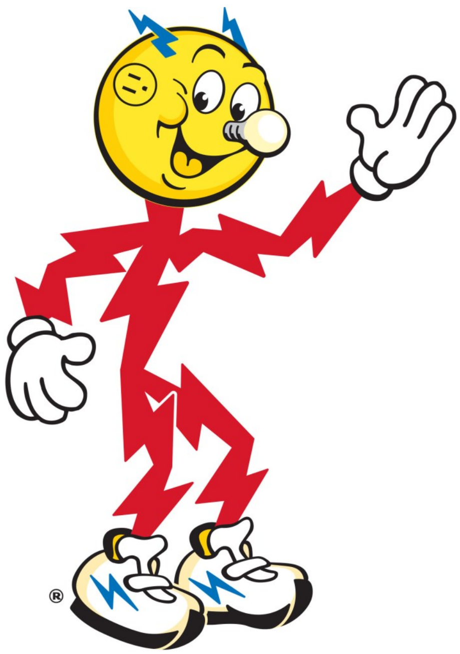
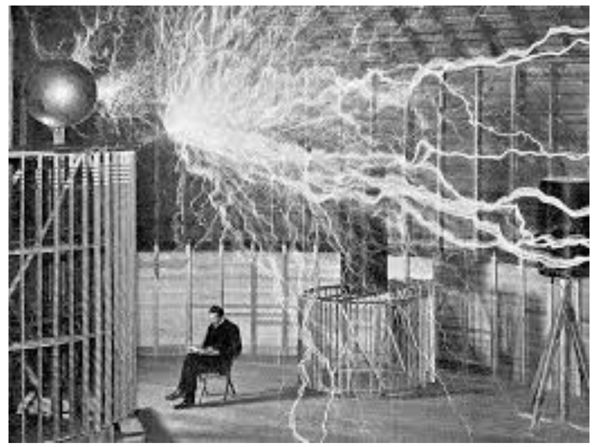
Microvolt

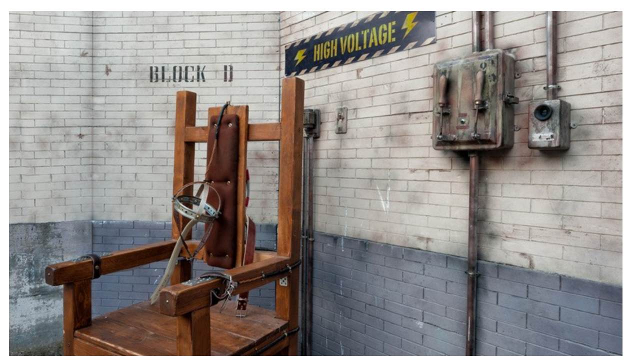
Monthly newsletter of the Utah Amateur Radio Club

May 2026





Our Electric World



What is electricity? It's the feeling of your first kiss. Or the excitement of bringing home a new HF rig. All kidding aside, electricity is the layman's term for *electrical energy*, the quantitative property required to perform work by electrical means. From enabling us to see and hear, to powering our radios, the use of electricity has become so ubiquitous (everywhere present) that we often take it for granted. We use it to power appliances, vehicles, phones, and yes, radios. What else do we know about the electric world in which we live?

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Cover – Our electric world

Yes, we use electricity in just about every facet of our lives today, much of it invisible, or at least unnoticeable. No, Benjamin Franklin didn't discover electricity, but neither did Tesla, Westinghouse, Edison, or even Einstein. Honestly, nobody knows who "discovered" electricity, since lightning has been around for at least as long as Moses. If we were to credit somebody with the "discovery" of the nature of electricity, it would likely be Thales of Miletus, who identified electricity from rubbing fur on amber (a fossilized tree sap) around 600 BC. Indeed, the Greek word ***elektron*** means *amber*.

To most of us who are not theoretical physicists, we identify two types of electricity, ***static*** and ***current***. Static electricity is the accumulation of charged particles on the surfaces of non-conductors, such as glass, balloons, carpeting, and cat fur. It's called *static* because the charged particles don't travel in an electrical path until they come in contact with a conductor. Current electricity is a stream of charged particles that flows in a conductive material, and the type we generally rely on, to produce useful work.

Electricity produces or results in useful work by providing the energy that a device can transform into a different energy type, such as mechanical, radiant (light), sound, thermal (heat), and electromagnetic. Electromagnetic energy is not actually a separate form of energy from radiant energy, but is listed here because of its relevance to radio. Electricity can be converted to other forms of energy though the following devices, for example:

- Light : incandescent bulb or LED
- Heat : electric heater
- Mechanical : electric motor
- Chemical : electrolysis
- Sound : speaker

By similar or reversible processes, these same energy forms can also be converted to electricity through the following devices, for example:

- Light : solar panel
- Heat : thermocouple
- Mechanical : electric generator
- Chemical : battery
- Sound : microphone

Lightning is a special case of electrical manifestation due to its often spectacularly violent nature. It starts as static electric charges. Then, when a sufficient quantity of the charges accumulate, whose 1) resulting electric field gradient exceeds that of another electric field of lower potential and 2) the difference (in field strength per distance) is sufficient to overcome the dielectric between them, the accumulation discharges in an attempt to equalize the separated electrical gradients. In other words, FLASH, BOOM! For a short time, the static becomes current, yet the current is neither AC (alternating current) nor DC (direct current), but a *transient*.

Besides lightning, electricity can be manifest in some unusual ways. For example

- the electric eel can produce up to 1 ampere at up to 600 volts, which it can discharge for around two milliseconds, therefore at around 500 Hz
- the piezoelectric effect, which is the basis for the working of a crystal oscillator
- a good number of seafaring sailors have reported luminous plasma discharge on their ship masts, also known as St. Elmo's Fire
- electricity in quackery has been, and still is, in use by fraudulent, self-proclaimed healers.

Not sure whether you caught that reference on the cover page, but yes, we use electric current to see and hear. The entire human brain is an unprecedented electrical engineering marvel, a self-healing computer capable of consciousness, constantly adapting to use cases and environment by self-modifying code. All our senses communicate by electrical impulses through neurons between the points of stimulus (eyes, finger tips, ears, etc.) and either to the backplane (spinal cord) or all the way to the mainframe (gray matter), using electrical gap technology. And its software? AI, of course. Well, just I.

Microvolt editorial staff

Editorial – Power supplies

Your radio requires electrical energy to operate, and you can provide that energy by one or more kinds of power sources. These power sources can be a battery, a solar panel, a generator, or a PSU (power supply unit). A power supply is a device that converts electrical power of one voltage to that of another voltage. As it applies to radio, a power supply converts commercial AC (wall socket alternating current) power into DC (direct current) power, which allows the radio to function.

To be technically clear, ***energy*** is a quantifiable property that can neither be created nor destroyed, but can only be transformed from one form to another. This implies that our perceivable universe contains a finite amount of this entity, and seemingly quite a lot of it, to our limited realm of experience. On the other hand, ***power*** is the amount of energy delivered per unit time (per second). Power is not the same as energy, yet correct or not, we often use the two interchangeably; we often say *power* when we really mean *energy*. Essentially, energy is work, and power is the rate at which the work is being done.

While many, if not most older transceivers could accept commercial AC power by being plugged into the wall socket, nearly all transceivers today expect DC power to be supplied to them by PSUs. Transceivers have always technically required DC power to operate, but those that accepted mains (household) power had their supplies built into them. This made older transceivers quite heavy and not very portable. With the separation of the power supply, the transceiver not only became much lighter, but placed the responsibility for adequate electrical energy on an external unit, which could be separately sold, transported, and serviced.

As mentioned near the end of a previous *Cover*, power supplies are of two types, linear and switched-mode ("switching"). A linear PSU attempts to present a voltage that's directly proportional (linearly related) to its input voltage. A switching PSU presents a voltage that's derived from an on-off switching process whose duty cycle is determined by current demand. Linear PSUs tend to be heavier, less efficient, audibly noisier, and more expensive, but often simpler to repair, than their switching counterparts. Switched-mode PSUs tend to be RF-noisier than linear PSUs, but modern switching PSUs have largely overcome that, leaving very few disadvantages compared with linear PSUs. Some older operators feel that linear PSUs are more reliable, but 1) the repair data doesn't seem to bear that out and 2) switching PSUs have not been out in the market in a sufficient quantity long enough to adequately compare reliability and longevity claims.

When considering the purchase of a PSU, avoid comparing it by its wattage, which can be misleading if its efficiency is unknown. For example, an advertisement for a PSU that reads ***530 watts!!*** might sound better than one for 500 watts going for the same price. But, if the efficiency of the 530-watt PSU is 78% and the efficiency of the 500-watt PSU is 83%, the 500-watt PSU is probably the better deal, because it consumes less electrical power from your wall socket, even though both are rated at 13.8 VDC and 30 A maximum output.

Also, when purchasing a PSU, if your rig is expecting 13.8 volts, first make sure the PSU can present between **12 volts and 15 volts**, which is within its tolerance. Just as importantly, make sure the PSU can deliver a few more amperes than your rig draws at its highest transmit power setting. Most of today's 100-watt base station HF rigs, for example, draw about 23 amperes maximum. For them, I highly recommend a PSU that can deliver **30 amperes**. You should always supply more current than your equipment requires because of *inrush current*, which is the sudden spike in current demand when you key up. If the current isn't available when you press the PTT, the entire transceiver might shut down completely as the voltage tanks while attempting to compensate for the excessive current draw, a phenomenon that baffles many newer operators.

*Anything to add? Email **editor@utaharc.org***

Letters to the editor

Dear Editor:

Where can a person go to purchase ham radio clothing? Also, where can a person ask for their call sign to be printed on a hoodie, hat, or polo shirt?

Ranelle in West Valley City

Dear Ranelle:

You can purchase ham radio apparel from the following:

- HamThreads
- HamCrazy
- Bilmiss
- HamTactical
- Zazzle
- TeePublic
- Etsy

You can get your call sign printed on apparel at the following:

- Custom Ink
- Etsy (call sign hoodie)
- Spreadshirt
- eBay
- CallForFire
- Amazon
- GigaParts
- NovaInk

Dear Editor:

I've been using a 133-foot wire and a 49:1 unun for an end-fed antenna to work FT8 for several years. Well, I'm getting bored and want to make voice contacts with it on 20 meters, but nobody seems to hear me. Its SWR on 20 meters is about 1.2 across much of the band, so what am I doing wrong?

Jason in Woods Cross

Dear Jason:

SWR isn't everything, and you might just have a height problem. For that kind of antenna, make sure a) it's mounted at least 35 feet off the dirt, b) it has a sufficiently long counterpoise, c) it's clear of obstructions, and d) it's being fed 100 watts to start with. You can always turn down the power once you figure out the real problem.

Dear Editor:

Which is better for use as conducting elements for a dipole antenna, solid or stranded wire?

Sam in Millcreek

Dear Sam:

Comparing the same gauge of wire, solid wire exhibits lower resistance for any frequency while stranded wire tends to resist stretching and breakage better. My recommendation is for stranded, choosing the mechanical advantage over the electrical one.

Dear Editor:

I was told I need to wrap my coax connectors in something to protect them from the weather, but in searching, I found several different types. Which type of connector protector is best?

Coach in Salt Lake City

Dear Coach:

Among the most popular coax connector protection wraps are electrical tape (Super 33+ and Super88) and duct sealant. However, I find that electrical tape 1) often requires a double-wrap, 2) often unravels after getting wet, and 3) tends to leave its adhesive behind if you ever need to remove it. I also find that duct sealant, while very waterproof, is sticky and messy during either application or removal. I highly recommend self-fusing silicone tape, because it's easy to install, provides complete waterproofing, easy to remove, doesn't leave a sticky residue, and is inexpensive. Butyl tape is also a good option.

Send your questions to ***editor@utaharc.org***

Club news

The April 2026 meeting of the Utah Amateur Radio Club featured ***Skywarn Utah*** by Bryant Kuns. His colleague Joe Worster of the Salt Lake City office of the NWS (National Weather Service) assisted him.

You can see the meeting video here, thanks to James KK7AVS

BTW, you can view past many club meeting presentations on our YouTube channel.

2026 Utah Portable Day

The Utah Area ERC (Emergency Response Communications) team is holding a two-hour “Field Day” of sorts, in order to pique interest in emergency and portable work. On ***Saturday 09 May 2026*** from 10 am to noon, numerous people around Utah will be setting up their HF, VHF, and UHF stations and getting on the air to call out for contacts.

2026 Summer Field Day

Believe it or not, Field Day is approaching! Once again, we plan to descend on our usual place near Payson Lakes and get on the air from ***noon Saturday 27 June through noon Sunday 28 June 2026***, and invite you to join us. Details on how to get to our site are on the club website.

2026 UARC Steak Fry

The annual UARC Steak Fry will take place this year ***Saturday 18 July 2026*** at **Murray Park, Pavilion #1**, 420 E 5300 S. We can start setting up as early as 4:00 pm, but ***dinner is served at 5:30 pm***. We bid a fond farewell to the dilapidated picnic tables, broken trip-hazard pathways, and scary restrooms of the Spruces, which have served us for so many years. Cost is $15 per person.

For your information

Field Day 2026

The annual 2026 Field Day will take place from noon Saturday 27 June through noon Sunday 28 June 2026 at Payson Lakes. We're looking for volunteers to help with setting up and running the stations. We can also use your help with the antennas and other gear.

UARC 2026 Steak Fry

The annual ***UARC Steak Fry*** will be held this year 5:30 pm on Saturday 18 July at Murray Park, Pavilion #1, 420 E 5300 S. Those helping with setup can arrive starting 4:00 pm.

License courses

Salt Lake:

Technician : Tuesdays

General : Tuesdays 7:00 pm to 9:00 pm
147.160+ MHz (127.3 Hz tone)

Orem:

Extra : 5 Tuesdays, 6:00 to 9:30 pm
14 Jul, 21 Jul, 28 Jul, 04 Aug, 11 Aug

Visit **psclass.orem.org** to register ($10)

Orem City EOC, 56 N State St, 2nd Floor

HamStudy.org account required

*This course will **not** be live-streamed*

Email **nojiratz@hotmail.com** for info

Eagle Mountain:

Technician : 5 Thursdays, 7 to 9 pm
14 May, 21 May, 28 May, 11 Jun, 18 Jun

Email **ki6oss6365@gmail.com** to register (free)

Eagle Mountain City Hall, 1650 Stagecoach Run

Exam sessions

Salt Lake County:

- Email Garth Wiscombe W7PS **w7ps@arrl.net**
  18 May, 29 Jun, 27 Jul, 31 Aug, 28 Sep

Utah County:

- Sat 16 May 2:20 pm : **Provo** : **signup**
- Wed 20 May 7:00 pm : **Provo** : **signup**
- Sat 20 Jun 10:00 am : **Eagle Mtn** : **signup**
- Sat 27 Jun 10:00 am : **Strawberry** : **signup**

Club repeaters

Farnsworth Peak : 146.620– MHz (no tone)

Scott Hill : 146.620– MHz (no tone)

Lake Mountain : 146.760– MHz (no tone)

SDRs and beacons

Northern Utah WebSDR : **sdrutah.org**

KK7AVS SDR : **k7xrd.club**

N7RIX SDR : **sdr.n7rix.com**

K7JL beacon 28.2493 MHz

HF remote and club transceiver stations

If you'd like to learn how to get started using the remote stations, visit the **HF Remotes link** on **the club website**:

https://user.xmission.com/~uarc/HFRemote.html

How you can help!

Email **uarc@xmission.com** to reach the club leadership. Email **editor@utaharc.org** to add content.

Spotlight – Rulon Swensen K7BTU

Rulon Swensen grew up on a farm in Taylorsville. His early days were filled with farm chores, then afterwards exploring the mountains and deserts of northern Utah with his friends. His interest in communication began when he was 16, starting out with a CB radio he purchased from Radio Shack. Although he and his CB buddy only lived across the street from each other, they loved the novelty of talking to each other over radio.

Rulon also enjoyed listening to stations all over the world on shortwave. An uncle who was a TV repairman gave Rulon an old shortwave radio. His uncle said the radio needed some repair work, so Rulon took it to his high school electronics class and fixed it.

After high school graduation. Rulon joined the Army and served six years with the 19th Special Forces Group as a supply sergeant. He was proud to serve this country, and says that the training and opportunities to learn new skills played a big role in his life experiences. Rulon says that earning his wings as a paratrooper was a highlight of his life. On one jump with full equipment, he packed a PRC-77 radio and antenna in his gear. As a supply sergeant, part of his duties included the responsibility for radio equipment used in training, so he had some opportunities to use some of the radios himself.

Soon after they were married, Rulon and his bride moved into their first house. A neighbor across the street just happened to be a ham radio operator, and Rulon became interested in what he was up to. He remembers his neighbor handling messages during the 1976 Teton Dam failure. The neighbor encouraged Rulon to get his ham license, but Rulon struggled with Morse code and gave up.

When the Morse code requirement was lifted some 35 years later, Rulon became licensed as KE7OJX. After purchasing a 2-meter radio and listening a few hours, Rulon made his first contact. Rulon got his General ticket in 2014. Having worked in the refrigeration industry for 25 years, the thought of obtaining a call sign with BTU as the suffix crossed his mind. He applied for and received the vanity call sign K7BTU which he holds to this day.

Rulon feels that it's important to do something with his ham radio skills. So, he keeps his radios in good operating condition, to be ready to be used at a moment's notice. He's been active in emergency preparedness communication with Taylorsville for the past 19 years.

Rulon uses a Yaesu FT-991A transceiver for most of his radio communication today. He has a 35-foot Rohn tower at his home, with a Comet "Super 22" antenna for the 220 band, an Arrow 2-meter/70-cm J-pole, and a vertically-polarized 6-meter Hamstick dipole antenna. On a separate mast he has a Cushcraft AR-10 vertical 10-meter "Ringo" antenna. He's got a weather station sensor mounted on the mast as well.

Rulon has two boys and a girl. One of his sons and a grandson have their ham licenses, his son with a General Class license and his grandson with a Technician license. The three of them enjoy participating in local nets, including the 10-meter Net on Tuesday evening and the 6-Pack Net on Friday nights. They're also active in club activities.

Besides being a member of UARC, Rulon is a founding member of the Taylorsville ARC, and is that club's station trustee. He is also involved with Salt Lake County ARES. He has a website (www.hamradioworks.org) for sharing information and articles on ham radio. We're grateful to Rulon and all his contributions to amateur radio.

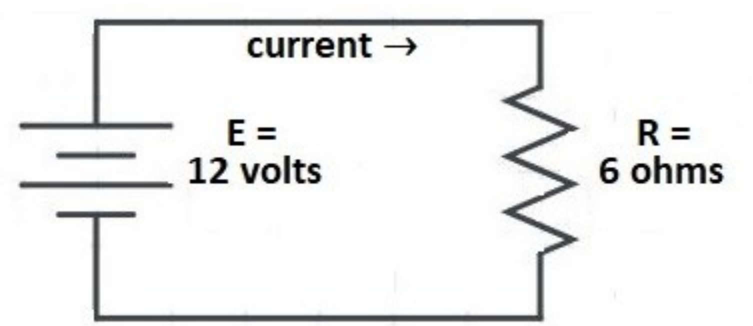
– 73, Linda Reeder N7HVF

Tech Corner – Reviewing Ohm's Law

Ohm's Law is nothing more than a simple mathematical relationship between four electrical quantities, *voltage*, *current*, *resistance*, and *power*. Even if circuits and electronics seem to have little relevance to anything you do in ham radio, you as a licensed operator will likely encounter at least one of these in your amateur radio career. And if you encounter one, you'll likely encounter another, because they're interrelated.

A power source, such as a *battery*, places ***electrical pressure*** on the electrons in a *conductor*, such as a wire. If the wire provides a *complete path* back to the other end of the power source, that electrical pressure causes electrons to flow in the path. We call the electrical pressure ***voltage***, the flow of electrons ***current***, and the path a ***circuit***. Typically, somewhere in that path is at least one component that reduces the flow of those electrons. We call that component a ***resistor***. The result is that, the greater the resistance value of the resistor, the lower the electron flow (the fewer electrons passing by, per second) for a given voltage pressure.

Let's start by examining this simple circuit, which contains a battery, a resistor, and two wires that connect the ends of the battery to the resistor:



In fact, there's a mathematical relationship between them all. If we represent the voltage with ***E*** (for *electromotive force*, or electrical pressure), and the current with ***I*** (intensity), and the resistance with ***R***, we have

$$E = I \times R$$

In other words, the voltage pressure on the electrons is equal to the current times the resistance. This is known as ***Ohm's Law***, in this case as it applies to DC (direct current). Another way to say it is that the electron flow can be found by dividing the voltage pressure by the component resistance value, or

$$I = E \div R$$

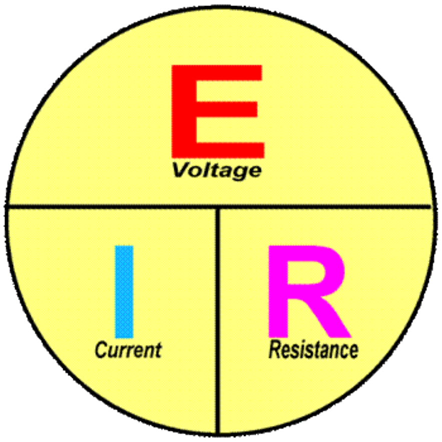
and by the same way, we can say that the resistance of the component can be determined by dividing the voltage pressure on it, by the electron current flow through it, or

$$R = E \div I$$

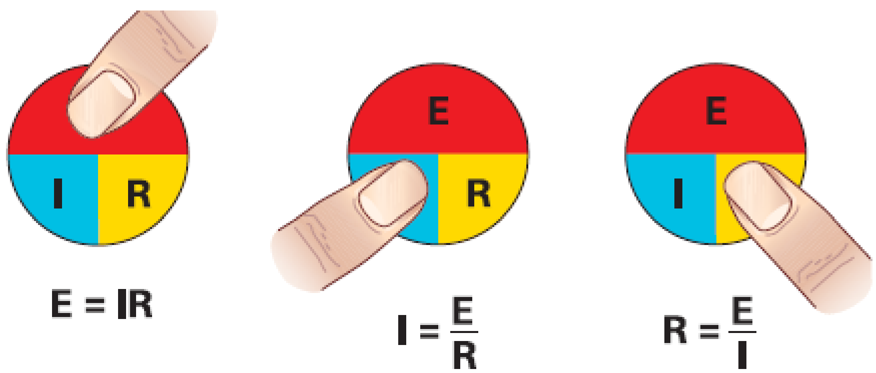
The voltage pressure is measured in ***volts***, the current flow is measured in ***amperes*** (or ***amps***, for short), and the resistance value is measured in ***ohms***.

Reviewing Ohm's Law, cont'd

To make these easier to calculate, we can use this handy circle, which contains our three quantities, arranged to provide the answer we're looking for, if we know the other two:



So, to make use of it, simply cover the unknown quantity, to help calculate that value:



The circuit on the previous page depicts a 12-volt battery connected across a 6-ohm resistor. The unknown quantity is the current, so cover the ***I*** in the above circle, as is shown in the middle diagram. It reveals that the current ***I*** can be calculated by E / R, which is the same as E ÷ R, or 12 volts ÷ 6 ohms = 2 amperes (amps):

$$I = E \div R$$

$$I = (12 \text{ volts}) \div (6 \text{ ohms}) = 2 \text{ amps}$$

Power Rule

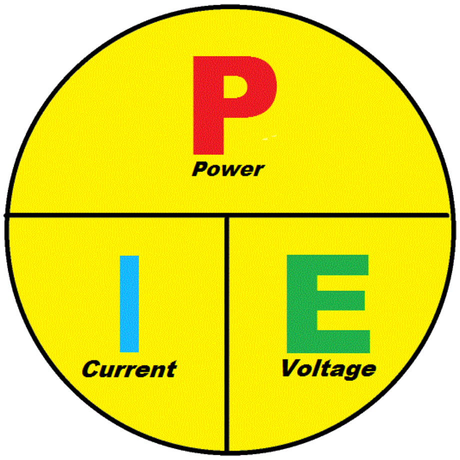
What we sometimes refer to as the *Power Rule* is only an extension of Ohm's Law, so there is no "Power Rule" in electronics, except as we use it for convenience in discussion. The Power Rule is another mathematical relationship, for which the amount of heat given off is called ***power***. Voltage you know, and current you know. Power is ***the amount of heat given off by a component*** if you apply a certain amount of voltage pressure on the component. The power given off can be determined by the current and the voltage, as in

$$P = I \times E$$

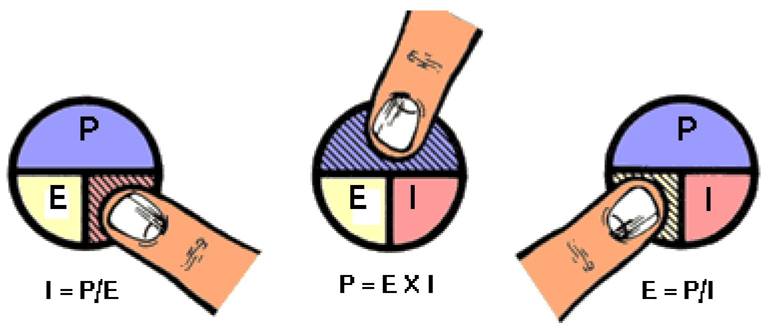
Using the same letter representations for the values in Ohm's Law, we can use ***E*** to represent voltage, ***I*** for current, and now ***P*** for power, which is measured in ***watts***.

Reviewing Ohm's Law, cont'd

And just like with Ohm's Law, we can use a Power Rule circle to provide the answer we're looking for, if we know the other two:



To make use of it, again cover the unknown quantity, to calculate that value:



Returning to our original circuit with the 12-volt battery and 6-ohm resistor, we calculated the current as 2 amps. Now, let's calculate the power given off by the resistor. The unknown quantity is the power. Using the Power Rule, cover the P in the above circle, as shown in the middle diagram. It reveals that the power P can be calculated by E x I, or 12 volts x 2 amps = 24 watts:

P = E x I = (12 volts) x (2 amps) = 24 watts

That's a pretty hefty amount of heat that the resistor will give off, and if it's not rated for 24 or more watts, then it'll likely burn up. Here's a summary chart of our four electrical quantities:

Letter	Quantity	Unit	Symbol
E	voltage	volt	V
I	current	amp	A
R	resistance	ohm	Ω
P	power	watt	W

E = I x R **P = E x I**

Reviewing Ohm's Law, cont'd

Examples

Instead of a 6-ohm resistor, say we have a 60-watt light bulb, and instead of a 12-volt battery, we use voltage supplied by the house wall socket, which is 120 volts. How much current is being drawn by the light bulb?

$$I = P \div E$$

$$= (60 \text{ watts}) \div (120 \text{ volts})$$

$$= 0.5 \text{ amps}$$

So, how many 60-watt light bulbs can your 10-amp circuit breaker handle (not actually part of Ohm's Law)? (10 amps) ÷ (0.5 amps per bulb) = 20 light bulbs!

Going back to the 12-volt battery, let's say now that the resistor (which we often call the ***load***) value is unknown, but that you discover the load is drawing 4 amps from the battery. What's the value of the load resistance?

$$R = E \div I$$

$$= (12 \text{ volts}) \div (4 \text{ amps})$$

$$= 3 \text{ ohms}$$

What is the voltage if you measure 2 amps of current going through a 10-ohm resistor?

$$E = I \times R$$

$$= (2 \text{ amps}) \times (10 \text{ ohms})$$

$$= 20 \text{ volts}$$

How much power is being used in a circuit when the applied voltage is 13.8 volts and the current is 10 amperes?

$$P = E \times I$$

$$= (13.8 \text{ volts}) \times (10 \text{ amps})$$

$$= 138 \text{ watts}$$

And so forth.

Noji Ratzlaff KNØJI

Strays – The electrical grid

When we plug an appliance into the wall outlet, we simply expect electrical power to be available to operate the unit. Most people have little idea where this electrical energy originates; some will say a hydroelectric dam, others might say a coal-burning plant or even a nuclear facility, yet others will say wind turbines or arrays of solar panels, and they're all correct. Rest assured it's not the "power company", but something a little more complex.

Once electrical energy is generated by those sources and more, it's delivered to a huge, nation-wide network of electrical interconnections known as the ***electrical grid*** or ***power grid*** (or simply "the grid"), to be used by any utility that's connected to it. The job of the power company is to establish and maintain their local (state, region, county) stewardship of the grid, devise regulations and policy regarding usage, and to fund all of this by billing consumers.

The grid is made of low-loss, high-voltage, and redundant transmission lines (wires) that carry three-phase AC (alternating current) power to cities throughout the nation. Due to the long distances, the electrical grid carries high voltage and relatively low current to reduce ***I^2R losses***. The energy provided by the grid is then made available to local industries and neighborhoods by an electrical substation (above photo), which transforms the high voltage of the grid to commercial levels. Local transformers then further down-convert the commercial voltages to those expected by residences and businesses within the service vicinity.

Not all electrical power networks are part of the national grid or contribute energy to it. Some municipalities choose to operate autonomously, and will confine their service to a local customer base. Others might operate independently, but contribute to the national grid when their supply exceeds local customer demand.

Many people fear that the grid is exposed to external threats, man-made or otherwise, and that our heavy dependence on electrical power therefore creates an inescapable vulnerability. Events such as terrorist attacks, aging infrastructure, EMP, cyber threats, and even lightning are causes for concern to many who are entrusted with the need for its durability. To be sure, the US government has invested heavily in the protection of our grid by implementing cyber security, infrastructure hardening against weather (especially lightning), network segmentation, and emergency procedures. After all these, our grid is still vulnerable, but utility companies are constantly looking for improved ways of protecting the grid from interruptions.

Still, interruptions will occur for one reason or another. Substations can help protect the grid by large circuit breakers, and can compensate for power factor losses with the use of large capacitors. At times, excessive ***demand*** can bring a portion of the grid to its proverbial knees. Electrical energy demand is heaviest during very cold months and very hot months. Peak demands occur in winter mornings and summer afternoons, when environmental needs are the greatest To accommodate these large demand swings, utility companies have invested in smart grid systems, which implement two-way embedded communication that provides feedback on segment demands and can automatically compensate for some of the demand by releasing more water in a hydroelectric dam, for example.

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We encourage you to submit original pictures (highest resolution), articles, software and hardware descriptions, appropriate humor, and responses to editorials. Email the content, pictures attached, to the editor at **editor@utaharc.org**

The **Utah Amateur Radio Club** was organized under its present name in 1927, with its beginnings dating back as early as 1909, then becoming affiliated with the American Radio Relay League in 1928. UARC is a 501(c)(3) non-profit organization and holds a club station license with the call sign ***W7SP***, a memorial to Leonard "Zim" Zimmerman, amateur radio pioneer in the Salt Lake City area.

The club meets each month except July and August. The meetings have been held on the second Thursday of the month at 7:30 pm in the University of Utah's Warnock Engineering Building, room 2230.

Club membership is open to anybody interested in amateur radio; a current license is not required. Dues are $20 per year. Send dues to club secretary James Bennett, 4960 W 5400 S, Kearns, Utah 84118. Send address changes to **kk7avs@gmail.com**

Tax-deductible monetary contributions are gladly accepted. Send directly to club treasurer Shawn Evans, 1338 S Foothill Dr, #265, Salt Lake City, Utah 84108-2321. For in-kind contributions, please contact **uarc@xmission.com** to make arrangements.

UARC maintains the 146.620– and 146.760– repeaters, which are administered by the UARC Repeater Committee. Direct comments and questions to any committee member. The 146.760– repeater is on IRLP node 3352.

Call the **UARC Ham Hotline** at **801-583-3002** for amateur radio information, including club, testing, meeting, and membership information. Leave a message, and we'll make an effort to return your call.

UARC 2026 Board

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