



MTARA NEWS



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President: Vic Marquez, KK6WKI

Secretary: Dave Esquer, K6WDE

Ed/Membership: Tracy Lenocker, WM6T

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

Vice President: Gary Johnson, AA6GJ

Treasurer: Patty Szychowski, KK6LWH

Past President: John Snedden, KT7P

President Vic's Message

Greetings from your President, Vic, KK6WKI.

Remember, I am a relatively new ham. Given our continued new member growth, I thought this month that I'd share some of **my new ham journey tips** and spare you the snow dance tips and moves that I had planned!

Getting on the air

Although nervousness is natural, there are some things that you can do to make it go a little smoother. Some find it helpful to write down information you will use during your QSO. It is also nice to have an Elmer with you for your first few QSOs.

I thought it was very helpful to have an Elmer with me when I did my first special event. After you have a couple of contacts under your belt, you'll find your nervousness has worn off.

Actual on the air experience is the best teacher. Learn by doing and listening to others. Tune around the bands and just listen to as many QSOs as you can. Learn how other operators conduct themselves, see

what works for them and what doesn't.

Don't be afraid to ask questions of someone who might be able to help, remember, we are all in this hobby together and everyone on the air had to make their first QSO at some time or other. It's the nature of the Ham to be friendly.

Please, please, don't let some rude, impatient operator discourage you, just like anything in life, there is always going to be some Alpha Hotel (*Editor, huh?*) on the radio, luckily they are far and few between.

Initiating a contact

There are three ways to initiate a voice contact: call CQ (a general call to any station), answer a CQ or call at the end of another person's QSO. Before calling CQ, it is very important to find a frequency that is unoccupied by any other station. Listen carefully, there may be a weak DX station on frequency. After a reasonable time, ask "is this frequency in use" followed by your call sign, if no one responds, you are ready to make your call.

Calling CQ should be kept short, if no one answers, call again. It goes something like this, "CQ, CQ,

calling CQ, this is Kilo-Kilo-Six-Whiskey-Kilo-India calling CQ and listening". When you are answering a call, state your call sign phonetically.

The QSO

During the QSO, remember to ID every 10 minutes. Keep the contact friendly and cordial, your QSO is not private and others may be listening. The basic QSO will start with signal strength (signal reports on phone are two digit numbers using the RS portion of the RST system, no tone report is required, the maximum signal report would be 5/9, readability-5, strength-9).

Once the basics are exchanged, the conversation can go in almost any direction, usually starting with your QTH (location), your station and equipment. Many people talk about their families, other hobbies, jobs and maybe travel experiences and so on.

Chasing DX

I'll never forget my first DX contact, it was on 20 meters, I heard a station calling CQ, I threw out my call sign along with a boat load of other stations and after a few tries I my made contact, KH7HI in Hawaii, 2,527 miles. After that, I was totally

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hooked. DX is universally understood by Hams to be a station in a foreign country but for the record, back on April 13, 1922, a QSO between a California station and Hawaiian station was considered a DX contact. Alaska is also considered a DX contact.

I've made over a 100 DX contacts, all over the world, including, VP8LP, Falkland Islands, 6,931.7 miles, 9K2GS, Kuwait, 7,943.9 miles, YB0IBM, Indonesia, 9,036.5 miles and my furthest contact to date ZS6CCY, South Africa, 10,258.1 miles.

The beauty of DX-ing is that you don't need a super kilowatt station and huge antennas, I run barefoot (100 watts and a wire). I do use spotting software.

Ending the QSO

When you decide to end the QSO or the other station presses the desire to end it, don't keep talking. Briefly express your thanks for the contact and sign off with your call sign.

Spotting

Real time spotting is probably the most superior method of intelligence gathering currently in use for DX-ing. The DX spotting network now stretches around the world through internet connections. It's possible to see what's being worked in Italy or Japan and to know what stations in certain areas are on the air.

My favorite spotting site is [DXsummit.fi](#). It's free and easy to

use. I also use [QRZ.com](#) for logging my DX contacts rather than through the [N3FJP](#) contesting logging software.

Last but not least, if you're still a little nervous about getting on the air, please join me on Wednesday evening on Dave's Hamster net. We have a great group of very friendly folks, made up of mostly MTARA members like yourself, so you will be most welcome.

Stay radio-active and as always, **if you see something, say something!**

73, Vic

Monthly Club Meetings

Our monthly meetings are on the first Tuesday of each month. **March 2 is our next Zoom meeting.**

The virtual meetings begin at 7:00 p.m. and last until about 8:00 p.m. Our meetings are open to everyone, licensed amateur radio or just interested parties. Our purpose is to provide educational opportunities, mentoring, radio communication training and providing radio communications for community events.

For our virtual meetings, interested parties, NOT members of the club will need to email tracy@lenocker.com with their name and callsign. The credentials for the meeting will then be emailed to that person.

See and hear you Tuesday!

Treasurer's Report - KK6LWH

Our opening February 2 balance was \$10,001.92, deposits for February were \$565.00. There were no expenses for the month and the total funds on deposit in our account is now \$10,566.92 as of March 2.

73,

Patty

Editor's Update, QSO Today Ham Expo - K6WDE

March 13-14 will be the second [QSO Today Virtual Ham Expo](#). ARRL is a QSO Today partner.

It should be an exciting event, worth the cost of admission. Click the link to purchase your early bird tickets or to check out the vendors and presenters.

Online Zoom tech meetings

Our Zoom meetings are on THURSDAYs at 2:00 p.m. Check out the MTARA Website home page for a listing of what each of the presentations will be about. If you need help setting up Zoom on your laptop or smart phone please contact Tracy, WM6T, who will help you get set up and running.

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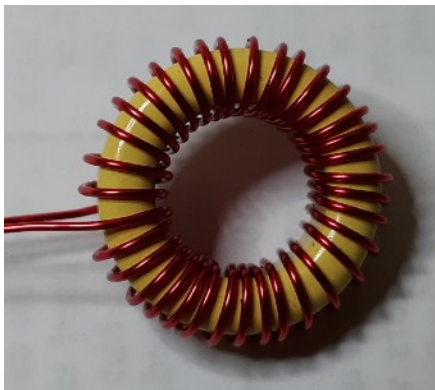
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Echolink Update

We now have Echolink capability on two of our repeaters. These are MTARA2 (Channel 12) and MTARA5 (Channel 15) which are 2-meters and 1.25-meters respectively. The Echolink on MTARA2 is still the same and the call sign is WM6T-L. The newest Echolink capability is on our MTARA5 channel which is our private 220 repeater. The call sign is WA6MTN-R. It is now fully functional but might get a few tweaks over the next month or two which should not affect any use. This capability on MTARA5 will allow more members to participate in the Tuesday night discussion nets and for the ladies in the Friday YL Happy Hour net. Both Echolink systems are available 24/7.

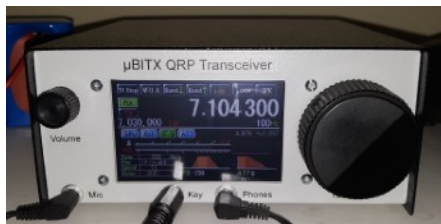
More Construction Tips with Greg! - AJ6FN

To verify the **turn count on a toroid** you wind, take a photograph and enlarge it.



Then count the turns in the photo.

Use Waterslide decal paper to make great looking front and rear panels for your projects. Drill holes and make any other panel openings necessary. Spray paint panel. Print labels on paper, place them onto the panel and see how things look.



Print your labels onto Waterslide decals and place on panel following the decal directions. Finally, spray a few coats of clear over the entire



panel. I use Rustoleum Matte Clear Enamel on my panels. Waterslide decals are available on eBay and Amazon.

Use emery boards or glue various grits of sandpaper to Popsicle sticks to sand inside rectangular holes in panels for electronic

projects.



For some electronic projects, **Gorilla Wood Glue** can be used for RF applications. I have used it to secure windings on coils.

- 73, Greg

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Member Spotlight, Rhonda Larson - KJ6FQP

Rhonda Larson, KM6YBZ, was nominated by Jodi WA6JL, a couple of weeks ago during YL Happy Hour to be another MTARA member to spotlight in our Club newsletter. Rhonda told the YL's that she is boring and would not have anything interesting to say about herself.



Well, I have since learned that nothing could be further from the truth! While clearly humble, and not easily inclined to talk about herself, Rhonda is a gem among us ladies with some really special and interesting qualities and interests to share.

Regarding HAM radio, while growing up in Pennsylvania and North Dakota, Rhonda would sometimes visit her Uncle Albert in Florida, who was a HAM. He used to listen to hurricane reports, and she remembers hearing him talking with people over his HAM radio which fascinated her. She remembers considering what an interesting way that is to communicate with people. Fast forward to her retirement, Rhonda wanted to be able to share an interest that would help her remain connected with her “very logical minded, left-brain husband” in the newfound time that would be available to them both. So, SHE suggested HAM radio to Jim KM6YCA, and he

jumped at the chance! Rhonda said that although Jim could pass all the tests almost without studying, she had to study hard to earn her tech license in the fall of 2018; and even harder for the General, which she accomplished in 2020. She does not have her own equipment, because she and Jim share their shack.

For over 50 years Rhonda has known Jim. They met at the University of Illinois in Champaign-Urbana. She had come from Chicago, while Jim had come from Seattle. She earned baccalaureate and master's degrees in education, while Jim majored in engineering. They have been married now 47 years, living and working in Illinois for a while, before moving to California. Appreciating the Southern California weather, they have stayed, settling in Placentia “a long time ago”. Their daughters talked Rhonda and Jim into buying a retirement get-a-way home in Crestline, hence having learned about MTARA, they joined. The couple have three of the greatest, most wonderful, and intelligent kids in the world. Their son is an accountant for the Navy; one daughter is a civil engineer like her dad, and the other daughter is also an engineer who works for Boeing. They have high HAM radio hopes for their two beautiful grandsons ages three and five. Indoctrinating them early, Rhonda said they have gotten those little boys' walkie-talkies already, thinking ahead that one day they will take over the shack!

Rhonda chose to teach school because she really likes kids and loves to read. Starting out as a sub at first when her children were small; when they grew older she increased to full time. She taught high school English and enjoyed the Seniors best for over twenty-one years before retiring in 2011. Asked if there were any regrets in her career choice, I got an emphatic no, no regrets, she loved it, never had a single problem, and does not have a single bad memory. I think that is special, as not many high school teachers today can claim such absolute pleasure with their jobs.

As for hobbies, in non-pandemic times Rhonda and Jim like go out to eat and enjoy a glass of wine with friends, or to play bridge twice a week. She also loves to read, especially British literature like Macbeth and Hamlet; another favorite is George Orwell's 1984.

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Lately she is reading the HAM radio Extra license study book, in preparation for the exam! Rhonda also enjoys walking around, meeting and talking with people along the way. While HAM radio was picked up after retiring, Rhonda is a long-time serious bicyclist! For many years she owns two light-weight TREK road bikes, made of carbon fiber with 28 gears and skinny wheels. Her local bicycle group has not been active for the past year because many of the places they like to stop for coffee or to eat have not been open. She misses her riding group and playing bridge.

Rhonda loves riding her bike, all over the world! You might say it is a passion of hers. "I have done a lot of traveling.... mostly by bicycle! I have been through Wisconsin, Tennessee, Texas, Arizona, Montana, Washington, California, Oregon, Nevada and a lot of other states. Also, I did the Allegheny trail from Pittsburgh, Pennsylvania ending in Washington DC! I have ridden down the Danube River ending in Vienna, all through Spain including Barcelona, Netherlands, France, Ireland, Croatia and a lot of other places! I have ridden my bike across Iowa six times!"

Apparently, it only takes seven days and nights to cross Iowa on a bicycle, riding between 70-90 miles each day; that annual trip is usually made in the last week of July. I, for one, would love to see some of her photos and hear more detail about those trips! Rhonda feels she has gotten out of shape, but she still envisions getting back on her bike for some long-distance bike travelling.

When asked to talk about a remarkable personal challenge she may have ever had to face, Rhonda feels she has been fortunate, in that the worst thing she can think of is the upcoming third HAM radio test, the Extra. She "worked very hard on the first two, ...but THIS one...There are 700 flashcards!" She studies a few of them every day and wishes her Uncle Albert were still alive so she could ask him a LOT of questions! Rhonda has designated the next four years as her study period before she will attempt the test for her Extra. It is her biggest challenge by far, in her opinion, except perhaps that first childbirth!

Rhonda reaches deep inside herself for courage and strength when needed. She sometimes asks herself, "what would my very logical-thinking husband do?", and then lets her subconscious mind, during sleep, bring her an answer. When asked what makes her unique, she quickly said that she is short at 4' 11½", but on further thought exclaimed proudly that she is a female HAM radio operator, which she feels is rare outside of MTARA.

Finally, I asked Rhonda if there is anything else that she would like members of our Club to know about her. This was Rhonda's response:

"Please just be patient and understanding with me. I still feel like a brand-new HAM. Just because I passed the first two tests, does not mean that I know or understand everything I tested on. I have a different kind of brain, and it's NOT a very logical brain. It doesn't come easy; I need to take technical information in small batches. Also, I really want to say that I feel MTARA is a GREAT club! There are amazing activities and opportunities to learn, from 160 members, almost every day, besides the YLHH. I belong to two other clubs, but by far this one is the best and friendliest in my experience. The other two don't even acknowledge me but they always acknowledge Jim, and he even reminds them to include me, but they do not. I don't think Tracy and others really know just how special MTARA is."

So, there you have Rhonda Larson! I think you'll all agree that there is nothing at all boring about this humble world-biking grandmother, who brought her husband to radio and is already working on her grandbabies to take it over. Contact Rhonda via [QRZ.com](#)

- 73, Assunta Maria Vickers, KJ6FQP

(Editor comment) **Beware!** Assunta may be contacting you for upcoming newsletters interviews. Please don't be shy if she asks you to introduce yourself!

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Phone Connectors - WM6T

There are many different kinds of phone connectors. They come in different types often called Stereo, Mono and RCA. Here are photos of each with their correct names.



The “T” stands for the Tip. “S” stands for the Sleeve which is normally a common

or ground connection and is the longest contact part. “R” stands for the circular Ring of which there may be one to three rings between the Tip and Sleeve.

The TS and TRS and RCA have been around for a long time. The TS is used for mono phone and speaker connections. A single RCA is also used for that purpose. The TRS is used for stereo connections. As electronics got smaller and smaller and users wanted a single connection to these small devices like cell phones manufacturer developed the TRRS and TRRRS connectors.

Special Uses in Ham Radio

Besides the obvious uses for microphones, headphones, earbuds, keys and normal operations there are a few special uses. In particular, a specifically made “Y” splitter cable can serve two interesting purposes.

Let’s look at this cable which is called a “3.5 mm TRS to Dual 3.5 mm TSF Stereo Breakout Cable”. In this case the “F” stands for Female.



Not all Y adapters like the one shown are wired the same. This particular model separates the left and right stereo to the black and red black socket respectively. This

type of adapter is not easy to find but they are listed on the common web purchasing sites if you look carefully. The one in the photo has labels called TIP and Ring which are names from the telephone industry.

This particular adapter has two interesting uses.

If you have truly stereo headphones you can connect your radio on the left side and your computer running WebSDR on the right side. In this case you simply control to volume with the radio and computer volume controls. An example would be to listen to HF on one side and the Zoom audio on the other side during our Wednesday night HF nets.

Or you can input any two different audio signals of your choosing. It does require a TRS female to female adapter for this connection as shown on the right in the photo.



The second use is for owners of Elecraft KX3 or KX2 radios. In this case, you plug in the TRS plug into the microphone connector. The red socket can now be used for PTT and the black is where you plug in the microphone. This allows you to have your microphone headset mic plugged into the black socket and the earphones plugged into the radio Phones socket. This



will allow you use a low-cost headset that does not have PTT capability.

Since the KX2 has a built-in microphone you also just plug in the PTT switch and listen on your

headphones or earbuds. This makes it easier than trying to push the small XMIT button on the face of the KX2.

If you are interested in the particular model of “Y” splitter adapter I use just send me an email.

- Tracy, WM6T

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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.	Weekly Check-in	Tech discussions
Wednesday	HF	7:30 p.m.	7.223 Mhz	Band(s) status
Friday	MTARA-5	5:00 p.m.	XYL Happy Hour!	It's Friday!
Daily	CBARC	7:00 a.m.	Technet	Elmer sessions

Membership Info

Membership in the Mountain Top Amateur Radio Association© is open to any person interested in learning more about Amateur Radio.

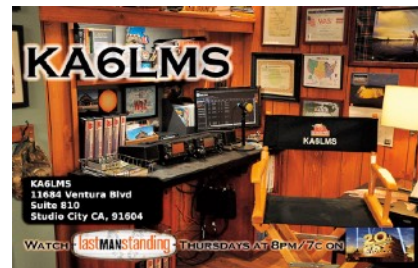
Members do not have to be a licensed Amateur Radio Operator to be a member but licensure is recommended. Members must be active in club activities which includes trainings, events, club meetings and Field Day. Membership is on an annual basis and is from January 1 to December 31 of each year. There are no prorated memberships. The annual membership is \$20 for a single member or \$30 for an entire family.

Current members do not need to fill out the renewal application form for 2021. You can just mail your check

to MTARA, PO Box 2441, Lake Arrowhead, CA 92352-2441. We already know who you are. Those who joined in November or December of this year are already paid for 2021. The membership form can be downloaded by [clicking here](#).

KA6LMS - Special Radio Event, Press Release

The [Last Man Standing Amateur Radio Club](#) is joining with a team of seasoned special-event operators across several states to present a multi-band, multi-mode special event celebrating the prime-time network TV show for its positive and accurate portrayal of amateur radio. During its nine seasons, the Last Man Standing ARC also operated as KA6LMS from real radios on the set during production



breaks, making thousands of contacts with the show's amateur radio fans.

The event will start at 00:00 UTC on March 24, 2021 and end at 23:59 UTC on March 30, 2021, the last day of shooting for the show, which is concluding its long, successful run.

The event will feature guest operators with special 1-by-1 call signs in most call sign areas. The 1x1 calls will act as Bonus Stations qualifying contacts to be able to download a "Clean Sweep" certificate. The KA6LMS call will also be used with a / (Call Area) attached to give access around the country.

The intent is to operate on as many bands and modes as possible. Satellite and repeater operation is also encouraged. We want to thank the PAPA Repeater system and Georgia DSTAR. We'll be running on REF012A DSTAR and a DMR TalkGroup via PAPA and REF030B via Georgia DSTAR. Operations will always be spotted online."

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Upcoming Calendar of Events

Activities that MTARA will be participating in or supporting during the upcoming months:


- ▶ MTARA monthly meeting - March 2 at 7:00 p.m.
- ▶ MTARA monthly meeting - April 6 at 7:00 p.m.
- ▶ [QSO Today Virtual Ham Expo](#), March 13-14

Upcoming VHF/UHF and HF Ham Radio contests or special events

A few fun events that club members can participate in and/or sharpen their communication skills with!

- ▶ [Slow Speed Con\(Test\)](#) for CW operators, **EVERY MONDAY** (4:00 - 5:00 p.m., PST) and **EVERY FRIDAY** (12:00 - 1:00 p.m. PST), a great learning tool for us new operators!
- ▶ [Weekly Phone Fray](#) by NW2K. A great way to get your feet wet for 30 minutes. It is weekly on Tuesday nights from 6:30 p.m. to 7:00 p.m. PST on SSB. The rapid-fire exchange is OP name and location ('Dave CA', e.g.). Folks start on 15 meters and then migrate to 20, 40, 80 and even 160 meters, its fun to watch the bands change as seasonal propagation does!
- ▶ [ARRL International DX Contest](#), SSB, March 6-7
- ▶ [South America 10 meter contest](#), March 13-14
- ▶ [Oklahoma QSO Party](#), [Idaho QSO Party](#), March 13-14
- ▶ [Wisconsin QSO Party](#), March 14-15
- ▶ [Virginia QSO Party](#), March 20-21

MTARA jackets

 We have our optional MTARA jackets, you too can look smart and cool! Two colors are available which are forest green or black. The forest green matches our polo shirts. Sizes available range from small to 6X. Here is a list of the sizes and **prices that include the lettering and sales tax.**

The Port Authority jackets without the \$6.00 name, call sign and MTARA logo are approximately \$6.47 less.

If interested, you need place your order with Mary at Classic Images in Crestline. Her number is 909-338-2281. She is there Tuesday through Friday and the address is 23723 Rocky Dell Drive, Crestline, CA 92325.

Size	S	M	L	XL	2X	3X	4X	5X	6X
Price	\$45.23	\$45.23	\$45.23	\$45.23	\$46.31	\$48.47	\$49.54	\$51.70	\$52.78

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Welcome to "Ponder the Pool" by AA6GJ

Ponder the Pool is my column for the MTARA Newsletter. Every month I pick a point to ponder (a question) from one of the three FCC question pools and try to explain it more and review the concepts because,

"If you don't use it, you lose it!"

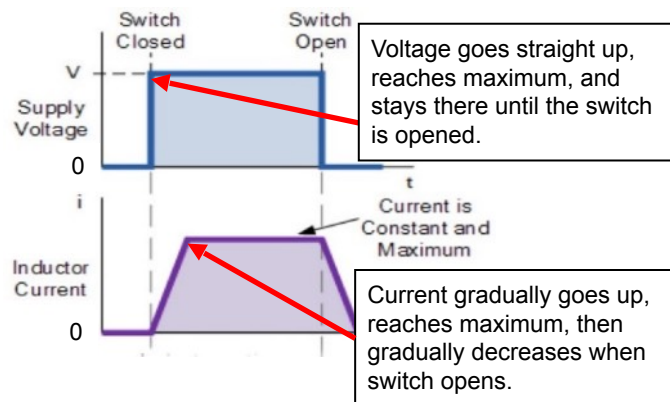
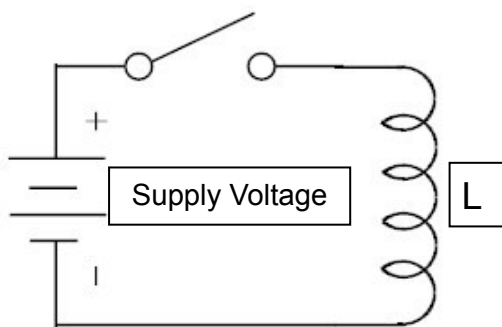
This time, we will ponder a question from the Extra Class pool: Question No. E5B07 ICE from "ELI the ICE Man" (page 154 in Gordon's Extra Class Book)

E5B11 – What is the phase angle between the voltage across and the current through a series RLC circuit if X_C is 25 ohms, R is 100 ohms, and X_L is 50 ohms?

The mnemonic "ELI the ICE man" can be helpful in keeping track of the phase between the voltage and current in an AC circuit.

In a circuit with only an inductor and an AC power source, there is a 90° phase difference between the current and voltage - the voltage leads the current by 90° . This is the ELI part...with an inductor (L), the emf (E) is ahead of (or Leading) the current (I).

In a circuit with only a capacitor and an AC power source, there is also a 90° phase difference between the current and voltage - the voltage lags the current in this case. This is the ICE part...with a capacitor (C), the voltage emf (E) is behind (or Lagging) the current (I). We had this discussion last month when dealing with the capacitor. This time we are going to discuss the ELI portion.



The circuit above is a series circuit consisting of a battery, a single pole single throw switch, and an inductor (L) (a coil of wire). Without getting too technical or going into AC theory, the above illustrates the relationship of voltage and current and how each react in an inductive circuit.

When the switch is closed, immediately a voltage is dropped across the inductor. Because of the nature of the inductor, as current begins to flow in the inductor, it immediately begins to oppose the flow of the current because the lines of flux induced in the inductor create a magnetic field.

Remember when we were kids, we would wrap a coil of wire around a nail and connect that wire to a battery. What happened? The wire started to get warm because it was a dead short across the battery. We couldn't leave it connected for

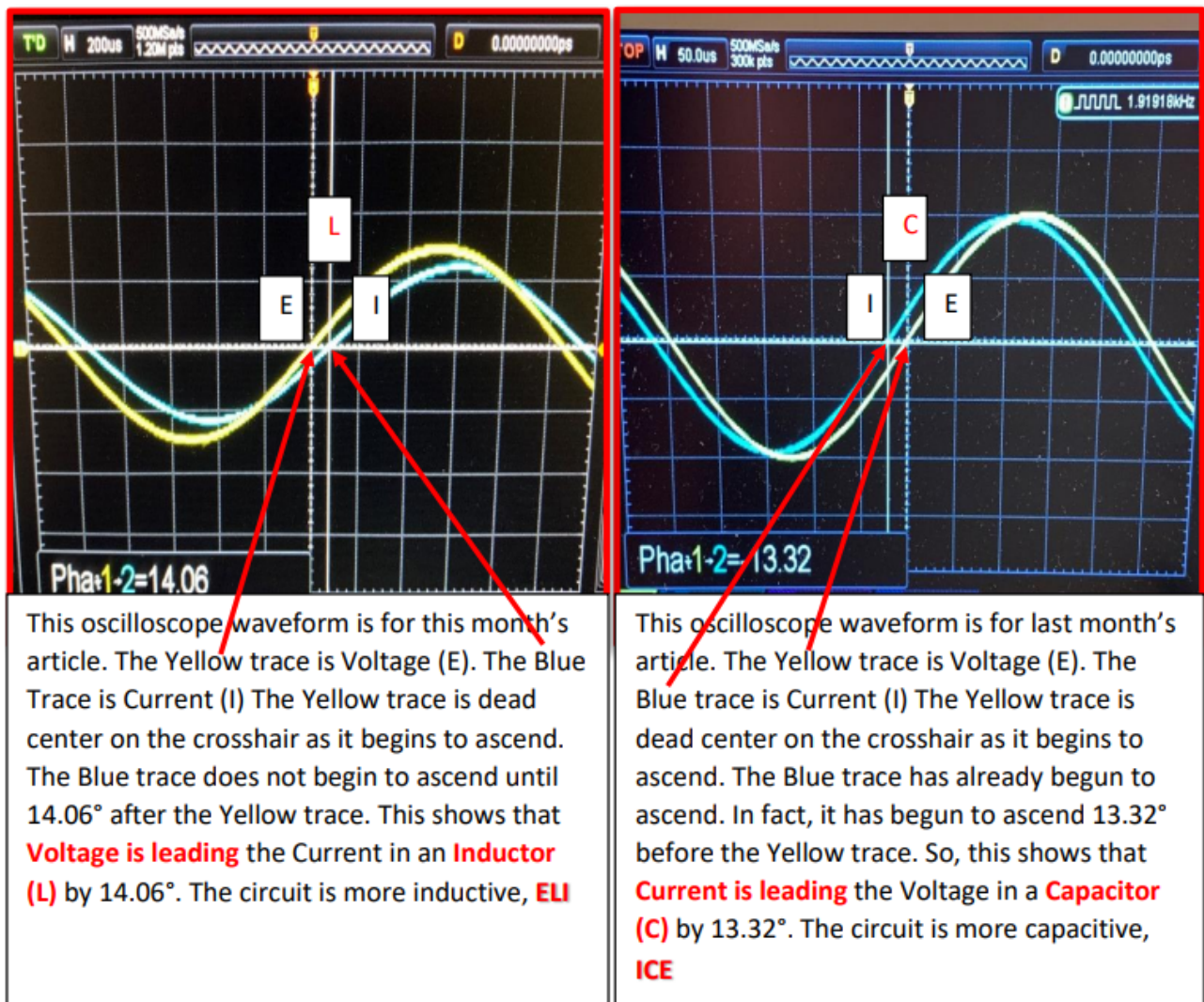
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long or the wire would get too hot, and you would kill the battery. But something else magically happened. Because of the magnetic flux in the coil, the nail became magnetized and it would attract small iron fillings. It was an electromagnet, right?

So, using the illustrations below, look at what happens first. The voltage goes from zero (0) to maximum. The voltage (E), right? That's the blue line. It instantaneously goes straight up. What follows that? The current (I). It gradually goes up from zero (0) until it eventually overcomes the reacting reverse current opposing the forward current. This is known as Inductive reactance or X_L . We measure it like we do with resistance in Ohms.

Because the voltage goes to its maximum first, we say that the voltage is leading the current, and, in this case, the voltage leads the current by 90° . ELI, where E is the Voltage, L is the inductor, and I is the current.

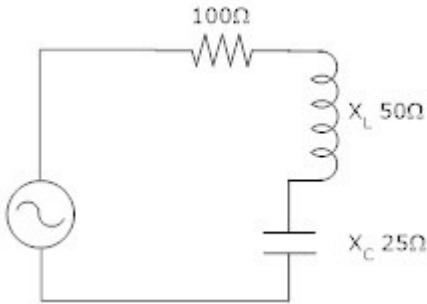


The two waveforms above sum up our discussion and illustrate the phase relationships of the inductor and the capacitor.

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So, let's move on now to solve our problem. We learned in this discussion and last time's discussion that both the Inductor and the Capacitor react differently to voltage and the flow of current. We also know that this reactance is a complex number that we measure in Ohms. Inductive reactance is X_L and Capacitive reactance is X_C . The schematic drawing of our problem is on the left. The great thing is we don't have to figure out the individual reactances or the resistance. They are given.



We will just use the equation below to figure out the phase angle. Instead of using a calculator this time, we'll use a Trigonometry Chart that you can find online. Below is an excerpt of one.

So, just plug in the numbers, and check the chart.

$$\tan \phi = \frac{X_L - X_C}{R} = \frac{50 - 25}{100} = \frac{25}{100} = .25$$

Excerpt of a Trig. Table

Degrees	Sine	Cosine	Tan
9	0.1564	0.9877	0.1564
10	0.1736	0.9848	0.1763
11	0.1908	0.9816	0.1944
12	0.2079	0.9781	0.2126
13	0.2250	0.9744	0.2309
14	0.2419	0.9703	0.2493
15	0.2588	0.9659	0.2679
16	0.2756	0.9613	0.2867
17	0.2924	0.9563	0.3057
18	0.3090	0.9511	0.3249
19	0.3256	0.9455	0.3443
20	0.3420	0.9397	0.3640

As we see from the above example, the phase angle in this circuit is 14° , and because it is more inductive than capacitive, the voltage is leading the current by 14° .

These kind of circuits are important to us Hams. They are used in the design of filters, antenna tuners, receivers, transmitters, and lots of other devices.

I know these concepts are difficult. I didn't begin to know any of this until after I had two semesters of electronics courses. When we take the General Class and Extra Class Exam, it is assumed we have that prior knowledge. It's OK that we don't have that knowledge. That's why we memorize the questions and answers. We are not all going to design circuits and build radios, and you should not feel bad about that. You worked hard to achieve your license and you should be applauded for that! I used to tell my little second graders that when I was little one of my teachers told my mother in front of me, that I was stupid and probably wouldn't amount to much. That was a long time ago. I then went on to tell the students that there are no stupid students because look at me. I was supposed to be stupid and now I'm the teacher. The kids would laugh and feel

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better about themselves. I want you to feel better, too. These little articles are just a little trivia in case you want to dive in a little deeper. Always feel good about your accomplishments. 😊

The official answer to this question is: **14.0 degrees with the voltage leading the current**

There you have it, *Ponder the Pool* for another month. I hope it was helpful.

Stay tuned, and we'll do another one next month. Next time we will talk about something a little less intense and go back to the Technician Class pool.

– 73, Gary. If you have any questions or comments, drop me an email at AA6GJ@arrl.net .