

Next Monthly Meeting: Friday February 25 6:30 PM at the MCL Cafeteria in Kettering .
Meeting is always the 4th Friday of the month except for when impacted by holidays

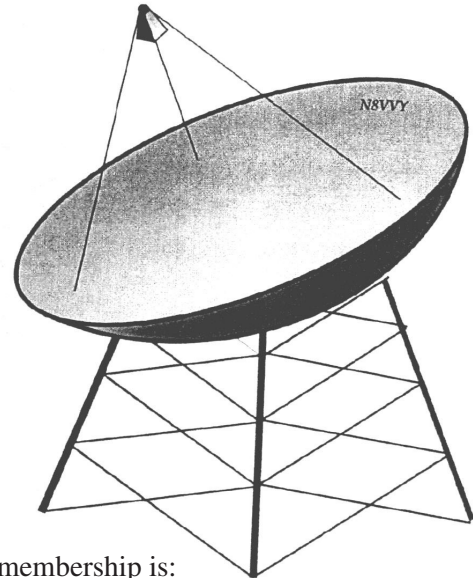
ANOMALOUS PROPAGATION

January 2024

Newsletter of the **Midwest VHF/UHF Society**

Editor: Jim Bacher, WB8VSU

For a Word document template for articles, send a request to Jim (j.bacher@ieee.org) or click on this link to get the Word format Template. Thank you!



Annual membership is:

\$12.00 for newsletter by Email

\$16 if newsletter by USPS

\$240 Life Membership by email

Make checks payable to Midwest VHF / UHF Society and mail to:

Joe Muchnij, N8QOD,
1214 Cottingwood Ct.
Bellbrook OH 45305

Material from this publication may be copied with
due credit to the source

Midwest VHF & UHF Society
ATTN: Tom Holmes
1055 Wilderness Bluff
Tipp City, OH 45371



Vol. 38 No. 1

www.mvus.org

January 2024

Beacons: 1296.079 W8KSE EM79ur Dayton, OH---- 2W to Big Wheel at 800' AGL.
MVUS Skimmer -. <http://www.reversebeacon.net/dxsd1/dxsd1.php?f=0&c=w8kse&t=de>

Contents

De N8ZM	3
Review of the Taidacent RF Power Meter	4
MVUS Renewal	8

MVUS Officials:
Pres. Tom Holmes, N8ZM,
Vice Pres. Mike Suhar, W8RKO
Secretary, Jim Bacher, WB8VSU
Treasurer, Joe Muchnij, N8QOD
Membership: Joe Muchnij, N8QOD
Newsletter Editor, Jim Bacher, WB8VSU
E-mail List Admin: Jim Bacher, WB8VSU
Photographer and Webmaster: Open
Website: <https://www.mvus.org/>

De N8ZM

December and the first half of January have been busy for me, or maybe I have just been lazy. Often it is difficult to determine which. I had plans to get a number of projects out of the way but a case of the flu and just a generally busy holiday schedule got in the way. I had, for example, committed to determining the status of our activities at the Englewood water tank, but so far, my attempts to contact them have been futile; returns of emails and phone calls have been zero. Not sure why, so will keep plugging away. It's too cold to do anything there anyway, I just would like to do a quick inspection to see if anything has changed that we would need to plan for. We were told that they would likely replace the panel in the top where the hatch is located, as this has had a lot of holes drilled and probably is a source of leaks and critter entrance. That means we will be doing some drilling up top. More to come.

I did put a bug in Daun's ear about ordering our flea market spaces for Hamvention, but I know he has been busy (or lazy too?) as well, so haven't heard back on the status of that yet. On my end, we will have the same trailer we used last year; I just need to get the current load of stuff out of it, but again, it's too cold for that right now. Plenty of time (famous last words?).

If you haven't got your MVUS dues caught up, please do so soon so we can keep you on the roster. Anom prop and the annual picnic are nice benefits.

The N8GA crew just completed the January ARRL VHF contest (yesterday as I write this) and while there did not seem to be a lot of activity or serious band openings, we did work a ZL on FT8! On 6m, of course. Did not see much CW/SSB activity, but maybe we didn't look for it often enough. FM activity was up a little, though. The score? Just short of 88,000 points, so no record but OK.

We will be having our monthly meeting at the MCL, as always, this Friday, the 26th, so hope to see YOU there.

de N8ZM

Review of the Taidacent RF Power Meter

Author: Mike Suhar, W8RKO

This device is produced by Shenzhen Taida Centruy Technology Co., Limited

This device was reviewed in the September 2023 issue of QST. The QST review only measured the instrument up to 500 MHz. The manufacturer's specifications indicate a range of 1 to 10,000 MHz. I wanted to know how it would perform in the microwave region. Unfortunately, my HP 8672A is out of service. That would have allowed me to go to 10 GHz. My Rigol DG836A will go to 3.6 GHz. It is a new instrument, so calibration should be valid. I was able to get up to 5,900 MHz by some "tomfoolery" settings on the FireFox 1912A. Using CAT, S11 mode, set to zero span at the desired frequency, and setting the minimum sweep time to 1 second results in turning it into a signal generator. Measured the power level from the Rigol using an HP438A and compared it to the FireFox in spectrum analyzer mode. I used an average of those measurements in the spreadsheet. When using the Firefox as a signal generator is just used the HP438A.

An 18" length of RG-142 was used to connect the generator to whichever instrument I was using to measure the level.

The Taidacent power meter can be obtained from Amazon for \$54. This is for the board and display only. No case is provided. I am working on a case, but it has been too cold in the garage to do the mechanical work. I will finish it when it warms up.

I don't know what device they are using on the PC board as the part numbers have been removed.

They list the specifications as follows, but do not indicate accuracy information.

Manufacture's specifications:

Measured power range:	-50 to 0 DBm
Resolution:	0.1 DBm
Measuring power:	1nW to 1 mW
Working voltage:	7 to 12 Volts (I ran this one on a 9V lithium primary battery)
Working current:	<50 mA (I measured 43 mA)
Working temperature:	-40C to 65C
Dimensions:	55 x 45 x 10 mm (LxWxH)

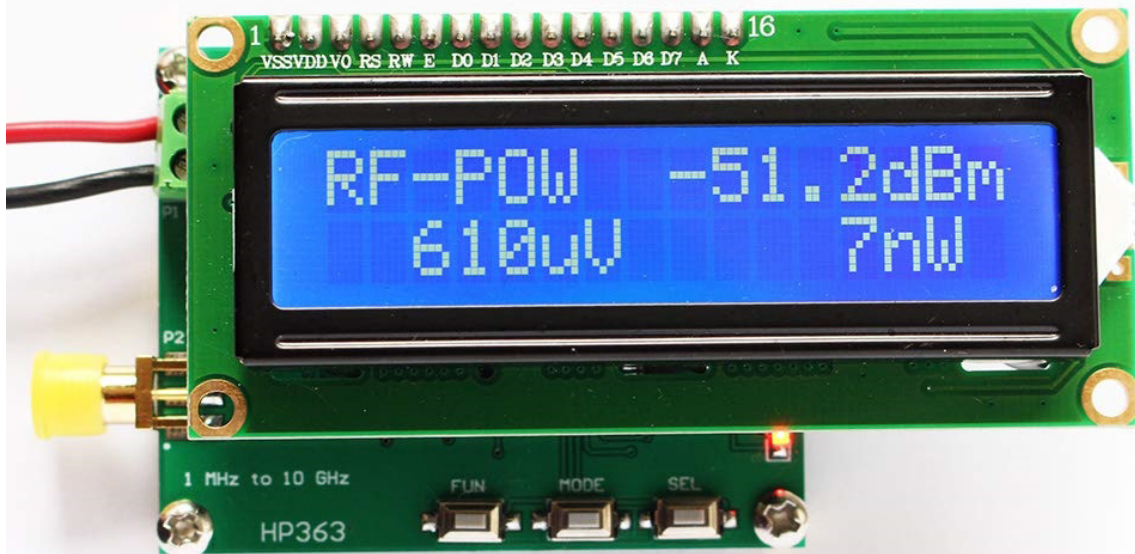
Three push buttons are on the main PC board which allow for setting attenuation offsets, positive or negative. This could be used for external attenuators or to adjust for measurement error.

My measurements. I averaged the measured values from the 438A and the FieldFox when both were available. FieldFox does not measure below 2 MHz. Cable loss was not used in the calculations since the same cable was used for all measurements. I was disappointed to see the large errors from 800 through 4,000 MHz. Further investigation needs to be done above 6,000 MHz to see if the errors continue to drop or if the deteriorate again up to 10 Ghz.

The error values could be input into the device but only one. You would have to know the error at the frequency of interest and enter it into the device.

TAIDACENT RF POWER METER

MHz	DBm			DB	DBm
Frequency	HP438B	FieldFox	Average	Cable Loss	Taidacent
0.1	-20.9	X	-20.9	0	-20.6
1	-20.5	X	-20.5	0	-20.7
10	-20.2	-19.8	-20	0	-20.3
30	-20	-20	-20	0.01	-20.3
50	-20.2	-20.2	-20.2	0.02	-20.3
144	-20.3	-20.3	-20.3	0.1	-20.2
450	-20.3	-20	-20.15	0.11	-19.3
800	-20.2	-20.1	-20.15	0.24	-18.2
1000	-20.4	-20.3	-20.35	0.24	-17.5
2000	-20.7	-20.4	-20.55	0.24	-13.7
3000	-20.8	-20.4	-20.6	0.37	-15.7
4000	-15.4	X	-15.4	0.5	-14.2
5000	-16.8	X	-16.8	0.56	-16.6
5900	-19.2	X	-19.2	0.56	-18.5
Cable: RG-142 18" N-SMA connectors					
HP438B Power Sensor:		<10 MHz	8482A		
		>10 MHz	8481A		
Power Source:	Rigol DG836A set to -20 DBm				
Above 3 GHz: FireFox 1912A (CAT mode, S11, Zero Span, Min Sweep time: 1 second)					



Main Display with three buttons on main board. Boards connect via a 16-pin header.



Positive or negative values can be entered

A Blank Page :-)

MVUS Renewal

Don't forget to renew your MVUS membership.

Annual membership is:

\$12.00 for newsletter by Email

\$16 if newsletter by USPS

Or

\$240 for Life Membership with Newsletter by email

Make checks payable Midwest VHF / UHF Society and mail to:

Joe Muchnij, N8QOD

1214 Cottingwood Ct.

Bellbrook OH 45305

Memberships are prorated by month. So you can send any amount and Joe will adjust your membership accordingly

If you want to pay by PayPal you can send your renewal to Either Tom Holmes, N8ZM or Jim Bacher, WB8VSU and we will get your renewal to Joe.

Tom's PayPal account is: tholmes@woh.rr.com

Jim's PayPal account is: wb8vsu@arrrl.net