

**CROSSTALK -- Official Publication of the
GLOUCESTER COUNTY AMATEUR RADIO CLUB, W2MMD
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AREA NETS

GCARC RTTY NET:	Tuesday,	8:00 PM 147.78/18 Rptr
ARES NET:	Sunday,	8:00 PM 147.78/18 Rptr

Club Repeaters: 147.78/18, 223.06/224.66, 447.10/442.10

General Meeting: First Wednesday of each month at the V.F.W. Hall in Woodbury, NJ. Meetings begin at 8:00 pm sharp.

Contributions: CROSSTALK, Tony Starr,
Deadline: Ten (10) days before each general meeting.

PRESIDENT'S MESSAGE - JANUARY 1986

Greetings Members,

This is my first opportunity to greet you as the new president of our fine radio club. I am honored to serve you, but I will require your help if I am expected to accomplish anything of importance. Your radio club needs your PARTICIPATION. Make suggestions, speak your mind, volunteer, and for heaven sakes, when a committee chairperson calls you for help say yes or at least think before you say no.

If you could give just one hour a month it would be a great help to the club and you just might like it enough to volunteer again and again. TRY IT YOU'LL LIKE IT.

Let me leave you with a thought, each year I try to master one small thing, anything, receivers, transmitters, a musical instrument, or a position in a service organization.

Do not waste your New Year, set your sights towards a goal, any goal. You can master anything if you only try.

Seasons greetings and best wishes to you and yours.

Thank you,
Joe DiNovi, WA2GFK

JANUARY PROGRAM

As we kick off 1986, our new Vice President and Program Chairperson Ginny Martin, N2FJM, is ready to get our meeting program schedule back in full swing. To start the year off right, we will open our meeting this month with an informative program on the Commodore computer and its many uses in Amateur Radio. Our guest speaker will be Vince Caruso, KA2HFX, whom is quite knowledgeable on the subject of computers. A C-64 will be set up for a live demonstration of some of the particulars of Vince's discussion. As a courtesy to Vince, we will present his program BEFORE the business meeting. We hope that most of you will come out and enjoy this presentation and afterwards give your support to our new officers as they open our first meeting of 1986.

DUES ARE NOW DUE

It is once again time to pay your annual dues. As was last year, the price for full membership is \$15.00. Standard procedure is to pay the Treasurer at the January, February, or March meeting. After March there is a \$5.00 late-payment penalty. If you cannot attend the meetings, send your check to: GCARC, Membership RENEWAL; PO Box 370, Pitman NJ 08071.

HAMFEST 1986

The Hamfest Committee core has held a preliminary meeting to determine our requirements for the annual event. It was determined that our biggest problem has been a lack of participation from the general membership. The committee has calculated that a minimum of 50 people are needed to run the Hamfest properly this year. This figure represents about one third of the total membership of the club, so we certainly have the human resources to do this project, if only we can get the participation. In order to insure that we will have the help we need, we will have the OFFICIAL HAMFEST SIGN-UP ROSTER at the January, February, and March general membership meetings. Planning for the Hamfest will proceed in the meantime, but if, at the close of business at the March meeting, the roster does not contain at least 50 signatures, the 1986 Hamfest will be cancelled on the spot and all plans will be scrapped.

Some members may consider the above mentioned procedure to be somewhat drastic, but it is simply the best way to insure the success of the event. A Hamfest which is seriously understaffed is at risk of failure, and those people who do participate might see the fruits of their labor disappear down the drain. We would really like to see some great participation from the membership, so we are encouraging everyone to sign up. We DO want a Hamfest this year, but we don't want to have one without the right amount of help. Please try to make it to one of the three meetings and affix your signature to the sign-up roster. If you can't make it to a meeting but would like to volunteer anyway, call Ginny Martin and she will put you on the list. We need your help, so please volunteer ASAP!

SOUTH JERSEY VHF GROUP TO ATTEMPT FIRST PLACE, AGAIN!

Once again the N2SB multi-op station will attempt to take first place nationally in the January VHF SWEEPSTAKES. Rick Connor, WB2NPE, visited us again last month at our meeting and told how close they came last year to beating a certain station in New England. Representatives of said station were heard to comment that first prize will never be won by a South Jersey station because it belongs in New England. We hope that Rick, Bob, and the crew in Tabernacle, Burlington County, will prove them wrong this year. If you own a 2 meter, 220, or 440 rig, why not get on the air and make contact with N2SB. Rick informed us that they will be listening for us on January 11, 1986, from 8-9 pm EST; and on January 12, 1986, from 12-2 pm EST. Frequencies of operation for FM simplex will be 146.600 MHz, 223.50 MHz, and 446.00 MHz. Best of luck to these hard working guys.

LOCAL COUNCIL OF RADIO CLUBS REACTIVATED

The Delaware Valley Council of Radio Clubs, an organization which existed during the 1950's and 1960's has been reactivated by Edith

Rosner, W3AAU, of Philadelphia. The first meeting will be held at 8 pm on Thursday, January 16, 1986 in the ham shack at the Naval Depot on Oxford Avenue at Martin's Mill Road. Edith would like a representative from every club in the Delaware Valley to attend. If you think that GCARC should participate in this, why not bring it up on the floor of the January general membership meeting. We should be able to find a volunteer or two to represent our club to the other clubs in the area.

For further information or directions to the Council meeting, contact Edith Rosner,

Tnx N2RE.

LES BELLES

As we begin a new calendar year we also begin a new year for GCARC. We cannot change the past nor do we have knowledge of tomorrow, but we can take care to TODAY.

TODAY is here. Begin with a smile and resolve to be agreeable to one and all in the club.

TODAY has one thing we all share equally -- time. We all collect the same in seconds, minutes, and hours.

TODAY please don't waste time because the minutes we wasted yesterday are as lost as that vanished thought which passed by.

TODAY please do not spend time worrying about what might happen, but spend time making things happen.

TODAY try to study to upgrade for tomorrow. You will be pleased with yourself.

TODAY begin by doing and not wasting time. Volunteer to help GCARC in every way.

TODAY don't just say "I will help when things are different." They are never different until you become active and help make any improvement you can.

TODAY I will stop saying "I don't have time" or "I can't afford that." If you want a thing bad enough you make the time, and save the money for it.

TODAY act toward all other GCARC members as though this will be the last opportunity to ever converse with the other members.

SWAP & SHOP

DRAKE-- TR4CW transceiver including MS4 speaker, AC4 power supply, drake TV3300 low pass filter and manuals in good condition, \$400.00.

VIBROPLEX-- "original deluxe" chrome plated bug, as new condition, \$50.00.

MIRAGE-- MP-1 2000 watt, SWR/Power meter, new condition, \$75.00.

ERC-- SL55 Adjustable audio filter, in new condition, \$40.00.

HEATH-- Cantenna dummy load, \$15.00. SB610 Monitor Scope, \$25.00.

YAESU-- FT-208R 2 meter FM hand-held Transceiver with PA-3 mobile power adapter/charger and manual, in excellent condition, \$185.00.

For the above items, please contact Herb Schuler, K2HPV

CONTEST CORNER

Let's make a good start in the first 1986 contest with club participation the ARRL VHF SWEEPSTAKES on January 11 & 12. Since there are changes in the scoring and rules it is important that you have either the copy from DST or pick one up at the meeting or from myself. I also will have contest forms available. Even if you cannot take an active part, at least try to make contact with some of your club members during the contest. Especially note that contacts on 220 and 440 Mhz count twice as much as those on two this year. PLEASE REMEMBER TO GET EITHER A COPY OR YOUR ORIGINAL ENTRY TO ME. ALSO NOTE THAT ALL ENTRIES MUST BE POSTMARKED BEFORE FEBRUARY 10, 1986. Please don't wait until the last minute if you are giving me originals. Of course copies are preferred and should be marked so I know not to copy and send it in.

I have requested forms for several upcoming contests and hope to have some by January meeting time. Remember to let me know if I miss any important ones in my listings.

DATE	CONTEST
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January 5	ARRL Midnight Special
11	73 40 Meter SSB Championship
11-12	ARRL JANUARY VHF SWEEPSTAKES
12	73 75 Meter SSB Championship
18-19	73 160 Meter SSB Championship
24-26	CQ WW 160 Meter CW Contest

	25	73 15 Meter SSB Championship
	26	73 20 Meter SSB Championship
	25-Feb 2	ARRL Novice Roundup
February	8-9	QCWA CW QSO Party
	8-9	YL-OM Phone Contest
	8-9	YL-ISSB Phone Contest
	15-16	ARRL INTERNATIONAL DX CONTEST-CW
	21-23	CQ WW 160M SSB Contest
	22-23	YL-OM CW Contest
	22	RTTY World Championship
March	1-2	ARRL INTERNATIONAL DX CONTEST - PHONE
(Tnx to ARRL, QST, CQ & 73)		73 de KB2GW

DX FOR JANUARY 1986
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CEO	Easter Island	14206 kHz	At 2300 UTC
	USSR	75 mtr (QSW 3645, QSX 3800 kHz)	1200-1300 UTC
J52UAG	Guinea-Bissau	14217 kHz	2300 UTC
LU1ZG	Antarctica	14160 kHz	1700 UTC
3B8FP	Mauritius	21211 kHz	1430 UTC
S92LB	Sao Tome & Principe	14183 kHz	1900 UTC
DU9RG	Philippnes (Robin)	7088 (QSW 7180)	0130 UTC
FT8XB	Kerguelen	7085 kHz 7010 kHz 14183 kHz	1130 UTC 1800 UTC 1900 UTC
9Q5MA	Zaire	14183 kHz	2000 UTC
KC6JC	Ponape Island	7088 (QSW up 100)	1100 UTC
KHOAC	Saipan	14195 kHz 14227 kHz	1400 UTC 2100 UTC

P28JS/VK9NS Jim will be leaving Papua, New Guinea January 30 and will return to Norfolk Island around mid February.

73 de K2JF

GCARC is now authorized by ARRL to accept from all hams in the SNJ section cards for WAS, 5BWAS, and VHF/UHF Century Club. Tnx K2JF

AMATEUR RADIO LICENSING COURSE

Registration is now open for the popular licensing course given annually at the Jewish Community Center of Southern New Jersey. This year's course consisting of electronic theory, practice, and telegraphy sufficient to prepare the student to take the Federal Communications Commission examination leading to General and Advanced Amateur Licensure will start Thursday evening January 1, 1986.

The course will be eighteen weeks 7:30-9:30 pm, Thursday evenings. Minimum prerequisite for the course is the Novice amateur license. Basic text books required for all students are the ARRL License Manual and Understanding Amateur Radio & FCC Rule Book. It will be the responsibility of the student to acquire these texts and other optional study material. Fee for the course will be \$10.00 for members and \$18.00 for non-members.

The course is sponsored by the Chaverim of Delaware Valley, the Amateur Radio Association which co-sponsors with the Community Center, The Abraham Z. Cutler Memorial Amateur Radio Station located at the Center. The instructors will be Ray Schnapp, WB2NBJ, Steve Sosson, KR1M, Harry Wolf, ND2P, and Edward Ludin, K2UK, all certified as instructors by the American Radio Relay League. Register by writing or going to the JCC, 2395 W. Marlton Pike (Route 70) Cherry Hill, NJ 08002, or calling the Center

SPREAD-SPECTRUM COMMUNICATIONS IN AMATEUR RADIO

When we go on the air with conventional AM and FM emissions, the energy in each resultant signal is concentrated narrowly around a center frequency. Signal bandwidth increases with information rate. The hassle with such compact signals is that they're quite vulnerable to other similar signals at or near the same center frequency. (We bet you've already experienced somebody else calling CQ, or "test pest," right atop the station you're working, for example.)

Spread-Spectrum signals don't follow this rule of concentrating signal energy around a center frequency. Their bandwidth is not necessarily tied to data rate. The whole idea of spread-spectrum work is the intentional spreading of signal energy over such a wide bandwidth -- both in frequency and over time -- that the signal's energy isn't very great in any one place for very long. What's the point? Great immunity to non-spread signals -- like CW, SSB, RTTY -- for one thing, and little likelihood of "collision" with other spread-spectrum

signals spread according to differing binary sequences. And these techniques really work: spectrum-spreading is a popular anti-jamming technique used by the military, for instance, because it's hard for anyone to interfere with a spread-spectrum signal who doesn't have its binary-sequence "key."

Radio amateurs are going to have their shot at spread-spectrum work as of June 1, 1986. That's when the rule amendments specified in the FCC's Report and Order in GEN Docket 81-414, "Amendment of Parts 2 and 97 of the Commission's Rules and Regulations to authorize spread-spectrum techniques in the Amateur Radio Service," go into effect.

FCC had some ticklish questions to address in allowing us spread-spectrum operating privileges. For instance, since one of the main uses of spread-spectrum techniques has so far been the hiding of signals (implicit in the anti-jamming use of spread-spectrum techniques by the military), we couldn't just bring up our spread-spectrum rigs under present rules without transgressing prohibitions against use of codes and ciphers. FCC has specified the methods to be used in amateur spread-spectrum work closely enough so that the Commission is assured of being able to perform its monitoring and enforcement duties even when an amateur spread-spectrum station might be inaudible to those of us listening with "conventional" receivers. We will have to reacquaint ourselves with our old friend the logbook; FCC wants complete documentation of how and what we'll be doing.

There was also the concern that since authorized spread-spectrum signals might appear as broadband noise, spread-spectrum work should be limited to amateur bands offering plenty of "wide-open spaces," to keep intra-service interference possibilities to a minimum--especially while we're getting our feet wet with the new techniques. FCC concurred, and limited spread-spectrum work to bands 420 MHz and above.

We'll still have to identify our spread-spectrum transmissions with narrowband emissions, as FCC puts it, so that CW, SSB and/or narrow-band FM receivers, which might be victims of interference, can receive the station identification." Frequencies used for such IDs will have been chosen to minimize interference to, while facilitating identification by, other operators.

Right off, spread-spectrum work will be limited to domestic communication (not international work), as other national administrations will have had to satisfy themselves of the achievement of proper safeguards against encryption and intraservice interference before their amateurs jump into the spread-spectrum swim.

This is really new ground for Amateur Radio -- so new, in fact, that we have a number of decisions to make about exactly how to go about spread-spectrum work in ways guaranteeing station-to-station compatibility. FCC has not limited our choice of spread-spectrum options so narrowly that we can just press the button and go, although

the final rules limit spreading methods to frequency hopping and direct sequence only. This does offer the opportunity for a modern jibe, though: when spread-spectrum really takes off, the bands will be jumping! Tnx The ARRL Letter and K2JF

 UPPER HALF OF "TOP BAND" GONE!!!

Amateur radio has effectively lost the use of the upper half of "Top Band." Effective December 9, 1985, non-government radiolocation becomes the primary user of the spectrum between 1900 and 2000 kHz. As of that date, amateur stations operating in that spectrum are forbidden from causing "harmful interference" to radiolocation services, and any interference to amateur communications from radiolocation operations must be tolerated by hams. While the ARRL had put up a valiant struggle to try and keep the entire 160 meter band amateur spectrum, the FCC made the status reassignment in anticipation of the proposed future expansion of the regular medium wave broadcast band up to 1705 kHz. This will have the effect of displacing current radiolocation operations which operate above the broadcast band in the 1605-1705 kHz range. While the Commission will not accept applications from current 1605-1705 kHz radiolocation stations to move into the new 160 meter allocation until July, 1987, hams using 160 may soon find spread spectrum locators operating in the band. Such stations may become operational as early as December 9, 1985, and will afford hams a good idea of whether commercial spread spectrum and fixed channel services can co-exist with variable frequency ham transmissions. Tnx The Westlink Report and K3WIL

 PUBLIC PACKET RADIO SERVICE PETITION 6 MTR AMATEUR BAND SUGGESTED

Donald L. Stoner, W6TNS, suggested a wide band channel (non-channelized) to send data at high rates of speed. Stoner said that the 52-54 MHz frequency range is virtually unoccupied and therefore unused and for all purposes the radio spectrum between 52 and 54 MHz is wasted.

Note this will require no license. It will be similar to the CB radio now in operation except no voice will be allowed and the maximum power output will be limited to one watt, antenna polarization will be vertical. It will be known as the "Hobby Class", Bob Foosaner, Chief of the FCC's Private Radio Bureau said "... it is a petition that we will look at." Watch for further developments. Tnx W5YI/K2JF

 WAYNE GREEN GETS '73 MAGAZINE BACK!

As of January 1, 1986, '73, for Radio Amateurs, reverts back to Wayne Green, W2NSD/1, its initial owner and publisher! Green started '73 in 1960 and 1985 was its twenty-fifth consecutive year of publication. Wayne threatens us with his editorials. Tnx W5YI/K2JF