



The Brandon Amateur Radio Society Newsletter
Over 43 years of service to the Brandon Area
Brandon, Florida USA

Brandon Amateur Radio Society

Officers of the Society

President
Dana Perrin
KM4DTJ

Vice President
Ron Perrett
K4FZU

Treasurer
Jim Moorhead
WF4AC

Secretary
Art Powers
KA4BIM

Board Members

Past President
Scott Irwin (W8UFD)

Repeater Trustee
Tony Stone (W4TAS)

Director
Bill Johnson (WJ4G)

Director
Dick Capell (KJ6HNV)

Newsletter Staff

Editor (Layout/News)
Scott Irwin (W8UFD)

Proofreader
Nancy Lessard (KM4WMD)

© Copyright 2020
Brandon Amateur Radio Society
All Rights Reserved

Members: Operate K4TN for Field Day!

Scott Irwin (W8UFD)

Dust off your radio, connect your antenna, and get ready for ARRL Field Day on June 27-28, 2020! ARRL Contest Manager Paul Bourque (NISFE) said "Due to the unique situation presented this year, this can be an opportunity for you, your club, and/or group to try something new. Field Day isn't about doing things the same way year after year" and the club took it to heart this year.

Members will have the opportunity operate together while being apart by [signing up](#) to operate K4TN from their home station.

We will use the club call and be class "3D," which means we will have 3 stations on the air at any given time from home.

To participate you will need to [download](#) the N3FJP Field Day

Contest Log software and install it on your Windows computer.

Jim Smith (K4PPK) has provided the following configuration instructions:

To set up the program, double click on the icon on your desktop, then click continue when asked for registration information (this will be provided to you just prior to Field Day).

Enter the following when asked for it:

- Call: K4TN
- Country: *This will self populate.*
- Continent: *This will self populate.*
- Latitude: 28
- Longitude: -82
- CQ Zone: *This will self populate.*
- ITU Zone: *This will self populate.*
- Class: 3D
- ARRL Section: WCF
- Operator: *Enter your callsign*
- Initials: *Enter Your initials*
- Always Display: Uncheck

Click on Done to complete the download, install, and set up of the program.

Just prior to field day I will send you the registration information (a call sign and a set of numbers) for you to enter in the registration dialog box when you start the program.

If you have any problem setting up your logging computer please call Jim Smith (K4PPK) at 813-681-8990 (home) or 816-666-9837 (cell).

The VHF repeater will be used to coordinate handoffs, so have a radio on. Also, don't forget to take photos and send them my way (my address is on the last page) so that we can do some public relations (and claim the bonus points).

CQ Field Day!

Membership Votes to Incorporate

Dana Perrin (KM4DTJ)

At a Special Membership Meeting held on June 11, 2020, BARS members reviewed documents associated with the incorporation of our organization as a 501(c)(3) Non-Profit Corporation, adopted new articles of incorporation/bylaws, and authorized the board of directors and officers to take all steps necessary to incorporate, including the transfer of assets from the

current organization to the new corporation.

The approved bylaws were sent to the membership on June 12, 2020 and the articles of incorporation will be available once the State of Florida approves the corporation.

Thanks to everyone who participated in this meeting. We should all be proud to be members of such a vibrant organization.



WWW.ARRL.ORG

Next Meeting

June 18, 2020

7:30 PM

This meeting is virtual. Register [here](#).

Bring a Friend!

Inside this issue:

From The President	2
App of the Month	2
Solar Weather Corner	3
POTA...Finally!	5
VHF Gets New PA	5
Hamfests & More	5
BARS Pursues Van	6

From The President's Desk

Dana Perrin (KM4DTJ)

I want to thank everyone who participated in the Special Membership Meeting on June 11th. We met to discuss forming a 501(c) (3) Non-Profit Corporation. This would allow the club to own property in our Club's name, along with many other potential benefits. As I write this, I do not know the outcome of that meeting. Either way, I want to express my thanks to everyone who took the time to read all the incorporation documents and participate in the meeting. We will have a short debriefing at our next regularly scheduled membership meeting on Thursday, June 18th at 7:30 by Zoom.

I want to thank Jim Smith for stepping up to organize our club's Field Day experience. It promises to be a lot of fun despite the fact that we will not be able to meet as a group as in years past. Strong work, Jim!

As I mentioned in last month's article, we have had an ongoing problem with our 2 meter repeater equipment. I thank Ray Negron and Dave Welty for their efforts to keep the repeater on line. Ray has been searching for a solution to this problem and I think we may hear more about this in the near future. Thanks for looking out for us, Ray and Dave!

It was a pleasure working with Jim Smith to thank and recognize Jim Behan for his kind and generous donation of radio equipment to our Club. We put together a thank you letter and included a gift card to show our appreciation. Jim was kind enough to deliver this to Jim Behan in person. He was most grateful. Thanks Jim!

As you know, at our last regular membership meeting in May, the members present voted: "To purchase a Van for \$1 and form an Action Group/Committee to

plan for the use of the Van." I want to thank Jeffery Dick and Kelly Anderson for taking the lead in this by forming a Project Team to carry this vote forward. The team met recently and I look forward to hearing of their progress and recommendations. Thank you Jeffrey, Kelly, and all the members of the Project Team!

Finally, as I look at the Florida Department of Health website, it appears that the numbers of new cases of Covid-19 are slightly increasing 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!

*None of us is as smart
as all of us.
-Ken Blanchard*



**I want to
express my
thanks to
everyone...**

App of the Month: Repeaterbook

Scott Irwin (WB4UFD)

COVID-19 has given us a great opportunity to explore repeaters near us...and to get ready to find ones to use while traveling.

This month's application is available on Android or Apple IOS devices in the play store.

The application uses a database stored on the device and compares it with your GPS coordinates to show you available repeaters nearby. You can filter the results by distance, band, service the repeater provides (FM, DMR, DStar, Echolink, etc.), and emergency nets. You can even see simplex nodes

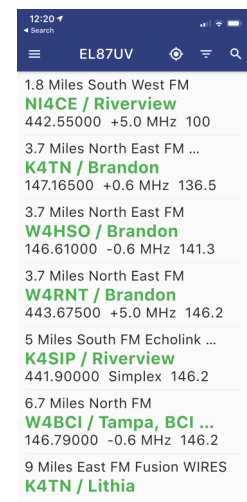
(echolink, Wires-X, and other nodes using one frequency, such as a public DMR hotspot).

Data is received from a number of sources, including application users (called crowd sourced in some circles).

The color of the callsign and frequency denotes status reported by app users: green is online, black is offline.

You can get additional information about the repeater by tapping on it. Information includes input/output frequencies, PL tone, offset, link information, and any other information reported by users.

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.



Solar Weather Corner – Connecting Amateur Radio and Astronomy

Kelly Anderson (KE4GS)

So far in this series we've looked at the Sun's nuclear nature and the things it does to make life on this planet both possible and interesting. Our star's variability requires that we need to adapt our tactics in the way we use the electro-magnetic spectrum in our amateur radio activities.

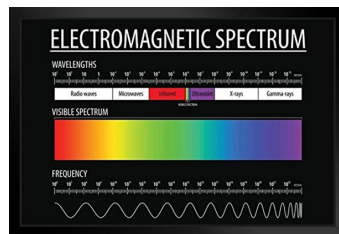
Early in our technical training we Hams learned about the electro-magnetic spectrum from VLF to EHF and all points in between. We find Hams experimenting with and using all parts of the radio spectrum in ways that make our hobby so stimulating and rewarding.

Just above the millimeter band (EHF) we find the Infra-Red, the lowest part of the electro-magnetic spectrum we call "light." It doesn't really matter what we call it, it's still part of the continuous EM spectrum, the only difference between radio and light is frequency. Yeah, there's that energy thing too, but that's a story for another time.

Cameras that are sensitive in the IR region are famous for revealing all kinds of things that we cannot see, such as body heat and variations in temperature from one area to another. IR does a better job of seeing through dust and fog. By combining radio, IR and visible detectors astronomers have been able to see through the central dust lane of the Milky Way. We

now know that we live in a "barred spiral galaxy."

Just above IR we find the visible light region, 300 terahertz in frequency and wavelengths measured in micrometers.



Above the visible we have ultra-violet light, then X-rays, then Cosmic rays. What's above cosmic rays? Beats me. If you figure it out let me know and we'll be shoo-in candidates for a Nobel.

It's an amazing spectrum we humans have learned to exploit and it's also amazing how much we have learned in such a short time since 18th Century physicists discovered electro-magnetism. But the particular region I'll focus on for this article is visible light. It's a particularly important region for us, because it's what we use to see (well, duh! That's why we call it "visible," fer Pete's sake!). It's also interesting to us Hams because it's where a lot of amateur radio and amateur astronomy activities overlap.

Rather than use typical radio-spectrum devices (Yagi's, beams, quads, parabolic reflectors, coax cables and all that) when we play with visible light we more commonly use "optics" that are ideally suited to manipulate light. Without technology such as fiber-optics I suspect our world of cybernetics (the science of communications and control) would be very different.

Amateur astronomers use three fundamental types of optical instruments, refractors, reflectors, and catadioptrics. Let's briefly check out each type.

Refractors. This is the first type of telescope that was used, most famously by Galileo, and is most familiar to us. He made his first refractor in 1609. It had a magnification of three. Later that year he made a second telescope with a power of twenty. Here's what refractors in general look like:

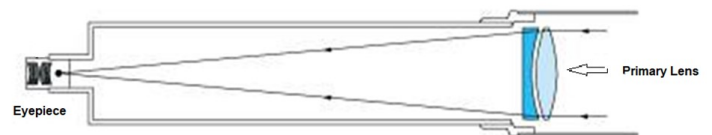


Figure 1: Refractor Telescope (Above)

Light comes in the front and is bent (refracted) by the Primary Lens to focus (come to a point) on the eyepiece. The eyepiece is held in a focuser that slides the eyepiece back and forth, which focuses the image for our eye. As a side note, one of the members of the St Petersburg Astronomy Club, Tom Spano, is a highly skilled craftsman who, just out of curiosity, looked up the specifications for Galileo's telescope and made one that optically was an exact replica. When I looked through it I was amazed at how awful the view was. The wonder is not how many things Galileo discovered using it, the wonder is how he managed to discover anything at all! Technology has really advanced over the past three centuries, eh?

(Continued on page 4)

**Did you Know?
Telescopes are light benders!**

Solar Weather Corner - Connecting Amateur Radio and Astronomy

(Continued from Page 3)

**Isaac
Newton
cobbled a
Reflector
telescope
together....**

Reflectors. This is a relatively recent invention of a different kind of optical instrument. Isaac Newton cobbled one together in 1668 to prove that a reflector telescope provided a superior image to refractors. In general, it does. Amazingly, there is no evidence that Newton ever looked at the skies with it ... go figure. Another side note, Tom Spano also built an almost exact replica of Newton's scope. It worked great!

Light enters a tube and reflects off the Primary Mirror, which is parabolic in shape so it almost focuses the image onto the Secondary Mirror, a flat surface that reflects the image 90 degrees to the eyepiece.

Catadioptrics. The third general category of telescopes is a vari-

ation on the more traditional reflectors.

This might blow your mind just a bit. The catadioptric (pronounced caa-tah-dye-OP-trik) takes in light in the usual way, but the photons first encounter a Corrector Plate if the primary mirror is spherical, which causes some distortion at the edges of the image. The corrector plate reduces this distortion. If the Primary Mirror is parabolic (more expensive to make) this distortion doesn't happen and a simple flat plate is substituted. The light then travels down the tube and is reflected off the Primary Mirror which partially focuses the image onto the Secondary Mirror, which reflects back the light through a HOLE IN THE PRIMARY MIRROR to the eyepiece for final focus.

Say what???? A hole in the mirror? Doesn't that then put a big hole in the image? No, it does not. The viewer is presented with a brilliant and complete image the same as other telescopes provide. Now that is wicked cool!

All of these types of optical instruments have many variations; optics is a strange and wonderful science that's fascinating and befuddling all at once. Just rest assured that modern scopes are amazing instruments.

That's enough for now. Next time we'll chat a bit about the advantages and disadvantages of each type of telescope, narrowing down to the eternal question: "What kind of telescope should I buy?" The answer may surprise you ... unless it doesn't. Stay tuned.

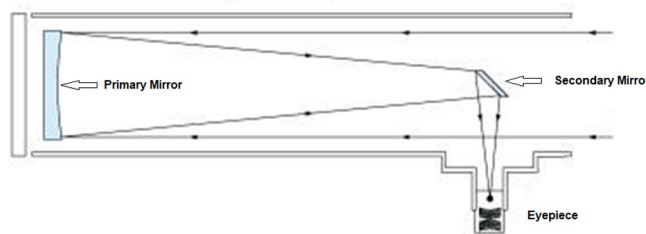


Fig. 2: Reflector Telescope (above)

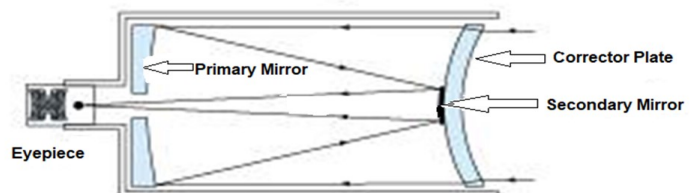


Fig. 3: Catadioptric Telescope (Above)

Parks on the Air...Finally!

Jim Smith (K4PPK)

Do you remember that the club was scheduled to participate in the "Florida State Parks on the Air" on April 4, 2020 before the Governor shut down the Park system (can you say "coronavirus")?

Well, the state parks are open again and four BARS members took advantage of a beautiful May morning, getting a lot of fresh air and sunshine while operating in the popular amateur radio "Parks On The Air" program.

Rod Clark (K4MMR), Donnie Tomlinson (K14DT), Richard Jones (KW4MB), and Jim Smith (K4PPK) set up two portable ham

radio stations in the Hillsborough River State Park and made forty-nine contacts with other ham radio operators all across the United States (Florida, Michigan, Massachusetts, and Arizona to name a few).

Rod and Donnie, operating on twenty meters, succeeded in making the majority of the contacts utilizing single sideband.

Richard and Jim operated the digital mode FT8 on the forty meter band. Batteries were used to power a Yaesu FT-897 feeding a Diamond HFV5 dipole for sideband operation and a Kenwood TS-480 feeding a Wolf River Coil vertical for digital operation.



Left to Right: Rodney Clark (K4MMR) and Donnie Tomlinson (K14DT) Photo by Jim Smith (K4PPK)



Richard Jones (KW4MB) Photo by Jim Smith (K4PPK)

Hamfests & Conventions

06/20/2020
K4K0I Summer Tailgate
Orlando, FL
South Conway Road Baptist Church

08/22/2020
TARCFest
Tampa, FL
Tampa Amateur Radio Club
<http://www.hamclub.org/>

11/14/2020
SPARC Fest
Pinellas Park, FL
St. Petersburg Amateur Radio Club
Website: <http://www.sparc-club.org/>

12/11/2020 - 12/12/2020
Tampa Bay Hamfest
Plant City, FL
Florida Gulf Coast Amateur Radio Council
<http://www.tampabayhamfest.com/>

More at <http://www.arrl.org/hamfests/>

Note: Due to the COVID-19 outbreak some hamfests and conventions may be cancelled. Please check with the sponsoring organization for status as it may have changed after this newsletter was published.

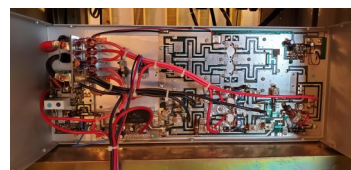
Left to Right: Ray Negron (W6KDW) and Dave Welty (N4DLW). Photo by Dave Welty (N4DLW)



VHF Repeater Gets PA

Dave Welty (N4DLW)

On Saturday, June 6 the VHF repeater had high noise, so Ray Negron (W6KDW) and I swapped it out with one from the club's inventory. We also installed a VoCom Products Company VV180 Power Amplifier, a pre-amp, a preselector, and set the output of the repeater so that the amplifier outputs approximately 60 watts. Let us know how it is working for you.



Internal view of the PA. Photo by Dave Welty (N4DLW)

Upcoming Club Events

- > June 18, 2020
BARS Club Meeting
7:30 PM Online. Register [here](#).
- > June 24, 2020
Virtual Coffee Hour
7:30 PM Online.
Register [here](#) (one registration works for all instances).
- > June 27-28, 2020
ARRL Field Day. See article in this issue.
- > July 1, 2020
Virtual Coffee Hour
7:30 PM Online.
Register [here](#) (one registration works for all instances).
- > July 8, 2020
Virtual Coffee Hour
7:30 PM Online.
Register [here](#) (one registration works for all instances).
- > July 15, 2020
Virtual Coffee Hour
7:30 PM Online.
Register [here](#) (one registration works for all instances).
- > July 22, 2020
Virtual Coffee Hour
7:30 PM Online.
Register [here](#) (one registration works for all instances).
- > July 29, 2020
Virtual Coffee Hour
7:30 PM Online.
Register [here](#) (one registration works for all instances).
- > 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)

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 Society
P.O. Box 2307
Brandon, FL, 33509-2307



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



<http://awww.fb.me/brandonhamradio>



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

BARS To Create Mobile Amateur Radio Facility

Scott Irwin (W8UFO)

At the May meeting the membership approved "To purchase a Van for \$1 and form an Action Group/Committee to plan for the use of the Van." Jeffery Dick and Kelly Anderson have volunteered to co-chair the action committee to take this initiative forward.

The team is working through legal transfer of the title, plates, insurance, parking, and other issues related to the vehicle.

The vehicle is a 2000 Ford E 450 Super Duty turbo diesel engine with 176,000 miles. It has 2 air conditioning units, a 40-gallon tank for diesel fuel, has been well maintained, and is in good condition.

New equipment was recently added, including all filters, a starter, two air conditioning

pumps, power steering, front tires, a driver's seat, and chrome wheel covers.

Stay tuned to this newsletter and club social media accounts for updates as this project progresses. If you are interested in participating on the team please contact [Kelly Andersen](#) or [Jeffrey Dick](#).



The vehicle BARS has approved purchasing. Photos by Jeffrey Dick (K4OXQ)



Submit your articles & photos for the next edition of *The Antenna* by July 06, 2020!

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