



# HAM HUM

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



Vol. XVIII  
No. 4

April 1968

## NOTE CHANGE OF DATE FOR APRIL MEETING

Due to Good Friday on April 12th, our next meeting will be held on the third Friday of the month.

**WHEN:** FRIDAY, APRIL 19, 1968 - 8:00 P.M.

**WHERE:** RANCH BOWL, 1600 South 72nd Street,  
Omaha. (Use the north entrance.)

**WHAT:** ANNUAL AUCTION. Clean out your ham shack and gather up your surplus gear.

**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: April 26th

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AK-SAR-BEN RADIO CLUB, INC.

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## APRIL AUCTION

**TERMS:** Cash and Carry. A 10% commission will be charged on all consignments with a maximum commission of \$10.00 on any one item. (All items sold at over \$100.00 owner will pay only the \$10.00 fee.) Minimum bids accepted will be 25¢. No minimum price will be accepted; however, the owner may bid on the item to protect his sale item. If the owner's bid is the final one, the fee will be 10% of the bid - maximum \$1.00.

The Auction will be arranged so that the first items brought in will go on the auction block first. The doors will open at 6:30 P.M. Come early so you may look over the selection of ham gear and get your consignments registered. The Auction will begin promptly at 8:00 P.M. Refreshments will be available during the Auction.

\*\*\*\*\*

## ADDITIONS TO ROSTER

Clifford M. Hultgren, WNØTHH

R. R. #2, Florence Station

Omaha, Nebraska 68112

Phone: 453-0548

Mike Veldman

2834 South 87th Avenue

Omaha, Nebraska 68124

Phone: 391-6650

Bruce White

1519 South 91st Avenue

Omaha, Nebraska 68124

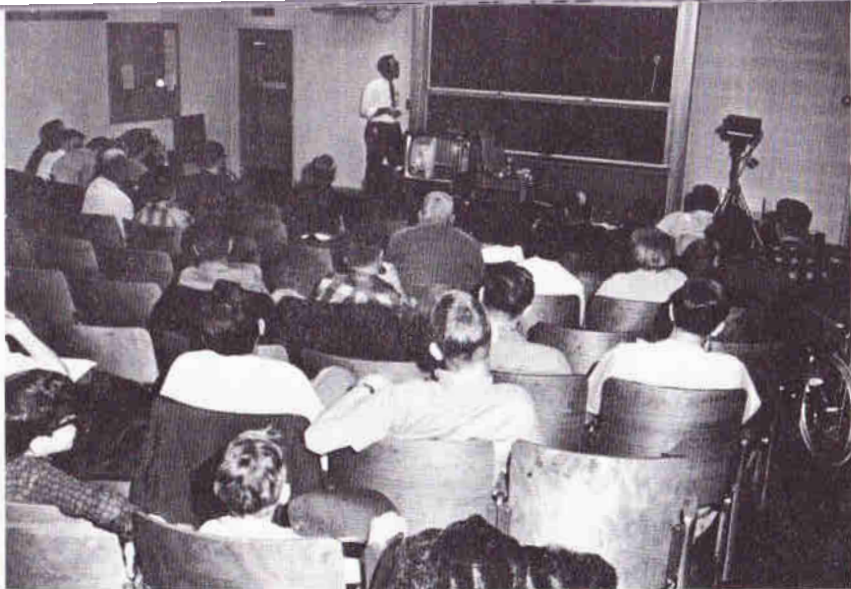
Phone: 391-1519

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## NEWS ITEM VIA AL, WØJJK

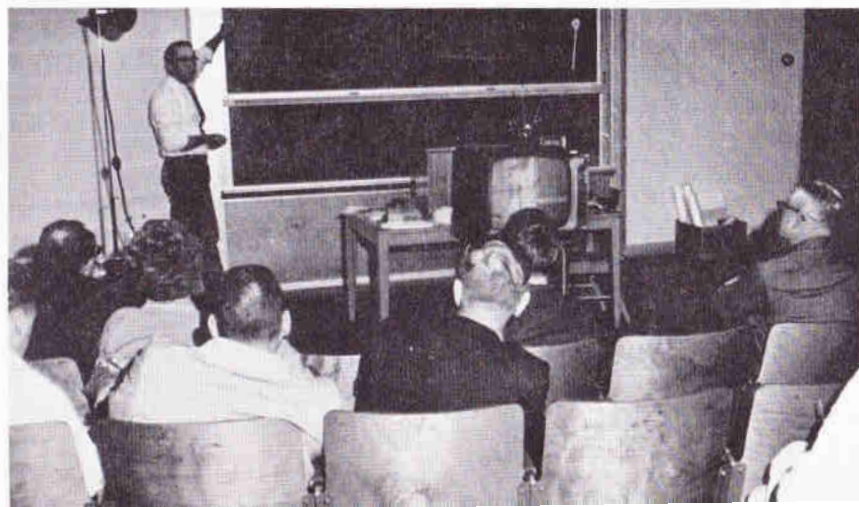
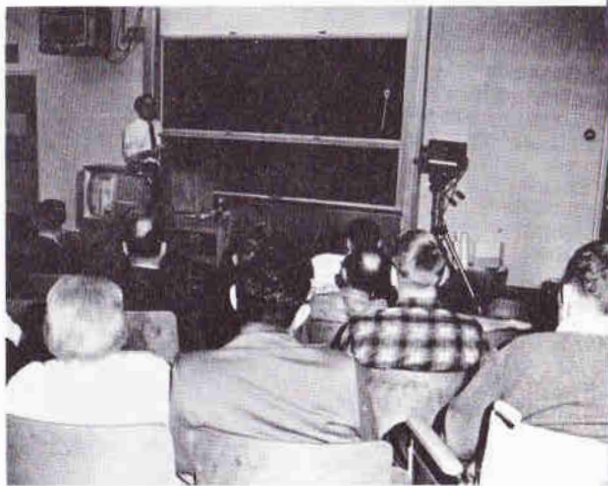
Dave Hollander says: "My call is W6COJ. WØCJW/6 is no longer used, and due to lack of a good antenna I'll be curtailed in operation for awhile."

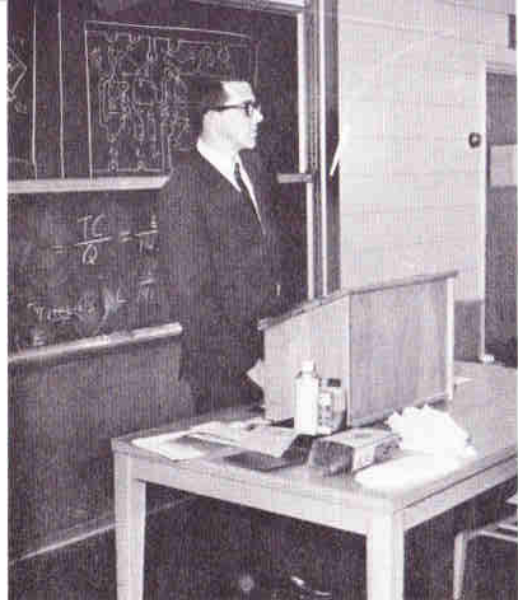
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**PHOTOS  
OF  
LAST  
MEETING**

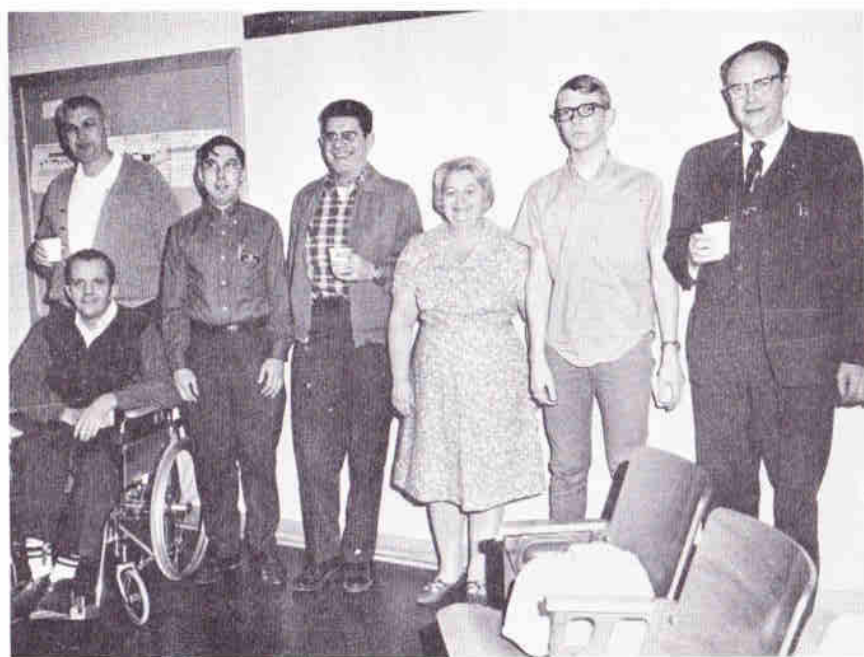
Dan Fahrlander, WQLGT, presents the manual process in fabricating printed circuit boards and demonstrates how to make up printed circuit boards from schematic diagrams.

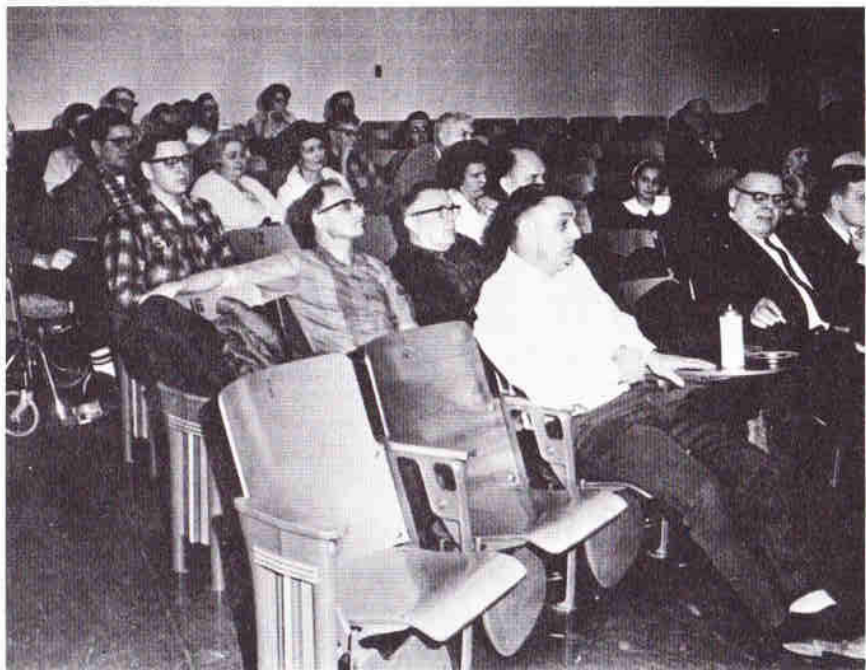




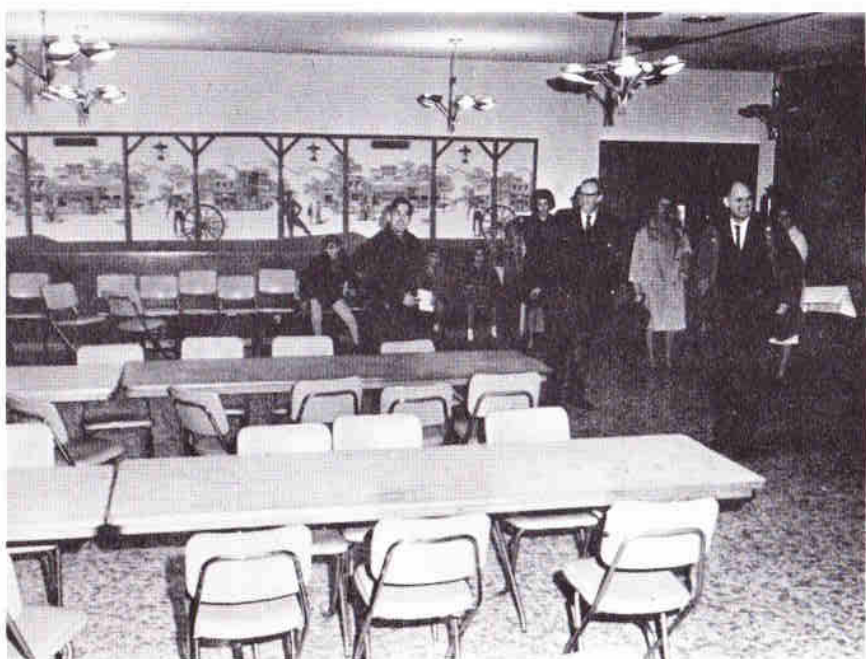
Mr. Dan Ryan, Instructor at the Technical Institute of the University of Omaha, introduces "another" process in fabricating printed circuit boards.

Below-Club members who attended the March meeting are all Admirals in the Nebraska Navy.





Good attendance at March Meeting. After the meeting the Auction Committee visited the Ranch Bowl.





President Lockwood, WAQDHU, and Dick Eilers, WQYZV, begin presentation of Membership Certificates.

President Bob Lockwood, WAQDHU, presents Membership Certificates to new members Edward F. Askew, WAQRDZ, and Marjorie E. Askew, WAQRDY.



Dick L. Eilers, WQYZV, presents 25-Year Membership Certificates to Arthur R. Gaeth, WQFQB (left) and Rolland A. Fried, WQYMU.

Joe Berousky, KQQDB, (right) shakes the hand of Mr. Ak-Sar-Ben, Jim Droege, WQYCP.



Thanks to Dan Fahrlander and Dan Ryan for a most informative meeting.

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## NOTES FROM THE BOARD

By Bob Lockwood, WAØDHU

The Board of Directors of the Ak-Sar-Ben Radio Club, Inc. met at my home on Tuesday evening, March 19th, at 8:00 P.M. Following is a brief rundown of the topics discussed.

We are now all set for the annual ham auction which is to be held at the Ranch Bowl on Friday evening, April 19th. We have amended our rules slightly to encourage the sale of larger items at the auction by reducing the fee to a maximum of one dollar if the owner finds it necessary to bid on his own item. In the past the fee to the Club was a straight 10% which can amount to a sizeable sum. The terms of the auction appear elsewhere in this issue. Let's have a record turnout at this auction, and don't forget to bring the goodies.

You will recall that the Bellevue Radio Club accepted our challenge for a best three-out-of-five year trophy for Field Day. The rules are being worked out by both clubs for this contest and will be printed in the next issue. In challenging the Bellevue Radio Club, we created a challenge for ourselves. If we want the trophy, we will have to earn it. If we get it we will have something we can be proud of. It will represent the fruit of our effort as a working team!

Discussion was held concerning annual picnic which is scheduled for September. We have been informed that Beaverbrook Farm is no longer available to us. This site was flooded last fall and the owners have advised it is no longer available for

public use. We extend sincere thanks to the Ewing Family for allowing the Ak-Sar-Ben Radio Club, Inc. to use Beaverbrook Farm as our annual picnic site for the past several years.

We are looking for another suitable picnic site. We have several in mind and are in the process of checking them out. We hope to have something concrete to report to you next month.

Your Board of Directors is working for you. If you have any ideas which you feel should be brought to our attention, don't hesitate to let us know about them.

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### OFFICIAL BULLETIN NR 157 FROM ARRL HEADQUARTERS NEWING- TON CONN FEBRUARY 29 1968 TO ALL RADIO AMATEURS BT

The ARRL Communications Department is pleased to announce the availability of a redesigned Operating Aid Number 9a, concerned with amateur message form. This convenient card offers complete information on different phases of message handling which include handling instructions, precedences, special net signals, abbreviations, prosigns and prowords. To obtain your copy of Operating Aid 9a, send a self-addressed stamped envelope to ARRL, 225 Main Street, Newington, Connecticut 06111 AR

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## USING FM IN VHF AMATEUR COMMUNICATIONS

(Part III - cont'd from March issue)

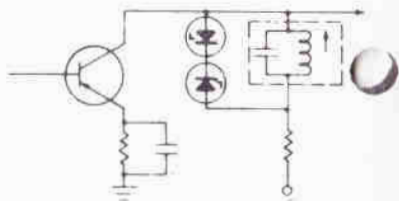
There is one small correction I'd like to make in connection with last month's schematic diagram of the pentode limiter circuit. The B plus supply was inadvertently shown to be 200 volts. Actually the circuit would work as a better limiter if this source voltage is reduced considerably, perhaps to about 100 volts. Then, with the series resistors going to the plate and screen grid, the voltages at the tube itself will be low enough for the tube to reach plate saturation easily.

It might be of interest to mention here that amplitude limiting circuits are also used for RTTY reception. The reason for this is that RTTY transmission and reception (FSK) is actually a form of FM. (A reference here would be the New RTTY Handbook by Byron Kretzman) FSK amounts to a frequency shift or change at a fast rate and therefore has the nature of a frequency modulated signal. If you observe the schematics of many of the RTTY Terminal Units, you will notice that solid-state diodes are most commonly used for the limiting job here. So much for the FM limiter circuit; there are so many variations that we don't begin to have space to describe many here.

The only other difference between the AM receiver and its FM counterpart is in the detector or the *discriminator* as it is usually called. Some of the most commonly used

Fig. 1.

Zener diodes used as an f.m. limiter.



(Quoting the International Rectifier Corporation's Zener Diode Handbook and referring to Fig. 1.) Here is an application of Zener diodes as limiters in a transistorized I.F. stage. "The customary system of limiting in FM equipment involves operating one or more stages at low voltage to produce saturation. A more efficient system incorporates the zener diode, and allows the stage to operate at full gain. As shown here, the circuit utilizes two 'back-to-back' zeners. As soon as the incoming signal exceeds  $V_z$  the diodes conduct, effectively clipping the signal and reducing circuit Q." The diode junction capacity of 10-20 pf. is a circuit consideration also.

discriminator circuits are variations of the Foster Seeley discriminator and also the Ratio Detector which is commonly used in television receivers. As with the limiter circuits, there are other types of FM detectors too numerous to mention here.

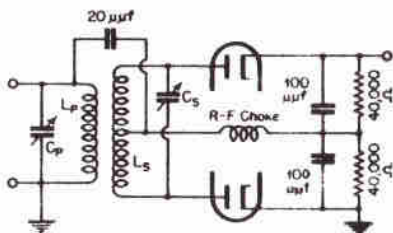
For all practical purposes, most of the discriminator circuits are tuned or aligned to give zero output at the center of the passband.



So far we have two very important and convenient test points to use in alignment of our FM receiver. Number one, is the limiter grid current or voltage developed across the limiter grid resistor which is used in peak- the RF and IF circuits and second, the zeroing of the discriminator at the IF center frequency. Bear in mind that the FM communications receivers we're talking about here are not the tunable type of receiver which all hams are familiar with, but are crystal-controlled on one or more fixed channels. In our Nebr.-Iowa area these receivers are most commonly of Motorola, G.E. or RCA manufacture. These receivers and transmitters are built to commercial standards, which simply means that they are built lots better from both a component and workmanship viewpoint than the average ham equipment. Of course, this equipment is expensive when it is new.

Another circuit that might be worth mentioning here is the SQUELCH circuit. I have noticed that in commercial communications work the operation of the squelch control is little understood by many operators. Briefly, all the squelch control or squelch circuit does is to silence the background noise of the receiver whenever no signal is coming in. This nice feature enables you to leave the FM receiver on standby and the only time you're bothered with noise is when a signal is on the frequency. Ideally, the squelch should be set just past the threshold of quieting, otherwise a weak signal might be missed.

Fig. 2.



FM discriminator of the Foster-Seeley type. Could use a 6AL5 or similar tube. (From Frequency Modulation by Marchand)

There is a magazine now available which is devoted entirely to Amateur FM communications. This is the FM Bulletin. A subscription costs \$2 a year and may be ordered from 2005 Hollywood, Grosse Point, Michigan 48236. This type of publication is very desirable because the regular ham magazines devote very, very little space to amateur FM, either from a technical or activity standpoint.

If there are any questions which have come about as a result of this series on FM, I would be most agreeable in trying to answer them. Please use your postage free mail-in card to Ham Hum or send a letter. Also, any information on activity, circuits, etc. would be much appreciated. Next month we will discuss the frequency or phase modulated xmtr.

John, WØWRT  
c/o Ham Hum, P.O. Box 291  
Omaha, Nb. 68101

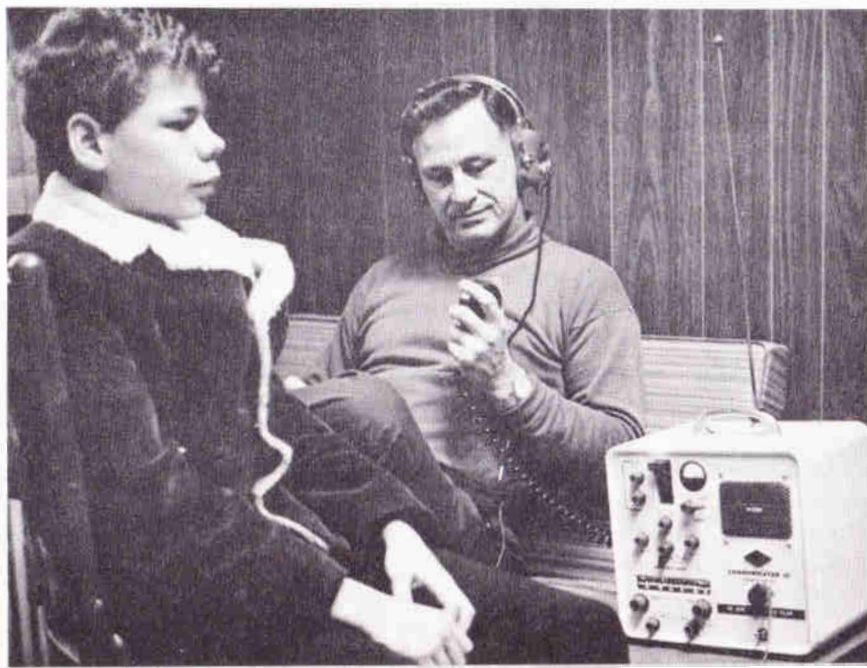
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Harold McClenahan, Jr., WAQDGA

**PHOTOS OF HEART FUND DRIVE  
FEBRUARY 25, 1968  
(Refer to March issue for story)**

Kurt Fischer, Jr. Op; Fred Fischer, WQEGP



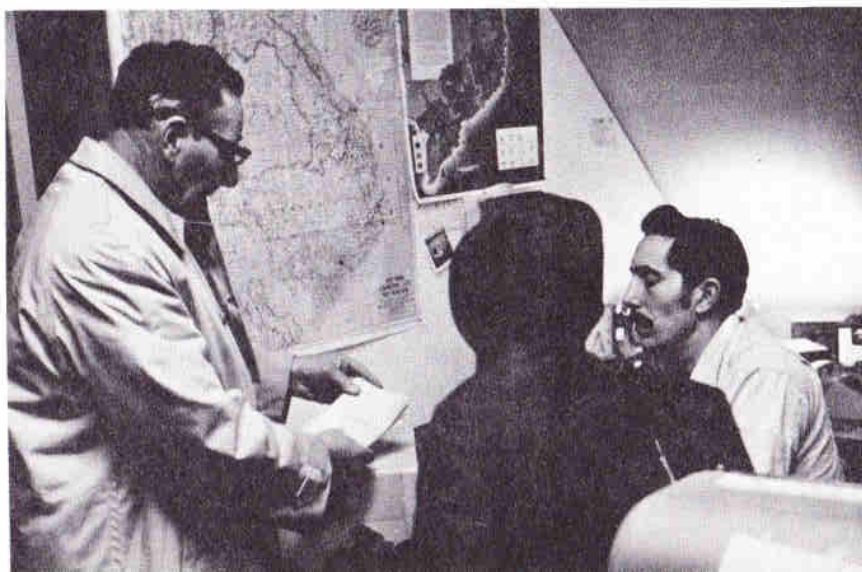


Ed Donze, WØYEV; John Snyder, WØWRT; Billy Snyder, Jr. Op.;  
Harold McClenahan, WAØDGA



Royce Johnson, WAØKIL,  
"Radio's Big Voice"

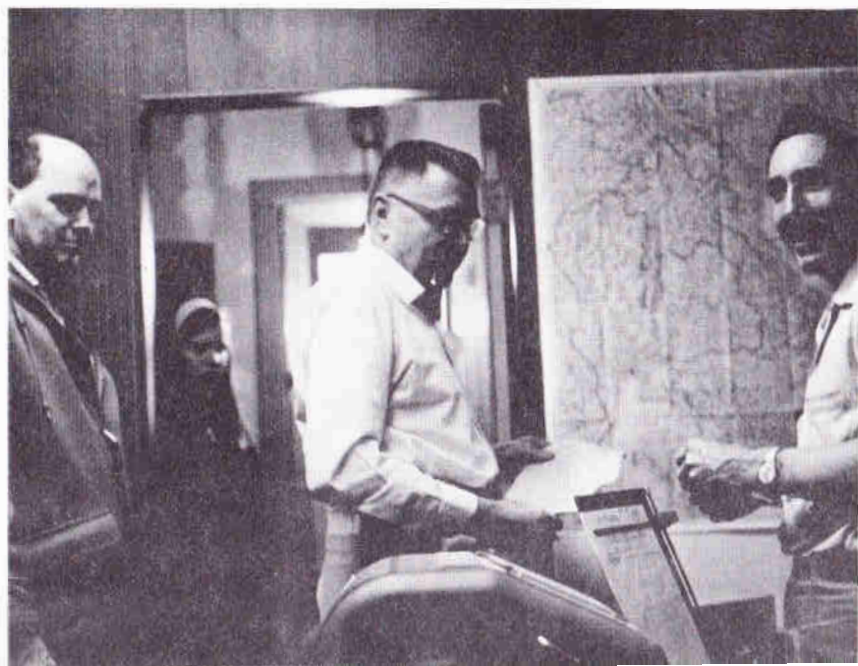
Lou Cutler, WØVLI, Heart Fund Headquarters 2 meter link;  
Bobby McClenahan, Jr. Op.; Harold McClenahan, WAØDGA





Royal Enders, KØLYO, mobile

Cecil DeWitt, WØRMB; Janet DeWitt, Jr. Op.; Larry  
Wise, K5UYH; Harold McClenahan, WAØDGA

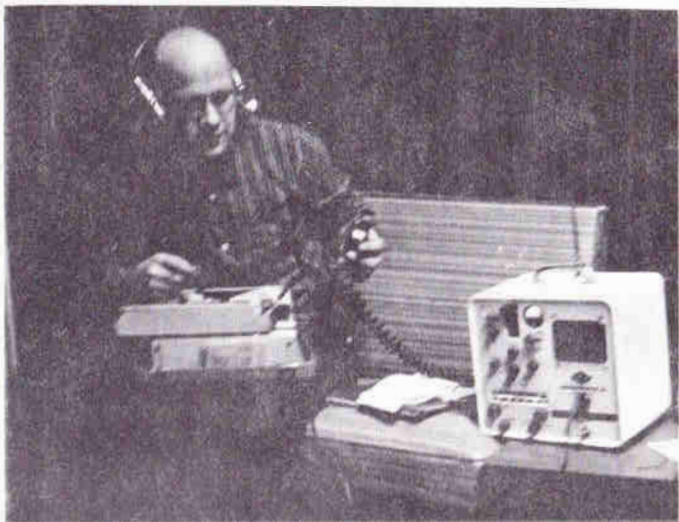


Royal Enders, KØLYO,  
mobile, and Larry Wise,  
K5UYH



Millie, W5OVH, and  
Larry Wise, K5UYH,  
and brother as rider

Erv Heinz, WAØEEM,  
"old baldy," oper-  
ating 2 meter link.



## FIELD DAY 1968 - JUNE 22-23

Make plans now to participate in Field Day June 22-23. The site will be the same as last year. We quote in part a letter received from the Rt. Rev. Msgr. Nicholas H. Wegner of Boys Town:

"This will acknowledge your letter of February 26, in which you request the use of my Chalet on the Elkhorn for the days of June 22 and 23rd. Please be assured that the members of the Ak-Sar-Ben Radio Club will be most welcome to use the facilities of my Chalet for the Field Day Activities on the aforesaid dates, and I trust that all of its members will have a good time during those two days."

We extend our sincere appreciation to Msgr. Wegner for his kindness and generosity in allowing us to use his Chalet.

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Easy Street is located on top of Hard Work Hill.

WQVLI

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### JAYHAWK HAMFEST

sponsored by JAYHAWK AMATEUR  
RADIO SOCIETY, INC.  
Kansas City, Kansas

SUNDAY, MAY 26, 1968

George J. Meyn Community Building,  
Wyandotte County Park  
126th & State Ave., Bonner Springs,  
Kansas

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March 16, 1968

HELP! One of the young members of the club has one of my code records which was borrowed some time ago. I have forgotten the name of the party, so would he please return the record or otherwise contact me?

John Snyder  
3221 S. 45 St.  
556-1538

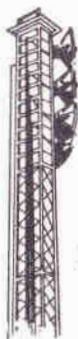
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## OFFICIAL BULLETIN NR 160 FROM ARRL HEADQUARTERS NEWINGTON CONN MARCH 21 1968 TO ALL RADIO AMATEURS BT

FCC has made minor amendments to its rules governing the moving of a station from one permanent address to another. An application for modification must be submitted within four months after the move, and before any operation takes place from the new address. On the other hand, there is no longer a limit to the time such a station may operate as a portable once the application has been filed, and the operator need send a notice only to the district engineer having jurisdiction over the new address. Also, FCC has codified its rules for preferred call signs into a new section 97.53, without changing its previously informal ground rules. Both matters will be covered in the May issue of QST. The Governments of Switzerland and Canada have agreed upon reciprocal licensing. Operators of one country may secure permission to operate in the other, effective immediately AR

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## ARMED FORCES DAY 18 MAY 1968



U.S. AIR FORCE  
MILITARY AFFILIATE RADIO SYSTEM HEADQUARTERS STATION, WASHINGTON, D.C.

### 1968 ARMED FORCES DAY COMMUNICATION TESTS

On Saturday May 18, 1968 the Department of Defense will sponsor the observance of Armed Forces Day. In order to foster the continually growing rapport between the civilian and military communities, the Departments of the Army, Navy and Air Force will conduct communication tests between U. S. Amateur radio operators and selected military communications stations.

The Department of Defense, recognizing the abilities of the amateur radio operator, makes available the facilities of major military communication stations on Armed Forces Day to adequately demonstrate to the civilian community a desire to witness further expansion of the technical contributions and international goodwill rendered as a general public service by the joint effort of military and amateur communicators.

The military stations participating in the military-to-amateur crossband operation and receiving contests for both continuous wave (CW) and radioteletypewriter (RTTY) modes of operation are:

- NSS - Washington, D. C.
- NPG - San Francisco, California
- WAR - Washington, D. C.
- AIR - Washington, D. C.

Those amateurs establishing two-way contact with participating military stations will receive a specially designed QSL card confirming crossband communications. For those demonstrating operating proficiency by receiving a perfect copy of the Secretary of Defense originated "CW" and/or "RTTY" message(s) transmitted during the receiving contest portion of the communications tests, a special Department of Defense certificate

will be awarded. Although short-wave listeners will not qualify for a QSL confirmation card of cross-band communications, anyone who has equipment capable may copy the Secretary of Defense messages and receive credit.

Editor's Note: The specific frequency, type of emission, and appropriate amateur band for cross-band operation is available from the HAM HUM office. Address your request to Ak-Sar-Ben Radio Club, Inc., P. O. Box 291, Omaha, Nebraska 68101.

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5925 Fisher Road  
Washington, D.C.  
20031

Dear Club Friends:

I am living in an apt. and using my KWM-2 into a Drain Spout for an antenna and found it loads quite well on 40 meters. I am working 40 meter CW on the low end of the band.

Best of 73's

Alan Lee Fleming  
WQBNY/3

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Hi Dick:

Am back in this area again and want to receive the Ham Hum. Am enclosing \$1.00 to help defray expenses.

Have a new 66B Hy Gain 6 element 6 meter Beam to install in near future, so look for me on 6.

73's

Tnx-KØCFQ

Bert Larrick

3112 Woolworth Ave.-#2

Omaha, Nebr. 68105

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## THE SOLID STATE OF THE ART...

by Earl Spencer, K4FPU

### ATOMIC STRUCTURES

The Atom is the basis for everything. It is the smallest particle usable to man and is also the most usable particle of matter now known to man. Matter exists in three states; Solid, Liquid and Gaseous state. These may be classified as either a compound or an element. All elements are made up of atoms. Because each atom is a different individual, the type of atom will determine the makeup character of an element. An element is a basic material and is defined as a substance that can not be made by a chemical change or union of different substances. Copper, iron and gold are such elements. We know it is impossible for man to make pure copper, iron or gold, therefore it is impossible for man to create an element. The above items are called solid elements. Oxygen and hydrogen for instance, are known gaseous elements.

No matter how finely these elements may be broken down by any means whatever, the tiniest speck left will be called an atom and will still retain all the characteristics of that pure element.

Matter is also found in two states called atoms and molecules. The molecule is the smallest particle of matter that by itself will still retain all the aspects of the original substance. Atoms and molecules are the basis for compounds. A compound is a substance having more than one element and



having properties different from those which make it up. Water is a compound, having 2 parts hydrogen and 1 part oxygen as its basic makup.

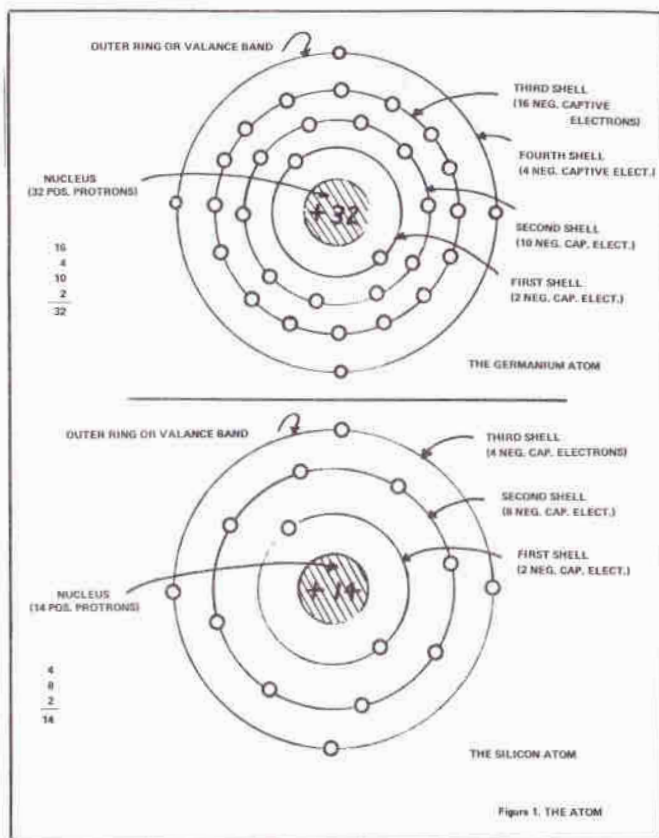
The atom is defined as the smallest part of an element that can partake of chemical change. Each atom of a particular element is identical in mass but each atom will differ in mass from that of atoms of different elements. Each atom of a different element type has a definite atomic code or number to identify it.

### ATOMIC STRUCTURE

Refer to Fig. 1. Note the difference in MASS between the GER-

MANIUM atom and the SILICON atom. It can readily be seen that the Germanium atom has a larger mass than that of the Silicon atom. Since there are 102 known different elements, there are then 102 different atomic masses, all basically the same in structure as the two in the illustration, but each one containing more or less neutrons and electrons; dictated of course, by the atomic mass or weight. By chemically combining different atoms, man can produce different materials but not different ELEMENTS.

The atom can be subdivided into what is known as subatomic particles. Individual atoms may be



thought of as a tiny solar system with the nucleus as the sun and the electrons as the planets in their orbits around the sun. Note in Fig. 1. that the nucleus has a positive charge while the electrons around it possess a negative charge. This negative charge is equal in the total of all the electrons to the positive charge of the nucleus or core of the atom. When in this state the atom will be in a electrically neutral state. The attracting power of the positive charge of the nucleus, acting like a sort of gravitational force, holds the electrons in their orbits and prevents their flying off into space. In all neutral atoms the positive charge of the nucleus equals the total negative charge of the electron field. If an atom contained more electrons than protons then it would be a negatively charged atom. Similarly, if an atom contained more protons than electrons it would be positively charged. The attractive force within the atom which holds it together is very powerful, however, in an atom which has many rings, certain electrons in the outermost rings are so far from the nucleus that they are not as tightly restrained as those nearer the nucleus. A few of these outlying electrons therefore, are able to fly into the empty spaces in their home atom and also between adjacent atoms. These wandering electrons are known as free electrons. Free electrons may be attracted by nearby external positive charges, such as the near proximity of another atom or they may be repelled by a similar negative charge. They may also be deflected from

their intended path by the presence of a magnetic field.

While most atoms are neutral, an atom which has lost one or more electrons has less negative charges. Reversal of this is the same, IC gaining electrons from some sou will throw the atom into a definite negative charge. Such atoms are called charged atoms, either negatively or positively. This is known as a state of IONIZATION. This state may be effected by many different means; close proximity of electrical fields, x-rays, heat, pressure (both physically and chemically), light rays and collision between two or more speeding atoms within a substance.

Free electrons can be caused to drift through a piece of suitable material. Although this movement appears to be continuous, it is in fact, very intermittent. When an atom's electron moves out of its home orbit into that of a neighboring atom, it will be replaced by that of an adjacent atom, which will be replaced by one from a nearby atom, and so on down the line. This drift of electrons is the basis for and what is commonly known to us as an ELECTRIC CURRENT. This flow of current is heaviest in materials which possess or have many free electrons available. These materials are called CONDUCTORS. Materials which have few or no free electrons cannot support a current flow and are called INSULATOR

de Florida Skip

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A rolling stone gathers no references. WQVLI

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## WHY AMATEUR RADIO CLUBS FAIL

By "Tate," W8FX  
Guest Writer, Autocall

Most amateur radio clubs are like the Boy Scout Troops, hot one year and dead the next; then somehow find a resurgence of interest and continue. Many times this is due to a change in club officers, a change of technical activity or lack of it, or a change of policy. It is, of course, inevitable that a complete change of officers will cause a change of interest, or a change of goal will cause a rise or fall of club activity.

This writer does not believe that a complete change of officers yearly is always desirable, for if a club is going well it is foolish to make a change, even though some mouthy hams, who themselves will not work for the good of the club, do like to say, "a clique is running OUR club."

All clubs want new blood in order to keep going, but the successful clubs do keep a hard core of old-timers in their Board of Directors jobs to keep a sensible balance of power in the club. That is necessary to keep some of the hair-brained youthful ideas from bankrupting the organization.

Two primary items are imperative to insure good club activity: a club bulletin and a club net that works to both modes, CW or SSB. If your club has a big preponderance of SSB hams, then the net should be on SSB, but under the new FCC Regulations, it would be better to have the net on CW at least until

the members get their advanced or extra class tickets.

All of which brings up two serious mistakes made by most clubs which heretofore have been unmentioned. All clubs need invited speakers. Many times these speakers are not given the consideration they deserve as invited guests. All speakers should be asked to give their talks immediately after the meeting minutes are read. Most speakers have a long way to go after their talks, and it is a lack of consideration to expect them to sit through a club meeting that is filled with acrimonious bickering, and then be expected to put on a "show" that lasts nearly until midnight.

Never should an invited speaker be asked to donate to the coffee fund by the money-hungry keeper of the pot. This is rank discourtesy, and few speakers would again appear at that club.

This writer, now 65 years old, has observed many clubs and wonders if common courtesy is now a thing of the past.

de Autocall

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When a young husband invited his boss home for dinner, his wife met them at the door and gushed: "So you're John's boss. I'm so glad to meet you. He's told me so much about you, Mr. Legree."

de Ham Fax

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## QRM FROM THE EDITOR (de Fresno Skip)

Incentive licensing is a reality, with many hams adjusting to the new rules, but the gripes continue unabated if the January issue of QST is any indication. There aren't any new complaints--just repeats of all the dreary gripes we've heard many, many times--except the new one hardly worth mentioning--Incentive Licensing may cause riots and racial problems.

As of this writing the best information available indicates that several local hams have passed the Advanced Class exam. There are a number planning to take the test the next time the FCC comes to Fresno, (March) with a few possibly taking the Extra Class test. Most of these hams are B calls and there is not one professional electronics man among them. They put in quite some time preparing themselves, which may be asking too much for some hams, but the exams are not something that only experts can pass. They are good tests in that they require something more than memorizing the license manual. You must understand the questions and the answers and you will have to use the manual as a guide for further study. There are no schematics to draw, but you must be able to answer some questions on schematics.

The following are excerpts from a speech given by the Assistant Secretary of Commerce, Mr. John Kincaid before the NAM, courtesy of an article by Tom Appleby, W3AX in January Auto Call:

"For Scientists: By 1975, the average Ph.D. will have to re-earn

his degree, in effect, every seven years.

"For Engineers: By 1975, the average engineer will have to spend the equivalent of one day per week in some kind of formal study.

"For Managers: If he is to survive in tomorrow's business world, the manager must discard the outmoded notion that he can 'get educated' and then concentrate full time on the job. His formal education will be only the starting point in a lifelong process of study.

"For Technicians: Without continuing education, the skills of today's graduating technicians will be obsolete within five years.

"For skilled workers: Technological changes will scrap thousands of current employees, along with the obsolete equipment they were trained to use, unless mass programs are designed and implemented to update and upgrade their knowledge and skills.

"To enhance technological innovation we need a program of continuing education and re-training which will prevent the obsolescence of knowledge and skills."

These comments were addressed to endeavors dealing with trades and professions and ham radio is supposed to be a hobby, but is there any reason why one should not pursue a hobby with modern equipment and up-to-date knowledge? Should people be permitted to continue operating on the ham bands who run obsolete equipment and who themselves, have not kept up in what should be a continuing process of learning.

The acquisition of knowledge is not easy, but is the most rewarding pursuit in the world. Knowledge is the greatest wealth, whether it contributes to a higher rate of earning power or whether it enriches your life through your hobbies and other interests.

73, Berge, WB60SH  
de Fresno Skip

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Law enforcement officers who are radio amateurs and desirous of joining an international amateur net are invited to contact Major Joseph A. Greenberg, K2BIG, International Director of Communications, ASI Police International, Inc., 161 Ritchie Drive, Yonkers, New York 10705 U.S.A.

Via Joe, K2BIG

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**OFFICIAL BULLETIN NR 158  
FROM ARRL HEADQUARTERS  
NEWINGTON CONN MARCH 7 1968  
TO ALL RADIO AMATEURS BT**

The ARRL Board of Directors meets annually in May to formulate the course of ARRL affairs during the coming year. The full members of ARRL elect the Board which has the overall responsibility for managing the affairs of the League. This democratic process is effective only to the extent that the membership participates. Now is the time for members and affiliated clubs to communicate with their division director at the address shown on page 8 of any 1968 QST AR

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Ak-Sar-Ben Radio Club, Inc.  
Omaha, Nebraska

Enclosed find \$2.00 check to help on Ham Hum. A real good publication. I enjoy it.

Would you list the following in Ham Hum.

I have for sale a Central Electronic 10a exciter - QT1 and VFO. All new tubes and coils. 160 thru 10. This is a good piece of gear. I am selling because I have bought a 20a to replace it.

Don't forget July 28 is the date of Central Nebraska Amateur Radio Club's steak fry at Victoria Spring.

73,  
Harold Curtis, WØERW  
Anselmo, Nebraska 68813

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3/11/68

Ak-Sar-Ben Radio Club, Inc.

Here's a small contribution to help a little on postage for Ham Hum.

I'll probably go to the Dayton Hamvention again this year and would be interested to know if any of the Ak-Sar-Ben's are going. I think Cooper will be there.

Tom Fifer, K8BKF

(Ed. Note: Thanks for the check, Tom. Anybody planning to go to Dayton, please write K8BKF %Westinghouse, 4855 State Street, Saginaw, Michigan 48603.)

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Heard on the Ohio Side Band Net--"To the station calling his dog on this frequency, he is listening up about ten kaysee, would you move up there and call him.".....de DARA

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## FROM THE EDITOR'S DESK

By Nancy Trefney, WA8LCG, Editor

The cat is out of the bag and the incentive license issue has certainly given the amateur something to talk about. Most amateurs seem to be angry with ARRL, QST or FCC but without much reason.

You'll have to admit it's a good regulation and it pinches more people than it fits. We now have a system of advancement all the way along the line, which encourages step by step procedure up to the Extra Class License. Most of the grumbling is done by the operator who has never bothered to improve his license qualification above the basic general.

Every amateur should read the full FCC report in Docket 15928. The FCC has gone to great lengths in respect to the Amateur Radio Service to explain what it was doing in the way of new regulations and why. This treatment is complimentary to the Amateur Radio Service and we should be grateful. Most commercial services do not get such clear cut explanations. It is now up to us to make amateur radio a service the FCC can be proud of by a massive upgrading effort.

All of the dissenting viewpoints on the FCC action reminds me of what a Professor at Oberlin once said to a student who said he didn't like Shakespeare: "Young man, he said, you do not judge Shakespeare. Shakespeare judges you."

The moral of the story is that Docket 15928, Incentive Licensing has become Law. It remains only for a licensee to prove himself

and to improve the Amateur Radio Service by voluntarily upgrading his license to the highest level of achievement of which he is capable.

General opinion indicates and seems to want an FCC enforcement of the procedure. Many ask must we put up with characters with crude language, intentional interference, and idiotic crud? It would be nice if the FCC could tell us the desired procedure to get these sick characters off the air.

de Ham Fax

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## FOR SALE

Central Electronic 10a exciter-QT1 and VFO. All new tubes and coils. 160 thru 10. This is a good piece of gear. I am selling because I have bought a 20a to replace it.

Harold Curtis, WØERW

Anselmo, Nebraska 68813

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## FOR SALE

Best offer, all or any part:

Johnson Viking II and #122 VFO

Johnson 250W. Match Box

Johnson 52 $\Omega$  Lo Pass Filter

Universat Coax Ratiometer

52 $\Omega$  Coupler and Meter

Harold Flesher, WØPDM

927-3rd Avenue

Council Bluffs, Iowa 51501

Call after 6:00 P.M.

322-6949

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## RF SPECTRUM SHORTAGE

(The following is an extract from a PE article sent in by VE2-ANH because he felt it warranted your attention. de: Marc-O-Gram)

Two-way radio usage in No. and So. America is fast approaching the super saturated point. For instance, the U.S. Coast Guard finds its marine calling and distress frequency almost useless at certain times of the year because of congestion and interference. CBers are putting forward a plan by which they would acquire privileges in a portion of the 10 meter band and rumors abound that the FCC may eventually give the CBers a portion of the 6 meter band.

The FCC is considering channel splitting in the VHF/FM business band, which would effectively double the number of available frequencies: but they're running into considerable opposition. Municipal agencies in large urban centers must have more space, or soon have crippled communications capabilities.

The number and variety of FCC regulated radio communications services is staggering. Space is used by public services and utilities of every variety, press, industry, emergency services, railroads, forestry and conservation, telephone maintenance, etc., mostly crowded into the VHF.

The broadcast industry has 82% of all non-government RF allocations below 1000 mc. TV really gobbles up the frequencies with 6 mc. per channel. However, the U.S. Government uses even more

space: 47% of the spectrum below 40,000 mc. This includes vacant channels, misused channels and redundant channels - as anyone with a 2 - 50 mc. general coverage receiver can discover. Somewhere there has been some mismanagement!

All our RF space has been allocated: and a few years ago Irving Brownstein of the FCC said that communications is a world "where frequency cannibalism may be a major means of survival." That is, if a service doesn't make sufficient and efficient use of its allocations, it will lose them. With this in mind - what of the hambands - especially the UHF bands???

de Ham Fax

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A map with a grin is worth two with a frown.

WØVLI

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## OFFICIAL BULLETIN NR 159 FROM ARRL HEADQUARTERS NEWINGTON CONN MARCH 14, 1968 TO ALL RADIO AMATEURS BT

On March 12 by voice vote the House of Representatives passed HR 14910 which would give the Federal Communications Commission power to control the manufacture, distribution and sale of electrical devices capable of causing interference to radio communications. The measure now goes to the Senate. Amateurs interested in its passage there may wish to record that fact with their Senators. Other details on this bill will be in the May issue of QST  $\overline{AR}$

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