HAM HUM

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NEXT MEETING

WHEN: FRIDAY – JANUARY 12, 1973

TIME: 8:00 P.M.

WHERE: FITZGERALD FRIENDSHIP ROOM
COMMERCIAL FEDERAL SAVINGS AND
LOAN ASSOCIATION
4724 South 24th Street, Omaha
(Free parking in rear off 25th Street)

WHAT: PROGRAM BY ROBERT W. LEFHOLTZ
NORTHWESTERN BELL TELEPHONE COMPANY

REFRESHMENTS – EYEBALL QSOs – VISITORS WELCOME

HAPPY NEW YEAR TO ALL!

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1967	Ervan D. Heinz, WAØEEM
1968	Robert C. Lockwood, WAØDHU
1969	Royce E. Johnson, WAØKIL
1970	Harold E. McClenahan, Jr., WAØDGA
1971	James C. Droege, WØYCP
1972	Edward F. Askew, WAØRDZ

*Deceased

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ANNUAL MEETING AND CHRISTMAS PARTY

By — Bob Andrus, KØLUG

The Christmas feeling was in the air at the 1972 annual meeting and party held again this year at the World Insurance Company building on December 8th.

The line at the front door for renewing membership was one continuous group of old and new members, with Treasurer Kelly, WAØUZX, as overseer and chief collector.

President Askew, WAØRDZ, welcomed members and guests and then called upon Dick Eilers, WØYZV, Chairman of the Nominating Committee to present the slate of officers for 1973. Following this, balloting took place for election of officers with those selected by the Committee being unanimously elected.

Russ Minks, WAØVEE, who served as Secretary for the annual meeting, presented a plaque to Ed Askew, WAØRDZ, in appreciation of his service to the Club during the year of his presidency. Those present agreed with this presentation by a round of applause.

After the business details were out of the way, the annual meeting of the corporation turned into the Christmas party of the Club. Bob Lockwood, WAØDHU, lead the singing of Christmas carols and did a tremendous job in both singing and accompanying the rest of us with his guitar. Some of us old foggies can't carry a tune in a basket, but with Bob leading, each song sounded like we had practiced at least two nights! It's just too bad we didn't have a chance to have Bob and the choir he sings with come to put on the entire program.

The evening would not be complete without the gift exchange and door prizes. So, with the assistance of Dick Eilers, WØYZV, and Russ Minks, WAØVEE, and a few more helpe[illegible] most everyone had something to unwrap. Those who brought gifts for the exchange participated in the exchange. In addition, the Club provided a number of door prizes which were given out on the basis of a drawing from the entire membership list. As one had to be present to win, this resulted in a group of lucky members and a group who would have been lucky. Winners of the door prizes were: Bob Andrus, KØLUG; Ed Askew, WAØRDZ; William P. Bowman; Janice DeWitt, KØRWX; Joe Eisenberg, WAØWRI; Marjorie Kelly; Bob Miller, KØZLY; Russ Minks, WAØVEE; and Vern Riportella, WBØGAJ. The unlucky ones were: Sharlene Anderson; John Cardos, WØNWL; Jim Collins, WAØYHS; Royal Enders, KØLYO; Fred Groce, WBØBLR; Bob Hendricks, WNØEBA; Dan Pettengill, WBØBXC; Bill Rambo, WBØDFJ; Joe Roberts, KØKEO; and Ned Valder, KØHRD/WBØFXK.

We always enjoy seeing not only regular Club members but also those people who show up only once a year, and this was the night. Hi! This includes the ladies (XYLs and YLs too) and the small Harmonics who have such a gay time with Cecil, WØRMB, passing out the candy. Did you notice that the ladies wanted their own gift exchange this year and carried it out too? The young Harmonics had a very good time w[illegible] the special showing of movies in a room adjacent to our meeting room as well as receiving special Christmas treats.

Needless to say, everyone had a

good time and enjoyed ice cream, coffee, pop and homemade cakes. Our special thanks to the XYLs who furnished them!

Bob Lockwood, WAØDHU, played his guitar and lead the singing of Christmas carols.

President Minks, WAØVEE, presented a gift to one of the lucky winners.

Secretary Russ Minks, WAØVEE, presented a plaque to President Ed Askew, WAØRDZ, in appreciation of his service during 1972. Shortly thereafter, Past President Ed Askew turned over the gavel to newly elected President Russ Minks.

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JANUARY MEETING

By – Bob Andrus, KØLUG

The upcoming meeting for January 12, 1973 will be of great interest to those Hams who have joined the AREC. We will have the pleasure of hearing from Bob Lefholtz who is with Northwestern Bell Telephone Company and who is greatly interested in emergency preparedness. Both Bob along with Marty Griffin, WAØGEH, work for the Telephone Company but in different departments. Marty came up with the idea behind this program and more to come. This should be a good way to start the New Year – a great program and a lot of fellows in attendance. What say we all come out and show them what a great group of members we have in the Club? Of course we will have that special coffee and donuts after the meeting, but we will have a new chief cook!

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THE CHALLENGE OF TVI

(Reprinted from *The Ontario Amateur*, Issue 3, 1972; also the Gloucester Co. ARC paper, New Jersey.)

By: Bill Loucks, VE3AR and Paul Helary, VE3CWN

So, you have TVI. So, welcome to the club. Very few amateurs can operate regularly on 14 MHz or higher without experiencing TVI at some time or another. This is nothing to be ashamed of – rather it should be considered as just another problem to solve – a problem with two facets, one technical, and one social, or having a bearing on human relations. Very often the lack of social skills is the major problem to be surmounted. However, when handled properly, an experience with TVI can represent a wonderful piece of public relations on behalf of the amateur radio fraternity.

First of all, let us state unequivocally that technically all TVI can be eliminated. Sometimes the solution is too costly to be considered seriously, but for every case, there is one or more solutions. For example, take 50 MHz operation around Toronto. Most Toronto amateurs find that the solution to their TVI problems on this band are too costly or too difficult – because of the non-local channel 2 and 3 stations available – with the result that the band is infrequently used, and then only during the secondary TVI viewing hours. However, a few amateurs have been able to improve the front end selectivity of their neighbours' TV receivers sufficiently by means of high-pass filters and traps to permit them to operate at any time.

A word of caution at this point: the concensus of opinion of the various TVI committees that we know about advocates a hands off policy when it comes to doing any work on a neighbour's television or stereo s[illegible] Advise and/or consult with a factory representative or serviceman, but unless you wish to be blamed for everything that goes wrong forevermore, keep your sticky little fingers out.

TVI can be broadly classified into five groups as follows:

(1) Overloading of the TV receiver by the transmitter fundamental signal (Fundamental Overload),
(2) Audio rectification,
(3) VHF-UHF parasitic oscillations,
(4) Impairment of the picture due to radiation of harmonics,
(5) Non-linear devices.

Let us now look at these five categories in the order mentioned:

Front End Overload

The example of 50 MHz TVI is almost invariably due to front end overloading of the TV receiver by the fundamental frequency radiated from the ham antenna. This phenomenon, however, is not confined to only 50 MHz operation. It has been common also on 28, 21 and 14 MHz, and to a lesser extent even on 7 and 3.5 MHz. The usual symptom is a blanking out of the picture, often accompanied by sound modulation. It is due to lack of selectivity in the TV receiver fr[illegible] end, and is usually most noticeable on the low channels (2 to 6). The cure for this condition usually is to add the required selectivity in the antenna

circuit of the TV receiver, either in the form of a tuned trap, or preferably by means of a high-pass filter. As its name implies, a high-pass filter will pass high frequencies above a certain point known as the cut-off frequency, and reject lower frequencies below the cut-off frequency.

These high-pass filters can take the form of simple devices with two coils and two capacitors, and can be as small as one inch by one inch. Or, they can be intricate marvels of engineering design. We in RSO recommend the Drake TV 300-HP filter which is sharp enough to reject 50 to 52 MHz, but pass 54 MHz and higher in the TV bands. (These are available from RSO at cost.)

Another form of interference with symptoms similar to front end overload that used to be fairly common was pickup by the TV receiver at its intermediate frequency. Early TV sets usually had an IF from 21.25 to 25.72 MHz, which sometimes made 21 MHz operation difficult or nearly impossible. If the rf was being picked up directly by the TV receiver and not through the antenna or power line, about all that could be done was to add shielding to the TV receiver. For many years now, however, the standard TV IF has been 41.25 MHz to 45.75 MHz. Although the second harmonic of a 21 MHz signal falls inside this pass band, very few cases of interference due to this cause have been reported. However, it is not an impossibility, and should be kept in mind.

Audio Rectification

Audio rectification can occur in television sets, but is more commonly found in Hi-Fi or broadcast sets. It takes the form of clicks or thumps and possible signal blanking with a C.W. signal, and Donald Duck garble with a side band signal. Somehow, the rf is being picked up and fed to a device such as a low level audio transistor or tube, where it is being rectified and then amplified in the usual manner. The rf may be picked up directly by the set, by its antenna, by the power line, by the inter-connecting cables between the components, or commonly by the speaker leads, especially when extension speakers are used. One of the first things to try if you encounter this kind of interference, especially if extension speakers are used, is to connect a .01 to .005 ufd disc ceramic capacitor across each pair of speaker terminals right at the terminal board on the amplifier. This will effectively by-pass the rf picked up on the speaker leads, without affecting the quality of the sound. Sometimes additional "ground" connections in the sense of bonding are required between the different components. In some cases, it may be necessary to by-pass the low level amplifier with a 100 pf capacitor, which, of course, should be done by a serviceman and not by the amateur.

VHF-UHF Parasitic Oscillations

Parasitic Oscillations in the VHF-UHF range are not common in modern commercial equipment, even when purchased in kit form. However, they can occur in any equipment and especially in home-brew one-of-a-kind layouts. These oscillations are not harmonically related to the fundamental, and usually their frequency is relatively unstable. Perhaps the easiest

check for these is by use of a general coverage VHF receiver, but these are rather scarce. Another useful check can be made as follows: first, make sure the final is properly neutralized; then, remove the protective grid bias on the final or other suspect stages, replacing it with a grid leak of 10,000 to 20,000 ohms. All load on the output of the final should be disconnected. Plate and screen voltages should be reduced to the point where the rated dissipation is not exceeded. If you do not have a variable transformer, voltage may be reduced by placing a 115 volt lamp in series with the primary of the plate transformer.

With power applied only to the amplifier under test, a search should be made by adjusting the input capacitor to several settings, including minimum and maximum and turning the plate capacitor through its range for each of the grid capacitor settings. Any grid current or any dip or flicker in plate current at any point indicates oscillation. This can be confirmed by an indicating absorption wavemeter tuned to the frequency of the parasitic and held close to the plate lead of the tube. It would be well to remember that the grid tank coil (or driver tank coil in the case of capacitive coupling) should be short circuited with a clip lead. This is to prevent any tptg oscillation at the operating frequency which might lead to confusion in identifying the parasitic. If any rf is present you have problems and should look critically at any parasitic supressors that may be installed. The cure here in addition to functioning parasitic suppressors, often lies in the layout, grounding, or shielding of components in the final. Sometimes a major rebuild is the only answer, but this is a last resort.

Impairment of the Picture Due to the Radiation of Harmonics

Whenever a signal passes through [illegible] is acted on by a non-linear element, harmonics are produced. We may pride ourselves on the linearity of our rf amplifiers, but there is still sufficient non-linearity present in any active element to generate some harmonics. A typical specification for a modern transceiver is harmonic output 35 db below fundamental. This means that a transmitter with a fundamental frequency output of 100 watts can have a harmonic power output of about 1/30 of a watt and still meet specifications.

So why worry about it, it's only 1/30 of a watt. But 1/30 of a watt in a tuned dipole in free space produces a calculated electric field intensity of 127,000 microvolts per meter at a distance of 10 meters or 33 feet. Compare this with typical field strengths from TV stations outside the primary viewing area of the order of 300 to 1,000 microvolts per meter. Obviously severe TVI would result.

Experience shows that the maximum tolerable field strength for harmonic radiation such that no interference results is not more than 1/10 that of the desired signal. For a weak signal, say 300 uv/m, the harmonic level on that channel should not exceed 30 uv/m. This means a reduction is required in our 127,000 uv/m by a factor of 4233, or anoth[illegible] 73 db.

The above example, of course, is an extreme case, where all the harmonic power is radiated in the one undesired harmonic, and where the harmonic

radiator is an ideal radiator. However, such a situation may be approximated when operating on the low end of 28 MHz and interfering with channel 2 or channel 6 (second or third harmonic).

The most practical way to reduce harmonic radiation to an acceptable level is by the use of a low-pass filter. Some of these specify up to 90 db attenuation. However, it is extremely doubtful if the mere insertion of a low-pass filter in the antenna feed line will result in anything near the theoretically possible attenuation. This is because practically all modern transmitters and transceivers "leak like a sieve" – in other words, they are not in a truly shielded cabinet. The result is that rf, especially harmonics, flow out from the final compartment, through the gaps in the shielding, along the chassis and cabinet, and on to the outside of the coax sheath. From there, it flows over the outside of the low-pass filter and on up the outside of the coax sheath to the antenna. Thus, the low-pass filter does not have a chance to function. The first step, therefore, towards reducing harmonic radiation is to ensure that the transmitter is in a fully shielded rf tight cabinet.

One quick check of this can be done by using a field strength meter tuned to the harmonic. However, since everyone does not have such an instrument, you can use your own TV set as follows: firstly, connect the transmitter to a 50 ohm non-reactive shielded dummy load. Do NOT use a light bulb. With the TV set connected to its regular antenna, connect a short piece of 300 ohm twin lead to the antenna terminals. Connect the other end to a small 2 or 3 turn loop of wire. This is the probing end. Using the small loop, probe around the outside of the transmitter near any cabinet openings and leads going in or out of the transmitter to see if any evidence of harmonic interference appears on the TV screen. The TV set should, of course, be tuned to a harmonic frequency – channel 2 or 4 for 14 MHz, channel 3 for 21 MHz, and channel 2 for 28 MHz.

The TV set will show little if its only input is an unmodulated carrier (fundamental or harmonic) from the transmitter under test. Hence, we connect the probe and TV antenna in parallel so that the suspected harmonic has something to interfere with. If you are a purist, you will probably want to use a splitter or mixing pad.

If there is any evidence of harmonics, look especially for lack of shielding over rf hot components, or failure to close all shielding in a continuous metallic box. Several makes of transceivers investigated had a narrow slot between the top removable shield plate on the final amplifier compartment and the side wall shielding. Even though this slot was less than 1/16 inch wide it was spewing out rf like a fire hose with the tap on full.

When you can probe all around the transmitter with no sign of harmonics, then replace the TV set in its original location with the TV antenna connected and with the transmitter still on dummy load, again check for harmonics. Not until this test has been successfully passed should you count on obtaining any significant benefits from a low-pass filter.

Another device that usually provides considerable attenuation to

harmonics, in fact to all harmonics and not just to those in the TV bands, is an antenna coupler or transmatch. Sometimes these are just as effective as low-pass filters. Be careful here, however, as some published designs for transmatches have taken short cuts, which satisfy the original requirement of "match anything to anything," but are basically high-pass designs and will not help in harmonic suppression.

Sometimes, the physical dimensions of the components in the rf stages and/or their particular layout, result in shunt resonances in grid or plate circuits, which are tuned to the TV frequencies. VHF resonances are virtually impossible to eliminate, but by careful placement of the components and adjustment of their lead lengths, these resonances can be placed outside the TV channels – usually outside of 54-88 MHz and 176-216 MHz. If you have a resonance tuned to a harmonic in the TV frequencies, you will be almost certain to have TVI. To determine if this is the case, go over all rf circuits, especially in the driver and final, with a grid dip meter, checking for resonances. You will find some, but as long as they are outside of the TV channel assignments they usually are of no concern. If they fall in the TV assignments, especially if in channels 2, 3 or 4 try to ascertain what components are determining the frequency, and then adjust the lead length and again measure the VHF resonant frequency. Sometimes the addition of a half or one turn coil in the lead to a component will lower the VHF resonance sufficiently to take it outside the TV band, while not upsetting the normal performance of the stage at fundamental frequency. A point to remember is not to confuse VHF resonances with parasitics.

Eventually, with perserverance (and appreciable good luck) you will reach the point where the transmitter is effectively shielded and where additional attenuation has been provided by low-pass filters and/or antenna couplers. However, in spite of your best efforts, you may not be able to eliminate the interference. At this stage it sometimes helps to have a fellow ham who does not have TVI bring his transmitter to your location and check to see if his rig does or does not cause interference when connected to your antenna. If it does not cause interference then you have not completely cleaned up your own rig and its "back to the drawing board," as the saying goes. If the other rig also causes a similar degree of interference as that caused by your rig, then you will have to look further afield for the source of harmonic radiation.

To be continued next month.

(Our thanks to Jack, WA2MEM, for pointing out this FB article for X-TALK–Ed).

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10" Delta Table Saw and Stand – $135.00

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FIVE WAYS TO GET THOSE "WALLFLOWERS" INVOLVED

Some people hold back in their associations—and are held back, too—because they don't consider themselves "good mixers." Shy about their good points, oversensitive about those they consider poor, they forego the satisfaction and advantages which flow from becoming involved. Sad to say, they aren't the only losers. Their knowledge and experience could help the group as a whole, and so (if they would ask), would be their discerning questions.

How can we get these silent spectators into the act? Here are some things everyone can do:

1. Devote part of your time at meetings to getting acquainted. Don't spend it all with good friends and old cronies.

2. Look for a "new face" when you enter the room or search for a seat at a table. Don't hesitate. Walk right up, put your hand out and say "I'm so-and-so, I'm glad to meet you." Chances are that he'll be glad, too.

3. Follow through. Don't go away before introducing him to another member. If none "float" by, think up some reason for taking your new acquaintance where the action is. "I've got to speak to the treasurer," for example. "Do you know him? Come along."

4. Chat for awhile. Tell him some of your problems, so he'll open up and tell you his. Make a mental note of his solutions and constructive ideas. Then, when a chance arises, inject his name into a discussion—so the chairman can invite him to comment. Any embarrassment he may feel will be only temporary, like the first cold plunge in a pool. After that, the rest comes easy.

5. Be friendly. This doesn't have to be a hail-fellow-well-met performance. Most people equate friendliness with sincerity. When you ask even the obvious questions about business, home and family, *how* you ask and *how* you listen will be observed.

Somebody worked hard to recruit these individuals as members. A bit of effort on your part may help to keep them.

Submitted by WAØVEE

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RECENT CONTRIBUTORS

Auto Patch Fund

Lynn A. Blesh, WAØODH

Repeater Fund

Martin J. Griffin, WAØGEH
Royal M. Enders, KØLYO

****

UNLUCKY AND LUCKY

On December 6th I got into my pickup that was parked at 20th and Chicago. I discovered that someone had broken the right wing window and my Drake TR-22 was missing along with touch tone pad, one-half inch impact wrench and sockets. I reported it to the Omaha Police.

On December 15th the Omaha Police called and said that the Drake TR-22 was at Mid-City Jewelry and Loan, a pawn shop located four blocks away. It cost $22.00 to get it out. How about that! No sign of touch tone pad or impact wrench.

Thanks to Omaha Police!

Mike, WBØBMV

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THE RATTLESNAKE AFFAIR

by Joe Hood, K2YAH

It is not often that things work out quite so well for our TVI committee as they did during the Rattlesnake Affair. It all began one quiet day in late May 1972 when the Monroe County Sheriff's office received a complaint from a resident on Chili Avenue that her television was being interfered with by some "gentleman" using the name Rattlesnake.

Since the sheriff's office has neither the authority nor the desire to become involved in TVI cases, the complaint was referred to our illustrious TVI counter agent, Mr. Gessin, WA2ZNC. When he heard the identifier "Rattlesnake" there was little doubt in Agent Gessin's mind as to the source of the problem. It was once again one of those unfortunate circumstances where illegal operation by an unresponsible person in the 27 mHz citizens band could be confused with amateur radio. Being an avid amateur himself, Agent Gessin began to probe for a solution to the problem.

As fate would have it a member of a well known government agency with the initials FCC just happened to be in town and just happened by Agent Gessin's place of employment that day. Agent Gessin mentioned the Rattlesnake Affair to the government employee who listened with great interest...the hunt was soon on.

The FCC agent drove to the interferees location and listened on 27 mHz. It wasn't long before the unscrupulous Rattlesnake again slithered out of his hole and made an appearance on 27 mHz. The FCC agent quickly determined the source of Mr. Rattlesnake's emissions and proceeded to his front door whereupon he knocked asking to see the Rattlesnake's den, his equipment, and of course, his operators license.

The tour of the den proved most interesting. The Rattlesnake was true to his name having attached an amplifier of the several hundred watt category to his 5 watt rattler. Attached to the business end of the amplifier was a 6 element venom intensifier making the Rattlesnake's rattle even louder!

The FCC agent was so impressed with the Rattlesnake's den that he issued the Rattlesnake an engraved invitation, on government stationery, to attend a session specially reserved for him in Federal Court. Needless to say this invitation put an end to the television interference problem in the area since the Rattlesnake population had been reduced to zero.

The FCC agent spent the remainder of the day listening to the 27 mHz band. In several other similar incidents involving Batmen, Blue Devils, Red Riders, etc., a host of other immature rodents, adolescent parasites and childish serpents, 27 in all, also received personal, engraved invitations on government stationery. As a result, things are very quiet for Agent Gessin. He once again has time to enjoy a little operating on the bands where a kilowatt is legal, where call signs are used, where people use their real names and where the average mental age approaches a two digit figure.

de RaRa–Rochester, N.Y.

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AMATEUR RADIO AND THE HAPPY HOME

Adapted by Willis C. Brown – W3HB, with permission, from an editorial by John E. Clements, President of The Academy of Model Aeronautics Published in American Aircraft Modeler, February 1972

This is a message to every Ham's wife (Bless 'em). Your husband's Amateur Radio activity can be one of the most important ingredients in your marriage. Whether it works for or against it is STRICTLY YOUR OWN CHOICE to make.

In offering the following thoughts, I can speak from a basis of experience; at age 21 I got my first license (1NX) in 1916. In the past 55 years as a Ham I have observed many situations that are worth summarizing, so let's see what we can learn.

1. A smart wife will use her husband's Amateur Radio interest as a primary means of developing a stable, well adjusted, smiling homelife.
2. She will realize that every man has a certain amount of time, a certain amount of money and a certain amount of energy that he is going to spend SOMEWHERE.
3. It is best that he spend it at home following the many facets that are offered by Amateur Radio, such as building and modifying equipment for his own use, participating in regularly scheduled contests, or in the variety of specialized interests such as RTTY, Traffic Nets, FM, VHF, UHF, Club activities with other Hams all absorbed in their special interests.
4. Realize that there are some far worse things that he could be doing.

Try to provide your man with a haven that he will want to come home to – a pleasant face to look at – and the absorbing interest of Ham Radio as his own "retreat" from the day's work problems. Amateur Radio may not solve his work-a-day problems, but it will let his mind and emotions relax and gain strength. Then when he again has to face his work problems, he will be better prepared to face and wisely solve them. He is also a much nicer guy to live with.

You can be ACTUALLY SELFISH when you encourage him in his Amateur Radio activities, the world will never know your motive, O.K.? Best of all, he will usually be right at home where he should be.

The time – dollars spent includes the dreaming of how well his project is going to work, the planning, the shopping, the buying, the building; all have an end product from which MORE ENJOYMENT will be had, year after year. Therefore, both time and dollars are wisely spent.

The other attitude that you as a Ham's wife can take is a disastrous one. You can "fight" his hobbies. You can be jealous of them. You can treat them as "THE OTHER WOMAN" whom you feel competes with you for his time and attention. We appreciate your busy schedule with the children, transportation to music lessons, meals, laundry, shopping, meeting, and a host of other things.

If you are a thoughtful woman, you are warm to him, you are soft, can smile and smell good! Realize that his radio is cold, noisy and often acts cantankerous, besides he may get peeved at the persistent QRM. If you let his radio compete with you, even in your mind, you are foolish and deserve your fate.

Be SMART, use his hobby to keep him at home. It might even be fun to learn the code and the technical multiple choice questions and become a licensed Radio Amateur yourself. With your own license, you could use the rig sometimes during the day while hubby is at work, leaving it for him during his few free evening hours. He is bound to be an exceptional guy or he wouldn't have the urge to do something constructive like being an Amateur Radio buff.

Now, fellows, I have gone to bat for you with your woman. Do your part; be reasonable, meet the XYL halfway. Don't spend all the family "extra money" (and the piggy bank too) on your wonderful hobby. Remember your XYL is an individual too with ideas to be expressed. She may wish to have a hobby of her own. She has tough days, too, that are frustrating. She may be alone all day and doesn't want to be alone every evening. Be sure to be interested when she wants "equal time" to tell you of her day. It is fine if you can help her solve mutual household problems. Remember, you live here.

When in a QSO I often sense that the XYL is nearby, probably knitting. Sometimes she comes to the microphone to take part in the QSO. Sometimes I feel that she is there but for a variety of good reasons she does not "talk radio." This is all right too. I still feel the warmth of her presence and a HAPPY HOME.

Happy Marriage,
Brownie – W3HB
de Auto-Ca

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NOVICE LICENSES

In addition to the novice licenses previously listed in HAM HUM, the following also received their novices licenses last year:

Emmett Hohensee
Rick Hohensee

Our best wishes to the twenty novices resulting from last year's Code and Theory Classes and good luck to all of them on making General in April 1973.

Mike, WBØBMV

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CODE AND THEORY CLASSES

In addition to the instructors listed in the flyer mailed with the December issue of Ham Hum, Doug Hanson, WBØHCC, will also assist with general code.

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FOR SALE

Globe Chief 90-A Xmtr & Hallicrafters SX-99 – $100.00

Craig D. Hinton, WBØIAH
5004 Amy Circle
Omaha, Nebraska 68137
Phone: 333-9521

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THAT 220-225 MHZ BAND – CAN WE SAVE IT?

Editor Bob Zimmerman, W8DPW

With the release of the repeater docket 18,803 by the FCC, amateurs are apparently assured of the top Mhz section of the 2 meter band and the 3 Mhz upper section of the 1¼ meter band. However, one wonders about the future of the 2 Mhz lower section of the 1½ meter band. Has this 40% been held open for the proposed Citizen's "E" band? Is the FCC waiting now to see what action the amateurs will take? No mention was made of this section in the Docket.

Already, news releases are coming out that a favorable "E" band decision is due soon from the FCC. Or is this more promotion by the Electronic Industries Association (EIA) since they have petitioned FCC for this 2 Mhz of *our band.* But they also want to keep the "D" band Citizens' Service going as there is too much equipment in the channels now. EIA has now upped their estimated potential for new equipment for the "E" band to $400 Megabucks. Can the amateur service combat this kind of argument? Or will the decision be influenced by political pressure to the FCC Commissioners?

As amateurs, we should be very concerned about this proposal even though you may not be a VHFer. To find out how various services lost their frequencies, read the article on the proposed "E" Band" in the December issue of Popular Electronics Magazine, page 67. This article tells you how it is and what's happened before. We also noted another news release from Washington in the November 20th issue of Electronic News, page 6, which usually reports things factually. The headline says that "E" band Citizens' service permission is expected" but the article further states that it is not known how the Commission will move. "FCC can; (1) Make further study, (2) Launch an inquiry to get public comments, or (3) issue a proposed rulemaking to establish the service."

ARRL and Wayne Green have already filed objecting petitions but the 220-222 Mhz section may be snatched before we know it, unless we can pressure the FCC and others to deny the EIA proposal. Let's be ready with our arguments against the loss of any Amateur frequencies in case actions (2) or (3) are taken.

de RF Carrier, Dayton, Ohio

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FOR SALE

Novice rig – Multi-Elmac Transmitter and Receiver with Power Supply 160M to 10M. It has a built-in VFO. – $85.00

Mike Wilczynski, WBØBMV
Phone: 571-7932

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WANTED

Wanted to buy or borrow: Stoner Sideband Handbook.

J. Glenn Holder, KØTFT
Hinton, Iowa 51024

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FOR SALE

One – Motorola 180D mobile 2 meter FM.

Call Bill Oswald, WAØDVK, 8:00 A.M. to 5:00 P.M. at 558-1000.

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Hi Hobby Industry de WØJJK

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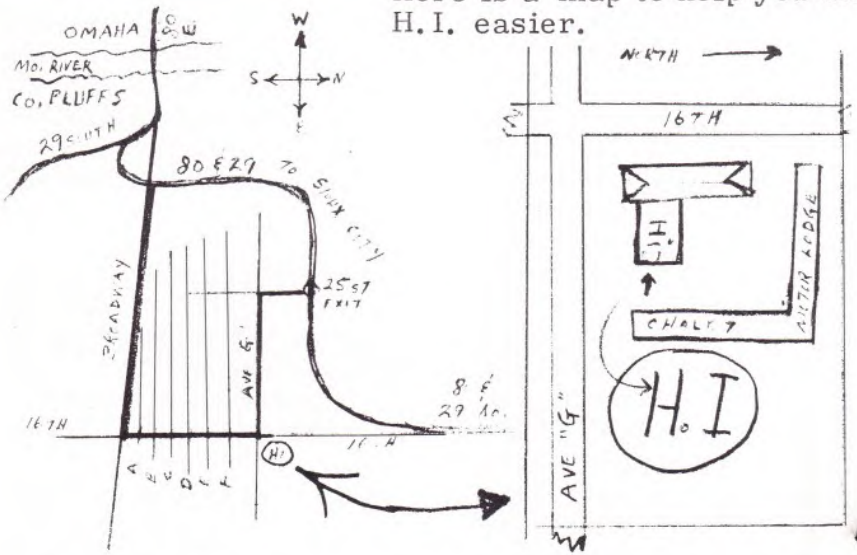
CASH – master charge – BANKAMERICARD

The HI-SAVINGS PLAN can save you big money ! _____ ask about it.

Here is a map to help you find H. I. easier.



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