

W9JOZ

Volume 12, Issue 7

July 2022

Meeting July 21st at 7:00 pm.
Knox Community Center.



Meetings are at the Henry F. Schricker Library on the third Thursday of each month, with the exception of December.

The library is located on west Culver Road, two blocks west of Highway 35.



Are you on the air?

QSL CARDS

If you have QSL Cards that need to be checked for an ARRL Award, contact John and he will put you in contact with an ARRL Card Checker in our area. Steve, KD9HL is the card checker.

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Events

Meeting at Knox Community Center

Corner of Pearl and Lake Street

July 21st

Time will be 7:00 pm

Birthdays

July 30 - Don, WA9KRT

If your birthday has not been listed, it is because I do not have the date for it. If you would like it to be included in a newsletter, please email me the date. Thanks w3ml@w3ml.com

Starke County Amateur Radio Club Weekly 2 Meter Net is on every Saturday at 8:00 p.m. Central time.

DAY OF WEEK: Saturday 8:00 p.m. Central time

HOST: KN9OX Repeater

FREQUENCY: 145.410 - 600

PL TONE: 131.8

For Sale Items

New items listed from the Collection of K9KFT Gear.

If you see something on his list that you would like make an offer on, send an email to w9joz@w9joz.org with your offer.

It will be passed on to Bill who is handling the sale.

See all the For Sale Items at

<http://www.w9joz.org/forsale.htm>

There are a lot of them there. Updated regularly.

See the For Sale Page on the Club website. If you have items to sell email me a list with prices and contact information.

Notice for 2022

****** Dues for 2022 remain at only \$12.00 a year. ******

Paid Members for 2022:

- 1. Bob, KD9IHY**
- 2. Jack, WA9ZTP**
- 3. Linda, KC8PKY**
- 4. Bryan, KE9ML**
- 5. Levi, WA9CAO**
- 6. Paul, N9QYK**
- 7. Ed, KD9MVW**
- 8. David, KC9OBH - President**
- 9. John, W3ML - Secretary/Treasurer**
- 10. Tom, W9QN**
- 11. Bart, KC9FQA**
- 12. Steve, KB9GPW**
- 13. Bill, K9BZM**
- 14. Richard, K9ILU**
- 15. Nita, KC9PM**
- 16. Jim, WB9UAR**
- 17. Don, WA9 KRT**

Please be a member and pay your dues for 2022.

Dues may be mailed to:

**John Poindexter
204 South Main St.
Knox, IN 46534**

Checks can be made out to the Starke County Amateur Radio Club. \$12.00

Dues for 2022 still only \$12.00

We had over a dozen members not pay dues in 2020 & 2021. It would be nice to have them back in 2022.

For Sale

Selling Everything - It All Must Go

Paul, N9QYK is selling off all his stuff he has collected over the years. If you are interested in knowing what he has, give him a call at 574-772-2021.

A Modern Spark Gap Transmitter?

By Steve Mollman-KD9HL

Spark Gap transmissions have been illegal for nearly a century. But what happens when something goes amiss and the sparks fly? Recently I had an opportunity to find out. It wasn't pretty and while scary turned out to be a simple problem that was easy to fix.

The first indication of a problem was during a six meter opening to Europe and operating ft8 data mode @ about 600 watts.

A number of Europeans were worked over a short period without a problem. Good signal reports and only one repeat. Too bad all DX runs aren't like that! While working a Portuguese station the amplifier suddenly tripped off, beeped an audio alarm and flashed a "High SWR" alarm. (The amp's screen monitors the SWR and prior to this the SWR was about 1:1). A quick SWR check showed 14:1 but then it reverted back to 1:1 and then after a few transmissions would jump back to the 14:1.

Checks were made on other bands with the same results. First thought was a bank loan may be necessary! Had the automatic tuner failed, had the amp failed, had the remote antenna switch failed? All potentially expensive and time consuming repairs.

It was time for some detective work. Hopefully without climbing a tower in 95 degree heat.

First the transceiver was put online bypassing the amp or tuner. The same problem on all bands. So, apparently it didn't involve the amp or tuner.

Next was to try the transceiver, amp and tuner together and separately into a dummy load. Everything worked fine. That being the case, the problem seemed to narrow down to the feedline or the remote antenna switch.

Using a VOM, resistance across the feedline was measured. It came to 425 to 550 ohms and varied. Resistance should have been infinity! While interesting, the resistance check didn't isolate the problem. It still could be the remote antenna switch or the feedline. If one of the relays in the remote antenna switch had cooked its contacts, a resistance would most likely show.

A description of the feedline setup. First, about 225 feet of LMR-400 coax runs between the remote antenna switch and the house. The LMR-400 is connected to about 25 feet of RG-213 that runs under the house and up through a wall into the shack. The connection between the two cables is via PL-259s and a barrel connector. The RG-213 is used because it is much more flexible and easier to snake through the walls. LMR-400 is very stiff and doesn't flex well. This setup has been in use in one form or another for the past 30 years. The LMR-400 was installed about 10 years ago.

The next step was to go under the house into the crawl space and to check the connection between the LMR-400 and the RG-213. The sealant was cut off and immediately the problem was revealed. There were burns and carbonization at the junction of one of the PL-259 connectors and the barrel connector.

What was happening was when the transmitter went key down the RF would jump from the center conductor to the outside conductor shorting out. An easy fix. Clean the carbon from the PL-259 (Amphenol), replace the barrel connector and then reseal (waterproof) the connection. That was done and things seem to be operating okay.



The burned end of the barrel connector

I have no idea of the history of the failed barrel connector. It could be 80 year old WW 2 surplus, Chinese junk from a ham fest or who knows what. Like nearly all barrel connectors it hasn't any manufacturer's markings. It was in service about 30 years.



ARRL Website

For those that may still be having problems getting logged into the recently renovated ARRL website, a video has been produced to help with that. The video is available by clicking on the “Login Help” link on the ARRL homepage (circled in the picture), or by going to <http://www.arrl.org/login-instructions>.

The K7RA Solar Update

07/01/2022

Solar activity took a dramatic plunge over the recent reporting week (June 23 to 29) but geomagnetic activity stayed exactly the same. Field Day weekend saw rising geomagnetic numbers, with planetary A index at 8, 16 and 23, Friday through Sunday.

On Sunday the geomagnetic activity was a problem, although not severe, with many stations in Field Day reporting increased absorption. The planetary K index peaked at 5 (a big number) at the end of the UTC Day on Saturday and continued into the early hours of Sunday, which was early Saturday evening here on the West Coast.

This happened because of a crack in Earth's magnetosphere, detailed here: <https://bit.ly/3ONZdQ9>

Compared to the previous seven days, average daily sunspot numbers declined from 124.6 to 49.1, while average daily solar flux dropped from 140.5 to 105.3.

Planetary and middle latitude A-index averages were both the same as the previous week, all numbers around 11.

The prediction from the USAF 557th Weather Wing is not very optimistic, with solar flux peaking at 140 on July 11 to 16.

The prediction shows 10.7 cm solar flux at 90 on July 1, 95 on July 2, 105 on July 3 to 5, then 110, 120, 130 and 135 on July 7 to 10, 140 on July 11 to 16, then 135, 130, 125 and 120 on July 17 to 20, and 115, 110, 105 and 100 on July 21 to 24, 95 on July 25 and 26, 100 on July 27 to 29, then 105, 110, 115, 120 and 125 on July 30 through August 3, then 130 on August 4 and 5, and back to 140 again on August 7 to 12.

Predicted planetary A-index is 5 on July 1 to 7, then 8, 8, 12 and 8 on July 8 to 11, 5 on July 12 and 13, 12 on July 14 to 16, 10 on July 17, 8 on July 18 to 21, then 12, 15, 15 and 10 on July 22 to 25, and 5 on July 26 through August 4, then 8, 12 and 8 on August 5 to 7.

F. K. Janda, OK1HH writes, "Solar activity has declined over the last seven days. Geomagnetic activity was highest on June 26(G1-class geomagnetic storm broke out around midnight UT on June 25and 26) and was lower on June 28 and 29. On June 26, a big, bright CME billowed away from the sun's southern hemisphere. A slow-moving CME that left the sun could pass close to Earth on June 30. The near miss, if it occurs, could disturb our planet's magnetic field. A dark filament of magnetism erupted in the sun's northern hemisphere on June 28, but no CME was observed after the explosion. Shortwave propagation conditions were relatively worse on June 26 and 27. After that, they began to improve, but only very slowly due to the declining solar activity."

A new space weather report and forecast from Dr. Tamitha Skov, WX6SWW, our Space Weather Woman.

https://youtu.be/0yAS_FpLTsk

Tomas Bayer of the Department of Geomagnetism, RWC Prague, at the Budkov Observatory wrote this geomagnetic activity summary:

"After the last active events on June 24 to 26, which without a storm event did not exceed the active level (local K-index = 4), we expect a geomagnetic activity decrease to quiet to unsettled level during the coming seven days.

More unsettled geomagnetic activity can be expected about July 3 and 4, and also at the end of the currently forecast period on July 7. Then we expect geomagnetic activity at a quiet to unsettled level." Here are pictures of the Budkov Observatory:

<https://bit.ly/3ugnUfv>

<https://bit.ly/3bH9PI4>

How big is our nearest star?

<https://bit.ly/3yb6cv6>

Cycle forecasts, wrong or right?

<https://bit.ly/3R3HQfF>

Storm watch, from the popular press:

<https://bit.ly/3bGvXfs>

Reader David Moore, a frequent contributor, sent this:

<https://bit.ly/3Ago09g>

It hasn't been updated recently, but here is a blog devoted to propagation:

<http://ka5dwipropagation.blogspot.com>

Send your tips, questions, or comments to k7ra@arrl.net

For more information concerning shortwave radio propagation,

see <http://www.arrl.org/propagation> and the ARRL Technical Information Service

at <http://arrl.org/propagation-of-rf-signals>. For an explanation of numbers used in this bulletin, see <http://arrl.org/the-sun-the-earth-the-ionosphere>.

An archive of past propagation bulletins is at <http://arrl.org/w1aw-bulletins-archive-propagation>. More good information and tutorials on propagation are

at <http://k9la.us/>

Instructions for starting or ending email distribution of ARRL bulletins are at <http://arrl.org/bulletins>.

Sunspot numbers for June 23 through 29, 2022 were 69, 60, 31, 33, 32, 71, and 48, with a mean of 49.1. 10.7 cm flux was 121.4, 115.4, 108.1, 102, 98.2, 96.1, and 96.2, with a mean of 105.3. Estimated planetary A indices were 10, 8, 16, 23, 12, 8, and 6, with a mean of 11.9. Middle latitude A index was 12, 8, 14, 15, 15, 11, and 7, with a mean of 11.7.

<https://www.arrl.org/news/the-k7ra-solar-update-735>



If you have something for the newsletter, please send it to me before the 25th of the month.

See you at a meeting.

73

John, W3ML

