



News from

The GLORIOUS SOCIETY OF THE WORMHOLE

January 2025

Hello Worms

I hope all had a happy holiday season and have a good start on a great year. My wife is back in the hospital and I will most likely not make the meeting but the Worms will carry on.

Before the meeting the radio will be on for information about and directions to the meeting but that will discontinue when the meeting starts. If we can the Zoom will be on but it is problematic

Bring your drink of choice and lunch if you want. We will not be cooking but we have access to the Chamber of Commerce kitchen which has a microwave and a toaster oven so you can heat up/cook what you bring.

***DO YOU KNOW ***

The tongue is the only muscle in one's body that is attached only on one end.

WHY IS NASA WORKING ON LUNA TIME?

CNET by Joe Hindy

Time zones are important. They make it easy to know that when it's 3 p.m. in New York, it's noon in Los Angeles. But what time is it on the moon? Back in April, the Biden-Harris administration asked NASA to come up with a time zone exclusively for the moon.

A lunar time zone would be beneficial for, among other things, making precision calculations when planning moon missions. So NASA has begun work on Coordinated Lunar Time, which would be shortened to LTC, even though the letters aren't quite in that order.

The timing setup could come in handy for the space agency's Artemis missions in the works for the coming years. The Artemis III mission, which would send humans back to the moon's

surface for the first time since the Apollo spaceflights more than 50 years ago, is currently penciled in for launch no earlier than September 2026.

According to NASA, the LTC plan is to standardize the time similar to Coordinated Universal Time, which is the global time standard regulating clocks on Earth. UTC is determined by the weighted average of atomic clocks across Earth. LTC will be determined by the weighted average of atomic clocks on the moon. It seems simple enough, but NASA has some calculations to make before it can start shipping clocks to the moon.

The biggest problem NASA will have to tackle is best explained by Einstein's theories of relativity. Basically, 1 second on Earth is slightly faster than 1 second on the moon, due to differences in gravity and velocity.

This effect is called time dilation, and the difference in time adds up to about 56 microseconds a day, or a little over 20,000 microseconds per year. For reference, a single human blink averages between 100,000 and 350,000 microseconds.

Although that variation in time is imperceptible to humans, it's a big deal for space work. NASA says that this tiny time difference can throw off calculations enough to put future missions in danger.

"For something traveling at the speed of light, 56 microseconds is enough time to travel the distance of approximately 168 football fields," said Cheryl Gramling, NASA timing and standards leader. "If someone is orbiting the moon, an observer on Earth who isn't compensating for the effects of relativity over a day would think that the orbiting astronaut is approximately 168 football fields away from where the astronaut really is."

NASA scientists are working on the problem, and they're facing a deadline. The White House wants the lunar time zone figured out by Dec. 31, 2026. Even time zone projects, it seems, have a time limit.

*** CARBON-14 DIAMOND BATTERY LASTS 5000 YEARS***

tom's HARDWARE News by Jowi Morales

A team of scientists and engineers from two British institutions built the world's first carbon-14 diamond battery that has the potential to deliver low amounts of

power for thousands of years. According to the [University of Bristol](#), the battery uses carbon-14 encased in a manufactured diamond to generate power. The radioactive decay of carbon-14, more popularly known for its use in radiocarbon dating, releases electrons, which are then captured by the diamond's structure to produce voltage. The concept behind the device is similar to that of solar cells, but it uses the electrons released by the carbon-14 isotope instead of photons to make electricity.

Carbon-14 has a half-life of 5,700 years, so a carbon-14 diamond battery could last just as long, if not longer. This makes it the perfect power source for devices where replacing batteries is inconvenient, impractical, or impossible. For example, they could power implants like pacemakers, reducing the need for the patient to visit their healthcare provider periodically to replace their battery.

“Diamond batteries offer a safe, sustainable way to provide continuous microwatt levels of power. They are an emerging technology that use a manufactured diamond to safely encase small amounts of carbon-14,” said UK Atomic Energy Authority (UKAEA) Director of Tritium Fuel Cycle Sarah Clark.

It could also be used to power spacecraft like Voyager 1, which we launched in 1977 and is still sending data back to Earth in 2024. However, its power is expected to last only until 2036. However, if equipped with a carbon-14 diamond battery, the spaceship could communicate its findings back home for thousands of years.

“Our micropower technology can support a whole range of important applications from space technologies and [security](#) devices through to medical implants,” says Professor Tom Scott of the University of Bristol. “We’re excited to be able to explore all of these possibilities, working with partners in industry and research, over the next few years.

If the research team successfully brings this power source to market, it would be a game-changer. A carbon-14 diamond-powered device could mean we no longer have to consider battery replacements for the many devices we’re building, allowing us to install permanent electronics anywhere we want to.

***INDIANA BAKERY STILL USING COMMODORE 64S ***

tom's HARDWARE News by Christopher Harper

A recently posted [photograph](#) of old-school Commodore 64s, which debuted 42 years ago, in use as registers at a modern bakery has attracted a lot of attention. As further sleuthed by commenters, this bakery was identified as the Hilligoss Bakery in Brownsburg, Indiana, and the last publicly posted picture of the Commodore 64 register was in 2021. As such, we called the shop, and they verified that the registers are still in use.

At the time of writing, the establishment in question has 488 [Google](#) reviews with an average 4.7-star rating and 202 Facebook reviews with an average 4.5-star rating— and, if some reviews mentioning the C64 are any indication, it even seems to be busier than usual, likely encouraged by the spreading word of this retro tech curiosity.

Aside from the technical curiosity, it would seem that Hilligoss Bakery is actually well-appreciated in its local Brownsburg community for the quality of its pastries and not simply the oddity of using a "microcomputer" originally released in 1982— though to Hilligoss' credit, the shop actually opened back in 1974, which would make the Commodore 64s a year-eight acquirement at the earliest. We can only suppose that further upgrades haven't been needed since.

While this may seem questionable— particularly in an era where it seems that nearly all business customers are being pushed to regularly upgrade their PCs— it's actually quite sensible when you consider the processing power required to do Point of Sale transactions, which isn't very much. Even for its age, Commodore 64 wasn't particularly overpowered — in fact, its accessible pricing helped it land a spot as the highest-selling single computer model of all time by [Guinness World Records](#), based on sales estimates as high as 17 million units. While you obviously won't be using modern software on one given its use of BASIC, the basic point-of-sale functionality, word processing, etc. is all well within the capabilities of a Commodore 64 — and most old PCs in general.

Looking at the C64 case, this appears to be one of the "breadbin" (quite apt for a bakery) models, as later cost-reduced models moved to a sleeker "arrow head" design. We're not certain as to the exact model, as Commodore released multiple revisions over the C64's lifetime. But every model contains the prized SID (Sound Interface Device), a sound chip that's still coveted in the retro gaming and music communities.

There are a few modern ways to soup up a Commodore 64 experience beyond typical expectations, like the [RAD Expansion Unit](#) powered by a Raspberry Pi 3A+, which makes the system capable of playing *Doom* (1993) at a stable 50 FPS...but not even that is needed for the use case being highlighted here. If you need storage, then a 1541 5.25-inch floppy drive is usually the way to go, but they retail for crazy prices and can be larger than the C64. Many will run modern day SD to IEC adapters to emulate floppy drives, such as the Pi1541. If you just want to emulate a Commodore 64, then a [Raspberry Pi 3](#) is plenty powerful to enjoy a few of the old games. Even a [Raspberry Pi Pico](#) can emulate a C64 with little fuss.

Overall, we can't help but appreciate the prudence of Hilligoss Bakery here by not opting for unneeded hardware upgrades when what they have already works. Why create e-waste and spend money you don't have to when your existing retro hardware not only works fine but gives customers something to talk about? Seems like a win-win.



CLUB MEETING and ZOOM

The meeting time is 1100 on Saturday morning at the Lurie Civic Building on the St Petersburg College campus in Seminole. Turn west at the light at 113th St N and about 92nd Ave N. It's the first building on the north side. Here is a link to a Google map: [Google Maps](#). There are a few parking spots in front the Chamber building but double parking is fine since we will be able to find the owner to move his vehicle if necessary. Alternately if you go another 100 yards past you can park in the college parking lot. We cannot run Zoom and a computer presentation at the same time. Below is the Zoom information, same as last month. The

ZOOM meeting is limited to 40 minutes so I will start it early and restart it to cover the whole meeting.

Topic: Bill Williams' Zoom Meeting
Time: This is a recurring meeting Meet anytime

Join Zoom Meeting

<https://zoom.us/j/2737114584?pwd=d1BETHVOQ21vWWZlZ0YQOFIWWtldz09>

Meeting ID: 273 711 4584

Passcode: worm



CLUB NETS

Check in on the club net Thursdays at 1930 and 2000 (or at the end of the 2M net). 2M at 146.850 – with a tone of 146.2. Our 6M net runs after our regular 2M net on 53.150 – 1MHz offset 146.2 tone.



LOCAL NETS

MONDAY

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 28.365 USB	10M 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
1900 146.490 simplex	3 RD Tuesday monthly, Hillsborough Co ARES simplex Net	

WEDNESDAY

1830 147.060 no tone	St Pete ARC daily net	from St Petersburg
1900 147.165 + 136.5	Humpday Net	from Bandon
1930 52.020 simplex	Suncoast 6'ers	from St Petersburg
1930 NI4CE system	WCF Section Digital Info Ne	NI4CE system
2000 147.105 146.2	Greater Tampa CERT net	from Tampa
2000 146.97- 146.2	Clearwater ARS	from Clearwater
2030 NI4CE system	EAGLE Net, NTS traffic net	NI4CE system
2100 NI4CE system	Tampa Bay Traders Net	non-affiliated
0000-2359 HF Winlink	Winlink Wednesday Net https://winlinkwednesday.net/reminder.html	

THURSDAY

1800 146.52 simplex	Hillsborough ARES/RACES	North Tampa
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1830 147.060 no tone	St Pete ARC daily net	from St Petersburg
1900 444.750 +146.2	Fusion net	from Tampa
1915 224.660- no tone	St Pete ARC	from St Petersburg
1930 146.6385 -127.3	Lakeland ARC	from Lakeland
1930 440.0 +162.2	Hillsborough ARES/RACES	from Tampa
1930 146.850- 146.2	Wormhole	from Pinellas Co
2000 53.150 -1MHz 146.2	Wormhole	from Pinellas Co
2030 NI4CE system	EAGLE Net, NTS traffic net	NI4CE system

FRIDAY

1830 147.060 no tone	St Pete ARC daily net	from St Petersburg
1900 3.830 LSB	Brandon 80M Net	from Brandon
2030 NI4CE system	EAGLE Net, NTS traffic net	NI4CE system

SATURDAY

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

SUNDAY

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



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 can ask club members for the persons contact information. 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. If you want to see anything here and you are coming to the meeting let the seller know, maybe he can bring it.

FOR SALE,

See Bill AG4QX for the following: make me an offer.

*ICOM IC-W32A , 2m and 440 HT, AA battery pack	\$25
*Heathkit HD-1215 Phone patch looks ok	\$10
*Drake WV-5 wattmeter looks ok	\$75
*Cushcraft A4S, 10/15/20 4 element beam	\$250
*Cushcraft AV-12AVQ, 10/15/20 vertical	\$125
*Cushcraft A50-#S, 6m beam	\$125
*Cushcraft A-#WS, 17/12 WARC beam	\$250
*15000 V neon sign transformer currently used for Jacobs ladder	\$30

Ed Pearson at has the following for sale. Contact him at Arctic.Eddie@Verizon.net

Xiegu G90 HF transceiver, 20W, auto-tuner, desktop stand, digital interface, not used much and only for WSPR at 5W. New around \$400, asking \$200.

Time Wave DSP-599zx digital audio filter. A separate small box with audio in and out RCA sockets on back. Programmable for filter specs. Also not used much and just for HF. New around \$100, asking \$20.

Welz Power Meter SP-825, HF to 1300MHz, dual power heads on remote cables, selectable output readings. New about \$150, asking \$40.

HAMFESTS

2024

November 2

Dade City, East Pasco ARS Fall Hamfest, flyer at

<https://eparsonline.org/2024/wp-content/uploads/2024/08/EPARS-2024-HAMFEST-november.jpg>, admission \$5, tailgate \$5, indoor table \$10, talkin 146.880 146.2 analog or C4FM

- November 2** Apopka, Bahia Shriner's Tailgate, Bahia Shrine Center, 3101 E. Highway 436, no talkin, no hamfest on website, Den Ardinger , KT3S, 164 Sheridan Ave Longwood, FL 32750 or call 407-332-0405 or Email: dba327@hotmail.com
- November 9** **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. Website has not been updated yet.**
- December 7** Ocala, Silver Springs Radio Club Hamfest, First Christian Church 1908 E. Fort King St, Talk-In: 146.610 -123.0, admission \$10, tailgate including one admission \$20, Contact: Elbert Wilkinson , KQ3K, 940 NE 50th St. Ocala, FL 34470, 352-843-0509 or kq3k@outlook.com
- December 13 & 14** **Plant City, the 2024 Tampa Bay Hamfest and West Central Florida Section Convention**, Friday and Saturday, **at the Strawberry Festival grounds, admission \$13, 16x40 ft tailgate space \$10, electric \$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 ;-)**
- January 18** **TARCFest** TARC Clubhouse, 22nd St at the river, 8AM-1PM, \$5 entry including tailgate, a few inside tables must be reserved in advance, talkin on 147.105 +146.2, license testing after, more info at <http://hamclub.org/>
- February 7-9** **Orlando Hamcation**, Central Florida Fairgrounds, 4603 West Colonial Drive, Tickets \$20 in advance, \$25 after Dec 21 and at the door. Talk-in 146.760 - PL 103.5 analog or Fusion. Also D-Star is on 146.820 -, all the information at www.hamcation.com or call 407-841-0874. There is also an AM low power Information Station on AM 610.
- April 12** **TARCFest** TARC Clubhouse, 22nd St at the river, 8AM-1PM, \$5 entry including tailgate, a few inside tables must be reserved in advance, talkin on 147.105 +146.2, license testing after, more info at <http://hamclub.org/>
- May 16-18** **Xenia, Ohio, Dayton Hamfest**, tickets \$30 at the door, tailgate \$30, 10x10 booth \$705

May 24 **WormFest 2025**, 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 146.850 – 146.2. All FREE! For a map and directions see <http://www.TheWormholeSociety.org> .

August 23 **TARCFest** TARC Clubhouse, 22nd St at the river, 8AM-1PM, \$5 entry including tailgate, a few inside tables must be reserved in advance, talkin on 147.105 +146.2, license testing after, more info at <http://hamclub.org/>

Fourth full weekend January	Winter Field Day https://www.winterfieldday.com/
Late January	Gasparilla celebration
Late February	West Central Florida Tech Conference http://arrlwcf.org/wcf-special-events/wcftechconference/
March/April	MS Walks
April	MS bike now named Suncoast Challenge http://www.citrustour.org/register.php
March/April	Mass Casualty Exercises
Late April	Southeastern VHF Society Conference, http://www.svhfs.org
Late April	Florida QSO Party
Mid May	March For Babies (was March of Dimes) https://www.marchforbabies.org/Registration/Events
Mid May	Annual Armed Forces Crossband Test
Mid-May	Florida Hurricane Exercise
Late May	Dayton Hamfest
May, Memorial Day Weekend	Wormfest
First weekend in June	Museum Ships on the Air
Fourth weekend in June	Field Day http://www.arrl.org/contests/announcements/fd/
Third weekend in August	International Lighthouse/Lightship Week https://illw.net/
September	Run for All Children's
Mid October	The Great Shakeout https://www.shakeout.org
October, 3 rd weekend	JOTA, Scout Jamboree-on-the-AIR (around 14.280MHz)

Early December

ALS bike ride in Walsingham Park

December, Second weekend

Tampa Bay Hamfest <http://www.fgcarc.org/>

YOUR WORMHOLE OFFICERS

Bill AG4QX is President and editor of this newsletter, the Vice President position is open, Treasurer is Jim KD4MZL, Paul KA4IOX is the Secretary, Dee N4GD is the Repeater Trustee and Mike KV0OOM is our webmaster.

YOUR WORMHOLE REPEATERS

53.150 -1Mz PL 146.2

442.625 +5Mz PL 146.2

146.850 - 600Kz PL 146.2

The Wormhole 2M and 440 repeaters are both now dual mode Yaesu DR-2X. FM analog as always and Yaesu Fusion, a C4FM digital mode.

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](mailto:ag4qx@arrl.net)