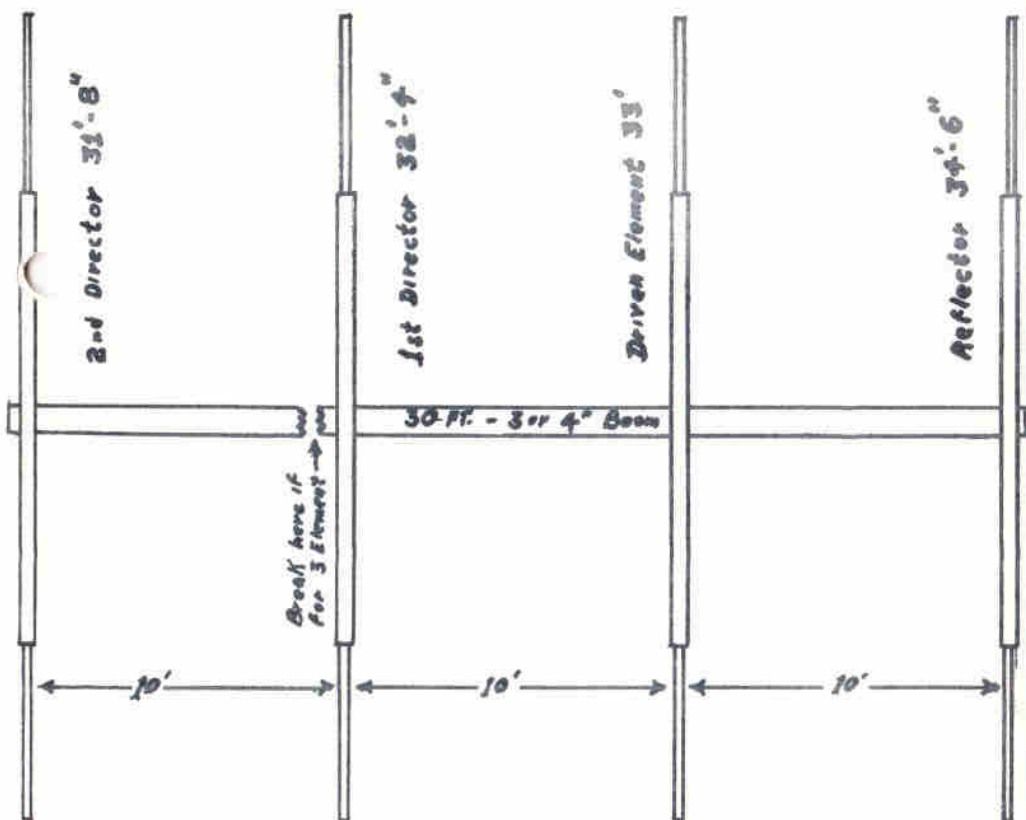
Art - VE1EG/WØ

de-Splatter - Minneapolis, Minn.

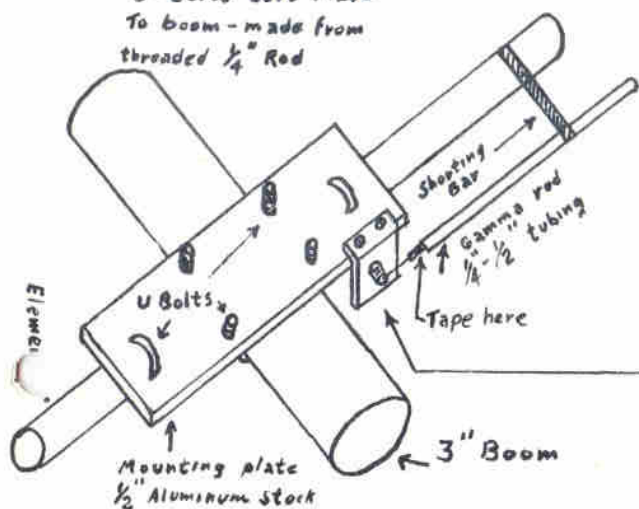
OFFICIAL BULLETIN NR 925 FROM ARRL HEADQUARTERS NEWINGTON CONN NOV 29 1963 TO ALL RADIO AMATEURS BT

Attention DXers. Announcement is hereby made of the addition to the ARRL Countries List of the Kuria Muria Islands, VS9H. Confirmations for DXCC credit for Kuria Muria may be made starting March 1, 1964. Further information will appear in the January, 1964 issue of QST

AR



U-Bolts bolt Plate
To boom - made from
threaded $\frac{1}{4}$ " Rod



Small plate bent in shape
of an L and bolted to the
element mounting plate.
Mount male co-ax fitting
in the plate. Strip off
the shield from piece of
co-ax 3ft. long, slide
inner conductor inside
Gamma rod. Perfect
match is accomplished
by adjusting the shooting
bar along the element.

And how about this one?

THE CASE FOR U.G.A.

It has been a few years since an Amateur journal discussed in any detail the merits of the underground antenna. Many people, active in our hobby today, are not aware of the potentials of the below ground antenna.

The elaborate multi-element beam antenna, hoisted high into the air for all to see, has become a status symbol to many. The antenna used as a status symbol need not be an efficient radiating device. The elements are shortened or lengthened, as are skirts, according to fashion. It may well be that the seekers of status have actually "buried" the underground antenna in its own grave. What is less impressive to neighbors and friends than an underground antenna? It is only as impressive as its overlying carpet of grass. Its potentials are hidden from view.

There are many advantages of the U.G.A. over the aerial antenna. The environment of the U.G.A. is more stable. Humidity and temperature are less variable underground. Thus, less strain is placed on insulation and radiating elements. To date no U.G.A. has structurally failed during a sleet or wind storm. The average backyard has more interfering metal above than below ground. Metal which would reflect or absorb radio energy. Variable energy absorption by tree leaves is eliminated with U.G.A. of course. The aerial antenna is, so to speak, for the birds.

Radiation into the atmosphere is quite well understood today. Of course there are some questions left unanswered. Much less is known about U.G.A. radiation. We do know that there are no variable layers of ionized particles to absorb energy underground. Transmission is more stable and dependable.

Transmission of underground Amateur signals over great distances is hampered by a general lack of understanding. In many parts of the world the experimenter has become discouraged while conducting tests. We, in WK land, have not offered much cooperation.

Recent developments in the field of solid state devices, ie. semi-conductors, may play a big part in expanding the use of U.G.A. Switching systems may be buried and left unattended for years at a time. Diodes are reliable switches requiring low power for their operation.

The "do it yourself" craze may also be a tremendous factor in U.G.A. development. The rental companies now include power driven sod cutters and trenchers at low rental rates. The process of burying wire today is much simpler than it was ten years ago. The job can be accomplished with scarcely a hint of U.G.A. after 30 days.

Signal gain in U.G.A. is well understood. Technical articles describe in detail the power requirements for energizing mass. Air course has less mass than earth. And momentum of air is less. But since air is compressible it becomes more difficult to move. Recent simple

tests from our QTH in Omaha disclose some astounding signal comparisons with U.G.A.

There are some problems yet to be faced with U.G.A. transmission as could be expected. International agreements must be reached. Transmission methods in the Amateur bands are CW, AM & FM. Monitoring methods must be developed for U.G.A. as they were for SSB.

Technically SSB doubled the number of usable Amateur channels in each of our bands. In other words, the band of frequencies required for a QSO is reduced by 50%. Since there is little interference between U.G.A. transmission and aerial transmission we might consider again doubling the number of channels available. DX might be as simple and dependable as across town on six.

Let's look further in Amateur radio than our status symbols. Is it possible we have been standing on our future for years while looking upward to our past?

THE OLD GROUCH

c/o The AUTO-CALL
2509 - 32nd. St., S.E.,
Washington 20, D.C.

It is a well known principle that today's average newspaper editor tends noticeably towards capitalizing on the sensational and controversial aspects of almost any situation worthy of more than passing mention.

Time and again I have read all lurid details of some situation often with sensational and unsavory implications, on the front page of a newspaper. Later, information which

should have materially diluted the sensationalism and luridity of the original story has cropped up. Has this information been given as prominent and eye-catching a position when published? Never! In several cases of this nature, the corrective items have actually had to be hunted down from their hideouts as small, inconspicuous items in the back pages of the paper which carried the original news of the case in ten-point headlines on the front page!

This is the situation which frequently faces the amateur radio operator who is unfortunate enough to enjoy (?) the publicity attendant on his signals emerging from a nearby church's organ or blasting from a local celebrities newly installed house-wide hi-fi system. Although corrective action usually clears up these cases in short order the initial publicity, only very occasionally will any follow-up items be found in the papers.

I feel strongly that we should make a greater effort to secure publicity on the public services rendered by Amateur Radio operators and stations in both local and national news media of all kinds. In addition, I am convinced that a strong effort should be exerted to improve the cooperative attitude of a certain group of amateurs in their dealings with their neighbors and the public in general. A belligerent reply to a courteous request for cooperation in correcting an interference situation, as an example, will have an opposite effect to that desired.

THE OLD GROUCH

IT'S A FACT

Editor, Florida Skip:

The following comments have been heard on these various bands and in 100% of the cases have been made by so called General Class ticket holders, we have recordings of these taken from on the air QSO's and with the exception of one case were broadcast over the air for all to hear . . . I like to call it "Slips that pass in the night."

Heard on 20 meters -- "I don't understand why the cottin-pickin-transformer burned up, I had it fused with a 20 amp fuse...How much power was I running, I should guess about 250 ma and 600 volts, now let's see, that adds up to 850 watts."

Heard in a Fort Lauderdale night school class in basic "Ham" electronics. "You mean to say that 1000 kc is equal to 1 megacycle, well I sure learned something this evening. Last night I ran several phone patches from those boys down in Antarctica, Where is that, I think it is somewhere near Australia..."

Heard on 20 meters "I took the general exam 13 times before passing, the written was my trouble, What? Yes I was a technician for 3 years, you mean to say the exam is the same, well I'll be darned..."

Heard on 15 meters "What do you mean you can't copy me, I am right on frequency, I zeroed with my "s" meter, so it has to be right, you had better have someone check your receiver, and turn up your volume because your audio is low, you are modulating about 40%...You

have a good carrier but turn up your volume some."

Heard on 15 meters "What do you mean I am out of the band, I am on a xtal and I just paid \$4.50 for it, so I can't be out, you had better check your receiver..." (He was out by 50 kc.)

Heard on 40 meters "I am trying out a new type power supply, one of my own design, doesn't have any filter capacitors in it, how does the rig sound...You say there is a hum, I don't understand that at all, it must be at your end..."

Heard on 20 meters "I sent my rig back to the mfg, and they charged me one hundred and sixty bucks plus freight, for 1200 bucks you would think they would stand behind their product...What was wrong? I don't know for sure, but they said they had to replace some resistors and disc's what ever they are..."

Heard on 6 meters "I copy you in three or four places on the band, you are splattering. What do you mean, I am using my Fractured Special 6 Converter...I have used it for 10 years now...And my 1938 single conversion receiver is ok also..."

Heard on 15 meters "There is a technician in our town that does good work on repairing rigs...If I knew what he knows I would be an EXTRA Class ham"

Heard on 75 meters "Get the hell off this frequency it is mine."

Heard on 20 meters "CQ, CQ, CQ, CQ, CQ, CALLING CQ, CQ phone, SSB, or CW...NO KIDS, NO

(Problems of Imported Hams - continued)
shortwave stations in this country.

Aliens have been denied this privilege since Hoover's father was President.

Goldwater testified that American hams, many of them stationed in key military, diplomatic or missionary posts, were being denied the privilege of operating their stations in countries that have retaliated against the American law.

The bill would permit the Federal Communications Commission to authorize, but not license ham operations by foreign residents whose countries grant similar authority to American citizens abroad.

Goldwater said nearly 260,000 American hams, about 70 per cent of the world ham population, supported the bill. He said there was no jeopardy to national security involved because jet airplanes, diplomatic pouches and cables are preferred by spies to the heavily monitored amateur spectrum.

Goldwater, whose personal call is K3UIG in his Washington, D. C., apartment and K7UGA in Phoenix, said he had made a "tentative date" with Peace Corps Director R. Sargent Shriver to explore the potential of ham radio to under-developed areas. Chairman John O. Pastore (D-R.I.) called the Peace Corps idea "brilliant" and said he hoped for early action on Goldwater's bill.

Hoover is a consulting engineer and president of the American Radio Relay League and the International Amateur Radio Union. His call sign is W6ZH.

de Technician - Engineer - IBEW

A fund has been started to help a handicapped amateur. His name is George Botsford, his call is KØUWK and he lives at Ainsworth, Nebraska. George is NCS on the 75 M. morning net.

George has had a very crippling form of arthritis for many years and it is hoped that the fund will make it possible to get a transceiver for him. We'd like if possible, to keep this information from getting to George so that if things materialize as hoped, there will be the element of surprise. Because of this, we'd rather that the matter not be mentioned on the statewide nets, however on local type nets this would be all right.

Please send any contributions to Fund Chairman, Matt Beha, WØLFJ, RFD 1, Box 122, O'Neill, Nebr.

This information has been given to us by Bob Thomas, WAØ-EGK, a local representative of the Mead-Johnson Co. His phone number is 451-4162 if you wish further information.

John Snyder, WØWRT

The President's Corner

ACARA Wichita, Kansas

It never fails to amaze me, the tremendous evolution the electronics field is going through. I'm speaking primarily of the communications area that many of us are involved in as a profession. I have been in ham radio only ten years and in this short span of time I have seen more new developments than occurred in all of the previous years of the electronic era. Think about that a minute. I know that

perhaps many people are not involved in electronics directly but even so, my wife is even impressed by so many new ideas and concepts. It is incredible, but very real and true. We are on the threshold of a completely new life! Have you stopped to think what your life and your children's lives are going to be like in the coming years? Man's whole outlook about the universe is changing. Or better yet, how ham radio is going to change? Anyone who has tried to sell their old AM Rig knows very well how ham radio is changing!

If only Hiram Percy Maxim, the ARRL founder and first President, could monitor the ham bands today. He would hear ham radio signals from 200 miles above the earth, signal being reflected from the moon, two different QSO's being held on one frequency without cross QRM, long-winded conversation about bilateral circuitry for transceiver operation, frequency synthesizer VFO's, nuvistor front-ends, parametric amplifiers, Ruby lasers, solid state transceivers, and the pros and cons of 73 magazine! (That would turn him off!)

Oh man, you'd have trouble talking me out of my next 50 years!

Perhaps you may feel that I'm quite enthusiastic about our changing times, and you are 100% correct! While being highly enthusiastic about all this, I'm also concerned about being "ready" for this change. I mean particularly being ready as hams. Do we want to stand still or worse yet lose ground in our contribution to the sciences! Can you tell me one thing please? What is the difference between a ham radio operator and a holder of a Citizens Band License???? Don't misunderstand me on this point!!

As all know that both have definite places, and objectives, but what is the difference? How many QSO's have you heard on the ham bands that could be tape recorded and replayed on the 27 mc band and sound perfectly in place? Or of course vice versa, there are a number of technically minded people using

27 mc that could be a very good asset to ham radio. Are the boundaries getting closer or is it me?

I have put down a few ideas here. They are my own ideas, and maybe they are not all correct, but I feel strongly enough about it that here is my point: IT IS TIME FOR A CHANGE! Incentive licensing is our first step. Whether you and I want to accept it or not. There will be much wailing and gnashing of teeth but there must be a change if ham radio is to survive. Those that want to sit back and say "I got my rights" or "I'm being deprived of my hobby" because a handful of electronics engineers and plutocrats back east want all of 20 meters for their band" etc. etc. are either going to do a little self appraisal or get off the wagon. What I would like to say is that to me Ham Radio can no longer be considered a hobby. This is true in the terms of the average interpretation of "hobby." I just looked up the word, hobby, in Webster's and I will go along with their meaning which is: "An engrossing topic, plan, etc., to which one constantly reverts; also an *occupation or interest* to which one gives his spare time." I'm sorry that there are many who do not even qualify in this category. "Interest" is the key word here, a genuine interest is all that it takes.

I shouldn't advertise this fact in a radio club paper but I will be honest and say I'm not prepared myself for the change. Just last month I failed my first class phone license. I failed my first try at the second class ticket, but bounced back and passed it. Why? Because I had a genuine desire to do so! There is no way in the world to keep a man from doing what he is genuinely interested in doing. I am genuinely interested in being ready for the change.

Ham radio is no exception to the fact that you get out of something just exactly what you put into it. Someone once said, "For every action there is a reaction," and a famous carpenter once said, "As ye sow, so shall ye reap"--- Have you ordered your seed yet?

73, Dennis

WØYMG

Attention!!!

All ye amateur radio operators

F o r S a l e

**MOTOROLA
FM TRU 41V
MOBILE UNITS**

Perfect for a 2meter F.M. Complete with tubes, power cables and cases. Transmitter power output 10 Watts - 6 or 12 Volt units available. All are narrow banded and comply with current FCC rules for use in the commercial radio services.

Limited Offer	as is	\$45.00
	Reconditioned and on frequency	\$99.00

GENERAL

Communications Co., Inc.

827 South 20 Street

341-8069

OMAHA

Complete Tower Service - Engineering - Maintenance
Service and Installation