



HAM HUM

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



Vol. XXI
No. 4

April 1971

ANNUAL AUCTION

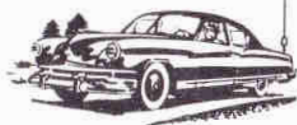
(MEETING DATE CHANGED FROM
APRIL 9 WHICH IS GOOD FRIDAY
TO APRIL 16)



- WHEN: FRIDAY - APRIL 16, 1971
- WHAT: AUCTION - bring your excess gear and parts.
Terms cash and carry. (See page 7).
- WHERE: GENERAL MOTORS TRAINING CENTER -
AUDITORIUM
225 North 80th Street, Omaha, Nebraska
- TIME: Auditorium will open at 7:00 P.M. to start registration
of gear. Items will be auctioned in order of registration.
Auction itself will begin at 7:30 P.M.

Refreshments will be served during the auction.

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 30th

Published by

AK-SAR-BEN RADIO CLUB, INC.

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Mothers — you think you have problems on cold rainy or snowy days when the kids have to play inside! How do you think a mother KANGAROO feels?????

de Midwest C-B 9'ers — Omaha

REPORT ON MARCH MEETING

By Erv Heinz, WAØEEM

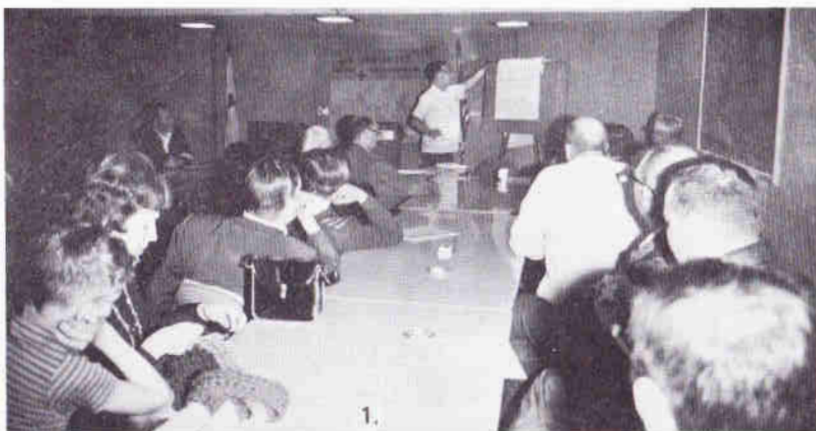
AN OUNCE OF PREVENTION IS WORTH A POUND OF CURE!

The Hams turned out for those preventive techniques by Al McMillan, WØJJK. Yep, he packed the house at the March 12th meeting, a standing room only crowd (picture 1). His was a practical application approach — the how to — nitty gritty that works. He fielded a good many questions and gave considerably more comments on how to know your equipment and

keep it functioning. A hearty “well done” to Al!

FULLERTON HAM TWINS WIN TROPHY FOR HANDICAPPED

Don Short, KØQVN, of the Lincoln Radio Club, supported the congratulations due the Richard and Robert Santin twins of Fullerton, and encouraged Hams from our area to do so too by telegraphing a congratulatory message and signing names and calls (picture 2). The following article



is taken from the Lincoln Star and Journal:

Washington (UPI)—The President's Committee on Employment of the Handicapped announced twin brothers from Fullerton, Neb., have won the President's Trophy, an award for the handicapped.

The brothers, Richard and Robert Santin, were born with muscular dystrophy and have been confined to wheelchairs all their lives. Still, they got a grade school education — on an intercom system that piped their classes from a country school house — and got high school diplomas through University of Nebraska extension courses.

They are now 31, self-employed electronic technicians, and running a brisk business from their home. They specialize in two-way radio systems.

The two are busy "ham" radio operators as well and frequently encourage other handicapped over the airways to get education and training and be productive.

The Santins redesigned their own wheelchairs for greater mobility and built ramps to get into their vans to make rounds selling and repairing radio systems.

They will get their trophies officially April 15 at a Washington ceremony.

Cecil DeWitt, WØRMB, was one of the lucky winners of the 6 meter FM rigs given away at the March meeting. Cecil tells of plans to initiate a 6 meter FM repeater station here in Omaha (picture 3). Other lucky winners were: 2 meter FM rigs — Walter Bowman, WAØHKV; John L. Lutter, WAØTNC; Malcolm E. Reed, Jr., WAØRPW; Ed Askew, WAØRDZ, and Marjorie Askew, WAØRDY. 6 meter FM rigs — Rick Brown, WAØZQX; Alan L. Fleming, WØBNY; and Jim Anderson, KØDNE.

Picture 4 shows Ray Kydney, WAØWOT, telling of arrangements that have been made so members may purchase through the Club the following: For \$1.50—lapel pins with the name of the Club, member's handle and call, which may be worn at Club activities; for \$2.00—plaques for the QTH shacks with larger call letters of the member. (Contact WAØWOT for further details.)





Picture 5 shows Bob Lockwood, WAØDHU, and Jim Anderson, KØDNE, having an eyeball QSO with

YV5AXV – QRA Vincent Guezale, QTH Creighton University, all the way from Caracas, Venezuela.

HIGHLIGHTS OF FCC PROPOSALS IN DOCKET 19162

- a) All 25-kHz Extra Class cw segments would be reduced to 10 kHz.
- b) Other suballocations on the various bands, all for voice emission (except of course the Novice segments) would be rearranged as follows:

80 meters:	3750-3775 Extra Class 3775-3875 Advanced and Extra 3875-4000 General/Conditional and higher
40 meters:	7075-7100 Advanced and Extra, interregional contacts only 7100-7150 Novice 7150-7175 Extra 7175-7225 Advanced and Extra 7225-7300 Conditional/General and higher
20 meters:	14150-14175 Extra 14175-14250 Advanced and Extra 14250-14350 Conditional/General and higher
15 meters	21100-21200 Novice 21200-21225 Extra 21225-21325 Advanced and Extra 21325-21450 Conditional/General and higher
10 meters:	28150-28250 Novice 28350-28375 Extra 28375-28500 Advanced and Extra 28500-29700 Conditional/General and higher

Editor's Note: It is important that we get information to our Division Director prior to the May 7th meeting of the ARRL Board of Directors regarding our comments on Docket 19162. The ARRL position will be established from views expressed to the Directors by both individual members and affiliated clubs.

During a break in the action at the auction on April 16th, we have asked Leo Connolly, KØJIU, who is an attorney in whatever time he has left over from the repeater operations, to give us a brief discussion of the proposed rule making in Docket 19162.

The entire Docket will be printed in April QST.

For vacationers this summer:

APRIL AUCTION

Two Meter FM in Minnesota area

So many people are getting interested in 2 meter FM; here is a listing of the repeaters in the area. Some have changed their frequencies, so this is just a guide for you.

1. WØPZT Repeater Golden Valley

Input 146.94

Output 146.46

2. KØLTZ Repeater Golden Valley

Input 53.64

Output 146.94

Input 146.94

Output 53.64

This repeater can be turned on and off by sequencing a 3khz tone.

3. KØLAV Repeater St. Paul

Input 146.94

Output 147.03

4. KØRTU Repeater Elk River

Input 146.34

Output 146.94

5. WAØCQG Repeater Rochester

Input 146.94

Output 146.46

de Ground Wave, St. Paul, Minn.

FOR SALE

275 W Johnson matchbox with SWR lge. Almost new.

Contact Lynn A. Blesh, WAØODH

1512 Second Avenue

Nebraska City, Nebr. 68410

Phone: 873-5030

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 will be 25¢. No minimum price can be stated; however, the owner may bid on his item to protect himself. 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. Come early so you may look over the selection of ham gear and get your consignments registered. Auditorium opens at 7:00 P.M. Auction begins at 7:30 P.M. Refreshments will be available during the auction.

STATION IDENTIFICATION

Are you familiar with Sec. 97.87. (a) of the FCC regulations?

Amateur Station identification requirements stipulate that the last transmission of your exchange must include your own call sign. This is a common oversight during contests and has resulted in FCC Citations. The traditional practice of placing the transmitting station's call last or preceding by "de" is acceptable for identification. For phone operation, the voice equivalent is acceptable.

From SW Div. Dir. Bulletin DE W6SD Carrier & Signal Report

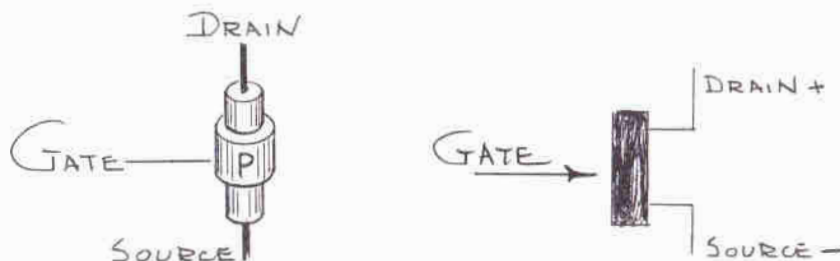
(From: "Sidebands," St. Louis, MO March 1970)

UNDERSTANDING TRANSISTORS

By Jim White, WB6RAG

METAL-OXIDE SEMI-CONDUCTOR FIELD EFFECT TRANSISTORS (MOSFET)

In the MOSFET, the gate is insulated from the channel by a thin layer of oxide. This insulation prevents current flow to the gate, whether it is positive or negative with respect to the source. In the N channel type, the active element has an abundance of electrons or negative current carriers which of course is limited by the nature of the semi-conductor material. At opposite ends of the N channel material connections are made; one is called the source and the other the drain. Current can flow in either direction, depending on which way the battery or source of power is connected; this channel device is somewhat similar to a thousand ohm resistor.



Another element is positioned between the source and the drain; it is called the gate. Like any other gate it can be completely open or shut or any other position in between. If the gate is connected to the source terminal, current will flow just as if the gate was permanently open, the only restriction being the resistance of the semi-conductor material and the circuit. When a negative bias voltage is placed between the gate and the source, the current flow between the source and the drain decreases. Now the device acts more like a five-thousand ohm resistor than a thousand ohm resistor. If the negative voltage on the gate is increased sufficiently, current flow is completely pinched off between source and drain.

There is *no* gate current flow in this transistor. The flow of current between source and drain is controlled simply by the voltage charge and this is very similar to the vacuum tube, and like the tube it has a high impedance and requires no power in the input to control the power in the output.

OHMMETER TESTING: MOSFET are not easily checked with an ohmmeter but you can determine which is the drain, source and gate terminals. The gate terminal is a complete open circuit to either of the other two leads. A word of *caution:* the oxide insulation used in a MOSFET is very easily damaged by static electricity and should be stored with the leads twisted together and should be installed in the circuit before removing the short from the leads.

(This popular series of articles on Transistors is forwarded to SKIP through the courtesy of the Editor of "Gridleak," the publication of the Tulare County Radio Club.)

* * *

If you are not a subscriber of the several "ham" publications available, you are missing out on a lot of fun and information. There are four publications specifically dealing with amateur radio; they are QST, CQ, 73 and Ham Radio . . . QST is provided with membership in ARRL, the cost being \$6.50. Write ARRL, 225 Main St., Newington, Conn. 06111 . . . address CQ at 14 Vanderventer Ave., Port Washington, L.I. N.Y., 11050, at \$6.00 . . . for "73", the address is Peterborough, N.H. 03458, at \$7.00 . . . for Ham Radio, write to them at Greenville, N.H. 03048, the rate being \$6.00

de Fresno Skip, Calif.

REPEATER CONTRIBUTIONS

Sincere thanks to the following for the recent contributions of parts and cash for the repeater: Bob Serlet, WAØZPW; John McGovern, KØMSS; Ed and Marjorie Askew, WAØRDZ and WAØRDY; Dick, WAØSOW, and Marie Van Winkle; Douglas Burghardt, WØWR; Bob Miller, KØZLY; Chuck Conner, WØNGG; John Snyder, WØWRT; and Mobile Communications.

Our special thanks to Mobile Communications for the generous contribution. We were pleased to assist them with the loan of our antenna trailer and crank-up tower until a new tower could be constructed.

Don't judge everything by appearances — the early bird may simply have been up all night.

de Midwest C-B 9'ers — Omaha

HELP NEEDED

KØTFT of Hinton, Iowa has a young handicapped friend who is a polio victim and who desires to become an amateur.

KØTFT wonders if anyone has the AMECO books available, who might donate same or sell for a reasonable price, to assist in making another ham.

73,

Art Gaeth, WØFQB

NEWS NOTE

Hi St. Patrick's Day 1971: We are in Lake Havasu City, Arizona, the home of famed London Bridge. Cost over 6 million. Town 7 years and 7500 people. But our heart is back in the No. 1 State in the U.S.A. We miss our friends; WØERW stopped by. Luck.

WØLFJ, Matt Beha

"Remember O'Neill No. 1 Irish City"

THE RED NETWORK

By Bob Morris, W2LV

Editor's Note: The following article titled: Origin of the Term "Red Network" in Radio Broadcasting is published in the December 1970 Old Timer's Bulletin, official journal of the Antique Wireless Association. Anyone over 35 will remember the Red and Blue Networks. Those of you who are younger may find enough interest here to want to learn more of early radio . . .

Network broadcasting of radio programs started with Station WEAF of the AT&T Co. in New York in early 1923 with the transmission of a program originating in the WEAF studios, to WNAC in Boston. Later in the year, programs were sent on a regularly scheduled basis to WMAF at Round Hills, Mass. and also to a new Telephone Co. station WCAP in Washington, D.C. of the Chesapeake & Potomac Telephone Co. Still later in the year WJAR in Providence, R. I. was also served occasional programs from New York.

In 1924 the distribution of programs by wire network to other broadcasting stations continued to develop, encouraged by steadily improving programs, such as those on Sunday evenings produced from the Capitol Theater. On Sunday evenings the WEAF program would start with Graham McNamee's sine-on saying "Good evening ladies and gentlemen of the radio audience, these are stations WEAF New York, WCAP Washington, WJAR Providence, etc.," listing all stations receiving the program.

As this indicates, radio programs in

1924 and 1925 were not the continuous round-the-clock operation customary thirty years later. On Sundays WEAF first went on the air at 3:00 P.M. with religious services and music until usually a little after 5:00 P.M. This provided a dinner break of almost two hours for the operating staff at the studios at 195 Broadway and of the transmitter at 463 West Street, to get together for a supper at a convenient restaurant. This usually was a small Greek eating place on 14th Street just west of 7th Avenue. The group from 195 Broadway took the subway to 14th Street and those of us from West Street walked up, arriving at the same time. The point to this seemingly irrelevant detail is that usually at these pleasant get togethers it was necessary for the supervisor or senior operator from 195 to leave a little early to get back and line up the "Red Layout." C. A. Tuthill usually had this assignment, which consisted of feeding tone and test program to the toll board at 24 Walker Street known as "NR" and to check levels and equalization by Morse wire with all stations due to receive the evening program. The reason this circuit feeding NR and the other stations was called "Red Layout" by the operators was that all the jacks associated with the equipment in this circuit had designation strips either marked in red or carrying red celluloid cover strips.

In the excellent history of WEAF and the part AT&T Co. played in early broadcasting entitled "Commercial Broadcasting Pioneer" by W. F. Banning, it is stated:

"During 1923 a chart was in use by the long line engineers that showed certain circuits, specially designated for broadcasting, marked by red pencil

lines. The engineers referred to the chart as the "Red Layout." At first the circuits indicated on it were used for message purposes when not required for broadcasting. By 1926 (ever, the use of these circuits for program purposes had increased to such a point that plans had to be made to reserve them for program purposes exclusively, and to provide substitute message facilities by new construction. When this had been accomplished, the circuits previously identified as the "Red Layout" became the original "RED NETWORK."

It was an easy transition as the number of stations increased, to call the group of stations a network, and naturally with the previous designation of Red Layout, it became known as

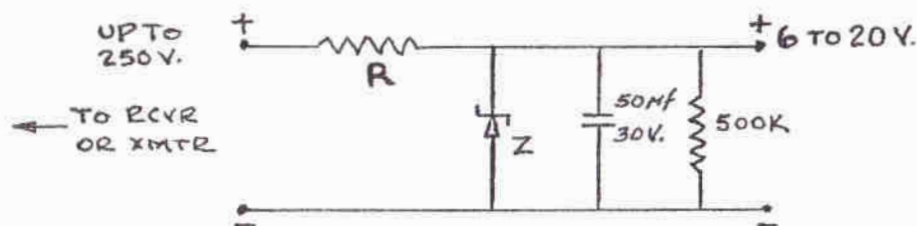
the "Red Network." When NBC was created in 1926 and WJZ, previously of the Radio Corporation, was joined with AT&T's WEAf in the new company, it was necessary to designate the stations associated with WJZ separately from those associated with WEAf, and the term BLUE NETWORK seemed an obvious satisfactory answer to the problem. These color designations were also used by the Telephone Company to identify the radio networks circuits in their operating plant.

All major networks now use a color code for both audio and video. NBC circuits are RED, ABC networks are BLUE, CBS is designated PURPLE and Mutual by GOLD.

de RA RA Rag, Rochester, N.Y.

POWER SOURCE FOR SOLID STATE GADGETS

After putting up with the battery mess for some years, the following circuit has been used to power the many transistor preamps, converters, other solid state projects now on the scene. The receiver or transmitter usually has a 150 to 250V source that is used and dropped through the following circuit.



Resistor (R) determined by voltage drop. Select Zener (Z) for voltage desired.
W3KKN

de Pack Rats, Phila., Pa.

Last words that may well become famous: "Plus Tax."

de Midwest C-B 9'ers - Omaha

A bachelor is a rolling stone that has gathered no boss.

de Fresno Skip, Calif.

FANTASTIC SPECIAL

ON THE GALAXY

FM-210

2 Meter Receiver!



JOIN IN ON THE
FUN ON 2 METERS!

Regular Price \$229⁵⁰ alone

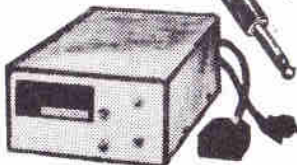
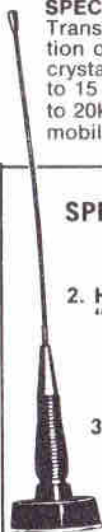
**WITH OUR
PACKAGE
YOU SAVE**

\$80¹⁰!

SPECIFICATIONS, FM-210: Terrific — Solid-State Transceiver for 143-149 MHz FM. Independent selection of three transmit/receive positions. 146.94 MHz crystals included. Sensitive FET Receiver accepts up to 15 kHz deviation. Transmit deviation adjustable 1 to 20kHz. Operate direct 12 VDC at 5 watts or fixed/mobile with AC-210 you get 10 watts.

SPECIAL PACKAGE CONTAINS:

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2. HyGain Mobile "Gain" Antenna
3. AC-210 Home-Mobile Supply
4. Turner 3500 Mike
5. Mike Plug



Order Package XM002!
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AC-210, Hy-Gain Mobile
Antenna, Turner 350-C
Mike and the Mike plug...

a \$314⁰⁹ Value
AND ALL FOR
\$233⁹⁹!

Use your Master Charge,
BankAmericard or Cash—
sorry, no terms on this.

DROP IN SATURDAY MORNINGS
FOR FREE COFFEE ON US!



WORLD RADIO

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