



Crosstalk

Issue #3

March, 2001

President's Message



affiliated club



All who attended the February meeting were treated to an excellent presentation on the Battleship New Jersey Amateur Radio Station. The talk, complete with transparencies, was very well prepared and given by Joe N2XYZ. He talked also about some of the things going on, both with the radio club, and the ship. They hope to be able to operate a special event station over the Memorial Day weekend.

At the Feb. Meeting the budget for 2001 was approved without much discussion thanks to Bob, KB2DAD, who spent considerable time and thought on it. Many Thanks Bob.

John Fisher K2JF strongly suggests that members listen to the RACES net on Sunday evenings at 8:PM on the repeater. John says it is a good way to keep up on news that is of interest to club members not just RACES business. A good example of this; most of us would have been aware of Rich Munyan's passing a lot sooner. The net does do some RACES business first but then things of general interest to hams are discussed.

On Monday, Feb.19, Harry, AA2WN, and I attended a meeting of the Battleship New Jersey Amateur Radio Station (BNJARS) at the Camden County complex in Lindenwold NJ. The club is still in the formative stages and they are also trying to get some of the systems on the ship operational at the same time. For anyone interested in joining up, I will have applications at the meeting. It is a good chance to get aboard the New Jersey, help bring this project along, and make it a success.

Hope to see you at the next meeting.

73,

Ray WB2NBJ

2001 DUES

GCARC dues for the year 2001 are now due.
The annual dues are \$15.00. Please send your checks directly to the treasurer, Bob Krchnavek (K2DAD) at 50 Eastwick Dr., Gibbsboro, NJ 08026.

DX Dope

By Doug Gehring WA2NPD

I just received word that Dave, W2YC, has worked Conway Reef, 3D2CI, which not puts him on the DXCC Honor Roll, Mixed Mode, with CW not that far behind. Dave has been a ham for 43 years. Obviously, many congratulations are extended to Dave. Also, I'm very delighted to see that Tony, N2SS, has rejoined the GCARC. Tony is an avid DXer, far up the DXCC list, an Honor Roll member, and, for many years, the DX Advisory Committee representative to the League from the Atlantic Division. Thanks to K2JF, we learned that the boat leaving Bouvet will be delayed due to being stuck in ice. Hence Chuck, 3Y0C, will continue to operate past March 2nd, the original departure date.

A note on the subject of QSLing. Obviously, for direct mailing to either the DX station or manager, you need the correct address. The pecking order of correct address accuracy is: (1) Over the air from the DX station, (2) the Internet, (3) Callbook. (4) Packet Buckmaster, and (5) SHOW /QSL on the PacketCluster System. This astute observation is based upon many returned cards over the years, etc. We would venture to conclude that one out of three packet addresses is either outdated or contains mistakes (street address, postal code, misspelled names, etc.). I guess it's because the guys that type in the information, although well intentioned, can't type very well. Just one postal code number that's wrong can doom the card to the postal scrap heap! So, what to do? Best to double check at least 2 or 3 sources. Also, often the DX newsletters will have addresses, and they are generally reliable. Don't send any card off to the first address you get; better to wait and check others.

Now, for the March activity profile:

<u>Station</u>	<u>Dates</u>	<u>Freq / Mode</u>	<u>Rarity</u>	<u>Country</u>
3Y0C	past 3/2	80,40,20; SSB	5	Bouvet Island
BQ9P	3/6-3/15	20-10;SSB,CW	5	Pratas Island
MJ/K8PT	3/14-3/20	160-10;CW,RTTY,PSK	3	Isle of Jersey
MM0LEO	till 3/14	80-10;SSB	2	Scotland
5U-	till 3/12	160-6;SSB,CW	4	Niger
3G0Y	3/4-3/19	80-10;SSB,CW,RTTY	2	Easter Island
FM/H/C	3/17-3/23	80-10;SSB,CW,RTTY	2	Martinique
3W-	3/22-3/30	15,10;SSB,CW	4	Viet Nam
A5-	On going	7 natives now licensed	5	Bhutan
OA4/DL1NL	till 3/15	15,10;CW	2	Puru
S92TX	2 years	20-10,6;SSB	4	Sao Tome Is.

* 5 is rarest

TNX to 59(9) report, 425 DX News, K2JF, AA2WN, and WA2LET

Propagation #5

by John Fisher, K2JF

Part 6 Irregular Variations of Ionsphere

In addition to the more or less regular variations in the characteristics of the ionosphere, a number of singular, transient effects, though not predictable, have important bearing on propagation phenomena. Some of the more prevalent of these effects are Sporadic E; sudden ionospheric disturbances (Dellinger fade); and scattered reflections.

SPORADIC E. The sporadic E, also known as the E layer, is an ionized cloud that appears at indefinite intervals, and at a slightly greater height than the normal E layer. The nature and cause of the abnormal layer are as yet unknown. Sometimes the sporadic E consists of an extremely efficient radiating surface that is capable of reflecting so much of the energy radiated from the transmitting antenna, even at frequencies of 10 to 15 MHz, that reflections from the other layers of the ionosphere are blanked out completely. Occurrence of sporadic E is not usually simultaneous at all stations.

SUDDEN IONOSPHERIC DISTURBANCE (SID) or Dellinger fade.. The most startling of all the irregularities of the ionosphere and of radio wave transmission is the sudden type of disturbance manifested by a radio fadeout.

This disturbance, abbreviated SID, receiving station operators are inclined to believe that their radio sets have suddenly gone DEAD. Examinations of the sun at the times of occurrence of these effects; however, has revealed that in all cases where reliable solar data were available the appearance of this ionospheric disturbance was coincidental with the onset of a bright solar eruption and its duration was the same as that of the eruption. Such an eruption causes sudden abnormal increase in the ionization of the D region, frequently with simultaneous disturbances in terrestrial magnetism and earth currents. Sudden increases in D region ionization usually result in total absorption, in the this region, of all frequencies above 1,000 KHz.

IONOSPHERE STORMS. An ionosphere storm is a period of disturbance in the ionosphere, during which there are large variations from normal, of critical frequencies, layer heights, and absorption.

These storms may last for periods of varying intensity (from several hours to several days), and usually extend over the entire earth. High-frequency sky-wave transmission above approximately 1,500 KHz then shows low intensity and is subject to flutter fading.

During the first few hours of severe ionosphere storms, the ionosphere is turbulent, stratification is destroyed, and radio wave propagation is erratic. During the later stages of severe storms and during the whole period of more moderate storms, the upper part of the ionsphere is expanded and diffused.

continued next page

Propagation #5 *continued*

The critical frequencies are much lower than normal because of a decrease in ion density, and the virtual heights of the layers much greater, so that the maximum usable frequencies are much lower than normal.

SCATTERED REFLECTIONS.. An irregular type of reflection from the ionosphere occurs at all seasons and is prevalent both day and night. The ionosphere layers are irregular, and the presence of ionized clouds or scattering patches at E layer heights has been mentioned previously. Irregular reflections are obtained from these because of the rapid change of ionization with height. A radio wave can reflect from either the top or bottom of one of these scattering clouds, and these reflections make possible the reception of signals within the normal skip zones and at frequencies much higher than those well receivable from the regular layers. The reflections may cause signal distortion and contribute to so-called flutter fading. Signals received from such reflections either may arrive from all directions or, if the transmitter operates with a highly directional antenna, may appear to come from the direction in which the antenna is pointed.

NEXT IN THE SERIES WILL BE:

Ionosphere Predictions and Sky-Wave Propagation

C U in THE PILE-UPS K2JF

LF-TO-LF TRANSATLANTIC AMATEUR CONTACT IS HISTORY

Amateur Radio history was made this month when amateurs in Canada and the UK completed what appears to be the first two-way transatlantic Amateur Radio exchange on 136 kHz. Larry Kayser, VA3LK, and Lawrence "Laurie" Mayhead, G3AQC, managed the LF feat using extremely slow CW that featured 90-second-long dits and 180-second-long dahs. The two-way contact took two weeks to complete.

"We are the first to do a two-way QSO on LF across the North Atlantic as far as I am concerned," Kayser said. "We are the ones who put the stakes in the ground; others will build on what we have done."

The VA3LK-G3AQC contact began February 5 and was completed February 19 with the reception and confirmation of VA3LK's report by G3AQC. Kayser said the participants agreed in advance to a "firewall" between them for the duration of the contact and that all QSO information was exchanged over the LF radio link.

Mayhead said it was clear from the outset that, because of the relatively short band openings, he and Kayser would have to spread the contact out over several days. "It was not easy," he said. "I stayed up late most nights--3 AM on one occasion--changed blown fuses in my transmitter six times, and reconfigured my receiver to include a narrow filter because of interference that was desensitizing it." Kayser says he once had to climb the tower supporting his wire antenna in total darkness.

The UK has authorized amateur operation on 136 kHz, with special authorization and strict limits on radiated power. While Canada has not yet authorized general Amateur Radio operation on 136 kHz, Kayser and a few other Canadian amateurs have received special authorization to experiment there.

Reception of weak LF signals typically is done using spectrographic software like ARGO or Spectran. Signals are transmitted using dual-frequency CW--or DFCW--or very slow-speed CW, also known as "QRSS." Using their particular brand of QRSS, Kayser calculated that it took nearly 70 minutes for him to send his call sign. "Certainly the information rate will improve," he said. "We did the best we could with what we had to work with over the last two weeks."

G3AQC and VA3LK were using a combination of commercial and surplus equipment at their respective stations. G3AQC estimated his effective radiated power at 350 mW, while VA3LK said he might have been at the 5 W ERP level.

In October 1998, the ARRL petitioned the FCC to create two amateur LF allocations at 135.7-137.8 kHz and 160-190 kHz. The FCC has not yet acted on the request.

- *TNX ARRL Letter*

WWV SURVEY PLANNED

The National Institute of Standards and Technology plans to survey users of WWV and WWVH later this year. The time and frequency-standard stations have been airing occasional announcements about the upcoming poll in order to start building a mailing list of survey recipients. The announcements state that NIST "is seeking information on how listeners use the broadcast services offered on the WWV broadcast," but the survey will not begin for at least several weeks.

WWV Station Manager John Lowe says the announcements are being broadcast now as a heads up and to encourage early mailing list signups. The survey itself will not be released until approved by the Office of Management and Budget, Lowe said, and he doesn't expect that to happen until May, although it could be sooner. The survey period likely would extend through the summer, he said.

According to Lowe, the last WWV-WWVH user survey was done in 1985. "We just don't know who our user base is anymore," he said. Lowe confirmed that the data collected ultimately could be used to determine whether WWV and WWVH remain on the air--especially given the popularity of NIST's other outlets, including its Web-based time server that gets in excess of 3 million hits a day.

"If we get only two people who say they're using WWV, then we've got a problem," he said. Lowe added that he does not think WWV and WWVH will be shut down, and he vowed to "fight for the radio stations," if it came down to that. "But the ultimate decision is not in my hands," he said. "We have to look at our budget and our users."

Lowe strongly encouraged WWV users to get on the mailing list and to send in a survey when the time comes. He suggested, however, that more weight will be given to survey responses from corporate and institutional users of the radio service as opposed to individual users.

To be added to the NIST WWV-WWVH survey mailing list, send your name and postal address to the NIST Radio Station WWV, 2000 E County Road 58, Ft Collins, CO 80524, or e-mail the information to nist.radio@boulder.nist.gov. Lowe urged WWV-WWVH users to hold their fire until the survey begins.

WWV in Ft Collins, Colorado, and WWVH on Kauai, Hawaii, broadcast continuous time and frequency information to millions of listeners worldwide. For more information, visit the NIST Web site, <http://www.nist.gov>.

-TNX ARRL Letter

GCARC Officers

President - *Ray Schnapp WB2NBJ*
 Vice President - *Bob Budd KB2EAH*
 Treasurer - *Bob Krchnavek K2DAD*
 Recording Secretary - *Harry Bryant AA2WN*
 Corresponding Secretary - *Chris West WA2MVU*

Board of Directors

Chuck Colabrese WA2TML
Lou Joseph W2LYL
Wayne Wilson WA2LET

Gene Schoeberlein AA2YO
Bob Krukowski KR2U
Bill Blakeley WA2ADB

Happy Birthday

Congratulations to the following club members:

Jim Casto N2IMH	3/5
Stu Cleveland N2WUP	3/27
Doug Gehring WA2NPD	3/13
Janice Groman N2HYS	3/27
Fred Munzenmayer K2DX	3/22
Greg Potter WN2T	3/13
Dan Tremolini N2TXG	3/8
Wayne Wilson WA2LET	3/7
John Zaruba AA2BN	3/13



Crosstalk Submissions

All submissions, queries, comments, editorials, or requests for interviews may be directed to:

John Zaruba AA2BN
491 Pennsylvania Ave
Franklinville, NJ 08322

jzaruba@snip.net
aa2bn@amsat.org

Submission deadline: 3/23/2001

Committees

Advertising - Open

ARES/RACES -Chick WA2USI

Awards - Jack K2ZA

Banquet - Bob KR2U

Budget - Bob K2DAD

Clubhouse Site - Al KB2AYU

Constitution - Open

Crosstalk - John AA2BN

Database - John AA2BN

DX - Doug WA2NPD

Field Day - Tony KG2MY

Hamfest - Bob KB2EAH

Hospitality - Open

Membership - John AA2BN

Nominations - Bob KR2U

Publicity - John N2AWD

Repeaters - Chuck WA2TML

Scholarships - Greg WN2T

Special Services - Open

Sunshine - Open

Technical - Open

TVI - John AA2BN

VEC Testing - Chick WA2USI

4-H Parking - Bob KR2U

The W2MMD Repeaters

147.78/18 Mhz - Pitman

223.06/224.66 Mhz - Sewell

447.1/442.1 Mhz - Pitman
(CTCSS 131.8 Hz)

GCARC Meetings

General Membership

8p.m. 1st Wednesday every month, Pfeiffer Community Center, Williamstown, NJ

Board of Directors

8 p.m. 3rd Wednesday every month, GCARC Club site, Harrison Twp. 4-H Grounds
~1 mile south of Mullica Hill on RT77

Nets

**ARES/RACES -
Sundays 20:00 Hrs
(147.78/18 and
223.06/224.66
repeaters)**

**10 Meter - Sundays
following the
ARES/Races Net
(28.350 Mhz)**

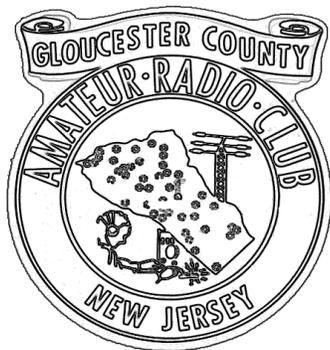
March Meeting Program

“APRS Update”

presented by

John Zaruba, AA2BN

stamp



P.O. Box 370
Pitman, NJ 08071

Mailing Label