

The Open Feedline

Welcome to the 2022 edition of "The Open Feedline" This is our first issue after the crazy 2021 year with nothing new to report. Let us first Celebrate by welcoming our newest ham, Eric Kliphuis, KE8TXK. Eric joins us on zoom for meetings and old fashioned "Rag Chews". We hope to also hear Eric on 2 Meters shortly. Eric is located in Coopersville. Another new member is a return member, Thomas Lane. Tom's license lapsed a few years back and Tom is now working to take the tests to eventually re-activate his old call. (KC8TBY)

The ham swaps are now beginning to materialize, and I am listing all currently announced on the W8USA.ORG website and hoping all will be successful. Please let us know if you know of local (Within 150 miles) Hamfests.

Other news for 2022 is a new President and Vice President for M.A.R.A. President is Gale, N8GS, and Vice President is Paul, K9BOJ. The rest of the board has remained the same with Mike, K8OOK as Secretary and Jerry, W8MSK as Treasurer.

Unfortunately, Fund Raising activities are currently at a standstill as recent events have permanently stalled our Burrito Nite activities. If anyone has any ideas for fundraising, please contact any board member. Remember, we are supporting two repeaters and a Website, along with insurance and energy bills to support the repeaters.

Speaking of support, please tell your friends about M.A.R.A. If each member can bring one new member in, we could expand the club. It really would be nice to have some new fresh operators for our annual field Day which again held this year at the Madison Square Sportsman's Club in Belmont, MI. (June 25 -26) More on Field Day inside this newsletter.

MARA Repeater

145.230 Mz PL 94.8

WiresX

W8USA

Node 30382

Room 40382

Analog/Fusion

MARA

UHF Repeater

444.450/449.450

Analog/ Fusion -
PL 94.8

Daily Grouptalk
at 11 am!

2 Meter Net
Thursday Nights

7:30PM

W8USA

145.230 Repeater
(Analog)

6 METER AM NET
FOLLOWS ON 50.4
AND ALSO SUNDAY
MORNINGS AT 8
AM



Current Active MARA Membership

As mentioned earlier, Dues are due, and we have welcomed several new and former members back in the fold. **If you do not see your name on this list we encourage you to get out your checkbooks and go to www.w8usa.org.** On the home page there is a link to the membership form. Please fill this form out and send it to W8MSK, MARA Treasurer. Full instructions are on the form. We don't want to loose any members!

In addition, please consider paying for future dues if you are able. This will help you not having to worry about your membership dues for future years. This will also curry a spike in our treasury. Remember, we are supporting two Repeaters, insurance, electricity, a Website, and future club activities.

Current Club Roster

Paid members as of March1, 2022

Name	Call Sign	License Class	PAID	WHEN
Larry Dells	KC8KVR	Amateur Extra	2022	1/22
Peg Dells			2022	1/22
Bill Dells	KG8PI	Amateur Extra	2022	2/14
Sue Dells	KB8WJW	Technician	2022	2/14
Roman Downer	N4SC	Amateur Extra	2022-2023	2019
Michael Eilers	K8OOK	Amateur Extra	2022	121121
Nancy Eilers	N8IPG	General	2022	121121
Corey Grahn	KD8SZZ	Amateur Extra	2022	1/22
Erik Kliphuis	KE8TXK	Technician	2022	New
Thomas Lane			2022	121121
Paul C Hummel	K9BOJ	Advanced	2021-2022	2021
Dan Markowski	N8NIJ	General	2022-2023	12/21
Gale Scholten (thru 2026)	N8GS	Amateur Extra	2022-2026	1/22
Jerome Wittkoski	W8MSK	Amateur Extra	2022	12/21
Steve Biziorec	K8VOL	Amateur Extra	2022	Mar-22
Sandy Biziorec	K8VOJ	General	2022	22-Mar
Life Members				
Name	Call Sign	License Class		
Samuel T Nabkey	K8SN	Amateur Extra	2022	LIFE
Dan Thompson	N8WKM	Technician	2022	LIFE
Evelyn Thompson	KB8ILI	Technician	2022	LIFE
Connie Zaidel	N8WKQ	Technician	2022	LIFE

MARA REPEATER NEWS

The M.A.R.A. Repeater is connected to the West Michigan Connect Repeater System. While the repeater continues to be available in the FM Analog mode when there is not a C4FM conversation in play.

Every third Thursday of the month, the Net will operate Simplex on the output Frequency of 145.230 Mhz. No PL tone is needed. This is being done to test the emergency preparedness in the advent of a power failure and the emergency battery source runs out of energy.

The MARA Net Director is Joe Januszka, W8JPJ. Joe is currently recruiting Net Control Operators.

MARA has tried many ways to keep the Net interesting, and fun to participate in, but they've found that the best way is to have different folks be Net Control. To help make it easier for you to be Net control, we've included just about everything you'll need on the club website at:

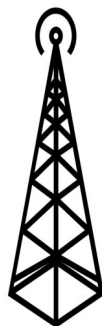
In the website you will find the latest MARA 2 meter Net operation script, which is a PDF file. We also have a simple Net Log to help you keep track of who checked in. (Print 2 of them-if you run out, you'll have one handy). Please contact Joe to schedule yourself as Net Control. Hopefully we can offer Internet sign-ups on the website in the

future. For now, contact Joe, W8JPJ.

Immediately following the net is an Informal 6 Meter AM net on 50.4 Mhz. Please check your mode to be sure you are on AM before checking in. The 6 Meter net also meets on Sunday Mornings at 8 am, and many Holidays at 8 am as well.

And try to join us on our new 440 Mhz Repeater on 444.450 Mhz, Analog or Digital. This repeater is located on the NE side of Grand Rapids near 5 mile Road and Plainfield. You will find several club members on at 11 am daily when we host an informal "get together" on this repeater.

Several members do monitor the 440 machine and you can find us by giving a call on both Digital (Fusion) and analog modes. We are looking forward to hearing you on either repeater.



W8USA

145.230— 94.8 pl Fusion

444.450- 94.8 pl Fusion

2022 Board and Current Officers.

No Changes from 2020

- President Gale Scholten N8GS
- Vice President Paul Hummel K9BOJ
- Secretary Mike Eilers K8OOK
- Treasurer Jerry Wittkoski W8MSK
- Net Director Joe Januszka W8JPJ
- Awards Manager Committee: (Larry KC8KVR and Paul, K9BOJ)
- Club Trustee Gale Scholten N8GS
- Membership Director Mike Eilers K8OOK
- Education Director Larry Dells KC8KVR
- Bereavement Director Jerry Wittkoski W8MSK
- Newsletter Editor Paul Hummel K9BOJ Newsletter@W8USA.ORG

MARA

Michigan amateur radio alliance

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Write us By Mail or log into
W8USA.Org and send your email
by selecting Menu Interact,
Contact W8USA

Springtime is Antenna Time!

And it's that time of the year again...time for repair and/or new antenna installation. As long as I have been a ham, I have always taken advantage of the Spring weather and either put up a new antenna, tower, etc.; or repaired an existing antenna. There are lots of things to consider in a new or old installation. Be sure to have the following on hand before you start or you will be delayed by deliveries or trips to your favorite hardware store.

For dipoles, long wires, windoms, etc:


- ◆ Plenty of U/V resistant chord to hang your wire antenna
- ◆ A method to shoot the anchor lines into tall trees
- ◆ Extra connectors (PI-259, Barrel connectors, etc)
- ◆ Fresh coax for either new or existing antennas (See chart below)

For Beams, Towers, etc.

- ◆ Appropriate hardware for guy wires—make sure you look up those items as recommended by mfg.)
- ◆ An assortment of the proper wrenches, and other tools
- ◆ Good supply of appropriate lengths of "Guide Ropes" to stabilize the beam on the way up.
- ◆ Proper Rotor cable (If length needed is over 50—60 feet, use Heavy Duty Cable)
- ◆ Proper Safety Equipment—Harnesses, Hard Hats, etc.

For all installations—A good Antenna Analyzer and lots of friends!

Handy calculator for LMR Cables <https://www.timesmicrowave.com/Calculator>



Communications Coax Selection Guide

Featuring TIMES MICROWAVE SYSTEMS LMR® Flexible Coax

Attenuation (dB per 100 feet ; +25C)

Frequency / Size	2 1/4" LDF	1 5/8" LDF	1 1/2" LDF	LMR-1700	7/8" LDF	LMR-1200	LMR-900	1/2" LDF	LMR-600	LMR-500	1/2" SuperFlex	3/8" LDF	LMR-400	3/8" SuperFlex	Belden 9913	ULTRA-LINK™	RG213/ RG214	1/2" SuperFlex	LMR-300	LMR-240	Belden RG8X	LMR-200	ULTRA-LINK	LMR-195	RG-58	LMR-100A										
30 MHz	0.096*	0.120	0.147	0.1670*	0.1090*	0.1200*	0.870*	0.630*	0.590*	0.500*	0.520*	0.440*	0.405*	0.415*	0.405*	0.405*	0.405*	0.300*	0.300*	0.240*	0.242*	0.195*	0.195*	0.195*	0.195*	0.110*										
50 MHz	0.125*	0.156	0.191	0.195	0.257	0.272	0.374	0.479	0.547	0.70	0.730	0.736	0.9	0.848	0.9	--	1.6	1.27	1.4	1.7	2.5	2.3	--	2.6	3.1	5.1										
150 MHz	0.227*	0.280	0.340	0.347	0.458	0.481	0.658	0.845	0.964	1.22	1.29	1.30	1.5	1.49	1.6	1.5	2.8	2.23	2.4	3.0	4.7	4.0	5.1	4.4	6.2	8.9										
220 MHz	0.281*	0.345*	0.416*	0.427	0.560*	0.589	0.803	1.05*	1.18	1.49	1.58*	1.59*	1.8	1.82*	--	--	3.5	2.72	2.9	3.7	6.0	4.8	--	5.4	7.4	10.9										
450 MHz	0.422	0.515	0.617	0.632	0.834	0.864	1.17	1.51	1.72	2.17	2.32	2.30	2.7	2.66	2.8	2.7	5.2	3.93	4.2	5.3	8.6	7.0	9.5	7.8	10.6	15.8										
900 MHz	0.641*	0.767*	0.912*	0.936	1.23*	1.27	1.70	2.21*	2.50	3.13	3.41*	3.36*	3.9	3.86*	4.2	4.19	8.0	5.67*	6.1	7.6	12.8	9.9	14.0	11.1	16.5	22.8										
1,500 MHz	0.879*	1.050	1.22	1.26	1.66	1.69	2.24	2.93	3.31	4.13	4.57	4.43	5.1	5.12	5.6	--	--	7.47	7.9	9.9	--	12.9	--	--	14.5	--	30.0									
2,000 MHz	1.058*	1.250	1.45	1.50	1.97	1.99	2.63	3.45	3.90	4.84	5.41	5.21	6.0	6.01	6.7	--	--	8.73	9.2	11.5	--	15.0	--	--	16.9	--	35.0									
2,500 MHz	--	1.440	1.68*	1.71	2.27*	2.26	2.98	3.91*	4.42	5.48	6.17*	5.91*	6.8	6.84*	--	--	--	9.85*	10.4	12.9	--	16.9	37*	--	19.0	--	40.0									
Attenuation at Any Frequency = (k1 x SqRt (Fmhz)) + (k2 x Fmhz)																																				
k1				0.02646				0.03737	0.05177				0.07555	0.09659				0.12229				0.19193	0.24208				0.32890	0.35686				0.70914				
k2				0.00016				0.00016	0.00016				0.00026	0.00026				0.00026				0.00026				0.00033	0.00033				0.00033	0.00047				0.00174
List Price \$/foot	20.24	15.76	10.94	\$ 7.80	6.18	\$ 4.85	\$ 3.70	2.50	\$ 1.30	\$ 1.00	3.62	1.89	\$. 59	2.64	.97	1.20	1.11/1.75	1.66	\$. 53	\$. 47	0.68	\$. 37	1.40	\$. 37	0.42	\$. 30										

Power Handling (kW ; +40C ; Sea Level)


Frequency / Size	2 1/4" LDF	1 5/8" LDF	1 1/2" LDF	LMR-1700	7/8" LDF	LMR-1200	LMR-900	1/2" LDF	LMR-600	LMR-500	1/2" SuperFlex	3/8" LDF	LMR-400	3/8" SuperFlex	Belden 9913	ULTRA-LINK™	RG213/ RG214	1/2" SuperFlex	LMR-300	LMR-240	Belden RG8X	LMR-200	ULTRA-LINK	LMR-195	RG-58	LMR-100A
30 MHz	39.5*	28.9	21.1	20.3	14.0	12.6	8.9	6.31	5.5	4.4	5.75	4.14	3.3	3.97	2.2	--	1.8	2.28	2.1	1.49	0.35	1.02	4.0	0.89	0.40	0.23
50 MHz	30.2*	22.1	16.2	15.6	10.7	9.7	6.8	4.85	4.3	3.4	4.42	3.19	2.6	3.06	1.7	--	1.2	1.76	1.6	1.15	0.28	0.79	--	0.88	0.30	0.18
150 MHz	16.7*	12.3	9.09	8.7	6.04	5.5	3.9	2.75	2.4	1.9	2.49	1.81	1.5	1.74	0.90	--	0.62	1.00	0.93	0.66	0.15	0.45	2.0	0.39	0.16	0.10
220 MHz	13.5*	13.5*	7.45*	7.1	4.94*	4.5	3.2	2.23*	1.9	1.6	2.04*	1.49*	1.2	1.44*	--	--	--	0.825*	0.76	0.54	--	0.37	--	0.32	--	0.08
450 MHz	8.91	6.71	5.01	4.8	3.32	3.1	2.2	1.53	1.3	1.1	1.38	1.02	0.83	0.975	0.45	--	0.30	0.567	0.52	0.38	0.08	0.26	1.0	0.22	0.08	0.06
900 MHz	5.90*	4.49*	3.39*	3.3	2.24	2.1	1.5	1.05*	0.93	0.75	0.944*	0.703*	0.58	0.674*	0.28	--	0.18	0.393*	0.36	0.26	0.05	0.18	0.65	0.15	0.05	0.05
1,500 MHz	4.29*	3.30	2.52	2.4	1.66	1.6	1.1	0.793	0.70	0.57	0.705	0.530	0.44	0.507	0.20	--	--	0.299	0.28	0.20	--	0.14	--	0.12	--	0.04
2,000 MHz	3.57*	2.76	2.13	2.0	1.40	1.3	1.0	0.673	0.59	0.49	0.597	0.451	0.37	0.431	0.16	--	--	0.256	0.24	0.17	--	0.12	--	0.10	--	0.02
2,500 MHz	--	2.40	1.84*	1.8	1.21*	1.2	0.9	0.594*	0.52	0.43	0.547*	0.398*	0.33	0.379*	--	--	--	0.225*	0.21	0.15	--	0.10	--	0.09	--	0.01

General Performance Properties

	LMR-1700	LMR-1200	LMR-900	LMR-600	LMR-500	LMR-400	LMR-300	LMR-240	LMR-200	LMR-195	LMR-100A
Conductor: (note 1)	0.527*	0.349*	0.262*	0.176*	0.142*	0.109*	0.070*	0.056*	0.044*	0.037*	0.018*
Dielectric: Cellular PE (note 2)	1.350*	0.920*	0.680*	0.455*	0.370*	0.285*	0.190*	0.150*	0.116*	0.113*	0.060*
Shield: Aluminum Tape (note 3)	1.356*	0.926*	0.686*	0.461*	0.376*	0.291*	0.196*	0.155*	0.121*	0.118*	0.065*
Tinned Copper Braid	1.402*	0.972*	0.732*	0.490*	0.405*	0.320*	0.225*	0.178*	0.144*	0.141*	0.083*
Jacket: Black PE (note 4)	1.670*	1.200*	0.870*	0.590*	0.500*	0.405*	0.300*	0.240*	0.195*	0.195*	0.110*
Bend Radius (note 5)	13.5"	6.5"	3"	1.5"	1.25"	1"	875"	0.75"	0.50"	0.25"	0.015
Weight(lbs/foot)	0.736	0.448	0.266	0.131	0.097	0.068	0.055	0.034	0.022	0.022	0.015
Temperature Range	-40°C to +85°C										
Impedance	50 Ohms										
Velocity (%c)	89	88	87	87	86	85	85	84	83	80	66
Capacitance (pF per Foot)	22.8	23.1	23.4	23.4	23.6	23.9	24.1	24.2	24.5	24.3	30.8
DC Resistance: center conductor	0.21	0.32	0.54	0.53	0.82	1.39	2.12	3.20	5.36	7.58	81.0
(ohms/1000') : shield	0.27	0.37	0.55	1.20	1.27	1.65	2.21	3.89	4.90	4.90	14.5
Shielding	> 90 db										
Phase Stability	±/ - 10 ppm/degC										

NOTES:

- Center Conductor in LMR-900, LMR-1200 & LMR-1700 is Copper Tube
Center Conductor in LMR-400, LMR-500 & LMR-600 is Copper Clad Aluminum
Center Conductor in LMR-195, LMR-200, LMR-240 and LMR-300 is Bare Copper
LMR-100A is BCCS
- Low loss closed cell polyethylene foam (LMR-100A solid polyethylene)
- Aluminum laminated tape bonded (LMR-100A unbonded) to the Dielectric with a Tinned Copper Overbraid
- Black UV protected polyethylene (LMR-100A black PVC)
- Less than 1 ohm impedance change at bend



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 Competitor's Data As Published
 *estimated from published data.

Field Day

We are going to need a long list of volunteers for both the set-up and tear down for the 2022 Field Day Operations.

We are also need a list of operators for each shift throughout the contest period.

Our Field day Chairman is Larry, KC8KVR. Please email Larry with your availability for both operating, set-up/tear down, and equipment to Field Day. Larry needs a long list of workers and equipment. You can email Larry at marafD@w8usa.org

Field Day 2022 Master List

Radios:

- We need 3 Stations
- - With connecting cables for log data and power)
- - Preferable with internal antenna tuners

Power:

- Will need 3 Power Supplies
- - (Preferably with Anderson & Post Connectors)
- - Extension cords
- - Surge suppressor multi outlets

Antennas:

- Multiband Dipole, Windom, or Longwire
- Portable antennas
- Antenna support line (Lots of it- Need over 500')

Computers:

- Laptop computers
- Network capable
- Associated power supplies

Misc:

- Personal snacks, Beverages
- (Club water is available)
- Connectors (Audio, Data, and RF)

Make sure you Mic/ Headphones and Keys have the correct connectors. Keys and Paddle connectors are usually 1/4" or 1/8"; Paddles normally 1/8" Stereo.



FIELD 
DAY 2022

M.A.R.A.

Membership Information

MARA Meeting— 2nd Wednesday of each Month 7:30 PM at the Plainfield Township Fire Department Training Center—5 Mile and Plainfield Avenue (As Covid Rules Allow)

Depending current Pandemic Rules—Meeting are either on the 145.230 Repeater—**ANALOG** or on **ZOOM**
(Zoom video by invitation, please mail: zoom@w8usa.org for zoom link)

Annual dues to MARA are \$20.
Family memberships are an additional \$5.
Persons aged 70 and over - \$20.00.
Membership is free to students under 21.
Memberships **expire** on December 31st, and club dues are due on January 1st.

During this pandemic we have had to suspend our fund raising events. Maintaining 2 repeaters and club associated expenses are putting a serious drain on our Treasury. Please consider renewing for two years and/or making a donation to the Club Treasury!

MARA Information

- ♦ **Make out Dues Check to M.A.R.A.** Mail to Jerry Wittkowski W8MSK, MARA Treasurer, 1025 Kendalwood NE, Grand Rapids, MI 49505-3231
- ♦ Net: 2 Meter - Thursdays at 7:30 PM On W8USA Repeater. (Analog)
- ♦ 440 Net Every Week-day M-F @ 11am on 444.450+ C4FM
- ♦ Thursdays, after 2 Meter Net, 6 Meters AM 50.4 Mhz
- ♦ Sunday mornings & Holidays 8AM on 50.4 AM—All are Welcome!
- ♦ Currently Breakfasts are suspended, However normally at New Beginnings Restaurant on Northland Drive. We will follow the New Beginnings Covid-19 rules and weather restrictions