



QRZ

The Newsletter for AARC members

- Meeting - June 13th
- 2024 Solar Eclipse - Michael W1KU
- MMRA VE Exam Session - June 15th
- HamXposition 2024

President's Corner

June, Enjoy the Summer

Thank you to the 18 volunteers for the past 2 weekends with 169 hours served for the City of Marlborough.

Thank you to the volunteers who assisted Hudson High School with the Fox Hunt. The students were so excited upon returning to the classroom after finding the fox.

This month's meeting will be members sharing the success or issues within their Ham Shacks. Please bring all questions to the meeting. Also, bring requests for who and what to have for speakers this next year.

Remember volunteers will be needed in August for staffing the Club Table at Ham Expo. In September the need will be for the Labor Day Parade, no details are available yet.

Club Card Sort will be held on August 8th at the Marlborough Fire Station at 215 Maple Street.

Thank you again to all for this past year.

Ann. KA1PON

Treasurer's Report - May

There is no income or expenses to report for May.

Ken, KA1GFN

Sympathies

Sympathies to the Babish family and Swenor family on their recent losses.

June Meeting

The next AARC meeting will be held on June 13th at 7:30pm in the library of the 1st Lt. Charles W. Whitcomb Middle School, 25 Union St, Marlboro, MA. Enter from Agoritsas Drive next to police station and use Door #1 at rear of building.

If the school is closed the day of the meeting then the meeting is canceled.

AARC Sunday Night Net

Please join us every Sunday Night at 7:00pm on the N1EM/R 446.675- (PL 88.5) repeater. The final net will be held on June 9th and then will then resume again in September.

MMRA VE Session

On Saturday, June 15th at 9:00am, the Minuteman Repeater Association (MMRA) will hold a VE session at the City Church Marlborough, 72 Jefferson Street, Second Floor (Shoe Box Building), Marlborough, MA 01752.

[More Info](#)

Northeast HamXposition 2024

HamXposition will be held this year on August 22, 23, 24 and 25 at the Best Western Hotel on Rt. 20 in Marlboro, MA.

Additional information can be found on HamXposition website.

[More Info](#)

Algonquin Amateur Radio Club, PO Box 258, Marlboro, MA 01752

The Algonquin Amateur Radio Club holds meetings the second Thursday of each month at 7:30pm. There is no meeting in July and August. Meetings are held at the 1st Lt. Charles W. Whitcomb Middle School, 25 Union St, Marlboro, MA, Door #1. Anyone with an interest in Amateur Radio is welcome to attend.

The AARC operates the N1EM/R 446.675- (PL 88.5) repeater in Marlboro. Access to the repeater is open to all licensed Amateur Radio operators. A controlled net is conducted on the N1EM repeater every Sunday evening at 7pm.

2023-24 Club Officers / Appointments

President	Ann Weldon	KA1PON
Vice President	Glenn Ghidaleson	WA2KRS
Secretary	Adam Crossman	KC1RTI
Treasurer	Ken Horton	KA1GFN
Newsletter	Ken Horton	KA1GFN
Website	Sandor Toth	NB1N

2024 Solar Eclipse, Michael D Powell (w1ku)

On April 8th, my 12-year-old son and I set out to the Great North Woods Center for the Arts in Columbia, NH (FN44fv) for the total solar eclipse. I planned to operate FT8 in the Solar Eclipse QSO Party (SEQP) (<https://hamsci.org/seqp-rules>).

We experienced just under 3 minutes of totality. Ham Science (Hamsci) collected SEQP logs, reverse beacon, and pskreporter data throughout the day for use in scientific studies on radio propagation under the unique conditions.

On site, I used a variant of my Parks on the Air (POTA) and Summits on the Air (SOTA) station. The table lists the components. The Elecraft KX2 transmits into a small transmitting loop (i.e., magnetic loop). Each frequency change of more than a few KHz requires manual capacitor retuning, but that is not a problem for FT8 which uses one watering hole frequency per band. The KX2 is connected to a Raspberry Pi Zero 2 W running Linux and WSJT-Z. The Pi provides a virtual graphical interface but is headless with no screen or keyboard. To interface with the Raspberry Pi, I use VNC viewer on a wifi-connected Windows laptop. (For SOTA I use my cell phone for this function.) I set my computer time over the internet using my wifi hotspot, but I am prepared to accurately sync time via GPS if needed.

For software, I chose WSJT-X derivative WSJT-Z, because WSJT-Z supports fully-automated FT8 operation. Fully-automated FT8 is controversial. I am generally not a fan, but I felt fully-automated FT8 was appropriate for the solar eclipse so that I could focus on the experience and still act as control operator without having to click "call CQ" after each contact. However, techniques I commonly use to maximize QSOs during time and battery-limited POTA and SOTA activations are not available during automated operation: 1) abandoning fruitless in-progress QSOs that never advance to RR73 due to conditions, 2) mid-QSO frequency changes to reduce the chance of fruitless QSOs, and 3) selecting an optimal waterfall location for each CQ or response.

My setup also triggered an impromptu ham convention as shown in the photo with my antenna. My magnetic loop antenna on a tripod seemed to attract hams (like a magnet) from throughout the multi-acre site. At one point there were 6 licensed amateurs in the conversation, some licensed for less than 6 months and some licensed for over 50 years.

I made 16 QSOs on a mix of 10m and 20m prior to the partial eclipse. Some of those QSOs were interactive and some were fully-automated while I spoke with other hams. I re-tuned for 15m prior to the partial eclipse when 10m and 20m became less fruitful. During the partial and total eclipse in fully-automated

mode, I made 5 QSOs on 15m, including my only DX QSO (England). I had hoped for a higher QSO count from the automated mode. I discovered that another disadvantage of fully-automated FT8 operation is not switching from "Call CQ" to "Answer CQ" mode to maximize contact opportunities. My low SEQP QSO count of 21 reinforced my preference for non-automated FT8 during typical operations.

The totality experience was impressive. We observed noticeable darkening during the partial eclipse and a perceptible temperature drop in the minutes leading up to totality. During totality, we could see Venus (visible in photo below and to right of sun) and Jupiter (not visible in photo) as well as the "360-degree sunset" of red sky near the horizon in all directions. The brightness of the eclipsed sun during totality surprised me -- it was more like twilight than midnight. However, the end of totality was definite and obvious. I had configured timers and apps to warn me to put on eclipse glasses at the end of totality. But the sun became so bright at the moment totality ended that I instinctively looked away and reached for the eclipse glasses.

Component	
Radio	Elecraft KX2 (10W, 80-10m)
Small Transmitting Loop antenna	Chameleon F-loop
Computer	Raspberry Pi Zero 2W (4-core, 512 MB memory)
Software	WSJT-Z for Linux
Display / keyboard	VNC viewer on a windows laptop
Computer network	Cellular phone wifi hotspot
Rig Power	Talentcell 12V 72 Wh Lithium ion battery
Additional Power (laptop, accessories)	Ecoflow River 288 Wh Portable Power
Solar	Twelseavan 120W (observed 75W output)

