

Mountain Spark Gaps

New Providence Amateur Radio Club
P.O. Box 813
New Providence, NJ 07974-0813

August, 1986

Nets:

FM Phone	145.750 MHz	Sundays at 9:00 p.m. EDT	Bill King, W2LTJ
RTTY	145.750 MHz	Sundays at 8:00 p.m. EDT	John Sheetz, K2AGI
Westlink	145.750 MHz	Sundays at 7:30 p.m. EDT	Tom Brown, KA2UGQ
CW	28.150 MHz	Wednesdays 9:00 p.m. EDT	Floyd Harvey, KA2DDG

MEETING SCHEDULE FOR AUGUST

August 11: Regular second-Monday meeting.
This meeting will be held in the New Providence Municipal Building, across the street from the library where meetings are usually held. The meeting will be upstairs in the recreation room, accessible from the Academy Street entrance. Topic: Another surprise!!!

August 25: NPARC fourth-Monday meeting

NPARC meetings are held in the meeting room of the New Providence Memorial Library at 8:00 PM the second and fourth Mondays of each month unless otherwise noted.

UPGRADES

---NPARC Vice President Mike Shepnew, KA2UGR, upgraded to General Class. In addition to passing the General theory test, he also passed the 20 WPM code test. Good luck with the Amateur Extra Class theory test, Mike!

---Novice Callsigns have arrived:
The following Novices finally received their callsigns:

Tony Lockhart: KB2BBP
Abe Satz: KB2BBR
Paul Wicliffe Jr.: KB2BBQ

(Ed. Our deepest sympathies go to the above three novices for their bad luck in callsigns, and may the FCC someday come up with a better Novice call!)

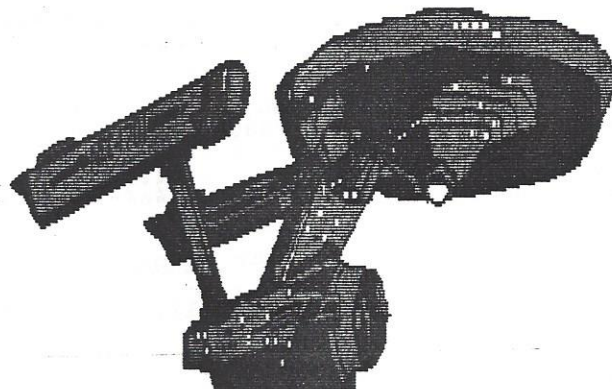
---New callsign: John Myrick is now NQ2V!

NPARC AUGUST CALENDAR

See page 3 or

9: K2SKV pool party/picnic (-See July Spark
10: K2SKV picnic raindate (----Gaps for info
11: NPARC meeting (in Municipal Building)
20: Dial telephone patented in 1896
23: Ramapo Mountain ARC Hamfest in Oakland
24: Gloucester County ARC Hamfest
25: NPARC fourth-Monday meeting
28: First radio "commercial" broadcast

RTTY PICTURE OF THE MONTH



A note on the RTTY pictures. The picture above when printed on a Teletype machine would fill about four sheets of paper. There is a program written by Tom Brown KA2UGQ which converts RTTY pictures into bit-image graphics which are printed on an Epson RX80 F/T+ printer. To give you some idea of the original size of the squeezed pictures, each tiny dot is equivalent to one letter typed on a typewriter.

--From KA2UGQ

A SAD POSTSCRIPT TO FIELD DAY

Just at press time, we received word of a Field Day accident which cast a shadow across this usually fun and festive occasion. North Dakota Section Manager Mike Mankey, WB0TEE, was killed when an antenna he was helping to install at a Field Day site came into contact with power lines. The unfamiliar site had trees that looked ideal as antenna supports, but it was discovered--too late--that there were power lines hidden behind them. Mike was 36 years old. Our deepest sympathies go to his family.

While it cannot in any way reduce the loss to Mike's family, and to the Amateur Radio Community, we hope this note will remind all of us to put safety at the top of the check list for antenna projects, at home or in the field.

--David Sumner, K1ZZ (p. 9, August 1986 QST)

HAMFEST WATCH

August 23 (Saturday): The Ramapo Mountain ARC is holding its 10th annual flea-market at the Oakland American Legion Hall, 65 Oak Street, Oakland, NJ, just 20 miles from the GW bridge. Admission \$1 (XYL's and harmonics free), indoor tables \$6.50, tailgating \$3. Talk-in on 147.49 (-1 MHz) and 146.52 (simplex). More info: Tom Risseuw, N2AAZ at 337-8389 (after 6 PM).

August 24 (Sunday): The Gloucester County ARC annual hamfest, 8 AM to 4 PM. Admission \$3.50 in advance, \$4 at door, sellers \$4 per space. VEC testing, YLRL, refreshments. Talk in on 146.52 (simplex) and 78/18 repeater. More info: John Fisher, K2JF at (609) 589-2318; Milt K3WIL at (609) 845-7000 (day-time); or Ginny at (609) 694-4442 (evenings).

If you have any information, articles, ideas, comments, questions, or suggestions for the Mountain Spark Gaps, please contact editor Tom Brown KA2UGQ at any NPARC meeting, on the club frequency 145.75 MHz, or at 464-7958.

ANSWER TO PUZZLE IN LAST ISSUE

The numbers 3, 5, 6, 9, 10, 12, 17, 18, 20 are the first nine numbers which can be expressed in binary with only two bits set to "one". The next number in the series would be 24 then 33 then 34 etc. Using a 5-bit code there are just ten possible arrangements of bits using 2 ones and 3 zeros. This is known as a two-out-of-five code. In a simple way this allows for a degree of error checking if these codes are used for transmission in some fashion. At the receiving end if you get anything other than two 1's and three 0's you know you have an error.

This scheme has been used for many years in the telephone industry in the forwarding of dialed numbers over the long-distance network. This is called multi-frequency signaling and sends simultaneous pairs of two tones out of five possible tones.

The postal service is now starting to use such a system as a bar code on the front of

envelopes to designate ZIP codes for optical scanning readers. The bar codes you see on envelopes start out with a "one" (a tall mark). This is followed by a series of groups of 5 marks in which two of each five marks in a group are tall and the other three are short (zeros). The ZIP code digit 1 is represented by the lowest possible such binary number (3). ZIP 2 is represented by a binary 5, ZIP 3 is represented by a binary 6, etc. A ZIP digit zero is represented by the highest possible 5-bit number in the series, namely 24. (To get to the next number, 33, you would have to go to six bits)

In addition to checking for each two-out-of-five group the code on the envelope has a "checksum" digit at the end. This checksum is the 10's complement of the modulo 10 sum of all of the previous digits. For instance if the ZIP code is 73250 these digits add up to 17. The modulo 10 sum is just the last digit of the decimal sum (actually the remainder when the number is divided by 10) so it is 7. The tens complement of 7 is 3 so the checksum digit for ZIP code 73250 would be 3 and the bar code would represent 732503. The bar code always ends with a "1" the same way that it starts. The 1's at the beginning and end don't count in the number. If you are using the "ZIP+4" number you simply have a longer series of digits to represent.

Listing 1 is a BASIC program that will let you type in your ZIP code and it will print out your bar code. The sample code above, 73250, would print out like this:

```
||...||...||...||...||...||...||
```

None of this information was obtained from any documented source so if there are any errors they are simply due to the author's incorrect analysis. This description was obtained purely by studying sample bar codes.

LISTING 1:

(Ed. Note: The program has been modified slightly to be compatible with most any computer which runs BASIC)

```
100 REM ZIPCODE BAR CODE GENERATOR
110 REM CODE DECIPHERED AND PROGRAM ORIGINATED
120 REM BY JOHN SHEETZ K2AGI 5/15/85
130 FOR I = 0 TO 10
140   READ B$(I)
150 NEXT I
160 DATA ||...||...||...||...||...||...||...||...||...||...||
170 DATA ||...||...||...||...||...||...||...||...||...||...||
180 PRINT "ENTER ZIP CODE (DIGITS ONLY) TO ";
190 PRINT "GET BAR CODE (0 TO EXIT): ";
200 INPUT Z$
210 IF Z$ = "0" THEN END
220 N = LEN(Z$)
230 T = 0
240 PRINT "!";
250 FOR J = 1 TO N
260   B = ASC(MID$(Z$, J, 1)) - 48
270   PRINT B$(B);
280   T = T + B
290 NEXT J
300 PRINT B$;(10 - (T MOD 10));"!";
310 PRINT
320 GOTO 180
```

--From John Sheetz, K2AGI

A TUNA can swim as much as 100 miles in a day. If he knew he was going to wind up in a sandwich, he might not be in such a hurry.

NEW ROSTER AVAILABLE

John Sheetz, K2AGI now has the entire NPARC club database on computer and is able to format and print up the roster in many different forms. He has two lists; the first has the name, callsign, and full telephone number at the top with a list of all members sorted by callsign at the bottom. The second list has the name, callsign, and entire mailing address with the new "ZIP + 4" zip codes. John should have copies of these new rosters at most club meetings.

--From K2AGI

HEARD ON THE AIR

The following tidbits were heard while listening to various 2-meter simplex frequencies and repeaters:

"I was in a ham store and this guy asked for a 10 kilowatt element for his Bird Wattmeter for 27 MHz. The owner said he only had a 5000 watt element in stock, but the guy said, 'nope, I need a 10,000 watt element, and nothing less.'"

#1: "A while ago this pigeon flew into my apartment and won't leave. I have been feeding it, but I don't know how to get rid of it."

#2: "Why do you want to get rid of it?"

#1: "It keeps pooping all over my car."

#2: "Oh, then it must be a stool pigeon."

--Via KA2UGQ

K2SKV PICNIC INFORMATION

Al Hirsch is having his second picnic on Saturday, August 9 (raindate is Sunday, August 10). Bill King, W2LTJ, is acting as "Picnic Control". Those planning to attend should call Bill at 377-5653 to get food and drink assignments. Refer to the map at the bottom of the page for directions. Al's home is 6 Mountain Trail, off King George Road in Warren, NJ. Talk-in on 145.75 MHz simplex or telephone Al at 469-6374 if you get lost or cannot communicate on the radio.

CLUB OFFICERS AND COMMITTEE CHAIRMEN

President Bill Wadsworth, W2ZKE
Vice President Mike Shepnew, KA2UGR
Secretary Paul Meinschein, WB2JVG
Treasurer John Sheetz, K2AGI

Activities Bob Brown, W2EME
Education Bob Latter, W2YFM
Field Day Bay Rowan, W2GKF
Legal Al Hirsch, K2SKV
Property Bob Latter, W2YFM
Publicity Harry Kundrat, W2YEZ
Refreshments Floyd Harvey, KA2DDG
Regulations Bob Latter, W2YFM
Roster John Sheetz, K2AGI
V. E. Coordinator Carl Felt, N2XJ

"Mountain Spark Gaps" newsletter:
Editor Tom Brown, KA2UGQ
Distribution John Sheetz, K2AGI

Club chartered: January 11, 1965
Incorporated: May 1969

The
New Providence
Amateur Radio Club

P.O. Box 813
New Providence, NJ 07974-0813

Picnic starts at about 1:30 PM!
>> Bring your own lawn chairs <<

