

MAARS Quarterly Newsletter

Vol 2, Number 1

March 2021



Meeting Announcement

*We will hold a MAARS club meeting, via ZOOM, on Thursday March 11,
2021 at 07:00 PM*

Join the Zoom meeting at:

<https://us02web.zoom.us/j/87860434271?pwd=eVlyS0cyc2V4WDArak1jZUpNL1A5Zz09>

(You may be able to simply click on the above link to join. If for any reason that does not work for you, simply copy & paste the link into your browser. The meeting ID: 878 6043 4271 and the Passcode is: 14513.

Please join us on March 11th

2021

hard to imagine, but here we are!

I suspect many of us will remember the year 2020 as a time full of new challenges and difficulties that had to be overcome. Hopefully, some used the new found time at home for constructive projects around the house and the shack! I can't tell you how many times I re-arranged my radio equipment! I'm still not sure if I like it the way it is! But, it works, everything is within easy reach and, according to my testing, all is working very well. I did make one addition late last year

and that was to add a hotspot to the collection. Using my Yaesu F3DR (ht) and/or the Yaesu 400 XDR, I'm finding more reflectors to explore and more people from around the world to talk with. My next exploration is to better understand the Pi-Star Digital Voice Dashboard itself. I'm able to change rooms and understand its relationship with the QRZ database, but many of the "codes" found all around the desktop continue to elude me! As an example, how can I search for a specific room? The only way I see to do that at present, is to scroll down the list of rooms which can take the rest of the day! Better still, is there a way to only show (list) the reflectors you wish to access?) As we know, there's always something new in amateur radio and it can be loads of fun to explore.

New Board Member

After serving MAARS for many years, we say goodbye to Craig Kasseckert in the role of Treasurer and thank him for his dedication to the Club and for safeguarding our treasury! To replace Craig, we have moved to a Treasurer/Assistant Treasurer model, thus spreading the workload around a bit. Bob Widish, NgPSN, has agreed to take on the role of Treasurer and yours truly (KB9JMH) will be his Assistant. Together, we feel the record keeping will be

uninterrupted all while providing timely information to members. Thanks again Craig for a job well done! And thanks to Uncle Bobby for stepping up!

Tech & Tower

UWM has notified us that they want to remove the 200-foot tower on top of Sandburg Hall. Our repeater transmit antenna is side-mounted at the top of this tower. We have requested permission to keep our repeater at the site and transmit from the roof using one of our existing antenna mounts. They did give us permission to install a temporary antenna for coverage testing. We will be switching between the main antenna and this temporary antenna to map the system coverage. If you experience loss of coverage please let us know and we will do some testing with you. We are also exploring another tower site that should give us equal coverage to what we have now. The photo on the cover page is the new, temporary location.

The new tower at the northwest site is up. We are waiting for better weather for the tower crew to finish the antenna installation. Our hope is to see this site back up and operational sometime this spring. I want to thank Jack K9JAC and Robert W9RCG for their time and effort in preparing this site.



We are in the process of updating our VoIP linking systems. Both our IRLP and Allstar link systems had computer failures. Thanks to the recommendation and guidance from Bob N9GMT, we are moving our Allstarlink system over to a new Raspberry Pi. The system is built and in the final testing before it is deployed to the repeater site. After the system is deployed Ken KC9QV has offered to be the point person for Allstar. We are still looking to see if we will rebuild the IRLP node. There is a way of moving it to a Raspberry Pi system but there are some possible costs involved. We have seen a steady decline in the amount of IRLP nodes compared to a steady increase in Allstar.



Annual Budget I was asked recently what does it cost to run this repeater system. MAARS is a member-supported organization. Your membership dues are what we have to work with to operate and maintain the system. Our only other source of income is our half of proceeds of the MRAC and MAARS swapfest.

We have done our best to minimize all the costs of operating. In some cases, like our internet access and webpage hosting, we are sharing the costs with other groups. We have shifted our expensive phone costs over to our internet connection. We now use the internet for phone, remote linking, repeater programming, and system control.

We are required to provide proof of liability insurance to our landlords for some of our sites. We are taking advantage of group buying power and are using the ARRL insurance provider at a cost of \$200/year. Our last provider was \$550 a year for the same coverage.

Below is the break-down of our yearly expenses versus the projected income. With Covid, we have seen a loss in swapfest revenue. I expect this to be the case again for 2021 if we are not allowed to have a fest. We need 60 members paying \$20 dues to cover our operational cost for the year.

Expenses	Yearly Cost	Monthly Cost
Insurance ARRL	\$200.00	\$16.67
Phone	\$16.68	\$1.39
Incorporation fees	\$10.00	\$0.83
P.O. Box	\$76.00	\$6.33
Rent	\$350.00	\$29.17
Internet Access	\$336.30	\$28.03

Webpage	\$20.00	\$1.67
Picnic	\$110.00	\$9.17
Field Day	\$80.00	\$6.67
Total:	\$1,198.98	\$99.93
Estimated Income		
Swapfest	\$200.00	
Dues	\$800.00	
Total:	\$1,000.00	
Paid Members to cover expenses	59.949	

As you can see this doesn't provide any cushion for periodic repairs or improvements. We are fortunate to have some generous members who have donated equipment and services when major repairs have been needed. As the board looks to the future, we are certain to be met with increased costs that will need attention.

I was looking back in our club records and I see that our dues have been the same since the late 1980s. The dues were raised to \$25 a year when we were purchasing the repeater from the original owners. Once the debt was paid off the dues were lowered back to the current \$20.

Now that you see what it costs to operate this organization. What do you think the yearly dues should be? What do you think is a fair price? Please email me at kagwxn@gmail.com with your suggestions.

Dave KA9WXN
MAARS President

There have been some questions about the dues structure in the newsletter. We forgot to include an explanation of the chart in the newsletter. The club's fiscal year starts on July 1 and ends on June 30. The membership year also starts on July 1st, not January 1st. Our yearly dues are \$20 for non-seniors and \$15 for seniors and \$25.00 for family. If you renew your membership during the membership year you pay either \$20, \$15, or \$25.00. MAARS offers new members prorated dues based on the month they join. The chart below is the dues amount paid for that month. The prorated dues are reduced by \$2 per month for the fiscal year. Several years ago we made a change to the prorated dues structure starting with the month of January. We kept the prorated dues but added the renewal for the next year. For example, if you join in March 2021 you pay \$24 and would renew July 1st 2022. If we didn't do this you would join paying \$4 now and then have to pay \$20 on July 1st for your renewal.

Current Dues Structure

Join During	Individual	Family	Senior
July	\$20.00	\$25.00	\$15.00
Aug	\$18.00	\$23.00	\$14.00
Sep	\$16.00	\$21.00	\$13.00
Oct	14.00	\$19.00	\$12.00
Nov	\$12.00	\$17.00	\$11.00
Dec	\$10.00	\$15.00	\$10.00
Jan	\$28.00	\$33.00	\$24.00
Feb	\$26.00	\$31.00	\$23.00
Mar	\$24.00	\$29.00	\$22.00
Apr	\$20.00	\$25.00	\$15.00
May	\$20.00	\$25.00	\$15.00
Jun	\$20.00	\$25.00	\$15.00

Trivia

From Last Newsletter: How many Control Operators does the MAARS system have and do you know who they are?

Answer Look at the end of this newsletter!

Trivia for next newsletter: Did you know you can use **Voice Play Back** on the repeater? Do you know how to use it?

The Workbench

Why Do I Get Differing Results?

Whether on a Facebook page or even a local net discussion, there seems to be a generic question about radio output power. I have asked this before and did some of my own studying to nail down the answer. Perhaps the best answer came from a fellow on a Facebook page that suggested every dual band radio is made to be a compromise. Granted, it is a very good compromise in most cases, but a compromise none the less. He went on to suggest since most dual banders are no doubt using the 2 meter side predominantly, it made sense (to that writer) the radio would perform just a bit better on that band since most of the components are optimized for that band. (It would be interesting to have a single band (70cm) radio and another single band (2 meter) radio to see how they might differ. Anyone want to test this and let us know?)

I'm including the results of my own little home study using my Yaesu FTM 400 XDR. Just so you understand my "shorthand", the test begins with the radio, hooked to the digital power/watt meter, then to an A/B switch (to change radios), then to the Alpha Delta switch (to change antennas). The Alpha Delta is grounded to the main grounding straps in the

house. I performed this test first using a 2/440 dual band vertical antenna, then using a 6 element 440 beam.

The results I got tell me a few things. First, my radio and antenna system are working just fine! That was good news for sure. Second, it tells me the power output as advertised by the manufacturer is not what I get. (There's a surprise!) And third, it shows me that output power has a relationship with frequency; although not a great one. (And, to be fair, I wonder what the results would be if I allowed the radio and power supply to fully recover (rest/cool) before trying the next step). At any rate, I thought you might be interested in the results. Perhaps it's time for you to examine your system and run a few tests to be sure everything is working the way you expect. Your results may vary, but it might be interesting to share them. (Note: I dropped the ":1" in the SWR measurements. IE: 1.09:1 simply reads 1.09)

1/18/2021				1/18/2021			
400 XDR				400 XDR			
UHF	440.5			UHF	440.5		
A/B Switch				A/B Switch			
849 Meter				849 Meter			
Alpha Delta				Alpha Delta			
Omni	PWR	SWR	REF	BEAM	PWR	SWR	REF
5	4.33	1	0	5	4.24	1.09	0.01
20	19.77	1	0	20	19.22	1.31	0.38
50	35.7	1	0	50	36.07	1.36	0.72

1/18/2021				1/18/2021			
400 XDR				400 XDR			
UHF	441.5			UHF	441.5		
A/B Switch				A/B Switch			
849 Meter				849 Meter			
Alpha Delta				Alpha Delta			
Omni	PWR	SWR	REF	BEAM	PWR	SWR	REF
5	5.08	1.01	0	5	4.41	1	0
20	20.78	1.15	0.08	20	20.51	1	0
50	36.7	1.2	0.36	50	35.59	1.01	0

1/18/2021				1/18/2021			
400 XDR				400 XDR			
UHF	442.5			UHF	442.5		
A/B Switch				A/B Switch			
849 Meter				849 Meter			
Alpha Delta				Alpha Delta			
Omni	PWR	SWR	REF	BEAM	PWR	SWR	REF
5	4.46	1.07	0.01	5	4.4	1	0
20	21	1.27	0.2	20	20.27	1.13	0.08
50	36.66	1.32	0.72	50	34.59	1.17	0.13

1/18/2021				1/18/2021			
400 XDR				400 XDR			
UHF	443.5			UHF	443.5		
A/B Switch				A/B Switch			
849 Meter				849 Meter			
Alpha Delta				Alpha Delta			
Omni	PWR	SWR	REF	BEAM	PWR	SWR	REF
5	3.92	1	0	5	4.39	1.19	0.01
20	17.95	1.03	0.03	20	20.6	1.45	0.6
50	33.4	1.08	0.15	50	37.51	1.49	1.11

1/18/2021				1/18/2021			
400 XDR				400 XDR			
UHF	444.5			UHF	444.5		
A/B Switch				A/B Switch			
849 Meter				849 Meter			
Alpha Delta				Alpha Delta			
Omni	PWR	SWR	REF	BEAM	PWR	SWR	REF
5	4.13	1	0	5	4.13	1	0
20	18.84	1	0	20	19.81	1.37	0.38
50	38.5	1	0	50	38.05	1.41	1.11

1/18/2021				1/18/2021			
400 XDR				400 XDR			
UHF	445.5			UHF	445.5		
A/B Switch				A/B Switch			
849 Meter				849 Meter			
Alpha Delta				Alpha Delta			
Omni	PWR	SWR	REF	BEAM	PWR	SWR	REF
5	4.12	1	0	5	5.09	1.09	0.01
20	18.61	1.05	0.03	20	21.12	1.29	0.21
50	33.11	1.09	0.09	50	37.88	1.33	0.74

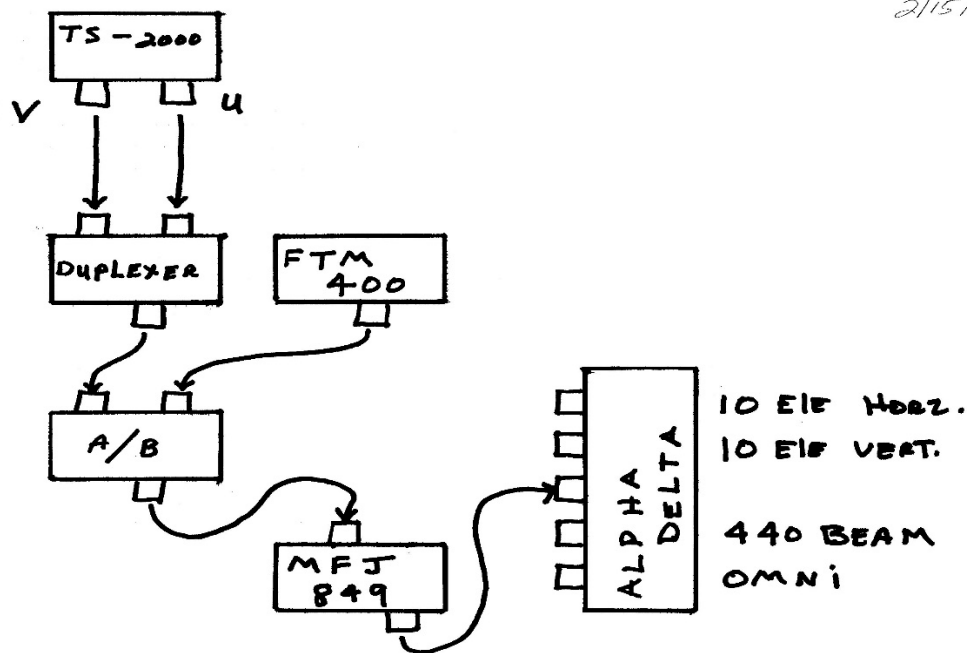
1/18/2021				1/18/2021			
400 XDR				400 XDR			
UHF	446.5			UHF	446.5		
A/B Switch				A/B Switch			
849 Meter				849 Meter			
Alpha Delta				Alpha Delta			
Omni	PWR	SWR	REF	BEAM	PWR	SWR	REF
5	3.65	1	0	5	4.1	1.26	0.04
20	16.43	1	0	20	18.68	1.55	0.77
50	31.12	1.02	0	50	38.25	1.59	1.63

1/18/2021				1/18/2021			
400 XDR				400 XDR			
UHF	447.5			UHF	447.5		
A/B Switch				A/B Switch			
849 Meter				849 Meter			
Alpha Delta				Alpha Delta			
Omni	PWR	SWR	REF	BEAM	PWR	SWR	REF
5	4.19	1	0	5	4.12	1.33	0.08
20	18.97	1	0	20	18.15	1.63	1
50	36.12	1.02	0	50	36.4	1.66	1.96

I did this same test on the 2 meter side of the 400XDR but only using the Omni antenna. I couldn't stand not finishing the task so I then tested my Cushcraft Hi-Lo 2 meter, 10 element beam on both vertical and horizontal. Fortunately, no surprises as the results were pretty much the same throughout.

The last thing I should mention is I have tried this with a different set-up. Radio, to digital watt/swr meter, to a dummy load. As you might expect, the power output readings were a bit better, as was the SWR, and the results demonstrate that everything is working as it should.

And, in case you're curious as to how all this goes together, here's a simple drawing of my switch configuration. The vert. & horz. Refers to the Cushcraft.



Now then – what are you working on? Please share your project details with the Club!

Meetings

We announced our meeting set for March 11 on the first page of this newsletter. Please join us!

<https://us02web.zoom.us/j/87860434271?pwd=eVlyS0cyc2V4WDArak1jZUpNL1A5Zz09>

Swap Net

MAARS provides a Swap Net every Wednesday night beginning at 9 PM local time.

Thank you for taking the time to read this newsletter about our organization! Please help it along by asking questions, submitting articles and thoughts so we can all grow together!

Board Officers:

President	Dave Schank	KA9WXN@513repeater.org
Vice President	Barry Sprifke	W9BLS@513repeater.org
Secretary	Jim Westover	KB9KBK@513repeater.org
Treasurer	Bob Widdish	n9psn@513repeater.org
Past President	Greg Wolf	K9ZZZ@513repeater.org
System Manager	Dan Workenaour	N9ASA@513repeater.org
Marketing & Communications	Randy Timms	KB9JMH@513repeater.org

Control Operators:

		Greg Wolff	K9ZZZ
Bob Widdish	N9PSN	Dan Workenaour	N9ASA
Jim Goelden	KA9ZYW	Dave Schank	KA9WXN
Steve Sundquist	N9FSE	Pat Riordan	N9LKH

MUST RENEW THEIR MEMBERSHIP BY JUNE 30TH
*****FILL IN ALL INFORMATION PLEASE*****

NAME: _____ CALL SIGN: _____

(As you want it to appear on the roster)

ADDRESS: _____ LIC CLASS: _____

CITY: _____ LIC EXP: _____

STATE: _____ OCCUPATION: _____

ZIP CODE: _____ E-MAIL ADDRESS: _____

HOME PHONE: _____ WORK PHONE: _____

Check here if you don't want your phone number listed on the society's roster.

MAIL BOX: IF YOU DON'T NEED YOUR MAIL BOX. INITIAL HERE _____ TO RELEASE IT FOR OTHERS TO USE.

CHECK HERE: ___ IF YOU WANT TO BE PUT ON THE MAIL BOX WAITING LIST

CHECK HERE: ___ IF YOU WANT THE CLUB NEWSLETTER EMAILED TO YOU?

CHECK HERE: ___ If you are an ARRL member

*****FAMILY MEMBERSHIP *****

A family member ship includes the individual applying and all members of such person's immediate family residing in the same household who possess an Amateur Radio license.

NAME: _____ CALL SIGN: _____

LIC CLASS: _____ LIC EXP: _____

*****TOTALS *****

Membership Renewal (\$20.00 Regardless of Month)

Family Member ship Renewal (\$25.00 Regardless of Month)

Senior (60 years old or above) Member ship Renewal (\$15.00 Regardless of Month)

Donation to the MAARS Equipment improvement: \$ _____

Date of Application _____ Amount Enclosed \$ _____

Make Check Payable To: MAARS

(Milwaukee Area Amateur Radio Society)

Or Visit

www.513Repeater.org to use pay by PayPal.

MAIL TO:

Milwaukee Area Amateur Radio Society, Inc.

PO BOX 13604

Milwaukee, WI 53213-0442

FOR MAARS OFFICE USE ONLY

Treasurer Received/ Date: _____

Sec. Add Roster/Date: _____

System's Manager Notify MB/Date: _____

Call Sign Checked: _____ Date: _____