



# HAM HUM

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February 1977

## NEXT MEETING

WHEN: FRIDAY, FEBRUARY 11, 1977

TIME: 7:30 P.M.

WHERE: C.W.A. LOCAL 7400  
1920 South 44th Street  
Omaha, Nebraska

PROGRAM: SCIENCE IS NOT MAGIC by  
S. A. Morford, Community Relations Manager,  
Northwestern Bell Telephone Company

Ever wonder how to get light from a lemon? This could be the breakthrough the energy conservation folks have been waiting for. Not only can a raw egg support up to thirty pounds, but sound can also be transmitted over a beam of light. See these and other miraculous magic feats performed along with captivating demonstrations of science to illustrate how science, not magic, is used by the Bell System to improve communications. After you see it, you'll never take magic-or science-for granted again!

\* \* \*

VISITORS WELCOME — REFRESHMENTS — EYEBALL QSOs

**HAM HUM** is the official organ of the Ak-Sar-Ben Amateur Radio Club, Inc., of Omaha, Nebraska, mailed monthly to all members and to others upon request.

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 Regular member and XYL . . . . . 9.00  
 Student member . . . . . 3.50  
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 Post Office Box 291  
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 Editor: Dick Eilers, WØYZV  
 Phone HOME: 397-3999  
 BUSINESS: 342-1402 - EX. 200  
 Associate Editor: John Snyder, WØWRT  
 Phone HOME: 556-1538  
 BUSINESS: 397-3000 - EX 3761

**Deadline for March issue is February 18th**

New member initiation fee . . . . . \$1.00  
**Quarterly for balance of year:**  
 Regular member . . . . . \$2.00  
 Regular member and XYL . . . . . 2.45  
 Student member . . . . . 1.00

**THE PREZ SEZ**

The January meeting with Judge Fred Montag proved to be both interesting and informative. The meeting was attended by about 85 members and guests.

Now as we look forward to the year 1977 and Club activities, we hope this will be a good year for all of us. We have several functions planned for the Club and truly hope everyone will find some of these functions they can be part of and enjoy.

The Ak-Sar-Ben Amateur Radio Club can only be as good as its membership. I would like to ask each and every member to get involved in some way. Pass along any ideas or comments you have to any of the Board members or to me. After all, we are elected to serve in your best interest.

73,  
 Bob, WBØLYU  
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**MEMBER NEWS**

Not only was January 20th inauguration day, but it was also a big day for the Ramsey family. Verne, WØSBZ received his extra class license; XYL Jill, WBØNYH, and son Doug, WBØNYG, both received their general class licenses.

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**OUR SYMPATHY**

Deepest sympathy is extended to President Bob Conley, WBØLYU, from members of the Ak-Sar-Ben Amateur Radio Club in the loss of his XYL Phyllis on January 27, 1977.

(Ed. Note: Several members have indicated a desire to send a memorial to the American Cancer Society. You may send it direct or to Treasurer Jim Wilson, WBØJPN, who will handle it for you.)

\*\*\*\*\*

## ADDITIONS TO ROSTER

<p>Davis, Pauline (XYL of WBØTTL) 3 South 76 Avenue LaVista, Nebraska 68128 Phone: 339-5832</p>	<p>WBØYHX</p>	<p>Julian, David M. 4722 South 94 Plaza, Apt. C1 Omaha, Nebraska 68127 Phone: 331-5428</p>	<p>WB9YIG/Ø</p>
<p>Eden, Donald A. 4509 Parker Street Omaha, Nebraska 68104 Phone: 556-8493</p>	<p>WBØVGB</p>	<p>Koppert, John P. 1105 North 138th Street Omaha, Nebraska 68142 Phone: 238-2783</p>	<p>WBØWHO</p>
<p>Elliott, Clarke M. 5031 Pratt Street Omaha, Nebraska 68104 Phone: 451-0547</p>	<p>WBØESN</p>	<p>Pekny, Marvin 241 Pickardy Lane Council Bluffs, Iowa 51501 Phone: 322-3148</p>	<p>WØCKE</p>
<p>Evers, Harry O. III 12244 Turner Circle Omaha, Nebraska 68123 Phone: 292-4141</p>	<p>WBØWUT</p>	<p>Richards, Emmet L. 8011 Pasadena Avenue Omaha, Nebraska 68124 Phone: 393-7267</p>	<p>WBØQDH</p>
<p>Forsyth, Lt. Col. M. D., Jr. 901 Hogan Drive Papillion, Nebraska 68046 Phone: 339-2979</p>	<p>WBØLPG</p>	<p>Schmitz, Thomas J. (T. J.) 8917 Raven Oaks Drive Omaha, Nebraska 68152 Phone: 572-6721</p>	<p>WAØZEV</p>
<p>Fry, Craig D. 12218 South 26th Street Omaha, Nebraska 68123 Phone: 291-5113</p>	<p>WBØNUC</p>	<p>Smith, Robert L. 8214 South 39 Avenue Omaha, Nebraska 68137 Phone: 733-7749</p>	<p>WBØYOD</p>
<p>Gault, Jerry B. 2829 South 136th Street Omaha, Nebraska 68144 Phone: 330-4737</p>	<p>K5LBS/Ø</p>	<p>Thompson, Scot 623 North 42nd Street Omaha, Nebraska 68131 Phone: 553-5830</p>	<p>WBØWOT</p>
<p>Harrigan, Kenneth R. 12253 Turner Circle Omaha, Nebraska 68123 Phone: 291-7930</p>	<p>WBØWYB</p>	<p>Trainer, Philip S. 1130 Leavenworth Street Omaha, Nebraska 68154 Phone: 333-6677</p>	<p>WBØWYE</p>

Walker, Kenneth W. WBØPDJ  
5503 Blondo Street  
Omaha, Nebraska 68104  
Phone: 556-2586

Wasserman, Jerome D. (Jerry) WBØCKR  
6958 Cuming Street  
Omaha, Nebraska 68132  
Phone: 556-2431

White, Kenneth A. WBØPSO  
15297 Blackwell Drive  
Omaha, Nebraska 68137  
Phone: 895-6198

Williams, Roy D. WBØHMS  
903 Hogan Drive  
Papillion, Nebraska 68046  
Phone: 331-8855

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## RTTY ANTHOLOGY

By Ralph Alexander, WA3FOF

There are several things the newcomer to RTTY must consider before putting out a signal, and this is especially true on the HF bands. First, on these bands, FSK or frequency shift keying is the only type of RTTY transmission allowed by FCC regulation. At full power the operation is with a 100% duty cycle. So it is very important to remember this when planning the station, as most modern single sideband and CW transmitters or transceivers are not designed for such hard use. Most transmitters are designed for operation at maximum with a 50% duty cycle which means key down 50% of the time. So with a 100% duty cycle for RTTY operation, there will be problems with the finals, the driver, and the power supply; the transformer. So unless the finals can

be obtained economically, think twice before going that route. About the only way to use these modern rigs is to reduce the input power to about 25% of the rated CW power level, and also use a fan on both the power supply and finals. By observing these precautions, the modern rig will have a better chance of surviving in RTTY service.

There are two basic methods of generating FSK. The first is the accepted military method that is very simple and uses the output of an Audio Frequency Shift Oscillator fed into the microphone input of a single sideband transceiver. This is fine with equipment as the Collins KWM-2A where there will be a minimum transmission of the unwanted sideband and the carrier. So unless it is certain that the rig to be used is totally "clean," it might be wise to choose another route. This is to obtain the FSK from installing and using a Varicap in the VFO to change the frequency between the MARK and SPACE frequencies along with a potentiometer to set the amount of frequency shift.

There is also another variation that can be used, somewhat more technical. Find an "old boat anchor" transmitter with a rock solid VFO; a transmitter designed for AM-CW and was built to last forever. These rigs are usually found in basements or at flea markets. They can be had for a song as the ham market for something like this is very limited. Look for a transmitter rated at about 200-300 Watts class C input.

The next step is to test the "beast" into a dummy load for at least a one-half hour. If it survives the "smoke test," start the modification



for RTTY by installing the FSK diode in the VFO.

By the way, this same line of consideration applies to amplifiers. Those old class C "monsters" will work fine as most people who come-brewed usually overbuilt them. If an amplifier is available, remember the power may have to be reduced unless a heavier power supply is obtained.

FSK on VHF never did get off the ground because neither the transmitters or receivers were good enough from the frequency stability standpoint. So the route to go on VHF is AFSK, which is fed to the microphone input. Locally, there is some AM RTTY on 6 meters at 51.750 Mhz. and some on 2 meters. There is more RTTY on 2 meter FM on some of the lesser known channels 146.430 and 146.835 Mhz. With a 2 meter rig this is a good route to go. Most transistor 2 meter FM rigs do not have too much trouble with a 1/2 hour transmission as long as the VSWR is not too high. If it is high, there will be all sorts of overheating problems. So check the VSWR.

The AFSK generator is very simple and it is just an oscillator with one 88 Mh. toroid to generate the tones. It is usually best to incorporate this right in the terminal unit when it is built as this will solve many problems such as adding the power supply and shielding. The method to key AFSK and also FSK is to use a polar relay with the common or common at ground and use one contact for AFSK and use the other for FSK.

de PACK RATS, Philadelphia  
\*\*\*\*\*

## RECENT CONTRIBUTORS

### Ham Hum Postage

G. D. "Mac" McLaughlin, WAØBMJ  
Dayton L. Phifer, WØVEA  
Ben M. Utterback, WBØMRW

### Repeater 22/82

Jerry B. Gault, K5LBS/Ø  
William D. Hewitt, KØIPT  
Charles F. Kelly, WAØUZX and  
Marjorie E. Kelly, WBØKHO  
G. D. "Mac" McLaughlin, WAØBMJ

### Repeater 34/94

Robert D. Andrus, KØLUG  
Erich J. Bahr, WAØHRK  
Earl A. Coolman, WBØPHP  
Clarke M. Elliott, WBØESN  
Jerry B. Gault, K5LBS/Ø  
Arvin R. Hernes, KØINZ  
Charles F. Kelly, WAØUZX and  
Marjorie E. Kelly, WBØKHO  
William E. McConnell, WBØRWP  
G. D. "Mac" McLaughlin, WAØBMJ  
William L. Moeller, WBØDLM  
Mark W. Nelson  
Thomas J. Schmitz, WAØZEV

### Repeater 40/00

Earl A. Coolman, WBØPHP  
Clarke M. Elliott, WBØESN  
Albert H. Maller, WØDCQ  
G. D. "Mac" McLaughlin, WAØBMJ  
William L. Moeller, WBØDLM  
Mark W. Nelson  
Thomas J. Schmitz, WAØZEV  
\*\*\*\*\*

The real price of everything is  
the toil and trouble of acquiring it.

— Adam Smith.

from Service

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## LEGAL OR NOT?

Continuous monitoring of the 28/88 repeater convinced this writer that there is a need for clarification of what the F.C.C. interprets as commercial use of a repeater by ham users. This is certainly not intended to cover all cases but contains guidelines which the writer has checked with John Johnson, Chief of the Rules and Legal Branch of F.C.C. in Washington, D.C. If you don't agree with these interpretations, please don't call or blame the writer; they are from Mr. Johnson himself.

In considering the legality of a transmission you first have to consider if there is a third party involved in any manner (i.e. someone beside the two Ham Operators who are talking to each other). If no third party is involved, and providing a Ham is not regularly engaged in buying or selling radio equipment for a living, two Ham Operators may consummate a sale of a piece of radio equipment without violation of regulations. However, Mr. Johnson "recommends" that actual price not be discussed.

A Ham not regularly engaged in buying and selling radio equipment may also inform other Hams, during a net, that he has a certain piece of equipment for sale or trade; but, again it is "recommended" that exact price not be discussed.

Now, this is all changed if the two Hams are handling this traffic to or for *any other person* except themselves.

No third party traffic may be handled if either operator or *any other person* derives monetary gain from the transaction except as follows:

Mr. Johnson was asked some specific questions concerning third party traffic and he gave the following answers:

One ham operator asks another ham operator to call or contact a hamburger stand ordering burgers, fries, etc. ... Mr. Johnson replied that although the call seems innocent enough, a third party (the hamburger stand) has a monetary consideration and the call is interpreted as *not permitted*.

Calls to commercial establishments are permitted, providing that the purpose of the call involves, at least in part, the *welfare* of a person or persons. A non-routine call to a commercial establishment such as to a motel while traveling in another city to find a room is *permitted*.

In other words, if you are sort of desperate, such as needing a part for a stalled car out on the highway or a wrecker to tow you into town, it is all right to pass such a call by amateur radio. However, if you made a call just to find a particular color of seat covers, the call would not be permitted. The crucial key as to whether a third party call or message is permitted depends on how desperate the situation is concerning the *welfare* of one or more persons. Apparently, the discussion of *price* of the article or service should be avoided. The writer realizes that this is most difficult to *decide*, what is *welfare* and what is not (reminds one of the definition of "sin"), but they are the only guidelines we have been able to get from F.C.C. — Bill Bremer, W5EKP

de HARC (Houston)

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## HAM HUM SWAP

FOR SALE: Drake MN-2000 matching network. Handles 1 kw, 80 thru 10.  
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Kleinschmidt Teletype TT98A/FA w/m-\$120.00

Kleinschmidt Tape Printer TT76GGC-\$60.00

Northern Radio

1-FS Diversity Converter Type 174 w/m-\$150.00

1-Variable Master Oscillator-\$75.00

1-Freq. shift Keyer & Adaptor w/m w/p.s.-\$100.00

Hewlett-Packard

1-Low Freq. standard Model 100B-\$40.00

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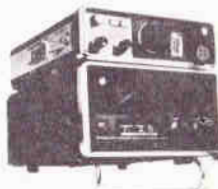
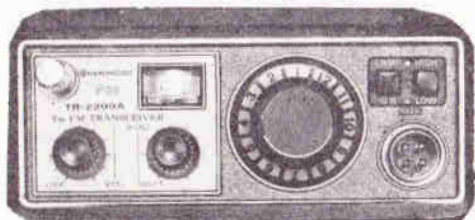
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