



The next regular meeting of the Rochester VHF Group will be

**Friday, Sept 12, 2008
7:00 pm**

**Rush Fireman's Field:
Directions on page 2**

Map and directions in back

Topic:

Picnic! Food, fun, and some outdoor VHF toys!

In this issue:

W2UTH 1296 beacon operational at new site

Progress on uW beacon (with pictures)

The Chairman Speaks

Bill Rogers, K2TER

It is an honor to serve the RVHFG membership as chairman. This club has accomplished a lot over the years and has great potential for the future. I would encourage you to communicate your ideas and needs to the board so we can provide the best service to the club. Now let's have some fun!

Please join us Friday September 12th @ 7:00PM for the September RVHFG meeting at the Rush Fireman's Field-RAIN or SHINE. We will have a picnic with hamburgers, hot dogs, soda, and all the fixin's. The program will be an interactive demo of laser and EHF portable gear. Come find out what we have in store for the year - it will be exciting! Bring a guest!

Please bring a dish to pass. An RSVP would be appreciated so we can be sure we have enough food.

(Map and directions on next page)

The new vice chairman, Larry Carter, N2MLH will provide a talk-in station on 147.51 MHz FM simplex.

I hope to see you there!

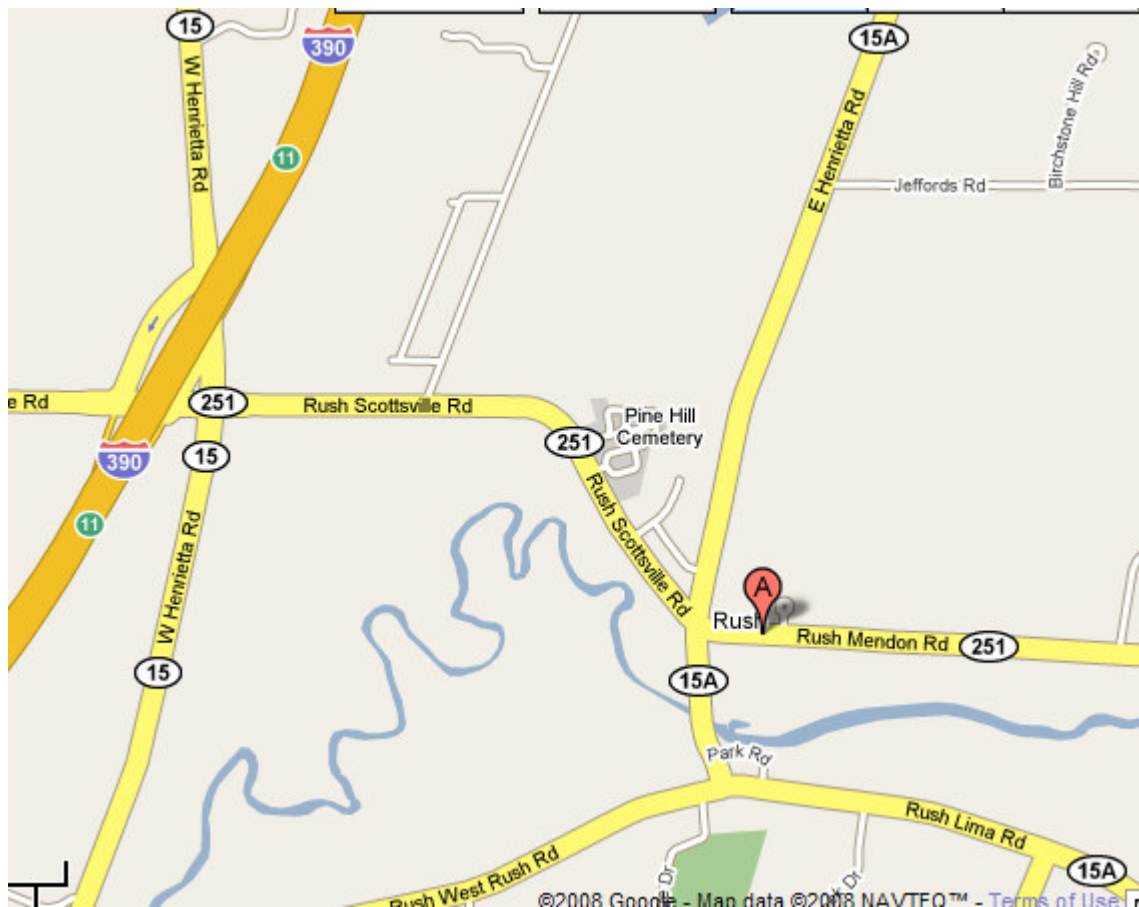
Bill Rogers, K2TER

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First meeting and picnic location



The directions are simple; it is very close to the Rush exit off 390.

Coming from the North:

From Rochester area on I-390 S.

Take the RT-15 exit, EXIT 11, toward RT-251/RUSH/SCOTTSVILLE. 0.3 mi

Take the ramp toward RT-251 W.

Turn SLIGHT LEFT onto NY-15 S/W HENRIETTA RD. 0.3 mi

Turn LEFT onto NY-251 E/RUSH SCOTTSVILLE RD. Continue to follow NY-251 E. 1.4 mi

End at Rush Fireman's Field Mendon Rd Rush, NY 14543-9705

Secretary Report
Judy Stonehill, N2KXS
Rochester VHF Group Meeting Minutes for May 9, 2008

The meeting, which was held at the Spencerport Wesleyan Church, was convened at 1940 local by the Chairman, K0SM.

Attendees introduced themselves with their names and calls. In attendance were K2DH, W3OAB, KV2X, WO2P, N2MLH, NQ2O, AF2K, K0SM, N2KXS, K2TER. Also attending were KC2QZR, Joe Merolillo, and Diane Hallidy as guests.

A moment of silence was held in memory of Russ, W2DYY.

Fred, WO2P, moved that the Secretary's report be accepted as printed in the RVHFG Journal. Dave, K2DH, seconded the motion which was passed by the attendees.

OLD BUSINESS

Dave, K2DH, reported that the 1296 beacon has been running very well for about a month on 1296.262.

NEW BUSINESS

A booth has been reserved for the Rochester VHF Group at the upcoming Rochester Hamfest. Andy, K0SM, will look into getting the booth set up the day before the hamfest begins and dismantled on the last day.

Irv, AF2K has hamfest tickets for sale and reminded everyone that the price will go up at the door. RVHFG members are also needed to cover the booth on Friday and Saturday.

Elections for Chairman, Vice-Chairman, Secretary/Treasurer (now a single position), and Even-Year Director were held. In addition, the Odd-Year Director position was opened for a one year term to fill out the rest of Russ, W2DYY's term.

The results of the voting were:

Chairman: Bill, K2TER
Vice-Chairman: Larry, N2MLH
Secretary/Treasurer: Judy, N2KXS
Even-year Director: Fred, WO2P
Odd-year Director: Dave, K2DH

A discussion was held on the possibility of having a display at the booth to attract the interest of hamfest attendees. The result was that a demonstration of 24 GHz communications would be set up. The location of two rigs would be determined on the first day of the hamfest.

The meeting was adjourned at 1957.

PROGRAM

Andy, K0SM, gave a presentation and demonstration of Jeff Ach's, W2FU, voice-controlled rotor.

**Rochester VHF Group
Treasurer's Report – September 2008**

CHECKING ACCOUNT

<u>Previous Balance</u> (as of 5/7/08):	\$1,007.02
Income:	
Banquet tickets	100.00
Dues: 32 memberships, 1 hard copy Journal	330.00
Donations to W2DYY Memorial Fund	90.00
Contributions for 1 award plaque	30.00
Expenses:	
Contributions in memory of W2DYY	100.00
Generation of annual RVHFG awards	144.00
<u>Current Balance</u>	\$1,313.02

SAVINGS ACCOUNT

<u>Previous Balance</u> (as of 5/1/08):	\$1,521.59
Income:	
Interest	0.96
Expenses:	\$0.00
<u>Current Balance</u>	\$1,522.55

TOTAL **\$2,835.57**

*Respectfully submitted,
Judy Stonehill, N2KXS*

W2UTH Beacon Operational at new QTH

The RVHFG 1296 beacon is on the air from its real QTH, FN12fs- the home of Larry N2MLH. We got it placed and on the air about 1500 today (Saturday). At my QTH in Brockport, it's about S2 and solid copy on 1296.262. It starts with 20 seconds of carrier, then 10 seconds of quiet, then 20 more seconds of carrier, followed by the ID: DE W2UTH/B FN12FS, at about 13wpm.

The beacon is constructed as follows: an ovenized crystal oscillator runs at 108.021 MHz and is multiplied up via a DEMI WSS1296 board with extra MMICs on the output to get the level up. It then goes into an 8 pole bandpass filter to clean up the output, then into a Mini-Circuits amplifier module to get the level back up to about +2dBm to drive the PA. Then it goes into a 2W PA made from a Mitsubishi M67715 module. All this is in a NEMA enclosure which is sealed from the weather and sits on the side of Larry's tower, powered from 115VAC. The antenna is a 1296 Halo on the top of Larry's short tower, fed with about 30 feet of 1/2" Andrew Superflex cable. I am guessing the ERP to be a bit less than 1W, counting feedline loss and (negative) antenna gain. As the oven cycles, you'll hear the frequency change by ± 200 Hz around 1296.262.

Reception reports are appreciated- either to the RVHFG email reflector, to Larry, or to me. Good listening--Dave K2DH

Microwave Beacon Progress

Andy Flowers, K0SM

I've started collecting parts for a uW beacon. Dayton turned up some good deals. Steve from Downeast Microwave had an absorptive modulator for a fair price and I picked up some 0-3 GHz splitter/combiners for a steal. Deep in the junk box I found a tripler that seems to work well on 3456, and will supply about 15dBm or so. The out is filtered, but I will need to put it on a spectrum analyzer to just how well filtered it is with an 1152 MHz input.

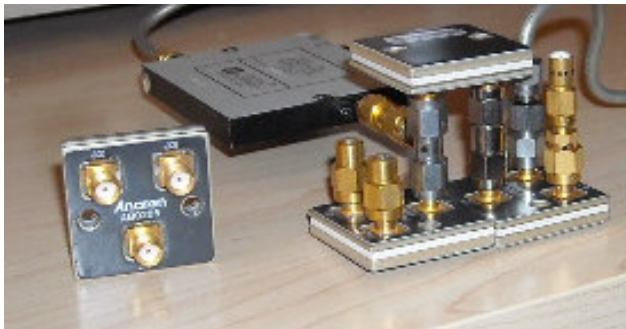
The design is pretty straight forward, but there are some parts in here that you may not see very often in ham equipment.

Absorbative modulator: I think of it as an electric sponge for RF. You apply a 0 - 5V signal to attenuate the the RF passing through the device. When full voltage is applied you get about 65dB attenuation, which for our purposes can effectively turn off the transmitter. We can use this voltage to key CW while maintaining a 50 ohm load on the source, which you can't do with a simple RF relay. This allows the 1152 source oscillator to run freely into a constant impedance for maximum frequency stability. Of course, we'll need an inverter for the key line since this is "key-to-break".

Three 2-way splitters can divide the keyed 1152 MHz oscillator into four individual RF paths, one for each of 2304, 3456, 5760 and 10368 MHz. Any unused ports must be terminated in 50-ohm loads as shown in the picture. With 10dbm drive at 1152, we see about -3 dBm at the input of the multiplier. This particular multiplier block also has an amplifier and filter, and delivers about +8 dBm at 3456 MHz in this configuration.



The 3456 multiplier. Keying is provided by supplying -5VDC the unused port of the absorptive modulator to turn off the RF. The Multiplier/Amplifier block takes +10V (though 13.8 seems to work fine). The multiplier is capable of around +12dBm at saturation. While I have a power oscillator providing the input here, a stabilized 1152 MHz oscillator would provide the RF in actual service. This could be a ovenized "brick" oscillator, or perhaps a GPS-disciplined oscillator of some sort.



Closeup picture of the 4-way splitter using three hybrid splitter/combiners. The first splitter is upside down and feeds the inputs of the two bottom splitters. This creates four 50-ohm ports. I have terminated the unused ports in this picture, but in a complete 4-band system they would each have their own multiplier/amplifier chain. A fourth splitter is shown off the the left.