



Brandon Amateur Radio Society

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QSO Today Virtual Ham Radio Expo Dubbed A Success

Scott Irwin (W8UFD)

26,000 people registered for the QSO Today Virtual Ham Radio Expo, of which 14,000 people attended the live online event, held on August 8-9, 2020. Attendees and those registered can attend the on-demand portion which continues through September 9, 2020. The expo virtually recreated a large hamfest. After the user logged in they were presented with a view of the convention center with people milling about, just like you do while waiting for gates to open at a real event. After click-

ing on the building, they are ushered to the lobby where more people were milling about and they could choose to go to the auditorium to see presentations, get help at the help desk, or go to the exhibit hall to visit vendor booths. Pre-recorded presentations were broadcast at specific times during the event, and those watching could make comments or ask questions. Each presentation had a Q&A session afterward. Topics were available for new licensees (Getting on the Air for Beginners, Having Fun With VHF; Simple HF Antennas; and How to Solder) to advanced topics (HF Slot Antennas; Getting Started on Moon Bounce; and A 100W HF-6M Amplifier Project). History buffs could learn about the history of the Heath com-

pany and the search for Amelia Earhart's L10E aircraft. Presentation materials are on the website. Vendor booths were laid out just like they would be at a normal expo or convention. Once you clicked on a booth you could participate in a chat, watch videos, or download materials ("Swag"). Vendors even provided discount codes for show specials. This intrepid author came away with a Bioenno Power 30 Ah LiFePo battery and a Diamond SX-600 SWR/ Power Meter, both at a discount. To register or go back to see presentations you missed, click here. The next QSO Today Virtual Ham Expo is scheduled for March 13-14, 2021.



The Brandon Amateur Radio Club, Inc. is Now a 501(c)(3)

Dana Perrin (KM4DTJ)

At a Special Membership Meeting held on June 11, 2020, BARS members approved incorporating as a 501(c)(3) Non-Profit Corporation and authorized the board of directors and officers to take all steps necessary to incorporate.

We reached a milestone in the process when we received notification from the IRS that our request for tax-exempt status was

approved effective June 23, 2020. Donations (not dues) are now tax exempt, but donors should consult their tax advisor to determine the desired effect on their taxes.

Club officers will need to ensure that Form 990 is filed on a yearly basis to maintain the exemption.

The next step is to transfer assets from the old association to the new one, and that is in progress.

Next Meeting

August 20 2020

7:30 PM

This meeting is virtual.

Register [here](#).

Tell a Friend!

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From The President's Desk

Dana Perrin (KM4DTJ)

At our Special Membership Meeting on June 11th, our club voted to form a 501(c)(3) Non-Profit Corporation named the Brandon Amateur Radio Club, Inc. In late June, we filed the incorporation application documents with the State of Florida and about two weeks later, we heard back that our application was approved. Soon thereafter, we obtained a tax ID for the new corporation, and filed an application for a fictitious name, the "Brandon Amateur Radio Society." At that same time, we filed an application with the IRS for 501(c)(3) tax exempt status. At this point, we have received authorization from the State for the fictitious name. We anticipate hearing back from the IRS on or before September 10th. I promise to keep you up to date on this.

As many of you know, at our May meeting this year, we voted to

purchase a Van and plan for its use. The plan was to re-purpose the van to make it functional for emergency communications, for community education, and a host of other possible uses. The Van Project Team has been meeting regularly to formulate plans to achieve this. I want to take this opportunity to thank and commend Jeffery Dick and Kelly Anderson for leading the efforts of the Van Project Team. They have done a great job! As you can imagine, we will need financial support to make the Van functional for these purposes. If you would like to make an offer of donation, please send me an email (danaperrin@aol.com). We don't need the funds right now. We just need to get a better picture of where we stand financially regarding the Van. The Van Project Team is planning to make a proposal to the membership in the near future regarding the re-purposing plans and related

costs. The membership will have a vote whether or not to proceed with this proposal.

Finally, as I look at the Florida Department of Health website, it appears that the numbers of new cases of Covid-19 are continuing to remain very high in Florida as well as in Hillsborough County. Based on this, I'm still being very cautious and will continue to follow the guidelines for social distancing, hand washing, and mask wearing.

Stay Safe Out There!

"There is something artificial when everyone is agreeing with each other. It's useful to indulge people who don't agree, and see their viewpoint or force yourself to explain things better."

- David Sack, founder of Yammer

As you can imagine, we will need financial support to make the Van functional for these purposes. If you would like to make an offer of donation, please send me an email.



Apps of the Month: OpenADS-B & Plane Finder

Scott Irwin (W8UFO)

Have you ever heard the rumble of an airplane, the rattle of a helicopter, or the low woosh of a tanker and wondered what type it was and where it may be going?

Check out OpenADS-B and Plane Finder. Both are free apps available on Android and iOS devices. They use data collected from ADS-B receivers around the world to plot aircraft positions.

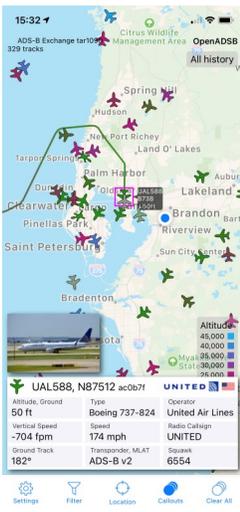
OpenADS-B is nice because you can point it at a specific receiver. I mainly use it to see what my receiver is providing. Tapping on an aircraft will yield details like plane type, manufacturer, altitude, heading, speed,

vertical speed (including whether it is ascending or descending, and the tail number. If you are in Washington you can even track their ferries!

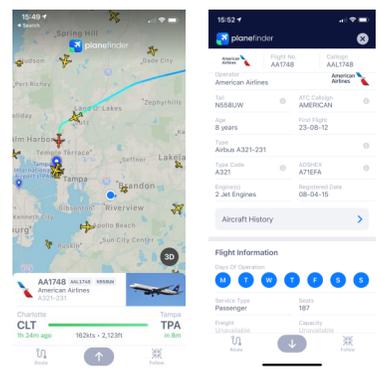
Plane Finder gives you all of the OpenADS-B information, and more! You can see where the flight departed from and is headed to, photos of the aircraft, aircraft details such as first flight, age, and history. You can even get flight information such as days of operation, service type (passenger, cargo, etc.), seats, available travel classes, and flight history. Weather layers, advanced alerts and augmented reality features require a premium subscription to access.

Search for these apps in the respective app store.

Do you have a favorite ham radio related app you would like others to know about? Send it to our editor and we will include it in a future issue.



OpenADS-B. Photo by Scott Irwin (W8UFO)



Plane Finder. Photo by Scott Irwin (W8UFO)

Plane Finder details. Photo by Scott Irwin (W8UFO)

Mobilizing BARS

Kelly Anderson (KE4GS)

We've got the van, but we don't own it yet. There are a few things to take care of first. Your Project Team has been working long and hard for the past couple of months to develop a detailed plan to incorporate a 24-passenger van into BARS as a Mobile Amateur Radio Vehicle (MARV). The purpose of this article is to report on our progress.

First of all I want to recognize the members of our Team: Jeffrey Dick (K4OXQ) shared Project Manager duties with me; rounding out the Team in no particular order were Scott Irwin (W8UFD), Dick Hoff (AA5NT), Jim Moorehead (WF4AC), Ken Watts (WA4NSV), Rod Clark (KC4MMR), Skip Argoe (KD4IDF), Karen Jacobi (K4KZF), and Rodney Biddle (KX4HD).

Special thanks to Dana Perrin, (KM4DTJ), who performed duties as the Project Sponsor. Dana served as the Team's single point of contact to the Officers and Board. He joined in on all the team meetings, and carried the torch to our senior leadership, keeping them fully informed of our progress and passing along their guidance back to us. This guidance was essential to keeping the Team on track and helping us to ensure we paid attention to the important things and weren't distracted by peripheral issues.

The first product the Team produced was the Project Charter. This document forms the "contract" between the Team and the senior leadership, so that everyone agrees what to accomplish and how to get there.

We also created a Mission Statement to keep us on track. Here it is:

The mission of the Brandon Amateur Radio Society's Mobile Amateur Radio Vehicle is to: 1) Respond to emergencies to provide on-site amateur radio communications consistent with FCC Rules Part 97 and other applicable regulations; 2) Provide communications service to community activities; and 3) Promote Amateur Radio activities and its value to our Community through education and training.

This seemed straight-forward enough but figuring out the details took some work.

During the August 20 Membership Meeting we'll be presenting those details so everyone will understand what we've got and the great potential it has for the future of BARS. We hope you'll be able to join us so you can be a part of the conversation. Here are the essentials:

The Team determined the minimum essential equipment that will be needed to get the MARV on the air and becoming fully mission capable. We anticipate that the cost of this equipment will be minimal because of donations and loans from the Membership. It will also allow us to become operational in a short time. We then determined the costs, both initially and for the future. Total costs to buy the van, get insurance and get registered with the State of Florida will be a little less than \$3,300, with insurance being the big-ticket item. This includes the purchase of

a specialty plate for Amateur Radio, and a vanity ID of [K4TN](#). That has a nice ring to it, doesn't it?

For the long term we can anticipate annual expenses of pretty close to \$4,400. This includes all required maintenance, fuel, and an annual contribution of \$500 to cover incidentals such as replacing batteries, tires, wiper blades, fluids, etc.

So what do we get for our money? A lot. Quite a lot if we want it.

Fun attracts people to ham radio, but the ability to respond to emergency communications keeps it alive. Our ability to serve the public when they need us makes us a valuable resource to our communities and the Nation. That's what keeps our hobby at the forefront and helps to defend our share of the radio spectrum.

The primary operational mode will be in support of emergencies that adversely affect communications for First Responders, hospitals and other medical and disaster-related contingency support operations.

Secondarily the BARS-MARV can be used for morale and welfare communications for the public at large.

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From my earliest years as a ham, I have wanted to operate Field Day from my front yard using my portable station.



Photo by Jeffrey Dick (K4OXQ)

Solar Weather Corner – Connecting Amateur Radio and Astronomy

Kelly Anderson (KE4GS)

It's pretty obvious that, in addition to my enthusiasm for amateur radio I'm also a pursuer of astronomical delights, and I often combined the two. In past articles I talked about the sun, what it's made of and how it works (kinda), and how it affects ham radio. I dipped a little into radio astronomy and space operations for amateur radio and discussed the various types of instruments we use for studying that narrow bit of the electromagnetic spectrum we call "visible light."

Scott ([W8UFD](#)) suggested an apt topic on which to close this series would be astro-imaging. Lo these many years ago, the only means of taking a photograph was with film. I have fortunately forgotten how many rolls of film I wasted trying to get decent star images. The best I got was a fuzzy glow of a comet. I gave it up as too hard and reverted to just observing.

My Canon EOS Rebel was a wonderful camera that produced great photographs for me (terrestrial photos, of course ... my astro photos sucked). The drawback was that I had to take a roll of exposed film to a place that developed and printed them (or mounted color slides), and that took a while. If I had misframed or guessed the wrong exposure, or had a mixture of fixed and fast-motion subjects that didn't turn out well, I would-

n't know how to correct the problem until it was too late to do anything about it. I philosophically accepted Sturgeon's Law ("90 percent of anything is crap.") No, really, I'm not making that up. Typically about one out of ten photos were worth keeping. Developing and printing was kinda expensive, especially when I threw away 90% of my work.

Fortunately for us, those days are long gone. With the digital photography revolution, we can now take a shot, instantly see how we did, make a correction, and shoot it again. And here's the big bonus: every shot is free! Take as many as you like, share the ones you like, and delete the rest with a clear conscience.

I have a fairly middle-of-the-road setup for imaging that cost me several thousand dollars, the details of which I'll save for another time. If you like you can field top-of-the-line equipment for some tens of thousands of dollars! But (a big but here) you don't need to spend that much to get a fairly good imaging system. A good beginner telescope can be had for about \$150 to \$200. Another \$20 will buy you a good quality adaptor for your cell phone, and you're in business! Wanna see what you can do with the camera in your cell-phone? Click [here](#).

I have a couple of Canon digital single-lens reflex (DSLR) cameras that work very well. I can remotely control the cameras

with my laptop and a USB cable (software is [Backyard EOS](#), \$35 for the classic version, \$50 for premium). They have a version for Nikon as well as Canon. Once I point the telescope at a target, from the laptop I take several test shots, adjusting camera gain (ISO, formerly ASA) and length of exposure to get the result I'm looking for. Then I set up instructions for the number of exposures, press the go button, and go chat with fellow astronomers for a while. The software saves each image (called a "light") to where I've told it in the laptop.

Here's the rub. The stars don't move (well they do, but are so far away that, in human life spans they appear to be stationary). But because the Earth rotates it makes the stars appear to us mere mortals to rotate counter-clockwise around the north pole.

If my exposure is less than 30 seconds, movement usually won't show in an image. Any longer than that, however, and the round stars become football shaped.

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A good beginner telescope can be had for about \$150 to \$200. Another \$20 will buy you a good quality adaptor for your cell phone, and you're in business!



Andromeda Galaxy. Photo by Kelly Anderson (KE4GS)

Solar Weather Corner – Connecting Amateur Radio and Astronomy

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An hour's exposure will result in an arc of star trails 15 degrees long! Now that's pretty neat if you're looking for star trails, but sometimes you need long exposures because your target is very faint, and you don't want footballs for stars. For example, the Lagoon Nebula is an incredibly beautiful, colorful cloud of gas, but it's also so dim it can't be seen without a lot of help, like a powerful telescope and long exposure images. What to do?

In astro-imaging, the most important component in your set up is the telescope mount. To solve the star movement problem you need a mount that moves with the image, cancelling the apparent star movement.

There are a number of mounts that do this with varying degrees of accuracy. The Ford and Chevy models are brands like Celestron and Meade. They work pretty doggone well. My mount is a Celestron AVX. It not only will track a target, but once you've aligned the mount to the celestial sphere, it will go where you tell it. Wanna image the Orion Nebula? Press the appropriate buttons and it'll automatically swerve to it. You might need to make a minor adjustment or two, but once the object is centered in your field of view the mount will follow that target for the rest of the night. The mount has about 40,000 celestial objects in its memory, so you'll be able to have it steer to pretty much anything you'd like. Brand new the AVX goes for about \$850, but I've seen quite a few slightly

used items for about \$500. Still too steep? No problem. Celestron offers its NexStar line which are perfect for the entry level imager. One designed for 5" scopes (that's diameter, not length) goes brand new for about \$200. Meade offers a similar line of mounts.

So why take a bunch of photos? Isn't one enough? Sadly, unless you're imaging really bright objects like the Moon or the Sun you'll need a bunch of long exposures. (DON'T NEVER NOHOW IN ANY FASHION POINT YOUR SCOPE AT THE SUN WITHOUT AN APPROPRIATE SUN FILTER ON THE FRONT END. UNFILTERED SUNLIGHT WILL LITERALLY BURN OUT YOUR OPTICS AND IF YOU PUT YOUR EYE TO THE EYEPICCE, SAY GOOD BY TO EVER SEEING OUT OF THAT EYE AGAIN !!!!! Really, don't do it.

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BCI Communications Seeks Help

Timothy Courtier (KBB8AFS)

Are you looking to use your ham radio (or other) skills to make some money?

[BCI Communications](#) has been a long time supporter of BARS through various activities such as providing a temporary home

for our repeaters when we were asked to leave our previous site, providing business radios to help support communications for the Brandon Community Foundation Fourth of July Parade, and allowing Hillsborough County ARES/RACES to use the W4BCI Repeater for it's weekly UHF Net.

They have full and part-time openings in their sales and service departments and will accept retirees. You can also join the W4BCI Amateur Radio Club if hired.

For more information call me at 813-628-4900 or send me an e-mail at timothy@bcicomm.com.



Upcoming Club Events

- > August 20 2020
BARS Club Meeting
7:30 PM Online. Register [here](#) (one registration works for all monthly meetings).
- > August 26, 2020
Virtual Coffee Hour
7:30 PM Online.
Register [here](#) (one registration works for all instances).
- > September 02, 2020
Virtual Coffee Hour
7:30 PM Online.
Register [here](#) (one registration works for all instances).
- > September 09, 2020
Virtual Coffee Hour
7:30 PM Online.
Register [here](#) (one registration works for all instances).
- > September 16, 2020
Virtual Coffee Hour
7:30 PM Online.
Register [here](#) (one registration works for all instances).
- > September 17, 2020
BARS Club Meeting
7:30 PM Online. Register [here](#) (one registration works for all monthly meetings).
- > Mondays, 8 PM ET
VHF Net (147.165 MHz)
- > Tuesdays, 7 PM ET
6 Meter Roundtable
(50.200 MHz USB)
- > Tuesdays, 8 PM ET
10 Meter Roundtable
(28.365 MHz USB)
- > Fridays, 7 PM ET
80 Meter Roundtable
(3.830 MHz LSB)

Solar Weather (Continued)

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The problem with digital cameras is that they're noisy. The digital devices inside these technological marvels create static because of the laws of thermodynamics. By taking many images we improve our photos in two ways. First, by "stacking" your images, one on top of the other, you improve the "signal-to-noise" ratio. We hams are familiar with that term, right? It just means that you're boosting the photons you want to capture so that they overwhelm the artificial noise. There are other techniques to improve this, but that's another story.

The second benefit is that, with multiple exposures at low gain, you'll capture more of the subtle details of your target. A single

image of the Lagoon Nebula (left) looks like a star field with some wispy stuff in the middle. By stacking about 100 60-second images I was able to produce the wonderful object you see here. How do you stack the images? Use stacking software. I recommend [Deep Sky Stacker \(DSS\)](#) to start. It's easy to use and it's FREE!

Is there more? Oh yes, much, much more. I'm just a beginner with this stuff. The St Petersburg Astronomy Club has some members who are world class. Makes me humble. But you don't have to buy a bunch of stuff to check out the wonderful world of amateur astronomy. You're invited to come out to the dark site we use over the new moon weekends.

It's the Withlacoochee River Park

about 4 miles east of Dade City. Check out the club's newsletter [here](#). You'll also find our calendar that'll tell you when we gather for a weekend of astronomy, and a map of how to get there.

Trust me on this, there's almost nothing an astronomer enjoys more than having someone look through his/her scope. So don't be shy, we'll make you feel at home.

I won't be going out there sooner than September at the earliest. I don't work well in the heat and the summer thunderstorms, but come Fall I'll be there each weekend. There's plenty of room for physical distancing and we all wear masks, so no excuse. Come join us.

And OBTW, yes, I was the photographer who captured the two images you see here. If I can do that, so can you.



Lagoon Nebula. Photo by Kelly Anderson (KE4GS)

TARC Announces TARCfest Zoomfest

Daniel McDonald (W8LJFD)

Avoid the rain, avoid the heat. TARCfest Zoomfest is coming to a computer screen near you.

With Florida being a COVID-19 Hot Spot we are unable to aggregate in large crowds safely, masks or no masks. We had to cancel April TARCfest so we are moving forward with a Zoomfest that will be held on August 22, 2020, 8:00am until noon, Eastern Time.

You will be able to post your items for sale and wander virtually from seller to seller on the Zoom app. Use the Chat feature on Zoom to wheel and deal with sellers. We will be seeking buyers and sellers from around the country plus we will have some

features like new equipment information and guest speakers during the 4 hour event.

More information on scheduled events will be made available as we get closer to the August 22nd date both here and on the TARC website at www.hamclub.org.

So get out your cameras to take pictures of things you have to put on your "Virtual Table". You never know what you will find or what you can sell. We will be advertising TARCfest Zoomfest nationwide, and we will also be simulcasting on our Facebook page.

Click [here](#) for the TARCfest Zoomfest August 22, 2020 Flyer

Wanted: Santa

The W4BCI Amateur Radio Club is looking for a "Santa Claus" to participate in an event on December 16, 2020. The W4BCI UHF repeater (444.225 MHz) will be used from 18:30 to 19:30, but may go longer if needed.

The event will be held at
BCI Communications
9322 E DR. MLK Jr Blvd.
Tampa, FL 33610

For more information or to participate please contact Timothy Courtier (KB8AFS) at 813-628-4900.

The Brandon Amateur Radio Society (BARS) has been serving Brandon, Valrico, Mango, Seffner, Palm River, Gibsonton, Riverview, and the East Tampa area for over 43 years providing public service and emergency preparedness communications as well as license classes and radio operator training programs.



Thank you to the members and staff of Arise for their kindness

In allowing BARS the use of their facility!

Our Repeaters

147.165 MHz (+ offset, 136.5 Hz PL Tone, Analog FM) - N4DLW-R Echolink Node
443.500 MHz (+ Offset, 127.3 Hz PL Tone, Analog FM, C4FM) - N4DLW/R Wires X



Brandon Amateur Radio Club, Inc. is a registered Florida Non-Profit Corporation

Brandon Amateur Radio Society
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Brandon, FL 33509-2307



<http://www.brandonhamradio.org/>



<https://fb.me/brandonhamradio>



<https://www.twitter.com/brandonhamradio>

Mobilizing BARS

(continued from page 3)

The system can also serve as a public outreach tool through demonstrations and field day activities with an eye towards recruiting new BARS members and expanding the population of amateur radio operators within the West Central Florida area. The focus for this activity might be youth groups such as Boy Scouts & Girl Scouts and the like, but other communities of interest should be considered as well.

It can also serve as an effective tool for training amateur radio operators in contingency exercises and actual emergency operations and supporting the local community and county agencies, working in conjunction with established ARES/RACES organizations in the local area.

It will be an effective tool for demonstrating to civic, governmental and business organizations what we can do, and a great way to encourage these organizations to support us in our important work.

Following the Project Team's presentation at the Membership Meeting Dana KM4DTJ will talk chat about some of the ways that will help make MARV self-supporting.

Please join us on the 20th and participate in this exciting moment in BARS history.



Photos by Jeffrey Dick (K4OXQ)



Submit your articles & photos for the next edition of *The Antenna* by August 10, 2020!

Send electronic submissions to
w8ufo (at) arrl (dot) net