

**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 Meetings: 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 -- FEBRUARY 1986

Greetings Members:

First of all I would like to thank you for your fine showing at the January Meeting. It was good to see so many of you.

I would also like to thank the members who signed up to participate in the annual Hamfest. This was the first call for help from your club and forty two of you pledged to give some time. This is all anyone can ask for is a little time. There will be another list at the February meeting. Please contact Ginny Martin, N2FJM, or myself if you can lend a hand. We still need help!

Due to failing health, Della Parker, W2AFZ, must resign as Historian. Della has held this position proudly for several years. Her professionalism has produced excellent records year after year. It is with deepest regrets and heart felt thanks that I say, "Well done, Della."

At the last meeting, I ran the program first to see if it could or should be done. It can be done, but, I feel it should only be done at select instances. For instance, If the person giving the program must travel from outside the county. If we are to have the program first, I will announce it in "Crosstalk" prior to the meeting.

Friends, we as a club are moving forward. Keep up the good work and thanks.

Thank you,
Joe DiNovi, WA2GFK

FEBRUARY PROGRAM

Last month, we reported that a program on computers would be given by Vince Caruso, KA2HFX, at the January meeting. We were informed later that Vince was called away on business out of town and was not able to make the meeting. John Fisher filled in with a very good program on grounding systems and related items. We were all satisfied with the January meeting due to John's readiness at a moment's notice.

This month, Vince will make it worthwhile to attend because he has made special arrangements to give his program on Computers at our February meeting. Vince said he was sorry to disappoint us last month and he was determined to make good on his generous offer. We are glad to have him, and we are sure that the program will be worth waiting for. So come out and learn all about how computers and ham radio are becoming very familiar partners in the world of the electronics hobbyist. See you at the meeting.

FIELD DAY REPORT

As your 1986 Field Day Chairman, I will be trying to promote the event to the non-believers and the other GCARC members who, for one reason or another, have not been coming out to Field Day in recent years. Those of you who know me well know that I am more than slightly interested in this annual event. My enthusiasm for it borders on fanatical. It is, therefore, difficult for me to comprehend why anyone would not want to come out and have a great time with us. If you are a die-hard field day'er like me, I will need your help to spread the word to the masses. Let's try for at least a 50% turnout. We have had better than that a while back, but less than a third of the membership has come out in the past few years, I am sorry to say.

If you are interested in being a band chairman, I need to hear from you really soon. There are several really good spots still open, and plenty of less active bands for you sleepyheads. I will be on 75 meter phone again this year, and I challenge anyone (Except N2CQ; sorry Ken!) to beat my contact total. (Actually, Ken always beats my total!!!) I took this challenge with WB2UVB last year and only won by a stroke of luck; this is, Gene's bad luck. Normally Gene would have blown me off the field but he had a rare off-year. I am sorry to hear that Gene will be operating with SJRA this year, as if they really need another top-notch operator! Last year SJRA had over 5000 contacts (NOT POINTS!) This leaves a serious hole in our roster. We need a good CW operator to take 80 meters. This band is good for 300 to 400 contacts with a little hard work and a good antenna. Anyone interested?

I think our objective this year should be to get back to the 8A category, but only if we have enough people to man the stations. I would rather see a high contact total with a lower entry class. In the meantime, I will be updating you in Crosstalk every month since I have good connections with the editor. 73's Tony, WA2FZB

HAMFEST UPDATE

Many changes are in store this year which are sure to make our Hamfest all-new and exciting. The initial sign-up at last month's meeting was very encouraging. We almost have the 50 people we need to run the 'Fest. If you haven't signed up yet, get on it! Remember, 50 names on the list or NO HAMFEST! It would be a shame to cancel the event when 47 people volunteered to help. We will be waiting to hear from all of you who would like to help but haven't signed up yet.

There will be a meeting of the committee core on February 12, 1986 at 7:30 pm at the Five Points Diner. You will be notified by mail if your attendance is required. Stay tuned to Crosstalk for all the latest news on the Hamfest. Tnx N2FJM

LES BEMLES

Many y1's take an active part in GCARC. Just to review some of the regular things your y1 members do, here's a notation for all:

HISTORIAN - Della Parker, W2AFZ, takes care of all GCARC records. When leaving your office, the notes you have should be given to Della. Any pictures should carry name, call and dates on the back. She needs copies of each membership list, all notes taken by the Recording Secretary, the copy of our annual budget, just to name a few items. If you held an office in recent years, please take your information to Della.

VICE PRESIDENT & HAMFEST CHAIRLADY - Ginny Martin, N2FJM, would like any information you have about programs. We have much material right in our membership. Ginny will have a sign-up sheet at the meeting to determine if you actually want a Hamfest this year. Sign up at the meeting, if you do want a Hamfest.

TRUSTEE OF W2MMD - Rose Ellen, N2RE, should be contacted for copies of our club license to use at Field Day, Bike-a-thon, or any time the call W2MMD is used.

BANQUET - Roslyn Marder, N2AKL, should be contacted if you are interested in another annual club banquet this year that she should plan.

Looking forward to having Irma, KA2CQX, and Margaret, KA2DWU sign up to take an active part in Field Day and the Hamfest. Maybe Mary, AE2Y, can get up from the Villas for these events. One of you might be chairlady of our club picnic.

33, Rose Ellen, N2RE

CONTEST CORNER

Well, the first contest of 1986 with club participation, the ARRL VHF Sweepstakes, is over. We are looking forward to a couple of months with a number of BIG contests. I'll try to have forms for as many as possible, but all for CLUB PARTICIPATION CONTESTS. As always forms will be available for as many as possible at the meeting OR FROM MY QTH. I'll do my part, now it's up to the membership to do theirs'. I know that only a portion of the club is interested in contesting, and perhaps we have some newer members who would like to try. So for those with interest, the forms for many contests will be available.

Now for those who took part in the VHF Sweepstakes -- 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. You can bring them to the meeting or get them to me by then. Even if you only

had a few contacts, it will help.

I have not received forms for the Novice Round-up, but I expect them soon. I had a request for them at the January meeting. Also I noted that the CQ 160 Meter contests have club participation -- SO I HAVE FORMS AND IF WE HAD ANYONE IN THE CW PORTION, PLEASE FILL OUT FORMS FOR ME.

Next big contest up is the ARRL DX in February. I'm ready with forms -- so get what you'll need at the meeting or from my QTH. Let's try to make a good showing in this first big HF contest.

I have forms for CQ WPX contest on hand, and also, remember to let me know if I miss any important ones in my listings.

February	8-9	QCWA CW QSO Party
	8-9	YL-OM Phone Contest
	8-9	YL-ISSB Phone Contest
	15-16	ARRL INT'L DX CONTEST--CW
	21-23	CQ WW 160M SSB CONTEST
	22-23	YL-OM CW Contest
	22	RTTY World Championship
March	1-2	ARRL INT'L DX CONTEST--PHONE
	8-9	QCWA Phone QSO Party
	15-16	YL-ISSB QSO Party--CW
	29-30	CQ WW WPX SSB CONTEST

Tnx to ARRL, QST, CQ & 73, de KB2GW

We now have the 1986 Callbooks, and anyone needing calls looked up can call Al Trueblood, N2FJQ, after 7 pm.

SWAP & SHOP

FOR SALE:

Radio Shack Line Printer VII. Dot matrix printer for plain fan fold paper up to 3 copies. Prints 96 ASCII characters and graphics. Serial and parallel interfaces included. Prints 80 columns at 10 CPI and 40 columns at 5 CPI. Works on most computers such as Commodore, Atari, & Tandy. Manual is included. Asking \$110. Call Ken Newman, N2CQ, for a demonstration.

ICOM IC-30A 440 MHz FM xtal cont-o mobile XCVR 10w & 2w--14 sets
xtals; excellent condition with manuals. \$190.

SYLVANIA 19" color TV works well \$125, includes roll-around cart.

For above items, contact Ed, WA2PFC,

DRAKE - TR4CW transceiver including MS4 speaker, AC4 power supply
and manual. In good condition, will demonstrate on the air. \$350.00

VIBROPLEX - "Original Deluxe" chrome plated bug, needs
replacement of damping weight which has been lost. Otherwise, as new
condition. \$35.00

MIRAGE - MP-1 2000 watt, swp/power meter in new condition,
including manual. \$65.00

ERC - SL55 adjustable audio filter, no manual, otherwise in new
condition. \$35.00

DRAHE - TV3300 low pass filter, new condition. \$20.00

Would like to get in touch with anyone who has an instruction
manual for an Autek QF1A SSB, CW, AM filter. Would like to borrow it
long enough to make a copy.

For above items, please contact Herb Schuler, K2HPV

A LITTLE DX

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P4 ARUBA formerly PJ3 looks like a new country will be added to
the list so work it now...on the air: P4/KQ2M, PrDQ, PA0FM/P4

YK Syria on 80 meters	DE5JTL/YK	near	3793	2300 UTC
OD5 Lebanon	EI9FG/OD5		3793	2300
VR6 Pitcairn Island	VR6JR		3800	0500
UA1 Franz Josef Land	UV100		3502	0530
	and low end of 40			2300-0100
Antarctica	3Y9WT		3507 7010 14010	various
China	BY4RN		Active 20 CS & SSB	
Lord Howe Is	VK9LM/LH	Bottom 25 KC 7 MHz		0300-0800
Maldives	8Q7CQ	Usual DX slots on 20 to 160		

Sao Tome	S9OAS	7001 & 14190	2100
So. Orknewy Is	LUBDTQ	14025 2330, 7010 20 Mtr RTTY 1430	0330
Cyprus	ZC4MR	3788	0200
Vietnam	Look from 3-21 Feb KM1R in Saigon will attempt to obtain reciprocal license if successful 80 & 20		

NOVICE ENHANCEMENT

The word from Ray Kowalski (Chief of the FCC's Special Service Division) said "That issue is a litte further off. We have that scheduled to work on, but it won't be ready to go (before the Commission) before summer....possibly by July. There is some opposition to it....mostly from individuals....people who see Novice enhancement as a dilution of their privileges. It is a popular issue...but not overwhelmingly poplular." Tnx W5YI/K2JF

PRIVACY ACT OF 1985

Do you think you are allowed to LISTEN to any radio frequency you want? Well don't get too smug about it. The PRIVACY ACT OF 1985 is being looked into with a keen eye. The bill claims to address the problem of high tech communications privacy, but make no mistake about it, the bills are aimed primarily at making it unlawful to listen to private cellular telephone calls, but many other services are included. Supposedly amateur radio activity is specifically exempt from the legislation, but it still will be illegal for an amateur to stray (listen) too far from his assigned spectrum. Amateurs can own receiving equipment, but there will be many "windows" that will be off limits. A dangerous precedent... You can start getting rid of your General Coverage Receivers and your Scanners now. The penalty for violations of the scanner law is set at up to \$250,000.00 and/or a year in jail for the first offense. Want to sell? What's your price? Tnx W5YI/K2JF

NABER OPPOSES PRIVACY ACT

The National Association of Business and Educational Radio (NABER) has voiced its public opposition to a portion of the proposed Electronic Communication Privacy Act of 1985. Writing in the December, 1985 issue of PERSONAL COMMUNICATIONS TECHNOLOGY magazine, NABER President Jay Kitchen noted that it was NABER's view that the proposed act would "inadvertently include into its gambit otherwise normal and acceptable operational activities conducted on private land mobile radio systems." Kitchen says the structure of the PLMRS is such that it literally requires all service users of shared channels to monitor

all on - channel radio operations to determine when a given channel can be used to initiate communications without interfering with other users. He also notes that base station operators monitor communications for control purposes and to insure efficient use of the spectrum.

The NABER President concludes that their main concern stems from the bill's substitution of the words "communications common carrier" with "a provider of electronic communications services" as the target groups of the legislation. He feels that this would not only place unreasonable restrictions on PLMRS operations, but could change the very nature of the service itself. Based on 1984 figures, there are approximately 950,000 authorized stations operating nearly 8 million radio sets in the Private Land Mobile Radio Service. Thus, NABER joins a growing list of groups including private, amateur, government and business radio users who for various reasons oppose the E.C.P.A. in part or in whole. Tnx The Westlink Report & K3WIL

SCRAMBLING

It appears that it is going to happen to the DBS boys. Super station WDR is set to scramble full time effective March 1st, and like HBO, they will use the M/A-Com VideCipher II system. This is to be followed by Prime and Showtime by Turner CNN. If you want your DBS, you will have to buy your own unscrambler. Good luck. Tnx W5YI/K2JF

COMPUTER USERS

Tandy (they are playing down the Radio Shack name) is taking dead aim on IBM. In complete about face, Tandy now plans to market IBM clones almost exclusively! The Model 4 is the last remnant of the old thinking and its days are numbered. Tandy's new Model 3000 is basically an IBM, at a \$1000 less. There goes the "Trash-80". Tnx W5YI/K2JF

A VERY SHORT COURSE ON BASIC ANTENNA THEORY

Inputs to the club for a short dissertation on Antenna theory will be attempted. This will be very basic and will not go into the fine art of exotic antennas such as rhombics, beams, multi-directional, or special types like the Delta loop, but, we will attempt to give some basic understanding of why antennas work and how. So to begin, let us start with this write-up of the basics.

An antenna system is comprised of all the components which are used between the transmitter or receiver and the actual radiator. Therefore, such items as the antenna proper, transmission line, matching transformers, baluns and Transmatch qualify as parts of an antenna system.

When something occurs at one point in space because something else happened at another point, with no visible means by which the "cause" can be related to the "effect", we say the two events are connected by a FIELD. In radio work, the fields with which we are concerned are the ELECTRIC and MAGNETIC, and the combination of the two is called the ELECTROMAGNETIC FIELD. The Danish physicist Hans Christian Oersted during a lecture demonstration, performed in the year 1819-1820, caused a strong current to flow in a north-south line above a magnetic compass needle. He was "quite struck with perplexity" to see the needle deviate toward an east-west direction. Oersted had the immediate presence of mind to reverse the direction of the current in the wire, "and the needle deviated in the contrary direction." Thus was made one of the most momentous scientific discoveries of any age. The whole subject of electromagnetism was opened for investigation, a subject which within a half a century was to embrace the phenomenon of light as well. Oersted's original discovery was that a current in a circuit affects a compass needle at some distance; in other words, the current sets up a magnetic field, and the strength of the field is proportional to the current that produced it. For a long straight wire the field strength at a point varies inversely as the distance (NOT THE SQUARE OF THE DISTANCE) of that point from the wire.

Now that Oersted showed us that magnetic fields can occur when we pass a current through a wire, we find now that we have some important conditions to concern ourselves with. In electromagnetic induction, a changing magnetic field induces an emf in a nearby wire loop or other conducting path. Thus a changing magnetic field is equivalent in its effects to an electric field. The converse is also true: a changing electric field is equivalent in its effect to a magnetic field. This is true even in empty space, where electric currents cannot flow. Electromagnetic waves occur as a consequence of these two effects -- a changing magnetic field produces a magnetic field. The two constantly varying fields are coupled together as they travel through space. In 1864, James Clerk Maxwell, a renown mathematician, hypothesized the theory of electric and magnetic fields, and from his notation that an electric field that varies with time gives rise to a magnetic field was that electromagnetic waves spread out in space from an initial disturbance in the same manner that waves spread out from a disturbance in a body of water: (Throw a rock in a pool of water and notice the waves). When electromagnetic waves spread out from an electric or magnetic disturbance, their energy is constantly being interchanged between the fluctuating electric field and the fluctuating magnetic field of the waves.

The next article will continue on from here and show how the electromagnetic waves are formed. Tnx K2JF