CAARA Newsletter

AN ARRL AFFILIATED CLUB APRIL ISSUE- 2011

President's Corner

by Stan-W4HIX

I would like to announce that CAARA now has a scholarship program. We will be giving one $250 scholarship to a worthy Gloucester High School student. This program is entirely funded by contributions, and the monthly breakfasts at the club, so pleas help out. Remember, contributions are tax deductible.

I am looking for someone to become the HT champion of CAARA. I took a quick survey of what HTs that members owned and it is largely Yaesu gear. The problem is, I'm not sure how many people are well versed in their operation. It would be great for someone to take on the task of developing a class on "Using Your Handheld". Curtis did a great job on the beginning of this, and many members helped out with research on the Internet, but I think it can all be done much better. I could see a nice YouTube video from CAARA Productions… Anyway, anyone interested let me know.

I've been playing with packet radio a bit. My ultimate goal is get the CAARA station operational as an RMS node so that we can send e-mail via RF. I've gone back to the Winlink 2000 site to pick up where I left off a few years ago, except that now I actually own an MFJ-1276 Packet-Pactor Controller (a NEARfest purchase). Trying to figure out a 20 year old text-based TNC is challenging. For the moment, the packet station is at my QTH, which allows the APRS station to be back on the air. There are several CAARA members with APRS capabilities—just check out aprs.fi on the Internet sometime.

Ruth WW1N has taken on heading up the Thacher Island Expedition and from what I've seen so far, it looks like another great trip in the making.

Hopefully with a little better weather coming up, we'll see some more portable operations. I'll see if we can get a sign made up so we can get a little more public exposure. Also, NEARfest is coming up, as well as the first MIT Flea Market of the year.

One more thing...if you have gear at the club, please mark it with a green tag so we know what belongs to the club and what belongs to members. The inventory project is a long slow process and your help is greatly appreciated.

73 de Stan, W4HIX

FCC OFFERS TECHNICAL EXPERTISE TO JAPAN

The FCC has offered its counterpart in Japan any assistance that it might be able to render. This, as recovery efforts continue in the wake of the March 11th earthquake and Tsunami. Bill Pasternak, According to the trade publication Radio World, soon after the devastating events occurred, the FCC made contact with officials in Japan. This, to offer any help on the telecommunications front that it might be able to supply.

Tom Sullivan is the spokesperson for the FCC International Bureau. He is quoted as saying that his agency has reached out to its regulatory contacts in Japan and is also working with the State Department and the National Telecommunications & Information Administration to consider what assistance the FCC might be able to provide.

According to Sullivan, soon after the massive earthquake that hit Haiti, the FCC took a proactive role. This included providing technical assistance on emergency communications as well as passing along offers of help from private industry.

But Sullivan also notes that Japan is a different situation. It's a nation with its own very robust communications system. He says that on the telecommunications front Japan is very well prepared for a situations like this. Nevertheless, Sullivan says that the FCC will be able to offer its expertise should it be asked.

CAARA Newsletter
Cape Ann Amateur Radio Association
6 Stanwood Street
Gloucester, MA 01930

Jon Cunningham-Editor
K1TP

Welcome to CAARA:

CAARA, an ARRL affiliated club, operates the 2 meter W1GLO repeater on 145.130 MHz with antennas located on the Cingular tower in the Blackburn Industrial Complex in Gloucester Massachusetts. It has an average effective radius of 60 miles, and serves Eastern Massachusetts, Cape Cod, Rhode Island, Southern New Hampshire, and maritime mobile stations. CAARA also operates the W1GLO repeater on 224.900. The W1RK 443.700 repeater with antennas located in Magnolia is owned and operated by club member Ralph Karcher and it too is available for club use.

The Association is one of the few amateur radio clubs that has its own clubhouse. Located at 6 Stanwood Street in Gloucester, it includes a permanent HF station with rotating beam and vertical antenna along with a 2 meter packet station and 2 meter voice and 220 MHz transceivers.

Amateur radio exams are held on the second Sunday of each month at 10:00AM at the CAARA clubhouse. Anyone who is considering a new license or an upgrade, is welcome to test with us. There is no pre-registration necessary. Contact the head of our VE team Bob Quinn if you have any questions about monthly testing.

Monthly member meetings are held on the first wednesday of each month at 7:30 PM except for July and August.

Each Sunday evening at 9:00pm, the club operates a 2 meter net on 145.130. This is an open and informal net which disseminates club news and prepares operators for emergency communications work. All are invited to check into the net as club membership is not a requirement.

Cape Ann Amateur Radio Association Scholarship Program

Introduction
In order to promote more interest in science and technology as well as Amateur Radio, the Cape Ann Amateur Radio Association has created a scholarship program for promising high school seniors.

This scholarship program is created to aid and award high school seniors in the Cape Ann communities who are pursuing further education in the fields of science, technology, engineering or mathematics. Active involvement in Amateur Radio is also a consideration in the selection of scholarship awards.

Selection of Recipients
Candidates must show a keen interest in science, engineering or mathematics as evidenced by course selection, academic performance and outside interests. Favor will be given to those candidates who have an FCC Amateur Radio license and who operate on a regular basis. Students pursuing higher education or training in the above fields will also be favored.

Awards
The CAARA scholarship fund will make one-time awards of $250 to each student who is selected. The number of awards will depend on the funds available and will be given to students in Gloucester, Rockport and Manchester/Essex. The committee will strive to distribute the awards equitably to the area schools.

Contact
Please contact Stan Stone or Hank McCarl for questions or details.

Stan Stone, President (w4hix@caara.net
Hank McCarl, Treasurer (w4rig@caara.net)

Short wave radio in Libyan operations
HF radio is being used extensively as part of Operation Odyssey Dawn in Libya.

The Milcom Monitoring Post website has been reporting on the use of HF in Operation Odyssey Dawn, see http://mt-milcom.blogspot.com/

Ham radio operator reveals US 'psyops' broadcast

A Dutch ham radio operator has been able to learn about a psychological US special forces operation undertaken as part of an international military campaign designed to establish a no-fly zone over Libya.
Listening to his radio, this ham operator from the Netherlands was able to monitor radio exchanges between civilian and military flights in the region and make his findings public on his Twitter account @FMCNL.
Hunched over his radio, he listens in on unencrypted exchanges among military aircraft and their air traffic control centres.
The messages contain information about the location of the planes, which is necessary to avoid collisions between military and civilian aircraft.
Yesterday the radio operator posted the following message on Twitter: "PSYOPS is running! USAF EC-130J tail nr 00-1934 callsign STEEL 74 transmitting messages to Libya on HF freq OdysseeDawn."
Start of sidebar. Skip to end of sidebar.
Related Coverage.Gaddafi defences bombed, end uncertain
NEWS.com.au, 7 hours ago
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Adelaide Now, 13 hours ago
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Libya using journalists as shields
NEWS.com.au, 1 day ago
Gaddafi building 'flattened'
Adelaide Now, 1 day ago..End of sidebar. Return to start of sidebar.
..The cryptic text refers to an EC-130J aircraft, a modified version of the US Air Force's Hercules plane, whose registration number is 00-1934 and whose code name is "Steel 74".
The aircraft beams high-frequency messages on Libya as part of Operation "Odyssey Dawn," the international military campaign against forces of Libyan leader Muammar Gaddafi.
The plane, belonging to US special forces, is used for propaganda and psychological warfare.
It flies at high altitudes and broadcasts messages to influence the behaviour of enemy forces or the population at large.
Asked at a press conference about these operations, a senior Pentagon official confirmed that a "specialised

aircraft" had been used by coalition forces.
"We've put up one of our specialised aircraft of that nature and I'm not ready, I'm not able to to talk about the messages," Vice Admiral Bill Gortney told reporters.
But one of the messages broadcast by the plane has been recorded by the Dutch ham radio operator and posted on the internet.
Speaking in English, French and Arabic over background noise, a man tries to deter Libyan vessels from going out to sea after coalition navy ships established a naval blockade.
"Libyan ships or vessels do not leave port," the message says.
"The Gaddafi regime forces are violating a United Nations resolution ordering the end to the hostilities in your country. If you attempt to leave port, you will be attacked and destroyed immediately. For your own safety do not leave port."
According to the Danger Room blog, which specialises in security issues, the amateur radio operator who made this discovery is a former Dutch military man known as "Huub".
His Twitter postings are monitored by more than 5000 subscribers.
Read more: http://www.news.com.au/breaking-news/ham-operator-reveals-us-psyops-broadcast/story-e6frfku0-1226025610252#ixzz1HLmsiBRZ

A FEW CURRENT PRODUCTION RADIOS TO CONSIDER...

The HF bands allow you to communicate over long distances covering many km even to the other side of the world. With the superior performance found in the IC-718 such as wide dvnamic range, high C/N ratio, and full duty operation you will find making these contacts easy. Experience the combination of the latest RF and digital technology, along with the size and simplified operation. You will see the IC-718 will be the most practical rig you will ever own.

Supplied with hand mic, power cable and owner's manual. The price can't be beat on the Icom IC-718! ....$ 584.95

Dean-KB1PGH just purchased one of these fine radios. A product review will be coming in a future issue.

The Yaesu VX-8GR is the newest member of the proud VX-8 family. The VX-8GR dual-bander only covers 2 meters and 440 MHz and receive coverage is 108-999 MHz (less cellular frequencies). Strong performance specifications are combined with intuitive operation This version has a built-in GPS unit right out of the box! It is not Bluetooth capable. It is however APRS capable (B band only) with Smart Beaconing™. DCS/CTCSS encode/decode is included. $350.00

COMING SOON! MODEL: IC-RS-BA1
Remotely Control Icom Transceivers through an IP Network
• The RS-BA1 allows you to use the radio installed in another room using your home network or even from a remote location over the Internet.
• Low voice latency (caused by the RS-BA1) pr
• Most functions and modes of your transceiver,

On Sunday March 13th Caara held it‘s monthly FCC Amateur Radio License Volunteer Examiner test session at the Caara Clubhouse on 6 Stanwood Street in Gloucester. Under the leadership of the clubs VE Liasion Bob Quinn, WV1A 5 people attended the test session.Out of those, 2 passed their Technician class exams and new Caara Clubmember David Irvine,KB1VGD passed his General class Exam so congradulations Dave! One test taker,James Hurd of Gloucester,was a ham back in the late 60‘s and early 70‘s but let his license lapse.After the ham radio bug bit again he decided to study up and take the exam.During this one exam session,he took and passed his Technician Exam,then he took the General exam and passed that as well.After that he took his Extra and passed that with fying colors so another congradulations to James for the trifecta! We would also like to welcome Robert McKeown into the world of ham radio as he passed his Technician class license exam as well.We would also like to take this time to welcome James and Robert as new members of CAARA as they joined immediately after paasing their exams.As an additional incentive since anyone who takes their exam and passes their technician class exams with Caara the amount of their yearly $30.00 membership dues are cut in half for their first year.While we are welcoming new members to Caara we would like to welcome Phil Theriault, WC1K and Henry Dupuis, K1HRD as new members of the club so if you hear any of these guys on the radio or see them at the clubhouse please give them a big ,warm club welcome! If you are planning on taking an exam in the future just remember that we test on the second sunday of every month at the clubhouse starting at 10 AM and going until noon.Please bring two forms of ID which either must be a picture ID and one that has your Social Security Number on it.Please bring $15.00 as well for the ARRL testing Fee.Walk-in‘s are always welcome!

73‘s

Dean Burgess KB1PGH

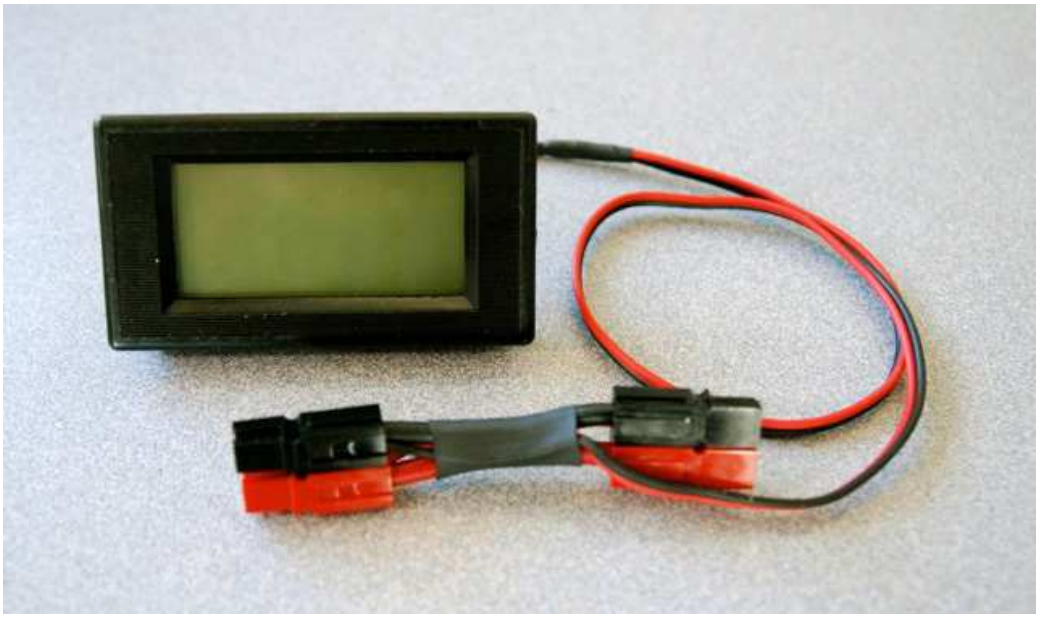
Simple and Versatile Voltage Meter for Your Power Supply

Stan Stone, W4HIX

I love the access we have now of suppliers in China. I was in Hong Kong about 25 years ago, and it was an amazing place to shop—for nearly everything. Now through the use of eBay and airmail, small items can be ordered and delivered in one to two weeks for rock bottom prices. I just bought a second CI-V cable (USB to serial cable) to control my Icom rig from my computer for $11—and it works great!

A while ago I picked up a couple of self-powered DC voltage panel meters to integrate into a portable power supply system I had in mind. I finally pulled one of them out and came up with a very simple way of integrating it into the system. It is actually quite versatile and could be used in any Anderson PowerPole system.

Anderson PowerPole connectors have become somewhat of a standard in the Amateur Radio community. I believe they are surpassing the Molex connector in ARES applications. They are reasonably priced (about $0.50 for pin and shell) easy to assemble (especially with a crimper) and are hermaphroditic—that is, there are no specific male or female connectors.



So, how to integrate the digital panel meter into my power supply? I have a West Mountain Radio RIGrunner 4004U, a DC distribution box using PowerPole connectors. I could have just put a couple of PowerPoles on the leads of the panel meter, but as anyone who's purchased a RIGrunner, they know they are well built—and expensive. Taking up a slot in one of these unnecessarily is not something you want to do. The simple solution is to make a small jumper cable and crimp in the wires to the meter along with the jumper wires. Now I can place this jumper on any connector on the RIGrunner, monitor the voltage and not loose a slot.

The panel meter cost me less than $5.00 delivered and the PowerPoles (four in all) were $4.00 and the wire I had around the shack. Now I can tell what the voltage on my power supply is from across the room.

ARISS CELEBRATES 600th SCHOOL CONTACT

Amateur Radio on the International Space Station, better known by the acronym ARISS, reached a milestone on Thursday, March 17th. This, when it held its 600th space to ground contact between astronaut Cady Coleman, KC5ZTH on board the International Space Station and students from several schools in Plock and Liszyno, Poland.

The contact supported lessons about space and space exploration, communication and technology. Scout Amateur Radio Club S-P-5-Zed-B-A handled the radio connection during which the astronaut Coleman fielded 19 space related questions from the students at the two schools.

Nearly 120 people were in the audience and there was also extensive media coverage. This included newspapers, four scientific magazines, one radio magazine, a television station, national radio and two internet portals.

And less we forget, we will have more ham radio space related news later on in this weeks Amateur Radio Newsline report. (Southgate)

Discovery Center Amateur Radio Club seeks help

Amateur Radio operators at **KA1SKY**, Amateur Radio Club Station at the **McAuliffe-Shepard Discovery Center** (DC) in Concord, NH have been working to enhance presentations and programs at the Center through the vehicle of Amateur Radio.

Wayne Santos, N1CKM, Station Manager at KA1SKY would like to hear from AMSAT members in New England who can assist with amateur radio operations from the Discovery Center:

April 29-30 - Aerospacefest Weekend May 5 - KA1SKY special event station in Commemoration of the 50th Anniversary of the Alan Shepard Manned Space Flight.

Wayne said the Discovery Center also needs assistance to schedule an ARISS contact. If you can help contact Wayne via e-mail at N1CKM@arrl.net.

Information about the McAuliffe-Shepard Discovery Center can be found on-line at: http://www.starhop.com/

KA1SKY features a robust VHF/UHF/Sat station and has been successful with EME and satellite contacts. The station enjoys a highly visible place with many school groups and the public interested in the station. Information about the station is posted at:

http://www.k1bke.org/planetarium/ka1sky.htm

http://www.starhop.com/education-and-exploration/ka1sky.aspx

TDMA next development in amateur radio?

Time division multiple access (TDMA) is a channel access method for shared medium networks. It allows several users to share the same frequency channel by dividing the signal into different time slots.

The users transmit in rapid succession, one after the other, each using his own time slot. This allows multiple stations to share the same radio frequency channel.

On Tuesday, March 15, the ARRL filed a Petition for Rulemaking and a Request for Temporary Waiver to authorize the use of single-time-slot Time Division Multiple Access (TDMA) emissions in the amateur radio bands at and above 50 MHz, wherever multiple-time-slot TDMA is authorized.

The ARRL - which called its Petition “very narrow in scope” - seeks to facilitate the use of and experimentation by radio amateurs with existing narrowband spectrum-efficient digital voice and data technology.” Such technology is now in regular and increasing use in the private land mobile radio services, but its use in the Amateur Radio Service is now apparently unintentionally precluded by two specific Commission rules,” the ARRL’s Petition stated.

Radio amateurs are presently using a Motorola narrowband (12,5 kHz) digital land mobile system - commercially marketed as MotoTRBO and they ask to make it legal.

The use of TDMA digital emissions in certain frequency bands in the Amateur Service is on the increase, the ARRL noted. There are numerous narrowband UHF repeater facilities now operating that use multiple slot TDMA repeaters and single slot TDMA handheld digital transceivers, principally in the 70 cm band. These systems have been installed primarily in the western part of the US and in the New York City area, but also in several Midwestern states.

The South African Radio League (SARL) is currently studying the ARRL initiative in respect of the South African Radio regulations.

CAARA Scholarship Benefit Breakfast !!

On Sunday March 27th Caara held its first benefit breakfast at the clubhouse to raise funds for our new Caara College Scholarship fund. The breakfast was well attended and we got a good start towards achieveing our $ 250 goal to award our first scholarship to a high school student who is pursuing a higher education in either the electronics, mathematics or electrical engineering fields.The Caara Board of Directors would like to thank all of the members who came down on sunday morning to support the scholarship fund while enjoying a delicious breakfast at the same time. We would also like to especially thank club members Hank Mccarl W4RIG and Marianne Brinker KB1TEO for all their hard work at cooking all the Sausages,Pancakes and eggs for all the hungry hams!

We will hold another scholarhsip breakfast on Sunday May 1st starting at 8:30 AM and going to 10 AM as we will hold the next Field Day Committee planning meeting at that10 AM time.So the earlier you show up for breakfast the better! So we invite all club members to come down and enjoy some good times and fill your belly with breakfast for only a $5.00 minimum donation-of course any amount you give above that will be going towards a great cause as Caara financially supports the next generation in higher education!

73‘s
Dean Burgess KB1PGH

Nine ARRL Safety Rules

Amateur radios use low frequency wavelengths, called radio frequency or RF, a type of radiation. Amateur radio operators must follow national and international regulations set by the Federal Communications Commission, which details the possible health risks and issues associated with prolonged RF radiation. The American Radio Relay League also makes recommendations for safe and legal amateur radio operation.

Antenna Proximity

· Stay away from an RF-transmitting antenna that's in use, particularly a ground-mounted antenna, as prolonged exposure to RF can cause damage to human tissue, warns the ARRL in its "Handbook for Radio Amateurs." You should also avoid attic-mounted or indoor antennas, and place directional antennas 35 feet above any area inhabited by humans, the handbook recommends, and ensure that the antenna can't become tangled in power lines, even if the lines come down in a storm.

Antenna Components

·The ARRL states that antenna tower components must not radiate RF waves. Limit radiation to the antenna radiation elements by connecting transmission lines to a grounding station, using a coaxial ·cable in place of open wire lines and avoiding end-fed antennas. Also, ensure that children cannot access the antenna tower.

Power Amplifier

·An RF amplifier used to boost the signal must have a cover on during operation, to block RF radiation, and the ARRL strongly recommends the use of covers when operating at ultra high frequencies (UHF) or very high frequencies (VHF).

Hand-held Transceivers

·A hand-held transceiver, connected to a rig and microphone, let the operator stay as far from the antenna as possible. Known as a "walkie-talkie" in its simplest form, a transceiver contains a transmitter and a receiver, allowing you to send and receive messages using radio waves. Avoid pointing the antenna at your head, and use the lowest power setting possible to minimize any radiation exposure, the ARRL suggests.

Station Evaluation

·As of 2000, the FCC requires amateur radio operators to evaluate how much RF radiation their stations emit. Amateur stations with a transmission power of 50 watts of effective radiated power or less, and portable stations that use push-to-talk control, remain exempt from this requirement.

Lightning Protection

·The chance of lightning striking an antenna depends on the antenna's location and height. The ARRL says that the room holding the radio and its connection to the antenna tower, as well as the antenna itself, need protection from lightning. All in and out lines should have properly mounted and grounded coaxial surge protectors, in-line AC protectors and, if applicable, a · telephone line protector. In-line surge protectors can also protect equipment from shorting when lightning strikes.

Operator Distance

·Amateur radios release low-frequency radiation that dissipates over time, but operators should sit at least 12 to 18 inches from the radio equipment to avoid exposure, and at least 24 inches away from amplifiers and power supplies. The recommended safe distances, as determined by the FCC, depend on the type of radio and antenna.

Waveguide/Antenna Direction

·You can find additional guidelines for RF safety with different antenna arrays in the AARL handbook. High-gain antennas that use narrow bandwidth shouldn't be pointed toward people. If using an EME array, also known as moonbounce, take care when pointing it toward the horizon, as they can produce 250,000 watts or more of radiation. When in the super-high frequency (SHF) region, avoid pointing the waveguide at anyone or looking into the open end of an activated waveguide.

Excess Exposure

•The FCC suggests solutions for antenna stations with RF radiation levels exceeding the set limits. Something as simple as moving the antenna may decrease RF radiation levels to the proper levels. Or, the radio operator can alter the operating pattern, for example, as she will produce less radiation if operating the radio on for one hour five days a week, rather than five hours in one day.

Thacher Island W1T Activation 2011!

The Cape Ann Amateur Radio Association will conduct its fourth special event operation on Thacher Island from Friday July 29, 2011 through Monday August 1, 2011 under the "special event " call sign "W1T." Once again CAARA members will be on the air making contacts worldwide. This is an exercise in emergency communications preparedness in a semi-contest form.

An additional element of interest this year is that it coincides with the "Islands On The Air" and "Lighthouses On The Air" events.

Thacher Island is a national historic landmark unique in that it features twin lighthouses situated on each end of the island. It is the first lighthouse to mark a "dangerous spot" along the coast—all previous lights were built to only mark harbor entrances.

The North Light is listed as lighthouse # USA-1027 at this site:. http://wlol.arlhs.com/index.php?mode=alpha&letter=T

The South Light is listed as USA-105 at this site: http://en.wikipedia.org/wiki/Cape_Ann_Light .

Thacher Island is island # NA-148 at this site: http://www.rsgbiota.org/info/search.php?q=Thacher&search=Search

In the 2010 activation Aug 6 – Aug 8, there were 4 stations in operation, one operating from a picnic table (antennas: a homemade dipole and a 4 element quad beam- shoestring antenna) , one set up on the lawn (antenna: a Cushcraft R4), one inside the keeper's house (PSK31, antenna: a PAR End Fed single band), and one, the CW station (antenna: the long wire), operating from the deck.

Rick Maybury (WZ!B) is seen here operating the CW station from the deck. In the background is the South Tower and solar panel. Picture submitted by WW1N.

One exciting project was stringing the long wire from the top of the South Tower to the ground. The lighthouse inside is fascinating and the view from the top is spectacular. This picture is from the www.thacherisland.org site.
[* File contains invalid data | In-line.JPG *]

Another antenna fun to set up was the Cushcraft R4. Aside from a baby seagull trying to walk away with one of the ribbons on the ground radials, we had no trouble with it at all. On 20 Meters on SSB, we got over 200 contacts.
Picture submitted by WW1N.

The island was busy that weekend with photographers, artists (painters), kayakers, and of course seagulls everywhere. The seagulls were very vocal so I'm sure our contacts had no doubt we were on an island!
Picture submitted by WW1N.

Thacher Island map (from the www.thacherisland.org site). Note the South Tower (middle, right) next to the keepers house. This is where we will operate. You can see that there are places to walk and enjoy the sites all around the island including a museum and a railroad being rebuilt.

The keepers house can hold up to 6 over night . Five members so far have volunteered for the 4-day stay. They are Rick WZ1B, Dick KR1G, Ruth WW1N, Marianne KB1TEO, and Phyllis KB1UWM.

We are looking for one more for the full 4 days and we are looking for two volunteers (one as backup) to shuttle us and/or our gear to/from the dock in Rockport (from/to 6 Stanwood, Gloucester).

We will be meeting at the clubhouse on Friday 7/29 and will load up our gear and then head for the launch. Our launch which has room only for the main team and our gear leaves at 1:00 PM. Our return trip from Thacher is

scheduled for 11:30AM Monday 8/1 at this time. If arrangements can be made for other boat drivers, we may be
able to stay on the island a couple hours longer. We'll know more about the return time 3 – 4 weeks before the event.

We also invite any members who would like to make a day trip of it on Saturday 7/30. Water goes fast so please bring water with you. Extra water would be appreciated. You will need to make your own reservations by calling the island keepers at Thacher Island directly at **617-599-2590**. The launch leaves from and returns to the Town dock, T-Wharf across from Sandy Bay Yacht Club. Trips are free but donations are gratefully accepted. The launch is limited to 12 passengers. The Saturday trips going out are at 8:00, 9:00, and 10:00AM. Saturday trips returning are at 11:00AM, 12:00PM, and 1:00PM. There are no Sunday trips and there will not be enough room in the launch when we return on Monday because of the number of people on the team and the amount of gear we carry.

We pack in our own food and water, no frills, but there's nothing like being on Thacher Island. Join us!

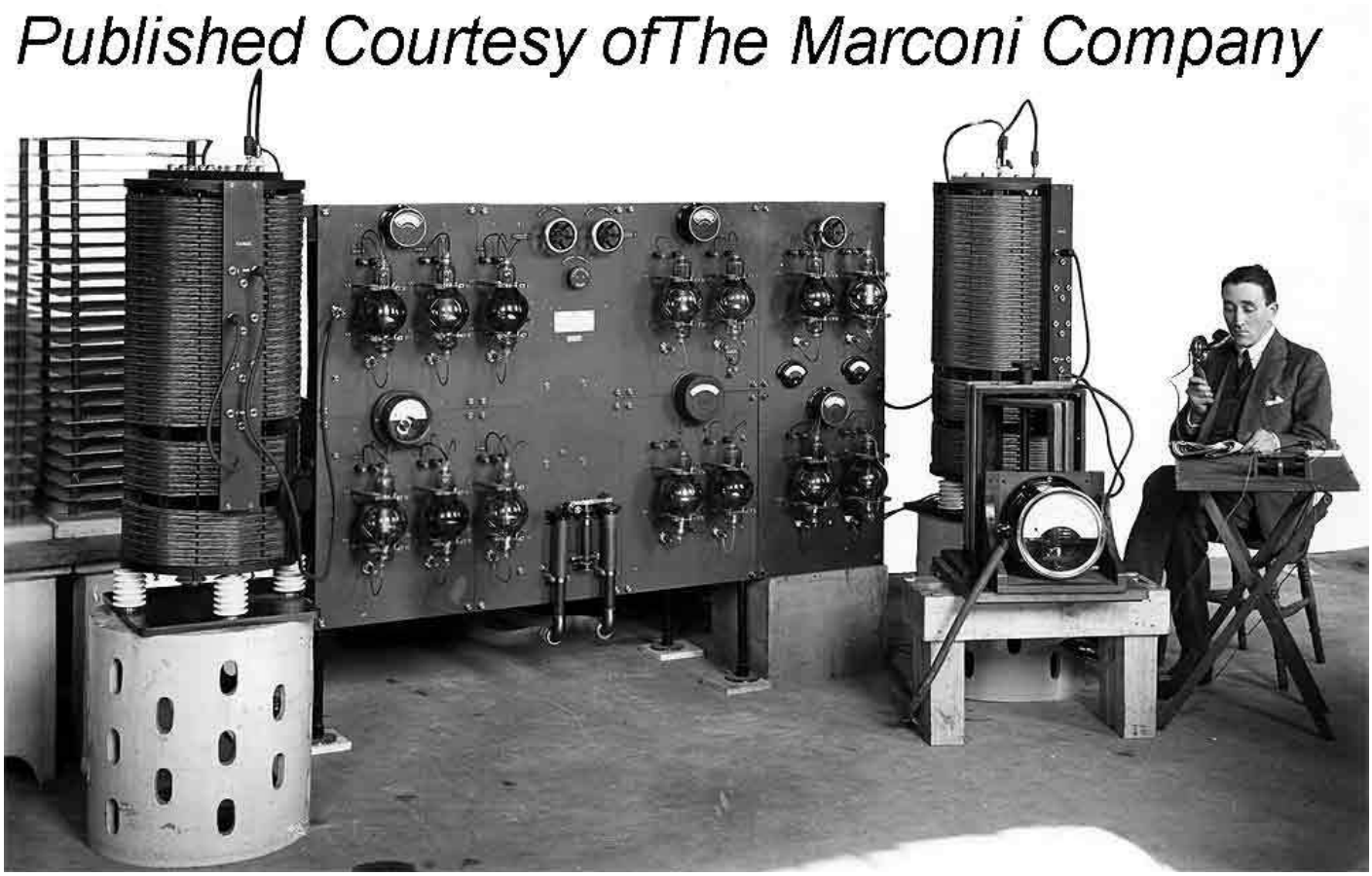
To peak your interest, here are some more pictures from the 2010 W1T courtesy of KB1TEO, Marianne Brinker:

Loading the launch.

Arriving at Thacher Island

Trying to hear a very scratchy signal!

Inside the South Lighthouse



An experimental 6.5 kW broadcast transmitter at the Chelmsford works. Mr. W.T. Ditcham may be seen to the right of the picture. Mr Ditcham was the first man to speak across the Atlantic from east to west.

Letter from Japan to Briggs-AB2NJ re: Tsunami

Briggs,

Good to hear from you. Of course we stayed up all night as the Tsunami warning sirens kept blaring from the huge rotating loudspeakers across the street from our QTH. I spent the night checked in and monitoring the local emergency net on the 146.88 machine on Diamond Head. 40 meters was buzzing with JA's all night as I listened in with my basic understanding of Japanese. The NH7J QTH is at over 1100 ft MSL at the geographical center of the island, so we just worry about the coming and permanent loss of power when the 3 HECO power plants – all at the shoreline where they get cooling water – get inundated. No "grid here.

There was no discernable Tsunami action on Oahu (thank God) but the Tsunami Warning Center was predicting 6 foot high waves which would have been devastating for Waikiki and everyone living along the coastal areas. There's really only one road around the island, the Kamehameha Highway, which would have been destroyed. So all the little towns and villages on the North Shore and Windward side would have been isolated. Most of the action in Hawaii was seen on Maui where there was some property damage. During the Chilean Earthquake tsunami action was seen only in Hilo.

Of course my XYL, Setsko, are heartbroken over the impact in Japan. We lived in the Tokyo-Kanto area for about 4 years and loved the friends we had there. I have fond memories of my time with the Akishima-Shi Amateur Radio Club during early '90's. Pray hard for them!

VY 73 & Aloha! Gus, NH7J

Sisyphus in Rockport by Dr. Curtis Wright- AA3JE

It started, as it always does, with a minor problem. I had bought a house in Rockport, but had not thought clearly about just exactly how the town had gotten its name. I was quickly going to find out, however.

It had a lovely back yard, lots of open space, green grass, and a few iconic-looking grey boulders peeping coyly from among the tussocks. It was lovely, but soon needed mowing. This was no problem, as I had a nice Honda mower, so I started mowing. And mowing. And mowing some more. And some more.....

This was NOT the way to do it. I was lucky, as I knew about a local company called Maestranzi Brothers that sold garden tractors. They had an excellent reputation and I soon had purchased a second-hand lawn tractor that was in really good shape. I also bought a service agreement, as I knew they did a great job in helping to keep machinery in tip-top condition.

The first I knew I had a problem was on the first outing. Mowing using the tractor was so easy that I got a little too close to one of the rocks and “CRUNCH”. My nice new sharp blade was now dull as an old hoe. Getting the blade off required a few hours making a ramp to lift the mower high enough to get under it, but it was easy to get the blades off, and I ground them sharp again. And again. And again.

It turned out that I found out that there were about a dozen “Commando” rocks, low enough not to be readily visible, but just high enough to take the edge off a newly sharpened blade. After a few trips to the grinder, I had unbalanced the blades enough to make the mower shake like an aging stripper and mowing became less of a pleasure.

At the end of the first season, I had the mower picked up, and I got a call from Maestranzi.

“Dr. Wright?”

“Yes”

“This is the service manager at Maestranzi. I need your permission to get you some new blades.”

“That’s fine.”

“According to our records we fit new blades last year, but that can’t be right. These look about 20 years old.”

“I had them sharpened”

“Well, we offer a sharpening service, sir. Whoever you had sharpen these blades really needs help.”

“Oh?”

“Yep. He has the shakes really bad. Doesn’t know how to balance a blade, either. Local guy?”

“You could say that. Thanks so much. Please go ahead and get some new blades.”

I think that they figured it out, because each year after that they just fitted new blades without calling. After about 3 years of this, I had four sets of old blades with really interesting profiles and I decided something

had to be done. I started out by building a flowerbed over each rock. This not only looked silly, but nothing much would grow in the thin layers of soil. Finally, I decided to get some of those rocks out of there.

At this point I want to offer a word of advice to the reader.

BEFORE YOU TRY TO PULL OUT A ROCK DIG DOWN AND TRY TO FIND OUT HOW BIG IT IS!

I decided to drill into the rock and put two anchors in to attach a chain. I got out my trusty cordless drill and a masonry bit.

Two hours later I had a ¼ inch hole ½ inch deep.

So, it was time to call on my trusty aid in time of trouble, AMAZON.COM.

Two days later I had a new “ACME” hammer drill and a set of drill bits. this easily drilled a ¼ inch hole, opened it up to ½ inch without much trouble, and with great effort expanded it to 5/8 before expiring in a puff of black smoke. I offer another work of advice.

IF THE DRILL SAYS ½ INCH, BELIEVE IT!

I called ACME.

“I have a warranty problem”

“I am sorry to hear that, sir. What is the problem?”

“I burnt out my new drill.”

“What were you doing with it?”

“Drilling a hole in granite.”

“How big a hole, sir?”

“5/8”

“”You tried to drill a 5/8 hole in granite with our ½ inch drill?”

“Yes.”

“AND IT WORKED?”

“Sort of. It worked great until all the smoke ran out.”

“We can’t help you there, sir. We do not warrant our drills if they are abused.”

“Oh. Never mind. Got anything bigger?”

Two days later I was the proud owner of an “ACME” brand ROTARY HAMMER, a big brute of a thing with bits that chewed granite up like a big dog with a small bone. I soon had the holes drilled, the chain attached, and

a small case of vibration induced white finger. I hooked up the truck and gave a tug.

Nothing happened.

I tugged harder.

Nothing happened.

I tugged really hard. The rope snapped.

I thought about it, scrounged around, and found an old 6 by 6 that I had left over from another project. I set it up as a sheer-legs and went off to the hardware store for more rope.

I found out that owing to some unfortunate episodes in town, if you bought 50 feet of 1 inch nylon rope, you had to pass a quick psychiatric screening to make sure you should have it, but I was able to convince them I had no self-destructive tendencies (well, no intentional ones, anyway), and was soon on my way with a big rope. I set up the sheer legs, attached the rope, and wound up the truck. I let go the brake, the truck lurched forward, the bumper held, and with a mighty "SPLORT" a 3 foot boulder popped out of the ground. I repeated this 3 more times, and I then found I had a new problem.

1. I had chewed up the lawn like a farm barnyard.
2. I had 3 big holes that needed to be filled.
3. I had 3 boulders weighing about a ton each, and I had only a half-ton truck.
4. The driveway was slowly sinking under each boulder.

The Rock

Part 2- "The Wrath of Linda"

"What are you going to do with those rocks?" asked my blushing bride.

"Rocks?" I tried feigning ignorance, or at least minimizing the problem.

"The 3 big rocks that are sinking into the driveway"

"Oh, THOSE rocks."

I did not want to tell her that I didn't have the least idea. I had toyed with the concept of pushing each to the top of the driveway some dark night, and letting them roll down the drive and into the swamp across the road. If caught by the wetlands police, I could plea that I was moving them around and they got away from me. It might work for one, but I doubted they would buy that story for all 3.

I next tried designing an art object that used 3 granite boulders. I had noticed that you could put nearly anything in your front yard in Rockport if you pretended it was an art object. I found out however that I was not much of an artist and anything I came up with looked a lot like 3 big boulders. If I had more I could make an animal (this had been done at the top of Summit avenue, but you can't make a convincing animal with only 3 rocks).

So it was time to look for what to do on the Internet.

This was fascinating. There are several venders for "EXPLODABOULDER" systems. All seemed to work, but I did not want the attention that large detonations in a quiet residential neighborhood would surely bring. (Not to mention the attention of Homeland Security when I ordered explosives). So I needed to find a quieter solution.

YouTube helped here. I found several videos of dusty men in overalls splitting boulders using something called “Feathers and Wedges”. These are cute little hardened steel things that fit into holes in the rock, and are supposed to split granite.

Well it sure had worked in the past, if the number of big open quarries in town was any indication. So it was back to AMAZON.COM, searching for rock splitting tools.

A few days later I received my package of “ACME” brand feathers and wedges. They were really neat, but they were pretty small and I had grave doubts that they would work. They also came with no instructions. I called around, and after the local experts finished laughing, they suggested that I put the wedges a few inches apart, and make sure I kept my feet out of the way.

So I took my new rotary hammer, and drilled a series of 5/8 holes across one of the rocks. I knew I was supposed to align the split with the “grain” of the rock, but had not a clue how you found out which way the grain went, so I picked a likely direction and drilled away. I put in the feathers, finding out that if you drilled the holed too deep, you could drop a feather into the hole and lose it. After a little flailing around, I found out that a surgical hemostat would get the thing back out. I put the little steel things in the hole, and tapped each one.

Nothing

I tapped each one harder.

Nothing

I tapped each one really hard.

Nothing

I took a chisel and cut a line in the rock connecting each wedge, and tapped again.

Nothing.

I went and got a cup of coffee, and came back down. The rock was still there. With the wedges. In the holes. Doing nothing. Well this was a fine mess. Now I had $30 worth of wedges in the holes, jammed really tight. In frustration, I whacked each one a good one with the hammer.

Nothing

I went into the garden shed. (Not something to do lightly. Usually I don’t go in there unless I have a gun and a native guide to help me find my way out again). I found the sledge hammer.

I came back and gave each a good whack.

“Clink”

And with a gentle sound like a toastmaster tapping his glass, the boulder split in half.

I had done it! Now I set to work, drilling, whacking, drilling some more, and in an hour or two I had 12 little rocks where I had previously had 3 big ones. I was also disheveled, covered in rock dust, bleeding from a few misses with the hammer, and feeling glorious.

I got in the truck, and drove to the dump. I knocked on the door of the trailer and asked where I could put the rocks.

“I’m so sorry, sir. We don’t take rocks.”

In a blinding flash, it all became clear. I had noticed that the town was built of granite. Granite walls, granite fences, granite porches, granite walkways, granite curbs, granite buildings, granite sculptures. I had always assumed that this was because stone was so cheap and plentiful in a quarry town. It had never dawned on me that all this stuff was built of rocks because some poor sod had to get rid of them somehow. I called around to all my family members.

“Hello.”

“Oh hi. How are you doing?”

“Well I have a problem.”

“Oh?”

“I have a few rocks I have to put somewhere.”

“Oh yeah, I do too. When you find a place, let me know.”

So I piled them up, in the yard. While I thought about what to do.

(Be sure to read the next installment, “Mortar Madness-Wall Building for Amateurs”)

If anyone knows were to get a LOT of topsoil to fill in three big holes in my yard, and a good price on grass seed, please let me know.

Dirt-
Part 3

There are times when I wish my guardian angel had been a little more proactive. I have very little to complain about, of course, since I am almost social security age and am still alive with most of my digits intact. I suffer from the fact that my guardian angel is not a cheery Pickwickian neo-Victorian like those offered to Ebenezer Scrooge or Harry Bailey, but rather a deceased surfer from the 1960s. I can’t be sure but I think the dialog went something like this.

Angel supervisor- “Should he be doing that?”

My guardian- “Hey, the little dude ain’t hurting anybody.”

Supervisor- “I think we are hoping for more moral development that that, are we not?”

Guardian- “If he starts getting knarly I’ll distract him, but hey man, be free…”

Supervisor (sighs)- “ Oh well.”

Now I would have benefited greatly from a little more attention. Nothing too overt, just a subtle reminder now and then.

“HEY YOU, YES YOU WITH THE GLASSES IN THE THIRD ROW! SHAPE UP AND PAY ATTENTION. IN 43 YEARS YOU WILL REALLY NEED TO KNOW THIS STUFF AND WILL REALLY, REALLY REGRET NOT LISTENING.”

“THIS STUFF” was Mr. Fitzgerald’s 6th grade science lecture on soil. Now while I considered anything vaguely brown which lay on unpaved areas as “dirt”, Mr. Fitzgerald did not. It was a county school and most of the county was agricultural. Dirt was what you removed in the wash, while soil was a holy thing to Mr. Fitzgerald. It was probably important to the farmer’s kids in the class who were really paying attention, but to the rest of us a detailed description of the multiple layers of soil, the functions of each, the fine distinctions between clay, loam and silt, all seemed amazingly boring. So I, for one, let it go in one ear and out the other, drawing rocket ships in my notebook.

We now fast forward about 42 years and 11 months. I am now the owner of nice house with a nice yard. Well a sort of nice yard. With rocks. Big Rocks. Really BIG rocks.
Really big rocks lurking under the surface like German U boats ready to reach up and grab the blades of a lawn mower and ravage them.

So I had, with much effort, dug up the rocks, split them up, and hauled them away. Personally, with much effort (Oh I had already mentioned that, sorry).

This left, really big holes in my yard. Holes measured in feet, multiple feet. Waist deep, in fact. I had ignored them for a while, but fate intervened. I had married, and my guardian angel now had days off, since my wife had taken up much of the slack.
“HEY YOU! YES, YOU ON THE COUCH WITH THE GLASSES! WHEN ARE YOU GOING TO DO SOMETHING ABOUT THOSE BIG HOLES YOU LEFT IN THE BACK YARD? YOU FORGET THEM OR SOMETHING?”

Stung by the criticism that my memory was anything but a well oiled calculating machine, I sprang into action. Well, I oozed into action. Well, I actually just stopped off at the hardware store after work the next day. I inquired about topsoil.

“Oh no Sir, we only stock that in the spring and summer months. There is very little gardening in December in Massachussetts.”

I could believe that. It was 18 degrees Fahrenheit most mornings, and it might thaw out for a few minutes around noon, but that was all.

“Does anyone have any topsoil for fill?

“George might have, but he’s on his annual winter drinking binge in Florida. He’ll be back in a few weeks when he runs out of money, but I’d give him a few days after that to dry out. He gets mean when he gets hung over.”

I tried the other store. No luck.
I tried the other, other store. No luck.
I tried the only other Garden center. Lots of plastic Santas but no soil.

I was stuck, but that Saturday I had an idea. An inspiration. I was dumping my trash in the bin when I looked up and saw the huge steaming pile of compost that the town had established as part of the recycling effort. All

leaves, twigs and wood were dumped in a pile, composted all summer, ground up by a big machine, re-composted all winter, sifted, and put in a big pile for anyone that wanted it.

I went over and looked at it. It was a deep rich black, looked like dirt, smelled like dirt, formed clods like dirt. I could use it to fill the holes and it was not only low cost, it was free! (I am a sucker for free anything).

So I loaded up the pickup, went back to the house, carefully layered the stuff in the holes, tamping it down well, and covered it over with a handful of grass seed. It looked very nice.

I promptly forgot about it. Spring came and the seed sprouted when the rains came, and I soon had some nice, lush new growth. Sort of.

“THE LAWN LOOKS FUNNY WHERE YOU FILLED IT. WHAT DID YOU USE?

I assured my wife that I had used the best, rich soil and went down to have a look. This is where I needed to have paid attention to Mr. Fitzgerald (43 years before). Soil, you see, is a vertically organized structure consisting of rocks, pebbles, sand, clay and humus. The purpose served by the rocks, pebbles and sand are to add structure and strength to soil. Mixtures of clay and humus, or even worse, pure humus (semi-decayed vegetable matter) form bogs. Deep bogs, bogs full of sticky black stuff, up to your waist bogs. Well, up to my waist, anyway. Over the winter the compost-filled holes had absorbed water, filing with a thick, gooey mixture of suspended organic material covered by a thin layer of acid green newly sprouted grass (kind of like a perverse Chia Pet made from Jello).

My first step took me into my micro-bog, the second firmly mired me. Both shoes promptly pulled off and I floundered about, sure I was going to sink without a trace in my own pathetic version of the final scenes of *The Hound of the Baskervilles*. Fortunately I am 5’ 10" and the hole was only 3’ 6" so I stopped sinking with my head and neck still well above the ground. I caught my breath, my pulse dropped back into the two-digit range and I considered my situation.

I COULD call for help. My wife could hear me, but did I really want her to rescue me? I think not. I should be able to get out of a simple hole by myself. Besides, I did NOT want to hear about this at every party for the next 30 years.

For those who have tried it, they know. For those who have not tried to get out of a slippery hole while wearing about a hundred pounds of muddy clothes, it’s really hard. I did get out, but I was panting with exertion, and weakly struggled toward the house. This was where my mind started to show the frantic ingenuity which has always been my defining trait. I have always excelled at getting out of situations no sane person would ever get themselves into in the first place.

If I could get into the back door of the garage, I could drop the muddy clothes, skip into the bathroom, shower up, hose off the dirty clothes and then run a quick load of laundry. Anything was better that having to listen to this story re-told at family gatherings.

This still left the problem of getting into the house without tracking up the garage. I do not know why, but Linda places a great store in keeping a clean garage. After a moment’s thought, I realized that the back door to the garage was out of sight from the street. I could just slip out of the muddy clothes, leave them out of sight behind the door, clean up, come back, rinse them with a hose and wash them later. It seemed a perfect plan.

And that was how I met three senior members of the Pigeon Cove Women’s Circle, all over the age of 80, clad only in my underwear and a thin film of humus. They had been coming into the house via the front door to the

garage entrance while I came in by the back. Realizing that I was well and truly caught, I nodded my head, said "You must pardon me, I must wash up" with perfect urbanity and passed on into the house.

As I entered, I heard an admiring elderly voice behind me, "Linda is such a truly remarkable woman, I had such a hard time getting my late husband to even take his shoes off when he came in from the garden."

I was going to hear about this one for a long, long time.

FYI: Sisyphus

In Greek mythology **Sisyphus** was a king punished by being compelled to roll an immense boulder up a hill, only to watch it roll back down, and to repeat this throughout eternity. He is also found in Roman mythology. The word "**sisyphean**" means "endless and unavailing, as labor or a task".

Here is this months questions from the 1976 ARRL License Manual, plus the answer to last month's questions. How are you doing?

by Dick-WB1W Vice President-CAARAQ

So let's start again with last month's answers:

1. *What is Ohm's Law?*
   How does it relate to resistive and reactive impedances? (General Class question)

   Ohm's Law expresses the relationship between potential, current and resistance in any circuit.
   It is stated as $$I = \frac{E}{R}$$
   where I = current in amperes, E = potential in volts and R = resistance in ohms.
   By simple algebra it is also E = I **X** R and
   $$R = \frac{E}{I}$$
   A circuit with "resistive" impedance acts as a pure resistance and follows Ohm's law precisely. A circuit with reactive impedance also follows the law, with Z (impedance, expressed in ohms) replacing R in the formula.

2. *How does voltage division occur across series-connected resistors? Capacitors? Inductors?*
   (General Class question)

   In a series circuit the same current flows through all circuit elements, so the voltage drop across each is proportional to its impedance and the current flowing through it. In resistors, the impedance is resistive only, and the voltage drop is equal to the current multiplied by the resistance on either direct or alternating current. Since the current is equal to the applied voltage divided by the total of all the resistances in series, the proportion of the applied voltage appearing across each resistor is equal to the individual resistance divided by the total resistance.
   The same statement is true of capacitors and inductors in ac circuits if the word "reactance" is substituted for "resistance." This assumes that the ac frequency is high enough so that the reactances are

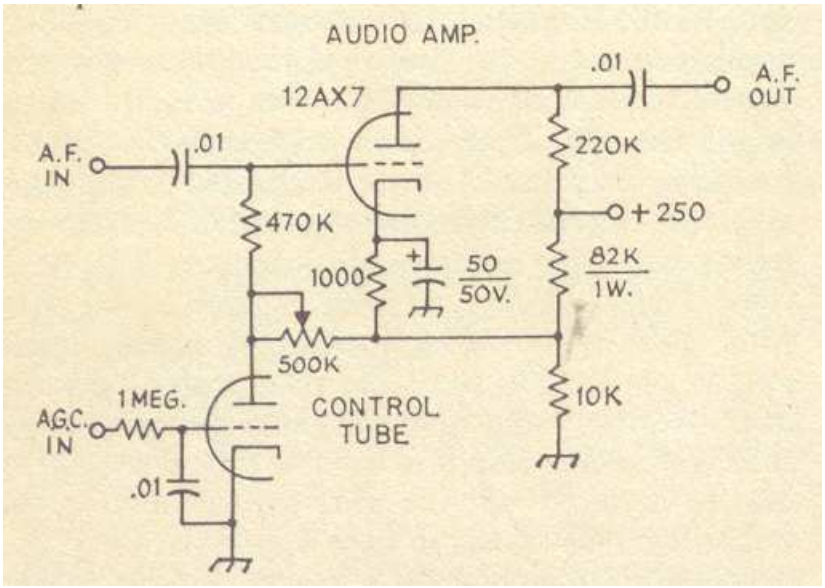
essentially “pure” – that is, equivalent series resistance is very small compared with the reactance. Since inductive reactance is directly proportional to inductance, the statement is true if “inductance” is used instead of “reactance.” However, capacitive reactance is *inversely* proportional to capacitance; the individual voltage drop across one capacitor in a series is the *inverse* of the ratio of its capacitance to the total capacitance of the group.

3. *What visual observation within an operating vacuum tube’s envelope would indicate that the tube is gaseous? (Extra Class question)*

   A gassy tube would be indicated by a bluish glow in the space between the cathode and plate of the tube.

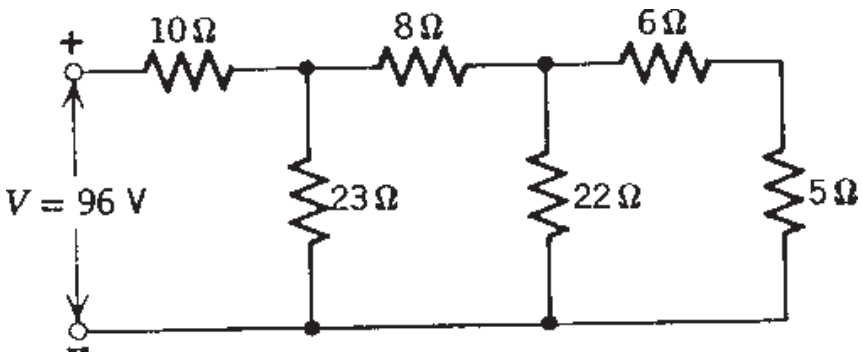
4. How does a squelch circuit operate? Draw a commonly used squelch circuit*? (Extra Class question)* (remember this is from a 1976 license manual, tubes????)

   A squelch circuit silences the audio output of a receiver when no signal is being received. One method of accomplishing this is to apply greater-than-cutoff bias to an audio stage so it cannot amplify, and then restore normal bias and normal operation by means of a control tube whose operation in turn is controlled by agc voltage developed by an incoming signal. An adjustment usually is provided so that signals below a selected level cannot “open” the squelch circuit to permit reception.



Also last month in addition to the four questions from the 1976 license manual two questions were added to help apply the theory over the last few months.
Below are the questions with the answers:

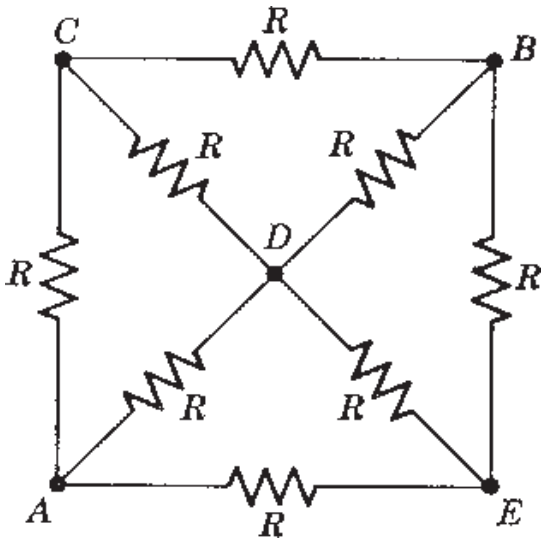
A. *What is the current input in the circuit below?*



First, you need to find the equivalent resistance that the voltage would see.
Start by working from the left back to the applied voltage terminal.
The 6 & 5 ohm resistors in series is equivalent to 11 ohms.
Next this 11 ohms in parallel with the 22 ohm would be equivalent to 7.33 ohms.
This in series with the 8 ohm would be 15.33 ohms (8 + 7.33).
Now, this is in parallel with a 23 ohm resistor would be 9.2 ohms.
And finally, this is in series with the 10 ohm resistor would give an equivalent of 19.2 ohms that the voltage is applied across. Now use ohms Law to find the current, I = E / R, where E = 96v and R = 19.2 ohms.
Therefore, the current input to this circuit would be 5 amps.

B. What is the resistance between A and B if R = 100 ohms?

Well, the answer to this is actually pretty simple. If it doesn't seem that way remember the hint last month. So hopefully, you have tried this. If not, here is your chance again.



When you get your answer, send it to me along with your method and I will send you back the answer. Send to: wb1w@arrl.net

Now for this month's questions from the license manual:

1. **What is the RST reporting system?**
   What is the meaning of "RST 579"?

2. **What are "Q signals"?**
   What is the meaning of QRM? The meaning of QRS? The meaning of QRU? The meaning of QRZ? The meaning of QTH? The meaning of QSL?

3. **What are some good operating procedures that can be employed to minimize interference and congestion of the amateur bands?**

4. **In what manner should an amateur radio station be operated in all respects not specifically covered by the Rules?**

CAARA Spring Ham Radio Flea Market, Saturday May 14th at 9 AM at Lanesville Community Center, 8 Vulcan Street, Gloucester, MA