



The President's Message

Hello, MTARA members ~~



Congratulations to Vic, KK6WKI, on his election as MTARA president. He brings experience to the job, as he preceded me as president and is taking on the job again. Thank you, Vic !

Thank you, also, to Nancy, K6CUB, for staying on as treasurer, and to Gail, KM6GBN, for assuming the position of secretary. Debbie, WB6LVC, will be a tough act to follow, but Gail has been a respected leader in the club since its early days and is the ideal "foot" to step into Debbie's shoes.

It has been a privilege for me to have been MTARA's president for the past two years, and I'm looking forward to my term as vice president.

I encourage our newer members to prepare themselves to assume board positions in the future. After all, you represent the future of an organization that is a very important asset to our community.

Seven Three, Everyone, and Happy New Year !

Lorna

PS. Vic: Your rain dances are working !

Happy Holidays



Officers

- **President:**
Lorna Polley, KJ6GFS
- **Vice-President:**
Chet Olson, AE6CO
- **Treasurer:**
Nancy Karlson, K6CUB
- **Secretary/Newsletter**
Debbie Johnson, WB6LVC
- **Ed/Membership:**
Tracy Lenocker, WM6T
- **Past Presidents:**
Chrystal Stenberg, KK6API
John Snedden, KT7P
Vic Marquez, KK6WKI

The Mountain Top ARES group is an ARRL affiliated organization and part of the Mountain Top Amateur Radio Association

Monthly Club Meetings

Club meetings are held on the first Tuesday of each month. The meeting begins at 7:00 p.m. and lasts until approximately 9:00 p.m.

Our meetings are open to everyone; so bring a friend, and keep the hobby growing. There is always a presentation that will pique your interest and add to your knowledge.

Meetings are held at the Lake Arrowhead Community Presbyterian Church
351 South State Highway 173, Lake Arrowhead, CA 92352

Membership

Membership in MTARA is open to any individual interested in learning more about Amateur Radio. An FCC issued license is not required, but is encouraged. Membership is on an annual basis, running for the calendar year. There are no prorated membership fees. Club fees are \$20.00 for a single membership and \$30.00 for a family membership. The necessary forms can be found on the club's home page @ MTARA.club. Current members only need to send in their dues to MTARA, PO Box 2441, Lake Arrowhead, Ca. New members will need to download and send in their forms and payment to the same address.



TREASURER'S REPORT

Our beginning December Balance was:

\$12,036.68

Income:

\$80.00

73, Nancy K6CUB

Local Weekly Nets

	Repeater	Time	Activity	Purpose
Monday	MTARA—2	7:00 p.m.	Weekly Check-In	MTARA News
Monday	144.330 MHz	8:00 p.m.	“Gordo Net”	Simplex Readiness
Tuesday	MTARA—5	7:00 p.m.	“Debbie Net”	Educational Topics
Wednesday	HF	7:30 p.m. First Wednesday	7.223 MHz	Band(s) Status
Friday	MTARA—5	5:00 p.m.	YL Happy Hour	It’s Friday
Daily	CBARC	7:00 a.m.	Tech. Net	Elmer Sessions

Upcoming Calendar Of Events

- January 1—ARRL Straight Key Night Starts at Midnight Local Time
- January 6—Kids Day
- January 13-14—North American QSO Party-CW
- January 20-21—North American QSO Party-SSB
- January 21-27— Quartzfest 2024, Quartzsite, AZ
- February 10-11—Orlando Hamcation



**Track Santa
With NORAD**

On Christmas Eve
Official NORAD Tracks Santa
(noradsanta.org)

Forgotten Cookies

Looking for a quick holiday dessert or a treat to bring to a party? Stop right here and learn about Forgotten Cookies. You just whip them up and forget about them! How's that for easy?

Mix together: 2 egg whites-beat to very stiff texture, as you gradually add 2/3 cup of sugar. It should stand in peaks.

Next :

Add: 1 cup of chocolate chips (any flavor) and 1 cup chopped nuts (Optional)

Pinch of salt, 1 tsp. vanilla extract

Preheat the oven to 350 degrees for at least 15 minutes or put in oven that has already cooked something to that temperature.

Drop teaspoonful onto ungreased cookie sheet.

Put in oven

Turn off all heat. Leave in overnight or for at least 4 hours.

DONE!

Recognition of Club Members' Volunteer Service

by WB6LVC

If you were not present at our club meeting on December 5th, you missed out on the recognition of our members who had been valuable participants in communications during Snowmageddon. Dede/K6DDZ, along with the representatives from ARRL, Bob Turner/W6RHK-Orange Section Manager and Bob Smith/KO6BOB-Orange Section Asst. Emergency Coordinator for SB County, presented members with a Certificate of Merit from the ARRL. Dede also received an ARRL Commendation for her part as the ARES coordinator for Big Bear and her work with the Red Cross during this massive emergency that affected all who live or work on the mountains. As Tracy, WM6T is no longer living on the mountain, Dede is now in his former position as Orange Section ARES District Emergency Coordinator, and Nancy, K6CUB is now Mountain Top ARES Emergency Coordinator. It was a terrific moment, shared by all.

As you can see in the photos, many smiling faces showing how glad they were available and able to help.

Top Photo Left to Right

Bob Turner, W6RHK ARRL
Orange Section Manager

Dede Hermon, K6DDZ ARRL
Orange Section ARES District
Emergency Coordinator

Bob Smith, KO6BOB ARRL
Orange Section Assistant Section
Emergency Coordinator ARES



Left to Right—Bob, W6RHK Greg, N6GM Nancy K6CUB Tom K6KTH Debbie WB6LVC John W6GC Chet AE6CO Gary AA6GJ Tracy, WM6T Dede, K6DDZ Bob, KO6BOB Dee, N6DEE Not Pictured

Ponder the Pool by AA6GJ

Ponder the Pool is a way for us as Amateur Radio Enthusiasts to dive into selected questions more deeply from each of the current FCC pool of questions used to create the randomly generated Examinations for the Technician, General, and Amateur Extra License. Ponder the Pool is helpful to individuals who are studying for an exam or simply to review concepts that we have already learned.

Because, as we know, if we don't use it, we lose it.

This time we will ponder two questions. One from the Technician Class License Pool, and one from the General Class License Pool:

T7C08 – Which instrument can be used to determine SWR?

G4B10 – Which of the following can be determined with a directional wattmeter?

These are great questions because I received an early Christmas gift when I was able to buy a Bird ThruLine Model 43 Directional Wattmeter at an MTARA meeting earlier this year. These devices are rare in most ham shacks because they can be a little pricey, so I'm very happy to have acquired one so that I can share with you how they help determine forward power, reflected power, and SWR (Standing Wave Ratio).

In November, I joined the ranks of the Amateur Television Network, and began assembling and installing Digital Television transmission and reception equipment. My particular station transmits on the UHF band at 434 MHz. Since my antenna analyzer will not operate in the UHF band, I had to figure out a different way to determine SWR when setting up my new 70 cm Yagi antenna, pictured here.



This was the perfect opportunity to try out my new "Bird."

I first had to purchase an Element (slug) for the wattmeter to work in the 70 cm band. I also had to make sure that I selected the correct power range. Since ATV is seldom transmitted at more than 20 watts, I was good to go for a 25-watt element between 200 to 500 MHz. The element cost almost \$200 with tax and shipping, still less than a new analyzer, though.

On the next page, you can see my set up. The little 70 cm linear amplifier has a low, medium, and high output. For this article I only performed high output measurement.



The Bird 43 wattmeter (pictured above) can be used to calculate the Standing Wave Ratio (SWR). The Bird 43 wattmeter measures both forward (P_f) and reflected (P_r) power.

I had to take two measurements:

With the arrow pointing toward the antenna, I read a power of **16 watts** forward power (**P_f**).

I then turned the element so that it was pointing in the opposite direction toward the transmitter to read power coming back toward the transmitter, reflected power. I read a power of **0.75** watts reflected power (**P_r**).

So far, so good. Since a directional wattmeter is not an SWR meter (it's a lot more accurate), we must perform something everyone hates. MATH! Hold on, we are allowed to use a calculator on our exams. With modern day scientific calculators practically everywhere, even on your phone, this is a breeze.

You can use the measurements in **bold** above to calculate the SWR using the following equation. Just plug in the numbers on your calculator, and away you go.

Measuring Forward Power and Reflected Power with a Bird Model 43 Thru-line Wattmeter and then Calculating Voltage Standing Wave Ratio (VSWR)

$$VSWR = \frac{1 + \sqrt{\frac{P_r}{P_f}}}{1 - \sqrt{\frac{P_r}{P_f}}}$$

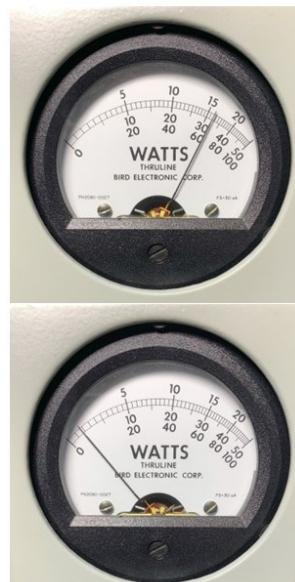
$$VSWR = \frac{1 + \sqrt{\frac{.75 W}{16 W}}}{1 - \sqrt{\frac{.75 W}{16 W}}}$$

$$VSWR = \frac{1 + \sqrt{0.046875}}{1 - \sqrt{0.046875}}$$

$$VSWR = \frac{1 + 0.21650}{1 - 0.21650}$$

$$VSWR = \frac{1.2165}{.7835}$$

VSWR = 1.55: 1



Look at that! 1.55:1! Not bad. Of course, we all know that a 1:1 SWR is perfect, but with less than a watt being reflected, messing with the antenna would be just too tricky to get it any better. I have OCD, but not that bad! LOL!!

Please note that this formula assumes that the power meter is accurate, and the load is pure resistance. If the load has any reactive component, the calculation may not be accurate. It's also important to remember that a low SWR does not necessarily mean that your antenna is performing optimally. It simply means that the impedance of your antenna matches the impedance of your transmission line, minimizing reflected power. Other factors, such as antenna gain and radiation pattern, also affect antenna performance.

That is why the official answers to these two questions are:

T7C08 – Directional wattmeter
G4B10 – Standing wave ratio

That's *Ponder the Pool* for another month. I hope it was helpful. Stay tuned, next month we will come up with another question to ponder. 73 – Gary
 If you have any questions or comments, drop me an email at AA6GJ@arrl.net



Amateur Radio Exams Now Online or In-Person!

No Paper! All Electronic! Very Cool!

with K6DDZ & AA6GJ

Now that MTARA is back to in-person meetings, amateur radio testing will be offered before each meeting. Testing will cover all three elements (Technician, General and Amateur Extra). Remote (online) testing is also available by appointment.

For MTARA in-person or remote testing, please go to **K6DDZ.com - Amateur Radio Testing Made Simple.**

ONLY ONE CLICK to:

Order Gordon West's study materials

HamStudy.org Practice Tests (all levels)

Schedule a Test (in-person or remote)

Get Your FCC Registration Number (FRN)

Pay for Your Test

...and even click to Gary's (AA6GJ) video training for more in-depth knowledge

Let's keep it simple! Any questions, email Dede Hermon at DedeK6DDZ@gmail.com

And if you are DTH (Down the Hill)

You can test all classes of license with the

West End Amateur Radio
Group



That's my team AA6GJ and the Group

If you are interested, drop me an email at AA6GJ@arrl.net to set a time, either online or in-person or to just get information. We can help you with your FRN, too.

73,

Gary

<https://GaryRJohnson.org>

Mountain Top Amateur Radio Association

The Amateur's Code by Paul M. Segal, W9EEA (1928)

The Radio Amateur is:

CONSIDERATE never knowingly operating in such a way as to lessen the pleasure of others.

LOYAL offering loyalty, encouragement and support to other amateurs, local clubs and the American Radio Relay League, through which Amateur Radio in the United States is represented nationally and internationally.

PROGRESSIVE with knowledge abreast of science, a well built and efficient station, and operation beyond reproach.

FRIENDLY with slow and patient operation when requested, friendly advice and counsel to the beginner, kindly assistance, co-operation and consideration for the interests of others. These are the hallmarks of the amateur spirit.

BALANCED Radio is an avocation, never interfering with duties owed to family, job, school or commu-

MTARA Shirts, Jackets, and More

We have many items available with our club logo.

The information for ordering is as follows:

- Name Tags—Harlan Technologies, Name Tags by Gene (715) 340-1299, www.hampubs.com
- Mouse Pads—Check with Jodi, WA6JL
- Polo Shirts—Port Authority 510L Dark Green, 510K Dark Green, Long Sleeve Dark Green.—Check with Brandy
- Jackets—Forest Green or Black J317. Sizes Small to 6X
- Brandy will also embroider hats. You must supply the hat.
- Contact:

Hurt Ink

2651 Coleen Lane

San Bernardino, CA 92407

(909) 815-6852

hurtink815@gmail.com

www.hurtink.com

