

MOUNTAIN SPARK GAPS



NPARC - The Radio Club for the Watchung Mountain Area

VOLUME 38

January 2003

NO. 1

N2XJ
Club Callsign

First Meeting of 2003 scheduled for Monday January 13th at the Salt Brook School

From: The Prez Keep Looking up!



I've been thinking about putting up a different antenna in my "antenna challenged" backyard, since I'm disappointed with the performance of my current multi-trap dipole. Harry, AB2CM, invited me over to his QTH for a look at his antenna farm. It is quite impressive. In addition to his tower and massive

yagis he has a multi-band vertical antenna which he says works quite well. I have used a similar antenna and I also disagree with those who say that a vertical antenna is a "lossy dummy load"! But I have been thinking about using an end-fed long wire, or "Zepp" antenna. In reading about it, they are not as simple as first thought. If anyone in the club has experience with this type of antenna, perhaps you can share it with us at a club meeting. Antennas are always an interesting topic.

In other developments, Steve, KC2KJK, recently received a new mobile HF rig in his Christmas stocking. Steve gave me a look at the real nice installation in his car. He has been working 17 meters mobile.

The Holiday Luncheon was enjoyed by all. We had a great turnout with good food and good conversation.

The seismometer project is proceeding nicely under Andy's, WA2DKJ, direction. Mechanical construction has begun so we should be recording seismic activity soon.

(Continued in next column)

Wouff Hong Award to KB2BBP



In an unforgettable ceremony which took place during the Annual Luncheon at Charlie Browns Restaurant, the Club's most prestigious award was presented to Tony Lockhart KB2BBP. In accordance with instructions from the Directors of the Honorable Order of the Wouff Hong, and the Secret Society of the Rettysnitch, Tony received the award in recognition of his invaluable and unflagging efforts as Club Caterer and official Coffee Maker at all Club meetings and events.

And don't forget that two great on-the-air activities take place the first weekend of January. "Kid's Day" is January 4th and the ARRL "RTTY Roundup" takes place on January 4-5. For those with their RASCAL kits, it is a great chance to operate some RTTY in a low-key, fun "contest". See the ARRL website for details on both.

Finally, best wishes for a healthy, peaceful and prosperous New Year and see you at the meetings.

Vy 73,
Al K2AL

Meeting Schedule

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

4th Monday each month: 7:30 - 9:00
Informal Project Meeting, at the
New Providence Memorial Library
Elkwood Ave. and Academy St.
One Block North of Springfield Ave.

Everyone is Welcome

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

Club Officers for 2003

President: K2AL Al Hanzl
908-464-1323
Vice Pres: KC2EAI Ryan Kelly
973-543-2454
Secretary: K2GLS Bob Willis
973-543-2454
Activities Mgr: KB2IRS Cameron Hall
908-756-3712
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.qls.net/nparc>
Reflector: nparc@mailman.qth.net
Webmaster: KC2RLM, Ralph

MOUNTAIN SPARK GAPS

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Editor Emeritus: K2AGI John Sheetz
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WB2QOQ Rick Anderson

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



	2002	2001
Maximum Temp.. °F:	58	68
Minimum Temp. °F:	15	16
Average Temp. °F:	33.7	40.4
Total Precip Rain/Snow (in.):	3.68/10.75	2.57/0

The above information was provided by WB2QOQ, who has been recording daily weather events at his station for the past 22 years.

Calendar of Coming Events

January 13th: First **REGULAR MEETING** of the year at the Salt Brook School. Program to be announced

January 27th. **Technical and Project Meeting** at the Library.
Red Cross Net

February 10th: **REGULAR MEETING** at Salt Brook School

May 16 - 18: **DAYTON HAMVENTION**. It's not too soon to think about attending this year!

MORE EVENTS??? Send info to k2jv@arrl.net!!

Getting the Most from Your Hand-Held Transceiver

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C. Edward Harris, KE4SKY, AEC Fairfax ARES

If compact HTs are subjected to frequent 5w transmissions of several minutes, they overheat and the final power transistors may fail prematurely. Kenwood and Yaesu state that their HTs are rated for 20% duty cycle at 5w PEP, or 30 seconds transmit to 2 minutes of standby. This is not uncommon for today's HTs. When I first got my license, I burned up three sets of "finals" during the year warranty period, powering an HTX-202 from an auto cigarette lighter plug.

After the warranty ran out, I replaced it with a Kenwood TH-22A and within a few months repeated the same result. Kenwood's Virginia Beach service center politely admonished me that I was "exceeding the recommended duty cycle" for a hand held and should buy a mobile. I followed their recommendation, sought other HTs for ARES /RACES /Skywarn and now pass that advice along.

Of the popular 2-meter HT's, only Standard doesn't restrict duty cycle and warrants their amateur hand helds equal to their commercial, aviation, marine and public safety band portables. Unless your HT is a Standard, old Icom "brick" or "pre-tiny" Yaesu, use low or medium power most of the time to save your finals and limit your full power 5w use to short transmissions.

Ed. Note: Another clip from ARES which should be of interest to all.

The Best Digipeater in the World?

by Ralph Milnes KC2RLM and Bob Willis K2GLS

Several NPARC members have been “bouncing” 2 meter digital packets off the International Space Station (ISS). **You can too**, and it’s really not that hard to do. What’s involved is to send a Packet Signal up to the ISS in a format which asks ISS to digipeat (or relay) your packet message to anyone who is listening. From its vantage point 250 miles above the earth, the ISS can “see” 1500 miles in any direction. Hypothetically you could use the ISS to relay your packet nearly 3000 miles!



How To Do It

First, you’ll need a 2 meter FM packet station. Either a packet TNC (Terminal Node Controller) or a sound card interface, such as the RASCAL kit that club members built earlier this year will be OK. If you use a sound card interface, a very useful Windows program called “UISS” will let you make settings similar to a TNC, and is available on the web at (<http://users.skynet.be/on1dht/uiiss.htm>).



It’s also handy to have a satellite pass prediction program to tell you when the ISS will be within range. We have been using a program called WinOrbit (<http://www.sat-net.com/winorbit/>). Barry has been using the NASA internet site which has a web based program and gives detailed information.

While output of 25 or 50 watts is always a help, you can use considerably less power. Directional antennas capable of azimuth (direction) and elevation changes are ideal, but club members have been very successful using omni-directional vertical antennas.

The frequencies for the ISS two meter packet link are 145.99 MHz (transmit / uplink) and 145.800 MHz (receive / downlink) – no tone/PL required. (By the way, when the astronauts want to use voice instead of packet, they continue to use the 145.800 downlink, but ask that you transmit up on 145.490 MHz.)

To listen to the digipeater, and copy the signals coming back down from the ISS, all you need is to set up your packet receiving system to listen on 145.80 MHz at the time of a pass. The digipeater is always on and our experience is that it is always busy.

What To Expect

During a pass, with your radio on and your TNC or sound card program running, you should soon be able to see packets being sent back to earth by the ISS. Since no one else is likely to be sending any signals on this frequency, everything you hear will be coming from the satellite. Here’s an example:

K2GLS sends a packet on the uplink frequency containing a CQ and the VIA command, which tells RSØISS to relay it. Bob also adds a small message about himself which is the “information” part of the packet. If the ISS hears Bob it immediately “repeats” the packet on the downlink frequency of 145.80 MHz. But there is one small variation - the ISS adds the * symbol after it’s callsign, even tho Bob never sent that asterisk. None of us hears Bob’s uplink signal, because we are listening on the downlink frequency. What we hear comes back from ISS and is:

K2GLS to CQ VIA RSØISS*: Bob in Mendham NJ

To Digipeat through the ISS, you send what is called an unconnected (UI) packet. You don’t want to establish a typical packet “connection”, because the pass is too short and ‘connected’ mode uses too much time and bandwidth. The unconnected packet must be set up to contain something like a CQ, the secondary command VIA and the callsign of the digipeater which is RSØISS.

For most TNCs, you use the UNPROTO command to set the path. In this case you may want UNPROTO CQ VIA RSØISS although you can substitute ALL or a specific callsign for the CQ – it’s your choice. And note the zero after RS, not the letter O.

You can also add an optional message of your choice in the packet. The shorter the message, the better the chance it won’t collide with someone else’s packet and thus will get relayed. Many operators use just their first name and location. Some include a short greeting; or an email address for QSL purposes; or a location grid square. Most packet programs allow you to preset a few different messages, and you can always key in the text you want attached to the packet. So if you have UNPROTO turned on with a path of K2GLS VIA RSØISS, and you have keyed in: Hi Bob, a UI packet will go up to ISS and hopefully be repeated back down to where Bob will hear:

KC2RLM to K2GLS VIA RSØISS*: Hi Bob

It’s also a nice gesture to QSL packets from others. For example, Barry K2JV sent a packet containing a CQ which was repeated by the ISS. A station in Maine heard Barry’s packet and responded with:

KB1GVR to K2JV VIA RSØISS*: QSL K2JV

To send this, KB1GVR changed his UNPROTO command to include K2JV, and probably keyed in the QSL K2JV message.

(Editors Note:) These instructions may be overly abbreviated, so feel free to contact Bob, Ralph or Barry for more information. You should soon enjoy the excitement of seeing your own packet being relayed back to you — or in getting a packet from someone a thousand miles a way. We can also arrange a demonstration of this activity at a forthcoming Club Meeting!!

Membership Registration
NPARC - The Watchung Area Amateur Radio Club
PLEASE TAKE CARE OF THIS NOW

For the Calendar Year 2003

Full Name _____ Spouse Name _____

Address _____ City _____ Zip _____

e-Mail Address _____

Home Telephone (_____) _____

Office Telephone (_____) _____

Call _____ Class _____ Expiration Date _____

ARRL Member? _____ Life Member? _____

Can you operate 145.75 MHz FM? _____ Mobile? _____ HT? _____

Can you/ will 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 2003 are payable before the first meeting in January 2003.

PLEASE DO IT NOW