

# **MARC**

# **Annual Review**

**November 6, 2024**

# About MARC

- We are a **Special Service Club**, a prestigious honor bestowed by ARRL in recognition for our outstanding contributions to the local community and to Amateur Radio
- Founded in 1966, we have two hundred dues-paying members
- Our robust repeater constellation serves a fifty-mile radius and all hams are welcome to use it as well as participate in our regular nets
- We host presentations on Amateur Radio and related topics at our twice-monthly meetings on Zoom
- Our club offers many opportunities to get involved
  - Repeater Committee
  - Public Service
  - Education
  - Fun events like Builders' Space workshops, Fox Hunts and Field Day
  - Bring your own ideas on new ways to get involved!

# MARC Bylaws

## ARTICLE VII OFFICERS AND DIRECTORS

### SECTION A. President

\* \* \* \* \*

5. Prepare annually and submit at the Club's annual meeting a full and correct statement of affairs of the Club, including a **balance sheet, a financial statement of operations,** and a narrative statement of the Club's program accomplishments for the preceding fiscal year;

6. **Prepare annual and amended budgets for approval by the Board of Directors and present approved budgets to the membership;**

**Finance and budget reviews to be held annually.**



# 2024 Officers and Directors

## OFFICERS

**Aleks W3JAG - President**

**Marc N4DR - Vice President**

**Fred K3CSX - Secretary**

**Bill KB3WKK – Treasurer**



## DIRECTORS

**Dennis KD6DPR**

**Terry W3EDS**

**Joe AC3JM**

**David W2LNX**

**Tom W3TDH**



**MARC Elections  
November 6**

**Repeater  
Committee  
Terry W3EDS**

# Activities

- **K3CSX, NW2M, N4DR et al work on the 2m repeater constellation as needed to maintain quality service.**
- **K3CSX has the CAT-200 controller and interface cables, along with a Fusion repeater and maintains all of the control/controller.**
- **Managed DSTAR and north site 2m relay outages over the summer due to renovation construction at north site.**

# Activities (Cont.)

- **Spent \$349.56 for a two-year warranty extension for our new Dell R250 DSTAR server.**
- **AC3JM working to replace the existing DSTAR software stack with up-to-date security supported versions.**

**Education  
Committee  
David W2LNX**



# Test Sessions

- \* **March 10** - Rockville Science Center
- \* **June 2** - Field Day
- \* **Sept. 15** - Rockville Science Center
- \* **Dec. 15** - Rockville Science Center

## Results:

- **Applicants: 30**
- **Technician: 16**
- **General: 3**
- **Extra: 8**



# Test Sessions – Volunteer Examiners

**Bill Gross, NF5E**

**David Bern, W2LNX - team lead**

**David Williams, W3DKL - deputy team lead**

**Eric Krichinsky, NW3K**

**Francis Pelsor, KC3SVS**

**Harvey Newman, KC3VVL**

**Jeff Horlick, KZ3F**

**Jim Alyanak, K3MRI**

**Joe Massi, AC3JM**

**John O'Brien, K3LO**

**Marc Hoffman, AC3N**

**Marc Pressman, N4DR –  
new deputy team lead**

**Mark Bary, N4EOC**

**Paul FitzGerald, N3RQV**

**Will Wurzel, K3XIT**

Thanks to all our great  
volunteers!



# Mentoring

**Kiyoma KC3UFG, Jasmine KC3UGU, Sohan KC3UHY  
and Rohan KC3ZUB**

- **Guided assembly of a Personal Space Weather Station (PSWS) - measures effects of solar radiation on the ionosphere**
- **Prepared to present PSWS at Rockville Science Day on April 24, 2024**
- **Guiding to build an AK3Y WSPR low power transmitter**
- **Helped Rohan prepare for the Technician test and now for the General test**

# **Mentoring (Cont.)**



## **Scouts at Field Day**

- **Presented material on Radio Merit Badge -- John, K3LO**
- **Coached Scouts on operating a transceiver**

# And more...

*The Education Chair's work is never done!*

Answered inquiries  
posted to  
[education@marcclub.org](mailto:education@marcclub.org):

- How to prepare for a ham radio test?
- Where to take a ham radio test?



**Public Service  
Events  
Committee  
Paul N3RQV**






**Public service events are a great way to learn about and gain experience with your radios and equipment, operating as part of a directed net.**

**MARC's primarily mission at these events is the safety of the participants, course volunteers, and the public, as well as situational awareness for the race directors and coordination with police and medical personnel.**







**In 2024, attendance at Public Service Events was on the increase. Twenty-nine MARC members worked at nine Public Service Events covering 81 positions.**

**Pikes Peak 10K**

**Riley's Rumble Hal Marathon**

**Parks Half Marathon**

**Rockville 10K/5K**


**Damascus Days Parade**

**Tour de Frederick**

**Marine Corps Marathon**

**Damascus Crop Walk**





*MARC thanks all those members who supported these events. We look forward to an active Public Service Events calendar in 2025.*

**Trailer Operations**

**Committee**

**Paul N3RQV**

**Ed KB3CJJ**



# MARC Trailer



# History

**Took possession in Dec 2017 and installed:**

- ALM-31 mast
- Honda EU2200i generator
- One operating position
- Active solar and battery system

**Trailer is now seven years old!**

# History

## **Trailer Committee transitioned to Trailer Operations Committee in 2023 to:**

- Increase awareness of trailer capabilities
- Increase use of the trailer in local activities/events
- Ensure necessary equipment and supplies are available in the trailer to conduct local, state-wide and national communications

# Progress

## Updates and improvements in 2024

- Replaced expired batteries and associated electric system components
- Tested antennas and coax cable accumulated in trailer
- Installed a second operating position (VHF/UHF)
- Purchased new HF radios and power supplies

# Future Plans

## Possible Future Work

- Ladder access to roof
- Non-slip roof covering
- AC/heat unit
- Waterproof, nonslip floor covering
- Radio racks
- Secure cabinets for HF rigs
- Wall-mounted monitor
- 2M antenna install
- ??

# **Field Day 2024**

**Paul N3RQV**



# **11<sup>th</sup> ANNUAL JOINT FIELD DAY**

## **Montgomery Amateur Radio Club and Damascus Emergency Communications Team**



**Left to Right**

**Chief Dale Browning, Damascus Volunteer Fire Department**  
**Ron KB3SYA, President, Damascus Emergency Communications Team**  
**Paul N3RQV, Public Events Coordinator, Montgomery Amateur Radio Club**

# Overview

- **Approximately 40 hams and over 130 public visitors attended (including scouts and their parents on Saturday and FCC-exam takers on Sunday).**
- **384 contacts made using various radio Voice, CW and digital.**
- **New HF radios, antennas, masts, and safety features were installed this year.**
- **Local communications was provided by 2M radio.**

## **Overview (cont.)**

- **Visitor's station provided information and handouts to the public.**
- **Field Day hams conducted Scout Radio Merit Badge instruction. 60 scouts attended and earned their badges.**
- **Accredited FCC examiners conducted exam for Amateur Radio License. 9 took test, 4 passed.**
- **Complimentary food and refreshments, locally procured, was provided to all attendees.**

# Stations

- **7 Radio stations (6HF and 1VHF)**
- **6 HF antennas (EFLW, EFHW, Triband dipole, Dual band dipole, 2 verticals)**
- **Hams operated on 15, 20, and 40 from the pavilion; 40 and 80 from the MARC Trailer**





# Scout Radio Merit Badge Instruction

- In cooperation with BSA, designed and conducted three one-hour classes Saturday morning followed by hands-on mentoring at radio stations, giving every Scout real-world experience operating a radio station
- 60 scouts, accompanied by their parents, attended and earned their Radio Merit Badge



# FCC-ACCREDITED TESTING FOR AMATEUR RADIO LICENSE

- Official FCC-accredited exam sessions conducted for Amateur Radio License on Sunday
- There were nine test takers





# ALL ACTIVITIES, FOOD AND REFRESHMENTS FREE OF CHARGE



# Score Summary

	CW		Digital		Phone	
	QSOs	Power(W)	QSOs	Power(W)	QSOs	Power(W)
80m			32	100		
40m	70	100	32	100	42	100
20m			38	100	73	100
15m			25	100	23	100
6m			47	100	2	100
Total Contacts	70		174		140	
Total QSO Points	140		348		140	

Total QSO Points with Multiplier	1256
Bonus Points	1640
<b>Total Score</b>	<b>2896</b>



**MARC**  
**Radio Merit**  
**Badge Program**  
**John K3LO**

# **2024 Radio Merit Badge Program**

- **Date – Saturday, June 22, 2024**
- **Venue – MARC/DECT Field Day**
- **Location - Damascus Volunteer Fire Department Activities Center**
- **John K3LO applied for and was awarded an ARRL Foundation Grant to cover cost of printing instructional material.**

# **2024 Radio Merit Badge Program**

**Temperatures in the 90's, with very high humidity. To ensure a healthy, safe environment, DECT/MARC**

- Received brief from N3FUL and KC3LUE on heat-related safety**
- Kept Scouts under covered pavilion**
- Ensured plenty of water, hydration drinks, and sodas**
- Installed cooling fans and cooling center**

# 2024 Radio Merit Badge Program

- **Two one-hour blocks of instruction were conducted** using an updated PowerPoint presentation from Scouting America and a comprehensive handout by K3LO.
- **Free** lunch, snacks, and beverages provided to Scouts and their chaperones.
- After lunch Scouts mentored on operating an amateur radio station, fulfilling the requirement for an on-site visit to a radio installation and amateur radio contact.

# **2024 Radio Merit Badge Program**

**After lunch, MARC and DECT members gave every Scout hands-on experience in operating an amateur radio station— This fulfilled the requirements for an on-site visit to a radio installation and an amateur radio contact.**

**Sixty Scouts attended the program.**

**Fifty-eight Scouts earned their  
Radio Merit Badge.**

# National Recognition for our Radio Merit Badge Program

## Placement in May 2024 QST

## Placement in ARRL Web Site

Christina Lessard, KC1TDM, [clessard@arrl.org](mailto:clessard@arrl.org)

### At the Foundation

## New ARRL Foundation Grant Recipients and Updates

Following the October 2023 grant submission period, the ARRL Foundation Board of Directors voted to approve funding for five grant proposals.

### ARRL Grant Recipients


The Montgomery Amateur Radio Club (MARC) in Silver Spring, Maryland, received a grant for instructional materials for 40 Boy Scouts to participate in the Radio Merit Badge program during the MARC and Damascus Emergency Communications Team joint Field Day.



**ARRL Foundation Receives \$2.1 Million Funding Commitment from ARDC**  
In a December 2023 news release ([www.arrl.org/news/ardc-and-arrl-](http://www.arrl.org/news/ardc-and-arrl-)

able on the  
at [www.arrl.org](http://www.arrl.org)

**New ARRL Foundation Elections**  
Annual Meeting  
David Nothman, President  
elected V. J. Vander, K7GI, Treasurer, and  
was elected KB7HDX.

**ARRL**  
The National Association for  
Amateur Radio®

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### The ARRL Foundation is Now Accepting Grant Applications Through October 31, 2024

10/04/2024

There is funding available to organizations for eligible amateur radio-related projects and initiatives, particularly those with a focus on educating, licensing, and supporting amateur radio activities. Youth-based projects and initiatives are especially encouraged. The ARRL Foundation grants program accepts proposals on a cyclical basis three times a year, in February, June, and October. Awardees are notified approximately 1 month after the closing of each cycle.

Recently, the ARRL Foundation provided funding for instructional materials to the Montgomery Amateur Radio Club (MARC), in Montgomery County, Maryland. MARC, led by David Bern, W2LNX, and John O'Brien, K3LO, held a Radio Merit Badge program on Saturday, June 22, 2024, at the MARC/Damascus Emergency Communications Team (DECT) Field Day site. This program provided Scouts an opportunity to earn the Radio Merit Badge by completing requirements which included conducting a QSO.

# Where Do We Go From Here?

- **The Rockville Science Center and the Seneca District have advised MARC that there is sufficient demand for the Radio Merit Badge to warrant conducting this program at future MARC/DECT Field Day operations.**
- **The Radio Merit Badge program will be a regular feature of future MARC/DECT Field Day operations; the next one scheduled for:**
  - **Date – Saturday, June 28, 2025**
  - **Venue – DECT/MARC Field Day**
  - **Location - Damascus Volunteer Fire Department Activities Center**

# How You Can Help

## **If attending Field Day:**

- **And operating a station Saturday afternoon,** be set up and ready by 1:00 pm to mentor Scouts and help with QSOs.
- **If not operating a station,** bring a handheld radio to help Scouts make QSOs through one of the repeaters.

**If at home** on Saturday afternoon, monitor the 146.955, 442.750, and 443.900 repeaters to help the Scouts make QSOs.



**Builders' Space  
Workshops  
Bob AK3Y  
Marc N4DR**

# **Builders' Space Workshops**

## **Purpose**

- **To bring club members together via participation in construction projects (all components, printed circuit boards provided – Bob AK3Y)**

## **Location**

- **Rockville Science Center + via Zoom (WSPR Project)**

## **Zoom activity**

- **Presentation on Forward Error Correction & WSPR (Bob AK3Y)**

**Planned for next year (TBD)**

# Builders' Space Workshops

## List of projects

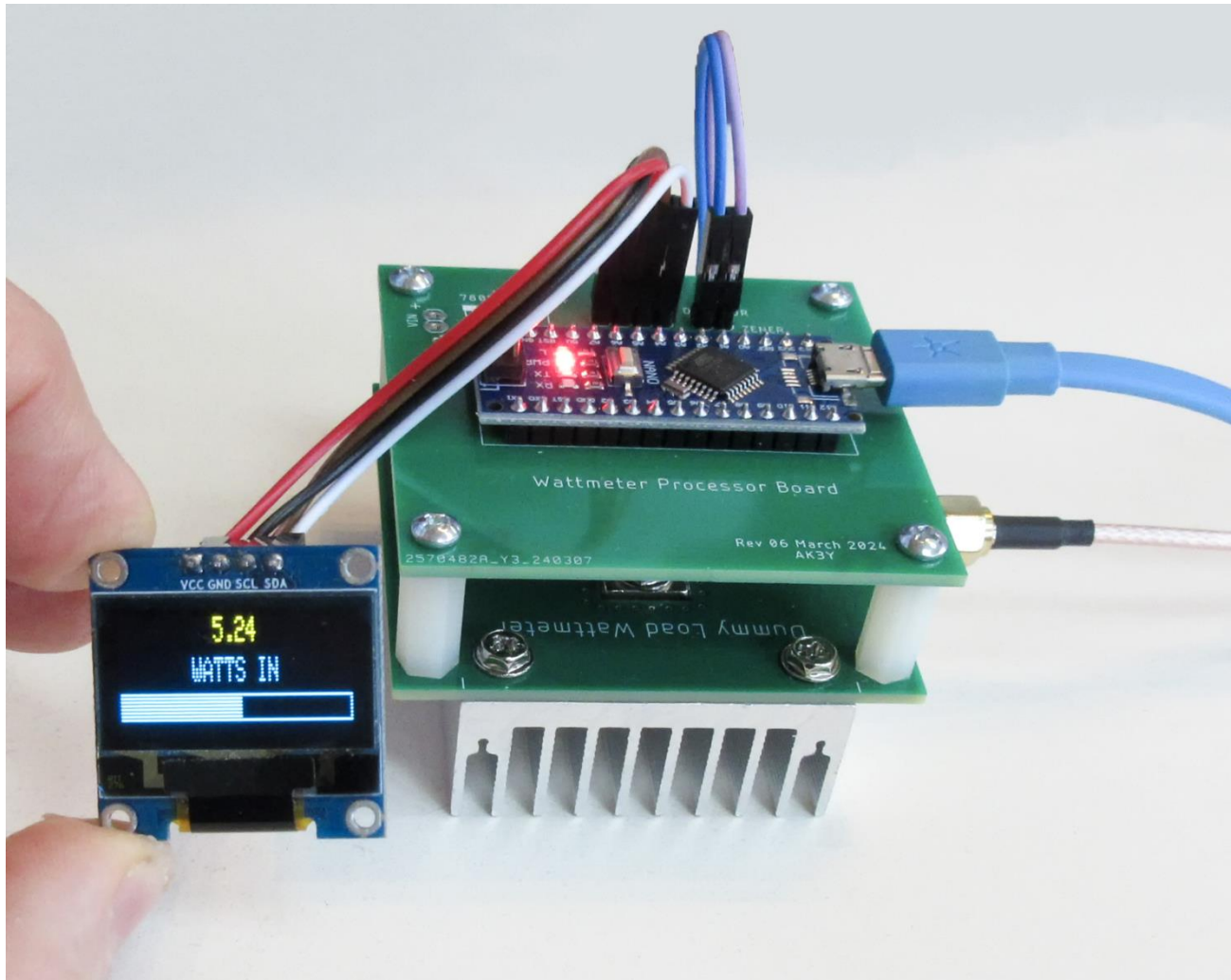
- **Transmission Line Theory & J-Pole Antenna Design**
- **Wideband Dummy Load & Precision Wattmeter - *Design by Bob Fontana AK3Y (to appear in QST Feb 2025)***
- **Multiband Programmable WSPR Transmitter - *Design by Bob Fontana AK3Y (Submitted to QST)***

## Number of attendees

- **12 to 15 for J-pole & DLWM, 27 for WSPR Transmitter**

# Builders' Space Workshops

## Dummy Load Wattmeter Project



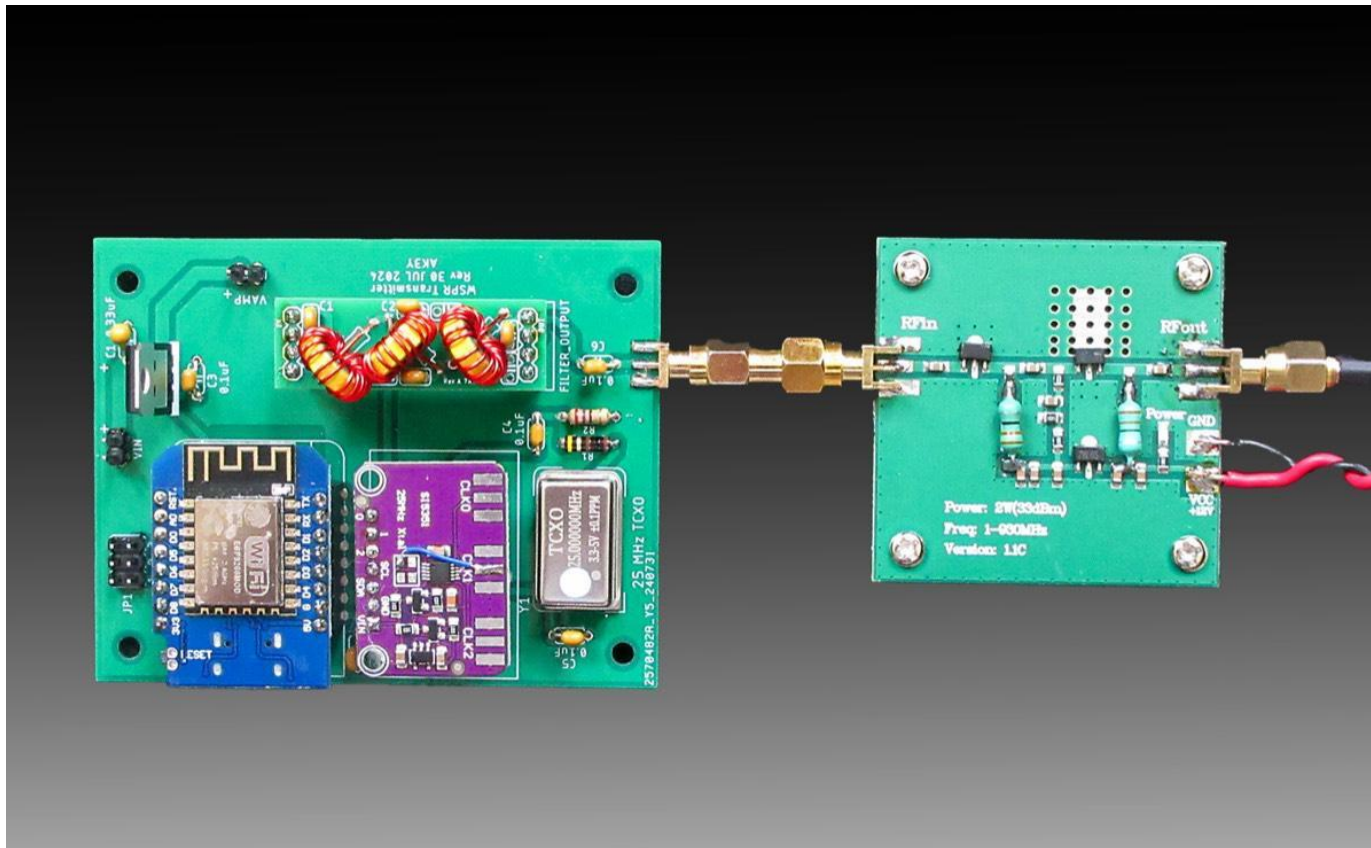


# Builders' Space Workshops

## WSPR Transmitter Project

View workshop instruction on Youtube at:

(18) Weak Signal Propagation Reporter (WSPR) - What it is and how to build your own WSPR transmitter - YouTube



# **Fox Hunts**

# **2024**

**Marc N4DR**

**Eric NW3K**

# **Fox Hunts**

**A fun sport with a serious purpose, e.g.:**

- **Locating malicious interference to the repeater**
- **Finding transmitters with stuck PTT that are on the repeater input frequency**

**Three Fox Hunts so far in 2024**

# Car-Based Fox Hunts

- **February** – coordinated by Marc N4DR
- **April** – coordinated by Marc N4DR
- On two-meters
- 5-7 participants each





# On-Foot Fox Hunt

- **September** – coordinated by Eric NW3K
- In a park
- Two transmitters in two different frequencies for hunters to find
- Four groups participated
- Most hunters found both transmitters



**MARC**  
**Website / Reflector**  
**David W2LNX**

# MARC Email Reflector

## OPEN TO ALL MEMBERS WITH A CALLSIGN

### **Volunteers:**

- David, W2LNX, Administrator
- Joe, AC3JM, Deputy Administrator

### **Responsibilities:**

- Admit new members
- Examine postings from several moderated members
- Reject spam

### **How to subscribe to MARC Reflector:**

Go to <https://marclub.org/> scroll to bottom of home page to find “How to subscribe...”

# Website

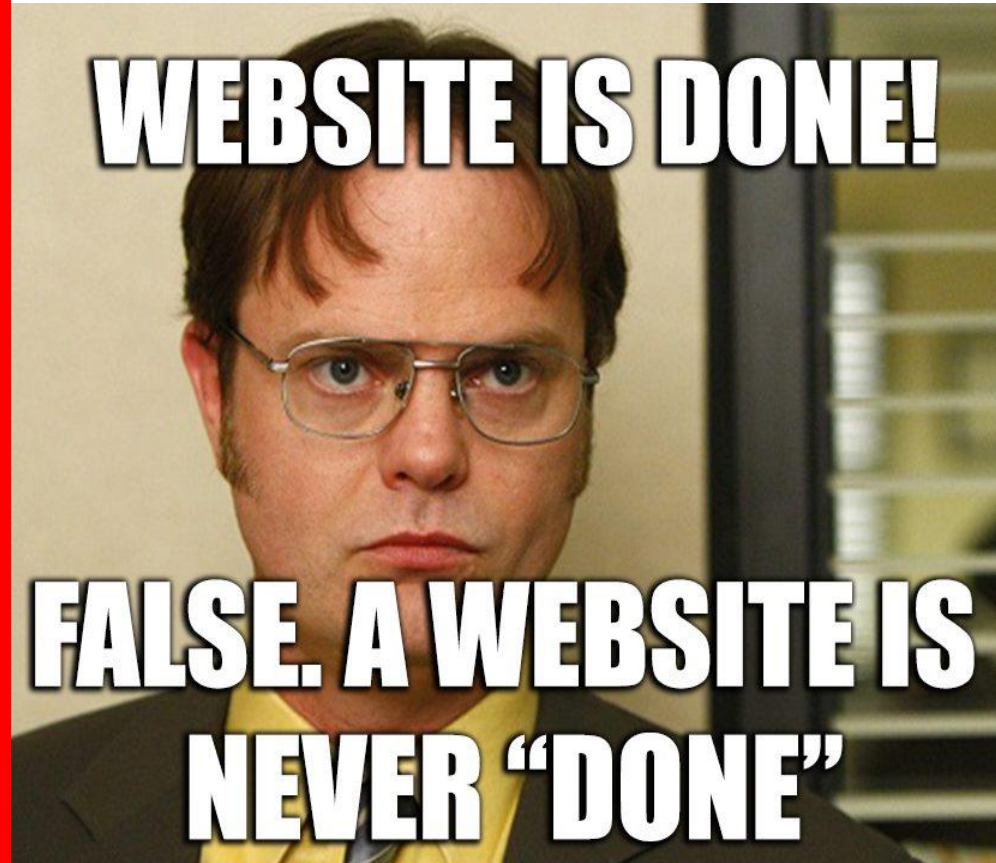
<https://marclub.org/> - \*

## Volunteers:

- **David W2LNX, administrator**
- **Joe AC3JM, deputy administrator**

## Updating Contents:

- **Test sessions - from David W2LNX**
- **Meetings, home page - from Aleks W3JAG**
- **Public service events - from Paul, N3RQV**
- **Updating SSL certificates - done by Joe AC3JM**

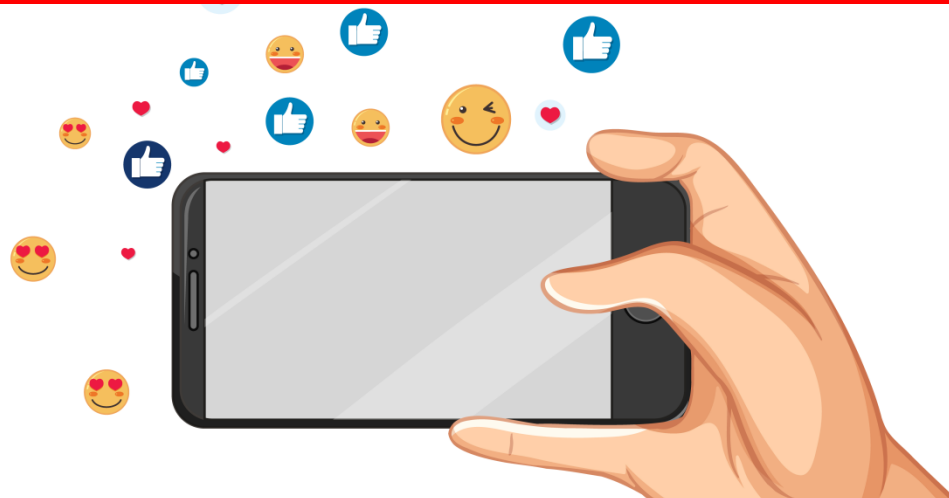




**Social Media**

# Facebook Group – KV3B

- **Thanks to Robert K3RRR, who created this page for our club.)**
- **Great pics and discussion**
- **197 members**
- **Do not need to be a Facebook member to view posts (but need to be a member to post)**



# MARC YouTube Channel



<https://www.youtube.com/user/W3JAG>

**117 Videos**

**1,000+ Subscribers - 128,386 Views**



**Presentations**



# Presentations at Regular Meetings

- After club business at regular meetings, we host interesting presentations by outstanding experts in Amateur Radio and related technology areas
- Most presentations are recorded and uploaded to our YouTube channel
- In this way we gain knowledge and share it with others



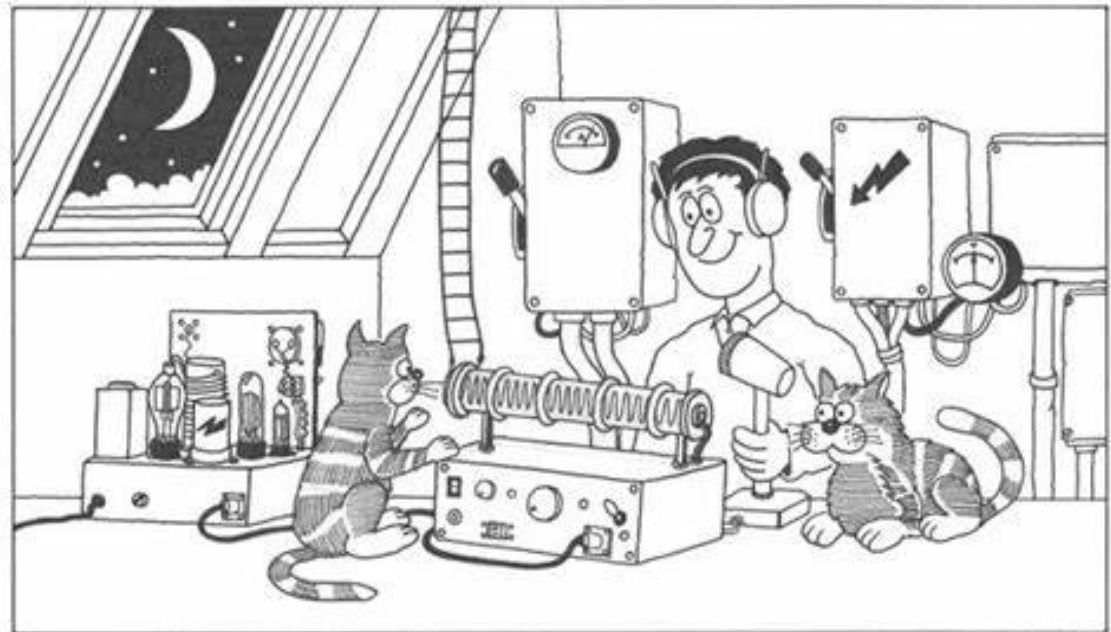
# Recent Presentations

- **Transmission Lines and SWR by Bob AK3Y**
- **Update on Volunteer Monitors Program by Riley K4ZDH**
- **Parasets - WWII Spy Radios by Marc N4DR**
- **Using a Computer to Design Projects by Bob AK3Y**
- **Tracking DC Helicopters by Andrew Logan**
- **Intermodulation Interference in Amateur Radio by Al KN3U**
- **Building from a Kit the Hardrock-500 Amplifier for Amateur Radio Use by David W2LNX**
- **LiFePO4 Batteries for Amateur Radio Use by Alex KC1NHG and David W2LNX**
- **Getting Started with Winlink on VHF by David W2LNX**
- **COVID Update by Dr. Sauri KA3IXO**
- **History of the Telegraph and Codes by Tom W3TDH**
- **Global Maritime Distress and Safety System by John K3LO**
- **Getting Started with Winlink on HF by David W2LNX**
- **Skywarn Update by Tom W3TDH and Jerry A1OK**

# Nets

# MARC Regular Nets

- **Sunday Night Net**
  - Popular Sunday night event
  - Builds net control skills while keeping up with friends
- **Tuesday Night Public Service Net**
- **Skywarn Net**
- **Planning Nets**
- **Training Nets**
- **6 Meter Net**



# Thanks for the Great Support!

- **Officers and Directors**
- **Members**
- **Experimenters**
- **Donators**
- **Attendees at regular club meetings**
- **Volunteers who**
  - Respond to Emergencies
  - Support public service events
  - Mentor and instruct new hams
  - Participate in exercises
  - Volunteer as test examiners
  - Present topics of interest at meetings

***Can't do it without you!***



**THUMBS UP AND  
THANKS TO ALL  
FOR A TERRIFIC 2024!**

