



220 FM Reception Experiment

33 BBHR, Woburn MA

Situation: As a Net Control for the Minuteman Repeater Association, I should have monitoring capability for the 220 Repeaters. I had no such capability as of summer 2016.

Experiment: Resurrect my 30-year-old “dead” TM-3530A; build a simple antenna; survey various repeaters with two antenna locations.

Results: Although early results were not promising, moving the antenna from my 1st floor shack to the attic allowed communication with two MMRA 220 repeaters. Measurements of ten repeaters were recorded both before and after.



Larry Banks, W1DYJ

First licensed: 1962 (KN1VFX)

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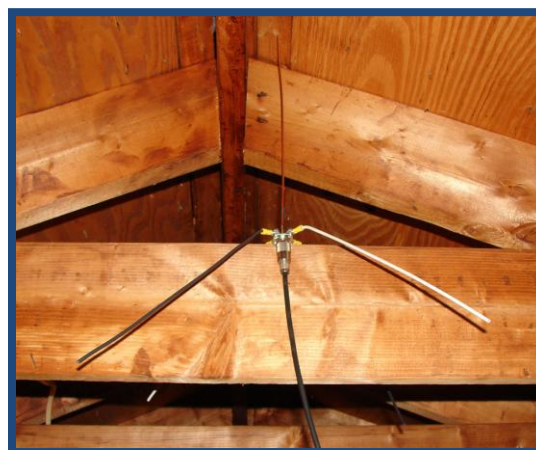
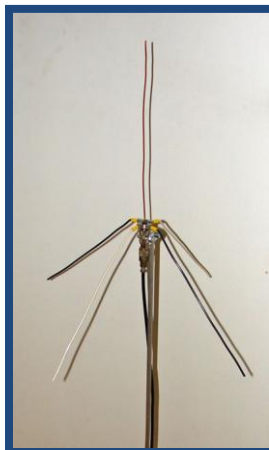
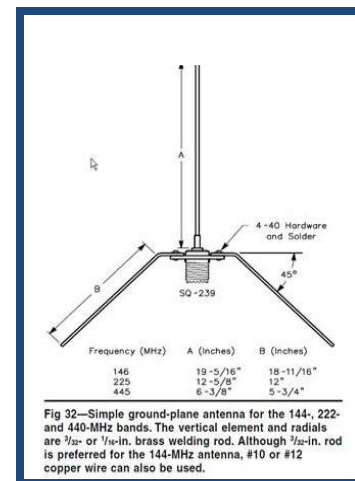
220 FM Reception Experiment ~ Procedure

33 Blueberry Hill Road, Woburn, MA

I have an old Kenwood TM-3530A 220 FM transceiver that I had inherited many years ago from my Dad, WA1NL, SK. I had tried to use it 15 years ago but it was broken, so it ended up in a closet. I was cleaning out the closet this past spring when I found it again – and decided I finally needed to either use it or junk it

It turned out to just have an intermittent Volume Pot. Perhaps it was “good enough” to check the local 220 repeaters. Using a plan from the ARRL Antenna Book (see left), I constructed a simple ground-plane antenna (see below) and checked out the repeaters from my 1st floor office/shack. Not good – although some repeaters to my north were OK, none of the MMRA repeaters were useful.

I finally fixed the TM-3530A with an outboard pot (see below), which allowed me to check into the MMRA Net – but with the ground-plane in my office I could not be heard. So I moved it up to my attic – just 15’ higher but without the obstructions inside my house. The results are on the following pages.







220 FM Reception Experiment ~ Detailed Results

Rig: TM-3530A

Antenna: HB ground plane in **shack** vs. **attic**

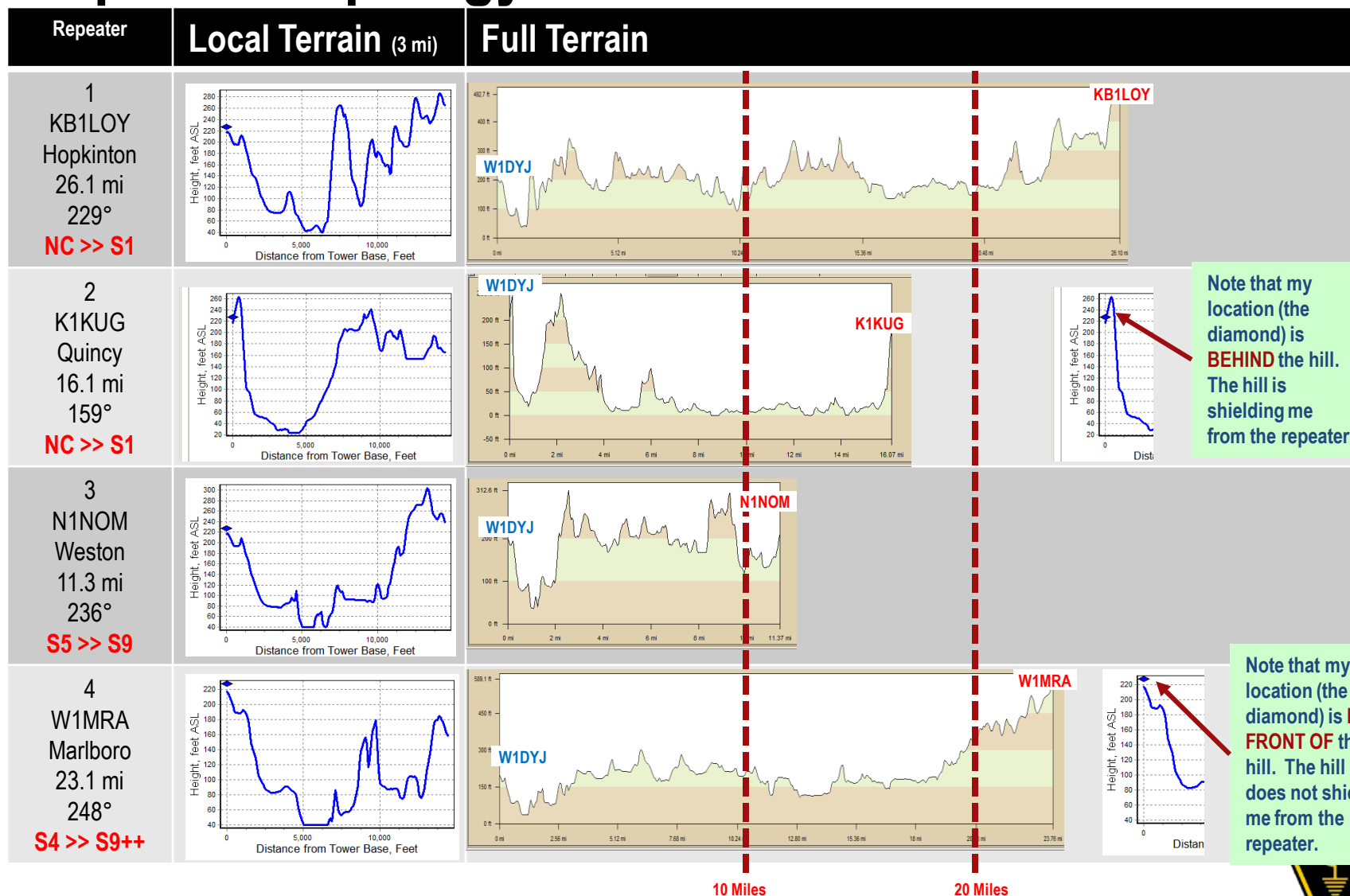
Rptr	Location	Freq.	PL	Call	Miles	Direction	S-meter	
							Shack	Attic
1	Hopkinton	223.94	103.5	KB1LOY	26.1	229°	nc	1
2	Quincy	224.40	103.5	K1KUG	16.1	159°	nc	1
3	Weston	224.70	103.5	N1NOM	11.3	236°	5	9
4	Marlboro	224.88	103.5	W1MRA	23.1	248°	4	9++
5	Pepperell	224.64	--	WA1VVH	28.3	298°	1	9+++
6	Waltham	224.94	--	W1MHL	8.5	225°	9	9+++
7	Andover	224.52	88.5	N1LHP	12.7	341°	9+++	9+++
8	Wakefield	224.26	--	WA1WYA	3.9	69°	9+++	9+++
9	Derry	224.46	85.4	K1CA	29.6	347°	9+	9+++
10	Chester	224.20	103.5	K1OX	33.8	351°	6	9+++





Repeater Topology

[with change in S-meter reading, shack >> attic]



Repeater Topology

[with change in S-meter reading, shack >> attic]

