

The VHF JOURNAL



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Dedicated to the Radio Experimenters, Contesters and Operators above 50MHz, along America's North Coast

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<http://VHFGrouper.greeceny.com>

This Months Meeting...

Place:	111 Westfall Road
Time:	7:30 PM Friday Jan 8, 1998 Please be on time!!!
Program:	Contest
Presenter:	RVHFG
Dead Line for Journal:	Jan. 12, 1999

Ten Grids in the 1998 ARRL UHF Contest

By Russ Healy, K2UA (formerly NJ2L)

Roving in VHF/UHF/microwave contests is something I greatly anticipate, ever since I first got together my 10-band roving station for the 1994 contest. Roving is a blend of some of the most enjoyable things that radio and the outdoors can offer, coupled with the adventure of a treasure hunt and a road rally. The challenge starts with integrating an entire station into a vehicle--and a well-equipped rover includes all ten US Amateur Radio bands from 50 MHz through 10.368 GHz. Rovers must emphasize minimal chance of failure, engineering the system so that you can easily swap out something that misbehaves after the contest starts, throwing the fewest switches possible to change between bands and different radios, as little setup and takedown time as possible, and ruggedness for the variety of roads to be traveled--from interstate highways to barely passable fire roads, fields and impromptu vehicle paths.

Good- Luck in the January 1 1999 VHF Contest

Once you deal with these things, you need to anticipate and manage other issues like being able to detect failures quickly, use low-loss feed lines, achieve good receiver sensitivity by getting the equipment as close to the antennas as practical, and myriad other issues. Roving is a contest that lasts for weeks--only a fraction of it happens during the actual contest period, but that is clearly the most exciting part!

For this year's UHF Contest, K2DH and N2WK organized a big effort and a great team at N2WK's station. Dave documented this quite well in a recent issue of the Journal. Several of us went roving to give the home team the advantage of working many grids that would have been completely inactive over the contest weekend without us. In total we covered 23 different grid squares: W2FU made it to 12, N2KG hit 11 grids, KA2CKI and I each did 10 grids, KB3PW worked from 9, and WO2P and N2KXS operated from two grids each. Did I mention that this is a 24-hour contest?

Our Itinerary

Bill Rogers, KA2CKI, and I decided to rove in tandem because neither of us had a second person to come along to help with driving and operating during the contest. Traveling together helped us a great deal, especially since the UHF Contest starts at 2 PM Saturday, going overnight. We were truly in sprint mode, operating and driving for the whole 24-hour period, and we needed each other's help to stay awake and keep sharp.

We began the contest at the intersection of four grids: FN02, FN03, FN12 and FN13 near LeRoy, New York. This grid intersection is only about 10 miles from N2WK, so each of the four operating spots here are usually good for contacts up through 10 GHz. Bill and I arrived in the FN12 location about 45 minutes before the contest so we'd have time to check things

out between ourselves and discuss a few strategy points before the contest started. In our tests, everything worked fine up through 5.7 GHz SSB. I also had my 10-GHz equipment ready to go, but Bill did not yet have that band, so we weren't able to check it out. We were very pleased and hoping for great results with the K2DH team.

As the starting gun went off, we kept in contact with K2DH on the liaison frequency. W2FU and KB3PW were on-site at rover locations farther away from K2DH (in EN95 and FN24, respectively), so we waited our turn. By the time we worked, at around 2:30 PM, we made it easily up through 3.4 GHz SSB with K2DH, but my 5.7-GHz equipment had quit working and Bill couldn't hear K2DH--he doesn't yet have a preamp, but there must have been some other issue--probably antenna pointing. The problem with my gear turned out to be that the local oscillator, a phase-locked source, had gone out of lock in the 45 minutes between when we tested things out and our turn came with K2DH. So is life. Unfortunately I was also unable to hear K2DH on 10 GHz, so we blew off those two bands for the rest of our stops. This left us with only six of our eight bands operating at full capacity. We felt set back by this, especially since the stuff was working great just before the contest!

The remaining three stops at the grid corner were a blur of driving from one spot to the next, pulling the antennas up into position and checking in with K2DH. Several times in this period we answered the inevitable question for passers-by: "What in the world are you guys doing?" Bill and I discussed several possible answers, but we wound up telling everyone the truth. They still left just as confused as when they stopped to ask...

After about 2-1/2 hours, we were finished at "The Four Corners." From there, we started the trip to FN11, heading south along Route 15 in

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north-central Pennsylvania. We got on-site just in time to see a beautiful sunset--the weather turned out to be perfect all weekend. We got the antennas oriented and worked up through 2.3 GHz over the 120-mile path and moved on.. Next stop: west-central Pennsylvania, to two spots just on opposite sides of the FN10/FN00 grid line.

We arrived at our operating location in FN10 at about 11:15 PM. The moon was just setting and the stars were awesome from this very rural location at about 2300 feet above sea level. We got in contact with K2DH and made all the contacts we could up through 3.4 GHz from 168 miles away. We were psyched! Just down the road, we headed into FN00, set up and got ready to go again. It was about midnight, and there was a short wait to run through the bands with K2DH--all the other rovers were on-site somewhere else when we were at these stops. We finished working up through 2.3GHz at 12:30 AM.

On we go to FN01!

FN01, near Clearview, Pennsylvania, is anything but a clear view at 2 AM. We're 150 miles from K2DH. We've spent about an hour driving, then hunting for a specific spot we had been told was a great shot to the north. Unfortunately, we find the gate locked when we get there! Time to improvise. We check out possibilities along the connecting roads (trees are way too tall), in a nearby state park (same problem), and then carefully consult our maps. It turns out that we're only about 1/4 mile from the highest point on Interstate 80 east of the Mississippi River (according to the sign on the highway), and the road that passes under I-80 at the nearest exit *goes in exactly the correct direction* for more than a mile from I-80 toward K2DH. On top of this, we realize after exploring the state park option that this same road also drops off by several hundred feet in the right direction, so we decide to park at the roadside, right near the interstate ramp, and go for it--even if we only

make it through 1296, it will still have been worthwhile. We set up, get on the liaison frequency with K2DH and easily complete through 2304! We are excited. Despite our high hopes and great signal levels up through 2304, we don't hear each other on 3456 MHz. We wrap things up after giving it a good try and get on the road at 3:45 AM. Next stop: FN21, north of Scranton, Pennsylvania, about 200 miles of driving from here.

As we head east on I-80, the tiredness really starts setting in. We talk constantly on 2-meter FM to keep awake. We discuss all the things that happen in a house that's run by a 1-year-old. Bill and I have quite a bit in common: first child, daughter, a bit over a year old, a jealous dog, a working wife, domestic chore distribution, etc. We have a lot to talk about, but it's really hard to stay awake. We stop for coffee and gas, then decide about 30 minutes later to stop for breakfast. It's 5:00 AM.

Half an hour later, refreshed (sort of), we get back on the road. We're driving directly toward the rising sun, which makes visibility a bit difficult, but the traffic on I-80 is never lighter than this hour on a Sunday morning! We keep going and get to our chosen spot north of Scranton at about 7:30 AM.

Now, a bit about how roving works. When you're preparing to go roving, you collect as much information as you can find about good spots to park in each grid. You look for obvious **things**, but the optimum rover spot is something like this: Drive-up access, right off or very close to a main road on your route of travel, but not visible from it, no trees in the desired directions, a fast dropoff in those directions, no blockages of the same height or higher within the first 30 miles, safe, electrically quiet, not in a neighborhood or too near houses or buildings, and so forth. Usually you have to compromise somehow, since even the best collection of

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topographic maps, road maps, terrain profile information and word-of-mouth leaves you with less detail than you would really like to have. The best roving spot is one you've been to before and that's been successful for you over the same path.

Now, this FN21 spot was not one we'd used before, but it did seem to meet most of the other criteria. We wound up on top of a small hill, only 5 miles from I-81, but it was unfortunately in a neighborhood where the houses are quite close to the road.

This is where the good people of rural America come in.

We hopped out of the cars at the top of this hill and saw a lady washing her car. (Remember-the weather was lovely!) We walk over and say hello, explain what we're trying to do, how far we've driven, and so forth, and expressed that we'd be very grateful if she and her husband (who had appeared from the outbuilding next to the house as we walked up) would allow us to park in front of their house for about 30 minutes while we work our friends up near Rochester on "them thar microwave bands." Not only do they enthusiastically agree, but they tell us to pull right up on the grass so we'd be out of the road! As we walk quickly back to the cars to back them in, the husband hollers, "You aren't going to nuke us or anything, right?" I chuckle and tell him he has nothing to worry about.

It turns out that this location isn't as good as we expected. We easily complete with K2DH up through 1296 MHz, but we can't hear their 50 W on 2304. We are disappointed, but at least we've gotten the team four multipliers and eight QSOs from this grid, which was otherwise not well represented in the contest. Our host couple senses our frustration and asks what went wrong. We explain that we're probably just not quite high enough to make the shot over this distance, so we're going to move on to our last

stop. They helpfully suggest some alternatives nearby, including two places that sound very promising, but are quite a bit farther from the highway. However, we feel the press to complete our itinerary and move on to our tenth grid, so we make notes about their suggestions and move on to FN22 near Binghamton, New York.

At 10:30 AM, we find the location I'd operated from once before, about five years ago. It was as good as I had remembered--a farmer's field on top of a tall hill, with a visual horizon at least 50 miles away from north, through west, to south. We begin to drool as we set up the antennas for the final attempt. The farmer is cutting hay and gives us a friendly wave as we set things up and check in with K2DH.

Unfortunately the liaison frequency, on 2-meter SSB, is not great from here since N2WK's EME array at 20 feet is the liaison antenna. The 2-meter tropo array is stuck east since the rotator failed midweek before the contest. So we struggle a bit getting in touch with the liaison operator, then work on 222 and 432 while we wait for the microwave operator, Dave, K2DH, to become available from his present activities.

As usual, 903 and 1296 are a snap. .. except for one thing. The TV transmitter a mile away is blowing away my 1296 transverter. I really need to build an interdigital filter to keep out the garbage, since my roving transverter has a broadband front end. Not a good thing! I can't hear K2DH on 1296 through the S6 noise, so we can't properly peak things up. We try on 2304 on principle, but our antennas must not have been pointed properly; we don't make it. That's an example of how equipment limitations on either end can cost you dearly in points and multipliers!

Fortunately for all, N2KG finished his roving trip early and made the extra drive over to FN22 in the northwestern corner of the grid, much

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closer to K2DH, and they worked on 2304 from **there**. Thus the multiplier was not lost.

After this final stop, Bill took his dish off the top of the mast and I rocked the antennas down into the normal position for driving. We parted ways a few miles ahead in Binghamton--Bill made the trip home to Rochester while I went on to Seneca Lake for an afternoon with relatives, where I promptly fell asleep for half an hour after lunch.

The great thing about contesting is that it offers so much variety. My hobby is contesting--from 160 meters to 10 GHz, at my home station, as an occasional guest operator, participating in multioperator events at portable and home stations, and roving. It's a wonderful hobby that really keeps my interest high. This is an excellent time to be a ham and a contester--but it comes with an ever-heightening sense of responsibility to do everything I can to make sure we keep all of the frequency allocations we so enjoy using. It pays to write letters, give a few bucks, to the ARRL's spectrum defense fund, and watch for developments on the League's web page (www.arrl.org) and other places. I don't want my enjoyment of this great hobby diminished by losing bands--or even segments of them.

After the first time I went roving, I had a list of changes and improvements at least four pages long, and it took close to a year to make them all. The performance benefits have been very worthwhile. Next time I go roving, of course, I've got a number of improvements to make. I guess I'm making progress, since my list is down to one page!

I encourage anyone interested in VHF/UHF to make the effort to go roving a time or two and get the flavor of this very enjoyable aspect of contesting! Offering to go along with an experienced rover as an operator, driver or even an additional passenger, is a great way to try it out and see what's involved without making a big commitment. Try it-you'll like it!-73Rus, K2UA (formerly NJ2L)

Email: k2ua@microwavedata.com

For Sale ...

January 99

5 el. 2 meter **beam**, HB, New, 5' boom
\$ 50.00
Icom IC-275, 2 meter, multimode base
600.00
Realistic HTX-202,
150.00
Precision O'scope, M- s-55,
15.00
2 m. HT, & 30w **PA**, ++
WA2ZNC Len 229-5470

December 98

HB, 5 el. 2 m. beam, **new**, 5' boom. p
50.00.
Realistic HTX-202, & 30w PA, 2 m. mobile
150.00
Icom, IC-740, Ham band, 160/10, ssb/cw/fm, w/AC, 100w
450.00 Icom, IC-275, 2 m. multi mode base,
600.00
Yaesu FC-301, antenna tuner, 500w, 160/10
150.00

WA2ZNC Len 229-5470

144MHZ
FAA AMP 5-8w IN 400-450 OUT PLUG/PLAY
\$300.00 PU OR U-SHIP
KLM 160w AMP (FM ONLY)
100.00

222MHZ
DEM XVERTER 20-25w OUT
\$210.00
ARR GASFET PREAMP IN LINE
75.00

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FAA AMP 5-7W IN 400-450 OUT PLUG/PLAY
\$300.00 PU OR U-SHIP
MIRAGE C1012 AMP 10W IN 120W OUT
210.00

432MHZ
DEM XVERTER 10W OUT
\$250.00
ARR GASFET PREAMP IN LINE
75.00
D1010 AMP 10W IN 100W OUT
225.00
AZDEN PCS 4300 10W FM
150.00

902MHZ
SSB ELECTRONICS XVERTER 18w OUT
\$395.00
SSB PREAMP
75.00

1296MHZ
SSB ELECTRONICS XVERTER 10W OUT
\$395.00
SSB PREAMP
75.00

BIRD WATT METER
\$125.00
2304MHZ
DEM XVERTER 1W OUT
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DEM PREAMP
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LMW LNA PREAMP
50.00
LUA PREAMP
50.00
6W BRICK AMP
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SWITCHING. YOU ADD 2M IF AND 12/28V.
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2M IF RIG AVAILABLE
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902/1296/2304 MHZ
HI-SPEC AMPS 3 DECKS PLUS PS (air cooled)
(EACH DECK HAS PAIR OF 7289'S)
\$1100.00
15w in 150w/902
10W IN 100W 1296 +} 10DB EA BAND
5W IN 50W OUT 2304

MIRAGE MP2 WATT METER
\$85.00
ASTRON PS (35A)
95.00
DRAKE UV-3 144/220/440 FM (10W)
275.00
HP-431C W/PWR HEAD AND CABLE
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HP-432A W/PWR HEAD AND CABLE
100.00
FORSALE, PLUS SHIPPING ON ALL ITEMS

Wayne, N2WK, <wfking@worldnet . att net>

From the Treasurer...

By Len WA2ZNC

Income:
Dues from 10 members \$120.00
Expenses:

None

Totals:

Saving Account	\$ 1,551.01
Checking Account	688.46

Total	2,239.47

Treasurer WA2ZNC, Len

By

10DB EA BAND