

President's Corner

By Steve Bible, N7HPR



Digital Communications Conference 2018 will be in Albuquerque, New Mexico, September 14-16, 2018.

Yes, you read that right, DCC 2018.

I just got off the phone with the Sheraton Albuquerque Airport Hotel. They had an excellent turnout for the 2017 Central States VHF Society Conference. Room rates are \$99 per night, which is good three days prior and three days after the DCC. Since Albuquerque is a nice vacation destination, I am sure you will consider taking advantage of this rate and see scenic New Mexico.

It's great that the DCC is getting so much pull. TAPR definitely has an excellent product in the DCC. The more we can nurture it, the better for TAPR's brand.

73,

Steve Bible, N7HPR, President TAPR

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A 2017 DCC presenter, Kurt Kiesow, KF6QNC, is introduced by TAPR President Steve Bible, N7HPR.

DCC Video Guide

Gary Pearce, KN4AQ, of HamRadioNow fame videotaped the presentations at the 2017 ARRL-TAPR Digital Communications Conference and posted them on the Internet for all to see.

The following lists the presentations that Gary has posted preceded by their Episode Number (HRN ###). You can access the desired Episode here: <https://www.hamradionow.tv/episode-index/>

HRN 348: Welcome to the 2017 DCC by TAPR President Steve Bible, N7HPR

HRN 349: Radio Amateur's Digital Notebook by Jon Poland, N0WL

HRN 350: Education, Testing, Training by David Bern, W2LNX

HRN 351: Fusion from the Inside by Chris Petersen, K9EQ

HRN 352: Noise in a Digital World by Steve Hicks, N5AC

HRN 354: Lightning Talks from the 2017 DCC

Autonomous Wave-Powered Ocean-Going HF Station by Kurt Kiesow, KF6QNC

Faraday Open Source Digital Radio by Sterling Coffey, N0SSC

DWatcher: D-STAR / DX Monitor App by Bill Engelke, AB4EJ

Emergency Data Exchange Network by Dr. Brandon Wiley, KF5WVW

Need for a Sessionless, High-Rate, Interference Tolerant Mode for Competitive Use by Ward Silver, N0AX

The DARA Thursday Night Group by Tom Holmes, N8ZM

HRN 355: All Your Modems Are Belong To Us by Brady O'Brien, KC9TPA

HRN 356: State of Digital Voice by Bruce Perens, K6BP

HRN 358: Thoughts on Regulation by Tim Shepard, KD1KY

HRN 360: A New Generation of Ham Radio by Ward Silver, N0AX

HRN 361: Internet Telegraph by Scotty Cowling, WA2DFI

HRN 362: Radio Tracking Fish with Drones by Dave Witten, KD0EAG

HRN 363: Firmware Tools for openHPSDR by Dave Larsen, KV0S

HRN 366: TNC-Pi 9k by Mark Griffith, KD0QYN

HRN 367: Ground Based Repeater for GeoSAT by Wally Ritchie, WU1Y, presented by Steve Conklin, AI4QR

HRN 368: HamSCI Eclipse by Nate Frissell, W2NAF, Bill Engelke, AB4EJ, Joshua Katz, KD2JAO, Spencer Gunning, K2AEM, Joshua Vega, WB2JSV

HRN 369: Eclipse Wideband RF Project by John Ackermann, N8UR

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DCC Prize Winners

By Mark Thompson, WB9QZB

The following prizes were awarded at the DCC Banquet. The ARRL and TAPR thank the following prize donors: DX Engineering, FlexRadio, Gateway Electronics, HiDes, HRO, Icom, Kenwood, MFJ, Rowtel and West Mountain Radio.

ARRL Gift Certificated - \$25 - Joshua Vega, WB2JSV
 ARRL Gift Certificate - \$25 - Mark Denker, AI0Z
 ARRL Handbook 2018 - Mike Wolford, KG4DSG
 ARRL Gift Certificate - \$50 - Mike Lefebvre, N1MPL
 DX Engineering Gift Certificate - \$100 - Matt Penny
 FlexRadio Discount Certificate - Jim Hain, W2IMY
 Gateway Electronics Gift Certificate - \$25 - Bill Reed, NX5R
 Gateway Electronics Gift Certificate - \$25 - Bruce Raymond, ND8I
 HiDes HV-120 DVB-T D-ATV Receiver - Stacy Lacy, NQ0S
 HRO Milwaukee Gift Certificate - \$50 - Tom McDermott, N5EG
 Icom ID-4100A D-STAR Mobile - Dale Puckett, K0HYD
 Kenwood TH-D74A D-STAR HT - Jetta Jensen
 MFJ Long John 2m Telescopic HT Antenna - John Ackermann, N8UR
 MFJ-108B - Clock - Scott Morani, KJ4MFJ
 MFJ-108B Clock - Jerry Fenkell, VE3OBX
 MFJ 1204-MD6 USB to Radio Multimode Interface - Icom 13-pin DIN
 - Brad O'Brien, KC9TPA
 MFJ 1204-D131 USB to Radio Multimode Interface - 6-pin mini DIN
 Data / Accessory Port - Scotty Cowling, WA2DFI
 QEX Subscription - Amy Herndon, KM6FZE

QEX Subscription - Kurt Kiesow, KF6QNC
 Rowtel SM1000 FreeDV Adaptor - Spencer Gunning, K2AEM
 TAPR Gift Certificate - \$25 - Herbert Ullman, AJ4JF
 TAPR Gift Certificate - \$50 - Cheryl, KB9NTN
 TAPR Gift Certificate - \$75 - John Skain, KD9DXF
 TAPR Gift Certificate - \$100 - Eric Jannsen, KG9GH
 West Mountain Radio Rigblaster Advantage - Jeri Ellsworth, AI6TK

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Jeri Ellsworth, AI6TK, receives her prize from the Prize MC Mark Thompson, WB9QZB. (K9TRV photo)

HamSCI's Eclipse Results

From The ARRL Letter

At the 36th annual ARRL and TAPR Digital Communications Conference (DCC), held September 15-17 in St. Louis, members of the HamSCI group presented preliminary evidence that the August 21 solar eclipse had a significant effect on HF propagation. The DCC is geared toward technically minded Amateur Radio operators who specialize in building and designing hardware and software to support digital communication and radio.

In their presentation, “HamSCI and the 2017 Total Solar Eclipse,” HamSCI members Nathaniel Frissell, W2NAF; Bill Engelke, AB4EJ; Josh Katz, KD2JAO; Spencer Gunning, K2AEM, and Josh Vega, WB2JSV, showed initial results of the Solar Eclipse QSO Party (SEQP) and other HamSCI eclipse experiments. Their presentation demonstrated that the number of 14 MHz Reverse Beacon Network (RBN) spots decreased, while the number of 1.8 MHz and 3.5 MHz spots increased during the eclipse totality. The HamSCI researchers say this suggests a decrease in both maximum usable frequency (MUF) and D-layer absorption during the eclipse.

John Ackermann, N8UR, described his work in making wideband recordings during the eclipse in his presentation, “How to Fill a Terabyte Disk: Using Software Defined Radios in the HamSCI Solar Eclipse Experiment.”

In addition to the conference presentation, three New Jersey Institute of Technology (NJIT) HamSCI papers were included in the conference Proceedings. “HamSCI and the 2017 Total Solar Eclipse (Experiment Description),” by Frissell *et al.*, details the procedures for the HamSCI eclipse experiments. “The H.A.R.C. Database and Visualization Utilities,” by Katz *et al.*, describes a database for unifying RBN,

PSKReporter, WSPRNet, and other Amateur Radio propagation data in one place for research purposes. Vega’s “Developing a Solar Eclipse Simulation for Greater Good” describes how to simulate the SEQP using the PHaRLAP raytracing toolkit and SAMI3 model of the eclipsed ionosphere.

HamSCI team members announced that the HamSCI Workshop will be held at NJIT in Newark on February 23-24.

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From left to right, NJIT Research Professor Nathaniel Frissell, W2NAF, and NJIT students Josh Vega, WB2JSV; Spencer Gunning, K2AEM, and Josh Katz, KD2JAO, with TAPR President Steve Bible, N7HPR, at the 36th Annual ARRL and TAPR Digital Communications Conference in St. Louis.

How a Ham and Near Space Explorer Used APRS to Collect Data on the August 21st Solar Eclipse

By Paul Verhage, KD4STH



Lots of people got images like this of last August's total solar eclipse. But how many got images of the moon's shadow on the ground? How many collected data on the eclipse's impact on cosmic rays in the upper atmosphere?

I've been launching and chasing high altitude balloons for over 20 years. One reason I've been able to do this for so long is because of how practical and affordable APRS has been since the mid-1990s. By the summer of 2017, I had sent 172 balloons into the stratosphere to collect amateur science data for myself and for students. And since I'm a space and astronomy geek, it's not surprising that my 173rd high altitude balloon flight was launched in support of amateur science and the solar eclipse.

Now that I've had a chance to look over the data, I'd like to commandeer a few pages of the Packet Status Register to explain what I did and discuss some of the data my flight collected. I hope this article will convince readers that they should consider helping their local school design, fly, recover, and analyze the results of high altitude balloon flights (called near space flights in the rest of this article). A near space flight like the one I launched to record the

solar eclipse is a poor man's space program and it's a program that fires on all four STEM cylinders unlike any other school activity. By helping your local schools in this way, you'll be helping them prepare students to become future scientists and engineers - just the thing we need to save the world.

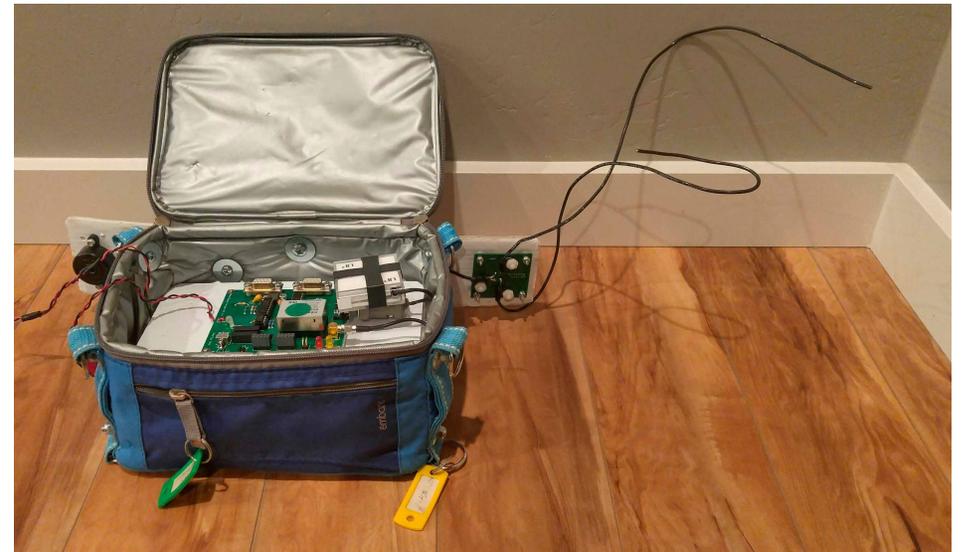
How I Got to Near Space

Okay, so "I" didn't actually travel into near space, one of my balloons did. The balloon was made of latex and weighed 1200 grams empty. It was filled with about 300 cubic feet of hydrogen gas so it could lift itself, the payload, and have extra lift to climb at 1,000 feet per minute. The balloon carried a parachute, two trackers, and six experiments to an altitude of 90,496 feet before bursting. The launch location was the municipal airport in Ontario, OR and I received the help of my wife Rachel and six civilian pilots and their families.



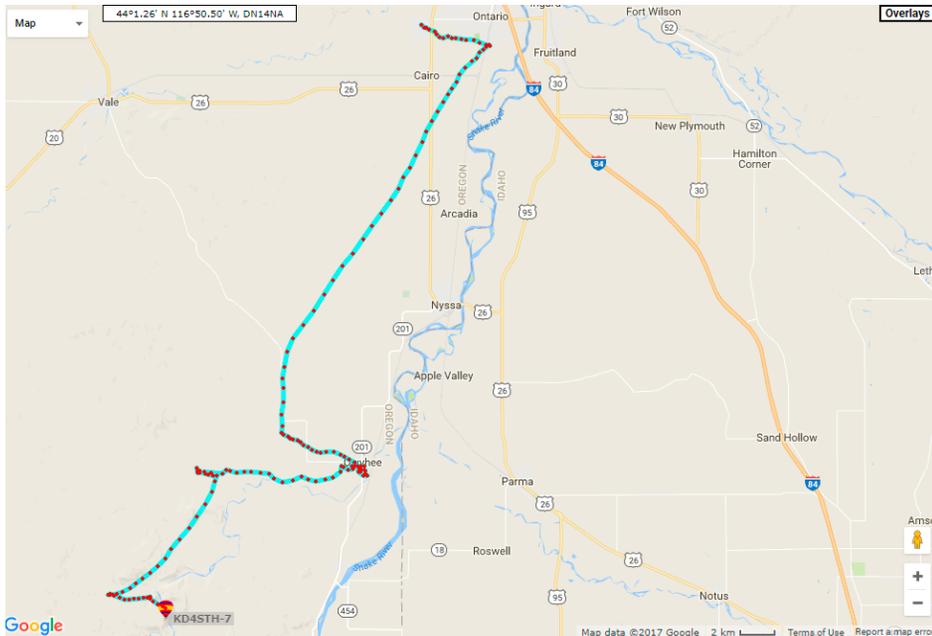
About one dozen people helped raised this balloon. It's around seven feet tall and filled with enough hydrogen to lift 15 pounds (twelve pounds for its payload and three for the proper ascent rate).

My APRS tracking electronics were packed inside two reusable lunch bags. I like to use these lunch bags because they have zippered lids and soft, insulating sides. Inside the bags I placed a LiPo battery, GPS receiver, and TNC. Outside was a 2m dipole antenna mounted to a plastic boom. The APRS tracker is based on the Byonics Tiny Track which I modified slightly by adding a programmable PICAXE microcontroller to operate experiments.



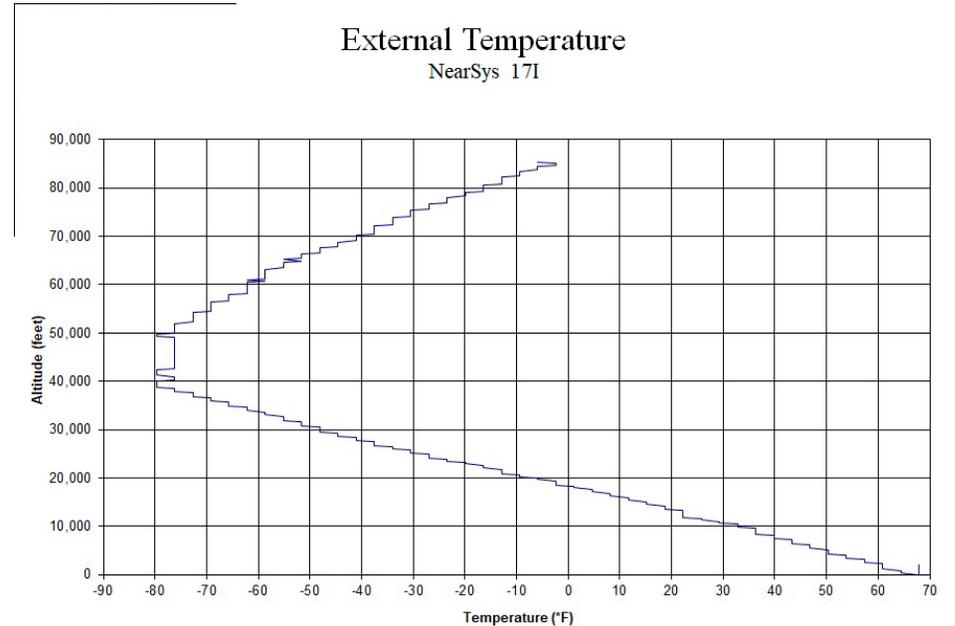
One of the APRS Trackers used to record eclipse data. Notice that an antenna boom (made from Corroplast) is bolted to the back of the lunch bag. You'll also see that four nylon straps are bolted to the corners of the lunch bag. This is where tether lines attach the tracker to the parachute's shroud lines.

A Sampling of the Eclipse Data



The winds aloft changed directions three times during the balloon's ascent. Each red dot is a one minute position report. The spacing between the dots make it easy to gauge the speed of the balloon and therefore the wind speed at that altitude.

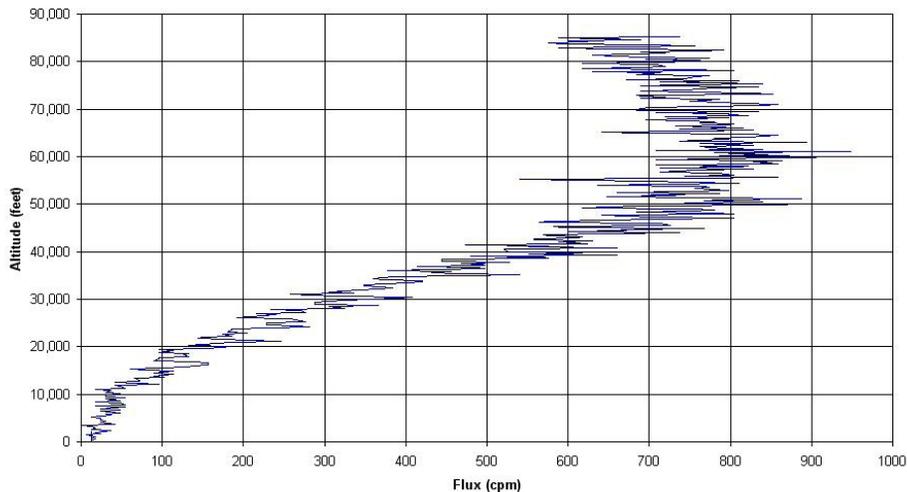
So the first two results I'd like to share show how little the eclipse effected the upper troposphere. Not that I was expecting a significant change, but it does tell us some of the limitations the sun has on Earth's atmosphere over short durations.



Although this was recorded during the solar eclipse, it still looks like a typical temperature profile for Earth's lower atmosphere. So the air temperature decreases with increasing altitude in the troposphere and then increases with increasing altitude in the stratosphere. The pause, or break in the changing temperature occurs at the boundary between the troposphere and stratosphere, or a region called the tropopause. Some times my temperature sensor can't see this lull in temperature changes and other times it does. Unfortunately, this lull occurred during the time of totality, which was at an altitude of 45,000 feet. So, it's possible the little blip of a decrease could be due to less sun shining on the black temperature sensor. However, it's equally likely it's not an eclipse artifact since I've seen this occur on other flights.

Cosmic Ray Flux

NearSys 17I



My balloon carried an Aware RM-60 Geiger counter to record cosmic ray flux during the flight. Look closely and you'll see a slight dip in the incidence of cosmic rays per second between the altitudes of 40,000 and 45,000 feet. Totality occurred when the balloon was at 45,000 feet. Since the decrease in cosmic ray count after 45,000 feet doesn't look like the count before 45,000 feet, I think the decrease shown in the chart is due to the random nature of cosmic rays. I believe this because when I calculated the rate at which the cosmic ray flux changes, nothing unusual pops out around 45,000 feet.

The next two results on the other hand show the effects of the moon's shadow. But first, a word of explanation is needed for the near infrared pictures. Visible light, especially at the blue end of the visible spectrum is strongly scattered by molecules of oxygen and nitrogen in the atmosphere. This effect is called Rayleigh Scattering and its responsible for our blue skies (basically, no matter where you look n the sky, you're seeing blue light from the sun). The red end of the spectrum is not as strongly affected as the blue end. So when nearly all the blue light (photons) is scattered away from the sun is on the horizon, we see a red sunset rather than a blue one.

Near infrared (NIR) is the part of the spectrum just beyond the red that our eyes can't see. It is however visible to digital cameras with their silicon imagers. Camera manufactures place infrared blocking filters (hot mirrors) in front of the CMOS imager to prevent them from detecting NIR and throwing off the camera's color balance.

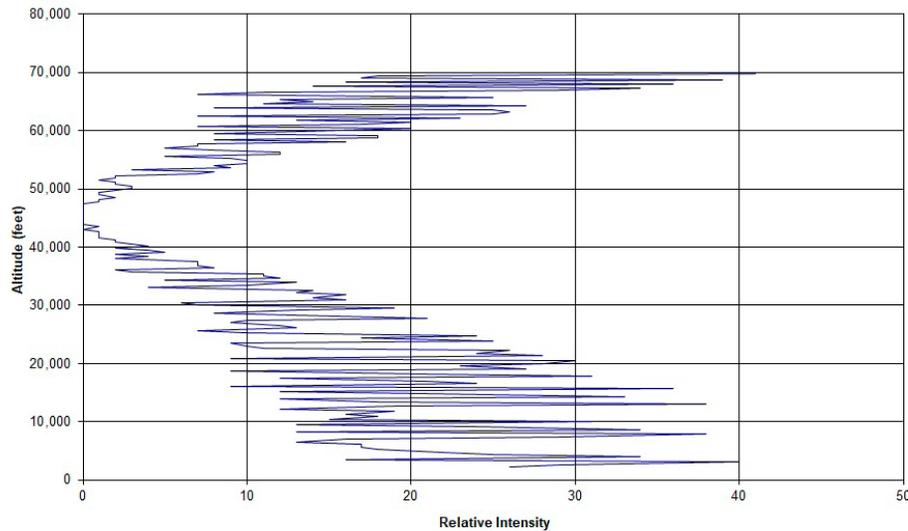
I removed the infrared blocking filter of several Mobius ActionCams and then placed two theater gels in front of the camera lens. The theater gel colors were Congo Blue and Primary Red. The blue filter blocks all visible light except for a tiny part of the blue. The red filter blocks the blue light that manages to pass through the blue filter. But here's the really neat thing, theater gels pass infrared light unhindered. Theater gels must be transparent to infrared because they add color to very hot theater lights. If they blocked infrared light, then they would get hot enough to melt or even catch fire.

Finally, I configured the Mobius ActionCam to record monochrome images rather than color images. An added benefit of this configuration setting is that plants and farm fields show up as bright white. This is

because chlorophyll, which harvests blue and red light to convert carbon dioxide and water into food and oxygen, strongly reflects NIR. NASA has used this fact to measure the amount of chlorophyll in plants, and therefore measure crop health from satellites in Earth orbit.

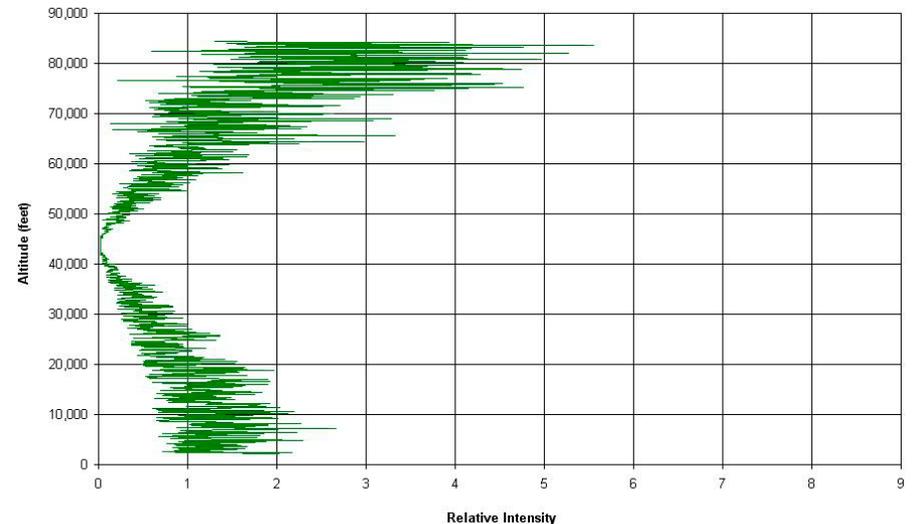
So the first set of data shows how the intensity of sunlight changed during the eclipse. The photometer I used to collect this data is based on LEDs. LEDs emit light when a current flows through them and also produce a current when light shines on them. But unlike a solar cell or photodiode, LEDs are sensitive to only light close to the frequency they emit. So by measuring the current produced by different color LEDs, a experiment can measure the intensity of sunlight in several different color bands.

Ultraviolet-B
NearSys 17I

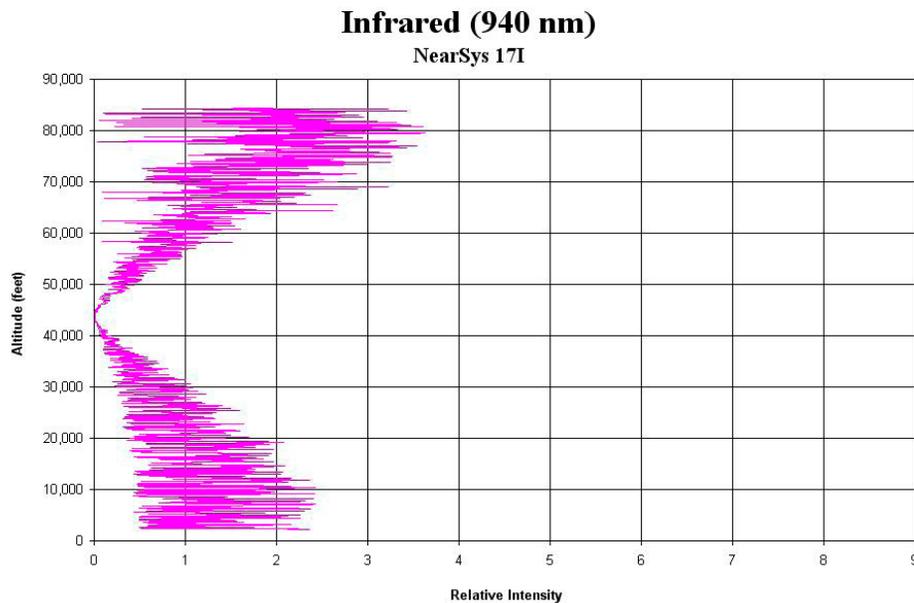


A UV-B sensor (by Ada Fruit) measured the intensity of ultraviolet overhead during the balloon's ascent. This is the portion of the ultraviolet spectrum is responsible for sunburns. You'll notice the sky became very dark during totality.

Green
NearSys 17I



What was seen in ultraviolet was also true for the green part of the spectrum.



And it's also true for the infrared portion of the spectrum (this chart is from 940 nm infrared). Therefore, we can see that all portions of the electromagnetic spectrum surrounding visible light are equally affected by the eclipse. I was expecting this, but it's nice to see confirmation.

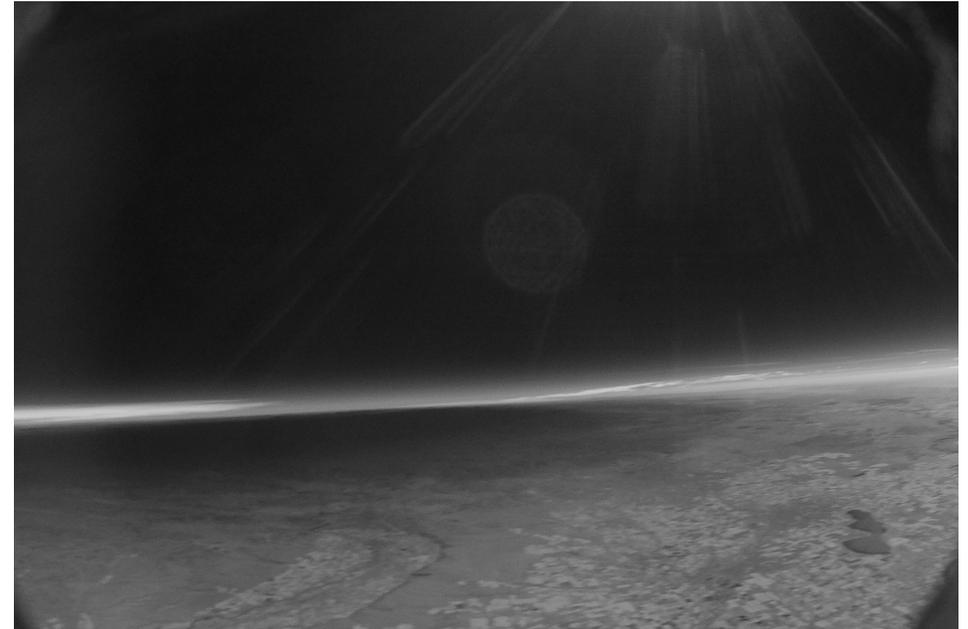
Now what I consider the best data collected during the flight.



The approaching moon's shadow is visible in this NIR image taken around 43,000 feet. The distance to the horizon is 250 miles and the moon's shadow spans 70 miles across the ground. The approach speed is just over 2,000 MPH. This is an image looking northwest towards central Oregon.



Now the moon's shadow can be seen in full. This image is a little blurry because the balloon spins and rocks the camera payload during the ascent. It doesn't help either that the ground and sky are getting dark and the camera shutter must remain open for a longer period of time to compensate.



Time to say good by to the moon's shadow. It's now headed towards Idaho Falls in eastern Idaho. Lake Lowell is visible in the lower right.

Not everything worked as I wanted, but it was still a pretty good experience. It was so good that I'm now looking forward to the next total solar eclipse in 2024. And I have several ideas on how to improve the data I'll collect. However, I have to wonder what new technology will become available by then. So no one should be surprised when my flight collects entirely different results.

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More Eclipse Stories

John Ackermann, N8UR

I used my Hermes and GNU Radio to record the 80M, 40M, 30M, and 20M bands for 8 hours (from 1400 to 2200 UTC) as part of the HamSci eclipse experiment. I also recorded the entire AM broadcast band using a Red Pitaya.

I've now uploaded some initial results in the form of time-lapse movies that show a spectrum-analyzer view of each band with the 8 hours sped up to about 3 minutes.

Rather than posting lots of background details and links here, I'll point you to my blog at <http://blog.febo.com> where the last couple of postings have links to the YouTube videos as well as other related stuff.

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Stana Horzepa, WA1LOU

I made a dozen recordings of the whole AM band during the eclipse using the ELAD FDM-S2/FDM-SW2 SDR receiver and 80-meter inverted Vee antenna. Located in central Connecticut --- so far away from the path of the eclipse --- I detected no AM band enhancement in those recordings.

However, I did detect one case of band enhancement live and in person on a portable radio, C.Crane Skywave AM/FM/SW receiver, which has a very sensitive and selective AM receiver. Beforehand, I had programmed all the channels that are normally dead during the day into the receiver's memory and scanned those channels throughout the eclipse.

About 10 minutes into totality, I heard a station that I often hear at night, but never during the day. It hung in there for about 20 minutes and then disappeared. The station was WRNJ on 1510 kHz in Hackettstown, NJ, transmitting 2,000 watts, 113 miles to the west-southwest.

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This was as good as it got in Downtown Wolcott, CT, at 1854 UTC, photographed while holding my telescope's sun filter in front of the lens of my iPhone 6. (WA1LOU photo)



TAPR Board of Directors Meeting Minutes

St. Louis, MO, 14 September 2017.

Meeting called to order at 9:47 AM

Present to start the meeting: Board members Bruce Raymond, Scotty Cowling, John Ackermann, John Koster, Tom Holmes, Steven Bible, George Byrkit. Guests: Joe Muchnij, Tom McDermott, Jim Lynch K4GVO.

First order of business is to elect officers. George moved to re-elect the current officers (Steven Bible, President, Scotty Cowling, Vice President, Stana Horzepa, Secretary, Tom Holmes, Treasurer. Scotty seconded the motion. The vote was unanimous.

Three director positions are up for election. Steven Bible, Stana Horzepa and Darryl Smith. Nominations will be accepted through the Annual TAPR Member Meeting on Saturday.

There is no President's Report. There is no Vice President's Report.

Office Manager Report: John Koster: Been selling WSPR boards, TADD-1 boards, DCC registrations. TICC's are sold out (mostly). Received an inquiry from the DoD about quantity pricing – not doing that. Report is accepted.

Treasurer Report: Tom Holmes: Report was distributed by e-mail. Tom highlighted that our cash position is only a few thousand dollars different from last year. Sales have reduced inventory. Brought up the bequest that we received to attempt to move John Stephenson's networking radio project. Mesh networks seem to be moving forward past John's work, possibly obsoleting that work. Carl Laufer paid his own way to US/Dayton from New Zealand, which helped our cost/profit on the RTL-SDR.

Steve Bible's comments on this year: DCC registration looks good.

Costs are very good. Helped largely by George providing A/V services essentially for expenses only. Almost have a contract for Albuquerque for 2018, where the costs look good. Proposed at Sheraton Airport Hotel. Treasurer's Report received and accepted.

At Dayton, the board formed three committees to investigate matters of TAPR. Stephen and Scotty were the Long-Range Committee. They have no report. There was an Office Matters Committee consisting of John Ackermann, George Byrkit and John Koster.

George and John Ackermann presented their report that supports that we should get rid of our inventory of 'old' stuff, decrease number of items sold. Report was sent by e-mail a week or so ago to the Board. Need to have very few items to sell. Need to ensure that our business bank accounts are set up properly without 'personal responsibility' backup (e.g., John Koster's name, SSN, etc.) are associated with our current TAPR credit card and credit card processing fees.

John Koster suspects that he and Laura may have up to several years during which the transition needs to occur. John Ackermann reported that we have no method to 'escrow' or control all the accounts, usernames, passwords. This was brought up by Jeremy's recent departure.

The Office Matters Committee is being tasked with two things: determine TAPR's best options for banking and merchant processing, and provide a repository for accounts, usernames, passwords, etc. Motion by Bruce Raymond to this effect was made. Seconded by Scotty. Passed unanimously.

A lunch break was taken.

We were brought back to order at 2PM.

Now the Membership Committee, consisting of Bruce Raymond, Mark, and Stana. Based on our year-to-year losses, we suspect that we need to have membership renewal notices go out more effectively. Need to streamline and simplify the process of getting money.

Related to this, the thought came up that we should reorganize/reimplement our website(s) to better maintain our TAPR website and membership portal. There needs to be research by Scotty, Stana, and Steven to replace our current system, and NOT run our own hardware. Follow up with Darryl on moving our TAPR FTP content to GitHub, as offered in Dayton in 2017. Who did the recent redesign of AMSAT's website? Pay attention to mobile-centric display of website.

The president will write 'Why TAPR,' which is about why you should join TAPR and what you get from TAPR membership. Bruce will provide bullet points and such. Bruce needs to look into efficacy of current membership portal, to view how it speaks to losing members.

A break was taken so John Koster and Stephen Bible could meet with the hotel liaison to go over final details. Back to quick-talk mode on projects that are upcoming.

Bruce Raymond – Solar-powered WSPR transmitter. Currently 2.5 oz. maybe able to get 1.5 oz. Less than \$30 parts. All thru-hole, currently. Could do surface mount and only sell as assembled. It's a 30 meter device. Uses Arduino Pro-Mini. Likely target \$150 to \$200. Scotty moved to fund Bruce's project up to \$400. John Koster seconded. Unanimously approved.

John Ackermann -

Pulse Puppy – Multiple TCXO/etc. layout format pulse divider output device. Helps sell out extra TXCO units left over from Excalibur. Got a

re-quote from Electromont. Likely sell for around \$45 without oscillator. \$360 NRE so far. Scotty moved to buy 100 Pulse Puppies. Bruce seconded. Unanimously approved

Do we do another run of TICC? We've made 140+, sold all but 5. Scotty moved that we buy 100. Bruce seconded. Unanimous approval.

TADD13 – Design work (half a TADD1, half a TADD3)

TICC-FE – Front end for a TICC with attenuator, impedance matching, etc.

RP-FE – Front end for a Red Pitaya. BNC, transformer, anti-aliasing filter, transformer, SMA out. Target price maybe \$29 selling price.

Scotty spoke about Hermes II. Looks like TAPR can likely be involved in this process. TBD whether Electromont can deal effectively with BGA. More news as it develops.

We then came to near the end of the meeting. Steven discussed our attempts to join up with GNU Radio in San Diego. Maybe Albuquerque in 2018, Detroit 2019.

Adjourned at 5 PM to online.

Respectfully submitted,

George Byrkit

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TAPR Annual Membership Meeting

St. Louis, MO, 16 September 2017

Called to order by President Steven Bible at 4:08 PM

Steven introduced the officers and directors. He reported who the new officer corps that was elected for the coming year: President Steven Bible, Vice President Scotty Cowling, Treasurer Tom Holmes, Secretary Stana Horzepa.

Tom Holmes displayed slides to display the fiscal position of the organization. We have money in the bank. Largely, the DCC runs at a loss. Our total value is down about \$5-6k from last year, which is better than the year before. Raw parts inventory is too high. Membership level is stagnant to decreasing.

Steven then discussed the board elections. Stana, Steven, and Darryl are up for re-election. There were no nominations from the floor (Dave Bern wanted to nominate Ward Silver, but Ward was not present to assent to be nominated.)

Steven then acknowledged the passing of Greg Jones, WD5IVD, TAPR president from 1993-2000, who passed away on March 30. There is a memorial fund/endowment at the university where he was a professor.

What has TAPR been doing? We have a forum and booth at Dayton Hamvention. We present DCC in conjunction with the ARRL. TAPR has projects that partly fund its existence. The rest of the money comes from dues.

John Ackermann described the projects that we are working on and released this past year:

- Sold 150 units of the TICC
- Plans to do a TICC-FE (Front-End) board with AC/DC coupling, high Z vs 50 ohm, 10:1 attenuator

- PulsePuppy – Carrier for low-cost OXCO or TCXO; provides 1PPS, 10PPS, 100PPS or oscillator frequency. Boards to be ordered next week.

- Pitaya Front End – Common mode choke, anti-aliasing filter, impedance matching to 50 ohm. First prototype boards are ‘on the way.’

- TADD-13 – Half a TADD-1, half a TADD-3. In design now.

Bruce Raymond discussed his project. He is working on a solar-cell powered 30m WSPR transmitter with GPS package.

Supporting TAPR: Join TAPR and pay dues. DONATIONS. We are a 501(c) 3. Profits from projects

Volunteering: It is through volunteers that TAPR gets things done. TAPR needs more ‘do-ers.’

TAPR thanks Mel Whitten, K0PFX, for hosting this year’s DCC. The lightning talk was very popular this year. The crowd was polled and the group felt that we should have it after lunch BOTH Friday and Saturday.

DCC next year: Albuquerque, NM. Sheraton Airport Hotel. CSVHF meeting was there this year, and it went well. September 16-18.

The meeting adjourned at 4:55 PM.

Respectfully submitted,

George Byrkit

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Election Results

TAPR elections during the DCC resulted with Steve Bible, N7HPR, in the President's office, Scotty Cowling, WA2DFI, in the Vice President's seat, Tom Holmes, N8ZM, counting beans in the Treasurer's slot, and Stana Horzepa, WA1LOU, taking notes in the Secretary's role.

The Board of Directors election resulted with Steve Bible, N7HPR, Stana Horzepa, WA1LOU, and Darryl Smith, VK2TDS, being reelected to the Board.

###

TAPR Wear Available

As seen on the cover of Lands' End Business catalog

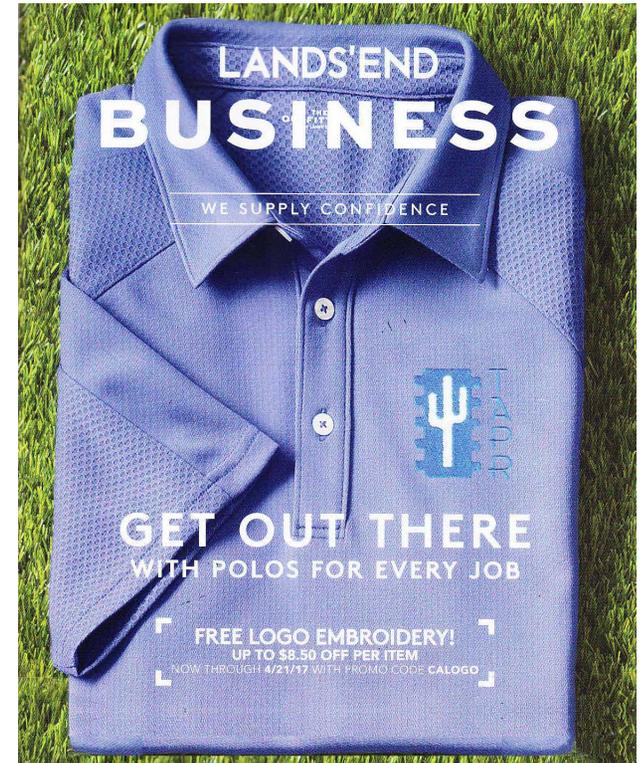
Personalized Land's End clothing with the TAPR logo and your name and call sign are now available from the TAPR Store at <http://business.landsend.com/store/tapr/>

Select from the Men's or Women's catalog. (To make shopping easier, there are "TAPR Recommended Shirts" in the Men's catalog including two styles of polo shirts, each available with or without pockets.)

The logo is available in three colors -- red, blue, and white. The name/call sign monogram thread will match the logo color. (We recommend that you use the white logo with dark colored shirts.)

Prices are very reasonable, for example, after adding the logo and monogram, a mesh pocket shirt is \$36.95. Processing time is 5-7 days, plus shipping.

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Write Here!

Your *PSR* editor is patiently waiting for a few good writers, particularly ham radio operators working on the digital side of our hobby, who would like to write about their activities and have them published here in *PSR*.

You don't have to be Hiram Percy Maxim to contribute to *PSR* and you don't have to use *Microsoft Word* to compose your thoughts.

Your *PSR* editor can handle just about any text and graphic format, so don't be afraid to submit whatever you have to wallou@tapr.org, she can handle it!

The deadline for the next issue of *PSR* is January 15, so write early and write often.

If *PSR* publishes your contribution, you will receive an extension to your TAPR membership or if you are not a member, you will receive a TAPR membership.

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On the Net

By Mark Thompson, WB9QZB

Facebook

As you may know, TAPR has a Facebook page, www.facebook.com/TAPRDigitalHam.

However, I also created a TAPR Facebook Group, www.facebook.com/groups/TAPRDigital/.

If you have a Facebook account, "Like" the TAPR Facebook page and join the TAPR Facebook Group.

If you join the group click on the Events link and indicate you're Going to the events.



On Twitter, Too

Access the TAPR Twitter account at www.twitter.com/taprdigital.



Also on YouTube

TAPR now has its own channel on YouTube: the TAPR Digital Videos Channel: www.youtube.com/user/TAPRDigitalVideo.

At this time, there are a slew of videos on our channel including many from the TAPR-ARRL Digital Communications Conference (DCC) that you may view at no cost, so have at it!



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TAPR Office Hours: Monday to Friday, 9 AM to 5 PM Central Time

Submission Guidelines

TAPR is always interested in receiving information and articles for publication. If you have an idea for an article you would like to see, or you or someone you know is doing something that would interest TAPR, please contact the editor (wallou@tapr.org) so that your work can be shared with the Amateur Radio community. If you feel uncomfortable or otherwise unable to write an article yourself, please contact the editor for assistance. Preferred format for articles is plain ASCII text (OpenOffice or *Microsoft Word* is acceptable). Preferred graphic formats are PS/EPS/TIFF (diagrams, black and white photographs), or TIFF/JPEG/GIF (color photographs). Please submit graphics at a minimum of 300 DPI.

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