



# Crosstalk

Issue #4

April, 2001



*affiliated club*



## President's Message

As I write this message today it is a nice spring day outside and it reminds me of all the activities coming up soon. We need a new field day chairperson since Tony is going to be working the last weekend in June and all the last weekends for some time. I'm sure Tony will help whoever decides to take on this task.

The club depends on the 4H parking and the Hamfest to carry on its programs and maintain the clubhouse and help will be needed to bring these activities to a successful conclusion. Let's get together and make this a banner year.

Next meeting April 4th John AA2BN will put on a program on APRS update. Knowing of John's programs in the past I know it will be of interest to all. This program was supposed to be last month but Murphy interfered.

The Generator is coming along fine and it will be ready for field day so bring your long extension cords.

Finally the battleship New Jersey radio club is coming along fine and they have restored the 1MC system to working order in most of the ship's spaces. The 1MC system is the main P.A. system over which you would be likely to hear "Now hear this man your battle stations" and many other calls. There is a membership meeting planned for April 9th, However the site is in question. Meeting and other info can be had at

<http://www.qsl.net/bb62>

They are hoping to get the meeting on the battleship.

Hope to see you all at the 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*

Just looking at W3UR's FB Weekly DX Bulletin front page page article where A61AJ, the super station in the United Arab Emirates, is to be activated by a multinational group for the CQ WPX SSB contest the weekend of March 24-25. Team members will arrive early to help with some antenna work, including the installation of a 3 element 80 m beam! A NEW 80 m 3 element beam!!! Wonder what they plan to do with the old one? How many of us South Jerseyites have room for an 80 m 3 element beam? Guess we all do....In our fondest dreams.

Well, on to another brief topic. For those of you new to the DX world, you should become familiar with the terms "Pirate" and "Slim". Now they both mean the same thing. The word "Pirate" is easier to understand, and it means the same thing as described in the dictionary, i.e. someone who steals something belonging to someone else. In the DX world it is a station who operates clandestinely using someone else's call sign. Or, the pirate may operate using an unissued callsign or perhaps the callsign of someone deceased. Some pirates are really clever and very good at it.

A few years ago, K3ZO was operating from Thailand on 40 m CW with a huge pile up which yours truly was trying "break". After some time, K3ZO sent RX 5, and presumably, left for a cup of tea, perhaps. Maybe 2 minutes later, he was back with his HS call sending QRZ up. Well, maybe five minutes later, he came back to my call - - and happily, I finally had a Zone 26 40 m contact in the log. It wasn't until maybe 3 months later when Fred returned my QSL with the not-in-the-log notation! Boy, that pirate was smooth, slick, and good. I was completely fooled, as were others. The term "slim" means the same as "pirate", except that after 41 years of hamming, I never learned the origin of the term "slim". If some reader knows, please let me know.

Now on to the busy month of April:

<u>Station</u>	<u>Dates</u>	<u>Freq / Mode</u>	<u>Rarity</u>	<u>Country</u>
EM1HO	now 4 1 yr	80-6; SSB,CW,DIG.	2	Antarctica
7Z1AC	Apr 16 4 2 yrs	None given	2	Saudi Arabia
OH0/DL	4/14-4/20	160-6;SSB,CW,RTTY	2	Aland Island
TX0C/TX5C	4/27-5/2	160-6;SSB,CW	4	Chesterfield Is.
V73E	4/19-4/26	80-6;SSB,CW,RTTY	2	Marshall Isls.
VP8SDX	4/23-5/8	160-10;SSB,CW	2	Faulkland Isls.
H40RW	3/21-4/11	80-10;SSB,CW,RTTY	4	Temotu Island
VK9ML	4/21-4/24	80-6;SSB,CW	5+	Mellish Reef
HK3JJH/0	4/7-5/7	160-10;SSB only	5	Malpelo Island
HK5MQZ/0	4/10-4/21	80-10;SSB,CW	5	Malpelo Island
S7---	4/6-4/19	160-6;SSB,CW,DIG.	3	Seychelles

\* 5 is rarest

*TNX to the Weekly DX, 425 DX News, K2JF, AA2WN, and WA2LET*

## Propagation #7

*by John Fisher, K2JF*

### IONOSPHERE PREDICTIONS

By SOUNDING the ionosphere it is possible to predict for several months in advance the various important characteristics of the ionosphere above any point on the surface of the earth. Such predictions are useful in the selection of optimum frequencies for radio communication over a definite path at particular times.

### SKY-WAVE PROPAGATION

GENERAL -Sky-Wave propagation refers to those types of radio transmission that make use of ionospheric reflections to provide signal paths between transmitters and receivers. A typical question in sky-wave propagation is whether the ionosphere will support (reflect) a radio wave of a particular frequency and whether the received signal will be strong enough at the receiver to be heard above the noise level present at the receiver.

### SKY-WAVE TRANSMISSION PATHS

The many possible paths of radio waves from a transmitter to a receiver as transmitted by reflection from an electrically conducting layer of the ionosphere. Note that some of the components of the entire wave front, which in this case are assumed to be of too high a frequency for reflection by the ionized layer, pass on through and are lost in outside space, unless they happen to be reflected from some higher layer having a greater degree of ion density. Other components of wave, which are assumed to be of the correct frequency for reflection from the ionosphere layer are returned to earth, and it is these components of the wave that provide communications. Note also that the SKIP DISTANCE is that distance from the transmitter at which the ion density of the layer will just support reflection. Note the distinction between the terms SKIP DISTANCE and SKIP ZONE. For each frequency (greater than the critical frequency) at which reflection from an ionosphere layer takes place, there is a skip distance that depends only on the frequency and the state of ionization. The skip zone, on the other hand, depends on the extent of the ground-wave range and disappears entirely if the ground-wave range equals or exceeds the skip distance.

A. SKY-WAVE MODES. The distance at which the wave returns to the earth depends on the height of the ionized layer and the amount of bending of the path while traversing the layer. Upon return to the earth's surface, part of the energy that enters the earth to be rapidly dissipated, but part is reflected back into the ionosphere again, where it may be reflected downward again at a still greater distance from the transmitter this means of travel is hops, by alternate reflections from the ionosphere and from the surface of the earth, may continue, and enables transmission to be received at long distances from the transmitter.

B. GREAT-CIRCLE PATH. The paths which the radio wave NORMALLY traverse in traveling from the transmitter to the receiver lie in the plane

*continued next page*

## **Propagation #7 continued**

passing through the center of the earth and the transmission and reception points. The intersection of this plane with the surface of the earth is the great-circle path between the transmission and reception points. Radio-wave transmission paths which lie in this plane generally are called, for brevity, great-circle paths. Frequently, however, waves do not follow paths confined to this plane, and this deviation is called non-great-circle paths. The part of the ionosphere which controls sky-wave propagation is the portion directly above the great-circle path. Waves can follow either the major arc or the minor arc of the great-circle path; for instance, radio waves emanated at New York City might travel cross-country, or westward to reach San Francisco, which would be along the minor arc of the great-circle path between these cities, or these waves might travel eastward, almost around the world to the same destination, which would be along the major arc. The two types of transmission called SHORT-PATH and LONG PATH transmission respectively.

C. FREQUENCY As noted previously in the discussion of the ionosphere, the higher the frequency of a wave, the less it is refracted by a given ion density. Thus, if the angle of incidence of the wave with the ionosphere is fixed and the frequency increased, the minimum distance between the transmitter and the point of return of the wave to the earth increases slightly.

D. INCIDENT ANGLES. For a radio wave of a particular frequency and for an ionized layer of a particular density of ionization, there is an angle of incidence of the wave, called the critical angle, at which the wave is reflected and returns to earth near its minimum or skip distance. It should be noted that the critical angle of a given wave sometimes is defined as the angle at which the wave is propagated horizontally within the ionospheric layer and, therefore, does not return to earth. Note that at angles of incidence larger than the critical angle, the wave is not sufficiently refracted in the ionosphere and escapes into space. As the angle of incidence decreases below the critical angle, the wave returns to earth at decreasing distances from the transmitter until a point of minimum distance, the skip distance, is reached. Note the critical angle for a given frequencies not to be confused with the critical frequency for a given layer of the ionosphere. the critical frequency, as explained before, is the highest frequency a given density of ionization will return directly to earth when propagated at a vertical angle (incident at 90 degrees to the ionosphere).

The next part 8 will be on:

MAXIMUM USABLE FREQUENCY (MUF)-LOWEST USEFUL FREQUENCY (LUF) and some other OPTIMUM WORKING FREQUENCY (FOT)

C U in the Pile-Ups K2JF

## THE FIRST PRESIDENT

Here is your History lesson for the day. After this I needed it, see if you do too - K2JF

Who was the first President of the United States?

CORRECT ANSWER: Peyton Randolph.

You thought it would be George Washington? Read on...

George Washington was actually the 15th President of the United States. He was the first President under the current Constitution. The British surrendered to the American Colonies on October 19, 1781, but Washington wasn't inaugurated until April 30, 1789. From 1774 until 1789 there were 14 different duly elected Presidents. And here they are:

1. Peyton Randolph - Former attorney of Virginia for Britain's King George.
2. Henry Middleton - One of the wealthiest planters in the South.
3. John Hancock - The man and his signature.
4. Henry Laurens - The only American President held as a P.O.W. by a foreign power.
5. John Jay - Among other things, he later became the First Chief Justice of the Supreme Court.
6. Samuel Huntington - Mastered the study of law without ever going to school.
7. Thomas McKean - During his 50 year political career, he held almost every elected position imaginable.
8. John Hanson - Was firmly against the U.S. Constitution.
9. Elias Boudinot - He was a foreign affairs expert.
10. Thomas Mifflin - He signed the official treaty with Great Britain to end the Revolutionary War.
11. Richard Henry Lee - Great Uncle of Robert E. Lee. He was the first President to firmly oppose slavery.
12. Nathaniel Gorham - Believed that within 100 years, the U.S. would be many different countries broken up by regions.
13. Arthur St. Clair - Only President born and bred on foreign soil.
14. Cyrus Griffin - He served until George Washington was inaugurated.

It may not have anything to do with Amateur Radio but I thought you might like to know..K2JF

## UNKNOWN GIVER

About a year ago I had a stay in the hospital for three weeks. Every day my wife Ruth paid me a visit that I looked for with delight.

Ruth informed me on a visit a bag had been left on the porch. With that news I sat up in bed and was more than interested in the contents. Now who would leave anything on our porch, we are not down and in need of help.

Well as time went on I asked what was in the bag and to my surprise Ruth said it contained radio parts. Just what I needed more junk to add to the collection. As you may guess I requested Ruth to bring in the surprise package the next day.

Thank goodness it was light and not too many loose parts. Opening the bag and looking in, to my surprise it was a receiver kit from a well known vender.

Here is the real reason I am writing this article. We do not know who left the bag on the porch as no name or clue who it belonged to. I didn't know if the owner wanted me to repair the kit or was he just getting rid of it. Now I would like to thank the unknown giver.

If anyone knows who left the gift on the porch please get in touch.

Charlie, K2PQD

### 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:

Irma Colabrese N2FNF	4/18
Gurdon Cooper AA4N	4/12
Bob Krukowski KR2U	4/24
Ray Metzger AI2B	4/2
Whitney Myers KB2ZTL	4/18
Bill Wyatt N2WIB	4/4



## 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](mailto:jzaruba@snip.net)**  
**[aa2bn@amsat.org](mailto:aa2bn@amsat.org)**

**Submission deadline: 4/20/2001**

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## 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)**

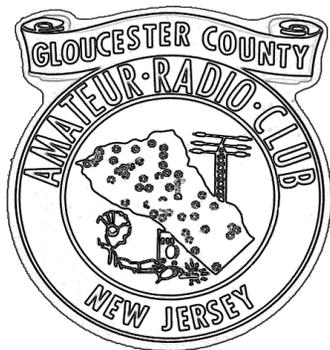
**April Meeting Program**

**“APRS Update”**

*presented by*

**John Zaruba, AA2BN**

stamp



P.O. Box 370  
Pitman, NJ 08071

Mailing Label