



HAM HUM

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Post Office Box 291 - Downtown Station



Vol. XVI
No. 12

December 1966

DECEMBER MEETING

ANNUAL MEETING

CHRISTMAS PARTY

all in one evening

ENTERTAINMENT

REFRESHMENTS

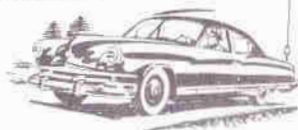
PRIZES

8:00 P. M.

FRIDAY - DECEMBER 9, 1966

World Insurance Company Cafeteria
203 South 18th Street

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.



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HUGH L. TINLEY, KØGHK

Upon arrival at Red Cross Headquarters the day of the City of Hope drive, we found Hugh L. Tinley, KØGHK, busy as could be handling traffic from Vietnam on Mars frequencies.

Hugh tells me that some of the XYLs who have licenses are monitoring the frequencies for him so they can call him at work when the band opens. Inasmuch as Hugh is

handling traffic two and three sessions a day, and doing it almost single handedly, he sure would like some helpers. If interested in helping take care of this traffic for our servicemen in Vietnam and Okinawa, etc., please get in touch with KØGHK or indicate your interest on the card enclosed and drop in the mail to P.O. Box 291.



NOMINATIONS FOR 1967

The annual meeting of the Ak-Sar-Ben Radio Club, Inc. will be held the second Friday in December. The main purpose of this meeting is to elect new officers for the ensuing year.

Our Articles of Incorporation and Bylaws provide for the election of a President, Vice President, and four members of the Executive Council each year. The President and Vice President are elected for a one-year term. The Executive Council members are elected for a two-year term. The President remains on the Board of Trustees as the immediate Past President for one additional year.

This means that four members of the Executive Council and the

immediate Past President remain on the Board of Trustees for one more year and they, together with the six new ones, constitute the eleven-man Board for the operation of our Club.

A nominating committee is appointed each year by the President, said nominating committee composed of the President and two Past Presidents. The nominating committee is to select and qualify members and then place their names in nomination at the annual meeting.

At the annual meeting on December 9, 1966 the nominating committee will place the following in nomination and we give you a brief write-up of each:

For President

Ervan D. Heinz, WAØEEM
Age: 33
Address: 1933 South 51st Street
Phone: 553-2033
Wife: Sharon
Children: 5 girls; 1 boy
Employment: Ass't Director, Audio Visual Aids
University of Omaha
License: 5 years
Hobbies: Electronics, Photography, Ham radio

For Vice President

John D. Snyder, WØWRT
Age: 40
Address: 3221 South 45th Street
Phone: 556-1538
Wife: Mary Agnes
Children: Daughters: Marianne, 9; Nancy Jo, 8; Lorene, 6;
Karen, 1½; Sons: Billy, 10; Fred, 4.

(John Snyder, WØWRT - continued)

Employment: Medical Electronics Technician
University of Nebraska, College of Medicine

License: 1953

Hobbies: Ham radio, car tinkering

For Executive Council

Edward Kilton, KØEYR

Age: 24

Address: 3240 Polk Street

Phone: 733-5199

Wife: Forest Jean

Employment: Swift and Company

License: 1961

Hobbies: Woodworking, Ham radio, Hunting, Fishing, Bowling

Robert C. Lockwood, WAØDHU

Age: 32

Address: 3711 North 56th Street

Phone: 451-7233

Employment: Truesdell Distributing Corp.

License: 4 years

Hobbies: Ham radio, Photography, Hi Fi, Stereo, Guitar, Singing

Jay C. McAleer, WAØLLQ

Age: 29

Address: 839 South Polk, Papillion

Phone: 339-3448

License: 1965

Hobbies: Amateur radio, ceramics, traveling

David C. Moses, WAØGED

Age: 28

Address: 4247 Curtis Avenue

Phone: 453-2637

Wife: Doris

Children: Daughter, Rosalie, age 5

Employment: Northwestern Bell Telephone Company

License: 1963

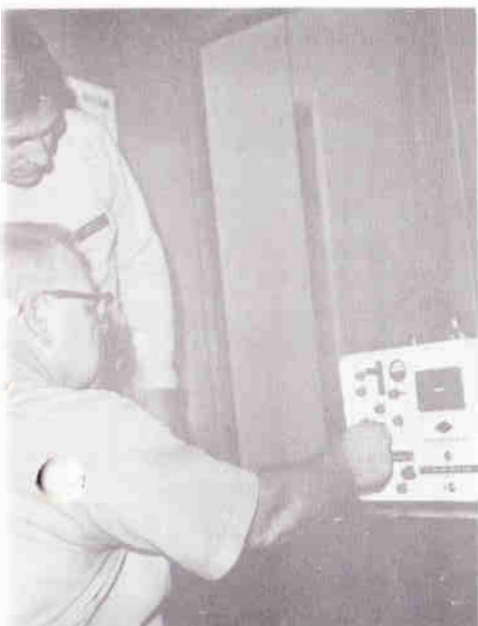
Hobbies: Ham radio



THESE PICTURES GO ALONG WITH THE
CITY OF HOPE DRIVE ON OCTOBER 30
MENTIONED IN LAST ISSUE OF HAM HUM



Photos by Erv Heinz, WA0EEM







**OFFICIAL BULLETIN NR 87
FROM ARRL HEADQUARTERS
NEWINGTON CONN NOV 17 1966
TO ALL RADIO AMATEURS BT**

The annual ARRL cross indexed Net Directory is now ready for distribution and copies are being mailed to those who have requests on file. If you have previously made such a request and have received an acknowledgement card, please do not request another Net Directory. All others wanting a copy should mail or radio a request to the ARRL Communications Department, 225 Main Street, Newington, Connecticut 06111. Please mention the call of the station transmitting this bulletin and the frequency you copied AR

CLUB DUES

Remember that Club dues for 1967 are due January 1st and if you have not yet paid your 1966 dues they are now *past due*.

The Treasurer will be available at the annual meeting on December 9th to accept payment of dues. If you are arrear in the payment of dues, please pay up to date. If you can pay your 1967 dues at the annual meeting please do so in order to save us the expense of billing you.

Remember also, in order to participate in the proceedings of the annual meeting your Club dues must be paid.

New member applications will be accepted and will be voted upon at the annual meeting, with membership to take effect the first of the following month or January 1st. New applicants will be most welcome to attend this meeting as guests; however, they will be unable to participate in the annual meeting proceedings.

Seems the Smith family had to go to New York's Kennedy Airport to meet an incoming relative. They flagged a cab. The cabbie said it would be \$2 each for Smith and his wife, but the four kids could ride free. "Pile in, youngsters," Smith ordered. "Ma and I will go by subway."

Due to unforeseen circumstances our program for the November 11th meeting did not materialize. This being a last minute affair it was necessary for our President to scrounge a program in a hurry. He procured a film from Ratheon, "The Language Of Electronics" which was most interesting.

Dick Eilers, WØYZV, had been experimenting with the use of a tape recorder synchronized with a slide projector and he showed slides of Puerto Rico. Inasmuch as he is also the editor of this report of last month's meeting, it would be presumptuous to say that the slides were enjoyed by all, but will only say that he likes them and has enjoyed the hobby of photography for some time.

It would be the hope of program committees that such emergencies would never come up, but they seem to come every now and then so it does become necessary to accept the substitute.

After the meeting was adjourned the usual refreshments were served.

Main reason I don't write my congressman oftener is that it costs 5 cents to put my 2 cents' worth in.

* * *

Significant sign on a plant employees' bulletin board:

YOUR SALARY RAISE
WILL BECOME EFFECTIVE
JUST AS SOON AS YOU DO.

AK-SAR-BEN Radio Club, Inc.
P.O. Box 291
Omaha, Neb. 68101

Hi:

The VHF Gang met at home Joe Miller, KØYRL, Nov. 18, to discuss gear, emergency operation, propagation characteristics of the band, and bring the seven new hams up to date with the plans for further activity. 15 hams attended, including WØGEQ and WØLOD from Ogallala, Neb. Three mobiles gave demonstrations of coverage.

WØDNW, Bill Wesslund showed a collection of transmitters and converters for 6 & 2 meters, home-brew, explained the details of building them, both tube and transistor jobs, and a project he has started for 420 mc.

Plans were made to establish a formal organization in order to work with CD, AREC, and other emergency groups.

For cheap and easy antennae for mobiles, the turnstile, page 217, the VHF Manual, is proving very satisfactory, mobile to mobile and mobile to beam antenna.

73,

Dayton L. Phifer, WØVEA

Sign in a department store window:

MERRY XMA\$

I feel that this may be over-commercializing it somewhat.

TVI FILTERS

by Wm. G. Welsh (W6DDB)

As the ex-chairman of a major city's TVI Committee, I can assure you that most complaints of amateur TVI are do to inadequate front ends the one-eyed monsters. Regulations state that the TV set manufacturers are required to furnish adequate filters (R. L. Drake TV-300-HP, or equivalent) for all sets sold after July of 1958. The TV set manufacturer is responsible to supply the free filter. The TV set owner is responsible for writing the letter to request the filter and for

the installation (preferably by a competent TV serviceman) of the filter. The ham operator should do nothing but supply the TV set owner with the necessary information and, if applicable, cooperate with the local TVI Committee in conducting TVI checks. The TV set owner can obtain a free filter by supplying the information indicated below to the TV set manufacturer and sending the letter to the appropriate address shown below:

Data required in TV set owner's letter:

1. Frequency of interfering signal - if known (0-52 MHz)
2. Make and model of TV set
3. Filter request - normally Drake TV-300-HP, or equivalent
4. Approximate date of TV set purchase
5. TV set serial number
6. Type of antenna used - rabbit ears, built-in, roof-top, etc.
7. Name, address, and phone number of TV set owner
8. Signature of TV set owner requesting the filter

TV manufacturer's addresses:

Admiral	Mr. Durante Admiral Distributors 497 N. J. Railroad Avenue Newark, New Jersey
Capehart	Capehart Parts Service Division 454 William Street East Orange, New Jersey
CBS	Mr. Retano CBS Columbia 46 East 52nd Street New York, N.Y.

Crosley-Bendix	Mr. J. Rigores, Philco Distributors c/o Warranty Department 47-51 33rd Street Long Island City, New York
Dumont	Igoe Brothers 524 23rd Street New York, N.Y.
Emerson	Emerson TV 14th & Cole Streets Jersey City, New Jersey
GE	General Electric 116 Washington Street Bloomfield, New Jersey
Hot Point	Hot Point TV Service Department 254 Elizabeth Avenue Newark, New Jersey
Magnovox	Magnovox Corporation Fort Wayne, Indiana
Montgomery Ward	Mr. Plue, Montgomery Ward 19 Watchung Avenue Newark, New Jersey
Philco	J. M. Otter Company 2030 Upland Way Philadelphia 31, Pennsylvania
RCA	RCA Service Company 1573 Irving Street Rahway, New Jersey
Sparton	Mr. D. R. Barnett Sparton Division of Magnovox Corporation Fort Wayne, Indiana
Sylvania	Mr. E. Mooser Sylvania Electric Products, Inc. Radio & TV Division 700 Elliott Street Batavia, New York

Westinghouse Mr. Ballantine, Westinghouse Appliance Service
528 Ferry Street
Newark, New Jersey

Zenith Zenith Radio Corporation
6001 Dickens Avenue
Chicago, Illinois

de LERC, Burbank, California

OLD IRONSIDES

What does it take to make a hamfest 'tick'?

This question was asked me by a friend of mine several weeks ago. In analyzing a lot of items went through my mind, but I think that the question could very well be changed to 'What does it take to make any club 'tick'?

At the Wichita Hamfest, which was recently attended, the attendance, while not poor, could have been better. I think part of the question will be answered when we determine why the hamfest was not supported by hams in the local area. In looking over the Sedgwick County Book of Amateur Calls, we notice listings on around 2000 amateurs. If.....10% of these had attended with their wives, it would have made this hamfest by far the largest one in the state!

The question is why didn't y? Weather? Couldn't have been nicer. World Series? The Series was over early enough that there would still have been time for the locals. Lack of activities? I don't

think that I have attended any event this year that had more to offer. Lack of publicity? I doubt that we can blame that one either. Prizes? I don't know, but I am sure that I could have found space someplace for that New Eico 753!

Very frankly, I have not been able to come up with the answer, however, I believe that we will be getting close to it when we figure out why we do not have better participation on net activity, why more people don't turn out for club meetings, or just plain lack of amateur activity.

We are aware that in our present society more and more demands are being made upon our 'spare' time almost to the extent that it no longer exists! I don't think this is peculiar to adults either!

To illustrate this, I will use an incident in which a 10 year old girl was seen crying. When asked why, she replied, "I never have time to play." In looking at this girl's problem, it came to light that she was involved in school

activities, Scouting, Church and Sunday School activities, music lessons, and not to forget to mention her homework to such an extent that she didn't have any time to relax and enjoy herself.

This is not to say that I am against the type of activities that she is involved in. I am very much in favor of them! But the point is, we are getting so involved in other activities that we don't have time to relax and enjoy ourselves!

Maybe the slogan "Slow down and live" wasn't just meant for our driving habits!

de "Ham Monitor"

Salina, Kansas

**OFFICIAL BULLETIN NR 85
FROM ARRL HEADQUARTERS
NEWINGTON CONN NOV 3 1966
TO ALL RADIO AMATEURS BT**

Effective November 1, thirteen fixed message texts became available for regular amateur use in handling traffic of a military morale nature. These texts carry the designation MTX and have been agreed on jointly by the three MARS chiefs and ARRL. Copies of the list are available from the ARRL Communications Department free upon request. The texts are used exactly as ARL texts except the designation MTX is substituted for ARL. As soon as they can be included in ARRL literature they will be added to our regular ARL list and may then be transmitted as ARL fixed text messages AR

(Editor's Note: This is a portion of an article on Oscillators. Associate Editor WOWRT felt it was a fine article. We seemed to have misplaced the source so our thanks to whomever it was stolen from. We'll try harder to keep track of source as we do wish to give credit to those whose material we use.)

OSCILLATORS

One of the simplest of all crystal oscillator circuits is the Pierce shown in Fig. 5. While this circuit at first glance looks as if it would use series resonance to feed back energy from the plate circuit to the grid and cause oscillation, such is not the case. It actually uses the parallel resonance of the crystal to establish a rather complicated network from plate to grid circuits.

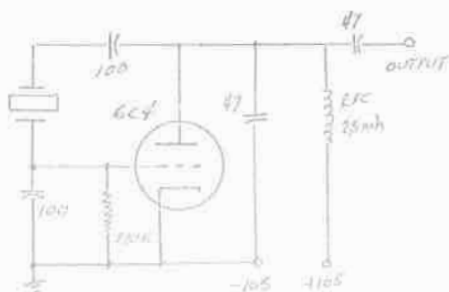


FIG 5 PIERCE OSC.

Because of its simplicity, many hams appear to have the feeling that the ancient Pierce oscillator can't be very good. Actually, it is as stable as any other crystal oscillator in general use. Its only major disadvantages (shared by many other circuits) is that it is easy to overdrive the crystal and damage it.

For best results, any crystal oscillator circuit should be run at minimum power input. Its purpose is strictly to establish the frequency; power build-up should be reserved for later stages. If the Pierce is used in this manner, its performance is equal to any normal crystal oscillator.

Advantages of the circuit are its simplicity and its versatility; this is the only common oscillator circuit which requires no readjustment at all when changing frequen-

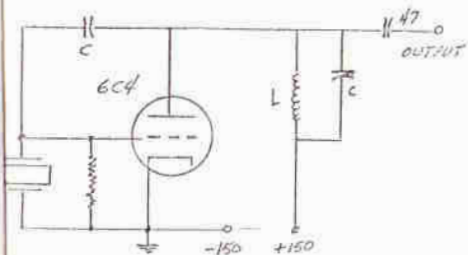


FIG 6 MILLER

cies, regardless of the difference in frequency. It will oscillate at the primary parallel resonance of any crystal put in the socket.

Another well known fundamental-frequency oscillator is the Miller circuit of Fig. 6. It's almost as simple as the Pierce, especially since capacitance C is usually furnished by the tube's internal capacitance. Like the Pierce, it provides output only if a crystal is present, but unlike the Pierce, it requires fairly critical adjustment of the plate inductance whenever frequencies are changed. If you don't mind an additional knob to twist at tune-up time, this is no

disadvantage, but it does introduce some slight shift of frequency from that stamped on the crystal holder. If you're not multiplying you'll never notice it, but if the Miller circuit is used at the fundamental for multiplication to VHF, you can almost use the plate tuning adjustment to make the oscillator's frequency variable over an effective 100 kc range.

Crystal dissipation in the Miller circuit is considerably lower than in the Pierce, since the rock gets only the grid voltage across it (in the Pierce, full output voltage is impressed across the crystal terminals). In practice, this means that a Miller circuit can be used to develop enough power to drive the next stage without harming the crystal - an important point when building portable or mobile equipment. However, frequency stability is not as good as the Pierce circuit because any changes in tube characteristics during use are reflected back to the crystal.

Both the Miller and the Pierce circuits make use of parallel resonance. Let's look at some of the series resonant circuits. Before we do though, let's investigate this business of overtone oscillators a bit.

Earlier we pointed out that every crystal has a number of resonances. Some are located near the 3rd, 5th, 7th and higher odd-order harmonics of the primary resonance. Notice that we say near, not at, because they are never located at exact multiples of the

primary resonance. The most active of these resonances are the parallel mode at the third overtone and the series mode at the fifth and seventh overtones.

Since the growth of interest in VHF, there has been considerable interest in "overtone oscillator" circuits. A number of circuits have been developed primarily for this use - but there is nothing about these circuits which would stamp them as such. Most of them are merely series mode circuits with the resonant circuits tuned to the appropriate overtone.

Overtone crystals are especially processed to yield higher output on a selected higher order resonance, but the greatest advantage is that they are calibrated to the operating overtone frequency. For example, a 10 Mc rock may be operated at its 5th overtone and the output will be somewhere near 50 Mc. A 5th overtone 50 Mc crystal, on the other hand, will give output right at 50 Mc, but if operated at its fundamental, will be somewhere near 10 Mc.

Now back to the series mode circuits. Remember they operate at the fundamental or the 5th or 7th overtones equally as well, depending entirely on the circuit constants. One of the simplest series mode circuits was developed by Butler and is described in Edson's "Vacuum Tube Oscillators" as the grounded grid circuit. It is shown in Fig. 7. In operation, output of the tube is fed from the plate to the cathode at the crystal resonant frequency (series mode). Just which frequency is ef-

fective is determined by the tuning of the L-C circuit.

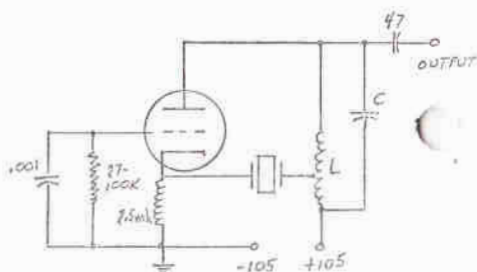


FIG 7

This circuit will work well with most any crystal since the input impedance of the tube's cathode is low. This means that any current which gets through the crystal will go into the cathode circuit rather than to ground. If tube gain is great enough, the crystal can be extremely sluggish, yet still provide good input. A similar circuit was described several years ago by W8CBM who called it a grounded cathode Hartley. This version is shown in Fig. 8. The major difference is that the tube is fed at the grid rather than at the cathode, and consequently, fewer components are required.

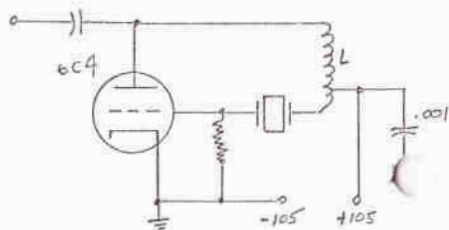


FIG 8

Either of these circuits will oscillate on their own if the tap is too high on the coil; to determine if the circuit is under control of the crystal, touch the crystal terminal with a screwdriver while listening to the output signal on a receiver. If the crystal is controlling, frequency shift will be very small - possibly not even noticeable. If the oscillator is taking off on its own, the signal will jump out of the receiver passband with this test.

Still a third version of this circuit has been developed in connection with a low plate voltage converter which refused to operate properly with conventional crystal oscillator circuits. It is shown in Fig. 9. The difference here is simply in the cathode return circuit; frequency is still determined by the crystal's series resonance.

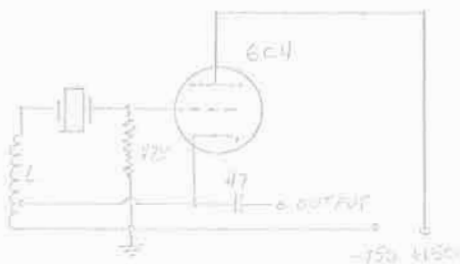


FIG 9

If you are familiar with the Hartley VFO you'll recognize the preceding three circuits as the Hartley with ground returns for RF made at the grid, cathode and plate respectively. Each has its own

advantages and disadvantages for specific applications, but in general there's little to choose from between the three. For instance, only the circuit in Fig. 9 is suitable for mixer use, since it is the only one having the plate at RF ground. On the other hand, the circuit of Fig. 8 is least susceptible to hum modulation from the tube's heater, since the cathode is grounded for both RF and DC.

If you parents wish to train a child in the way you want him to go, you have to go that way yourselves.

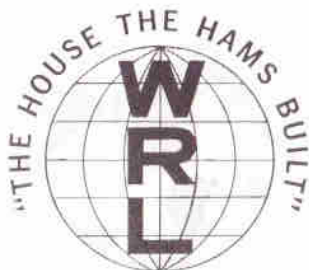


WATCH OUT FOR THE OTHER GUY

Just being in the right isn't enough. Nearly half the drivers in fatal collisions are in the right. Drive defensively—as if your life depended on it. (It does.)



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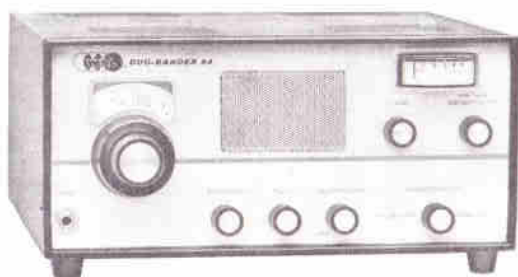


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