CROSSTALK

Published By and For The GLOUCESTER COUNTY AMATEUR RADIO CLUB, W2MMD

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AREA NETS

GCARC RTTY NET ARES Net:

Tuesday, 8:00 PM 147.78/18 rptr Sunday, 8:00 PM 147.78/18 rptr Sunday, 8:30 PM 224.66 rptr

Del. Valley Regional Emer. Net Club Repeaters: 147.78 - .18, 223.06 - 224.66 - 447.1 - 442.1

The Gloucester County Amateur Radio Club Meets the first Wednesday, of each month at the VFW hall in Woodbury Heights. Meetings begin promptly at 8 PM.

Please send any contributions for CROSSTALK to Tony Starr, WA2FZB,

Deadline for submissions is 10 days before club meetings.

PRESIDENT'S MESSAGE -- APRIL 1985

I want to apologize for the length of the meeting this past month, but it was necessary to get things accomplished. We had a good turn out, and we hope to have a bigger one in April. I want to thank Roslyn, Ginny, and Irma for taking care of the food wagon for field day. We're always glad to see the XYL's & YL's getting involved and feel encouraged that we will see more people becoming involved in club events. We need people to help Jim with field day. He needs most of all operators for the bands. So please get behind your club and volunteer. I also hope that more people will get into DXing. There are alot of excellant DX Stations out there, but we need people to inform us as to where and when to work them. Sets get out there and help! Also the contests need a shot in the arm. We need members to get a program going for that. Lets make that a goal for this month to stir up action in DXing and contesting.

Thank you,
Pres. Tom Gordon, KB2G1

APRIL PROGRAM

A really special program is in store this month. Former ARRL President Hiram Percy Maxim, WlAW, will be our guest this month. He will speak about the history of the ARRL, and how far it has come since those early days circa April 1, 1914. Also on hand will be the ARRL's technical consultant, Dr. Lee De Forrest. "Dr. Lee" will talk about some of the latest new transmission modes, including particle beams and EME (Earth-Mars-Earth).

A presentation will be made out at the bar during the program for all of those who-choose not to attend the program. The speaker will be Mr. Smith, from Washington, who will tell us about the latest FCC proposal to re-allocate over 1400 MHz of band space from commercial services to Amateur Radio.

Last but not least, a representative of the IRS will be present to personally apologize to each and every member of GCARC for the recent foul-up in the handling of our tax paperwork. He will offer to pay for any accounting and attorney's fees we might have incurred.

This might be the best meeting we've ever had, so don't be fooled into missing it.

HIGHLIGHTS -- BOARD OF DIRECTORS MEETING

Due to a sudden illness, acting Recording Secretary Jim McDonald, WB2AOL, was unable to submit the minutes to your editor in time for publication. Jim regrets any disappointment this may cause you, but

Highlights:

suggests that any business of importance will be discussed during the business portion of the General Membership Meeting.

Although your Editor was present at this meeting as a director it is his policy not to report this feature from a personal point of view, but only from the minutes, which is an official document. It was necessary to incorporate this policy early this year, when there was a discrepancy between the Crosstalk account of an item of business, and the actual entry in the minutes regarding said item. It was also because of this incident that all votes on every motion are now recorded in the minutes. In the interest of accuracy we will continue these policies.

JAYCEES BIKE-HIKE

The Jaycees Bike-Hike for Retarded Citizens will be held on Sunday, April 21, 1985. Chick, Wa2USI, has signed up captains for the six routes, which are the same routes used last year. If you have not signed up yet, but would like to help out, contact the captain of the route of your choice. Chick can tell you whom that person should be.

AMERICAN CANCER SOCIETY BIKE-A-THON

This year's A.C.S. Bike-a-thon has been announced, with the big news being a completely new route! Harry, WA2VXT, will again chair the event forboth the GCARC and the ACS. The date is set for Sunday, July 21, 1985, with staging beginning in Philadelphia at 6:00 AM, and the actual start at 7:00 AM.

The new route is different from beginning to end. Staging will take place on the Philadelphia side of the <u>BETSY ROSS</u> Bridge. Once over the bridge, the riders will travel south on Rt. 130 to the Collingswood Circle, where they will pick up Rt. 30 East, otherwise known as the White Horse Pike. They will stay on the Pike all the way to Hammonton, where they will get on Atlantic County Route 561. The final leg of the event will follow route 561 to the end of the race in Historic Smithville.

The requirements for vehicles and operators will be similar to last year. At least 40 operators are needed to staff vehicles and fixed sites along the route. Be sure to watch future issues of this publication for additional details which will be furnished to us.

F.A.R. Scholarships

THE FOUNDATION FOR AMATEUR RADIO, INC., a non-profit organization with Headquarters in Washington, D.C. plans to award nineteen (19)

scholarships for the academic year 1985-86. The Foundation composed of fifty local area amateur radio clubs, fully funds two of these scholarships from the proceeds of its annual Hamfest. It administers without cost to the donors, seven (7) scholarships for the Quarter Century Wireless Association, two (2) for the Dade (FL) Radio Club and one (1) each for the Radio Club of America, the Richard G. Chichester Memorial, the Young Ladies' Radio League, the Edmund G. Redington Memorial, the Amateur Radio News Service, the Columbia (MD) Amateur Radio Association, the Baltimore (MD) Amateur Radio Club and the Lewis W. Wilkinson Memorial.

Licensed Radio Amateurs may compete for one or more of these awards if they plan to pursue a full-time course of studies beyond high school and are enrolled or have been accepted for enrollment in an accredited university, college or technical school. Most of the scholarships require the applicant to hold at least an FCC General Class license or equivalent. The scholarship awards range from \$350 to \$900 with preference given in some cases to residents of specified geographical areas or the pursuit of certain study programs.

Additional information and an application form can be requested by a letter or QSL/postcard, postlmarked prior to May 31, 1985 from:

F A R Scholarships 6903 Rhode Island Avenue College Park, MD 20740

The Foundation is devoted exclusively to promoting the interests of Amateur Radio and to those scientific, literary and educational pursuits that advance the purposes of the Amateur Radio Service.

VEC TESTING for Radio Amateur License by the Gloucester County Amateur Radio Club's V.E. Team will be held on:

DATE: April 27, 1985

TIME: 0930 to 1300 - NOTE the CW tests

will be given at 0930 and 1100.

PLACE: GLASSBORO STATE COLLEGE, Westby Hall

COST: \$4.00 in Cash, Money Order, or

Certified check.

EXAMS: NOVICE thru AMATEUR EXTRA

No Preregistracion required -- Talk + in 147 18/78, 224-66 -- For further information Please contact K2JF (609) 589-2218.

DISK "DISKOUNTS" AVAILABLE

John, K2JF, has informed us that a local computer dealer is offering a 5% discount to GCARC members on all disks and software. The gentleman's name is Joseph F. Dries, Jr., his store, called Computer Run, is located at 11 North Broadway, in downtown Pitman.

1985 DUES PAST DUE

If you are reading this and it is later than March 31, I hope you have paid your dues. There is a \$5.00 penalty for dues paid after March 31. See Bill, N2BK to pay up.

FIELD DAY UPDATE

As mentioned in our President's message, three fine young ladies have gracefully volunteered to manage the chow line. We are eternally grateful. As of our press deadline this issue, the following band/modes are still available if someone would like to sign up for any of them:

80 meters -- CW only

15 meters -- any mode

10 meters -- any mode

2 meter -- any mode

The following assignments are already scheduled:

80 meter phone -- Tony, WA2FZB

40 meter CW -- Ken, N2CQ

40 meter phone -- Wayne, WA2LET

20 meter (RTTY (:) -- Art, KA2DOT and Jerry, WB2CAK

20 meter phone -- Walt, WB2OYQ

6 meters and 220 MHz -- Ed, WA2PFC

Many of the band chairmen listed above are still in need of operators, so if you would like to join one of these bands, contact the appropriate band chairman and tell him so. It is unlikely that your offer of assistance will be turned down. We have 170 members in the club. Let's try to get at least half of us out to Field Day this year.

LES BELLES

We are happy to add another licensed YL to the pages of GCARC. N2FJM is the call given to Ginny Martin as authorized by the FCC after her recent examination. Ginny has already begun to check into the Club nets and soon will be earning her club certificate.

For years Ginny has been an associate member and very active with the background works at Field Day and especially with the food programs down at the annual Hamfest. At this point she is considered an expert at putting together the food we serve at the hamfest while standing out in the hot sun all day. Maybe this year there will be a cover.

WELCOME to you Ginny and good luck with your many QSO's to come.

Don't forget gals, the VEC exams are available every month and we look forward to having all of you become a part of the licensed YL part of GCARC. Your support is greatly needed for help at Field Day and the Hamfest.

73 Rose Ellen N2RE

DA'S & DIT'S

K2AEI suggests that you tidy up the shack when transmitting pictures so the wine and beer bottles don't show.

W2OZG - Ladder - up a tree - to the beam - turn it to the correct position.

All members who wish to participate in the 100 KM bike race starting in Vineland, April 27 - contact KC2PC.

'If anyone wishes to join a dinner party before the meeting, contact K3WIL. All you can eat - Dutch Treat.

W2MMD requests that all boxing gloves be registered at the entrance to the hall at the next meeting.

Hopefully by now, N2CME has recovered from his trip to the Catskills.

We have another husband and wife team - WB2LNR and N2FJM.

Thanks to N2BVA for keeping us up on the proper wines to be used for before and after dinner enjoyment.

Although I admit to being a chain smoker, I shall refrain at the next meeting. How about you?

73 - de "The Eavesdropper".

SWAP & SHOP

FOR SALE: Heath HW-100 with P.S., CW & SSB Filter, and complete manual \$200.00.

Drake T4XB xmtr. with AC P.S., extra crystals inc. 10 MHz, complete manual \$200.00.

For above two items, contact Bill, N2BK.

FOR SALE: <u>Drake TR4C and RV4C w/</u> speaker and power supply.

New extra set of matched finals.

contact Len, KD2CR,

FOR SALE: Collins S-line 32S-2 XMTR, 75S-3B RCVR, and PS. \$750.00

contact Joe DiNovi, WA2GFK,

FOR SALE: <u>Printer</u>, Radio Shack Model VII \$50.00 negotiable.

contact John Fisher, K2JF

JUST A THOUGHT ...

by Don Newlands VE3HGN

My grandaddy used to fish for food, my dad fished for sport, and I don't fish at all. I buy my fish at the fish store, along with most other folks. No fuss, no muss. Evidently we three had something in common: we all wanted fish. Grandad would stand in the icy water, casting and reeling until his limbs went numb; one man in harmony with nature. My memory of him is a bit misty. He didn't talk much, but seemed confident and content.

My dad, on the other hand, had an expensive yacht, filled with gear. He bragged about his catch and had a lot of big ones stuffed and varnished which he would point to with pride.

Now, I haven't time for all that crap. I'm prepared to stand a few minutes in line at a fish market and I can either eat it or mount it, but for anybody to freeze his butt in waders? Or lay out big bucks for a boat just to fish from? Today, he's hopelessly out of touch.

Now you may ask what all this has to do with ham radio? Simple! My granpappy was an original DXer, wire antennas, 20 Watts and a spark that could set the house on fire, and my dad was a Dxer with stacked antennas, transmission lines as thick as your wrist, and 2 meter spotting nets. And he kept the family up all night with his yelling and screaming.

From my perspective, this all sounds primitive and disorganized. I prefer a simple lil' tribander at 40 feet, and to plug in my Seven-Thirty and give my call to the list taker and in a minute it's all over. No fuss, no muss. My certificates (all framed, of course) are just the same as theirs. Now that's progress!

CQ DX CQ DX, is a call of the endangered species. Now it's "put me on the list." Now how do you get on the list? Ya' phone'em, that's how. And while you're on the phone, ask'em if they have any fish.

73, Don

From "RADIOSPORTING"
TNX to Shorty, W2SUA

CONTEST CORNER

This year's ARRL DX Contests are now history. At this point, I have gotten little feed back regarding scores etc. so I can't offer any hints to the winner of the W2SUA Trophy. Help me out, bring your scores to this months meeting. (Send the original, directly to ARRL, don't forget to identify yourself as a GCARC member!) Based on this input the trophy winner will be announcedat next month's meeting.

CONGRATULATIONS TO:

WA2PFC whose 216 QSO's and 6280 points look
like a nice VHF Sweepstakes effort
NC2V whose 61,632 points were good enough for first in SNJ
QE2L who tallied 12,096 points in the same contest - nice to hear you in there JOSH!

April's contests are Basicly special interest events Rules for the Contests noted below will be available at the meeting.

April 17 - 18 DX - YL to NA-YL CW/SSB Contest ... For the Ladies.

20 - 21 ARCI QRP SSB Contest

I won't have logs for these but you can roll-your-own based on the data exchanged.

Reminder - this year's Field Day is still the <u>Fourth</u> Weekeng in June. This year June has five weekends which could upset your plans if you assume Field Day is the last weekend. Mark your calendars so you don't miss it - we need you!

Last months report (and this writer) was a casualty of the Flui Now that I've beat the "creeping crud" I'll look forward to seeing you all at the meeting.

TO RTTY...OR NOT TO RTTY???

Once upon a time, someone simply connected a morse key to a transmitter, tuned-up, and made his first ham contact. Functionally, the ham operator only had to tap away on the key to effectively communicate with hams around the world. As time went on, the microphone was added and during AM and SSB operation, the ham operator now had to adjust modulation levels, watch microphone impedances, etc. to obtain good quality.

But Amateurs could not stand still, so to there credit came complex communication developments such as ETTY, FM, satellites, Slow-Scan TV, and the latest...Packet-Radio. With each improvement came the need for additional equipment, lots of \$\$\$, and above all more has operator involvement over and above the key tapping. Amateurs have always accepted the additional work to gain improved communications and prided themselves when they accomplished a new communications technique, or appraised their operating licence, or designed their own antennas and radios.

Today, many ham shacks are packed full of almost every modern mode of communcitions available...and then some. My observation of the hobby and other equipment related hobbies indicate some Amateurs tend to purchase equipment only to "keep-up with the Jone's". Meanwhile an arms-list of excuses emerge as to why they don't use there new equipment. To this end, the following 'RTTY Hit-List is provided to streamline your RTTY operation. It is anticipated that more Amateurs will "turn-on" their computers...if you try it...you may like it!!!

1. KNOW YOUR PROGRAM

Prepare "cheat-sheets" to list your unique RTTY set-up procedures such as screen/letter color selection, transmit and program options, etc.

Prepare computer keyboard "overlay cheat-sheets" for specific key-strokes (eg. F1, F2, etc. for Commodora)

2. PLAN AHEAD

Prepare your messages or other disk files prior to operation and keep a written copy of the text next to your computer for easy reference. Make a list of net stations and the order of net rotation. Leave space between calls to add late check-in's. You can also prepare different groups of messages for nets, contests, etc.

3. PRACTICE MAKES PERFECT

Turn-off your radio and computer interface(BIT-BOX). After set-up, fill-up your transmit buffer and observe your vidio display during transmission.

During a receive mode, start to fill-up your transmit buffer, but half way through stop typing and go to a "break-in mode" and type away to simulate an on-the-spot response to another ham's question to you. You don't have to type 50 words a minute!!!

4. REMEMBER THE TIME-OUT

To prevent repeater time-out or to minimize the number of transmit interruptions to allow for repeater reset, set your transmit buffer size to 500 Bytes. During the receive mode and buffer fill-up, you will automatically know when "you've typed enaugh, for one transmission". You will still have about 200 more Bytes before the repeater will-time-out (2.5 minutes).

5. HAVE PATIENCE

Can you send 60 MPM in CW mode? not likely, so let the repeater drop-out before you start your transmission. Let your ingers do the walking thru the green keys!! It's OK to hit the wrong key or misspell a word or two. Have a cup of coffee or other liquid refreshment nearby. Sit back and enjoy!

Day you remember when your hand shoak on the key during your first CW contact or your voice choked-up on SSP? With practice, your code speed did increase and your audio quality improved. With good planning, preparation, and practice ETTY speration can be more creative then any other mode of aperation because you can prepare data and stare it ahead of time for transmission late. So get ready, on your mark-and space....PRINT YA every Tuesday night at 2000 hours local time on 147.18 MHZ. If the GCARC RITY net time or day does not fit into your schedule, let us know!!!

FCC LIFTS REPEATER MORATORIUM!

Excerpts from "THE ARRL LETTER"
TNX to K2JF

The FCC has issued an Order which rescinds the moratorium on new repeater operation which was imposed by the NPRM (Notice of Proposed Rulemaking) in PR Docker 85-22. The moratorium had been imposed to "forestall a growing number of amateur repeater interference complaints. For details on the moratorium and the original NPRM, see Volume 4 Number 3 of The ARRL Letter. The ARRL filed a Petition for Partial Reconsideration in this proceeding, asking the Commission to lift the moratorium, and pointing out that repeater operation is permitted by Part 97, and that a Notice of Proposed Rulemaking could not in and of itself modify an existing rule. More details on the Petition appeared in Volume 4 Number 4 of The Letter.

In addition to the ARRL Petition, the Tri-State Amateur Repeater Council (TSARC) filed a Petition recommending that the moratorium be lifted for all bands except the two-meter band. The original moratorium applied to all repeaters in metropolitan areas, including "digipeaters."

The Order was adopted February 15, and released February 21. The Commission states "Filings by the American Radio Relay League (ARRL) and by the Tri-State Amateur Repeater Council (TSARC) raise serious difficulties with the imposition of the moratorium, including financial hardship to those with repeater construction in process. The problems persuade us to rescind the moratorium. Instead we will seak a permanent solution to repeater problems in this proceeding. We request substantive comment on all issues relevant to solving questions of interference and congestion by and to stations in repeater operation."

This request for comments on ways to solve repeater-to-repeater interference problems has been the important feature of the NPRM all along. The FCC stated that the NPRM had its origin in the fact that the number of repeater-to-repeater interference complaints in 1984 was more than three times the number recorded in 1983. The original NPRM stated "we seek comment on whether we should require an amateur operator to seek the recommendation of a local frequency coordinator for the input and output frequencies of any repeater located within a Consolidated Metropolitan Statistical Area (CMSA) or a Metropolitan Statistical Area (MSA) We also request comments on whether we should consider alternative methods of frequency coordination. Additionally, we seek comment on whether the voluntary or required use of modern technological innovations (such as the use of narrow-band technologies, ACSB, or tone-operated squelch techniques) is a more appropriate solution ... than the proposed solution. Comments are also sought with regard to whether the FCC should recognize a single national frequency coordinator for the Amateur Radio Service."

The FCC has recognized the repeater-to-repeater interference problem, and asked for input from the amateur community on ways to solve it. We all have a chance to help shape future policy on this issue. Formal comment requires the filing on an original and five copies, but a single copy may be considered informally. Comments are due by July 1, 1985, reply

comments by September 30, 1985. Copies of the original NPRM, the ARRL Petition for Partial Reconsideration and the Order rescinding the moratorium may be obtained from ARRL Hq. by sending a large S.A.S.E. with 73 cents postage affixed.

REPEATER MORATORIUM -- GONE BUT NOT FORGOTTEN

The moratorium on new repeater operation imposed by PR Docket 85-22 may be gone, but the Commission doesn't want the Docket to be forgotten. A copy of an undated letter from Ray Kowalski, Chief of the FCC Special Services Division, was received at ARRL Hq. this week. The letter was sent by the FCC to all frequency coordinators listed in the 1984-85 edition of the ARRL Repeater Directory, and says in part: "We invite you to consider the matters raised in this proceeding and to file written comments." A copy of the NPRM and the Order rescinding the moratorium were also sent with the letter.

ARRL Repeater Directory editor Jim Clary, WB9IHH, mailed a oopy of the NPRM to frequency coordinators soon after it was received at ARRL Hq., but this action by the FCC indicates that comments concerning ways to solve repeater-to-repeater interference problems are actively being sought by the Commission in this proceeding. Details on the NPRM and the moratorium may be found in the January 31, February 14 and February 28 issues of The ARRL Letter. Copies of the NPRM may be obtained from ARRL Hq. by sending a large s.a.s.e. with 56¢ postage. Comments are due by July 1, 1985 - formal comment requires the filing of an original and five copies to: The Secretary, FCC, Washington, DC, 20554. Single copies of comments will also be considered.

FCC PROPOSES NEW CABLE TV LEAKAGE LIMITS

On February 20, the FCC released a Notice of Proposed Rulemaking in Mass Media Docker 85-38. In the NPRM the Commission proposed to update the cable television regulations in Part 76. Part of the proposal would increase the allowable leakage from 20 microvolts per meter at 3 meters to 50 microvolts per meter at 3 meters on frequencies between 54 and 216 MHz.

In the news release for the NPRM, the Commission stated that the original rules were adopted in 1972, when the cable industry was little more than a series of master antenna systems for communities, with its only competition over-the-air broadcasting. The rules were adopted to assist in the development of a nationwide series of cable systems that would provide reasonable levels of service to subscribers.

Since 1972, competition has increased from several sources, including video cassette recorders, satellite home earth terminals and multipoint distribution systems. The FCC concluded it was appropriate to re-evaluate the technical requirements at this time.

The Commission specifically asks for comments concerning whether the quality performance standards for cable television systems should be modified or removed; and whether the signal leakage limits for cable television systems should be relaxed.

The most useful type of comments in this proceeding will be those incorporating technical data concerning leakage which has caused interference to the Amateur Service. To solicit this type of response, Hq. staff sent a copy of the NPRM and a cover letter to all ARRL Section Managers, Technical Coordinators, members of the RFI Task Group and individuals who have formally registered complaints of harmful interference.

Comments in this proceeding are due by March 29, 1985, reply comments by April 15, 1985. As always, formal comment requires the filing of an original and five copies, but a single copy will be considered informally. Individuals filing comments are also encouraged to send a copy to ARRL Hq.

FCC CHECKS POWER OF AMATEUR STATIONS

A number of ARRL members have reported to us that some amateur stations in their area have recently been inspected by FCC personnel. The members have expressed concern that FCC might be preparing to change its amateur power limits. ARRL Washington Area Coordinator Perry Williams, WlUED, visited a senior official in the Field Operations Bureau to discuss the situation. The FOB had taken measurements at 172 amateur stations, completing this phase by February 25. Objectives were to discover whether amateurs can reduce power; what levels most amateurs use; what effects a 50% reduction in power has on a QSO in progress; and whether there is a general awareness and compliance with Section 97.67 (a) of the Amateur Rules which mandates use of the minimum power necessary for the communications in progress.

Williams told the official of amateurs' fears that this study was a prelude to a rulemaking which would reduce the power limit. The spokesman said "That would not be reasonable. There are conditions where full power is needed." The FOB official was not sure exactly what the data will be used for; perhaps FOB would use the information to persuade individual amateurs to temporarily use less power where there is a reported case of amateur interference to neighbors. The FOB official told WIUED that he believed the results of the study would be available in early summer.

CORDLESS PHONE COMPANIES RECEIVE FINES

Three distributors of cordless telephones have been fined \$2000 earh for repeated sale of telephones that fail to meet the FCC's radiated power limitation. Based on measurments taken by the Office of Science and Technology, the Field Operations Bureau has sent Notices of Apparent Liability for Monetary Forfeiture to TAD Avanti, Dynascan and Uniden.

The staff of OST's Sampling and Measurements Branch is continuing to test cordless phones and other devices in order to determine whether equipment, once approved for marketing, continues to comply with the technical standards throughout its manufacturing period.

NAVASSA DXPEDITION

The Navassa DXpedition will be held April 3 through April 9. The group is planning to leave April 3 from Kingston, Jamaica on <u>High Isle</u>. a 78 foot fishing boat, and should be on the air by 1800 UTC April 4. The /KPl stations will be on the air for 96 hours. Three stations will be on the air, using two beams and two verticals, with long wire antennas for

the low bands. One station will be on CW, operated by 6Y5HN, 6Y5FS, G3RFS and K2SG on 8 hour shifts. The other two stations will be on SSB, operated by 6Y5NR, 6Y5IC, 5Y5KC, KP2A, N2EDF and 6Y5CA on 8 hour shifts.

This is a privately funded operation, aiming to give as many contacts as possible to eager DXers and trying to exceed the magic number of 33,552 contacts set by the previous DXpedition to Navassa.

SPACE SHUTTLE AUDIO RETRANSMISSION.

The Goddard Amateur Radio Club, WA3NAN at the NASA Goddard Space Flight Center in Greenbelt, Maryland, retransmits live Space Shuttle audio. Coverage begins within the hour before liftoff, and continues through the flight and until about an hour after landing. WA2NAN will not be on the air during astronaut sleep periods.

The following frequencies are used: 3860, 7185 and 14295 kHz SSB. Washington DC area listeners may also monitor 147.45 MHz FM.

WA3NAN operates under a blanket waiver of Section 97.113 issued by the FCC for the duration of all Space Shuttle flights (see "Happenings," November 1983 QST for details on the waiver.)

These items TNX to "THE ARRL LETTER" and K2JF