



# HAM HUM

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AK-SAR-BEN AMATEUR RADIO CLUB, INC.  
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March 1980

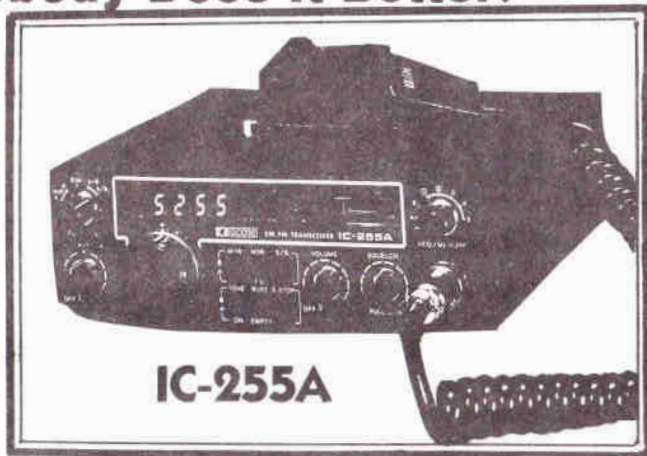
Vol. XXX  
No. 3

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Published by:  
**AK-SAR-BEN AMATEUR RADIO CLUB, INC.**  
 Post Office Box 291  
 Omaha, Nebraska 68101

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**Dues-Annual Basis**

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 New member initiation fee . . . . . \$ 1.00  
 Regular member . . . . . \$10.00  
 Regular member and spouse . . . . . \$12.00  
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**Dues-Quarterly Basis** (For each quarter or part thereof for balance of calendar year.)

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 Student member . . . . . \$1.05

**NEXT MEETING**

**WHEN:** FRIDAY, MARCH 14, 1980

**TIME:** 7:30 P.M.

**WHERE:** DOUGLAS/SARPY COUNTY CHAPTER  
 AMERICAN RED CROSS  
 38th and Dewey Avenue  
 Omaha, Nebraska 68105

**PROGRAM:** SEVERE WEATHER – We will have our annual visit from the folks at the National Weather Service. NWS has a new film to show us on storm spotting, so even if you've attended one of these sessions before, it's well worth the time to attend again. With the severe storm season approaching, it's a good time to brush up on those spotting techniques, and ask the NWS people any questions you may have.

\*\*\*

**VISITORS WELCOME – REFRESHMENTS – EYEBALL QSOs**

\*\*\*\*\*

## THE PREZ SEZ

For the first time in about a quarter century, hams around the world will soon be receiving QSL cards from Boystown, Nebraska. I have not yet seen the drafts of the new Boystown QSL cards, but I would not be surprised if the motto "He ain't heavy, Father - he's my brother" appeared somewhere along the border.

The Club sponsored a special Saturday class during the fall, 1979 semester, at the request of Father James Kelly. From an initial enrollment of seven, three students successfully completed the novice licensing course and subsequently received their novice tickets. Congratulations are in order to the three new hams!

Father James Kelly, KAØGTQ  
Rev. James Tsapelas, KAØGTS  
Darrel McCallister, KAØGTR

Watch for their blazing CW on the novice bands!

Thanks for the February meeting program presentation goes to Neil Johnson, WBØEMU. Neil demonstrated the portable paging equipment used by the American Telephone System (ATS), and explained its operation and capabilities. In demonstrating the voice pager, Dave, WDØ-DLN, called the central ATS office with his two-meter handheld via the 40-00 phone patch and left a voice message. Neil's voice pager was then activated, and Dave's message came through the portable pager loud and clear! Very impressive!

Tom, KØPQR, reported that some of the technical rules concerning code for information interchange (ASCII) on the amateur bands had been released through HR Reports.

It appears that maximum transmission rates for ASCII on the ham bands will be established at 300 baud below 28 MHz, 1200 baud between 28 MHz and 420 MHz, and 19,200 baud above 420 MHz. All I can say is that these speeds open up a lot of new areas for amateur experimentation and development! Nothing yet on modulation techniques or shift frequencies, but all technical rules should be finalized and released within the next six weeks. Now a rules modification to allow computers to take F.C.C. exams to become bona fide licensed operators - robot-controlled DX, anyone??? (Think of the DX your TRS-80 could roll up during prime weekday operating hours while you're slaving away at the job trying to save a few coins to pay for the set-up!)

As a final point, the plummeting price of medium-powered microprocessor equipment, along with the F.C.C. sanctions of ASCII, has again renewed amateur interest in basic computer technology. If there is enough interest among Club members, I know of several computer types who would volunteer their time to teach a basic computer technology class, as related to amateur radio, as a Club educational project. If any of you are interested in helping to organize or attend such a class, please contact me at home, 572-9491, or via P. O. Box 291, and maybe we can get something started. I, for one, am especially interested in computerized repeater control and radio teletype applications.

Don't forget, the March meeting program will be the annual weather

watch presentation by the National Weather Service and the Strategic Air Command World Weather Watch. I have been told that several new films will be shown this year, and ARES will be on hand with membership applications! Hope to see you all there.

73, de KØDG  
\*\*\*\*\*

### BOARD OF TRUSTEES MEETING February 1, 1980

Present were: President, Dick, KØDG; Mac, WAØBMJ; Ellen, WBØHWF; Charlie, WØQQN; Tom, KØPQR; Mike, NØAON; Frank, WAØIWF; Wayne, WBØHEU; Jim, WBØJPN, and Ed, WDØHBY.

Treasurer's report was read by Mac, WAØBMJ, and was unanimously accepted.

Motion made by Mac, WAØBMJ, to subscribe to the HR Report for Club use, and was seconded by Ed, WDØHBY. Motion was approved by the Board.

Tom, KØPQR, made motion to financially support any publicity expense for out-of-town trips made by the ØQSL Bureau, with reimbursement to be approved by the Board. Expense not to exceed \$250.00 annually. Seconded by Ellen, WBØHWF. Board unanimously approved.

A motion by Jim, WBØJPN, and a second by Ed, WDØHBY, to adjourn the meeting at 21:50 hours was carried by the Board.

Ellen Morrissey, WBØHWF  
Club Secretary  
\*\*\*\*\*

### ADDITIONS TO ROSTER

Joseph D. Connell, WØLHZ  
7035 Iowa Street  
Omaha, Nebraska 68152  
Phone: 571-6956

Patrick H. Connell, KAØELX  
2770 South 13th Street  
Omaha, Nebraska 68108  
Phone: 345-0470

Reynolds B. Davis, KØGND  
3437 Anaheim Drive  
Lincoln, Nebraska 68506  
Phone: 488-4276

Gary S. Drummond, KB9CG  
2206 North 121st Street  
Omaha, Nebraska 68164  
Phone: 496-2808

Douglas E. Epps, KAØCDW  
4113 Bartman Drive  
Omaha, Nebraska 68147  
Phone: 733-3370

Capt. Steven F. Kopas, WB7SPQ  
6611 South 75th Ave. Circle  
Ralston, Nebraska 68127  
Phone: 331-7129

Janice G. Nelson, KAØBJX  
4535 Hascall Street  
Omaha, Nebraska 68106  
Phone: 533-6532

Dr. Walter N. Piper, W6SSC  
1004 Roundup Road  
Elkhorn, Nebraska 68022  
Phone: 289-3678

\*\*\*\*\*

## RECENT CONTRIBUTORS

### Ham Hum Postage

Milton D. Forsyth, Jr., WBØLPG

William E. McConnell, WA6WFI/  
WBØRWP

Ken M. Utterback, WBØMRW

### Repeater 34/94

Erich J. Bahr, WØHRK

Robert J. Carl, NØAZA

Dwight T. Jones, WBØGUA

Dr. Arthur L. Larsen, NØAMC

William E. McConnell, WA6WFI/  
WBØRWP

Michael C. McPherson, WBØSMC

T. W. (Ted) Parsons, Jr., WBØTYB

Carl J. Quijas, WBØTUE

Ronald L. Sundsboe, WAØMQM

Richard H. Swig, WAØZQG

Jerome D. Wasserman, WBØCKR

Vern J. Wirka, WBØGQM

### Repeater 22/82

Robert W. Arant, Sr., WØGOT

Robert J. Carl, NØAZA

Michael C. McPherson, WBØSMC

Carl J. Quijas, WBØTUE

Ronald L. Sundsboe, WAØMQM

Richard H. Swig, WAØZQG

R. J. (Jim) Wickham, WBØS JL

Vern J. Wirka, WBØGQM

### Repeater 40/00

Robert W. Arant, Sr., WØGOT

Robert J. Carl, NØAZA

Raymond A. Dusatko, WØSPL

Michael C. McPherson, WBØSMC

T. W. (Ted) Parsons, Jr., WBØTYB

Carl J. Quijas, WBØTUE

Clayton C. Stanfield, KØJKW

Ronald L. Sundsboe, WAØMQM

Vern J. Wirka, WBØGQM

Sincere thanks to all!

\*\*\*\*\*

## NEWS FROM MEMBERS

Hi: Best to all the Omaha gang. Will be on from Montserrat last week in Feb. and 1st week in March, 15 meters. Listen for us (VP2MDB).

73,

Dave Benton, W2WSE

201 Sea Girt Avenue

Sea Girt, New Jersey 08750

\*\*\*

Dear Folks:

Enclosed is my 26th year dues. Still keep in touch with Omaha on Dingaling Net - WØKH, WØUQJ, WØEN, WØYZK, WØQQN - each morning at 8:30 PST on 14244I. Used to talk to WØYVV, WØFQB and others on 75 but haven't heard them for some time.

We have had 36" snow since 10 January and it is snowing now. We are having a meeting in town tonight trying to get a club going so we can put up a 2 meter repeater.

Damon B. Nuckols, W7LKH

Star Route 2, Box 199

Bonnars Ferry, Idaho 83805

\*\*\*\*\*

## MEMBERS ADDRESS CHANGES

Edward M. Lawler, WØTHA

Route 1, Box 232

Valley, Nebraska 68064

William Paul Snyder

3221 South 45th Street

Omaha, Nebraska 68106

Arlis R. Wyatt, WØGKIK

14115 Berry Plaza #19

Omaha, Nebraska 68137

\*\*\*\*\*

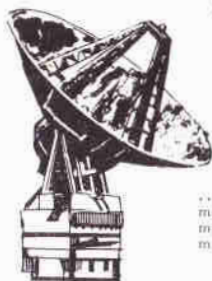
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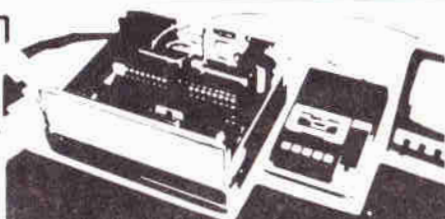
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**MINUTES OF THE GENERAL  
MEMBERSHIP MEETING**  
Held February 1, 1980, at the  
Red Cross Building at 38th &  
Dewey Avenue, Omaha, Nebraska

The meeting was called to order at 19:30 hours by President Dick Jugel, KØDG.

Meeting was started with the Pledge of Allegiance.

There were two visitors from Essex, Iowa, Bob Bartlett, KAØEJT, and Ron Erickson, AKØN.

Upon the motion of Jim, NØAIH, seconded by Walt, KAØDMB, the following were admitted to the Club, upon unanimous approval. Gary S. Drummond, KB9CG; Janice G. Nelson, KAØBJX; Patrick H. Connell, KAØELX; Dr. Walter N. Piper, W6SSC; and Joseph D. Connell, WØLHZ.

Congratulations go to three up-grades - Robert H. Miller, KAØEAG, to Advanced; Janice G. Nelson, KAØBJX, to General; and Walter J. Brown, Jr., KAØDMB, to General.

President Jugel passed out Membership Certificates to several of the members who were there to receive theirs.

Tom Mulick, WBØTMI, was entered in the Immanuel Hospital for surgery the second week in February. The Club has sent a card and I am sure Tom would appreciate a shower of cards. It has been requested that cards be mailed to his residence.

How many are interested in a basic class on Computer Programming? There are enough to hold a class, we will get a place and instructors.

For three years now, Tom, KØPQR, has been "pulling-the-ball" for the advertisements in the Ham Hum. I'm sure there are some in our Club

who could give him a hand. How about an ad from the butcher, baker or candlestick maker? I'm sure we can. We would like to have the publication self-supporting.

Jim, NØAIH, is looking for five more volunteers to help at the Auction, April 13. He also needs three or four fellows for a couple hours the Saturday night before to help set up tables and put up signs in our room at the Holiday Inn in preparation for the Sunday Auction. There will be a meeting the third week of March of all the Auction volunteers. Time and place will be made on a Sunday night ARES Net.

Motion made by Rich, WAØZQG, that smoking not be allowed in the room of the Club meeting and that no ash trays be provided, seconded by Jim, NØAIH. Motion was not carried.

A REQUEST by Rich, WAØZQG, for a ten-minute break between the business meeting and the program. Request was unanimous.

The results of the ballot for the Club meeting location are as follows: Red Cross 106 and the JCC 27. It looks as though for the year 1980 the meeting place will be at the Red Cross Chapter House.

Neil Johnson from ATS Mobile Telephone Inc., gave a program on the beeper system paging devices. Different types, how they have developed during the years, comparison and capabilities. Talk was very informative and received undivided attention. Several questions were asked.

Coffee and doughnuts followed.

Club Secretary,  
Ellen Morrissey, WBOHWF

\*\*\*\*\*

## AUCTION 1980

The Ak-Sar-Ben Amateur Radio Club, Inc., will present its annual auction on April 13, 1980, at the Holiday Inn, 72nd and Grover Streets, Omaha, Nebraska. The following information and rules will be strictly enforced:

1. Equipment check-in and buyer registration will begin promptly at 8:00 AM the day of the auction. Equipment will not be allowed on the auction premises prior to that time.
2. The auction will begin promptly at 9:00 AM the day of the auction, and will continue until the last item is sold, or until terminated by the combined ruling of the auction chairman and the President, Ak-Sar-Ben Radio Club Inc.
3. All items will be sold at auction to the highest bidder, in numerical order of check-in.
4. The Treasurer's record of sales will be considered true and final.
5. The Ak-Sar-Ben Radio Amateur Club, Inc. nor any of its members will be responsible for items lost or stolen while on the auction premises.
6. There will be a minimum bid of \$5.00 on all items sold. Lots not meeting the minimum bid will be returned to the seller.
7. Sellers will not be paid for items sold until the Treasurer receives payment from the buyer.
8. All equipment will be sold at auction. Personal sales will not be permitted on the auction premises.
9. Equipment registration will be limited to 10 lots per person. Equipment in each lot will be sold at auction for one price.
10. Sellers residing 90 miles or more from the auction will be allowed to check in equipment between the hours of 11:00 AM and 12:00 noon the day of the auction. This equipment will receive a special tag, and will be sold at auction between the hours of 12:00 noon and 4:00 PM the day of the auction.
11. Equipment will not be permitted out of the auction premises without proof-of-purchase.
12. Equipment remaining on the auction premises one hour after the auction has closed will become the property of Ak-Sar-Ben Amateur Radio Club, Inc., and will be disposed of accordingly.

### BUYER RULES

All buyers must register, and receive a buyer's number. Bids will not be accepted from persons not displaying a buyer's card.

2. Buyers must pay for each item purchased immediately after the sale. Special arrangements may be made for group payment by contacting the auction chairman.



### (BUYER RULES – Cont'd)

3. Buyers will not be permitted to take possession of equipment without a properly marked receipt.
4. Sale of "Linear" amplifiers will be restricted to licensed Amateur Radio operators only.
5. Persons will not be allowed on the equipment floor without a buyer's card.
6. Personal checks will be accepted only from licensed Amateur Radio Operators.

### SELLER RULES

1. A commission of 10% (ten percent) will be charged for each lot sold, up to a maximum of \$20.00 for each individual sale.
2. In order to buy back an item, the seller must be the high bidder. Terms such as 'no sale' will not be allowed. A fee of \$2.00 will be charged for all 'Buy Backs.'

And finally, some general comments. Please have patience, especially when it comes to dealings with the Treasurer's desk. All sales have to be verified, payments made by the buyer, and so on before the seller can be paid. If you sellers want to hurry the process along, contact each buyer of your equipment and guide him to the Treasurer's table. If you get stopped at the door and are asked for a receipt for your carry-out item, please remember that we are making an all-out effort to eliminate the theft of YOUR stuff while at the auction, so don't take it personally. Remember, your bid will not be considered without displaying a buyer's card, so stick your buyer's number in your hat, or somewhere it can be seen by the auctioneer. And, finally, call or write me to have your questions answered for anything I may not have covered here. See you on April the thirteenth...

Jim Sanford, NOAAI, Auction Chairman  
402-451-1443  
4764 Meredith Ave.,  
Omaha, NE 68104

\*\*\*\*\*



**REMINDER!**

**HAVE YOU PAID YOUR DUES?  
DO IT TODAY!**

Dear Fellow Hams:

DE NØAON

Do you know there is a Monday night 8 PM net on 10 meters? Frequency 28.800 Mc. Russ Minks, WAØVEE, is the Net Control Station and the format is informal. Stop over!

Charlie, KØQVL

\*\*\*\*\*

### JOTTINGS BY LEE

To get maxium attention, it's hard to beat a good big mistake.

Some people moonlight, just to see Daylight.

de Pack Rats, Penna.

\*\*\*\*\*

### 4th ANNUAL (Sioux City) HAMBOREE!

SATURDAY, March 29, 1980  
THE OASIS - Sioux City Airport  
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Well, after a not-long-enough vacation in Florida and Louisiana (70+ degrees! golf, anyone?), during which I missed last month's deadline, I'm back pushing my pen for posterity, something like that.

Around Town...../PRT: Doug, KØBOY's repeater has moved. Not QTH, just frequency! New setting is 145.450 with either plus or minus 600 inputs. The minus 600 receiver is located at Doug's home in LaVista, while the high input is picked up out at 123rd and Center. The machine has super coverage, and Doug welcomes anyone to make use of it! Additionally, inputs in the 220 and 450 MHz ranges are in the works!

Here and There.....Had the opportunity recently to stop over and visit Charlie, WØQQN and XYL Alma. After several hours of talking radio and draining the coffee pot twice, Charlie gave me the fifty-cent tour of the heart of the zero land QSL Bureau. To say the least, it was an eye-opening experience! The endless hours of work put in by Charlie, Alma and all the sorters connected with the Bureau is just unbelievable. It's easy to see why our Club is obtaining such an A-1 reputation around the world because of the dedication and efforts of this small group of members. A tip of the hat to all of you! (Worked any DX? Then get some envelopes into the Bureau! I had 12 cards in the Bureau but no envelopes. Even though you may not expect any DX cards, many DX ops QSL 100% via the Bureau anyhow! For more info on what the Bureau does, or how to get yourself set with SASE's, just see Charlie,

WØQQN, at the meetings, or holler for him on 94!)

Auction '80.....Spread the word! This year's auction will be held on April 13th (Sunday) at the Holiday Inn at 72nd and Grover. (Check-in starts at 8:00 AM, with the first item going up for bids at 9:00. Jim, NØAIH (the Club masochist - who else would volunteer to be Auction Chairman two years straight?) still needs volunteers to help out both Saturday for set-up, as well as on Sunday. If you can spare a few hours to help out, get ahold of Jim either on 94, or phone 451-1443 during the evening. Everyone can help me in the PR department by getting the word out and about!

ARES.....More news from Jim, NØAIH: The March Club Meeting program will be our annual visit from the folks at the National Weather Service. NWS has a new film to show us on storm spotting, so even if you've attended one of these sessions before, it's well worth the time to attend again. With the severe storm season approaching, it's a good time to brush up on those spotting techniques, and ask the NWS people any questions you may have.

Contests and Such.....ARRL DX 'test (phone) on March 1st and 2nd is over by the time you read this. Just before writing this column, Mitch, NØAZF informed me that he and Chuck, KAØEBD, would be putting together a multi-op team for the 'test. Meanwhile, I'll be sticking to 10 meters only (private battle with a friend in Chicago!).....Nebraska QSO Party on March 7-9 for both CW and Phone. Reynolds, KØGND of Lincoln is the coordinator of the 'test, and Mitch, NØAZF is defending champ on CW.

March 1980

More details in last month's Ham-Hum .....CQ FD, CQ FD: Believe it or not, Field Day is coming! As we all enjoy this wonderful (???) weather and freeze our tank circuits off, the wheels are already in motion to make this year's FD better than ever! Two other masochists - Dave, WDØDLN and Frank, WAØIWF - have again stepped forward to co-chair the event.

.....Congrats!.....to Mitch, NØAZF (him again?) for obtaining his WAC Award.....to Reynolds, KØGND for copping the top score in Nebraska during last summer's IARU Radiosport DX Contest.....KØTVD and myself blitzed the competition to win the Nebraska Multi-op Award (of course, we were the only multi-op!!).

.....On Again, Off Again.....As of this writing (Feb. 15), the picture looks bleak for the ZL1ADI DX'pedition to put BY2F on the air from China. Keep your rigs on and beams ready, just in case.

FINAL NOTE.....For you antenna experimentors: From a QSO I had recently with W6THY, I was requested to ask anyone in the Club with experience/ideas or theories on dual or multi polarized Yagi arrays for HF (10, 15 or 20 meters), to contact Harry for an exchange of information. One of the antennas that he is currently active with consists of 4 elements horizontal and 3 elements vertical on 10 meters. Anyone with possible input for W6THY can reach him at the address in any callbook in the last 10 years..... Till next month - 73, de NØAON.  
\*\*\*\*\*

Statistics show that the best time to buy anything is about 40 years ago.

de Pack Rats, Penna.

\*\*\*\*\*

## QSL CORNER

Most of us have at one time or other received SWL cards either via the Bureau or sometimes direct. Since the ARRL Outgoing Bureau will handle SWL cards, it's really no problem to respond to these people. It's common knowledge that some countries require certain SWL activity to obtain a license. In keeping with the amateur's tradition of the promotion of international good (which is needed more now than ever), a reply to these prospective hams I'm sure would be

appreciated. A slight alteration of your card to reflect that this does not confirm a QSO with the SWL but does acknowledge that a QSO did take place at the time and with the station shown on his card is sufficient. The effort expended to reply to this SWL might generate several times its weight in pleasure to someone somewhere, and come to think of it, rare DX might look at it the same way coming your way.

By Charlie, W0QQN

\*\*\*\*\*

Bacteria is not the back entrance to a cafeteria.

de Pack Rats, Penna.

\*\*\*\*\*

A small boy was bored on a long trip. Suddenly he turned to his father and said: "I wish you'd let Mom drive—it's more exciting."

Hejaz Commentator

\*\*\*\*\*

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## AN ULTRA-SENSITIVE FIELD-STRENGTH METER

There are many field strength meters available commercially, but few are sufficiently sensitive to be used in the recently popular QRP operations, especially to determine a beam's characteristics.

Additionally, the type of sensitive FS meter which is described here can be used to detect rf wherever it may be. This would apply to neutralization of an xmtr, to determine if the oscillator of a receiver is working, ditto the same in an xmtr and a host of other uses where you wish to determine if rf is present.

The meter shows relative rf strength only and is not linear at all. So while it may show a reading of, say, 0.5mA for an rf carrier, it will run off scale with AM modulation and also, perhaps with SSB.

However, it is sensitive. So sensitive, in fact, that it will show TV and radio signals in the air surrounding your home when used with the added antenna. This is made by straightening out a wire hanger and soldering a needle-nosed clip to one end which is bent at right angles for about 3 inches. Clipping this antenna to the uppermost end of the antenna coil (in the CB handie-talkie replacement antenna) will provide sufficient pickup for the FS to work.

Almost any diode can be used in place of the 1N34A which, however, worked the best. But the 2N3391 cannot be replaced with any of the common substitutes. GE makes the 2N3391 and it is available here from Hamilton Electronic Sales, 10912 W.

Washington Blvd. for about 49¢ each. The rf choke can be a miniature such as the Miller 70F253A1. The 0.001 uF capacitor can be any good disc with a rating of about 100 V. The antenna and coil come as a unit and is a replacement for CB handy-talkies. It contains the coil and has a spike antenna. It is mounted on a binding post, which is probably the easiest way to do it.

A single "D" cell powers the unit and the battery will last its normal shelf life, since the draw is very minute. However, to be safe and to keep the drain at its lowest, a switch is used as a part of the 1 kilo-ohm pot. Construction is straight forward and should present no difficulties. Our unit is enclosed in a mini-box which makes it handy to carry and to use.

By removing the CB antenna coil and spike, and substituting a small coil of proper size shunted by a small variable capacitor between the antenna post and ground post, a tunable-sensitive FS meter is created. The coil and capacitor should cover the desired frequencies. A small antenna can then be used, clipped on the coil at the hot end.

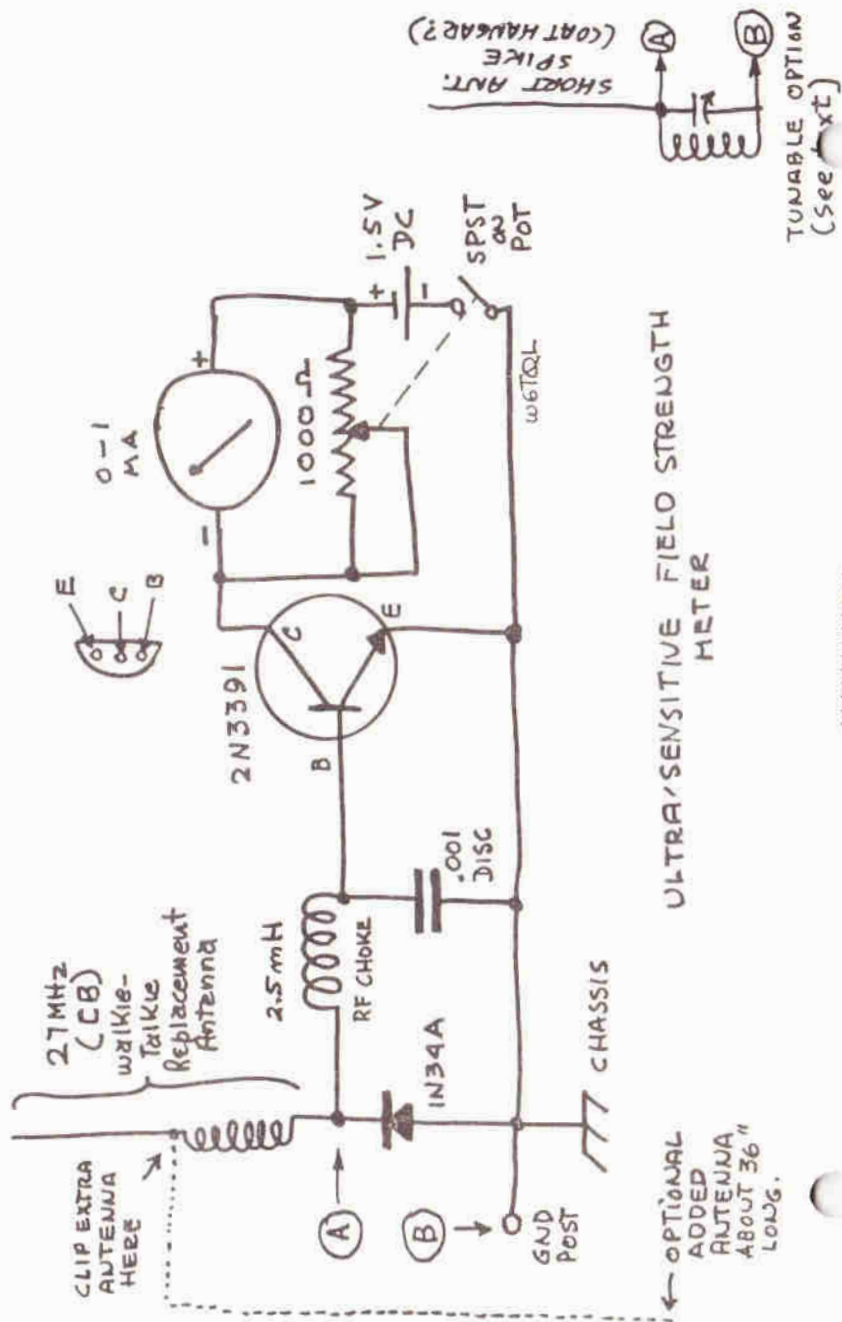
Disposing of the antenna entirely, and substituting a short piece of wire, will make the meter into a sensitive "sniffer" which is handy to use around the shack. The length of the sniffing wire must be kept as short as possible while still working so as not to read extraneous rf fields.

-W6TQL

(See diagram—page 14)

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(Continued from page 13)



## HAM HUM SWAP

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

FOR SALE: Galaxy V Mark 2 with deluxe accessory console and AC power supply. Also both manuals and extra "new" set of finals plus many more tubes. Excellent condition - \$325.00.

Call 359-2446, Joe Roberts, WAØSTV,  
609 South East Street, Valley, NE 68064

FOR SALE: Drake T4C-T4XC Twins with MN 2000; Collins S Line with VHF, 6 and 2 transverter Model 62S1.

Dick Eilers, WØYZV, 7838 Poppleton Ave.,  
Omaha, NE 68124: phone 397-3999

FOR SALE: Midland 13-510 25W Synth. 2M Rig - \$249.00;  
Pair 10M 2W AM HT's - \$79.00; Safety Belt - \$69.00.  
Richard Swig, WAØZQG, Council Bluffs, phone: 322-7775

FOR SALE: Drake TR-6, 6M XCVR with MS-4 pwr supply. All filters, noise blanker, 2 additional Xtals incl. Mint condition!

Icom 215, 2M XCVR with TT Pad. Xtals for 52, 94, 00, 76, 82, 88.  
Excellent condition, with Nicads and charger included.

Wilson MK. II Handi-talkie. Crystals for 94, 00, 82, 76, 52. Includes case, charger, hand mike, rubber duck. Excellent condition!

All items for best offer. Call Dave, WDØDLN, 493-1390.

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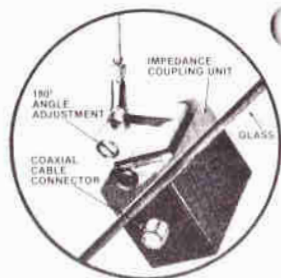


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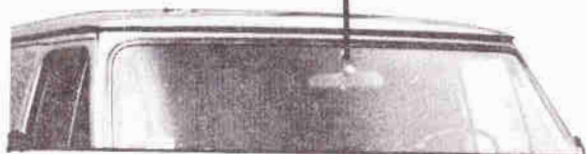
# AH 151.3G 2-METER ANTENNA



A  
windshield  
mount antenna  
with no holes  
to mar your car

## Glass mount

Freq. 144-174 MHz  
Gain 3dB  
Whip Length 33"  
Model No. AH151.3G



Secure — Mounting Epoxy Equal to 1/4-20 Bolt.

Removable Whip.

No holes -  
no damage.

Efficient Through-glass coupling means no  
signal loss.

Actually outperforms 5/8-wave antennas in  
mobile installations.

**GENERAL:**

Mount: Triple chrome plated zinc casting stainless steel hardware  
Cable: 15.5 ft. Belden 95% shielded, RG58U connectors included  
Whips: O-Plated 17-7 pH stainless steel  
Impedance Network Connector: SO239 constant impedance  
miniature UHF

Electrical Characteristics: End fed 1/2 wave  
Maximum Power: 100 Watts continuous 150 Watts intermittent  
VSWR: 1.1:1  
Nominal Impedance: 50 Ohms Radiation Pattern: True omni-directional

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