W7RCH Field Day
Additional Information

1. **Public Location:** W7RCH Field Day was conducted at the Cottonwood Heights City Hall Emergency Operations Center, 2277 Bengal Blvd, Cottonwood Heights, UT.

2. **Elected Official Visit:** We were visited by Mayor Mike Peterson and city council members: Tali Bruce, Doug Petersen and Scott Bracken. Bracken and Petersen are shown here:

3. **Agency Official Visit:** We were visited by City Manager Tim Tingey and Sgt. M. Fullwood of the Cottonwood Heights Police Department. Tingey is shown on the right below.

4. **Youth Operators:** Twelve children and grandchildren of CHARC members attended, nine made valid QSOs.

Here is the youth operator log. These QSOs are contained in the N1MM+ Cabrillo log file.

Youth Operator Log

Day	Time	Station	Frequency	Report	Youth Op
6/27/20	12:14p.m.			NGBR	Brant Ellefsen
6/27/20	12:24 p.m.			WM6Y	Brielle Ellefsen
6/27/20	12:34 pm			W6PNG	Max Tunbridge
6/27/20	12:34pm			kogan	Leah Tunbridge
6/27/20	12:37pm			NG R2R	Zane Doucet
6/27/20	12:37pm			WL	Coleby Briggs
6/27/20	2:04pm				Jay Thompson
6/27/20	2:10pm				Jonah Wood
6/27/20	3:49pm			W9I	Wyatt Bowthorpe

5. **Emergency Power Backup Generator Operation:** Verified by Assistant Police Chief Brenneman.

Kelvyn Cullimore Jr.
Mayor

John Park
City Manager

E. Robby Russo
Chief of Police

Paul Brenneman
Assistant Chief of Police

Administrative Offices
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http://www.cottonwoodheightscity.com

Cottonwood Heights
Police Department

Beneficium* Commilitium*Decus

Chief of Police ★ 1265 E. Ft. Union Blvd., Suite 100 ★ Cottonwood Heights City, Utah 84121 ★ 801-944-7100

To: Whom it May Concern

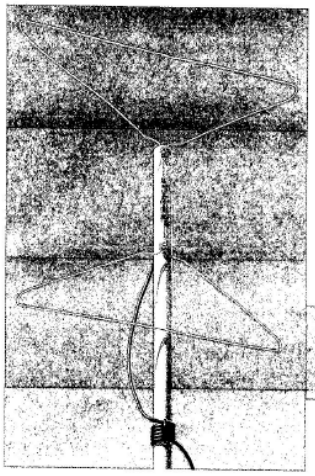
Re: Cottonwood Heights PD / Emergency Power Generator

The City of Cottonwood Heights city hall Emergency Operations Center has a back-up generator system which comes on-line in the event of commercial power failure. We tested this system appropriately and can confirm that it is operational and would keep the EOC functional in a major disaster. The Cottonwood Heights Amateur Radio Club used the generator-backed power outlets during Field Day June 27th and 28th and met the intent of the Emergency Power usage provisions for this event.

Regards,

Paul Brenneman
Assistant Chief

6. Educational Activity : Clothes Hanger Antenna From QST April 2018



An Ultra-Simple 2-Meter Antenna

You'll get J-pole performance from this base station vertical antenna built with coat hangers and PVC pipe.

John Portune, W6NBC

Amateur Radio operators have distinguished themselves by their ability to build equipment from junk and bits and pieces. Recently, several long-time hams and I were ruminating about what constituted the archetypal homebrew project — it had to be functional, easy to make, and cost nearly nothing. Many good ideas were proposed, but the winner was a 2-meter base station vertical antenna made from a pair of coat hangers, a length of PVC pipe, four 8-32 screws, two ring terminals, and, of course, some RG-58 coax.

Performance

This little beauty can hold its own alongside anybody's J-pole (see Figure 1). Both are omnidirectional, vertically polarized, and have the same gain. Physically, the coat hanger construction, at a length of 16 inches, compared to the J-pole's 57 inches, is less likely to be noticed by the neighbors.

The antenna has an SWR of roughly 1.8:1 at resonance (see Figure 2). However, the SWR stays close to 2:1 across the entire 2-meter band. Modern 2-meter rigs can handle this easily, and the losses are small at an SWR of 2:1. In the true spirit of homebrew simplicity, matching is not called for, but if you really want one, a small L-match or a gamma match will work.

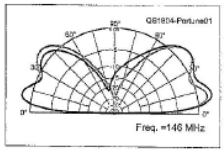


Figure 1 — Performance of the coat hanger vertical (red) compared to a J-pole (black) 5 feet above average soil.

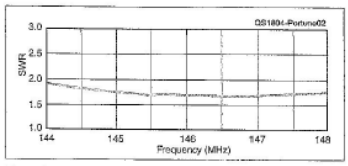


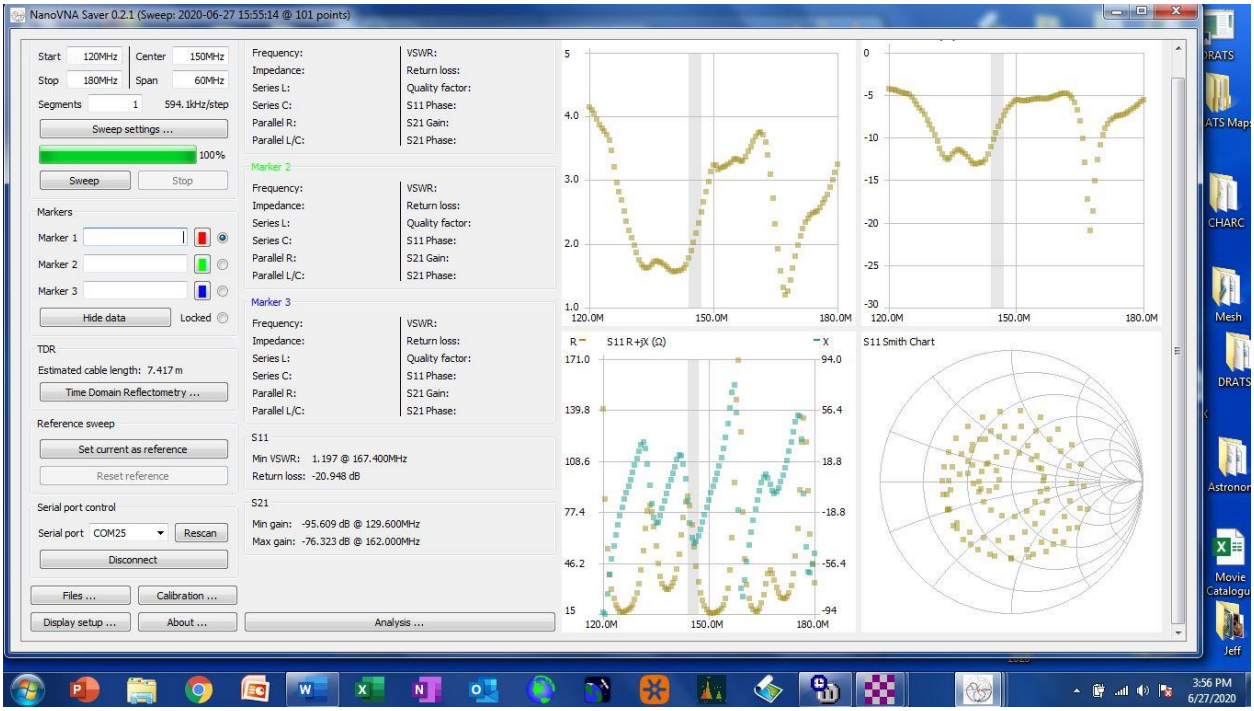
Figure 2 — The SWR of the coat hanger vertical is less than 2 across the 2-meter band.

Skills Taught:

- Soldering
- PL-259 Coax connector installation
- Antenna trimming
- Measuring SWR with NanoVNA
- Ring connector attachment
- On-Air testing

Number of participants limited this year due to Covid-19

First Pass Antenna Construction SWR, Tuned too Low:



2nd Cut was Perfect: