

# ***THE AERO AERIAL***



The newsletter of the Aero Amateur Radio Club  
Middle River, Md  
Volume 10 Issue 2  
February 2013

Editor Frank Stone AC3P

## Officers

Joe Miko	WB3FMT	President	Repeater
Bob Venanzi	ND3D	Vice-President	VE Testing
Lou Kordek	KB3LJF	Recording Secretary	Public Service
Pat Stone	AC3F	Corresponding Secretary	Webmaster
Warren Hartman	W3JDF	Treasurer	Trustee
Ron Distler	W3JEH	Resource Coordinator	Club Nets
			Contests

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Phil Hock W3VRD
Pat Stone AC3F
Bob Landis WA3SWA
Al Alexander K3ROJ
Frank Stone AC3P
Joe Miko WB3FMT
Bob Venanzi ND3D

## **ABOUT THE AERO AMATEUR RADIO CLUB**

Meetings: First and Third Wednesdays at 7:30 pm at Coffman's Diner  
(Middle River and Orem's Rd.)

Nets: See Local Area Net Schedule

Repeaters: W3PGA (147.24 MHz - / 449.575 MHz -)  
W3JEH (223.84 MHz -)

## LOCAL AREA NETS

Day	Time	Frequency (MHz)	NET NAME
Daily	9 – 10 am	147.33	ORIOLE Net
Daily	6 pm	3.820	Maryland Emergency Phone Net
Daily	6:30 – 7 pm	146.670	Baltimore Traffic Net
Daily	7 pm and 10 pm	3.643	Maryland/DC/Delaware Traffic Net
2 <sup>nd</sup> Tues	7:30 pm	146.670	Baltimore County <u>RACES</u> Net
2 <sup>nd</sup> Wed.	8 pm	28.445	AERO ARC Net
4 <sup>th</sup> Wed	8 pm	147.240	AERO ARC Net
5 <sup>th</sup> Wed.	8 pm	449.575	AERO ARC Net

## Station Activities

**W3VRD** is building a software defined receiver kit. **KB3PGN** is back at the Annapolis Asylum. **AC3F & AC3P** were heard on 40 meters during Straight Key Night.

## Condolences

The Aerial and The Aero ARC extend our sincere condolences to Warren Hartman W3JDF on the passing of his daughter, Cheryl on December 28<sup>th</sup>. A private service was held at Brudzinki's Funeral Home in Essex on January 4<sup>th</sup>.

## Mt. Essex Offline

The 8 inch telescope is temporarily out of service while undergoing maintenance at The Sky Plus facility in Mount Airy, Md. Frank, AC3P, hopes to have it back in service for the arrival of Comet PANSTARRS in March.

## For Sale

Cushcraft R8 40-6 meters. New in unopened box. I paid \$529 from HRO  
Selling for \$429.00 cash only local pickup. Save \$100.00 Contact Ed, W3PG

# From T-MARC

## Happy New Year to everyone.

Last month, UHF repeater owners were sent an email to a survey. The deadline for response to that survey is January 10, 2013. Below is the December 2012 coordination activity report.

Dec. 2012

### Applications in Process:

N3CDY Sent Notice of Proposed Coordination for UHF pair at Towson, Md.  
Sent Construction Coordination for 449.0750.

KQ4D Sent Final Coordination for 443.3500 in New Market, Va.

Sussex ARA Received Application for Coordination for VHF pair in Bethany Beach, Delaware. Sent Notice of Proposed Coordination to neighboring coordination groups.

Massanutten Amateur Radio Assoc Received Application for Coordination for 145.1300 near Harrisonburg, Va. Sent Notice of Proposed Coordination to neighboring coordination groups.

Calvert ARC Received confirmation of UHF link construction. Sent Final Coordinations for Lexington Park and LaPlata.

Alexander Graham Bell Pioneer Repeater Assoc. Sent Final Coordinations for 147.3600, 444.1625, and 1283.1000

### On Air Status Requests sent to:

53.1300	W4HFH	Alexandria, Va.
53.9900	K3MAD	Frederick, Md.
146.8500	W3BPT	Blossom Point, Md.
UHF Link	W3VPR	Curtis Bay, Md.
442.2500	W4VA	Warrenton, Va.
443.0000	N2LEE	Herndon, Va.
443.2000	K7SOB	Romney, W.V.
444.5500	K4AF	Arlington, Va.
444.6000	W4HFH	Alexandria, Va.
444.7500	K7SOB	Berkeley Springs, WV.
447.0250	NV4FM	Tysons Corner, Va.
447.5750	KB3KOU	Hyattsville, Md.
448.4750	KG4SCP	King George, Va.
448.8250	KQ4CI	Ashburn, Va.
449.3250	W8HNT	Arlington, Va.

### Coordinations Withdrawn / Cancelled:

53.9900	K3MAD	Frederick, Md.
145.1300	N4YET	Harrisonburg, Va.
147.3150	N4YET	Harrisonburg, Va.
224.8200	N4YET	Harrisonburg, Va.

T-MARC  
The Mid-Atlantic R

# How Do You Choose an Antenna Analyzer?

By Dan Romanchik, KB6NU

A reader recently e-mailed me:

"In the past you told me you started with the Autek RF-1, and later moved to the Palstar ZM-30. I am finally getting around to thinking about purchasing an antenna analyzer, but I am stumped by the choices. In order of increasing purchase price this is what I've turned up:

- \* Autek RF-1 - \$139.95
- \* Autek RF-5 - \$229.95
- \* Rig Expert AA-54 - \$340.00
- \* Palstar ZM-30 \$399.99
- \* W4RT Electronics MiniVNA \$399.99
- \* Rig Expert AA-230PRO \$690.00
- \* Timewave Technology TZ-900S \$899.99

"How does one decide? Where does one go to find out the differences? Other than asking a fellow ham, how does one find out which one is the best antenna analyzer without paying an arm and a leg (unless the feature(s) so purchased are deemed worth the cost)?

"Thanks! 73"

When I replied, I noted that he had actually missed several other good choices:

- \* Autek VA1 - \$199.
- \* MFJ 259B - \$240.
- \* YouKits FG-01 - \$250.
- \* Comet CAA500 - \$450.

The Autek VA1 is actually the antenna analyzer that I first purchased. The MFJ 259B is arguably the most popular antenna analyzer on the market. MFJ has several other models with different feature sets. The YouKits FG-01 is a very cute, little analyzer with a small graphical display. It is made in China and sold in the U.S. by TenTec.

So, how do you choose just one from this list? Well, I think the first thing that you have to ask yourself is how you're going to use the analyzer. If all you're going to do is to check the SWR of your HF dipoles, then buy the Autek RF-1. It's the least expensive unit, is reasonably accurate, and is small and lightweight, making it easy to use outside where your antennas are located.

If you want to do some more serious frequency analysis, then you should be looking at the W4RT miniVNA or, if you have more cash, the Timewave TZ-900s. These instruments can help you do a lot more in-depth analysis of your antenna system. The software for the miniVNA, for example, will easily plot the SWR of a multi-band vertical antenna from 3 to 33 MHz.

Some antenna analyzers do more than just SWR. For example, what sold me first on the Autek VA1 and then on the Palstar was that they also measured reactance. So, you can use the antenna analyzer as an LC meter as well. Palstar also says that you can use the ZM-3 as a low-level signal source. While I have used my Palstar to measure inductance and

capacitance, I have yet to use it as a signal source.

Next, you need to consider what bands you'll be using it on. Many antenna analyzers only cover the HF bands. That's a bummer if you like operating 6m, or like to experiment with VHF/UHF antennas. A friend of mine bought the Palstar antenna analyzer after talking to the company at Dayton. At the time, they said that they were planning to come out with a model that covered 6m, as well as the HF bands.

Unfortunately, they never did come out with a 6m version, and he was sorely disappointed. He ended up buying a miniVNA instead. The miniVNA can be used up to 170 MHz right out of the box, and up to 1.5 GHz with an optional extender.

Asking your fellow hams about the antenna analyzers they have is actually a good way to figure out what's best for you. If you ask nicely, they might even let you borrow their analyzers or come over and show you how it works on your antennas.

Reading the reviews on eHam is also a good way to gather information before making a purchase like this. You certainly have to take the reviews there with a grain of salt, but if several reviewers mention a particularly good or particularly bad feature of a product, then it's certainly something worth taking a hard look at.

If you're new to the hobby, starting out small and working your way up might be a good strategy. You could buy one of the less expensive models and get used to how they work, then sell it and make the leap to a more sophisticated unit. The way things are going, you should be able to sell your first antenna analyzer for at least 80% of what you paid for it.

The March 2012 QST contains an in-depth review of four analyzers (available online to ARRL members), including the Comet CAA-500, MFJ-266, RigExpert AA-54, and the Youkits FG-01. Each analyzer reviewed had various plusses and minuses. Even if the unit you are considering was not reviewed, the article provides a guide to the kinds of questions you should be asking as you go through the selection process.

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When he's not analyzing antennas, Dan, KB6NU blogs about amateur radio at KB6NU.Com, writes and publishes the "No-Nonsense" series of amateur radio license study guides, and just has fun with amateur radio. You can reach him by e-mail at cwgeek@kb6nu.com, @kb6nu on Twitter, or on 40m CW many evenings.

*Ed Note: Dan sends out monthly articles for club newsletters to use free of charge.*

# From the Skies over Mt. Essex

rev. 12/10/12

SKY Events for February 2013

## Can You Say Kohoutek?

Feb. 3<sup>rd</sup>- Last Quarter Moon

Feb. 3<sup>rd</sup>- Saturn is 3.5° N of the Moon at 04:55 EST.

Feb. 8<sup>th</sup> – Mars is 0.4° lower left of Mercury at 11:00 EST

Feb. 10<sup>th</sup> - New Moon

Feb. 16<sup>th</sup> – Mercury is 18° east of the Sun.

Feb. 17<sup>th</sup>- First Quarter Moon

Feb. 18<sup>th</sup> – Jupiter is 0.9° N of the Moon at 06:31 EST

Feb. 25<sup>th</sup> - Full Moon “**Crow Moon**” for the Shawnee American Indian tribe and the “**Snow Moon**” Traditional Full Moon Names.

## Planet Lookout at mid-Month

**Sunrise 06:57 EST and Sunset 17:43 EST**

**Mercury** in the **West at dusk**, magnitude -0.6; 6.9 arc seconds

**Venus** in the **East at dawn**, magnitude -3.9 and 10.0 arc seconds.

**Mars** Low in the **West after dark**, magnitude +1.2 and 4.0 arc seconds wide.

**Jupiter** In the **South-East at sunset** magnitude -2.4 size 40.8 arc seconds.

**Saturn** Between Virgo and Libra morning sky. Rises before 24:00 EST. Magnitude +0.5 size 17.6 arc seconds.

**Uranus** In the **West** at sunset, sets by 20:45EST. Magnitude +5.9 size 3.4 arc seconds.

**Neptune** Also in the West sets by 18:00EST. Magnitude +8.0 size 2.4 arc seconds.

This was the infamous comet C/1973 XII (Dec '73) that was to be the brightest comet since Halley's C/P1 of 1910. It didn't quite make it. After looping around the Sun its magnitude ranges from +3 to +8 between January and March 1974. This was one of the most studied of its time thanks to NASA's Skylab. But what are comets?

Comets are like a dirty snowball, consisting of rocks, soil and ice. A Comet has 3 parts, the head (nucleus), the coma (atmosphere), tail (dust cloud). The word **comet** comes from [Latin](#) *cometes*. From the [Greek](#) word *komē*, meaning "hair of the head," [Aristotle](#) first used the derivation *komētēs* to depict comets as "stars with hair."

**Two** newly discovered Comets are expected to grace the night skies in 2013, one in March the other in November. See Sky & Telescope Magazine January '13 issue for additional info.

Comet C/2011 L4 (Comet PANSTARRS) is expected to reach magnitude -2 when it reaches perihelion about **March 10, 2013**. It will be visible low in the western sky after sunset.

Comet C/2012 S1 aka (Comet ISON) reaches perihelion (closest approach to the Sun) around **November 28, 2013**, it is expected to be brighter than the planet Venus which is -4., this is just a guess at this time. This comet will be well placed for Northern hemisphere observers. The best time to see this comet will be the first 2 weeks of December weeks of (1-13). Look towards the East-Southeast ½ hour before sunrise. See Astronomy Magazine January '13 issue for additional info.


What do you need to see the comets? A clear Western or Eastern Horizon, clear weather, a pair of binoculars, a telescope using low power and wide field. You can take pictures using digital camera's using a time (bulb) exposure 30 seconds to several minutes, to show the nucleus (head) and the coma, and tail.

A word of caution when they reach perihelion they are going to make a loop around the SUN. Extreme caution should be used during this time to protect your eyes and equipment. Equipment can be repaired or replaced, your eyes can't.

Go Comet hunting!



## February 2013

							Frostfest Richmond Va <a href="http://www.frostfest.com">www.frostfest.com</a>
						<b>1</b>	<b>2</b>
			Meeting Coffman's 7:30 pm				
<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	
			28.445 MHz Net 8 pm				ARRL DX CW Contest
<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	
ARRL DX CW Contest			Meeting Coffman's 7:30 pm				
<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b>	
Vienna Va Winterfest <a href="http://www.viennawireless.org">www.viennawireless.org</a>			147.24 MHz Net 8 pm				
<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>			