



News from



The GLORIOUS SOCIETY OF THE WORMHOLE

March 2018

Hello Worms

The Orlando Hamcation is over and I had a great time gawking at all the stuff and seeing people who I only see occasionally. The hamfest season has started and if you are willing to drive the whole state there is a hamfest somewhere almost every weekend for the next few months. My hamfest list is only the West Central Florida area and a few select others.

Talk-in is on the Wormhole repeater system. For those coming to the meeting who cannot hit the repeater we will also monitor the Honeywell club repeater on 443.050 +141.3. Bring a folding chair if you have one.

* HAM RADIO SIMULATION HAMSHERE 4.0 *

by: K4ZPE Mike Scott

In addition to amateur radio I also enjoy radio control vehicles of all type, from sail and power boats, to monster trucks, drift and race cars and anything robotic. I especially love radio control flying models from drones to helicopters and advanced fixed wing aerobatic models.

When I get a new complex flying model the first thing I do is find a good simulator. I will often not purchase a model until there is a simulator available for it so I can get a sense of the “feel” of the bird before I spend my money on it. I always put in my time on a simulator before I try to fly a complex model at the flying field.

In my ham radio hobby I have seen several simulators that I have tried but they all left me a little disappointed. Unlike my flight simulator programs that factor in wing loading, power, and the design of the particular aircraft so that you get an actual feel for the model before flying it, the ham radio simulators were nothing like real amateur radio – until now.

I recently revisited the Hamsphere ham radio simulator I had used in the past, but was pleasantly surprised to find that someone took a great deal of care and many hours of programming to create a true Ham Radio experience in a simulator on the internet. Hamsphere 4.0 is nothing like the ham simulators of old. Just like my flight simulators this ham radio simulator factors in sun spot activity using Voacap modeling and allows you to try a growing number of antennas, most require an additional purchase, that can be tuned and aimed using a rotor to produce the radiation pattern of that type of antenna. The user interface is customizable and you can purchase additional add-ons like waterfalls and gadgets to make your virtual radio look and function the way you want.

There is a mobile app that works on android and iphone and you can even create and send QSL cards across the system to all the people you contact.

Unlike other simulators Hamsphere 4.0 does not require you to be a licensed ham operator. If you have a license you will use your call sign but if you don't have one they issue an HS call which is the country number followed by “HS” followed by the next number available in that country. I have noticed that roughly sixty percent of the call signs are “HS” calls and about forty percent are licensed hams.

Everyone on the system observes ham radio protocols and the system is monitored. If you over modulate or ignore any of the other rules your system is taken off line for a time with an explanation of the offense and a request for your agreement to observe the rules.

There are two Hamsphere systems the 3.0 system is basic and does not act as much like a true simulator as Hamsphere 4.0. The systems are completely independent of each other as I found out when I created a QSL card in Hamsphere 3.0 that was not available in Hamsphere 4.0. I had to duplicate the card on the 4.0 system or the QSL manager will default to a generic card.

With a usb serial interface you can hook up your favorite cw keyer and the system does PSK31 on one of the frequency bands using a sound card and FLDIGI or which ever program you use to do digital.

I have to admit I've learned a lot from my short experience with Hamsphere 4.0 about propagation, antenna design and positioning. I do not have access to a rotor antenna in my real ham shack and it was interesting to see how the directional

antenna available on the system increased my ability to tune in a seemingly dead frequency.

Everyone on the system recognizes that this is a simulator and not Ham Radio but as simulators go this is a very well done program that can take a new Ham from frustration to accomplishment much the same as my flight simulator does in my radio control hobby.

The yearly cost of the Hamsphere system is 30 euros or about \$40. There is a 30 day FREE trial for new users. The additional plugins can cost from 2 to 90 euros depending on the application. The most expensive antenna for example is a huge eight band log periodic dipole array positioned one hundred feet in the virtual air above your shack on a rotor. I haven't purchased one yet but the temptation is there as I explore this incredible ham radio simulation.

*** LONG-DEAD NASA SPACECRAFT WAKES UP ***

SPACEWEATHER.COM 1-26-2018

Ed Note: This article was too late for the February Newsletter but because Scott Tilley is also a ham, VE7TIL, this article has been around some in the amateur community so it may be old news to some. I thought it was interesting enough to run for those who live under a rock ;-) I have also added the latest information.
Bill

Amateur astronomer Scott Tilley has a hobby: He hunts spy satellites. Using an S-band radio antenna in Roberts Creek, British Columbia, he regularly scans the skies for radio signals from classified objects orbiting Earth. Since he started 5 years ago, Tilley has bagged dozens of secret or unlisted satellites. "It's a lot of fun," he confesses.

Earlier this month, Tilley was [hunting for Zuma](#)--a secretive United States government satellite lost in a launch mishap on Jan. 8th--when a J-shaped curve appeared on his computer screen. "It was the signature of a lost satellite," he says, "but it was *not* Zuma."

In a stroke of good luck that has dizzied space scientists, Tilley found IMAGE, a NASA spacecraft that "died" more than 10 years ago.

Short for "Imager for Magnetopause-to-Aurora Global Exploration," IMAGE was launched in 2000 on a flagship mission to monitor space weather. Mapping the ebb and flow of plasma around Earth, IMAGE was able to watch our planet's magnetosphere respond almost like a living organism to blasts of solar activity, while its ultraviolet cameras took [gorgeous pictures](#) of Earth's global auroras.

"It had capabilities that no other spacecraft could match--before or since," says Patricia Reiff, a member of the original IMAGE science team at Rice University.

IMAGE was in the 5th year of its extended mission on Dec. 18, 2005, when the spacecraft suddenly went silent. No one knows why, although suspicions have focused on a power controller for the spacecraft's transponder, which might have temporarily failed.

The one hope was a reboot: When IMAGE's solar-powered batteries drained to zero during an eclipse by the Earth, onboard systems could restart and begin transmitting again. "If revival occurs, the mission should be able to continue as before with no limitations," noted NASA's IMAGE Failure Review Board in [their 2006 report](#).

A deep eclipse in 2007, however, failed to produce the desired result. "After that, we stopped listening," says Reiff.

That is, until Scott Tilley started looking for Zuma. "When I saw the radio signature, I ran a program called STRF to identify it," he says. Developed by [Cees Bassa](#), a professional astronomer at the Netherlands Institute for Radio Astronomy, STRF treats Earth-orbiting satellites much like binary pulsars--deducing their orbital elements from the Doppler shifts of their radio signals. "The program immediately matched the orbit of the satellite I saw to IMAGE. It was that easy," says Tilley.

Sometime between 2007 and 2018--no one knows when--IMAGE woke up and started talking. Now, NASA has to find a way to answer.

"The good news is, NASA is working on a recovery plan," says Reiff. "UC Berkeley still has a ground station that was used for realtime tracking and control. They are scrambling to find the old software and see if they can get the bird to respond. Apparently there are data side lobes on the transmission, so that is a good sign."

Researchers would love to have IMAGE back. The spacecraft has a unique Big Picture view of Earth's magnetosphere and "its global-scale auroral imager would be fantastic for nowcasting space weather," says Reiff. "Fingers crossed!!"

The latest info as of February 25: Current information from the IMAGE spacecraft shows that the battery is fully charged, and that overall, the satellite itself seems to be in good shape. The next step is to attempt to turn on the science instruments – but this could take some time as the 12-year-old software to do so must be recreated. Additionally, as computers have evolved greatly in that time, work is being done to find a machine that can run the instrument commanding software.

During this process of inspecting the spacecraft, there are several puzzles that the team is investigating to better understand the spacecraft's health and how best to communicate with it, including:

- What caused the spacecraft to reboot and begin sending signal again?
- Why is one side of the on-board electronics working and not the other? We are currently communicating with IMAGE through the original A side of the on-board electronics. The A side was thought to have failed in 2004, when the communications were switched to the redundant B side. How and why the A side is now working is something we are looking at.

As we move forward, NASA is starting to recreate a small control center that can generate the commanding needed to better understand and control the satellite. This will then allow us to gain insights into the state of various science instruments, and see whether any are still functional. Should any of the instruments be functional, NASA will convene a panel of external scientists to assess the science potential in the context of constrained budgets for operating spacecraft.

WHAT CAN YOU DO WITH THOSE WALL WARTS?

By Ralph, WD0EJA,

What is a Wall Wart?

You know, it is the small power supplies that plug directly into an AC outlet. It charges our tablets, phones, shavers, tooth brush and more...

On every Wall Wart its specifications are labeled on it. It states if it is an AC or DC supply. It will give you the voltage and the maximum current it can handle. It will give you the polarity of the connector, if it is a DC supply. It may tell you if it is regulated.

The devices come in a variety of voltages. From 1.5 volts to as high as 48 volts. Also, anywhere from 50 ma to several amps.

The Warts can be used for a trickle charger as described below. To substitute for a battery, such as a 9 volt. It can run a cooling fan or a power supply for your proto boards.

First determine the voltage you will need and the maximum current it will draw. Then select a Wall Wart that has a higher voltage and current rating.

Select a regulator that has a lower voltage rating than what you need, or the exact one. Do not go higher than what is needed. The regulators can be increased in voltage, but not lowered.

If you are substituting it for a 9V battery, a 7809 will work without the diode to ground (below). A 7812 will work for a 12V device, like a fan, the same way.

If you need a higher voltage, then use the technique with a diode to raise the voltage. You can use more than one diode in series to increase voltage as needed.

Most of the regulators will handle from 1 to 3 amps. However, you can mount them to a heat sink if you are near the limit of the device.

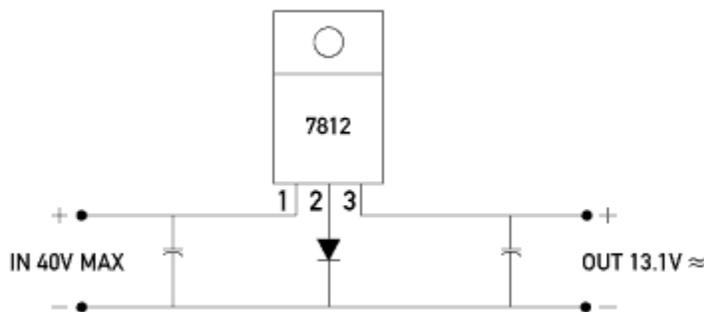
There are times when a higher voltage is needed for your power supply. There are a couple of ways this can be done. This article will discuss one of the two ways.

For example, you want to use the regulator as a trickle charger for a 12 volt battery. Lawn tractors, generators and even cars and trucks that sit for a long time should have a charge on the batteries to keep it working year around.

Select a LM7812. You can use a wall wart that can handle at least .5 amps. If the wall wart claims 12 volts, it will probably be around 18 volts measured. Connect it to the LM7812 as in the schematic. Your output with lead #2 grounded will give you a slightly lower reading than 12 volt. This is not enough for trickle charging a 12 volt battery. Therefore, how can you raise it to 13.1 volts that is needed?

Simple, release lead #2 from ground. Then add a diode with the cathode to ground and anode to #2 lead. The forward direction of the diode will exhibit a resistance. This will increase the output voltage at lead #3. It will still be well regulated.

Depending on the diode used, will determine the output voltage. If it is not high enough, a second diode can be added in series with the first one.



A wall wart power supply can be picked for just a few dollars surplus. The regulator can be bought for as low as 50 cents. 2 filter capacitors will vary in cost, but will most likely be under \$2.00 each.

The circuit can be built on a small board. You can use a fancy project box to house it, or a large shrink tube.

You can build the whole charger in less than an hour. It will save the batteries that sit unused throughout the winter to be ready for use in the spring.

73,

Ralph WD0EJA

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*** HUGE CRYPTOJACKING EARNS JUST \$24 FOR HACKERS ***

the guardian by Alex Hern

A malware attack that turned thousands of websites into cryptocurrency mining engines made just \$24, according to the company that develops the software used.

Hackers compromised an accessibility plugin, BrowseAloud, which is used to offer screen-reading services on a number of websites including the Information Commissioner's Office, the Student Loans Company and several English councils.

The hackers inserted a link to a piece of software called Coinhive, which uses the processing power of a website visitor's device to "mine" cryptocurrencies, draining their batteries or spiking their electricity bill to earn a few pennies a minute. But despite the widespread nature of the attack, which used BrowseAloud as a doorway to more than 5,000 websites, the actual cash earned was minimal.

Speaking to tech site Motherboard, Coinhive said the campaign only mined 0.1 Monero, a privacy-focused cryptocurrency which is currently worth about \$245 a coin. That means the entire cryptojacking campaign generated less than \$25 – and Coinhive says it hasn't even paid out that sum to the hackers.

What is cryptojacking?

With the continuing collapse in online advertising revenues, websites are turning to other methods to pay their hosting bills – including using visitors' computers and phones to mine cryptocurrency.

It's a controversial practice, with some likening it to running malware on visitor's computers, but it is a potentially lucrative endeavour for websites. The downside is that at best it slows down visitors' machines, and at worst it can also drain their batteries or send their electricity bills soaring.

BitTorrent search engine, The Pirate Bay, and US video streaming service Showtime, are two sites that were discovered to be sending mining code to users. The former owned up, posting in mid-September that the code was "just a test" and that the experiment was being done with a view to removing all adverts from the site.

The latter removed the code on Monday, shortly after a user noticed it and specialist press began reporting. But it has yet to answer questions on why the code was there from the Guardian and other media organisations.

Cryptocurrencies, such as bitcoin and its successors, are backed by a system of “miners”, who race to be the first to solve tricky computing problems in exchange for a reward for doing so. The rewards are large – the bitcoin network, for instance, gives away coins worth \$7m to miners every day – but to be in with a chance, miners need to gather an extraordinarily large amount of computing power.

Not only is it expensive to buy those computers, it also consumes a huge amount of electricity to run them. As a result, the most profitable mining companies often have access to cheap energy, or some other efficiency boost - one firm, based in Iceland, saves money by letting the country’s naturally cold climate cool its computers.

Website-based mining short circuits that: the electricity bills are paid by the visitor, but it’s the website that gets the reward.

“Gaming and video sites typically are more resource intensive, so it seems to make little sense to run a miner at the same time without having a noted impact,” says Malwarebytes analyst Jérôme Segura. “Having said that, many people who consume copyrighted content are perhaps less likely to complain about an under-par user experience.

“The question at this point is: how far can publishers push the limits towards a really bad user experience? You may be surprised that for many, this is not really a problem at all and that double dipping is, in fact, a fairly common practice,” he added.

In the long run, such practices may simply push more users to install adblockers, Segura noted. It’s just as easy to block mining as it is to block adverts, using much the same techniques. Segura said: “There’s no question that users are annoyed by a rollout that did not include their opinion, even though many were actually favourable to this alternate solution to online ads.”

Showtime did not respond to a request for comment.

HAM NEWS STORY

Jack, W4GRJ, passed on this link to an interesting news show that was doing a segment on amateur radio when the false missile alarm went off in Hawaii.

<https://m.youtube.com/watch?v=dO09aMGMizM>



CLUB MEETING

The next club meeting is March 3rd . We meet on the first Saturday every month at 11:00 Saturday morning at the Minnreg Building located at 6340 126th Ave N, Largo. Members are welcome to come in the rear area through the fence gate on the southeast corner of the property. Talk-in is on the Wormhole repeater system. For those coming to the meeting who cannot hit the repeater we will be monitoring the Honeywell club repeater on 443.050 +141.3. We will keep an eye peeled for you. We will take advantage of the cooking facilities with an after-the-meeting Social and Wormdog picnic.



CLUB NETS

Check in on the club net Thursdays at 1930. 442.625 + with a 146.2 tone or the 2M side at 146.850 – also with a tone of 146.2. We are always looking for volunteers to be the net control operator. Anyone interested, talk to one your club officers.



LOCAL NETS

MONDAY

1730 147.030 + Receiver sites and tone info <http://www.qsl.net/wd4scd/> St
Pete Yacht Club ARC

1830 147.060+ no tone St Pete ARC daily net St
Petersburg

1900 144.210 USB CARS, vertical polarization
Clearwater

1900 147.135 +146.2 Zephyrhills ARC
Zephyrhills

2000 147.165+ 136.5 Brandon ARS from
Brandon

2000 50.135 Pinellas ARK
Pinellas County

2030 NI4CE system EAGLE Net, NTS traffic net, NI4CE
system

2030 145.450 Pinellas ARK
Pinellas County

TUESDAY

1830 147.060 no tone St Pete ARC daily net from St
Petersburg

1900 50.200 USB 6M net
Brandon ARS

1900 28.450 WCF section net
Clearwater

1900 NI4CE system WCF Section VHF ARES NI4CE
system

1930 145.170 & 442.4 both pl 156.7 Pinellas ACS net Clearwater

1930 444.900 +141.3 Sheriff's Tactical ARC Tampa

2000 NI4CE system WCF Skywarn net NI4CE
system

2000 147.105+ 146.2 Tampa ARC net from
Tampa

2000 28.365 USB simplex Brandon
ARS

2030 NI4CE system EAGLE Net, NTS traffic net NI4CE
system

2100 28.465 USB 10/10 net from Orlando

WEDNESDAY

1930 146.30 Hillsborough ARES/RACES
simplex net from Tampa

1830 147.060 no tone St Pete ARC daily net from St
Petersburg

1930 52.020 simplex Petersburg	Suncoast 6'ers	from St
1930 NI4CE system system	WCF Section Digital Info Ne	NI4CE
2000 147.105 146.2 Tampa	Greater Tampa CERT net	from
2000 146.97- 146.2 Clearwater	Clearwater ARS	from
2030 NI4CE system system	EAGLE Net, NTS traffic net	NI4CE
2100 NI4CE system affiliated	Tampa Bay Traders Net	non-

THURSDAY

1800 146.52 simplex Tampa	Hillsborough ARES/RACES	North
1830 147.060 no tone Petersburg	St Pete ARC daily net	from St
1900 444.750 +146.2 Tampa	Fusion net	from
1930 146.850- & 442.625+ both pl 146.2 Petersburg	Wormhole	from St
1930 146.6385 -127.3 Lakeland	Lakeland ARC	from
1915 224.660- no tone Petersburg	St Pete ARC	from St
2030 NI4CE system system	EAGLE Net, NTS traffic net	NI4CE

FRIDAY

1830 147.060 no tone Petersburg	St Pete ARC daily net	from St
2030 NI4CE system system	EAGLE Net, NTS traffic net	NI4CE

SATURDAY

0730 3.940 (7.281 Alt.)+/- QRM WCF	WCF Section HF Net	from
1830 147.060 no tone Petersburg	St Pete ARC daily net	from St
2030 NI4CE system system	EAGLE Net, NTS traffic net	NI4CE

SUNDAY

0800 3.933	Florida Traders Net	non-affiliated
1830 147.060 no tone Petersburg	St Pete ARC daily net	from St
1930 NI4CE system system	WCF Section Net	NI4CE
2000 147.550 simplex Pinellas County	550 Simplex Net	
2030 NI4CE system system	EAGLE Net, NTS traffic net	NI4CE
2100 144.210 USB orientation	Clearwater ARS	vertical



FOR SALE / WANTED

Anyone having something for sale or who might be looking for an item let me know. I will not print phone numbers or email addresses unless specifically told to since this newsletter might end up on the web. The exception is when I get the information off the web. If you are a member of the Wormhole then you have all the information you need on a club roster and if you are not a member .. why not? OK, if you are not a member you can contact me at the email address at the end of this newsletter, I will give you the information to contact the person involved.

FOR SALE, For sale: New MFJ TNC 1270X, never used in original box with manual and cables. \$30. Dean Sever W8IM

FOR SALE, Mosley TA-33M 10-15-20M beam with the 40M add on kit. Antenna is on the ground and in good shape. There are several parts that need replacement. The 40M kit is new in box. Antenna is broken down into six or seven feet sections so easy to handle. Asking \$400, talk to me, Bill AG4QX at arrl dot net or see me at the meeting.

FOR SALE, Cushcraft A4S 10-15-20M beam, on the ground. There are several parts that need replacement. Asking \$300, talk to me, Bill AG4QX at arrl dot net or see me at the meeting.

FOR SALE, 13 element, 14.5 ft 220 beam. Wormhole property, \$20, contact Bill AG4QX or any other officer. **Free to any Wormhole member or other club.** Pickup at Bill's house.

HAMFESTS

March 11 **Charlotte County Hamfest**, Punta Gorda Boat Club, 802 West Retta Esplanade, Admission \$5, tailgate free, inside tables \$10, Talk-in 147.255 + 136.5 and DMR on 442.925 +, for info call Dave Beck , WB4GVZ 804-363-0894,
<https://www.prra.club/hamfest.html>

March 17 **Gulf Coast ARC Hamfest**, New Port Richey, Millennium Academy, 10005 Ridge Road, admission \$6, tailgate free, Talk-In on 146.670 - no tone, For info contact Ralph McCullough ,

WA3YFQ 727-247-4790, for more info goto

<http://gulfcoastarc.org/2018/01/06/gcarc-spring-hamfest-2018/>

April 14

TARCFest, TARC Clubhouse, 22nd St at the river, \$4 entry plus \$3 to tailgate, inside tables \$15 in advance, talkin on 147.105 +146.2, go to at <http://hamclub.org/>, for more info

May 12

EPARS Tailgate, Dade City, Church Ave Park, 37746 Church Avenue, **Talk-In on** 146.880 146.2, Admission \$5, tailgate free, **contact** Chris Bloxsom , AA4CB 727-484-8099, go to <http://eparsonline.org/>

May 26

WormFest 2017, Pinellas Park, admission FREE, tailgate free, Freedom Lake Park, 9990 46th St N, southeast corner of US 19 and 49th Street, 33782. Park opens at sunrise for vendor setup, hamfest starts at 0800. Talk-in on 442.625 + or 146.850 – both with a tone of 146.2. For a map and directions see <http://www.TheWormholeSociety.org> .

August 18

TARCFest, TARC Clubhouse, 22nd St at the river, \$4 entry plus \$3 to tailgate, inside tables \$15 in advance, talkin on 147.105 +146.2, more info at <http://hamclub.org/>

November 3

LARC Hamfest, Lakeland, Revolution Church of Lakeland, 7315 Kathleen Road, Talk-In on 146.685 tone 127.3, For info contact Kevin Rought , N4KWR 863-393-4336 <http://lakelandarc.org>

November 10

SPARCFest, Pinellas Park, SPARCFest, admission FREE, tailgate free, Freedom Lake Park, 9990 46th St N, Southeast corner of US 19 and 49th Street, Talk-in on 147.060+ no tone. VE testing at 0900. For more information go to <http://www.sparc-club.org/sparcfest.html>

December 7 & 8

Plant City, the 2018 Tampa Bay Hamfest is the West Central Florida Section Convention, Friday and Saturday, at the Expo Building in the Strawberry Festival grounds,

advanced admission \$9, at the door \$10, for information contact Bill Williams AG4QX, chairman@fgcarc.org or go to <http://www.tampabayhamfest.org> or you can just ask me, Jim or Dee at a meeting ;-)

Mid January	Frogman swim in Tampa Bay. http://www.tampabayfrogman.com/
Last full weekend January	Winter Field Day, http://www.sparhams.org/index.php
Late January	Gasparilla celebration
Late February	West Central Florida Tech Conference http://arrlwcf.org/wcf-special-events/wcftechconference/
March/April	MS Walks
March/April	Mass Casualty Exercises
Late April	Southeastern VHF Society Conference, http://www.svhfs.org
Late April	March For Babies (was March of Dimes) https://www.marchforbabies.org/Registration/Events
Late April	Florida QSO Party
Early to Mid May	BikeMS Citrus Tour bike ride http://www.citrustour.org/register.php
Mid-May	Annual Armed Forces Crossband Test
Mid-May	Florida Hurricane Exercise
Late May	Wormfest
Early June	Museum Ships on the Air
Fourth weekend in June	Field Day http://www.arrl.org/contests/announcements/fd/
July 3/4	Midnight Run in Largo http://www.kiwanismidnightrun.com/
August	International Lighthouse/Lightship Week https://illw.net/

October, 3 rd weekend 14.280MHz)	JOTA, Scout Jamboree-on-the-AIR (around
Early December	ALS bike ride in Walsingham Park
December, first full weekend Park	Ride & Run With The Stars in Fort DeSoto
December, Second weekend	Tampa Bay Hamfest http://www.fgcarc.org/

YOUR WORMHOLE OFFICERS

Bill AG4QX is President and editor of this newsletter, Treasurer is Jim KD4MZL, Paul KA4IOX is the Secretary, Dee N4GD is the Repeater Trustee and Mike K4ZPE is both our club Vice President and webmaster.

YOUR WORMHOLE REPEATERS

442.625 + PL 146.2

146.850 - PL 146.2

The Wormhole repeaters are both now dual mode Yaesu DR-1X. FM analog as always and now Yaesu Fusion, a C4FM/FM digital mode. The repeater crew updated the software on May 3, 2016.

The Wormhole website is at: <http://www.TheWormholeSociety.org>.

West Central Florida Section website: <http://www.arrlwcf.org/>.

The ARRL website is at: <http://www.arrl.org/>

This newsletter is written for The Glorious Society of the Wormhole, an ARRL affiliated amateur radio club located around the Seminole section of Pinellas County Florida. Anyone wishing to be added or removed from The Glorious Society of the Wormhole mailings please write to me at the address below and thy will be done.

73,
Bill Williams
AG4QX
ag4qx AT arrl DOT net