

Oct Mtg Fri. 29th

Oct. 2010

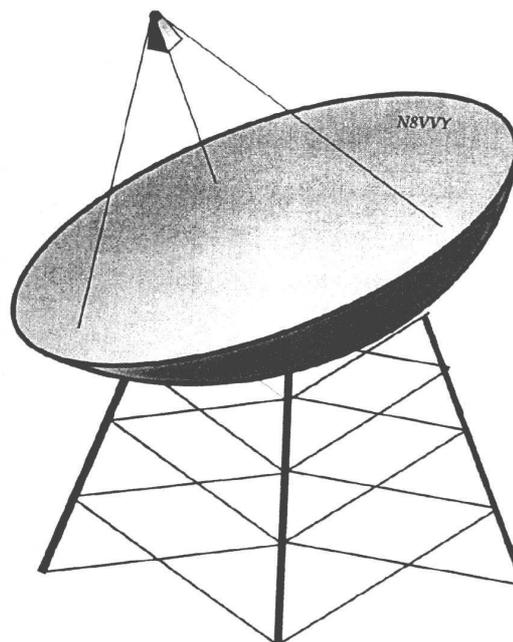
# ANOMALOUS PROPAGATION

Newsletter: **The Midwest VHF/UHF Society**

**Editors:**

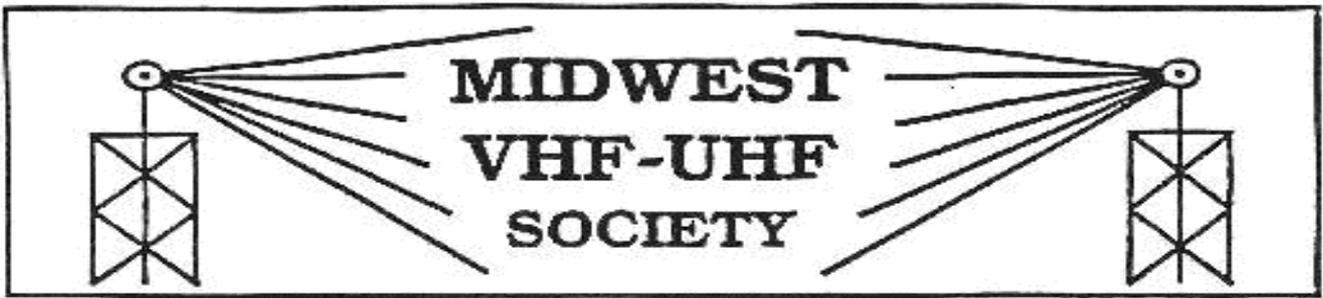
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Annual Society membership is \$ 12.00.  
Please make checks payable to Gerd Schrick



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### Upcoming Meeting Fri 29th of Oct. (7PM)

at the at Harrigan's Tavern! Near SR 725 and Yankee Rd. in Centerville/Ohio. The location is at the east end of the same building as the Home Town Buffet. When you go through the front door, go to the left. There is a large room ! They have us down for 10-20 people. FYI, they have great pizza's, they serve beer, or your favorite beverage and their sandwiches are excellent. But you do not need to purchase anything, so that is a plus for those who eat before attending.

**MVUS Sunday Net at 13:30 UT (currently 9:30 AM local time, EDT).  
The net frequencies are primarily 144.280 Mc and 28.960 Mc.**

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**SK** Mark VE3STZ, relatively young, maybe in his 40s, suddenly died the week of 11 Oct. He used to be active on a few of the VHF, UHF and microwave bands. He was a bicycle rover.

[ Bill, VE3ES a. Lloyd, NE8i]

### Ft Wayne (IN) Hamfest: Nov 13/14-2010

(2011) 15th Annual Southeastern VHF Society Conference, Call for Papers:

If you are looking for something to do during the long, cold winter nights you may consider writing a paper in response to the Southeast-ern VHF Society's call for papers and presentations for their 15<sup>th</sup> annual conference

**to be held in Huntsville, Alabama on April 29th and 30th, 2011.**

Papers and presentations are solicited on both the technical and oper-ational aspects of VHF, UHF and Microwave weak signal amateur radio. Full details of the Conference, requested paper and presentation topics and submission details can be found on-line at: <http://www.svhfs.org>

## **De N8ZM:**

OK, OK, once again I am writing this under the time pressure of having put it off until the last minute. I am not exactly sure what the definition of crastination is but I seem to be pro whatever it means. That's one of the reasons that we put this month's meeting back a week. And my apologies if you did not get the word on that, as I tried to hit as many of you as I could think of with my quicky message last week, but I know I missed a few of you. My apologies.

By the way, we will be at a different venue for this meeting: Harrigan's Tavern, which is located nearby the buffet, at the east end of the same building. If you are facing the front door of the buffet, go to your right a few storefronts. And don't get sidetracked at the South Beach Bar!

Coming up in November is the ARRL FMT\*, and W8KSE will be on the air as one of the test signals, thanks to the efforts of Mike, W8RKO. Mike puts together all of the equipment and antennas, along with whatever else, such as keying software, is needed to put a quality signal out. So if you have the time on the evening of November 10<sup>th</sup>, local, please give a listen for Mike's signal. Better yet, send in your report on Mike's 80 and 40 meter transmissions! All the details are on page 74 of the November QST.

Important things to discuss at our meeting include the dates and locations of our remaining meetings for 2010. I am going to presume that our November meeting will be OK for the Friday after Thanksgiving. However, the 4<sup>th</sup> Friday in December is Christmas Eve, so we need to alter that plan. I think we have the choice of Tuesday, Wednesday, or Thursday (28<sup>th</sup>, 29<sup>th</sup>, or 30<sup>th</sup>) the following week, and we can go any place we want, as I see it. Let me know, please. I'll need to make some reservations.

Also important is that Hamvention has really gotten their act together early this year, and is already accepting orders for tickets and inside/outside exhibitors. That means we need to get our reservation in now. Probably, when I finish this article, I'll get on-line and take care of that. But, we also need to get busy on what we will have in the booth for 2011, and also get the VHF & Microwave forum organized. Do we think we will be setting up the microwave beacons again? The transponder? Selling noise sources (OK, I own that one!). Let's talk about it this Friday.

Well, enough for now. If you happen to notice more spelling errors than usual this month, it is due to having turned off the Spelling and Grammar checks in Word 2007. Its bad enough that it doesn't know half of the technical words I use and tries to correct entirely proper sentence structure because it lacks any sense of style or prose, but it has taken to flagging all of my beloved contractions in order to take away from my style of writing the way in which I actually speak. My ramblings are boring enough even with that kind of help! See you on Friday at Harrigan's Tavern!

73, Tom, N8ZM.

\* See the November QST, pg 74 for details.

## This and That 10-10

**Iorana / Hanga Roa** We pick up AO7 very well and can hear our own signal quite well too! "CQ de CE0Y/DK2ZF." -- But no answer, the footprint is too small, too far away from other stations. Too bad AO-40 is dead, that would have been a field day. However, we logged already 160 contacts via OSCAR Zero. That makes up for it.

73 from Easter Island CE0Y/DK2ZF, Rolf. 10-18-2010

**FO-29** JARL reports that the power balance is too low and the analog transmitter has been turned off on Oct 14. A scheduled turn-on two days later was unsuccessful. [JE9PEL]

**Guru.** Darren McCarthy is the RF technical marketing manager for Tektronix. He has worked extensively in various test and measurements positions for more than 25 years including R&D engineer and project manager...His e-mail: RF-Guru@Tektronix.com [About the Author/ Evaluation Engineering]

**End of Era.** In August Kodak produced the last roll of film [News Report]

**And the Last Light Bulb.** Winchester, VA. - The last major GE factory making ordinary incandescent light bulbs in the United States is closing this month (Sept 2010), marking a small, sad exit for a product and company that can trace their roots to Thomas Alva Edison's innovations in the 1870s.

[Peter Whorisky]

**The Internet.** Will the Internet kill the Magazine? Did Instant Coffee kill Coffee? [Magazine: The Power of Print]

**Hazardous Sunshine.** Kids are not playing outside anymore as we did. Instead they are inside tethered to TV, computer or any of the other electronic time killer machines. My xyl had a bunch of kids sitting down at a picnic table in a park to give them some instructions. It was a nice, sunny October day. After a while some of the kids were pulling their jackets over their head to protect themselves from the sun, an unusual sight for her. [Gerd, WB8IFM]

**Chicken Flying Contest.** Para 2: All entrants must be the genus and species of Gallus Domestica. Only entrants in the best of health will be accepted ... no "foul fowl" allowed. [40<sup>th</sup> Anniversary of Old Timer's Days, Sep 23-26-2010, Xenia. Ohio]

**Glass Half Full or Empty?** Both optimist and pessimist contribute to society. The optimist invents the aero plane, the pessimist the parachute. [George Bernard Shaw]

**The Death of the Telephone.** The average number of phone calls we are making is dropping every year. And our calls are getting shorter. We're moving, in other words, toward a fascinating cultural transition: the death of the telephone call. ... [Clive Thompson in Wired]

**Geld rein, Gold raus.** This certainly sounds catchy and beats the translation which is: "money in, gold out!" An enterprising Swabian has designed a heavy vending machine that dispenses Gold. The machines are put in or near banks, jewelry stores and shopping malls. There is, however, one stringent limitation: they should not be accessible by trucks. The danger of being carted away is too great. [Der Spiegel, 41-2-1-]

**Only Your Toothbrush Does this Now.** Delphi Automotive and WiTricity have teamed up to integrate wireless charging directly into hybrid and electric vehicles. Drivers will be able to park their cars directly over a wireless energy source built into the garage floor or parking spot, and the system will automatically transfer power to the vehicle's battery charger. [Electronic Design Magazine]

**No Longer a Child.** "I believe that if a person is capable of being reasoned with, he or she is no longer a child." [John Rosemond]

**Cutting the Grass.** I have neighbors that run over their grass several times a week using fairly loud riding mowers. I see no good reason for doing this, but now I got the explanation: Researchers found that just being busy, per se, boosts happiness, regardless of whether the work produces anything of value. "Even if there is really no point to what you are doing, you feel better for it." Behavioral scientist Christopher Hsee tells the London Daily Telegraph. In fact he says, governments could "increase the happiness of idle citizens by having them build bridges that are actually useless." [The Week, 8-20-10]

## Change of Venue for MVUS Meeting

By Steve, K8UD

Several members of the MVUS group have expressed discontent with the food selection and costs associated with our current situation. At the last meeting I have made a suggestion, which everyone in the group that attended agreed with. We have decided to try a new venue. Harrigans Tavern just down from the Old country buffet has agreed to host our meetings. They have good food, pizza, sandwiches, appetizers, beer, etc.

There is a large room off to the side, which gives us some resemblance to a place where we can conduct business. It is a casual atmosphere, family oriented, but should be a good place for us to meet. I have talked to Stacy, and she would be happy to have us. If everything works to our satisfaction, she would be happy to put us on the schedule for subsequent meetings for the next year. Best of all, there is no minimum, if you want just coffee, then that is all you pay for. We won't get kicked out, because they are open late.

We might just be able to get more new members to attend if we advertise Steve, K8UD

## Digital Communications Conference 2010

by John Ackermann, N8UR

This year's ARRL/TAPR Digital Communications Conference was held in Vancouver, Washington, near Portland, Oregon. The DCC is a gathering of hams who are interested in the cutting edge of technology. It's not a hamfest, but more like a professional technical conference, with two full days of presentations, along with a "demo room" where presenters and others show off their latest gadgets.

The subjects of DCC presentations have changed over time. In the early years, packet radio was the main focus, while later spread spectrum, APRS, and other topics dominated.

This year's conference continued the focus on Software Defined Radio (SDR) that has been a theme for the last several years. Two SDR presentations that I particularly enjoyed were by Jeremy McDermond, NH6Z, and George Heron, N2APB. Jeremy described his software for the Macintosh and the High Performance SDR hardware. George presented the "SDR Cube" -- a complete SDR in a 4x 4 x 4 inch cube with no external computer required. George will be making SDR Cube kits available shortly.

Another hot topic at DCC for the last few years has been D-Star. This year K7VE gave an "under the hood" description of D-Star software development and KK7DS described extensions to the D-RATS data communication software.

Winlink was also well represented, with presentations by W5SSM and KN6KB about the new RMS Express client software and a new HF digital mode called WINMOR that

looks like a strong contender as a new protocol for keyboard-to-keyboard communication.

This year's DCC banquet speaker was Dr. Nathan "Chip" Cohen, W1YW. Chip developed the concept of fractal antennas and he described their evolution and uses. One fascinating idea, which Chip has demonstrated in a very limited way, is using a type of fractal pattern as a shield to cloak items at RF frequencies. We're a long way from a real invisibility shield, but Chip showed that one is at least theoretically possible.

While there were a lot of interesting and informative presentations at the DCC, one talk may make a real difference in amateur digital voice applications at both HF and VHF. **The codecs that are currently used to encode and compress voice into narrow-band digital form are all heavily protected by patents, and as a result it isn't possible to implement a digital voice program in software -- you'll either infringe someone's patent, or it won't work very well (at least for narrow bandwidth). That's why D-Star users need to buy a "DV Dongle" if they want to use a PC program to**

**interface to the D-Star network. The dongle contains the proprietary chip that implements the patented codec used by D-Star. That situation may be about to change. Bruce Perens, K6BP, announced at the DCC that work is under way on a truly free codec called Codec2 that will be available as open source. With Codec2, we will be able to write our own digital voice systems for HF or VHF without paying a patent tax. While Codec2 development is still in early stages, Bruce gave a proof-of-concept demo, and it works.**

If you'd like to learn more about any of these topics, the 2010 DCC Proceedings are available from the ARRL (<http://www.arrl.org>) and DVDs of the presentations are available from TAPR (<http://www.tapr.org>). (By "are" I mean "will be shortly".)

## **New Fluke Laser Distance Meters Provide Fast, Accurate Measurement In Electrical, HVAC & Industrial Applications**

September 1, 2008

Everett, WA - Fluke Corporation has announced the new Fluke 416D and 411D Laser Distance Meters, designed to precisely and quickly measure distances up to 200 feet using advanced laser measurement technology.

Faster and less cumbersome than traditional tapes or wheels, these pocket-sized, professional-grade distance sensors, sometimes called laser tape measures, help electricians, facilities managers and HVAC contractors save time and labor. **Instead of walking back and forth across a space with tape or wheel, the user can simply place the meter at the starting point, point the laser at the target, press one button and instantly read the distance, all without the help of a second person to hold the other end of the tape measure.**

Laser distance measurement technology makes the Fluke 416D and 411D Laser Distance Meters far more accurate and dependable than devices **using ultrasonic** technology. The Fluke 411D Distance Meter measures up to 100 feet (30 meters) with accuracy of +/- 0.12 inches (+/- 3 mm); the Fluke 416D measures up to 200 feet (60 meters) with accuracy of +/- 0.06 inches (+/- 1.5 mm).

Both distance meters have a bright laser for easy targeting and large liquid crystal displays. Buttons are positioned for one-hand operation. The simple user interface allows you to easily add or subtract measurements and quickly calculate area and volume. An automatic shut-off feature improves battery life, providing up to 3000 readings (411D) or 5000 readings (416D) from a pair of AAA batteries. In addition to its increased range and accuracy, the Fluke 416D Distance Meter also offers a three-line, backlit display for improved visibility, memory for saving ten measurements, splash and dust protection (IP54) and an audible activation shut down notification.

Laser technology: far ahead for measuring distance

Laser distance meters emit light pulses with a defined wavelength and frequency. The laser beam is reflected off the target and back to the distance meter at the speed of light. The returning wavelengths and light pulses change in relationship to the ones sent out by the meter. The difference between the two signals is proportional to the distance to the target.

Unlike ultrasonic meters, the laser distance meter's narrow laser beam prevents the reflection off objects that aren't targeted, avoiding false readings. Laser distance meters are much more accurate and reliable, and measure much longer distances than ultrasonic meters.

The Fluke 411D is priced at \$109.00 USD, while the Fluke 416D is priced at \$229.00 USD. For more information 416D and 411D Distance Meters, visit [www.fluke.com](http://www.fluke.com).

*SOURCE: Fluke Corporation*

## Sawhorse Dish Stand

By Lloyd, NE8i/R 8-2010

One great feature of many VHF conferences is Rover Row and Dish Bowl. Rovers display their stations for everybody to see. Ideas are exchanged and hams get inspiration for their own projects. Last year at the Chicago CSVHF, W9FZ, went around, and got the owner of each rover and dish bowl station, to talk about how it was set up, and explain its features. A great idea...

Many microwave rover stands use roof tripods. Some use camera tripods or telescope stands. Some telescope stands have real nice mechanical gear mechanisms, good for moving, even a bigger dish, in azimuth and elevation. Those stands have adjustable length legs, to get the dish (telescope) level and on the horizon. Some photographic tripods are heavy duty. The base will extend out reducing danger from wind load. Many camera tripods, however, are way too flimsy to use for any but the smallest of dishes. Roof tripods are not really designed for rover use. Plus, they rust. Many have T stands built on the base. Putting heavy items (like a car battery or cement blocks) on those to hold them down and in place.

It is hard to put specific ideas on paper and in any case many of them are "one of a kind" and are applicable only to a specific tripod. I think it best for those who may actually do something, to encourage design your own. Not just copy! Use your mind's eye. I just want to present to you some ideas. If you try any of these, your set-up will be different. It will make use of your available stuff, ideas and needs. Not to mention, it will be a different budget too.

My stand has evolved many times, with some minor and a few major changes. I use wood mostly which is easy to modify. In cost I have just about \$50 spent.

I like wood, being easy to shape, cut. It is easy to get and affordable. A minimum of hand tools does it. Easy to drill a hole, or sink a wood screw. OK, the wood is heavier than a lightweight metal roof tripod, which sells for oh, \$ 35 at a local hardware store...

Years ago, I first saw the roof tripod for a portable dish set up. I tried one, too unsteady, flimsy, prone to tip over. Just ask any microwave rover, how many times their dish has gone over. I decided to try something else. 4 legs are better than 3. I toyed with the idea of a short (4' or 5') folding ladder. However, ladders are not wide enough. Expensive too. **That's where I started thinking saw horse.**

Now to the sawhorse: Hinged sawhorse clamps are only \$3. I have scrap lumber, lots of junk box hardware. I did have to buy some plywood but the big expense was the stain, and urethane coat. Which is currently peeling. Been on there for well over 15

years!

My Sawhorse stand is 4 ft tall. About 2 ft across at the base. It has 2 shelves. On the bottom shelf sits the battery and grips the mast. The upper one is the operating shelf. A set of hinged sawhorse angles allows the sawhorse to fold flat, like a ladder. This fits in the back of my pick up, or in the back seat of the car. This latter dimension is what limits the height of any stand.

Now for the antenna support: I decided to use a strong, thick wall Aluminum pipe. Not TV tubing or thin wall conduit. I had a couple of 7ft long 1/4" OD thick wall aluminum tubes obtained very reasonable used from a local ham 20 years ago. I cut one to just under 6 ft long, so it fits nicely in the pick up bed. That is my basic rover mast.

The pick-up I use to rover with has a cap, that I can stand on. Well, made the sawhorse a fixed stand. Held down with car batteries. This makes lots of power available. Set up and operate on top of rover is easy. This way to get over the top of cornfields, shrubbery and other low obstacles. Plus, this set up had to be good for all my microwave bands.

To hold a mast, at the top of the saw horse, a slot/hole to guide the pipe. A U-bolt would work fine also. At the bottom shelf that holds the battery there is a special slot in the center, with wood slats, that grab the mast, in a friction hold. Helps keep it in place. However, I can move the mast back and forth, allows some movement, to get it vertical. Eventually, the grip, will wear out, and need to be redone. I keep a couple of wood shims handy, to help lock the dish elevation in one place, as well as balance the stand.

Operating shelf. It was designed to hold the wood boxes for my microwave stations. All my stations are mounted in wood boxes. They sit on the operating shelf. When in motion they sit on the back seat of the rover. When using the sawhorse stand, the loop yagi's and such are on the mast. In the latest version, the operating shelf holds an FT817, my IF-radio, and has room for a 2M-link radio as well. The top of each box has a flat surface to write, and has room for a key. A steno pad is used for log and notes.

The 10 GHz+ equipment, currently mounts on the back of the dishes. Close to the feed. The slot for the FT 817 IF radio is at an upwards angle for easy use. When the wind is low I can extend the main mast with a smaller pipe and mount a 4 element 2M yagi on top. This keeps everything together. Lets me set up away from my vehicle. Can also set up my 24 GHz or 47 GHz station.

Most of the tripods collapse. Easy to store. Not much space required. My sawhorse no longer collapses. The original sawhorse could fold flat. Fit in a back seat. Several

updates later, it now needs more space. No longer hinges, but it fits in the pick up as is. For many, this is not an option. Your transportation will require more thought. Dimensions obviously are limited by available storage and moving space.

Most roof tripods are set up on a wood T base. Does not always work well, on the many surfaces it encounters. Most rover sites are not level or the feet dig into the soil. Set it up, the stand starts rocking around. I carry some wood shims. But local sand and gravel work well also. The sawhorse, however, is easily set up anywhere, AND, designed for unlevelled surface. The pipe moves back and forth in the slot to get it vertical.

Then I have a hinge for the dish. Tapered wood block, to adjust the dish. Elevation, for rain scatter, etc. Dish set up, with hinge, is designed to be able to look below the horizon. Block adjusts it to the horizon and above. Then I use a handful of handy shims.

Another key factor to think about is set up and tear down time. Minimize! My goal is 3 minutes. However, it still takes me more like 10 minutes

Then, when you go to "the dish bowl" at conferences. There are always those stations with "extra features". Always some hams showing off ideas, inventions. Key features of set ups, include stuff like keyers, white LEDs in key spots, to light up stuff at night (KF8QL/r). Umbrellas for shade. Cup and thermos holders.

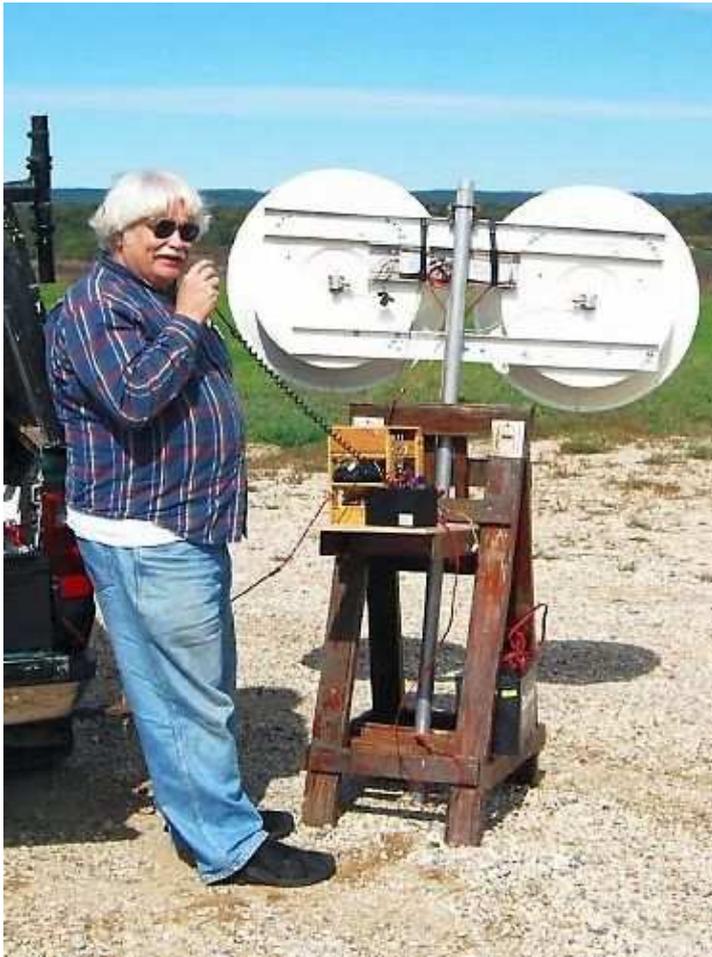
In Europe, I am told, many stations also have microwave ATV set ups. To kill time while waiting for the other end, or band conditions to change. Sometimes, I bring along a beacon, so the other end, can watch band changes. Yes, I also have the basic ATV equipment for 2.4 GHz. Also I have a digital Tv with a small flat screen. All 12V friendly. Some TV stations use one of their digital channels for weather radar. Handy to look for rain scatter potentials. That one is time consuming to set up, and use. Not many of the digital TV stations have a weather radar channel.

A really cute addition, I built, but have never used. A small RV 12V rotor and control. Mount it on the mast. Use it to aim the 4 element 2M yagi. Has an IR remote control.

Likely next time in the flea market at Dayton, I will have this stand set up, next to my Rover. Hopefully have 10 or 24 GHz available for demo.

Good luck.

73, Lloyd NE8i/r EN74 etc [ne8i@arrl.net](mailto:ne8i@arrl.net)  
POB 221, Maple City Mi 49664



One Unique Rover Solution. Lloyd, NE8i, with his sawhorse stand which has evolved over many years of practical use! In this set-up he is using two dishes for 10 GHz. One is for transmit, the other for receive. These pictures were taken last August by Jack, K8UKC

### **From the AMSAT Symposium 2010 Proceedings.**

By Gerd, WB8IFM.

Two contributions immediately appear quite relevant to our "Anomalous Propagation" readers:

- 1) Marc Franko, N2UO: A lightweight 20-foot stressed dish for 1296 MHz EME  
And
- 2) Stephen Turner, K3HPA: 100 W VHF/UHF amplifier design and construction

Marc writes about his project in the introduction: Building a large dish for 1296 MHz EME can be a complex and expensive project. Every time the diameter is doubled, 6 dB of additional gain can be obtained. But the dish area and weight are actually quadrupled.

After using a 10' stressed dish for about 9 years, I decided that it was time to build a larger antenna, settling for a 20' dish with similar characteristics and construction style as the 10' antenna.

As for the amplifiers, you get a lot of info and ideas. Looks like Stephen did an excellent job. It maybe hard to duplicate. Building higher power amplifiers with transistors is still a challenge. Maximum RF power out for individual transistors presently run from 50 to maybe 100 W. This means that you need to parallel 2 for 100W and 20 for a kW. The latter is a tall task and explains the high prices of kW linears.

# AMSAT Annual Meeting and Space Symposium in Chicago (2010) - Finalize the ARRISat-1 Satellite

By Keith Baker, KB1SF

**Elk Grove Village, IL** - More than 100 AMSAT members and their guests gathered at the Holiday Inn at Elk Grove Village, Illinois on October 8, 9, and 10th for the AMSAT-North America Annual Meeting and Space Symposium. MVUVS members may recognize the hotel as the same one that hosted the Central States VHF Society gathering a few years ago.

This year, the main topic and good news was that AMSAT's recently completed ARISSat-1 satellite had been received at the Johnson Space Center in Houston, Texas on its way to the International Space Station (ISS) in orbit.

Project Manager, Gould Smith, WA4SXM told those gathered that the satellite passed all of its vibration and other tests and is ready for its way to Russia for eventual launch."

Some readers may recall that a satellite called SuitSat-1... where an amateur radio transponder was tossed overboard from the ISS inside a surplus Russian space suit...was less than a rousing success. Unfortunately, SuitSat-1's downlink transponder was extremely hard to receive on the ground. So, the same experimenter team began a follow-on effort (called SuitSat-2 to (hopefully) be more successful.

Unfortunately, due to space limitations, one of the two surplus Russian space suits then in storage aboard the ISS (including the space suit that was being reserved for SuitSat-2) was sent back down on a Progress cargo vessel in 2009. So, rather than construct a follow-on payload for a surplus space suit, a new, entirely self-contained satellite (called ARISSat-1) was conceived to fly in its place. And, if all goes as planned, this new bird will offer users a *far* more robust amateur satellite than what could have ever been flown inside a Russian space suit!

For example, ARISSat-1's linear, inverting U/V transponder will employ an innovative Software Defined Radio (SDX) system with a 50 kHz bandwidth centered on 435.750 MHz for the uplink and 145.930 MHz for the downlink. In addition, the spacecraft will sport a single BPSK and two CW bacons as well as a number of onboard cameras that will send SSTV pictures of the Earth (along with broadcast greetings in some 22 languages) via its FM downlink transmitter at 145.950 MHz.

Construction of the flight model ARISSat-1 began in early February 2010 and has been proceeding apace ever since. During the last several months the team had been hard at work actually assembling and testing not one but FOUR ARISSat satellites.

Specifically, two of the four (one for actual launch and one for ISS crew training on the ground) has been undergoing extensive operational tests. The remaining two will be "put on the shelf" for possible subsequent launches in the future.

Shipment of the flight and backup units to the Johnson Space Center happened in early October. From Houston, the satellite will be sent on to Russia where a Russian experimental payload was to be integrated into the actual flight satellite prior to its shipment to the Baikonur Cosmodrome in Kazakhstan for eventual launch up to the ISS aboard an unmanned Russian Progress cargo vessel.

Gould also reported that ARISSat-1 has now been firmly manifested on Progress 41P which, if it launches on schedule, will carry the satellite up to the ISS sometime in early 2011. A new Russian Orlan suit battery will be shipped to the ISS separately to be installed into the satellite (called the "Amateur Radio Experiment") onboard the ISS. Then, on a date yet to be determined, one of the astronauts or cosmonauts will turn the satellite "on", step outside the ISS, and toss it overboard into space.

The orbital life of ARISSat-1 before it re-enters the Earth's atmosphere is expected to be about a year or so. More information about the ongoing progress of ARISSat-1 can always be found on the SuitSat-2/ARISSat-1 Web page at: <http://www.arissat1.org>.

Besides the good news about ARISSat-1, election of AMSAT's Senior Officers was one of the first orders of business to be settled once the AMSAT Board of Directors meeting opened on October 7, prior to the start of the 2010 AMSAT Space Symposium

The following positions were voted upon and filled:

President	Barry Baines WD4ASW
Vice President Operations	Drew Glasbrenner KO4MA
Vice President User Services	Gould Smith WA4SXM
Vice President Engineering	Tony Monteiro AA2TX
Secretary	Alan Biddle WA4SCA
Treasurer	Keith Baker KB1SF
Manager	Martha Saragovitz
Executive Vice President	Remains Open
Vice President Human Spaceflight	Remains Open
Vice President Marketing	Remains Open

The AMSAT Board of Directors elected on September 15 include:

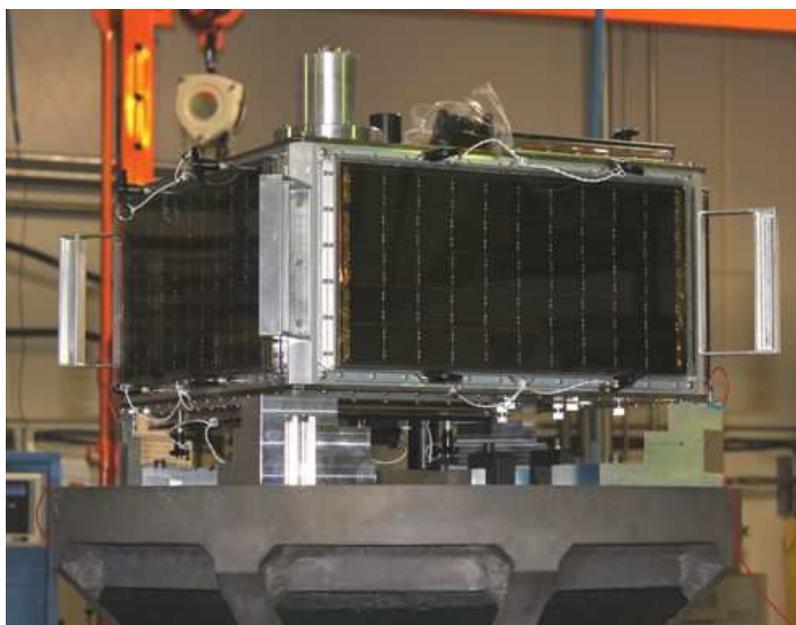
Barry Baines WD4ASW	Gould Smith WA4SXM
Dr. Thomas A. Clark K3IO	Alan Biddle WA4SCA
Lou McFadin W5DID	Tony Monteiro AA2TX
Drew Glasbrenner KO4MA	

More information about the conference will appear in subsequent issues of *The AMSAT Journal*.



**AMSAT BOD member Lou McFadin, W5DID, prepares the ARISSat-1 flight model satellite for vibration testing at a contractor facility in Orlando, Florida.**

**(AMSAT Photo)**



**“2010”**

**The ARISSat-1 flight model undergoes vibration testing at a contractor facility in Orlando, Florida.**

**(AMSAT Photo)**



**ARRISat-1 in Chicago**  
**Some members of the ARRISat-1 experimenter team pose with the working engineering model of the satellite at the recent AMSAT Annual Meeting and Space Symposium held in Chicago on October 7, 8th and 9th. From left is Lou McFadin, W5DID; Bob Davis, KF4KSS; and Doug Quagliana, KA2UPW. Symposium attendees got a chance to work through the new "bird's" transponders with their radios during the conference.**  
**(KB1SF Photo)**