

CROSSTALK -- Official Publication of the
 GLOUCESTER COUNTY AMATEUR RADIO CLUB, W2MMD
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		Len Kravitz, KD2CR	Circulation

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 -- SEPTEMBER 1987

By the time this edition is in your mailbox, history in our club will have been made, the hamfest is over. VEC testing was in our own trailer at our club site. I extend my gratitude to Harry, NJ2B, for his time and energy in setting up everything, and to all those who had a hand in this years' event.

If you're wondering who went in to clean out the trailer, washed walls and swept up, the wives of a few hams, Ruth Sketchley, Florence Wargo, and Beth Barnish. Thank you ladies. Great job!

Don't forget MS-150. Walt Ashton, WB2OYQ, is in desperate need of sign ups. The date is September 19 & 20. You may call him

The end is rolling around quickly, that is, the end of my administration. There will be a meeting in September of past Presidents to go over a new slate. Keep in mind someone you think would serve the club well. The first nominations are in October.

I was able to attend the American Cancer Society's Critique, in the company of Ed Wargo. We were welcomed with open arms, they were very receptive. Our efforts were appreciated and they were very impressed with Mike Lipnitz, N2FKS, who was net control. They really do need us hams. More about this at the next meeting.

Have a good weekend. See you in September.

73-- Virginia Martin, N2FJM

BANQUET UPDATE

Put on your dancing shoes and have some fun. Make plans to attend our Awards Banquet. The date is November 7, 1987 at Degenhardt's on the Black Horse Pike in Mt. Ephraim. There will be music, prizes and awards. The cost is only \$14.95 a person for buffet. Tickets are now available. Please contact Virginia Macrie at 561-4091 or Virginia Martin at 694-4442. Much planning has gone into this evening for your enjoyment. You may be the one receiving an award.

73-- Virginia Macrie, KA2ZZA

W2MMD IS LOOKING FOR A FEW GOOD ANTENNAS

For many of us long-time GCARC members, the prospect of having a permanent fully-equipped station bearing the callsign of the club has been but a distant dream. Admittedly, the idea was not unanimously

supported. The Malcontent Committee sprung into inactivity as expected and came forth with an impressive list of reasons why GCARC did not need nor could we maintain a place of our own.

Meanwhile, a small group of very dedicated can-do types who apparently could not comprehend the wise words of the naysayers began actively seeking donations and/or low cost purchase or lease opportunities for the club. The fruits of their labor so far include a sixty five foot mobile home with central air, a ninety foot commercial grade tower, a host of associated hook-ups and hardware required for the utilities at the site, and, most importantly, the site itself, conveniently located adjacent to South Jersey's newest and nicest Hamfest location.

So thanks to the efforts of Ray Martin, Al Trueblood, and several others, W2MMD will soon be on the air in fine style. There are still some needs which stand in the way, the biggest being the antennas. We need to put some good radiating hardware on that big tower when it goes up. This is why we are currently seeking donations of beams, rotors, coaxial cable, etc. If you have some of this type stuff cluttering the garage and would like to see it used for something more productive than a home for spiders, why not consider this worthy cause. Contact Ray Martin, WB2LNR, if you think you can help out. Thank you for your support.

CONTEST CORNER

Any member planning to enter the VHF QSO Party should obtain at least an up-to-date cover sheet, because they have been updated by the ARRL Contest Chairman to make scoring easier to check and to reflect the new scoring rules. This is a good VHF contest to warm up on, and to collect some new grid squares for VUCC. Usually there are quite a few entrants including some portable operations in rare grid squares.

Some of the contests listed are new this year and may have both difficult or complicated rules, so please check before entering them. I will try to have as many contest sheets available as possible at the next meeting.

A schedule of contests follows:

MONTH	DATE	CONTEST
SEPTEMBER	5	73 1st National CW Championship
	6	73 1st National SSB Championship
	12-14	ARRL VHF QSO PARTY
	12-13	European SSB Contest
	19-20	CRRRL CAM-AM SSB Contest
	19-20	Scandnavian CW Contest

	26-28	Scandnavian Phone Contest
	26-27	CRRL CAM-AM CW Contest
	26-27	CQ WW RTTY Contest
OCTOBER	3-4	VK/ZL/Oceania SSB Contest
	10-11	VK/ZL/Oceania CW Contest
	14-16	YLRL Anniversary CW Party
	24-25	CQ WW DX CONTEST, PHONE
	28-30	YLRL Anniversary SSB Party
NOVEMBER	7-9	ARRL SWEEPSTAKES, CW
	21-23	ARRL SWEEPSTAKES, PHONE
	28-29	CQ WW DX CONTEST, CW
DECEMBER	4-6	ARRL 160 METER CONTEST
	12-13	ARRL 10 METER CONTEST

From the above list the CQ WW DX and ARRL Sweepstakes are club competitions counting toward the club Megapoint Award. Please remember if you enter a club participation contest to INDICATE THE CLUB AND IF NEEDED THE SECTION ON THE ENTRY SHEET!! Also, to get the Megapoint credit (if applies) and to insure that a club entry is officially sent, please give me a copy of your cover sheet. Remember we must have 3 entries or more to qualify for most contests as a club. An official letter must also be sent to indicate that the entries are qualified club members. If no entry is made by the club, you still will be qualified as an individual entrant.

Let's see some more action from the club membership in these contests. Let's start showing up under the club banner like we once did!

(TNX ARRL, CQ, QST, 73, WORLD RADIO)

de KB2GW

PART 2 -- FORMATION OF AN IONIZED LAYER

When ultra-violet radiation of a particular wavelength enters the earth's atmosphere from above, the waves penetrate to a depth at which the critical density of the medium is sufficient to absorb the larger portion of the incident energy in the process of producing ionization. Before reaching this depth, the air particles are dispersed so sparsely that only relatively few molecules are ionized, but that it is too weak to produce further ionization. Thus, an ionized layer is formed with the greatest intensity of ionization at its center and lesser intensities at its edges.

IONOSPHERE LAYERS OR REGIONS

By means of ionospheric sounding, it has been determined that

there are four distinct layers of the ionosphere, which are called in order of increasing heights and intensities, the D, E, F1, and F2 layers. The four layers are present only during the daytime, when the sun is directed toward that portion of the atmosphere. During the night, the F1 and F2 layers seem to merge into a single F layer, and the E and D layers fade out, because of the recombination of the ions composing them. However, the actual number of layers, their heights above the earth, and the relative intensity of ionization present in them all vary from hour to hour, from day to day, from month to month, from season to season, and from year to year.

(a) D Region -- At somewhere between the heights of 20 to 55 miles (50 to 90 kilometers) above the surface of the earth, is the first region of pronounced ionization, known as the D region. The D region is not extensive and has little effect in bending the paths of high-frequency radio waves. The chief effects of the ionization in this region are the cause of weakening or an attenuation of the field intensity of high-frequency radio waves as the transmission path of such waves crosses through this region. The D region exists only during the daylight hours, and its intensity follows the variation of the sun's altitude, becoming most dense at noon, and fading out shortly after sunset because of the rapid recombination of ions at this atmospheric height. (Listen to 80 meters around 1100 to 1300 et).

(b) E Layer -- At heights between 55 and 90 miles (90 to 145 km) lies the second region in order of height called the E layer. Since the rate of recombination is large at this atmospheric level, the intensity of ionization of the E layer follows the sun's altitude variations closely, reaching a maximum at about noon, and fading to such a weak level during the night as to be practically useless as an aid to high-frequency radio communication. Thus the E layer is of great importance to radio transmission for distances less than approximately 1,500 miles. (Note: The timing is important for the boys who work UHF, 6 meters; with the Europeans and the Caribbeans on 6 meters. Do not confuse this with sporadic E.)

Next section will be on F1 and F2 layers.

C U in the PILES-UPS. K2JF

FOR IMMEDIATE RELEASE

The FOUNDATION FOR AMATEUR RADIO is pleased to announce the 1987 winners for the twenty-five (25) scholarships which it administers.

John W. Gore Memorial Scholarship - \$900
David Swiatlowski, KA2KLM - Camillus, NY

Richard G. Chichester Memorial Scholarship - \$900
Richard F. Westenberger, N9DKR - Springfield, IL

Edwin S. Van Deusen Memorial Scholarship - \$350
Richard M. Kordick, KE0AS - Creston, IA

QCWA Memorial Scholarships - \$600 each
Annette J. Barnhart, N3DKT - Mt. Pleasant, PA
Ariel Ben-Porath, 4Z4WJ - Natanya, Isreal
Paul W. Hoffman, KA3PVC - Sinking Spring, PA
Douglas Kleemann, KA9LWN - Shawano, WI
Eric B. Koester, KA0YWN - Spencer, IA
Douglas Swiatlowski, KA2KMT - Camillus, NY

QCWA Robert S. Cresap Memorial Scholarship - \$500
Thomas W. Larsen, NY7D - Eugene, OR

Radio Club of America Scholarship - \$500
Nathan S. Willingham, KA0UFO - Bevier, MO

Edmund B. Redington Memorial Scholarship - \$500
Douglas M. Benish, N3CXB - Pittston, PA

Young Ladies' Radio League Scholarship - \$750
Carol A. Dunlap, N2EHS - Southwick, MA

Amateur Radio News Service Scholarships - \$600 each
Michael P. Kronsavage, KA3CUP - Marietta GA
Keith L. Watson, WB9KHL - Galesburg, IL

Columbia Amateur Radio Association Scholarship - \$750
Lora E. Katz, N3DOH - Bowie, MD

Baltimore Amateur Radio Club Scholarships - \$500 each
Brian J. Withnell, KB3IU - Federalsburg, MD
Maurice De Vidts, NE3S - College Park, MD

Dade Radio Club Tropical Hamboree Scholarships - \$500 each
Scott M. Cronin, WS4E - Hollywood FL 33023
David P. Tancrell, KB4GIA - Palm Bay, FL

Richard N. Coan Memorial Scholarship sponsored by the Goddard
Amateur Radio Club - \$650
Diane E. Willemin, KE8DJ - Elyria, OH

Rose Ellen Bills Memorial Scholarship sponsored by the Young
Ladies' Radio League - \$500
Lisa Ann Adler, KA1MDT - East Lempster, NH

Richard D. Chesney Memorial Scholarship sponsored by the
Bowie Amateur Radio Club - \$500
David S. Katz, N3DKV - Bowie, ND

Victor C. Clark Memorial Scholarship sponsored by the Vienna

Wireless Society - \$500

Thomas A. Foy, N4HAI - Sterling, VA

Frederick Amateur Radio Club Scholarship - \$1000

Joseph E. Renard, KA3LVV - Thurmont, MD

These scholarships were open to all Radio Amateurs meeting the qualifications and residence requirements of the various sponsors. The FOUNDATION is a non-profit organization representing fifty clubs in Maryland, the District of Columbia and Northern Virginia. It is devoted exclusively to the scientific, literary and educational pursuits that advance the purpose of the Amateur Radio Service.

Announcement of the 1988 awards will appear in the April or May issues of the major Amateur Radio publications.

ADDENDA

The FOUNDATION is pleased to announce one additional award:

Department of State Amateur Radio Club - \$500

Shelby C. Elborn, NC3A - Dover, DE

DX

The solar-flux has been doing very well for the DXer. It has stayed in the 90's and has gone into the 100's for a couple of days and the DX has been good. Get ready for the new fall season. It is going to be a good one. The solar flux is climbing and the conditions look very promising for a real good season. Here are some real goodies coming up this fall and winter:

ANADAMAN ISLANDS - G. D. Gopal, VU2GDG, is going to the Anadaman Islands on October 5th to the 26th. Here is your chance to get that one on both SSB and CW. Cards for VU4APR (SSB) have been received by the DXers in the Club and they are now waiting for the CW chance. (K2JF has been asked to prepare Propagation charts for Gopal for that operation. He received a letter from Gopal on the 15th of August.)

MT. ATHOS - 5X5GK will be going to Mt. Athos during the 2nd week of September. Jerry is a Greek monk, therefore, he received permission without any trouble. Jerry will work SSB and some CW. Better get this one for getting permission from the "Head" Monk on Mt. Athos is very difficult and we may not see another operation from there for a number of years.

ZLIAMO, Ron is now going to Auckland-Campbell Island instead of Cocos-Keeling. That DX area is another rare one and Ron is a good CW operator and there are many looking for that one on both SSB and CW.

S0 Western Sahara is not abandoned. EA2JG is now in Algeria trying to renegotiate entry permission. Documentation for consideration by the DXAC has been mailed to ARRL headquarters. Boy that would be a good one. New country! Tnx QRZ DX/K2JF.

COCOS-KEELING - G3AAG will be known as VK9Y with Hans F6GVD. They will be there from November 25th to December 7th. This is the reason Ron cancelled his trip. He said if there is going to be an operation from that place, he will look for another rare DX spot (see ZL1AMO).

EUROPA-FR5ES/J will be leaving Juan de Nova for Europa on the 29th of August. His plans are to go to Europa, but he may get orders to go to one of the other places such as: Glorioso, Tromelin, or return to Reunion; they are all good DX areas. He is a member of INTERPOL.

SOME DX WORKED

A71BK	21240	1251Z	8/21
YBOSY	14206	1307	"
CO7CD	14050	1515	"
FY5YE	14050	1930	"
9Y4TR	14050	1933	"
5Z4DU	14160	2018	"
5H3RB	14183	2020	"
UI8OAZ	14155	2022	"
SVOAC/SV9	14222	2058	"
OX3KM	14227	2112	"
VK9NL	14170	0470	8/23
VK9NS	14220	0512	"
VK5AX	14220	0552	"
VK4AC	14220	0618	"
5N9GM	14220	0619	"

2 METERS - Here you go people. Worked on 144.210 MHZ SSB EM 49 KANSAS, EM 26 OKLA, EM 71 IND, EM 70 IND, EM 78 OHIO, and EM 76 TN. The K index was jumping all over the place and around 0100Z the band opened for about 20 minutes. Go get "em", it is hot now a days until the end of September.

C U IN THE PILE UPS! K2JF

SOVIET-CANADIAN DXPEDITION

The Canadian Radio Relay league advises that a joint Soviet-Canadian DXpedition will leave Severaya Zemlya Archipelago to cross the North Pole to Canada by ski. The trip will take about three months to journey to Cape Columbia on Ellesmere Island, a distance of some 1,250 miles. The primary communications will be provided by amateur radio. Chief of the expedition, Dr. Dimitry I. Shaparo, UA3AJH and Leonid Labutin, UA3CR, are two of the Soviet radio amateurs involved. Tnx W5YI/K2JF.

RFI ANYBODY? AUTOMATED POWER METER READING

John C. Kewlly, KB6AWC, in the Dallas suburb of Carrollton has a most unusual predicament. His home is part of a Texas Utilities Electric Company test to take automated power meter readings. The electric wiring in his home is energized with a 12.5 KHz carrier and using this as a conduit, the power company downloads his meter reading. The dilemma is that 12.5 KHz is an audio frequency that is wreaking havoc with John's home life! The tone cycles on for one second and off for four. He says it sounds like a telephone faintly ringing. His florescent lights, space heater, microwave oven, stereo amplifier, tape deck and even his toaster plays music (only one note, however 12,500 hz). His neighbors also have the problem and John is worried, since he is a ham, that he will be blamed for the weird phenomenon. He is also concerned about the effect of the tone on his sensitive communications equipment. Tnx W5YI/K2JF

PIRATE ROCK'N ROLL STATION

Here is the legal reason the FCC shut down the station. Section 502 of the Communications Act deals with international treaties and conventions. Article 30, Section 266.5 of the ITU Radio Regulations also states that "broadcasting shall not be permitted from vessels or aircraft." The law designates penalties of jail terms up to five years plus fines of up to \$250,000. The U.S. State Department simply contacted the Honduran government and got permission to carry out enforcement of an international law involving illegal activity against U.S. citizens. (Note: The ship was flying a Honduran flag.)

The ship is still anchored off of the coast of New York since the winch isn't strong enough to raise the anchor. Tnx W5YI/K2JF

Congratulations to K2JF (John) and his XYI (Gladys) on their 45th wedding anniversary, Saturday, September 12.
