

# MOUNTAIN SPARK GAPS



NPARC - The Radio Club for the Watchung Mountain Area

VOLUME 39

December 2004

NO. 10

**N2XJ**  
**Club Callsign**

## Last Club Meeting of 2004

Monday December 13th, at the Salt Brook School

### From: The Prez

#### Who Needs Sunspots?

The CQ Worldwide CW contest is one in which I generally try to participate. It is always fun to get my K-1 QRP rig on the air to see how many countries I can work. It was more of a challenge this year as my ended longwire antenna fell down earlier, and I hurriedly stuck my multi-band vertical antenna on a tripod in the backyard. Although I could not spend as much time on the air as I would have liked, I worked 23 countries over the course of a few hours on 5 watts on 40 and 20 meters. Andy, WA2DKJ, reported that he worked about 87 countries and he usually works 100 but the bands were still very active.



Although the code speeds of some stations are often too fast to catch the first time, it is good practice for those who want to increase their code copying skills. I am gradually getting my code speed up and it is great fun. So for those who may be intimidated by the code speed in contests, keep practicing. It is well worth it.

I think the general consensus is that this year's club Holiday Luncheon was enjoyed by all. We had a great turnout and it was good to see everyone again.

A word about some upcoming club activities: Forget about EBay for awhile and start looking around the shack for stuff to bring to the Club Auction. A date sometime in March will soon be set.

We will also be doing Kid's Day again on January 2nd in Berkeley Heights. So the activities never stop! Happy Holidays and Happy New Year to all club and family members. Here's hoping Santa leaves some Ham stuff in your stocking!

73, 88 es \*ARL61 de Al K2AL

\*(Merry Christmas and Happy New Year to all!)

### New Club Officers for 2005

Thanks to the efforts of the nominating committee chaired by Guy Brenner K2EFB, we have the pleasure to announce the NPARC Officers for 2005:

President: Al Hanzl K2AL  
Vice President: Eric Grosse N2VI  
Secretary Ralph Milnes KC2RLM  
Treasurer Barry Cohen K2JV  
Activities Chair: Frank McAneny K2EZR  
Past President Harry Schwill AB2CM

### Holiday Luncheon Award

The Royal Order of the Wouff Hong and the Secret Society of the Rettysnitch, in closed congress, directed that the NPARC Wouff Hong Award be granted to Lou Alexander WK2I for his extraordinary efforts during the past two years in organizing the Club's Class F field day station. The station finished in THIRD PLACE, 1F category, for the whole USA and Canada!



The NPARC Wouff Hong Award for 2005 was granted to Lou Alexander WK2I, by Al Hirsch K2SKV and Al Hanzl K2AL

### Kids Day January 2nd

This major Public Relations event will take place at the Berkeley Heights Community Center on Park Avenue. Watch for a special Flyer. Help is needed.

## Meeting Schedule

**2nd and 4th Monday of each month**  
7:30 - 10:00 PM at the Salt Brook School Cafeteria, Springfield Ave. and Maple St. New Providence.

**2nd Monday meeting** will generally be a program or Guest Speaker on a Ham Radio subject.

**4th Monday meeting** will be an Informal Project Meeting, and for ARISS Planning and Preparation.

### Everyone is Welcome

If a normal meeting night is a holiday we usually meet the following night. Call the contacts below.

## Club Officers for 2005

President: K2AL Al Hanzl  
908-464-1323  
Vice Pres: N2VI Eric Grosse  
908-322-9653  
Secretary: KC2RLM Ralph Milnes  
973-377-7061  
Activities: K2EZR Frank McAneny  
908-464-5285  
Past President: AB2CM Harry Schwill  
908-322-8867  
Treasurer: K2JV Barry Cohen  
908-464-1730

## On the Air Activities

Club Operating Frequency  
145.750 MHz FM Simplex  
Sunday Night Phone Net  
Whippany Repeater at 9:00 PM  
Transmit on 147.63 MHz  
Receive on 147.03 MHz  
Net Control: KB2IKC

### RTTY Net

Sunday evenings 8:00 to 9:00 PM  
60 WPM Baudot 145.75 MHz  
Net Control: K2AGI

## Club Internet Addresses

Website: <http://www.qsl.net/nparc>  
Reflector: [nparc@mailman.qth.net](mailto:nparc@mailman.qth.net)  
Webmaster: KC2RLM, Ralph

## MOUNTAIN SPARK GAPS

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Editor: K2JV Barry Cohen  
Contributing Editors:

KC2RLM Ralph Milnes  
WB2QOQ Rick Anderson

## Climatological Data for the Watchung Mountain Area Provided by WB2QOQ, Month of November



	2004	2003
Maximum Temp.. °F:	65	75
Minimum Temp. °F:	24	28
Average Temp. °F:	45.6	47.4
Total Precip Rain/Snow (in.):	5.05/.25	4.18/0.0

The above information was provided by WB2QOQ, who has been recording daily weather events at his station for the past 23 years.

## Calendar of Coming Events

Dec. 13th: **3:00PM - SALT BROOK STATICS**  
Regular Meeting - Convetsration with an Astronaut

Dec 13th: **REGULAR MEETING at 1900,**  
Salt Brook School Cafeteria

Jan. 1st (New Years Eve) at 0001Z  
Straight Key Night

Jan. 2nd: **KIDS DAY at Berkeley Heights**  
Noon setup. Operation from 1300 to 1800 local time

Jan. 10th: **NPARC REGULAR MEETING** at the Salt Brook School

## Holiday Toy Drive for Homeless Florida Children

In response to ARRL's call for help, the Kids at the Salt Brook School and particularly members of the *Salt Brook Statics* radio club, collected, packaged and shipped off over two hundred pounds of new toys and games for distribution to kids and families in Martin County Florida (North of Palm Beach) who were made homeless and/or lost all their possessions due to the recent Hurricanes which hit the state.



I was luckily able to visit the collection and distribution site at the Martin County Fairgrounds, about 50 miles north of Palm Beach and meet with the Director of the "White Dove" project which is the name given to it by the United Way. They have posted a big USA map and marked the location of each donor (already about 500 of them) and surrounded the map with

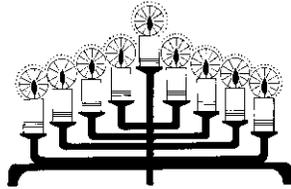
QSL cards received from each of the Hams who donated.

In the above photo we have (L to R) Project Director Diane Tomasik, Nancy Deacon KD4HSS, Bill Deacon, KD4HST, two HAM volunteers who help with sorting and organizing the donations, and a certain "Carpet Bagger" K2JV, who just came to watch.

Some additional toys have recently been collected at Salt Brook School, and these will be distributed to organizations in New Jersey.



**HAPPY HOLIDAYS from the Publisher, Editors, and staff of Mountain Spark Gaps!!**



## Antennas for Salt Brook School

The Salt Brook School building is constructed with a perfectly flat and easily accessible roof. There is, however a problem for antennas: there is no place to mount anything.

Two heavy wood pedestals have been placed on the roof. They are built with 6 x 6 inch chemically treated timbers which were cut, drilled, and bolted together by long threaded rods. One pedestal is 3 x 4 feet in size. The "large" pedestal is 4 x 5 feet in size.



The "large" antenna pedestal was assembled in the Parking Lot before it was placed on the roof. Helpers and observers are (seated L-R) Alexandra Esposito, Nick Esposito, Robin D'Amico. Back Row K2JV, K2EZR, W2CIY and KC2IZK.

Both pedestals mount a 36" tripod (Radio Shack) and one of them will be equipped with an azimuth rotor mounted on the pedestal inside the tripod. When the ARISS tracking Yagis are complete, they will include an elevation rotor system, and they will be mounted on a mast connected to the azimuth rotor.

One pedestal is now equipped with an omnidirectional 2 meter ground plane antenna, but ultimately it will carry a multiband vertical for HF. The flat roof will make it easy to lay out an array of radials. The Club could use a donation or loan of a suitable HF vertical antenna for 20 and 15 meters.

Two coax, two rotor, and necessary control cables will be run from the antenna locations to the library.

## Membership Renewals

The membership form for 2005 is attached at the end of this issue of Spark Gaps. Please fill it out and return it to the Treasurer with your annual dues.

## Salt Brook Statics Report

reported by Frank McAneny K2EZR

The *Salt Brook Statics* held two meetings Thanksgiving week. Monday consisted of a simulated space station contact that gave us an idea of how many questions and answers can be exchanged during a ten minute pass. The club members had a list of questions to ask of astronaut Bob (KB2IKC). Whether they all realized that our spaceman was really in Berkeley Heights was not obvious.

The second meeting was during an ISS pass that allowed us to hear a real astronaut talking with a school group on Long Island. The Long Island group apparently had a list of questions similar to ours and the answers were remarkably close to those given by KB2IKC. Although we could hear only one side of the exchange, the group listened intently and followed the ISS progress on a map as it went up the east coast from the Gulf of Mexico to eastern Canada.

The Wednesday meeting was at 1 PM after the half day of school before Thanksgiving and was attended by an enthusiastic gathering of school administration, students and parents.

## New Refreshments Chairman

We are fortunate to have a capable volunteer to be our Refreshments Chairman. Vince KC2IZK has stepped in to fill this important position which certainly makes for enjoyable meetings and other Club gatherings.

Vince states, "I am looking for a few gentlemen to step forward and volunteer to help out. In general this involves picking up snacks on the way to a meeting, and helping to set up and clean up at meetings."

Under the direction of our new "Chef de Cuisine" we can all look forward to meetings which are enhanced by interesting food and drink!



Volunteers please contact Vince directly on the Club Frequency or by e-mail or landline.

**A little websurfing** turned up the following article and photograph. In line with our current construction project of the ARISS antenna array, it seemed that we ought to know more about Dr. Yagi who invented the whole thing many years ago. Also of interest is that Yagi and his students knew about Magnetrons and UHF circuits. In other words they had RADAR in their hands, but the Japanese Military never developed it for use in WW2. Look for more “antenna articles” and presentations in 2005.

### Hidetsugu Yagi

In June 1928, THE PROCEEDINGS OF THE INSTITUTE OF RADIO ENGINEERS (IRE) included a paper on short-wave communication by Hidetsugu Yagi, an Engineering Professor at Tohoku Imperial University in Sendai, Japan. In the paper, he discussed the design and performance of a directive antenna that he called a “wave projector” or “wave canal” and which had been developed recently at Tohoku University. The antenna employed a number of parasitic elements called directors and reflectors and would come to be known as the Yagi antenna or Yagi-Uda antenna. Yagi stated that he and his colleagues had tested a system using a magnetron at 40 cm along with a wave projector antenna to achieve a range of about 1 km. He commented that the performance of the wave projector had been “demonstrated to be quite remarkable.” They had tested antennas with up to 20 directors, and he explained how the beam width was affected by the number and length of the parasitic elements. During the discussion of Yagi’s paper, J. Howard Dellinger, of the U.S. Bureau of Standards, predicted that the paper would be regarded as a classic and that the principles disclosed by Yagi would serve as a guide for much future development.

Yagi was born in 1886 in Osaka, Japan, and graduated in engineering from Tokyo Imperial University in 1909. He then went to Germany, where he continued his education under the direction of Heinrich Barkhausen, inventor of the Barkhausen oscillator, which used a positive-grid triode to generate high frequencies. Yagi’s research in Germany concerned resonant transformers used in wireless systems. The outbreak of the first World War forced his hurried departure without his experimental data. He later published a paper on the theoretical part of this research in the December 1917 PROCEEDINGS OF THE INSTITUTE OF RADIO ENGINEERS. After leaving Germany, Yagi studied in Great Britain with John A. Fleming until 1916. Before returning to Japan, Yagi visited the United States and spent some time at Harvard University with George W. Pierce. Yagi then began his teaching career at Tohoku University, which awarded him a doctorate in engineering in 1919.



At Tohoku, Yagi initiated a research program in radio-electronics drawing on what he had learned from Barkhausen, Fleming, and Pierce. Other members of the faculty and advanced students, including Kinjiro Okabe and Shintaro Uda, became participants in a collective research effort. A perceived need for better communication between islands and with ships led them to focus on short wave communication with directive antennas. The Yagi group received financial support for the research from a private foundation in Sendai. In February 1926, Yagi and Uda published their first report on the wave projector antenna in a Japanese publication. Yagi applied for patents on the new antenna both in Japan and the United States. His U.S. patent was issued in May 1932 and assigned to the Radio Corporation of America.

In the early 1930s Yagi moved to Osaka Imperial University as Director of a laboratory where developmental work on radar began by 1936. He served as a Civilian Consultant on radar and communication to the Japanese military during World War II. His home and library along with most of his personal papers were lost during a bombing raid in April 1945. Soon after the end of the war he was interviewed by Roger I. Wilkinson, William R. Hewlett, and others concerning Japanese developments during the war. Yagi expressed considerable frustration over what he perceived as poor communication and cooperation between the military services and civilian experts. Gentai Sato, who studied under Yagi, has written on the surprise to the Japanese when they captured British radars equipped with Yagi antennas and a document on Yagi arrays at Singapore. Sato also noted the irony in the American use of Yagi antennas installed on the atomic bombs dropped on Japan to determine the height of the explosion. Shintaro Uda visited the United States in 1951 and expressed his astonishment at the ubiquity of the Yagi-Uda antennas used as home television antennas.

After the war Yagi served as a consultant on the technological rehabilitation of Japan and assisted in the formulation of television standards. He also served as president of the Yagi Antenna Company and was awarded Japan’s Order of Cultural Merit in 1956. He died in 1976.

**Membership Registration**  
**NPARC - The Watchung Mountain Area Amateur Radio Club**  
**P.O. Box 813, New Providence, NJ 07974-0813**

**For the Calendar Year 2005**

Full Name \_\_\_\_\_ Spouse Name \_\_\_\_\_

Address \_\_\_\_\_ City \_\_\_\_\_ Zip \_\_\_\_\_

e-Mail Address \_\_\_\_\_

Home Telephone (\_\_\_\_\_) \_\_\_\_\_

Office Telephone (\_\_\_\_\_) \_\_\_\_\_

Call \_\_\_\_\_ Class \_\_\_\_\_ Expiration Date \_\_\_\_\_

Birthday (Month and Day are sufficient) \_\_\_\_\_

ARRL Member? \_\_\_\_\_ Life Member? \_\_\_\_\_

Can you operate 145.75 MHz FM? \_\_\_\_\_ Mobile? \_\_\_\_\_ HT? \_\_\_\_\_

Can you operate on 440 MHz FM? \_\_\_\_\_ Mobile? \_\_\_\_\_ HT? \_\_\_\_\_

Can you give a technical presentation at a Club Meeting?

Subject?? \_\_\_\_\_

**Please return this entire form.**

Dues are \$20.00 per year for Members, \$10.00 per year for Students.

Dues may be paid by cash or personal check made to NPARC and sent to:

**Barry G. Cohen, Treasurer**

**39 Cromwell Court**

**Berkeley Heights, NJ 07922**

Dues for 2005 are payable before the first meeting in January 2005.