



News from

The GLORIOUS SOCIETY OF THE WORMHOLE

February 2024

Hello Worms

We went on a weeks vacation on St George Island , the island south of Apalachicola. On Thursday evening I started feeling sick. It is now 12 days later, Tuesday evening and my wife and I are both still testing positive for covid. I thought this would all be over now. Looks like we have one of those two or three week infections. Luckily, we feel ok, just minor stuff. I will probably not make the meeting.

February is a busy month for ham events. Orlando is next weekend, then Sebring and Brooksville. End the month with the 10th Annual TECHCON being held in Hillsborough County again.

Last month I could not get the computer and laptop to connect so no Zoom. I will try again. For the last four or five meetings no one has been on the repeater to hear about the meeting so I will discontinue asking. The radio will be on for information about and directions to the meeting but that will discontinue when the meeting starts. We will continue with Zoom for now but the 40 minute limit does make it awkward at times. The Zoom information is the same as all the other meetings and is listed towards the end of this newsletter.

In the meeting we will have donuts, water and soft drinks (probably only root beer). Bring your coffee 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.

No AI was used in the making of this newsletter.

*** WRC-23 CONCLUDES WITH WINS FOR AMATEUR RADIO***

12/18/2023 *By International Amateur Radio Union Secretary Joel Harrison, W5ZN*

WRC-23 CONCLUDES WITH WINS FOR AMATEUR RADIO AND AGENDA ITEMS DESIGNATED FOR THE NEXT TWO EVENTS After 4 hectic weeks of the 2023 World

Radiocommunication Conference (WRC-23), and a preceding week of Radiocommunication Assembly meetings, WRC-23 concluded on Friday, December 15. Amateur radio fared very well overall, despite the enormous pressures across the radio spectrum from LF to terahertz. This is a tribute to the effort of the International Amateur Radio Union (IARU) team, who at times had to work from 8:00 AM to as late as 2:00 AM the next morning, as well as on the weekends.

At the top of the amateur radio priority list was Agenda Item (AI) 9.1b, regarding the [coexistence of the secondary amateur and amateur-satellite allocation with the primary radionavigation satellite service in the 1240 - 1300 MHz](#) band. This had seen 4 years of strenuous effort prior to WRC and resulted in a recommendation being agreed upon at the Radiocommunication Assembly, followed by WRC-23 participants agreeing to mention the recommendation in a new footnote for the allocation. Both the recommendation and the footnote are an excellent outcome for the amateur services.

Other items were relevant to the amateur service and were prioritized beforehand:

- AI 1.12: 40 - 50 MHz radar sounders. These are now largely limited to the polar area.
- AI 1.14: 231.5 - 252 GHz re-allocations for Earth sensing. Fortunately, our secondary 241 - 248 GHz allocation is unchanged, and the primary allocation of 248 - 250 GHz is unaffected.
- AI 9.1a: Space weather sensors was an item of major interest. A clear definition for such sensors was confirmed, with frequency protection being agreed upon as an agenda item for WRC-27.
- AI 1.2: More broadband in the 3.3 GHz and 10 GHz bands (in Region 2). This is a difficult challenge, as the amateur services are secondary with numerous (mainly South American) countries allocating mobile broadband by way of footnotes. Instead of a region-wide designation for IMT at 10.0 - 10.5 GHz in Region 2, there is a footnote limited to a dozen countries.

Every WRC agreed to an agenda for the next conference under AI 10. This AI had an unprecedented number of proposals for WRC-27 and preliminary ones for WRC-31. Following the relatively quick agreement on AI 9.1b, the IARU team switched most of its efforts to the following future proposals to reduce the impact on the amateur services, as numerous amateur bands were under consideration.

WRC-27

The WRC-27 agenda will have 19 items. The following are the most relevant to the amateur services:

- 1300 - 1350 MHz: A previous proposal for this band, adjacent to 23 centimeters, was suppressed, providing certainty for our secondary allocation.
- Space Weather: This potential AI was initially very concerning, as the 0.1 - 20 MHz and 28 and 50 MHz bands were initially under consideration, until concerns were raised, and a team effort resulted in these allocations being removed from the topic.
- Lunar Communications: This future agenda item initially included 70 centimeters and other bands where Earth-moon-Earth could be restricted. Fortunately, the UHF aspect of this AI was modified to exclude 430 - 440 MHz.
- 10 GHz: We were fortunate that this band was withdrawn from another round of consideration for mobile broadband, especially in Region 1.

WRC-31

A record number of preliminary item resolutions were agreed on. The following two are especially relevant:

- Wireless Power Transmission (WPT): Both near-field and beamed are being considered as part of the International Telecommunication Union radio regulations, whilst minimizing the impact from interference.
- 275 - 325 GHz Allocations: This will include an opportunity for the amateur and amateur-satellite service.

The IARU team worked effectively to minimize the amateur bands from future studies, which is a great result for amateur radio.

IARU is very pleased with the overall result of WRC-23. The IARU team has already started to discuss and consider how to engage and resource for the next cycle leading up to WRC-27. IARU WRC Coordinator and Vice President Ole Garpestad, LA2RR, expressed his pleasure with the results and complimented the extraordinary effort of the dedicated team of IARU volunteers who worked long hours to achieve the results that will benefit all amateurs.

The IARU team includes ARRL Technical Relations Specialist Jon Siverling, WB3ERA. WRC-23 [ran from November 20 – December 15, 2023](#).

*** ARRL IS NEW PUBLISHER OF GORDON WEST, WB6NOA ***

The ARRL® has become the new publisher of the Amateur Radio License Preparation books and related resources authored by Gordon West, WB6NOA. Gordon West's popular books,

classes, and audio courses have been a mainstay of amateur radio licensing for over 40 years. Generations of hams have learned from 'Gordo', and now the impact of his knowledge and experience will continue with the reach and resources of ARRL.

Current editions of Gordon West's popular license prep books will be available from ARRL and ARRL publication dealers soon. To see the complete press release go to :

<https://www.arrl.org/files/file/Media%20&%20PR/press%20releases/2024/ARRL%20GORDON%20WEST%20PRESS%20RELEASE%2017%20Jan%202024.pdf>

*** CHOOSING A FEED LINE***

Our high tech expensive radios can do many things. However, take the feed line away and it is next to useless. With so much depending on a piece of wire, it is good to know what the difference is in the many feed lines available.

One of the lowest loss feed lines is "Ladder Line" or "Twin Lead". Depending on the type, there is no measurable loss below 15 MHz or 30 MHz (See the graph below). At the same time it would be not advisable to use it over 150 to 200 MHz.

One of the inconveniences of Ladder Line is the higher impedance. You can get 75 ohm twin lead, however, these usually start at 300 ohms. 450 and 600 ohm lines are common. This will require matching to the antenna and radio. It will take a different type of tuner to use this with our radios.

Also, it will not tolerate being close to any surface, even wood. The twin lead needs to be stood off. There is hardware for this purpose.

Most of us use coax. There is quite a selection. As a rule, the smaller the diameter, the more the loss. RG-174 is only .1 inches in diameter. It has a loss of 5.5 db per every 100 feet at 30 MHz. This type of coax is normally used for tight internal wiring.

A popular coax is RG-58. It is .195 inches in diameter. The impedance is 53.5 ohms. The loss at 30 MHz is about 2 db per 100 feet. It is flexible, easy to handle and not as expensive as the bigger styles.

Jumping to a 9913 coax, the loss drops to .75 db per 100 feet at 30 MHz. This coax comes double shielded, one of the reasons for the lower loss. It is .405 inches in diameter.

The graph below will give you an idea about several coax cables. There are "Hardlines" also. Bigger diameters, harder to work with and more costly, but low loss.

Keep in mind, the human ear is on a db scale. If you loose or gain one db of audio, you will hear the difference. Our radios on the average, ratio 6 db per 1 "S" unit. From this you can estimate how much loss you will notice in respect to the length of the feed line.

When shopping for coax, the seller normally will post the loss in db per length and frequency. If you are using it for HF, your losses will be almost unnoticeable. As you increase your frequency to VHF and UHF, it is important to use a lower loss coax.

73,
Ralph WD0EJA

From your editor

The chart with Ralph's blog is too small to be of any use. Ralph's transmission line losses explanation is ok but I think a simple chart is much easier to understand. If you want to see a chart, actually three, go to <https://www.w4rp.com/ref/coax.html>

I think the easiest to understand difference between coax and ladder line is the below chart from the ARRL somewhere but I don't have the actual source. If you need more and have nothing else to do for a week get a copy of the ARRL Antenna Book, almost any book for the last twenty years or so.

From the ARRL somewhere:

Transmission line losses hurt two ways: They waste our transmitter's power and they attenuate the signals we receive. A line loss of 4 dB reduces the output of a 50 W transmitter to 20 W at the antenna. The signals we're trying to hear are also reduced by this same factor of 2.5!

As we've already seen, losses in transmission lines are directly related to their length. Loss data are usually reported in decibels per 100 feet, so one way to reduce line loss is to use less of it. Assuming the line is the shortest possible length, there are two ways to further reduce loss: Reduce the SWR, change to a lower-loss line, or both.

You can reduce the SWR by adjusting the antenna. In the case of a wire dipole, this means either cutting wire or adding wire.

Transmission line loss depends on the type of line and the operating frequency. Table 1 makes an interesting comparison of transmission line loss under both "matched" and high SWR conditions.

Table 1—How much power are you really radiating?

Assume that you have a 100-W transceiver connected to one of the transmission lines listed below. How much power (in watts) actually makes it to your antenna? Examples are shown for 80, 10 and 2 meters, with 100 feet of transmission line and SWRs of 1:1 and 6:1 on each of these bands.

Frequency	3.5 mHZ	3.5 mHZ	28 mHZ	28 mHZ	146 mHZ	146 mHZ
	1:1 SWR	6:1 SWR	1:1 SWR	6:1 SWR	1:1 SWR	6:1 SWR
RG-58A	85	65	56	33	22	11
RG-8A	91	79	76	52	48	27
¾ inch hardline	98	93	93	81	83	63
450 ohm ladder line	99	98	98	91	91	79

It’s worth noting that ladder line exhibits substantially less loss on the HF bands than just about any other transmission line available. This means you can get away with SWRs on ladder line that would cause intolerable loss with coax. This pertains to clean, dry twinlead. When the line is wet—and especially when it’s wet and dirty—loss becomes much larger. The less polyethylene and the more air between the wires, the better.

MOTHER OF ALL BREACHES REVEALS 26 BILLION RECORDS

cybernews by Ernestas Naprys, Senior Journalist

The supermassive leak contains data from numerous previous breaches, comprising an astounding 12 terabytes of information, spanning over a mind-boggling 26 billion records. The leak, which contains LinkedIn, Twitter, Weibo, Tencent, and other platforms’ user data, is almost certainly the largest ever discovered.

There are data leaks, and then there’s this. A supermassive Mother of all Breaches (MOAB for short) includes records from thousands of meticulously compiled and reindexed leaks, breaches, and privately sold databases. The full and searchable list is included at the end of this article.

Bob Dyachenko, cybersecurity researcher and owner at SecurityDiscovery.com, together with the Cybernews team, has discovered billions upon billions of exposed records on an open instance.

Even though at first the owner of the database was unknown, Leak-Lookup, a data breach search engine, said it was the holder of the leaked dataset. The platform posted a message on X, [saying](#) the problem behind the leak was a “firewall misconfiguration,” which was fixed.

According to the team, while the leaked dataset contains mostly information from past data breaches, it almost certainly holds new data, that was not published before. For example, the Cybernews data leak checker, which relies on data from all major data leaks, contains information from over 2,500 data breaches with 15 billion records.

The MOAB contains 26 billion records over 3,800 folders, with each folder corresponding to a separate data breach. While this doesn't mean that the difference between the two automatically translates to previously unpublished data, billions of new records point to a very high probability, the MOAB contains never seen before information.

“The dataset is extremely dangerous as threat actors could leverage the aggregated data for a wide range of attacks, including identity theft, sophisticated phishing schemes, targeted cyberattacks, and unauthorized access to personal and sensitive accounts,” the researchers said.

The supermassive MOAB does not appear to be made up of newly stolen data only and is most likely the largest compilation of multiple breaches (COMB).

While the team identified over 26 billion records, duplicates are also highly likely. However, the leaked data contains far more information than just credentials – most of the exposed data is sensitive and, therefore, valuable for malicious actors.

A quick run through the data tree reveals an astoundingly large number of records compiled from previous breaches. The largest number of records, 1.4 billion, comes from Tencent QQ, a Chinese instant messaging app.

However, there are supposedly hundreds of millions of records from Weibo (504M), MySpace (360M), Twitter (281M), Deezer (258M), LinkedIn (251M), AdultFriendFinder (220M), Adobe (153M), Canva (143M), VK (101M), Daily Motion (86M), Dropbox (69M), Telegram (41M), and many other companies and organizations.

The leak also includes records of various government organizations in the US, Brazil, Germany, Philippines, Turkey, and other countries.

According to the team, the consumer impact of the supermassive MOAB could be unprecedented. Since many people reuse usernames and passwords, malicious actors could embark on a tsunami of credential-stuffing attacks.

“If users use the same passwords for their Netflix account as they do for their Gmail account, attackers can use this to pivot towards other, more sensitive accounts. Apart from that, users whose data has been included in supermassive MOAB may become victims of spear-phishing attacks or receive high levels of spam emails,” the researchers said.

The leak's scale is of yet unseen proportions. For example, in 2021, Cybernews reported a COMB that contained [3.2 billion records](#) – only 12% of the supermassive MOAB of 2024.

We are updating the Cybernews [data leak checker](#) to include information from the MOAB, which will allow users to see whether their data was included in the largest known data leak. Meanwhile, users are strongly advised to stay vigilant and take care of their cyber hygiene.

Everyone should use strong, hard to guess passwords, enable multi-factor authentication on all important accounts, keep an eye for phishing and spear phishing attempts, check for password duplicates and immediately set up new protection for accounts that share the same passwords.

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. 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=d1BETHVOQ21vWWZXZ0lYQ0FIWWtldz09>
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 Brandon
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
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 444.225 + 146.2	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
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SATURDAY

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

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

*Heathkit HD-1215 Phone patch \$15 looks ok

*Drake WV-5 wattmeter \$90 looks ok

*Wacom WP-604-C low band cans. Can be moded for 6M, talk to Bill

HAMFESTS

2024

- February 9-11** **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.
- February 17 Sebring, Highlands County ARC Hamfest, Lake Josephine First Baptist Church, 111 Lake Josephine Drive, \$5 includes tailgate space, inside tables \$10, talk-in 147.045 +100.0, contact Rick Gallagher for info rbg695@hotmail.com, get the flyer here: <https://highlandsamateurradio.com/downloads/2024%20Hamfest.pdf>
- February 17 Brooksville, Ham Fest, Sand Hill Scout Reservation Dining Hall 11210 Cortez Blvd. (HWY 50), talk-in 146.715-, \$6, tailgate \$10, inside table \$10, info on website at <http://www.hcara.org/>
- February 23-24 Tampa, 10th Annual TECHCON – ARRL WCF Section Technical Conference, Hillsborough County Public Safety Operations Complex 9450 E. Columbus Dr., talk-in 147.105 -146.2, for info see the website at <http://arrlwcf.org/wcf-special-events/wcftechconference/> or contact Darrell Davis at 863-245-9923
- April 13** **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 17-19** **Xenia, Ohio, Dayton Hamfest, ARRL NATIONAL CONVENTION**, tickets \$30 at the door, tailgate \$30, 10x10 booth \$705, <https://hamvention.org>
- May 25** **WormFest 2024**, 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 24

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/>

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 ;-)



Last 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
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