

HAM HUM

AK-SAR-BEN
RADIO CLUB
INC.

WØEQU

July 1958

P.O. 626

Omaha 1, Nebr.

Vol. VIII No. 7



Ham Hum

Published by
AK-SAR-BEN RADIO CLUB INC.
Post Office Box 626
Omaha 1, Nebraska

HAM HUM is the official organ of the Ak-Sar-Ben Radio Club of Omaha, Nebraska, Mailed monthly to all members and to others upon request. News and information of interest to amateur radio is gladly

accepted. All items must be received at least two weeks prior to the second Friday of each month for inclusion in the current issue. Submit all correspondence to P.O. Box 626, Omaha, Nebr.

AK-SAR-BEN RADIO CLUB, INC.

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VHF

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Frank Parsons, W0MYO

Ak-Sar-Ben Radio Club memberships are open to all persons having an interest in amateur radio and its activities. Dues are 50¢ per month or \$5.00 per year when paid in advance. Students

rate is 25¢ per month or \$2.50 per year. Initiation fee \$1.00. Special rate for OM-XYL, \$6.50 payable annually. Meetings are held on the second Friday of each month.

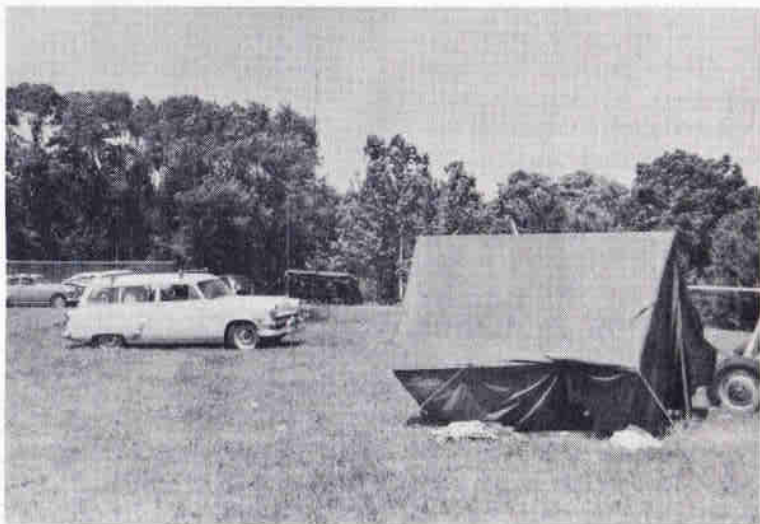
COVER PICTURE

Some of you may have recognized our cover picture as being none other than President J Gutmann, WQCQX. We really took advantage of him in this photo but it does show one of the facets of Field Day - the catnap. 24 hours is a long time to operate. A few minutes after the photo was taken Ed was up with his usual smile, well refreshed by the nap.

We were set up in the usual fashion with three tents for the DC bands, one tent on six meters and a two-meter rig. The Field Day was very unusual in that the two-meter rig could operate strictly emergency in that they did not even have a tent but chose to go into partnership with Mother Nature, the only conveniences of home being a table and a chair. If this were the usual Field Day they would surely have been rained out.

From an arrangement standpoint the Field Day was a howling success due to the capable leadership of the chairman of the Field Day committee, Ed Donze, WØYEV. You will find his picture beside his station wagon under the sun. Also see notes on Field Day by WØYEV. The pictures were taken by your editor for HAM HUM. I am sure that many of you have more





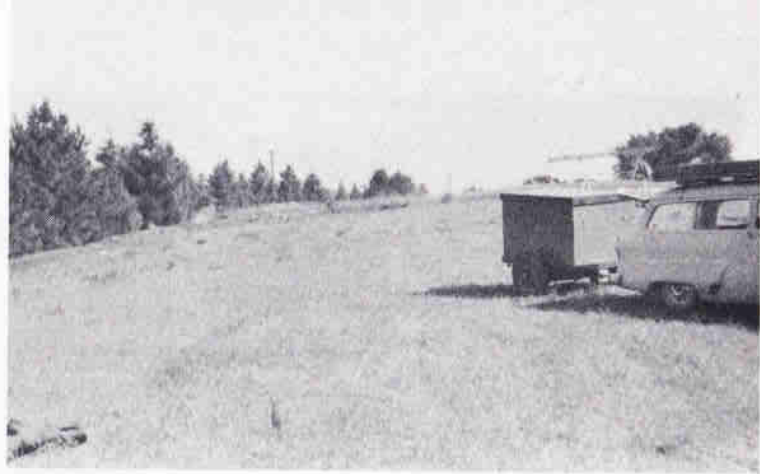
and better pictures and would recommend that you bring them to Club meeting for the benefit of those who might be interested in seeing more of the Field Day and were perhaps unable to attend.

As to score, the bands did not exactly cooperate and we had our usual difficulties with interference between tents plus some equipment difficulty here and there, all of which is standard on a Field Day. At least we thought it was standard until while waiting for the truck to haul the gear we were discussing the problem and feel that suitable filters can be developed for the purpose of eliminating a goodly share of this between tent interference.

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Anyone interested in this project, either with ideas or who would like to help work out something, please get in touch with W0CQX.

We would also appreciate your sending in any suggestions that you may have regarding future Field Days right now while it is fresh in your mind rather than waiting until next year when you may not remember to send it. Just drop a card or letter to Box 626, Omaha 1, Nebraska.





SINGLE SIDEBAND---PART 2

New Hyde Park, N.Y.
June 23, 1958

Dear Editor,

Just got finished reading June Ham Hum and enjoyed every page of it.

Yes I realize the mistake of the spelling of my name on my QSL. After all I did get them for nothing!

I read your article on subscription fees and I wonder if I am obligated to pay. If so I will be more than glad to help expenses for everybody's ham news. Please answer in your next issue.

Have been looking fer the boys (and girls) out Nebraska way. Doesn't anybody work 40..?

Thanks for manny, manny issues.

cul.....K2PVB

73,

Joe Lofreddo

...a satisfied reader!

Editor's Note; No obligation, Joe, only for those who live in the Omaha vicinity who can, if they wish, join the Club and get it free. To those who live elsewhere, we are glad to send Ham Hum with no obligation whatsoever.

This month we will go into the relative efficiencies of A.M. and SSB. This is a point that is often misunderstood, even among the sideband men. First, let's consider the final amplifier output efficiencies. A properly designed and operated class "C" A.M. final amplifier will have an efficiency of about 75%. That is, if the tube is operated with 100 watts plate input, the R.F. power output will be about 75 watts. For reasons which will be shown later in this series, a single sideband final amplifier cannot be operated in class "C", but must use class "AB₁", class "AB₂", or class "B" operation. The efficiency of an AB₁ amplifier will be about 55%, that of a class AB₂ amplifier about 60-65%, and that of a class "B" amplifier from 65 to 70%. Thus it appears that SSB loses something here. But let's look at things in another light for a moment. Consider the power inputs drawn from the A.C. line. A 500 watt A.M. rig that is plate modulated will draw around 2000 watts from the A.C. line. For this 2 kw of A.C. power we get out about 400 watts of modulated R.F. power. This begins to look not like 75%, but more like 20% efficiency. Why? The plate modulator draws quite a

bit of power itself, and then the whole power supply has to be a lot more rugged to take care of the modulator. Now let's look at a 500 watt SSB exciter and final amplifier. This combination will draw about 1000 watts, with about 325 watts output. This, then, is about 32% efficient. But there is one more factor that hasn't been considered yet. The SSB signal is all communications power. The A.M. signal has duplicate sidebands and a power-wasting carrier that could very well be left out. Efficiency? Is there any comparison?

Single sideband has many more points in its favor. First, let's consider the receiver end of the arrangement. If the receiver used has a 6 kc. bandwidth, an A.M. signal will be twice as loud at the speaker or headphones, as a SSB signal, all other things being equal. But if the selectivity is cut down to 3 kc. the A.M. signal will be no louder than the SSB signal. However, by cutting the bandwidth in half we have also cut the noise generated within the receiver in half. With an A.M. signal being received on a receiver using a 3 kc. passband one sideband is being chopped off at the receiver. In other words, we have gone to the trouble to generate two sidebands, then let the receiver get rid of one of them.

But with SSB we can use the 3 kc. selectivity without losing anything. And by making the receiver's bandpass narrower we can eliminate some QRM. This is beginning to look better all the time. What have we gained so far by going to SSB? We have cut the receiver's bandwidth and noise in half, eliminated some QRM, and not lost any of the transmitted signal in the process. This is almost like something for nothing. But SSB will also eliminate selectivity fading, that is fading of the carrier but not the sidebands which at times occurs over long paths, because there is no carrier to fade.

Now let's look at the transmitting end. There has been a lot of talk about 6 db. gain at the transmitter. This can only be done if the plate voltage on the final amplifier is doubled. It can be shown mathematically that if this voltage is doubled the power input can be increased four times, or 6 db. Such a presentation is beyond the scope of this series. But there is one more point to be considered. If a 100 watt A.M. transmitter is plate modulated with a sine wave, the modulator will have to furnish 50 watts of audio power. This power is divided between the sidebands, so that there is 25 watts in each sideband. If received on a selective (3kc.) receiver, just one

sideband is utilized, so that we only have 25 watts effective communications power. But with a SSB transmitter running 25 watts all the power is utilized. From this we can conclude that a 250 watt SSB transmitter will do the same communications job as a kilowatt A.M. transmitter. Who says SSB isn't efficient or is expensive?

NEXT MONTH: Suppressing the Carrier.

Harlan Bercovici, KØBHT

**OFFICIAL BULLETIN NR 658
FROM ARRL HEADQUARTERS
WEST HARTFORD CONN JUNE
19 1958 TO ALL RADIO AMA-
TEURS BT**

The 1958 ARRL National Convention will be held at the Sheraton Park Hotel, Washington, D C on August 15, 16, and 17. The program includes tours of places of interest, a code contest, technical sessions on VHF, mobile, RACES, military, TVI, Novice subjects, YLRL, single sideband, antennas, RTTY, public relations, DX and others. A Wouff Hong Initiation will be held Saturday evening. Make your advance registrations by August 1. See pages 55 and 66 of July QST for full details AR

FOR SALE

Two element 15 meter beam
with 25 feet RG8/4 coax...\$7.00.

Doug Pendray

TE 6051

Notice: When writing to Ham
Hum please include Postal
Delivery Zone number as a part
of the address

Ak-Sar-Ben Radio Club

P.O. Box 626

Omaha 1, Nebraska

Dear OMS,

Please be informed of my change in QTH. The new adrs is below. I would appreciate receiving "Ham Hum" in the future to keep informed as to the latest goings on in Omaha.

At present, I am attempting to start a "Tape QSO Club" going, as the gent who had an article in QST, John Wood, 5 FLS, had to give up his plans. Any of you members who are interested can participate by merely recording a tape and sending it to me.

TNX & CUL

73's

Hal

H. A. Morgan

5239 North Indiana

Kansas City 16, Mo.



NOTES ON FIELD DAY

Another Field Day has come and gone, leaving in its wake the memories of a good time (we hope), of tired fists, of throats which have acquired a new hoarseness, an awareness of a few muscles in our legs not accustomed to walking on rough fields, of a tenderness here and there from sleeping on the ground or cramped up in the seat of the mobile, a few chigger bites, a little indigestion from too much pop, coffee and make-shift lunches. Some a little disappointed in the score, of the methods used, in band conditions and things in general. We made mistakes as usual, also gained a lot of new ideas which should make future Field Days much better.

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Equipment we really had. The fellows were very generous. In power we had our ARC 3000 Watt Onan mounted on the trailer, Lou Cutler's 500 Watt Onan, George Winkler's 1500 Watt Dayton. Xmitters were Larry Caccamo's Viking II, Gonset III from Ladd Electronics, Gonset CD II KØAVB, Gonset III KØHHR, Gonset III and Linear, Jerry Knight, DSB100 from World Radio Lab, Heath kit AT 1 Bill McDonald, Ranger WØYEV, DX 20 ? and ACD II Mike.

Receivers SX100 Tom Doll, Drake Sideband W.R.L., 100 Ladd Elec., SX 96 Jerry Novotny.

Antennas - Vertical from Curt Hicks, 20m Doublet Tom



Doll, 40m off center fed Dick Riedmund, all band trap W.R.L., 6m 4 el Telrex Mike Trimble, 2m 10 el home brew Jerry Knight. The six meter beam together with a rotor was mounted on a trailer furnished by Union Pacific Railroad.

Friday night Jerry Armstrong, Jerry Knight, Tony Helbing and Ed Donze met at Fay's and loaded his truck with the tents, stakes, wire, masts, etc. Then Saturday morning about 9 o'clock equipment started to arrive at the site and setting up got underway, continuing right up to starting time. The small generators were used to start, but it soon became evident that more power was desirable and one by one cables were plugged into the big generator which kept the rigs humming to closing down time.

Things went rather smoothly throughout the night until the boys in the 20 meter tent hooked a New Zealand ZL1TB. His sig must have really packed a wallop because that was the moment the ropes broke on a jungle hammock tied between two trees at the side of the tent, Hi Hi. Hurt much, Tom?

The sun came up and with it the smell of bacon frying. A guy strolled over with a banana in one hand and a piece of cheese in the other and we decided we *hated them guys*.

12



Shouldn't be allowed. Oh well. Sunday was hot and windy, the fellows were tired and I think everyone was glad when it was time to pack up the gear and head for the home Q TH.

It was a gratifying experience, but I'm sure we are all sort of glad it's over for another year.

We worked between 200 and 300 stations, 31 states and 6 DX. We had 30 operators signed up.

Our thanks to Mr. and Mrs. Latenser for the wonderful site, to David Hollander for the signs leading us to it.

Thanks to Dick Eilers and Damon Nuckols for keeping us in hot coffee.

Lest we forget anyone, we say thanks to everyone who gave of their time and equipment to Field Day 1958.

73,s

WØYEV



NOVICE HELP NEEDED

Novices please take note. We have the problem - you can furnish the solution. Each month the Club receives quite a number of QSL cards for novices because of incorrect or lack of address. Due to the newness of the license, the addresses for these novices are frequently unobtainable. Even though they might be in the very latest Call Book, your editor is too stingy to buy a new one each quarter.

The solution will be nearer if each of you will send your call, name, address and telephone number to Box 626, Omaha. Your editor will compile a list of these novice calls and should any QSL cards come for you, it will then be easier to get the card to you. Many of the novices do not, of course, read Ham Hum and as many of you as will, please send a list of the local novices that you know, giving us their Qth, telephone number, or whatever information you have about them. While you are at it, you might suggest to any of your acquaintances that they may want to read Ham Hum themselves. The subscription, of course, is free with membership in the Club. However, Club membership is not required as they can subscribe to the magazine without membership for only \$1.00 per year.

JULY 11th MEETING

The program for the July meeting will be taken care of by Bill Tiffany, Omaha District Manager of the Telephone Company. He will bring with him and demonstrate an earth satellite, complete with radio gear, beep, etc. Be sure not to miss this meeting, as we will need your help getting this satellite into orbit. In addition we will have movies of selected subjects and the chance for an eyeball QSO and refreshments will be served.

ADVANCE INFO FOR AUGUST MEETING

Hams traditionally are geniuses who don't know the meaning of the words "It can't be done." Your Program Committee is looking forward to seeing you in August and hearing you explain some gadget or device that you have developed around your ham shack to make things a little easier, a little more convenient, or what have you. So, look around your shack and start laying your plans for what to bring to the August 8th meeting. It will be very helpful to the Program Committee if you will jot down what you might be able to bring, whether you wish to talk about it, or just show it, put it on a card and

mail it to Box 626, Omaha.

The September meeting will be the annual picnic. The date will be announced next month, probably the second Sunday in September.

**OFFICIAL BULLETIN NR 657
FROM ARRL HEADQUARTERS
WEST HARTFORD CONN JUNE
12 1958 TO ALL RADIO AMA-
TEURS BT**

The FCC public notice of December 21, 1950 and as since revised, in compliance with U S Treaty obligations, cautions FCC licensed amateurs not to communicate with stations in Cambodia, Indonesia, Iran and Vietnam. Prefixes to be avoided are F18 XU PK EP EQ XV 3W and YB to YH AR

**OFFICIAL BULLETIN NR 659
WEST HARTFORD CONN JUNE
24 1958 TO ALL RADIO AMA-
TEURS BT**

The June 30 issue of Sports Illustrated carries a feature story on amateur radio by Bill Leonard, W2SKE. The article highlights the ARRL DX Contest but also describes amateur radio generally and is excellent public relations material in a national magazine AR

Dear Sirs:

My new permanent address is

Creighton Preparatory School
7400 Western Ave.
Omaha 14, Nebr.

My getting on the air is a question to be settled in the distant future.

Raymond J. Strange, S.J.
WØQHG

LOCAL SUBSCRIPTION

Just a note to remind you to send in your \$1.00 if you are not a Club member and live in Douglas or Sarpy Counties. Subscription to Ham Hum is free to Club members. Non-members who live outside of Douglas or Sarpy Counties receive Ham Hum on request and any contribution towards postage is voluntary. Our thanks to those who have already sent in their \$1.00.

FLASH

Several six meter mobiles left on July 2nd for Atlantic, Iowa for service in the flood.

AK-SAR-BEN RADIO CLUB INC.
P. O. BOX 626
OMAHA, NEBRASKA

NEXT MEETING
AK-SAR-BEN 4-H BUILDING
AK-SAR-BEN FIELD
JULY 11, 1958
8:00 - SHARP

Form 3547 Requested

BULK RATE
U.S. POSTAGE
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