

MOUNTAIN SPARK GAPS

NPARC - The Radio Club for the Watchung Mountain Area

VOLUME 39

February 2004

NO. 2



N2XJ
Club Callsign

Digital Voice Radio scheduled for Monday February 9th, at the Salt Brook School

From: The Prez

Dumb and Dumber?

Several weeks ago, the ARRL announced their proposal for another restructuring of Amateur Radio licensing, largely driven by the elimination of the Morse code requirement for HF privileges by the international lawmakers. The main points of that proposal were the formation of a new, no code entry level license with heavy emphasis on HF privileges and the rolling up of existing Techs and Tech "Plusses" into the General class license. Also, holders of Advanced tickets would become Extras. The only code test would be 5 WPM for the Extra.



I have heard the natural reaction that we are again "dumbing down" Amateur Radio. I for one would probably agree that it is becoming easier to get a ham ticket in a relative sense. I was one of those who had to travel to Varrick Street to take my General exam in front of several stern FCC employees and take the 13 WPM code test (Quite frankly, the examiner who gave me the code test was actually quite nice!). I was a whiz at the code but weak on the theory, but I still passed both at the age of 14. How hard could it have been! But, of course, I prepared for it. I studied for it.

If today's exams are truly "dumbed down", one should be able to walk into an exam session and pass the test. But as we all know it doesn't happen that way. Yes, the question pool is right there, but some basic understanding of the theory behind the questions goes a long way towards passing the test the first time.

(Continued in next column)

Demonstration of Digital Voice Radio

Our February 9th meeting will feature a demonstration of Digital Voice radio by guest speaker John Marrin KB2KH. John is among the first owners of AOR's new digital voice modem, the ARD9800. He will demonstrate the amazing audio quality of this new mode and talk about the pleasures and pitfalls of using the ARD9800. You can read more about digital voice radio in Ralph Milnes KC2RLM's "DigiTales" article on Page 4. Note that if there are snowy road conditions on Feb 9th, we will reschedule the demo for a later meeting.

Dues are Due!!

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I agree with the ARRL on this one. If it's easier, Good! Let's get some young people back into this hobby and let them experience HF right away. There is very little on VHF to hold a newcomer's interest for long. I am starting to believe that poor HF conditions are not the only reason for low activity on the ham bands lately. I think there are just less people on the air. Maybe this "restructuring" will help fix that. (By the way, when I took my Novice exam, it consisted of a 5 WPM code test and a simple 20 question exam. Nothing about digital modes and rf safety. I took it in my basement! Piece of cake compared to the recent Novice exam!)

In club business, the Annual Club Auction is soon approaching. I am in the process of finalizing the date and place. We will keep you posted. Start looking around for items to auction!

See you all at the next meeting.
73 es 88 de K2AL,

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 2004

President: K2AL Al Hanzl
908-464-1323

Vice Pres: K2GLS Bob Willis
973-543-2454

Secretary: KC2HLA Hillary Zaenchik
973-543-2454

Activities Mgr:

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

Webmaster: KC2RLM, Ralph

MOUNTAIN SPARK GAPS

Published Monthly by NPARC, Inc.
The Watchung Mountain Area Radio Club
P.O. Box 813
New Providence, NJ 07974
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Climatological Data for the Watchung Mountain Area Provided by WB2QOQ, Month of January



	2004	2003
Maximum Temp.. °F:	54	48
Minimum Temp. °F:	-2	5
Average Temp. °F:	20.0	25.9
Total Precip Rain/Snow (in.):.	83/13.2	1.6/6.5

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

February 9th : **REGULAR MEETING** at the Salt Brook School at 7:30PM
Presentation on Digital Voice methods for Ham Radio

February 23rd: **PROJECT MEETING** at the Salt Brook School at 7:30 PM

March 8th: **REGULAR MEETING** at the Salt Brook School at 7:30PM

March 22nd: **PROJECT MEETING** at the Salt Brook School at 7:30 PM

April 12th: **REGULAR MEETING** at the Salt Brook School at 7:30PM
Presentation on Short Vertical Antennas by Jerry Sevick W2FMI.
Rehearsal for his Dayton Hamvention Presentation.

April 16th: **HOBBY DAY** at Mountain Park School Berkeley Heights
Friday afternoon, about 1300 hours.

May 14 - 16: **DAYTON HAMVENTION**. It's not too soon to think about attending this year!

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

Salt Brook School Receives Pair of 2M HTs Federal Bureau of Investigation Donates Amateur Radio Equipment to Schools Registered in ARRL's "Big Project."

At the suggestion of ARRL Headquarters, the Salt Brook School requested and has received from the FBI, a donation of a pair of Brand New ADI Handitalkies for 2 meters. The transceivers will be used in the school Ham Radio Club program, and will allow more students to get on the air and learn proper communication procedures.



The HTs were checked out, set up, and batteries initially charged by Club Vice President Bob Willis K2GLS, who is shown here presenting them to the school Principal, Ms. Jean Maier (center) and the Lead Teacher for the Ham Radio Club Ms. Cathy Cleenput (left).

The students are currently learning to use callsigns, prowords, and phonetics. They pass messages to each other in proper Ham Radio format. At the next meeting (February 9, at 1530 local time) the kids will start using the new HTs to play games and to set up a message chain around a loop of about 4 stations. We can use HELP!!

Kid's Day at Berkeley Heights

We've been looking for activities which could be done in Berkeley Heights, When the Recreation Commission heard about Kid's Day they immediately requested that we do it in Berkeley Heights and volunteered the use of the BH Community Center.

With a lot of help from Club members including Lou WK2I, Al K2AL, Eric N2VI, Emily KC2KMK, and both Joes KC2EYG and N2KRP, the event was held on Sunday January 4th between noon and 5PM local time. A total of about 25 QSOs are recorded on the log, the best DX probably being W5RRR the Houston Space Center Ham Station.

Kid's Day is a mini contest which occurs twice a year. We hope to get even more club members out for the June event.

The next event of this kind will be "Hobby Day" at the Mountain Park School in Berkeley Heights. Last year we set up an HF station at that school, and W5RRR was one of our best QSOs. Hobby Day will be Friday April 16, and there will be further announcements in Spark Gaps, plus a flyer.

Salt Brook School Radio Club next meeting on Monday, Feb 9



Hannah's at the mike while the guys look on!!

We've had about 35 kids attending each meeting of the Salt Brook School Radio Club. This Monday, if we have enough help from NPARC members, we'll start working on all four of our major activity centers.

The kids have helped us design an ID card and a tee shirt, and I think they have selected a good name for their club. We'll have at least four 2 meter HT's working so the kids can practice the phonetic alphabets and learn how to play games over the air.

But we need licensed hams as control operators, so we hope all available members will show up at about 3:30 PM local time, and help them learn about our hobby.

Your NPARC Badge will get you into the School Library, where the meeting is held. So come on in and watch the kids learn things like Satellite tracking, phonetic alphabets, on the air procedures, etc.

Dayton Hamvention May 14-16

Every year a group of NPARC members make the trek to Dayton. 2004 will be no different. There will be at least three cars going, so we won't have any problem bringing back the necessary Boat Anchors.



At the DX Dinner, left to right:K2JV,U5WF,W2ZKE,AB2CM

A couple of years ago we made an overnight stop at the Spa in Berkeley Springs, West Virginia, and visited the Canal Tunnel at Paw Paw MD. We got to Dayton on Thursday evening ready to go early Friday morning.

That would be worth doing again!!!

Hotel rooms are probably still available, as are rides to Dayton for those who are interested enough to go this year.

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TCRA Events for January

For more information and directions to their locations, see the TCRA website at: www.w2li.org

February 16th: "DIGITAL MODES"

Don Rotolo, N2IRZ (CQ Editor for Digital Modes) will discuss Getting Started in PSK. **(8PM AT THE CHURCH)**

February 23rd: "ON THE AIR MEETING" (9PM W2LI 2M Repeater,147.255 PL 141.3)



DigiTales by Ralph Milnes KC2RLM

Digital Voice Radio

Imagine talking to a ham on 40 meters with the same signal quality as a 2 meter FM station only a mile away -- full quieting, no distortion, and strong audio. Well, it's not a dream. It's happening today with a technology called **digital voice (DV) radio** and it could well become the biggest development in ham radio since SSB!

I first read about DV experimentation two years ago while doing research for a club presentation about sound card modes. Then, **QST** ran two articles about the concept (January and February 2002), including a report of the first successful DV contact between North America and Europe! But I just dismissed this news as "early experimentation" and figured that **practical** DV voice would be many years away.



Then on page 8 of the December 2003 **QST**, there it was -- an ad for **AOR's ARD9800 digital voice modem!** Suddenly, practical DV radio was a reality. (And suddenly, I had a good topic for the first "DigiTales" article.) Fascinated, I went to the AOR web page <http://www.aorusa.com/ard9800/html>. There I found a link to another site which had the names of hams that had purchased an ARD9800 and were looking for DV contacts. One of those hams was John Marrin KB2KH, who lives just up the road in Upper Montclair! One thing led to another and John has agreed to demonstrate the ARD9800 at our February 9th club meeting, weather permitting.

How Does It Work? The ARD9800 plugs into your radio's microphone jack. When you speak into the modem's attached microphone, a voice codec (compressor / decompressor) inside the modem uses DSP (digital signal processing) to convert your speech into a stream of compressed digital data. The modem then spreads this stream onto 36 DQPSK sub-carriers (differential quadrature phase shift keyed), which are transmitted simultaneously in the same 3 KHz bandwidth as a SSB carrier. On the receiving end, another ARD9800 reassembles the data stream from the sub-carriers and converts the stream back to normal speech. The resulting audio has "near FM quality" with **no channel noise or distortion**. In the telephone world, it would be called "toll" quality. The ARD9800 has a current street price of \$500. You can read more about the ARD9800 in the February 2004 **QST** "Product Review" on page 80

Operating the ARD9800 DV is transmitted on the same HF **phone** frequencies as SSB. Currently, the recommended practice is to first announce by voice that you are about to begin DV operations. Analog operators will hear some header tones at the beginning of your DV transmission and then a "buzzing" sound during the digital transmission. DV can be sent on VHF and UHF too, but mobile operations and "picket fencing" will disrupt the DV signal stream. According to John KB2KH, you must have your radio's settings just right and band conditions must be fairly good. Significant interference will kill the digital signal, although forward error correction in the codec scheme will let you receive decent copy even if some of the data is lost. We'll learn more at John's demo.

Is it Legal? The commonly accepted interpretation of the FCC regulations is that the transmission of telephony in digital format, i.e. digital voice, is perfectly legal in the **phone** segments of the bands (emission designator J1E or J2E). It's considered telephony -- not data -- and has no baud rate limitation. Conversely, it isn't legal on 30 meters, where phone is prohibited. And since it uses an openly published digital protocol (G4GUO), it doesn't run afoul of the FCC prohibition on codes or ciphers.

If you would like to look into DV radio further, you'll find plenty of information on the internet by searching on some of the terms mentioned in this article. You should also look at the DV articles in the January 2002 and February 2002 **QSTs** (also available online at the ARRL web site).

73 and don't be surprised to find digital voice in your near future!

Ralph KC2RLM