

News from



The GLORIOUS SOCIETY OF THE WORMHOLE

May 2021

Hello Worms

In the April meeting enough people were in favor of a face to face (mask to mask) meeting in May. We will meet at the regular meeting time of 1100 on Saturday morning. Thanks to Jim KD4MZL the meeting will be held at the Lurie Civic Building which is the new Greater Seminole Area Chamber of Commerce. It is located 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](#) . In google maps the building does not exist yet at street level view but is there at all the higher views.

We will practice social distancing, BRING YOUR CHAIR and lunch! There are a few picnic benches if you do not have a folding chair. We will not be cooking. There will be water and cold drinks also but no food or coffee. Bring your chair, lunch and coffee.

For those who are not comfortable with a face to face meeting yet we will attempt a ZOOM link but we do not know if there is wireless to support it. Also even if the ZOOM picture works we don't know if there will be sufficient audio to really be part of the meeting. We will try. The invite is below.

As always before a regular meetings there are members on the repeater long before the meeting time so jump in there and chew the rag.

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

The 2021 Wormfest is currently scheduled for May 29 at Freedom Lake Park in Pinellas Park. BUT we do not know what the rules are yet. We will not cook or have open container food or drink. We will only have canned drinks for donation. If Pinellas Park persists with their rules than we will probably cancel the fest again. I will make that decision by next week so there is time to get the information out.

The club thanks Jack W4GRJ for donating the marine radio that sold for \$100. The radio got delivered last month. Thanks Jack! He is also donating some coax for the Wormfest.

For the meeting do not forget ... BRING YOUR CHAIR, lunch and coffee!

The Wormhole web service provider had a fire. The server we are on is apparently beyond recovery. They are offering an old backup. Mike, our webmaster, will wait until after the Wormfest so our hamfest information is still active and then transition to a new website on a new service provider. Thanks to Mike for all his work.

***AMATEUR RADIO EXPOSURE RULES EFFECTIVE MAY 1 ***

ARRL Bulletin 11 ARLB011

From ARRL Headquarters

Newington CT April 13, 2021

To all radio amateurs

SB QST ARL ARLB011

ARRLB011 Updated Radio Frequency Exposure Rules Become Effective on May 3

The FCC has announced that rule changes detailed in a lengthy 2019 Report and Order governing RF exposure standards go into effect on May 3, 2021. The new rules do not change existing RF exposure (RFE) limits but do require that stations in all services, including amateur radio, be evaluated against existing limits, unless they are exempted. For stations already in place, that evaluation must be completed by May 3, 2023. After May 3 of this year, any new station, or any existing station modified in a way that's likely to change its RFE profile - such as different antenna or placement or greater power - will need to conduct an evaluation by the date of activation or change.

The Report and Order can be found online in PDF format at, <https://docs.fcc.gov/public/attachments/FCC-19-126A1.pdf>. "In the RF Report and Order, the Commission anticipated that few parties would have to conduct reevaluations under the new rules and that such evaluations will be relatively straightforward," the FCC said in an April 2 Public Notice. "It nevertheless adopted a 2-year period for parties to verify and ensure compliance under the new rules."

The Amateur Service is no longer categorically excluded from certain aspects of the rules, as amended, and licensees can no longer avoid performing an exposure assessment simply because they are transmitting below a given power level.

"For most amateurs, the major difference is the removal of the categorical exclusion for amateur radio, which means that ham station owners must determine if they either qualify for an exemption or must perform a routine environmental evaluation," said Greg Lapin, N9GL, chair of the ARRL RF Safety Committee and a member of the FCC Technological Advisory Council (TAC).

"Ham stations previously excluded from performing environmental evaluations will have until May 3, 2023, to perform these. After May 3, 2021, any new stations or those modified in a way that affects RF exposure must comply before being put into service," Lapin said.

The December 2019 RF Report and Order changes the methods that many radio services use to determine and achieve compliance with FCC limits on human exposure to RF electromagnetic fields. The FCC also modified the process for determining whether a particular device or deployment is exempt from a more

thorough analysis by replacing a service-specific list of transmitters, facilities, and operations for which evaluation is required with new streamlined formula-based criteria. The R&O also addressed how to perform evaluations where the exemption does not apply, and how to mitigate exposure.

Amateur radio licensees will have to determine whether any existing facilities previously excluded under the old rules now qualify for an exemption under the new rules. Most will, but some may not. "For amateurs, the major difference is the removal of the categorical exclusion," Lapin said, "which means that every ham will be required to perform some sort of calculation, either to determine if they qualify for an exemption or must perform a full-fledged exposure assessment. For hams who previously performed exposure assessments on their stations, there is nothing more to do."

The ARRL Laboratory staff is available to help amateurs to make these determinations and, if needed, perform the necessary calculations to ensure their stations comply. ARRL Laboratory Manager Ed Hare, W1RFI, who helped prepare ARRL's RF Exposure and You book, explained it this way. "The FCC did not change any of the underlying rules applicable to amateur station evaluations," he said. "The sections of the book on how to perform routine station evaluations are still valid and usable, especially the many charts of common antennas at different heights." Hare said ARRL Lab staff also would be available to help amateurs understand the rules and evaluate their stations."

RF Exposure and You is available in PDF format for free download from ARRL at, <http://www.arrl.org/files/file/Technology/RFsafetyCommittee/28RFSafety.pdf>

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ARRL also has an RF Safety page on its website at, <http://www.arrl.org/rf-exposure> .

The ARRL RF Safety Committee is working with the FCC to update the FCC's aids for following human exposure rules - OET Bulletin 65 and OET Bulletin 65 Supplement B for Radio Amateurs. In addition, ARRL is developing tools that all hams can use to perform exposure assessments.

NNNN

/EX

* THE BEST WAY TO OPERATE HF *

With the HF bands being in a slump for so long, many have found it advantageous to increase the power output of their station. This increase in power is normally appreciated by the receiving station.

This has made a disturbing situation. Regretfully there are a number of operators that drive their amplifiers much too hard. How can you determine this?

I have heard conversations where one or both parties have a slight distortion on their audio. The two in QSO seem to be oblivious of it. I imagine that the poor quality of digital audio as with cell phones have made this common place. However, on the air it is unacceptable. Why?

It is not only unpleasant to listen too, it causes severe interference to other stations trying to use the same band.

Most transceivers will not allow this to happen. However, if you add an amplifier it can happen quite easily. Most amplifiers do not have the capability to determine distortion. The ALC function will not do this. It is up to a good operator to determine the limits on driving the amplifier from the transceiver.

A linear amplifier basically takes a signal from the transmitter and amplifies it producing the same signal out, only stronger. The linear amplifier can only handle a certain amount of drive power from the transmitter. If you stay within this parameter, your signal will be stronger, but have a good quality to it and produce little IMD's.

What are IMD's? "Intermodulation-distortion".

What does this do? It will increase the bandwidth of your signal. In most cases it will not increase your signal strength. You have already saturated to that point.

In practical terms, we should be able to be 3 KHz's away from another station with no interference (IMD). However, over driving can cause an increase in IMD's. This means the signal produced will have audio fluctuations that far exceed 3 KHz. If a station is set at 14.300 MHz, it will interfere with stations far beyond 14.303 and

14.297 MHz. Some stations are so badly distorted that you can not use a frequency 10 KHz from the offending station.

Using an amplifier requires being responsible to operate it properly. It will produce severe IMD's. With the increase in better propagation coming, we will find the bands less usable if this distortion is a practice among operators. There are operators that do not care. It does little good to advise them. However, those that want good operating practices need to be informed so their signals will be clean and allow more room on the band for others to operate.

73,
Ralph WD0EJA
Bilal Company
www.isotronantennas.com
April 2021

*** EUROPE TRYS TO LIMIT USE OF AI IN SOCIETY***

The use of facial recognition for surveillance, or algorithms that manipulate human behaviour, will be banned under proposed EU regulations on artificial intelligence.

The wide-ranging proposals, which were leaked ahead of their official publication, also promised tough new rules for what they deem high-risk AI. That includes algorithms used by the police and in recruitment.

Experts said the rules were vague and contained loopholes. The use of AI in the military is exempt, as are systems used by authorities in order to safeguard public security. The suggested list of banned AI systems includes: those designed or used in a manner that manipulates human behavior, opinions or decisions ...causing a person to behave, form an opinion or take a decision to their detriment, AI systems used for indiscriminate surveillance applied in a generalized manner, AI systems used for social scoring, those that exploit information or predictions and a person or group of persons in order to target their vulnerabilities

European policy analyst Daniel Leufer tweeted that the definitions were very open to interpretation. "How do we determine what is to somebody's detriment? And who assesses this?" he wrote.

For AI deemed to be high risk, member states would have to apply far more oversight, including the need to appoint assessment bodies to test, certify and inspect these systems. And any companies that develop prohibited services, or fail to supply correct information about them, could face fines of up to 4% of their global revenue, similar to fines for GDPR breaches. High-risk examples of AI include: systems which establish priority in the dispatching of emergency services, systems determining access to or assigning people to educational institutes, recruitment algorithms, those that evaluate credit worthiness, those for making individual risk assessments, crime-predicting algorithms

Mr Leufer added that the proposals should "be expanded to include all public sector AI systems, regardless of their assigned risk level". "This is because people typically do not have a choice about whether or not to interact with an AI system in the public sector."

As well as requiring that new AI systems have human oversight, the EC is also proposing that high risk AI systems have a so-called kill switch, which could either be a stop button or some other procedure to instantly turn the system off if needed. "AI vendors will be extremely focused on these proposals, as it will require a fundamental shift in how AI is designed," said Herbert Swaniker, a lawyer at Clifford Chance.

Meanwhile Michael Veale, a lecturer in digital rights and regulation at University College London, highlighted a clause that will force organizations to disclose when they are using deepfakes, a particularly controversial use of AI to create fake humans or to manipulate images and videos of real people. He also told the BBC that the legislation was primarily "aimed at vendors and consultants selling - often nonsense- AI technology to schools, hospitals, police and employers". But he added that tech firms who used AI "to manipulate users" may also have to change their practices.

With this legislation, the EC has had to walk a difficult tightrope between ensuring AI is used for what it calls "a tool... with the ultimate aim of increasing human

wellbeing", and also ensuring it doesn't stop EU countries competing with the US and China over technological innovations. And it acknowledged that AI already informed many aspects of our lives. The European Centre for Not-for-Profit Law, which had contributed to the European Commission's White Paper on AI, told the BBC that there was "lots of vagueness and loopholes" in the proposed legislation. "The EU's approach to binary-defining high versus low risk is sloppy at best and dangerous at worst, as it lacks context and nuances needed for the complex AI ecosystem already existing today.

"First, the commission should consider risks of AI systems within a rights-based framework - as risks they pose to human rights, rule of law and democracy. "Second, the commission should reject an oversimplified low-high risk structure and consider a tier-based approach on the levels of AI risk."

*** ANNUAL ARMED FORCES DAY CROSSBAND TEST ***

ANNUAL ARMED FORCES DAY CROSSBAND TEST (07-08 May 2021)

The Department of Defense will host this year's Armed Forces Day (AFD) Cross-Band Test, scheduled for May 7-8, 2021. This annual event is open to all licensed amateur radio operators, and will not impact any public or private communications. For more than 50 years, military and amateur stations have taken part in this event, which is only an exercise scenario, designed to include hobbyist and government radio operators alike.

The AFD Cross-Band Test is a unique opportunity to test two-way communications between military communicators and radio stations in the Amateur Radio Service (ARS), as authorized in 47 CFR 97.111. These tests provide opportunities and challenges for radio operators to demonstrate individual technical skills in a tightly-controlled exercise scenario that does not impact any public or private communications.

Military stations will transmit on selected military frequencies and will announce the specific ARS frequencies monitored. All times are ZULU (Z), and all frequencies are Upper Side Band (USB) unless otherwise noted. The frequencies used for the test will not impact any public or private communications, and will not stray outside the confines of the exercise.

The following stations will be making two way radiotelephone contacts with stations in the ARS between the time periods listed on the frequencies listed in Kilohertz below.

AAZ / FT HUACHUCA, AZ

081500Z - 082359Z 5,330.5 14,438.5 18,211.0

AAC / BARROW ARMY RESERVE CENTER, KY (USB + RTTY)

081300Z - 082300Z 5,346.5 6,968.5 13,963.5

AAN / U.S. NORTHERN COMMAND, CO

081300Z - 082300Z 6,970.5 14,550.5

AAU / HQ US ARMY GARRISON FORT KNOX, KY (USB + RTTY)

081400Z - 081900Z 5,371.5 7,645.0 14,512.5 18,293.0 20,920.0

ABH / SCHOFIELD BARRACKS, HI

081500Z - 082359Z 5,357.0 14,438.5 18,272.0 20,997.0

ADB / CAMP FOSTER, OKINAWA

081500Z - 082359Z 14,487.0 20,994

AAM3D / DISA CYBERSPACE OPERATIONS DIRECTORATE, FT MEADE, MD

071300z - 082100z 5,403.5 7,421.5 13,993.5 18,254.0

ABM4B / HSC, HHBN, 82ND ABN DIV, FORT BRAGG, NC

081100Z - 082300Z 5,371.5 7,431.5 13,910.5 18,281.5

WAR / PENTAGON WASHINGTON, DC (USB + CW + RTTY)

081200Z - 082359Z 4,018 5,357.0 13,963.5 18,211.0 24,760.0

AIR / ANDREWS AFB

081200Z - 082359Z 4,517.0 7,305.0 15,807.0 20,740.0

AFM4NPD / NAVAL SUPPORT ACTIVITY MID-SOUTH MILLINTON, TN

081200Z - 080300Z 4,802.0 7,375.5 15,712.0

AGA2SY / HANCOCK FIELD, NY

081200Z - 082359Z 4,575.0 7,540.0 13,993.0

AGA5SC / SCOTT AFB, IL
081600Z - 082300Z 4,017.0 5,186.0 7,305.0

AGA5SC / TRAVIS AFB, CA
081600Z - 080100Z 4,017.0 7,329.0 13,996.0 14,411.0

MARSRADIO /
081400Z - 090100Z 4,557.0 7,460.0 (LSB) 14,606.0

MARSCOMM /
081400Z - 090100Z 4,448.5 6,994.0 (LSB) 14,877.0

NEPM / USS IOWA BB 61 LOS ANGELES, CA (USB + CW)
081450Z - 082359Z 6,903.5 14,463.5 18,293.0

NIIW / USS MIDWAY CV-41 SAN DIEGO, CA (USB)
071800Z - 082359Z 4,013.5 5,371.5 7,493.5 14,383.5 18,293.0

NWVC / LST-325 EVANSVILLE, IN (USB + CW)
081200Z - 090400Z 4,007.0 6,913.0 9,988.5 13,974.0

NSS / US NAVAL ACADEMY ANNAPOLIS, MD (USB + CW)
081200Z - 090400Z 4,038.5 5,330.5 7,533.5 9,447.0 14,487.0 17,545.0

NAF/ NEWPORT NAVAL RADIO STATION MUSEUM NEWPORT, RI (USB + CW)
081200Z - 090200Z 4,013.5 7,542.0 14,383.5

An AFD message will be transmitted utilizing the Military Standard (MIL-STD) Serial PSK waveform (M110) followed by MIL-STD Wide Shift FSK (850 Hz RTTY) as described in MIL-STD 188-110A/B. Technical information regarding these waveforms is provided at:
http://www.n2ckh.com/MARS_ALE_FORUM/MSDMMT.html

For those who wish to document their contacts with a QSL card, go to <http://www.usarmymars.org/events> and complete the request form.

EDITOR comment: If you make contact with WAR tell them to say hi to Gary from Bill.

CLUB MEETING

We will have a face to face club meeting on May due to the virus. We will try to keep up on the 2M and also video concurrent on ZOOM. Our normal meeting place at the Minnreg Building is no longer available. The meeting will be held at the Lurie Civic Building which is the new Greater Seminole Area Chamber of Commerce. It is located on the St Petersburg College campus in Seminole. Turn west at the light at 113th St N and about 92nd Ave N.

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

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	Tampa ARC net	from
2000 28.365 USB	simplex	Brandon ARS
2030 NI4CE system system	EAGLE Net, NTS traffic net	NI4CE
2100 28.465 USB	10/10 net	from Orlando
1900 146.490 simplex simplex Net	3 RD Tuesday monthly, Hillsborough Co ARES	

WEDNESDAY

1830 147.060 no tone Petersburg	St Pete ARC daily net	from St
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
1915 224.660- no tone Petersburg	St Pete ARC	from St
1930 146.6385 -127.3 Lakeland	Lakeland ARC	from
1930 444.225 + 146.2 Tampa	Hillsborough ARES/RACES	from
1930 146.850- 146.2 Petersburg	Wormhole	from St
2000 53.150 -1MHz 146.2 Petersburg	Wormhole	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 County	550 Simplex Net	Pinellas
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 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.

FOR SALE I have a 3 section push up galvanized steel pole, each section is 10ft long, it needs the locking clamps replaced (looks easy). Pole in good condition no rust and it is heavy, FREE to good home! Jack W4GRJ at jack@satterfield.org

FOR SALE, Comet GP-1 2M/440 MHz base antenna, \$50, Ralph W4TNY, w4tny@tampabay.rr.com, 727-409-0468

HAMFESTS

- May 29** **WormFest 2021, 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. No food or open drinks will be available! For a map and directions see <http://www.TheWormholeSociety.org> .**
- June 12 Dade City, Pre-Field Day Gathering, Dade City Masonic Lodge No. 48, 13642 21st Street South, Talk-In 147.135 + 146.2 & 146.52, For info Gary Mentro, N3OS, 813-713-9994 or n3os@arrl.net, fee unknown, no website
- June 12 Orlando, K4KDI Tailgate, South Conway Baptist Church, 6099 S Conway Rd, talk-in unknown, fee unknown, no website, For in Jack Moyer, K4KDI 407-443-1963
- August 21 **Tampa, TARCFest XLV**, TARC Clubhouse, 7801 N. 22nd S, t22nd St at the river, no other details yet, talkin on 147.105 +146.2, more info at <http://hamclub.org/>
- December 10 & 11 Plant City, the 2021 Tampa Bay Hamfest and West Central Florida Section Convention**, Friday and Saturday, at the Strawberry Festival grounds, admission \$10, 16x40ft tailgate space \$10, electric \$5, 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 ;-)
- February 11-13 Orlando Hamcation and NATIONAL Convention**, Central Florida Fairgrounds, 4603 West Colonial Drive, Tickets \$15 in advance, \$20 at door. Talk-in 146.760 - PL 103.5 OR Fusion. Also D-Star on 146.820 -, all the information at www.hamcation.com or call 407-841-0874 There is also a AM low power Information Station on AM 610.



Mid January	Adventure Run, Honeymoon Island
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	MS 150 Citrus Tour bike ride http://www.citrustour.org/register.php
March/April	MS Walks
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
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/
July 3/4	Midnight Run in Largo http://www.kiwanismidnightrun.com/
August	International Lighthouse/Lightship Week https://illw.net/
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, 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

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-1X. FM analog as always and Yaesu Fusion, a C4FM/FM 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