

November 2011



A NOTE FROM PRESIDENT DEE

It has been a very busy month. We got a positive nod from the power company about having our first swap meet in the parking lot of the shop. This event will coincide with our big celebration of the 90th Anniversary of WSY. More details on that in the next issue. We are still looking for period furniture for the studio. Maurice found us a nice floor lamp that has that old Tiffany look. Now we just need a couch. Mack has promised us a “victrola” that matches the original one in the WSY studio of 1922. Joel is busy finding good test equipment for the shop. We now have good solid state variable AC power supplies for each bench.

I’ll hush up and let someone else have the floor now.

HEATH AIRPLANE BY DAVE CISCO, W4AXL

I came across this beautifully restored Heath HL-1 Longster at the Air & Auto Museum in Hood River, OR. This museum has over 50 restored airplanes and lots of cars. The Heath was of special interest to me, since I have built many Heathkits in the past.

Edward Heath started the company in Chicago in the early 1900’s making airplane kits. Heath was killed in one of his experimental airplanes on February 1, 1931. Howard Anthony bought the company and moved it to Benton Harbor, MI. Anthony purchased several train carloads of electronics at the end of WWII and started selling the electronic kits with which we are all familiar. Many of today’s hams got their first operating experience with Heathkit equipment.





LISTEN TO THE RADIO!!

Here is an article I wrote for the local ***Senior Living Magazine***. It hasn't been published yet, don't even know if it will be, but here it is for our newsletter.

It was a dark and stormy night, maybe a phrase used much too often in pulp fiction, but it tells us two basic things. It was dark, and it was stormy. Yes, but it tells us much more. It tells us that we are in for a thrill. That is if we were 10 years old back in the year 1953, and we had the radio tuned to "The Shadow" or better yet, "The Whistler." Remember, "The Whistler" always began with the sound of someone whistling an eerie tune filled with minor notes. It's hard to think that someone could whistle chills up and down your spine. "Turn that thing off. You won't be able to sleep tonight," my mother would call, but all I did was turn it down so she couldn't hear it. I can still hear the hideous screams coming from that locked closet door. Was it human or was it an animal? Was it supernatural? Mother was right; I got very little sleep that night.

Radio back then was known as "The Theatre of the Mind". With mediocre acting, eerie music, and really good sound effects, radio could create motion pictures in your mind better than any Hollywood production could on the silver screen. And it was a lot cheaper. You didn't need this huge sound stage. You could create a radio show in a small studio. Two or three actors, an organist, several sound effects men, an engineer to make sure all the mikes worked properly, and a director to keep things running smoothly, and you were in business. And you could stay in business if you had a sponsor. Remember Lucky Strike cigarettes, so round, so firm, so fully packed, so easy on the draw? Or maybe Lifebuoy soap helps stop BEEEEEEE OOOOOOO.

As I got older, I began to yearn for the old radio shows. My collection began about 30 odd years ago. I started by making copies of cassette tapes I found at the Birmingham Library downtown. Somehow word got around that I collected these shows and other collectors began sharing their shows with me and I with them. There is a large cardboard box in my basement that has hundreds of Amos and Andy, Fibber McGee and Molly, and the Jack Benny Show tapes. Now days, I don't use tapes. All the shows that I have, plus thousands more, are available free of charge, if you have a computer with an internet connection.

Dee Haynes

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NOTES ABOUT AUBIESAT-1 FROM KYLE OWEN

OCTOBER 28

AUBIESAT-1 has achieved orbit. Those of you who know our fellow AHRS member, Kyle Owen, know that he and a few other Auburn students have been working on an Amateur Radio Satellite. It is the first student-built satellite in Alabama. It was launched successfully today from Vandenberg Air Force Base in California. As soon as we know the times it will be passing overhead, we will let you know. The frequency is 437.475, and if you would like to watch a short video, click on the link below.

http://www.southgatearc.org/news/october2011/aubiesat1_video.htm

The satellite was picked up by at least six ground stations across the world, so it is working! The signal is strangely weak for 800mW, so there may be an issue, either in tracking the satellite or maybe an antenna issue.

We were able to pick it up out of the noise earlier today. We have yet to hear a definitive "WAR EAGLE," but we are going to try again tonight at 2:00am. This next pass will be much stronger than the previous two.

All other cubesats (five total) were heard as well today. The launch was flawless, as was the deployment. All of the cubesat teams, which include universities from Utah, Michigan, Montana, and Auburn, are celebrating!

OCTOBER 30

"HI HI DE KI4NQO AUBIESAT 1 VB 4R19 SK"

Those words were heard by the AubieSat-1 ground station room last night. It doesn't look like much, but those words prove that AubieSat-1, Auburn's (and the state of Alabama's first!) student satellite is alive and well in its new home in space!

It's been ten years in the making, but the satellite was only in the construction and testing phase for the last four. The model in space was built in just a few months. I was one of two students who sat down at the workbench to solder it together. We were fighting to meet our deadline, but after an unexpected one-month delay by NASA, we were able to finish (barely!) on time.

The satellite's main mission is to give us science data regarding the degradation of solar cells over time. We are testing two new encapsulates on two faces of the cube. We are hoping to see a noticeable difference in just one week of being in space.

The first line of text translates to, "Hi from the Auburn University Student Space Program's satellite, AubieSat-1! The battery voltage is 4.19V." When the satellite was delivered to CalPoly for integration with the other cubesats (and integration with the rocket at Vandenberg), the battery voltage was only 3.7V. This proves that our electronic power supply and solar panels are working quite well!

We will continue to try to transmit to the satellite, but we will be most effective when we have accurate Keplerian elements, which describe the orbit of the satellite. Without accurate "keps," we cannot point our antenna right at the satellite, so communication becomes difficult. Only then will we have mission success, when we command it to say, "WAR EAGLE."

November 5

Here are some comments for AS-1:

The satellite has now been heard by numerous ground stations across the globe, and people are sending in reports. We have been hearing a few glitches in our normal beacon (HI HI DE KI4NQO AUBIESAT 1 VB 4R19 SK), which is very odd. Sometimes "KI4NQO" won't be transmitted, and other times "AUBIESAT 1" won't be transmitted. "SK" was sent twice one time, too. The power still seems very low compared to what it should be.

I have spent more than 9 hours today working in the ground station room and on the roof, trying to figure out why our uplink has not been working. We were putting 120W into one end of the feedline, and we measured 30W at the feed point of the antenna. Whoa. Inside (at the transceiver side of the coax), the SWR was virtually 1:1. On the roof, it was about 5:1. Amazing how much loss there is in LMR400 at 70cm! We are now feeding the antenna directly at the feed point (with just a few feet of wire, instead of 120 feet or so), so our loss should be much lower. Hopefully we will get our more than 100W out of the antenna and be able to command the satellite tonight!

The battery for AS-1 has been doing very well, from what I can tell. Our power budget is doing great, and we seem to be seeing roughly 4.2V on the battery whenever it comes around and barks at us. That means our solar panels and peak power tracker are working very well!

Here's a mystery we've yet to solve: we can barely hear our satellite during the day. What's going on there? Would the ionosphere play a big role in this during the day? Any feedback here would be very much appreciated.

MEETING TIMES

We meet nearly every Saturday of the month at 09:00 AM in the one-story building at the corner of 8th Avenue North and 18th Street (1801 8th Avenue North, Birmingham, AL 35203). Use the rear (Southeast) entrance.

Come to the Monday Night Meetings, TOO, on the 4th Monday of the month at 7 PM!

FREE ELECTRONICS CLASSES

The first Saturday of the month, there are electronics classes free to members. Topics include test equipment, Resistors and Capacitance testing, Inductors and coil winding, to name only a few subjects!

We hope to see you there!



DUES ARE NOW DUE

Membership dues are \$25 a year, payable beginning in January. If you have questions about your dues, you can contact Tom at 205-967-7000.

Dues can be mailed to AHRS @ P.O. Box 131418, Birmingham AL 35213.

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