

CROSSTALK -- Official Publication of the
 GLOUCESTER COUNTY AMATEUR RADIO CLUB, W2MMD
G.C.A.R.C. OFFICERS

President	Tom Gordon, KB2GI
Vice President	Chic Naylor, WA2USI
Recording Secretary	Steve Sosson, KR1M
Corresponding Secretary	John Fisher, K2JF
Treasurer	Bill Kardas, N2BK

DIRECTORS

Joe DiNovi	WA2GFK
Chris Kelly	KC2PC
Tony Starr	WA2FZB
Harry Jackson	WB2GSF
Chuck Colabrese	WA2TML
Darryl Gibson	N2DIY

TRUSTEES

Bill O'Donnell	WA2VRY
Tom Widener	KE2M
Bill Frambes	WB2FJE
Rich Netherby	WB2OCR

COMMITTEE CHAIRMEN

Program: Chic Naylor, WA2USI	Technical: Chuck Colabrese, WA2TML
Awards: Jack Zaruba, K2ZA	Repeater: Chuck Colabrese, WA2TML
Training: Chic Naylor, WA2USI	Technical Manager
Membership: Art Strong, KA2DOT	House: Jim Bray, N2AKI
Contests: George Munns, KB2GW	Historian: Della Parker, W2AFZ
Hamfest: Ginny Martin, N2FJM	Club
Field Day: Jim Clark, KA2OSV	License: Rose Ellen Bills, N2RE
A.R.E.S.: Harry McCormick, WA2SEA	VHF: Ray Martin, WB2LNR
Legislative: Steve Sosson, KR1M	L.R.P.: Chic Naylor, WA2USI
Data: Charlie Sketchley, K2PQD	Repeater: Joe DiNovi, WA2GFK
Demo: Walt Ashton, WB2OYQ	Business Mgr.
	Publicity: Jim McDonald, WB2AOL

CROSSTALK STAFF

Tony Starr, WA2FZB	Editor	John Fisher, K2JF	Circulation
Milt Goldman, K3WIL	Publisher	Jim Mollica, K2OWE	Circulation
Ed Sumek, W2GSN	Printer	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 - DECEMBER 1985

Here it is almost the end of November and my year of Presidency is at an end! By the time you read this letter you will be voting for a new group to represent the club. I want to thank all of you for standing behind me this year. Without your support, I would not have been able to accomplish as much as I did.

We have done a lot this year! We got the tax problem cleared up, acquired a storage shed, enjoyed a picnic and a delicious dinner. We are also working on the 220 machine, and will get it moved to a new location. Tony picked up a TRS 80 to do "Crosstalk". There are many other events and accomplishments, but too many to list.

I would like to take this time to thank my Vice President, Chic, my Recording Secretary, Steve, and my Corresponding Secretary, John Fisher. John has been my right hand man. Also my Treasurer Bill had quite a work load to handle. And my appreciation to the Board, because without them nothing would have been accomplished.

So good luck to the club, and I hope the membership will get behind the new administration and make 1986 a better year!!!

73, President Tom Gordon, KB2GI

P.S. Sorry I am unable to attend the last meetings, as I am working night work.

ELECTION OF 1986 OFFICERS

The election of GCARC officers for 1986 will be held at the December general membership meeting. A slate has been proposed by the nominating committee and it was presented by Milt, K3WIL, at the last meeting. The slate is as follows: President-- Joe DiNovi, WA2GFK; Vice President-- Ginny Martin, N2FJM; Recording Secretary-- Steve Sosson, KR1M; Corresponding Secretary-- John Fisher, K2JF; Treasurer-- Gurdon Cooper, W2PAX; Directors-- Art Strong, KA2DOT, Al Trueblood, N2FJQ, and John Zaruba Jr., WB2VOH; and Trustee-- Harry Jackson, WB2GSF.

Nominations in addition to the above slate can be made prior to the official start of the election. If you would like to nominate someone to run, please check with that person first to see if he or she would like to run. This will avoid the situation where a series of nominations are made, each one followed by an immediate declination, as was the case at last month's meeting. This sort of activity accomplishes nothing, but wastes much time. Even if you aren't nominating someone or running for office yourself, be sure to come out to cast your vote. Let's make 1986 a great year for GCARC!

HELP NEEDED AT THE "SHED HOUSE"

The Board of Directors recently inspected the new storage shed and found it to be of exceptional quality in the areas of construction and appearance. Electrical wiring was installed thanks to Ray, AI2B. More work needs to be done, however, before we can begin moving things in. Specifically, the installation of thermal insulation and shelving must be completed as soon as possible, because if we were to move anything in first, it would be in the way if we decided to delay these tasks until the spring. If you can volunteer a few hours of your time to help out with this, contact the President as soon as possible so we can get this job finished. Thank You again for your support.

FIELD DAY LISTING MISSING FROM QST

Jim Clark, KA2OSV, reports that the recently published results of Field Day 1985 in QST did not list the GCARC in any way. Jim has been in contact with ARRL Headquarters to find out what happened to our listing, but so far nothing has been learned. Several GCARC members have asked if the logs were submitted in time (they were). We will report anything we hear on this in the future so stay tuned.

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 examinations leading to General and Advanced Amateur Licensure will start Thursday evening January 16, 1986.

The course will be eighteen weeks 7:30-9:30 P.M., 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 ARRL 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, KRIM, 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 at (609) 662-8800.

AMATEUR RADIO SOCIAL: PHILADELPHIA, PA

The CHAVERIM OF DELAWARE VALLEY, INC., an organization formed to promote a closer association between Jewish Amateur radio operators and their freinds throughout the world will be holding their 6th mid winter annual social in downtown Philadelphia on Sunday, January 12th, 1986, at 10:00 am. In store for participants is a fabulous traditional buffet brunch, brief installation of new officers, entertainment, and lots of eye-balling. Everyone invited to participate. Contact Bill Soble, W3QXT, Ph: 215-676-6769 or write to: 9357 Hoff Street, Philadelphia, PA 19115, for information, cost, and full details. Reservations absolutely necessary.

LES BELLES

Many of us want to take part in all the holiday goodies. Perhaps before this time we should set aside three days with the following diet:

DAY #1	DAY #2	DAY #3
Breakfast	Breakfast	Breakfast
1/2 grapefruit 1 slice toast 2 Tbl peanut butter	1 egg 1 slice toast 1/2 banana	5 saltine crackers 1 sl. cheddar cheese 1 apple
Lunch	Lunch	Lunch
2 c. tuna fish 1 slice toast tea or coffee	1 c. cottage cheese 3 saltine crackers	1 hard boiled egg 1 slice toast
Dinner	Dinner	Dinner
3 oz. meat 1 c. string beans 1 c. beets 1 small apple 1/2 c. vanilla ice cream	2 hot dogs 1 c. broccoli 1/2 c. carrots 1/2 banana 1/2 c. vanilla ice cream	1 c. tuna fish 1 c. beets 1/2 c. cantelope 1 c. cauliflower 1/2 banana 1/2 c. vanilla ice cream

As you can see this is called the "vanilla ice cream" diet and should not be followed more than three days at a time. Might be good to try this time of year.

What do YL's talk about on nets? Well, for one thing - diets. This one has been discussed at length on different YL nets recently and several have tried it with much success.

If anyone is willing to help out at the Hospitality Table and YL Activities for our next Hamfest, please let me know. Let's get all the YL members active this year with our YL Activities.

73 Rose Ellen - N2RE

SWAP & SHOP

FOR SALE: Swan equipment consisting of -

Model 600 T Transmitter
 Model 600 R. Custom Receiver
 Model FP-1 Phone Patch, in speaker cabinet
 Model CM17L Shure Microphone with PTT/Vox

Manuals, original cartons, no modifications, excellent condition.
 Price: \$400.00. Contact Ed Stetser, K2JJC,

CONTEST CORNER

As your new contest committee chairman, I will need your cooperation to to get things rolling again. I am still in the process of getting records, etc., from the previous chairman.

To start things off, the first contest with club participation coming up will be the ARRL JANUARY VHF SWEEPSTAKES on Jan. 11 & 12 1986. There will be a supply of forms available at both the Dec. and Jan. meetings. For all contests with club entries I will have the forms both at meetings and at my home QTH. Let's try to get the year started right with a good showing in the VHF SWEEPSTAKES!

If you participate, please send me a copy of your entry, or give me your original and I will make a copy of it and send it in for you. I will keep the copy for my records and also supply the Awards Committee with any scores they may need for their records.

If anyone has submitted entries in other contests with GCARC entered for club participation and has not given a copy to the previous chairman please give me the information for my records. I'd like to give credit where it is due.

I will also have some forms for contests other than those with club participation to encourage contesting in general. The following is a list of contests upcoming, which will be updated each month in CROSSTALK.

<u>DATE:</u>	<u>CONTEST:</u>
Dec. 2	SWOT 2 Meter QSO Party
7-8	ARRL 160 Meter CW Contest
14-15	ARRL 10 Meter Contest
Jan. 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
Feb. 15-16	*ARRL INTERNATIONAL DX CONTEST, CW*

(denotes club participation) --73 de KB2GW.

WE'LL SHARE 1900-2000 kHz WITH RADIOLOCATION: FCC

By FCC Report and Order released October 31, non-government radiolocation has been given primary status at 1900-2000 kHz. FCC believes this action in PR Docket 84-874 is a necessary prerequisite to future displacement of radiodetermination now at 1605-1705 kHz, a position ARRL disputes. A future proceeding will address possible expansion of standard broadcasting at 1605-1705 kHz in the Western Hemisphere. ARRL's fight against this reallocation had been in the works for many months; see Happenings, November 1984 QST. Effective December 9, 1985, amateur stations in the 1900-2000 kHz range must not cause harmful interference to the radiolocation services and are afforded no protection from interference arising from radiolocation operations. Though FCC will not accept applications from 1605-1705 kHz radiodetermination stations for moves to 160 until July 1, 1987, plans are afoot to allow new spread-spectrum radiolocation stations access to 1900-2000 kHz as early as December 9 of this year. FCC claims that amateurs will still have "virtually exclusive non-government use of 1900-2000 kHz until private radiolocation transmitters become operational." ARRL may file for reconsideration; watch the LETTER for details. January QST will cover more of the 1900-2000 kHz reallocation and resultant changes to Part 97. Tnx The ARRL Letter

421-430 MHz GOES TO LAND MOBILE

Effective November 4, 1985, FCC has allocated portions of the band 421 to 430 MHz to the Land Mobile Service in the vicinities of Detroit, Cleveland and Buffalo. This has been undertaken to reduce Land Mobile channel congestion near these cities. Because 420 to 430 MHz was removed from the Amateur Service North of Line A as of September 28,

the use of 421-430 MHz by Land Mobile operations is expected to have minimal impact on amateur use of the 70 cm band. Amateurs south of Line A, but within interference range of these cities, must avoid interfering with the primary Land Mobile Service. Tnx The ARRL Letter

THE ELECTRONIC COMMUNICATIONS PRIVACY ACT OF 1985

As of mid-September, the Electronic Communications Privacy Act of 1985 (S. 1667 and H.R. 3378) is pending in Congress. The bill would amend Title 18 of the U.S. Code with respect to unlawful interception of wire and wireless electronic communication, authorizing the recovery of civil damages from and introducing stiff penalties for computer crimes and destructive "hacking." The intent is a broadening of the definitions both of protected communications ("any transmission of signs, signals, writing, images, sounds, data or intelligence of any nature in whole or in part by a wire, radio, electromagnetic, or photoelectric system that affects foreign or interstate commerce") and prohibited practices. Licensed Amateur Radio and CB transmissions are listed among "unprotected" communications (students of double negatives will appreciate that interception of our transmissions would continue to be "not unlawful"), but the progress and evolution of the Act will bear close watching. Tnx The ARRL Letter

WATCH THAT FORM 610 AFTER JANUARY 1

On October 17, FCC released a Public Notice alerting Amateur Radio Service applicants that editions of Form 610 prior to that of June 1984 would no longer be acceptable for filing Effective January 1, 1986, only the June 1984 and later editions of FCC Form 610 may be used to obtain an Amateur license. Applying on earlier editions of the form after January 1 will delay issuance of your license: your application will be returned without action and you will be required to refile on a current form. Tnx The ARRL Letter

INTERFERENCE FROM ULTRASONIC PEST CONTROL DEVICES

Ultrasonic pest control devices are advertised to repel pests (i.e., mice, rats, roaches, etc.) through the emission of acoustic noise that cannot be heard by people. These devices have been found to cause electromagnetic interference to televisions, as well as other types of equipment. Frequencies at which interference has been reported range from 20 to 470 MHz. Though pest control devices are not normally subject to FCC controls, ultrasonic devices of this type are subject to the technical and noninterference requirements of Part 18 of the FCC Rules. FCC staff have determined that a minor technical change to ultrasonic pest control devices would substantially reduce their electromagnetic emissions, hence reducing their RF interference potential. Additional information about this matter may be obtained by contacting Joe Husnay at (301) 725-1585 at the FCC Laboratory. Tnx The ARRL Letter

FCC SAYS IT DOESN'T REGULATE SPEED-RADAR DETECTORS

In a Public Notice dated August 1, 1985, FCC reminds us that they're not in the radar-detector-regulation business:

Traffic radars used by police to enforce highway speed limits are transmitters. As such, they are type-accepted and authorized by the FCC under Parts 2 and 90 of its rules. These rules permit any state or local government with an FCC license for its radio communications system to operate speed radars without getting separate licenses for them. The radar frequencies and number of units do not have to be shown on the license itself.

FCC rules spell out how radars may be operated as transmitters but not how they may be used by police to measure vehicle speeds. The FCC has no jurisdiction over the calibration of radars or over the reliability of their readings.

(The U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA) is the federal agency concerned with the enforcement tools. For more information, write to NHTSA'S Office of Enforcement and Emergency Services, 400 Seventh St., SW, Washington DC 20590. Or call the state or local police department for information about how radar is used in a particular area.)

RADAR JAMMERS are transmitters tuned to interfere with "jam" a radar signal. The intentional use of jammers is considered "malicious interference", which is strictly prohibited by the Communications Act of 1934, as amended by FCC rules. Anyone using a jammer risks such penalties as losing any FCC licenses, paying a fine, or even facing criminal prosecution.

RADAR DETECTORS are radio receivers popularly known for being tuned to receive police radar signals...(for the purpose of) warn(ing) motorists of radar "traps" ahead of them. In this regard, the FCC regulations pertaining to receivers are limited in scope and, as currently drafted, do not address the subject of radar detectors. The use of radar detectors by members of the public, therefore, does not constitute in itself a violations of FCC rules. The FCC is aware that other agencies have addressed the subject of radar detectors, but the FCC has not, to date, and has no future plans to address the activities of these other agencies.

In summary, the FCC regulates transmitters, but exercises only limited jurisdiction over receivers, with the subject of radar detectors not being addressed in the FCC Rules. From a policy standpoint, the FCC favors authorizing the use of radio, including radars, to promote safety on the public highways and elsewhere. Tnx
The ARRL Letter

SOME TECHNICAL INFORMATION

This information is primarily for the Technician Class but you fellows with higher ratings may read it also. This is about VSWR and some of the little problems that creep up after you get above 2 meters. Many of the VSWR bridges that are used today for in-line operation consist of diodes that are connected in such a way as to read Forward and Reverse detected RF voltage and then send it to a meter that is calibrated (generally you set the calibration on the VSWR scale) in the forward position. When you throw the switch it reads the Reverse RF and then from this gives you a reading of relative VSWR. When you get above the 150 MHz region, things begin to change considerably. The most important item that will influence the performance of your operation up here is a good, high-quality, gain antenna of 50 ohms impedance for fixed or mobile. In the UHF as well as the low band, every watt of ERP makes some difference. Therefore, 50 watts average output plus 3db of gain antenna equals 100 watts ERP, presuming low VSWR of course. The few extra dollars invested in a gain type antenna is well worth it. There are, however, some pitfalls to be aware of. For example, do not attempt to adjust an antenna for lowest VSWR when using a diode VSWR meter not engineered for UHF applications. As mentioned above invariable the reading have an error of 40% or more. Instead, use an in-line watt meter similar to the Bird model 43 or Sierra model 164B with UHF cartridge. In calculating the VSWR for one of these, non converting, type of meters you have to do just a little mathematics as follows: The VSWR is related to reflection coefficient: - (Gamma - Complex propagation constant)

Pf = Forward Power reading

Pr = Reverse Power reading

γ = Propagation constant

$$VSWR = 1 + \gamma / 1 - \gamma$$

Where $\gamma = \sqrt{Pr/Pf}$

Example: Pf = 25 watts
Pr = 2.25 watts

$$\gamma = \sqrt{Pr/Pf} = 2.25/25 = .09 = .3$$

$$VSWR = 1 + .3 / 1 - .3 = 1.3/.7 = 1.85:1$$

or a VSWR of 1.85

So now you know. If you want any more of this type of information put into CROSSTALK, please let the Editor know. If no feed-back we will not bore you with anymore technical data. Oh yes, one last word, the above information will apply to the 220 band, 440 band and the new 920-928 Mhz frequencies and higher. Tnx K2JF (SNJ ATC)