

SHORT SKIP - FROM THE PARADE STAND

By Tim McGillen/N9CA 2023 LCARC President

July 2023 issue

*Click on [blue or underlined wording](#) to open the internet topic links

July's Club Meeting: Friday July 14th (always the 2nd Friday of the month) at 7:30PM. The Program will be "*Listening to Earth's Ionosphere, Magnetosphere, and Space Itself*"

LCARC meetings are now on the 4th floor of the 7 story EMA/Lake County health department building at 2900 W. 93rd Ave Crown Point Indiana.

Ample parking. Handicap accessible, and you do not need to be a LCARC member to attend.

Don't be left out. New Club members receive both 2023 and 2024 Club membership for just \$20.

The LCARC Information NET Every Wednesday - at 8:00pm. 147.000 and 442.075 (pl 131.8) Informal, informative, and fun. A great way to stay connected with local hams in 30 minutes. *You do not need to be a Club member to check in.*

The **Annual 13 Colonies Special Event** will take place on July 1 – 7, 2023. The event honors the original 13 colonies, US independence, active military personnel, and veterans. All amateur radio operators are welcome to participate, including shortwave listeners. Certificates will be available for all participants. Each US state that was one of the original 13 colonies has a special call sign.

Basically, the special call signs begin as: **K2A, K2B, K2C**, going up to **K2M**.

All HF bands will be open, including the WARC bands (with the exception of 60 meters). Simplex on 2 and 6 meters is encouraged, and 40 – 160 meters is encouraged for stations on the southeast coast. All modes of operation may be used, including SSB, CW, RTTY, and digital. The mode of operation is up to the individual colony/state station. More information is available at the [13 Colonies Special Event](#) website and www.ARRL.org.

Read more – via American Radio Relay League | Ham Radio Association and Resources <http://www.arrl.org/news/view/two-special-event-stations-will-be-in-operation-beginning-july-1-2023>

Two Awards Available from AMSAT-UK Regarding EO-88's Impending Re-Entry

As you may be aware, Solar Cycle 25 has already shown that we cannot yet predict what the sun will be doing with any great accuracy.

Sunspots, X-class solar flares and CMEs (coronal mass ejections) are increasing in frequency and intensity on a daily basis.

The peak of Solar Cycle 25 was not expected until late 2024 or early 2025 but it may be coming earlier and have a higher intensity than was predicted.

One result of this increased activity is that the upper atmosphere and ionosphere of the earth becomes warmer and expands upwards. This means that spacecraft in low earth orbit experience more drag or resistance as a result of the increase in the number atoms they are having to displace as they travel around the globe. As a consequence, the spacecraft lose more kinetic energy and start to descend lower in orbital height, which, of course, makes the problem worse and a fiery end to the spacecraft is hastened.

The actual effect is also dependent on the drag coefficient of the particular spacecraft...simply how much mass (the more the better) to how much surface area (the less the better). So in CubeSat terms, a 1U CubeSat, fairly full of stuff with a mass near the maximum of 1.3kg, will probably be better off than a half empty 3U CubeSat with deployable solar panels and other drag inducing protuberances.

Spacecraft EO-88 was launched in February 2017 into a 496x507 km polar orbit. Currently the orbit parameters show a height of around 198 miles with the drag at 0.00319. It is now well below the ISS (240 miles up) and much lower than at launch.

To mark the event of EO-88/Nayif's demise, AMSAT-UK is offering two awards. These will be individual framed certificates.

Firstly, to the station who submits the last telemetry to the FUNcube Data Warehouse, and secondly to who "guesses" or calculates the re-entry time and date most accurately. For more visit <https://twiar.net/?p=16346>

The Radio Society of Great Britain is delighted to announce that Her Majesty Queen Noor of Jordan has chosen to donate

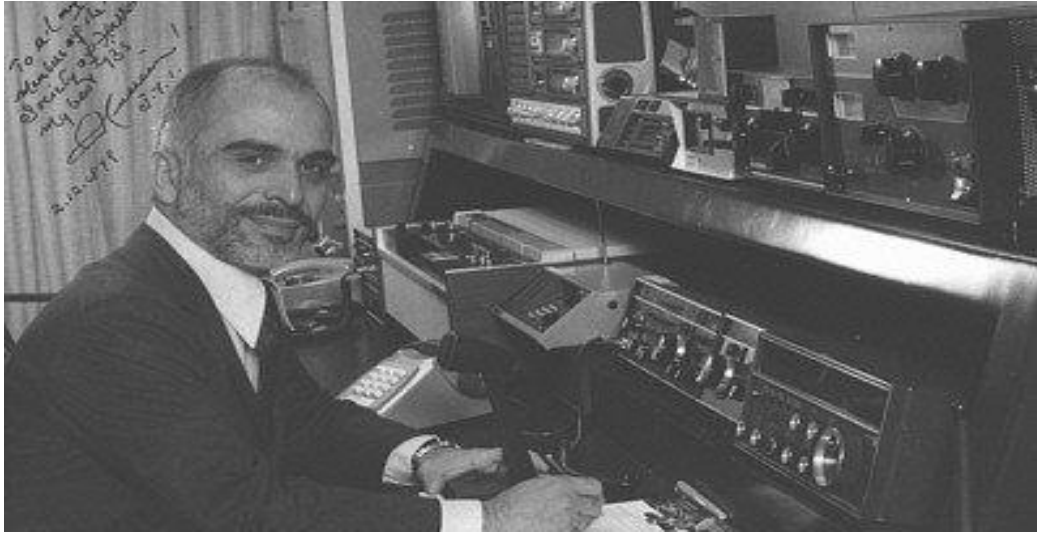


the amateur radio equipment of His late Majesty, King Hussein of Jordan to the Society.

His Majesty was a great ambassador for amateur radio and, whenever his official duties allowed him, his radio call sign JY1 could be heard on the amateur bands. His Majesty always operated modestly, never announcing himself as King Hussein, always just 'Hussein from Jordan'.

A permanent display is being organised at the **RSGB National Radio Centre** so that the equipment can be used to help inspire people to get involved in amateur radio, and promote communication, friendship and understanding throughout the many countries and cultures of the world.

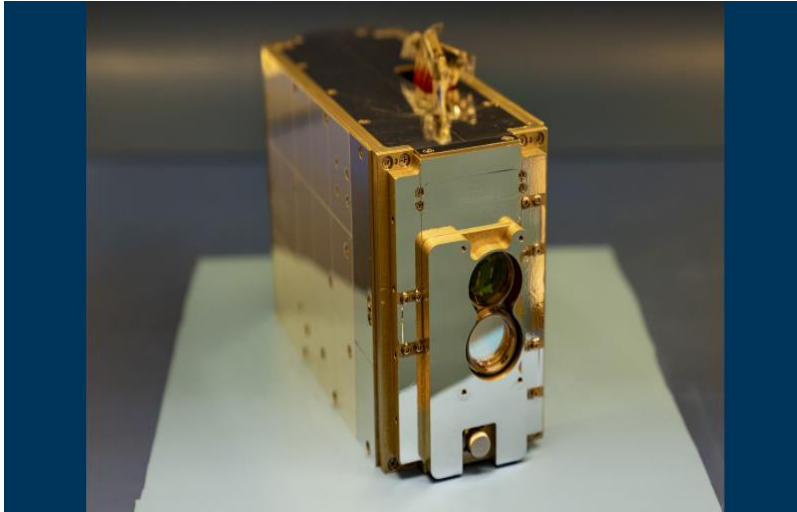
The RSGB extends its thanks to Her Majesty for this generous donation.



NASA Team Sets New Space-to-Ground Laser Communication Record



NASA and a team of partners has demonstrated a space-to-ground laser communication system operating at a record breaking 200 gigabit per second (Gbps) data rate. The TeraByte InfraRed Delivery (TBIRD) satellite payload was designed and built by [MIT Lincoln Laboratory]. The record of the highest data rate ever achieved by a space-to-Earth optical this “new” communication link surpasses the 100 Gbps record set by the same team in June 2022.



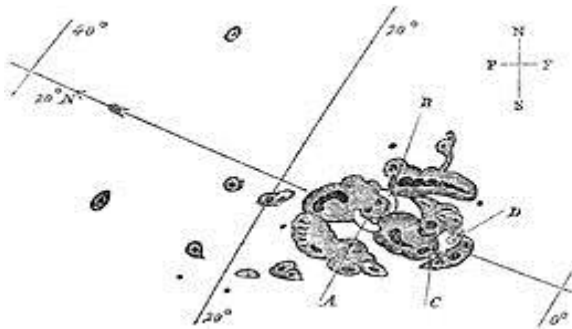
TBIRD - a 3U tissue box size satellite payload - makes its passes over a ground station with a duration of about six-minutes. During that period, multiple terabytes of data can be downlinked. Each terabyte contains the equivalent of about 500 hours of high-definition video. The TBIRD communication system transmits information using modulated laser light waves.

Traditionally, radio waves have been the medium of choice for space communications. Radio waves transmit data through space using similar circuits and systems to those employed by terrestrial radio systems such as; WiFi, broadcast radio, and cellular telephony. Optical communication systems can generally achieve higher data rates, lower losses, and operate with higher efficiency than radio frequency systems.

<https://hackaday.com/2023/06/09/nasa-team-sets-new-space-to-ground-laser-communication-record/>

CARRINGTON SUNSPOT The Carrington Event was the most intense geomagnetic storm in recorded history, peaking from 1 to 2 September 1859 during solar cycle 10. It created strong auroral displays that were reported globally and caused sparking and even fires in multiple telegraph stations. It was most likely a Coronal Mass Ejection (CME) from the Sun colliding directly with Earth's magnetosphere.

There is currently a spot on the Sun the size of the historical Carrington Sunspot! Note Carrington's hand sketch below.



Our new sunspot is so big, that observers report seeing it naked-eye through the filter of smoke of the ongoing Canadian Wildfires.

***Attention I DO NOT recommend anyone - **this means you** - staring directly at the sun without an approved solar filter.**

[HOW-TO BUILD An SDR-RASPBERRY PI WSPR BEACON FOR \\$50](https://hackaday.com/2021/04/15/the-50-ham-a-simple-wspr-beacon/)

<https://hackaday.com/2021/04/15/the-50-ham-a-simple-wspr-beacon/>

[DUSTY OLD HEATH LINEAR BACK FROM THE BRINK ARTICLE](https://hackaday.com/2023/07/04/a-dusty-boat-anchor-back-from-the-brink)

BTW, I've seen worse... but still..."Yippes" !

<https://hackaday.com/2023/07/04/a-dusty-boat-anchor-back-from-the-brink>



A FUSE IS JUST A FUSE... RIGHT?



Fuses are there to protect your car, your equipment, and to prevent fires. Apparently, some off-brand fuses fail on all these counts.

https://youtu.be/apQU_VuJIFU

YOU WANT A FAST 3D PRINTER?

“**THE 100**” - a super-fast 3D printer. The design is free. The parts needed are affordable, and it's supposed to be easy to build!

<https://hackaday.io/project/190348-the-100-the-fastest-3d-printer>



Monday: FM NET 7:00pm N9IAA/r 146.685 pl 173.8
Wednesday: FM NET 7:00pm W9SRC/r 146.640 pl 107.2

ARES Amateur Radio Emergency Service

ARES D1 2 meter FM NET Tuesday 7:00pm. N9IAA repeater 146.685 MHz PL 173.8 **ARES membership not required*

ARES Indiana HF SSB Net Sunday 4:00 PM CDT – Look for it at 7.272 MHz +/- on LSB

ARES On-Line EmComm WINLINK VARA Digital Training
<http://www.EmComm-Training.org>

ARES - District 1 – Digital HF Net E-vite

The Net's Purpose: To test your digital equipment or practice sending digital messages ... on various digital modes:

District 1 HF Digital net: Sundays at 8:00 P.M. Central time, on or about 3.582 USB (80 Meter Primary) alt 3.590 USB log-in using FLDIGI running Olivia 8/1000 **ARES membership not required*

Fldigi is a free software modem program for many of the digital modes used by radio amateurs today: CW, PSK, MFSK, RTTY, Hellschreiber, Olivia, and Throb.

Download free program at: <https://sourceforge.net/projects/fldigi/>

CONTESTS

www.contestcalendar.com

www.ARRL.org/contest-calendar *pick the month you wish

LOCAL HAMFESTS

07/16/2023 - KARS-Fest SUNDAY

Location: Peotone, IL

Type: ARRL Hamfest

Sponsor: The Kankakee Area Radio Society

Website: <http://w9az.com/karsfest.html>

Special Summer Solstice Radio Propagation

Visit "ON ALL BANDS": a free on-line newsletter by ham radio supplier "DXEnginerring" for a great article on ham radio propagation at this time of year.

Visit: www.OnAllBands.com

ARRL Audio News

Listen to [ARRL Audio News](#), available every Friday. ARRL Audio News is a summary of the week's top news stories in the world of amateur radio and ARRL, along with interviews and other features. 10-12 minutes long.

The **On the Air** podcast is available on iTunes (iOS) and Stitcher (Android). The On the Air podcast and ARRL **Audio News** is also on blubrry – for Windows Computer users.

Local Ham Radio Nets

[Google:](#) Ham Radio Nets by KC9UNS

73, Tim/N9CA