HAM HUM

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March 1972

Vol. XXII
No. 3

ANNUAL AUCTION

WHEN: FRIDAY, MARCH 10, 1972

WHAT: AUCTION - bring your excess parts and gear. Terms: cash and carry. (See page 4.)

WHERE: AUDITORIUM - GENERAL MOTORS TRAINING CENTER, 225 North 80th Street, Omaha, Nebraska (Plenty of free parking.)

TIME: Auditorium will open at 6:30 P. M. to begin registration of gear. Items will be auctioned in order of registration. Auction will begin between 7:00 and 7:30 P. M.

Refreshments will be served during the auction.

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FEBRUARY MEETING

Those of us who have been members of the Club for a long time had a double pleasure at our last meeting. Not only did we enjoy the program, but we renewed acquaintance with an ex-member, Dr. Robert A. Stratbucker, WØHZE. Unfortunately Bob's electronic activities have pushed him away from the ham bands, but fortunately has led him to a most interesting occupation. Bob has the unusual distinction of being not only an electronic engineer, but an M.D. as well. Bob is in a true sense a pioneer and by combining his talents and a continuing thirst for knowledge is attempting to advance medical knowledge for diagnosis and treatment. His firm is the Health Technology Laboratories here in Omaha.

He described two of the developments for us at the meeting. The first had to do with diagnosis of conditions of the heart. We have had in medicine for a long, long time a device known as the electrocardiograph. This device provides a graphic representation of the heart action specifically for the purpose of diagnosing difficulties with the organ. To interpret an electrocardiogram requires the services of a specialist who under ideal conditions is readily available for this purpose. However, humans do not always go along with ideal conditions. Either they will be located at remote points away from a specialist or they may be so inconsiderate as to have a heart problem at a time when a specialist may not be available.

In order to give all doctors the ability to get immediate interpretation of an electrocardiogram, it is now possible for the local doctor to feed the output of the machine into the local telephone lines and by way of the normal long distance circuits to one of the computers in a large metropolitan medical center. Here it is compared with programmed information so that almost immediately the local doctor will receive the information either by voice or by teletype depending upon where he is and the facilities he has available. The information received by the doctor, when added to his own judgment, will allow him to treat the patient at hand

more knowledgeably and immediately. The programming in the computer is quite complex and is continuously updated as the result of the experience with its use.

The other item he showed us had to do with the heart also. With the use of equipment Bob brought with him we listened to the electrical sound of the output of an electrocardiogram. By the use of a testing device we heard the sound of a heart in fibrillation. He called our attention to the fact that a heart in this condition is not pumping and with no pumping action, the patient has only minutes to live. One treatment for this condition has been the administering of a controlled high intensity current of very short duration which then will hopefully allow the impulses to the heart muscles to get back into a rhythm which allows the organ to again act as a pump. The instrument for doing this has been a non-portable, cumbersome device weighing 80 to 100 pounds. The new device Bob is working on is one weighing 18 to 20 pounds that will not only provide the desired "shock" but will provide it in a well-controlled manner in that it can be set for the desired intensity and will measure the amount that was delivered to the patient. As he could not find a suitable way of demonstrating this piece of gear since none of us were willing to go into fibrillation for him, he connected it to a small resistor and on triggering the device, the resistor verized with a report like a firecracker whereupon he declared it to be the most expensive "resistor fryer" in existence. This device being battery operated and lightweight can be taken to the patient rather than the patient to the machine. Its normal useage would still be in hospitals, particularly in the intensive care ward, but it could now actually be carried by the doctor. It is only of value in treatment if used within five minutes. He then explained the problems of getting such a device approved for use on the human being. Much time and effort goes into the study of the machine or device to prove that it will do what it is supposed to and at the same time have no dangers or side effects. This particular device is almost to the state of approval and acceptability by the medical profession.

As members of the human race, I am sure we all can be thankful for people like Dr. Robert Stratbucker for their efforts, not only the two described here, but the many others in providing medical knowledge and treatment for the benefit of all.

Many thanks to Bob for bringing us this description of a portion of his efforts.

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PET PEEVE

The misuse of international "Q" signal QRZ. Some that I have heard – "QRZ this frequency . ." many more in my book "QRZ" means "Who is calling me?" Instead of misusing the "Q" signal "QRZ" to determine if the frequency is being used, why not listen an extra minute or if time is essential, use "is this frequency being used?"

73,
Jack Brezee, W4ZNQ
Holiday, Florida

de Florida Skip

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MARCH MEETING

By-Bob Andrus, KØLUG

We expect to have one of the biggest auction nights this year that we have ever had with the capable lungs and voice of our own "Radio's Midget Brain," WØRMB, Cecil DeWitt. Cecil gave himself this title, so with due regard to his being an instructor, we can say that good things come in small packages.

The rules for the auction this year are similar to last year with a few changes because of time allotted to us in the use of the Auditorium at the General Motors Training Center. Address of the GM Training Center is 225 North 80th Street, which is on the corner of West Dodge Road and 80th Street.

Those hams who intend to auction off any equipment should come as close to 6:30 P.M. as possible to get their equipment tagged. Remember, first come first served when the auction begins. Bidding will start between 7:00 and 7:30 P. M., just as soon as enough equipment is tagged and ready to go on the auction block. The lowest increase in bid that will be accepted for any item is 25 cents, with the figure stepping up to 50 cents when we get to a ten dollar figure. Should the bidding go to twenty dollars, the bidding will progress in one dollar steps.

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.

We strongly suggest that as you bid on an item and are the lucky bidd that you pay for the item at that time rather than waiting until the end of the auction. Confusion sets in near the end of the auction, plus the fact that we must vacate the building by 11:00 P. M. sharp. All bidding will stop at 10:30 P. M. so that we may clean up the auditorium and be prepared to leave at eleven.

Refreshments will be available during the auction. Good luck to everyone. May we all clean out the junk we don't need any more and bring back some new pieces that we can use.

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FOR SALE

Over 50 years accumulation of "Ham" and B.C. radio parts: transmitters, keys, tubes, instruments and many odds and ends. Will sell any or all. No itemized list! These are the effects of Martin Dreesen, WØGFI, now a silent key.

For further details or information, contact "Chuck" Carey, WAØDXY, Norfolk, Nebraska on any 6:30 Nebr. Storm Net.

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FOR SALE

Clegg 66'er in mint condx.
Call Dr. Stan Bach, WAØIIX
Phone: 391-6607

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INDIANA REPEATER COUNCIL

by WB9HJM/Ø, G. Wayne Heck

"How do we coordinate 2mFM activity in Indiana?" This question led to the formation and organizational meeting of the INDIANA REPEATER COUNCIL on 23 January 1972 in Fort Wayne, Indiana. All of the present repeater operators and clubs were recognized at this meeting and became members of the new Council.

After passing the constitution and by-laws and election of officers, the meeting moved to business at hand. Four items may be of interest to you at this time:

1) the INDIANA REPEATER COUNCIL shall discourage repeaters operating on 146.94 MHz or 52.525 MHz output since these are nationally recognized simplex channels. (By the way, this motion was carried unanimously!)
2) the 146.10 MHz input – 146.70 is reserved for RTTY operations.
3) 146.460 MHz is to be reserved as the Indiana state-wide simplex frequency to supplement 146.94 MHz.
4) placed under consideration was the motion that 146.40 or 146.43 MHz be used as 'emergency only' channel.

If you are traveling east this summer, the Council will be glad to assist you. Just call into any one of the following repeaters:

W9INX	45 mile radius	Fort Wayne Indiana	28/88
WA9EAU	45 mile radius	Fort Wayne Indiana	34/76
		(hit both from toll-road)	
K9SJI	30 mile radius	Muncie Indiana	34/76
K9JSI		LaPorte Indiana	22/82
W9EJV		West Point Indiana	proposed
W9CSF		Michigan City Indiana	31/97
WA9WVC		Anderson Indiana	22/82
K9LPW		Indianapolis Indiana	16/76
K9ZPP		Evansville Indiana	52.92/52.575
WA9GOP		New Carlisle Indiana	proposed

Obviously, when there are a number of repeaters, some coordination has to exist. The INDIANA REPEATER COUNCIL is making an effort to do this on an organized basis. If you would like to keep up to date on activities, contact:

INDIANA REPEATER COUNCIL NEWSLETTER
Jack Forbing, K9LSB
1416 Lakewood Drive
Fort Wayne Indiana 46819

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Science has provided so many substitutes in recent times that it is hard to remember what it was we needed in the first place. Service

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"MORE TRANSISTOR STUFF"

by Bob Schoening, WØBE

The use of "national calling frequencies" for mobile stations, emergencies, or just general contacts has not gained wide acceptance on the HF bands, but seems to be increasingly effective on six and two meters. Most stations monitoring such frequencies (such as WØPZT, WAØFDY, and others around here) use surplus commercial mobile communications equipment. They all use FM. The disadvantage of these units for the average station is that they represent a rather substantial investment (even though they are bargains), are not used most of the time, but must be left on continuously. Their bulky power supplies for AC use may also represent a fire hazard when left unattended, although we are supposed to fuse things properly. They all use V-T designs -- that's why they're surplus.

A ham desiring to operate on one of these networks can probably get going for less than 20 dollars if he has a good junk box, a transistor broadcast receiver, and an antenna. FM reduces the transmitter cost sharply, and the use of transistors makes it possible to run the receiver continuously with about the same drain as your electric clock; in fact you might power it from your doorbell transformer!

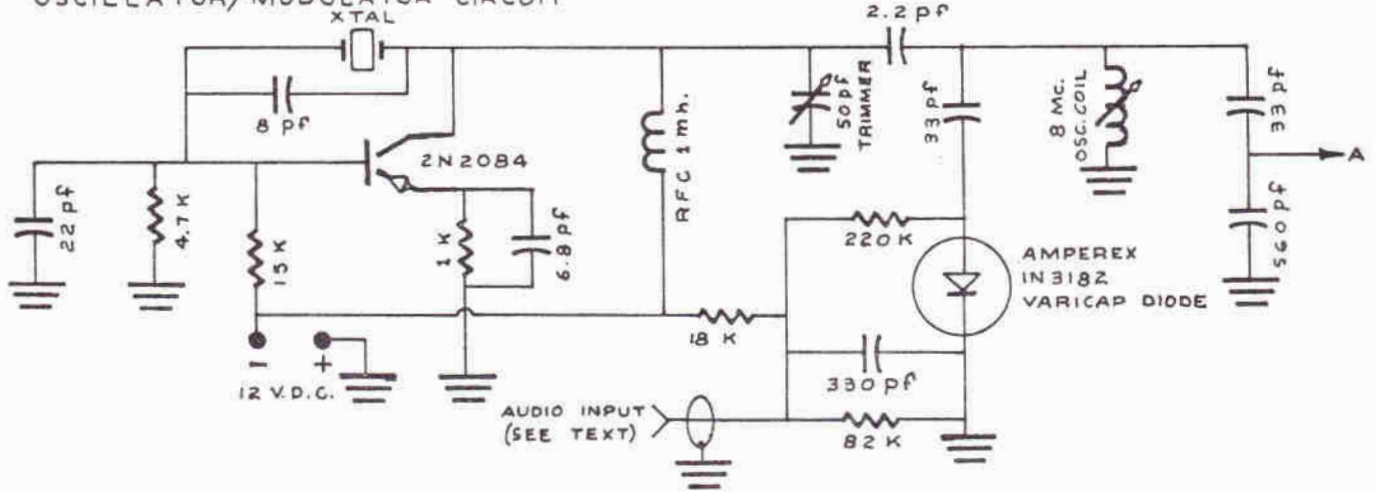
In this and succeeding articles, we'll try to suggest transmitter and receiver circuits for experimenters. While not "step-by-step" construction articles, they may stimulate your imagination. Parts values, where indicated, are those recommended by the manufacturers of the transistors for efficient, safe operation in exactly the circuits shown.

FM is particularly useful with transistor transmitters, since AM requires reducing the DC voltages to less than half comparable CW ratings, while FM allows full output. The traditional method of frequen(modulating employed by a "reactance tube": a vacuum tube which appeared to the circuit as a coil or capacitor varied by changing DC voltages which, because of the second derivitive of its current control function, tuned the oscillator back and forth at an audio rate. Nowadays, for $.88, a little diode will do the same job, as its back-bias voltage varies at an audio rate and changes its effective capacitance. When either system is used with a crystal oscillator, the signal is substantially phase modulated, which results in accentuated high audio frequencies as compared with pure frequency modulation, but for communications systems using audio frequencies only to 3,000 cycles or so, no compensating filter should be required.

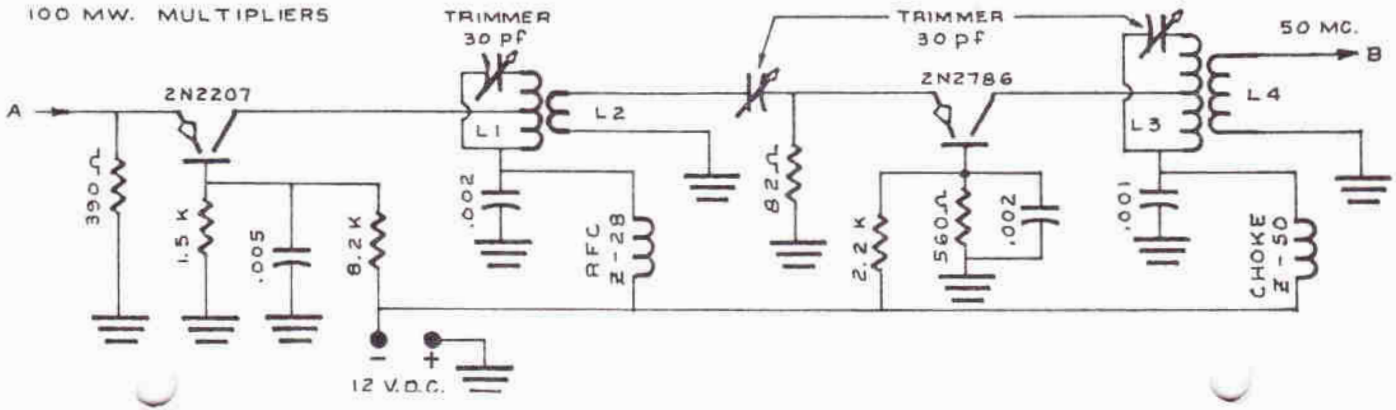
What amateurs call "wide band FM" as contrasted with "NBFM" permitted on certain high frequency bands, is really "narrow band FM" in the communications world. While larger frequency deviation during moduation is permitted on certain VHF bands, a swing of about 5 kc. each side of the center or "resting" frequency will fill up most of the commercial receivers' bandwidths. For broader receivers, you simply talk louder -- there is no sudden onset of splatter at a limit of modulation (there is with AM when 100% is exceeded on negative peaks.

The rig shown here requires only a few milliwatts of audio, obtainable from the secondary of a "200 ohms to grid" transformer driven by a carbon

OSCILLATOR/MODULATOR CIRCUIT



100 MW. MULTIPLIERS



microphone. For low-output microphones, one transistor stage designed to work in about 15,000 ohms should do the trick. Thus, even though the transistors themselves cost more, the cost per watt is about the same as the portable AM rig designed by Ed Tilton and shown on the cover of the November 1964 QST.

Receiving FM without a proper FM detector is annoying and ineffective on weak signals. This means that the transistor BC radio used after our receiving converter should be slightly modified. As long as we are doing this, a squelch circuit to silence the audio output when no signal is coming in will reduce the stand-by drain on the power supply and make you forget all about the receiver until someone comes blasting in. Disabling the AGC circuits of the BC receiver will result in limiting action by strong signals; however for better results additional IF stages biased for limiter operation might be added – this isn't as hard as it sounds, but isn't necessary to get good local reception when a ratio detector is used.

Part I The Six Meter FM Transmitter.

An 8mc crystal oscillator is used with crystal in its anti-resonance mode. This stage followed by a frequency tripler and a doubler will get you on six meters with less difficulty than trying to use a high-output overtone circuit directly on six meters. The transistors cost $1.34, $1.42, and $4.65 respectively for about 100 mw output. For consistent local coverage, one more of the $4.65 stages is recommended. Remember we are not supposed to run multipliers directly into the antenna (although this is not likely to cause trouble at the 100 mw level). The 1 watt final will give adequate signals for 6 meters fixed or mobile operation using any reasonable antenna. The Amperex transistors are available at Admiral distributors on Cedar Lake Road, while Stark's* have th Thermalloy heat sinks required for the 2N2786 transistors.

The oscillator coil is on any handy slug-tuned form and should be resonated with a grid-dip oscillator. Other coils are all wound with No. 14 to No. 16 solid enameled wire ½" in diameter and self supporting. Where 2 of these are shown coupled together, they are mounted end-to-end so as to allow some adjustment of coupling by bending the leads.

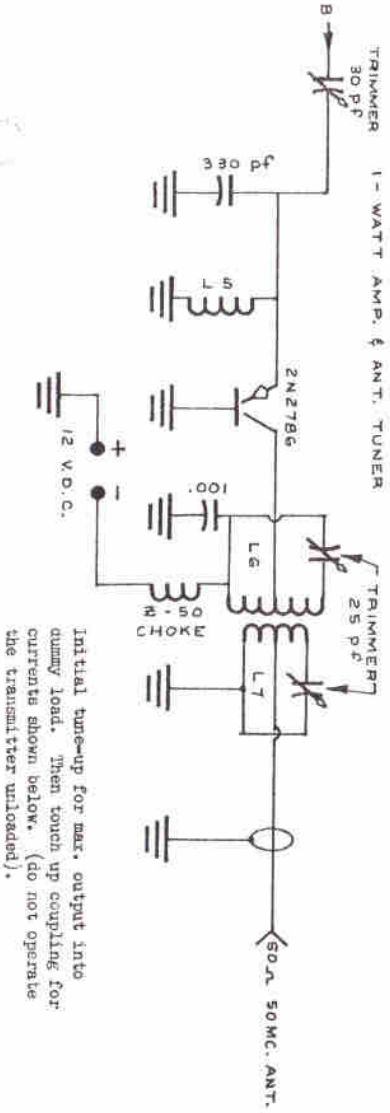
Parts placement is not critical. If the 1 watt amplifier is employed, L4 and L6 should be de-coupled by mounting them at right angles to each other. If it is not used, the antenna tuner is coupled directly to the doubler output.

Coil dimensions:

L1 12 turns tapped 8 turns from ground end.
L2 12 turns.
L3 4 turns center tapped.
L4 4 turns.
L5 ½ watt 10 meg. resistor wound full of No. 30 wire (single layer).
L6 4 turns tapped 1¼ turns from ground end.
L7 4 turns tapped 1 turn from ground end. (Couple this to L3 in place of L4 for 100 mw level.)

Approximate currents using 12v supply (adjust drive and loading to approach these values at resonance):

*Ham Hum Ed. note: These are Minneapolis area firms.



2N2084 oscillator	3ma
2N2207 tripler	5.5ma
2N2786 doubler	28.0ma
2N2786 final	80.0ma

de SPLATTER
Minneapolis, Minnesota

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SILENT KEY

Dr. Stanislaus H. Jaros, WAØJKO,
9705 Louis Drive, Omaha, Nebraska.
February 15, 1972.

Dr. Jaros was formerly a member of the Ak-Sar-Ben Radio Club, Inc. Our sympathy to his family.

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February 12, 1972

Hi:

Enclosed is my bit for keeping Ham Hum humming this away.

Newspaper and Magazine articles referring to the observance of various superstitions and the rituals regarding them gave me to wonder about the absence of superstitions in Amateur Radio, and in other areas of this locality. For instance, in railroading, again I know of no superstitions.

Of course there is the humorous reference to "Murphy's Law" and the gremlins, that are joked about, but not taken seriously, or any ritual to pacify the gremlins.

The odd thing about this is that people expressing belief in superstitions affecting their daily lives do not seem to carry them into establishing taboos, special rituals, or even concern about bad luck either in Amateur Radio, or on the railroad. I wonder about other hobbies and occupations?

The question is, is it only the older occupations and hobbies that retain a fear or concern about omens, bad luck, taboos, or superstitions in general?

73,
Dayton L. Phifer, WØVEA

****

FOR SALE

Galaxy 2000 linear amplifier
1200 watt PEP output. Make offer.
Jay C. McAleer, WAØLLQ
839 South Polk Street
Papillion, Nebraska 68046
Phone: 339-3448
****

FOR SALE OR TRADE

No. 19 Teletype
Dave Ludwig
612 Cathy Lane
Council Bluffs, Iowa 51501
Phone: 328-0110
****

FOR SALE

1970 Model Galaxie GT 550, Galaxie SC 550, 35C Vox, Model SB-44 Sound Off Push Button Mike. $450.00 - all ready to use.
This outfit was bought for Howard Greenwalt, WØBKI, in Shenandoah, Iowa, and maybe some of your readers may have known him or talked to him via radio. Mr. Greenwalt passed away the first part of January.
Miller (Bub) Greenwalt
1609 South 9th Street
Council Bluffs, Iowa 51501
Phone: 323-1230
****

WANTED

Power supply for Eico 753 transceiver. Will trade or ?
Ron Fulkerson, WBØDRT
2303 North 70th Avenue
Omaha, Nebraska 68104
Phone: 553-9153
****

LET'S PLAY "LOONEY BIN"!

Have you heard about the latest game? It's called "Looney Bin." You could call it "Multiple Insanity," "Super Stupidity," or whatever you want, but here is how it is played:

All the players – and there are a great many of them – gather in a large confined area, which is also occupied by people who are NOT playing "Looney Bin." Each player arms himself with a club, the size of which is limited by regulations of the game to one kilogram (that's 2.2 lbs.). Some players use a hinged club, the effect of which is to transmit additional energy, so that their clubs are the equivalent of 2 kilograms – sometimes called "2 KG peak effective power."

The game has an announced starting hour, at which time the players – and there are a great many of them, as we said – proceed to attract the attention of other players by hitting them over the head with their clubs. As the area where the game is played is usually crowded, a great many people who are NOT players get hit over the head with one kilogram, which they do not like at all.

The objective of the game is to see how many players can be hit over the head with one's one kilogram club. Each player must keep a record, called a log (not to be confused with the *club*, which is a small log of another type). The best players can hit other players over the head with their club while keeping their log with the other hand. Upon being hit over the head, a player announces (a) how sharp the blow was, rated on a 1 to 5 scale; and

(b) the pressure of the blow, rated on a 1 to 9 scale. Thus, upon being struck, the player shouts "5-9," and proceeds to exchange blows with the player who has just bounced his club off the first player's head. Obviously, it takes a pretty hard head to play this game, but after partaking in a number of such contests, one's head becomes almost impervious to the blows. Many players drop their participation in such events, of course, since they see no point to either being hit on the head, or exercising like violence upon others.

Some parts of the playing area are more accessible than others, and the real challenge to a player is to hit the more remotely located players. When everybody tries to do this, what is known as a "pile-up" occurs, with dozens of players being hit over the head at once, and hardly anyone ever hitting the head of the player at which he had taken aim. Such "pile-ups" are very frustrating, and many players have abandoned the game because of them. The winner of the game is the player who has swung his club most effectively, hitting more players on the head than anybody else, and in more areas of the playing space. Indeed, it is considered a great achievement to have hit people on the head in every square foot of the playing area!

A ticklish situation has developed as a result of so many games of "Looney Bin" being played in the playing area. Indeed, some group or other is sponsoring a game almost every weekend. The people who don't like to play "Looney Bin" actually outnumber by far those who are avid "Loonie's." But when the non-players object to filling up the large confined area, of which we spoke, with club-wielding "loonies," the objectors are called – of all things – "soreheads." If their heads are sore, it is pretty obvious what made them so.

The game is played rougher in some parts of the country than in others. Cheating consists primarily of using a heavier club than the 1 kilogram the rules allow. In California, it is said, clubs weighing several kilograms – as much as 18 kilograms having been reported – are sometimes used, and they hit other players' heads very, very hard. They hit non-players just as hard, and some non-players would like to abolish "Looney Bin" once and for all. How about you?

–W8AP– de Auto Call

****

MARCH HAM-HUM "NOVICE SPECIAL"

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SPECIFICATIONS

FREQUENCY COVERAGE: 3.50 to 3.80 MHz, 7.00 to 7.20 mHz, 14.00 to 14.25 mHz, 21.00 to 21.25 mHz, and 28.00 to 28.50 mHz crystal or VFO controlled.
MODES OF OPERATION: Break-in CW, Semi Break-in CW, or Manual CW with DRAKE 2-C Receiver or other receivers.
INPUT POWER: Variable to 100 watts.
OUTPUT IMPEDANCE: Nominal 52 ohms (SWR should be 2:1 or less).
CONTROLS AND JACKS: Front: Key jack, bandswitch, 2 crystal sockets, power set, function switch, plate current meter, RF tune control, RF indicator lamp, side tone gain control, and delay control. **Rear:** Antenna connector, mute jack, receiver antenna jack, sidetone jack, external switch jack and VFO key jack.
POWER REQUIREMENTS: 120 volts, 50 to 60 Hz at approximately 2.8 amperes.
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