## **Mount Vernon Amateur Radio Club**

July 2025 2025 Edition 7







## Inside this issue:

President's View	2
Meeting Minutes	3
MVARC Calendar	5
MVARC Bylaw Changes	6
Field Day Results	8
Miscellaneous Rambling	11
Knox County Repeaters	12
Final Takeaway	13
Ohio Hamfests	16
Training Schedule	16
MVARC Officers	17

## **MVARC Repeaters**

**K8EEN** 146.790 MHz - 600 KHz / PL = 71.9 Hz

K8EEN-R EchoLink Node: 809800

**K8EEN** 444.600 MHz +5 MHz / PL = 71.9 Hz

## **Meeting Notice**

# **MVARC Meeting:** July 14 @ 7:00 pm—Academy Building on Fairgrounds Road

#### **President's View**

Frank, KC8EVS



I'm late getting this to Terry as I was preparing for Field Day (FD) and forgot about it being the end of the month. If you came out to FD thanks for participating. It's great fun and a lot to be learned getting everything set up and working. It was HOT on Friday as we set up, putting up antennas and working out the layout of the radios. Apple Valley provides a large tent for us to operate from keeping us out of the sun/rain. Saturday afternoon band conditions were not good, making contacts difficult. Later in the evening the bands started opening. I did not do much operating until 12:30-1:00 am and operated until everyone woke up 6:30-7:00 am. I started out using Roger's FT-891 in the

trailer and switched over to the IC-7300 when Don called it a night. It's great operating at night as you have pretty much your choice of operating positions. I was able to make a bunch of contacts (at least for me it was a bunch). I was on 80 meters for about 2 hours and had a steady stream of contacts. I'm sure others will have more details concerning FD.

We have an important vote coming up at the next meeting so plan to attend to put in your \$0.02. We will be voting on the changes to the MVARC By-laws. Plus discussing upcoming doings, First Friday (Aug 1) and OSPOTA (Sept 6). July 10 we will be working with some Boy Scouts, anyone interested in helping let me know.

I need to wrap this up and get off to Terry. Hope to see you at the next meeting, July14 at 7:00 pm.



"It is the province of knowledge to speak, and it is the privilege of wisdom to listen." Oliver Wendell Holmes

## **Meeting Minutes**

#### Terry, KI8N



#### Call To Order

The June 2025 meeting of the Mount Vernon Amateur Radio Club was called to order by President Frank, KC8EVS at 7:04 pm.

#### Minutes of the Last Meeting

Correction to May Meeting Minutes:

The May meeting minutes stated the Boy Scout presentation and demonstration would be at the Gay Street Presbyterian Church in Mount Vernon. This is an error and the actual location is at the Coshocton Muskingum Valley Scout Reservation in Coshocton, OH.

The minutes of the previous meeting with the above change were approved as presented in the Club Newsletter without objection.

#### **Treasurers Report**

Terry KI8N provided an account of the current balance of all bank accounts for May 2025. There were no additions or corrections, and the report was approved as presented. Motion by Roger, KE8ICI and Barry, N8PPF.

#### **Committee Reports**

#### ARES

Tony, KE8OOE reported he had attended the Knox County LEPT meeting and met the Red Cross representative and discussed them meeting at a later date. The Crisis Center wants to contact us if needed.

There was a mitigation meeting in Norwalk to discuss Federal Funding projects such as: Apple Valley dam, general flooding, and earthquake preparedness.

Tony thanked the ARES club members for replying to his test texts. He stated the group needs to get better at using Winlink as currently only Larry, AC8YE and Terry, KI8N have been able to send him test emails vial VARA HF. He wanted to stress that our mission and platform is failing and we need to do better and be more prepared.

There is a CERT picnic being discussed and if anyone is interested, please let Tony know.

#### Repeaters

Roger, KE8ICI and Frank, KC8EVS will be meeting Stephen, N8RLW on 6/20 at 5:00 pm to get all repeater related items. They will also be swapping the 146.790 MHz repeater back to the equipment owned by MVARC. This entails going back to the Hytera unit and removing the Kenwood repeater which belongs to Stephen.

The current repeater duplexers are the newer units donated to MVARC by Stephen. The old duplexers will be brought back to the club room.

There is still some noise on the 146.790 repeater and Roger is checking on the antenna coupler where the hardline connects to the coax. Vasu personnel seemed to think this might be the noise cause.

Roger will also check on the status of the Henry amplifier.

#### EchoLink

The EchoLink system works well at Don's house but he is moving it back to the club room. He has noticed that there is an intermittent disconnect with the internet at the Academy Building. Don to monitor for any issues.

#### Mesh

Don, W8PEN reported the Mesh network has been turned off and dismantled. He still needs to recover the equipment at the water tower.

#### Directors

Director's report was made by G Michael Jacobs, KE8HGE. The amended By-Laws were discussed by club members. Club members will vote at the July meeting to accept or deny the proposed changes.

#### **Old Business**

Frank (KC8EVS) reviewed Coming Events

• Field Day: Saturday June 28, 2:00 pm - Sunday June 29, 2:00 pm. Setup on June 27. Apple Valley has been contacted and we have our usual spot reserved (out behind the Floral Valley Community Center). They will set up the tent for us again in the usual location. The number of stations was discussed, and we are looking at 3 stations: 1 digital, 1 SSB/CW, and 1 SSB. There will also be a GOTA station.

Station setup will begin Friday at 2:00 pm.

All stations will be collocated under the tent this year. There will also be an information table in the tent and lights will be powered by commercial electricity. All operator stations will either be generator or battery.

Pizza will be purchased for the Saturday meal.

The Field Day advertisement was placed in the Cider Valley Press and in WNZR community pages.

- First Friday: August 1. We will be setting up a table and canopy at space #9 during this day's event starting about 5:00 pm.
- Ohio State Parks on the Air: September 6.

#### **New Business**

It was noted that SteppIR Antenna is leaving the amateur radio market.

The Thirteen Colonies event starts July 1. Stations can be located using DX Summit.

The Lewis and Clark Trail (LCT) event was happening May 1 through June 15.

There is a need to acquire antennas for both go boxes. It was decided an end fed antenna would work with the FT -857. There is still a need to find a VHF/UHF antenna for the dual band go box.

Wendell, KE8NUX clarified the Boy Scouts request for a ham radio presentation and demonstration. We will participate on 7/10. The time is 1:00—2:40 pm at the Coshocton Muskingum Valley Scout Reservation. Terry, KI8N, Frank, KC8EVS, Roger, KE8ICI, and Wendell, KE8NUX will participate. We will meet at noon at the Mount Vernon Walmart and carpool to the scout area. If anyone is interested in participating please let Frank know.

A Motion to Adjourn from Don, W8PEN, seconded by Barry, N8PPF, brought the meeting to an end at 8:04 pm 50/50 raffle proceeds were donated to the club..

## **MVARC ARES Sunday Night Net**

Mount Vernon 146.790 repeater

## **Check-in starts at 9 pm**

Unable to access the repeater from where you are? We are on IRLP (EchoLink) K8EEN-R Node 809800.

"The greatest legacy one can pass on to one's children and grandchildren is not money or other material things accumulated in one's life, but rather a legacy of character and faith." Bill Graham

## **MVARC Calendar / Events**

WEEKLY EVENTS	SUNDAY	MONDAY	1065047	WEDMESDAY	THURSDAY	FRIDAY	SATURDAY
Sunday: 9 PM ARES Sunday Night Net			1	2	3	<b>4</b>	5
Wednesday: 4:45 PM — Dinner at Southside Restaurant	6	7	8	9	10	11	12
Friday: 9 AM Breakfast	13	14	15	16	17	18	19
CLUB MEETING							
Monday July 14: Club Meeting 7:00 PM	20	21	22	23	24	25	26
UPCOMING MVARC EVENTS	27	28	29	30	31		

	BUCKENTIACON
OSPOTA	Sep 6, 2025
POTA Activation	тво
First Friday	August 1: Space #9
Family Palooza (Apple Valley, Floral Valley)	тво

**JULY 2025** 

## Link to: Ham Radio Contest Calendar



## **Proposed By-Law Changes/Additions**

#### Michael, KE8HGE



This month club members will vote whether to accept the proposed changes to MVARC's By-Laws. Please read and review the proposed changes and be ready to vote at the July meeting.

The current By-Laws, amended 08/14/2023, can be read here; MVARC By-Laws

## **ARTICLE V. OFFICERS' DUTIES**

## **SECTION 4. TREASURER**



Adding two items to clarify the Treasurer's responsibilities

- The Treasurer is authorized to make payment on any bills incurred by or obligations entered into by the Corporation when due, to the extent allowed by the funds of the Corporation. These payments may include (but are not limited to) rent for space or Corporation post box, utilities for the Corporation, and Corporation insurance premiums.
- The Treasurer shall oversee any investments authorized by the Corporation and shall include their status in the Annual Statement of Financial Condition.

Adding the following article (bumping the existing Articles 7 & 8 to Articles 8 & 9)

## ARTICLE VII. REIMBURSEMENTS, GIFTS, AND LOANS OF EQUIPMENT

## **SECTION 1. REIMBURSEMENT**

Members of the Corporation making purchases for the Corporation without the prior approval of the Board of Directors or a vote of the membership may not be reimbursed for their purchase.

Members of the Corporation making unapproved purchases may be reimbursed by the Corporation (whether in part or in whole) as determined by a vote of the membership.

## **SECTION 2. GIFTS**

Gifts of Equipment

- Gifts of Equipment may be accepted by the Corporation with the simple-majority approval of the Membership.
- Any Gift of Equipment will include the information necessary for the Equipment to be insured by the Corporation's policies before being considered by the Membership for acceptance.
- Accepted Equipment shall become the property of the Mount Vernon Amateur Radio Club and be placed in the custody of the Equipment Trustee.
- Such Gifts may be presented to any Officer or Director, and are to be added to the General Fund of the Corporation.

Gifts of Money to the General Fund

• Gifts for the General Fund can be accepted by the Corporation.

Gifts of Money intended for the Purchase of Specific Equipment for the Corporation

- Gifts of Money for Purchase of Specific Equipment for the Corporation may be accepted by the Corporation.
- Such Gifts will be added to the General Fund and an accounting of these Gifts will be maintained by the Treasurer and included in any monthly report as well as the Annual Statement of Financial Condition.
- When the purchase of the Specific Equipment is made, the funds gifted to the Corporation for this purchase shall be used first, with the Corporation providing the balance of any funds required.
- If the funds gifted to the Corporation are in excess of the amount required for the purchase, a vote of the Membership shall determine how these excess funds are to be used. This may include the excess funds being refunded to the Gifter(s).
- If the purchase of the Specific Equipment is not made, for whatever reason, the funds gifted to the Corporation for this purpose shall be returned to the Gifter(s)

Receipts for any Gift may be issued by either the Treasurer or the Equipment Trustee (as appropriate for the Gift received) if requested by the Gifter.

## **SECTION 3. LOANS OF EQUIPMENT**

The Corporation may accept a Loan of Equipment with a simple-majority vote of the Membership.

- The Membership will be made aware of the Equipment to be loaned as well as the circumstances under which the Loaner may withdraw the Equipment prior to voting on its acceptance.
- The Corporation will expect at least a 30-day notice of the Loaned Equipment being withdrawn by the Loaner.
- The Corporation may return the Loaned Equipment to the Loaner at any time at the recommendation of the Equipment Trustee, or by vote of the Membership.
- Any insurance for damage to the Loaned Equipment is the responsibility of the Loaner.

#### **SECTION 4. PRIOR GIFTS**

• Any Gifts and/or Loans of Equipment made to or received and accepted by the Corporation prior to the Adoption of these By-Laws are not affected by these By-Laws.



7

No pot of gold at the end of this Field Day rainbow!

## **2025 Field Day Results**

#### Don, W8PEN



I can honestly say I have never been involved with a Field Day with band conditions as bad as they were this year.... At least early on.

I manned the 20-meter SSB station for the first hour. I did make about 50 contacts. However, each contact was a struggle, as signals faded in and out. To get the call and exchange, one had to wait until the signal peaked. The peak would only last for ten seconds or so before disappearing. Very nasty conditions!

Poor Roger (KE8ICI) took down the antenna he had put up Friday night and exchanged it with a different antenna. Roger was convinced that the bad conditions were either his radio or the antenna. I know why he thought so too. Roger was trying to work 40 me-

ters. Tuning across the band, there were just no signals on 40 meters. I mean nada! Nothing!

Luckily, conditions started to change for the better around 7:00PM Saturday night and the group started making contacts. Even then, signals were fading in and out which tested the operator's skill and patience.

To top it off, we had technical issues on both SSB stations and the Digital station. The first SSB station kept dropping the mouse and rig control settings. This problem was eventually traced to a defective USB hub. Problems went away when I threw this hub in the trash. Luckily there were enough USB ports on the computer to satisfy our needs. Although when I ran CW, I had to unplug the mouse and use that USB port for my keyer. That was not a big issue though.

On the other SSB station, Roger was having issues with his logging computer. Roger claimed the software did not install correctly and all efforts to get it to do so failed. Roger eventually went home and picked up a different computer, which solved the problem.

Scott (W8HK) could not get his computer to connect to the club's server computer. I think he also had problems with the rig he was using. Scott eventually ditched the network logging and simply logged stations without being connected to the network.

This was not really an issue. The end result was two log files that were manually merged after Field Day.

The bottom line here is that yes, we had some serious issues. But we had answers to these issues. Honestly, that is part of Field Day. Learning to solve problems on the fly. A very valuable skill that will be needed during any event our ARES might find themselves participating in.

Turnout was a bit disappointing. I think 19 signed the sign in sheet, but we only had a handful that stuck around and operated.

On the other hand, some valuable operator training took place which will help us next year. I encourage anyone operating Field Day learn how to control a frequency by "calling CQ".

Calling CQ is the best and most efficient way to make contacts. It is good to strike a balance between calling CQ (called "running stations") and looking for stations calling CQ (called Search and Pounce).

I think our club struck a good balance between the two.

Lastly, the small group that was there on Saturday night enjoyed a pizza party, which kept us going the rest of the night.

We did fill up the map pretty good, as seen below. The colored sections are those we worked while white sections ae those that we missed.





Mount Vernon Amateur Radio Club CQ

**Knox County, OH** 

1.0	Settings Band M arrent Band & Mode	Find	Network Op		Contacts			Last 20	) AII			Score St	atistics	
ec	Call	Class	Sec	Date / Time		Mode	Country	Initials	Operator			acore at	ausucs	
94	KU4UV	18	KY	06/29 17:06		SSB	USA	WC	KE8NUX	Tota	al CW Cont	acts		2
94 93	WINE	10 8A	IL.	06/29 17:01		SSB	USA	WC	KESNUX	Tat	al Phone C	optosto		
2	VE2NTT	3E	QC	06/29 16:55		SSB	Canada	EWK	KESAPC	100	al Phone C	ontacts		
91	W3YMW	34	MDC	06/29 16:52		SSB	USA	WC	KEBNUX	Tota	al DIG Cont	lacts		
0	W3DEV	2A	TN	06/29 16:46	15	SSB	USA	EWK	KF8APC					
19	KK5I	2A	OK	06/29 16:45	15		USA	EWK	KF8APC	Tota	al QSO Poir	nts		1
88	W5TMC	1D	OK	06/29 16:41	15	SSB	USA	EWK	KF8APC	0.00	Os / Hr (Las	A 20 mint		
87	N4TP	1E	WCF	06/29 16:37	15	SSB	USA	EWK	KF8APC	Q3	US / HI (Las	ac 20 min)		
86	K4CQ	3A	VA	06/29 16:37	40	SSB	USA	WC	KE8NUX	QSO	Os / Hr (Las	t 60 min)		
85	VE2CRO	3A	QC	06/29 16:35	40	SSB	Canada	WC	KE8NUX					_
	Call	Class		Section		DX DX 1	DE EPA	3 MDC WPA	AR LA MS	5 NTX OK STX	AK AZ EWA	7 NV OR UT	CO IA KS	0 MO ND NE
	Call	Class	1	Section	CT EMA	DX 1 RI VT		MDC	LA	NTX OK	AZ	NV OR	LA KS MN	MO ND NE SD
		Class			CT EMA ME	DX 1 RI	EPA AL GA	MDC WPA 4 SC SFL	LA MS	NTX OK STX	AZ EWA ID	NV OR UT WWA	IA KS MN	MO ND NE SD anada
	Clear			Spot Last	CT EMA	DX 1 RI VT	EPA AL	MDC WPA 4 SC	LA MS NM	NTX OK STX WTX	AZ EWA ID MT	NV OR UT WWA WY	IA KS MN C AB	MO ND NE SD anada ONE
	Clear	Class			CT EMA ME	DX 1 RI VT WMA	EPA AL GA	MDC WPA 4 SC SFL	LA MS	NTX OK STX WTX	AZ EWA ID	NV OR UT WWA WY	IA KS MN C AB BC	MO ND SD anada ONE ONN
ichi	Clear	j ossible Du		Spot Last	CT EMA ME	DX 1 RI VT	AL GA KY NC	MDC WPA 4 SC SFL TN VA	LA MS NM	NTX OK STX WTX	AZ EWA ID MT	NV OR UT WWA WY	IA KS MN C AB	MO ND NE SD anada ONE
	Clear	) ssible Du		Spot Last	CT EMA ME NH	DX 1 RI VT WMA	AL GA KY NC NFL	MDC WPA 4 SC SFL TN VA VI	LA MS NM EB	NTX OK STX WTX 6 SCV	AZ EWA ID MT	NV OR UT WWA WY 8	IA KS MN C AB BC	MO ND SD anada ONE ONN
and	Clear Po gan Total = 1	) ssible Du		Spot Last	CT EMA ME NH	DX 1 RI VT WMA 2 NNY	AL GA KY NC	MDC WPA 4 SC SFL TN VA	EB LAX ORG	NTX OK STX WTX 6 SCV SDG SF	AZ EWA ID MT	NV OR UT WWA WY	IA KS MN C AB BC GH	MO ND SD anada ONE ONN ONS PE
and	Clear Po gan Total = 1 s: 80 = 13 40	) ssible Du		Spot Last	CT EMA ME NH ENY NLI	DX 1 RI VT WMA 2 NNY SNJ	AL GA KY NC NFL	MDC WPA 4 SC SFL TN VA VI	EB LAX ORG PAC	NTX OK STX WTX 6 SCV SDG SF SJV	AZ EWA ID MT MI OH	NV OR UT WWA WY 8 WV 9	IA KS MN C AB BC GH MB NB	MO ND SD anada ONE ONN ONS PE QC
and	Clear Po gan Total = 1 s: 80 = 13 40	) ssible Du		Spot Last	CT EMA ME NH	DX 1 RI VT WMA 2 NNY	AL GA KY NC NFL	MDC WPA 4 SC SFL TN VA VI	EB LAX ORG	NTX OK STX WTX 6 SCV SDG SF	AZ EWA ID MT	NV OR UT WWA WY 8	IA KS MN C AB BC GH MB	MO ND SD anada ONE ONN ONS PE



Knox County, OH

Total (	Contacts by Co	ountry	Total Contacts by Operator			
Country	Total	Percent	Operator	Total	Percent	
USA	492	95	W8PEN	278	54	
Canada	17	3	KC8EVS	125	24	
Puerto Rico	4	1	KF8APC	52	10	
Hawaii	3	1	W8HK	23	5	
US Virgin Is.	1	0	KE8ICI	17	3	
I			W8TW	9	2	
			KE8NUX	8	2	

## Summary Results Submitted to the ARRL

Call Sign Used: K8EEN Participants: 19	Gota Station: NONE Multiplier: 2X		ОН	3A
Power Source: Generator, Solar	Wattip		nary Total Scor	e: 2384

#### **Bonus Points:**

100% Emergency Power	300	Public Information Table	100
Media Publicity	100	W1AW Field Day Message	100
Public Location	100	Social Media	100
Entry Submitted	50	Total Bonus Points	850

## Score Summary

Total QSOs	CW	Digital	Phone		
	227	23	267		
Points	454	46	267		
Total Points	767		QSO Points X Multiplier		1534

## Band / Mode QSO Breakdown

Band	nd CW QSOs/100 W Dig QSOs/20W		Phone QSOs/100w				
80 M	54	0	130				
40 M	142	18	25				
20 M	31	4	93				
15 M	0	1	19				

## **Miscellaneous Rambling**

#### Terry, KI8N



I apologize for the newsletter being late this month but I was out of town until the 6th. We attended Beulah Beach Family Camp with our granddaughter. It was an amazing time on the shores of Lake Erie spending time with family, being with other believers

of God's word, and meeting new people.

I also learned something at camp from Bekie Smith, a teacher at Mount Vernon High School and our pastor's wife. Some boy was causing mischief and she related the following in describing what was going on: "It may seem funny, but it won't be funny". This is especially true when someone is going to do something that definitely will not turn out well.

On Friday night there was a dress up as an explorer night so we went as "tourists" seeking the Truth.



I have been reading a historical fiction book that got its inspiration from early Chinese politics and came across a section that talked to me so I thought I would share it. "When man begins to think that he is responsible for writing the script of the world, he forgets the forces that dream up our reality. You'll find this same pattern has repeated itself in all the great powers of this world that entered a so-called civilized age." *The Poppy Wars* 

by R.F. Yuan. I can't explain exactly why this stood out to me but once I read this statement it caused me to pause and think about all the issues facing us today and all we hear is how man has to fix everything; environment, politics, and social issues. If only it was so easy and possible. Maybe we, as a civilization, should have studied world history better.

Now back to ham radio related stuff. If you read the Ohio Section Journal you may have noticed I am now the ARRL Ohio Section Affiliated Clubs Coordinator. I was appointed by Section Manager, Tom Sly (WB8LCD) in June. I am still learning what the position requires but am making an effort to visit and contact some of the 131 affiliated clubs in Ohio.

As the new ACC this is the reason I did not stay at the club's Field Day this year. I visited four Field Day sites. I was at Apple Valley, Newark, Granville, and Mount Gilead. I had wanted to get to a couple of others but time ran out Saturday and I had things scheduled on Sunday.

I have not been very radio active the last couple of months and can't say why. I haven't done a POTA activation in over two months and really haven't made many contacts from home either. I wanted to blame the weather but it could be I am just feeling a little burned out and trying to work on home based projects.

The car I bought more than two years ago is taking most of my time as I currently have the front end removed. I did this because I fell into the rabbit hole of "while I am here I might as well do this". I also justified the process as it will be easier to reinstall the engine without the fenders, radiator support, and wiring in the way. I plan to finish cleaning up and painting the engine bay in about a week then reassemble the engine and get it back where it belongs this month. However, as we all know, we make plans but can't always follow through with our desires and wants.

I hope the short presentation I did regarding the club's FT-857 Go Box last month was informative. We now have a go box that is fully digital capable. Any club member can use this radio system and operate it in any mode; CW, SSB, or digital modes with no issues. I added a Digirig that interfaces with the radio and computer to give us cat control and a digital sound interface. If you have questions or need more information please ask and I will be glad to assist. Until next month — "Be safe and Ham it UP"!

"You have brains in your head. You have feet in your shoes. You can steer yourself any direction you choose." Dr. Seuss, *Oh, The Places You'll Go* 

11

## Knox County Repeaters K8EEN

#### 146.790 Pl 71.9

Type: Analog Only Features: Weather Net, ARES Net at 9:00PM on Sunday EchoLink: 809800 444.600 PL 71.9 Digital ID 00 for C4FM/Fusion Type: Automatic Mix mode, Analog and Yaesu C4FM/Fusion Features: Backup to the 146.790 machine.

#### **KD8EVR Repeater**

31391 - Northeast Ohio 31398 - EMCOMM

#### 442.100 PL 71.9

Type: Automatic Mixed mode, Analog and DMR Color Code: CC7 (which is the digital PL of DMR) TalkGroups with TimeSlots TimeSlot1 Local 9 - Local Traffic Only 313964 - Knox, Morrow and Marion County Link 31395 - ARES USA only Timeslot2 Local 2 - Local Traffic Only 3139 - Ohio Statewide 10-minute limit

<u>Repeaterbook.com</u> has listings of repeaters across North America.



"Be a bush if you can't be a tree. If you can't be a highway, just be a trail. If you can't be a sun, be a star. For it isn't by size that you win or fail. Be the best of whatever you are." Martin Luther King Jr.

## Final Takeaway—Antenna Analyzer

An antenna analyzer is a device used to test and troubleshoot antenna systems, primarily by measuring impedance and standing wave ratio (SWR). It helps in tuning antennas to their optimal performance and identifying potential issues within the antenna or its feedline.

Antenna analyzers are crucial for evaluating and optimizing antenna performance. They help determine key antenna characteristics like resonant frequency, bandwidth, impedance, and SWR, allowing for precise tuning and troubleshooting. This leads to better signal transfer, improved efficiency, and reduced potential for damage to transmitting equipment.

#### What an antenna analyzer does:

Measures SWR

A key function is to measure SWR, which indicates how well the antenna matches the transmission line. A lower SWR means more power is transferred to the antenna and less is reflected back, indicating better performance.

Measures Impedance

Antenna analyzers can also measure the impedance of the antenna system, which is the total opposition to the flow of radio frequency (RF) current. This includes resistance, reactance (capacitive and inductive), and helps in tuning the antenna for optimal performance.

• Frequency Sweep

Many analyzers can sweep across a range of frequencies, displaying SWR or impedance values at each point, allowing for a comprehensive analysis of the antenna's behavior across a band.

• Fault Detection

Analyzers can be used to locate faults in the antenna system, such as breaks in the cable or poor connections.

#### How an antenna analyzer is used:

Tuning Antennas

Antenna analyzers are invaluable for physically adjusting the antenna's length or configuration to achieve the lowest possible SWR at the desired operating frequency.

Diagnosing Problems

By analyzing impedance and SWR, users can pinpoint issues like improper matching, antenna resonance problems, or cable faults.

• Verification

They can verify if an antenna is functioning according to specifications or if modifications have improved its performance.

#### Types of Antenna Analyzers:

Basic Antenna Analyzers

These are simple devices that measure SWR at a single frequency, often built into radios.

Advanced Analyzers

These offer features like frequency sweeps, impedance measurements, and Smith chart displays, providing more detailed insights into antenna performance.

• Vector Network Analyzers (VNAs)

VNAs, like the NanoVNA, are sophisticated analyzers that can measure various parameters, including S-parameters, which are useful for advanced antenna analysis.

"In three words I can sum up everything I've learned about life: It goes on." Robert Frost







Advanced Antenna Analyzer

In essence, an antenna analyzer is a versatile tool for anyone working with antennas, from amateur radio enthusiasts to professional engineers, helping to ensure optimal performance and efficient operation of antenna systems.

#### Why antenna analyzers are valuable:

- 1. Measuring Antenna Characteristics:
- Resonance and Tuning

Antenna analyzers can identify the resonant frequency of an antenna, which is the frequency at which it performs optimally. They also allow you to adjust the antenna (e.g., by changing its length) to achieve resonance at your desired frequency.

Impedance Matching

Antenna analyzers measure impedance, which is the resistance to the flow of RF energy. Matching the antenna's impedance to the feedline and transmitter is crucial for efficient power transfer.

• Standing Wave Ratio (SWR)

SWR is a measure of how well the antenna matches the feedline and transmitter. A low SWR (ideally close to 1:1) indicates good matching and efficient power transfer.

Bandwidth

Analyzers can also show the bandwidth of an antenna, which is the range of frequencies over which it operates effectively.

2. Troubleshooting and Maintenance:

• Identifying Problems:

An analyzer can quickly pinpoint issues like high SWR, impedance mismatches, or cable problems.

• Troubleshooting Antenna Systems:

They help in diagnosing problems with the antenna itself, the feedline (the cable connecting the antenna to the radio), or even the connection to the radio.

• Verifying Performance After Installation or Repair: After installing or repairing an antenna system, an analyzer can verify that it's performing as expected.

Mount Vernon Amateur Radio Club CQ

3. Advantages Over Other Analyzing Methods:

• No Need for Transmitter:

Antenna analyzers have a built-in signal generator, so you don't need to connect them to your transmitter during testing. This is safer and more convenient, especially when working with potentially high-powered transmitters.

• Detailed Measurements:

Analyzers provide more comprehensive data than a simple SWR meter, often including impedance, reactance, and Smith chart displays.

Field Use:

Many analyzers are compact and battery-powered, making them suitable for field testing and antenna installations such as ARRL Field Day.

Antenna analyzers are invaluable for those who design, build, or experiment with antennas. They allow for rapid prototyping and adjustment of antenna designs.



Analog Antenna Analyzers

Color Video Display Antenna Analyzer Co

Compact Display Antenna Analyzer



Smith Chart displaying resistance and impedance values derived from a VNA

## **Ohio ARRL Sanctioned Hamfests**

Ohio ARRL Hamfest gatherings and Conventions <u>Ohio Great Lakes Division ARRL Sanctioned Hamfests</u>. Or <u>https://arrl-ohio.org/hamfests/</u>



## **Training Class Schedule**

G. Michael, KE8HGE



Sessions meet weekly, every Tuesday evenings, starting at 6:30 pm.

Study Session Schedule, 2025

General Class license

July 1 to August 19, testing session August 20.

- Technician Class license
- October 28 to December 16, testing session December 17.

#### June 2025 Meeting Attendees

Frank, KC8EVS	Roger, KE8ICI	Nathan, KEORYO	Michael, KE8HGE
Bill, KD8WHQ	Larry, AC8YE	Evan, KF8APC	Terry, KI8N
Barry, N8PPF	Wendell, KE8NUX	Don, KB8QPO	Tom, KD8HSA
Emery, W8TW	Tony, KE8OOE	Scott, W8HK	Kevin, KD8NGV
Bill, KE8ZIG	Jim, KD8IZT	Don, W8PEN	

#### **Editors Notes**



The MVARC Newsletter is delivered to club members via email containing a link to the MVARC webpage, 2025 Newsletters button.

We **NEED** your input - help eliminate missing articles on club events or interests!

Submit an article as a Word, OpenOffice or text file attachment to an email. "Do not" submit a PDF file.

Contact email for the MVARC newsletter is:admin@mvarc.net.

MVARC CQ is the official newsletter of the Mount Vernon Amateur Radio Club.





Director Michael, KE8HGE



Vice President



Director Scott, N8SY Secretary / Treasurer Terry, KI8N



PIO Evan, KF8APC

No Photo Available

Tyler, KF8AVA No Photo Available

Director

Evan, KF8APC No Photo

Available

Director



EST



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