

CAARA NEWS



Cape Ann Amateur Radio Association
October 2017 Edition



PRESIDENT'S COLUMN

by Jon- K1TP



I have been moving into my new house and have been flat out busy and as a result have not spent much time with ham radio or at the clubhouse.

A new board of directors has been elected and approved at the recent September member meeting. I look forward to meeting them all at the first board meeting in October, which now meets on a new date and time. We will now meet on the first Saturday of each month at 10AM at the clubhouse. The new time should make it easier for us all to attend especially in the winter, and club members are welcome to attend.

The members meeting in October will be used to present, discuss, and approve the annual budget. It will be a straight forward budget that has no surprises or big expenditures, just a budget to keep things running with the same services we have provided in the past.

I want to thank recently retired board members, Ross Burton, Dean Burgess, and Bob Spanks for all the endless hours they have put in behind the scenes keeping the club maintained and running smoothly the last few years. They will leave big shoes to fill.

In the near future we will be looking for members to help fill positions on various committee's, such as house, membership, repeater, etc.....if you have any interest please let me know. You may also be called by a board member asking if you would like to become a part of one of the open positions, give it some thought, we need your help.

We have a general class upgrade class starting up in October at the club on Saturday mornings. A painless way to upgrade your license which will include some hands on work with components and test equipment.

Until next month, 73, Jon- K1TP

INFORMATION DESK

By Dean- KB1PGH

Well since October is here and that mean that winter is not far behind. So now's the time to get outside and inspect all of your outdoor ham antennas for wear and tear. As you should know by now all sorts of weather can affect your coax cables and connections.



It does not take long for even the hot sun during the summer and the frigid cold during the winter to wear down your coax and it will eventually dry out and start to split. It also does not take much for rainwater to get into the coax at the connectors. Especially if you don't have them properly sealed with coax seal or rescue tape. You should ask yourself when was the last time you checked your outdoor coax and antennas for proper SWR? If you get water inside the coax or antenna system you get high SWR readings. Your radio may hear good but you will get power loss and high reflectivity back into your rig possibly causing damage and that goes for VHF/UHF rigs as well. One other indication is that you may hear signals coming in really noisy or scratchy which is a good indicator of a faulty coax or antenna. You can even get corrosion on the bolts and nuts of your antennas and any fiberglass antennas will break down with age too due to exposure to moisture. So now's the time to give your outdoor ham gear and antennas an inspection and check your connections and coax and if you can check your SWR too. I am thinking that you can also do a yearly inspection on all of your indoor wire and cable. Take the time to check all of your AC lines going to your gear and make sure no electric wires are frayed or getting pinched by rugs or furniture. Make sure that all of your "wall warts" are fine and not blistering on the side. I have seen that happen before. If you have time get one of those electronic air can dusters and blow out all your vents on all your gear and you can also do that on your

CAARA Newsletter
Cape Ann Amateur Radio Association
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Gloucester, MA 01930

CAARA Newsletter is a monthly publication of the Cape Ann Amateur Radio Association (CAARA).

It is the policy of the editor to publish all material submitted by the membership provided such material is in good taste, relevant to amateur radio and of interest to CAARA members, and space is available. Material is accepted on a first come, first serve basis. Articles and other materials may be submitted by internet to Jon at k1tp@arrl.net. If possible, material should be in Word format. Material may also be submitted as hard copy to Jon-K1TP or any Club Officer.

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Jon Cunningham- K1TP Editor
Dean Burgess- KB1PGH Reporter

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Welcome to CAARA:

CAARA, an ARRL affiliated club, operates the 2 meter W1GLO repeater on 145.130 MHz with antennas located on the ATT cell 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 located at the CAARA clubhouse.

The former W1RK 443.700 repeater is now on the ATT cell tower in the Blackburn Industrial Complex with greatly enhanced performance.

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 beam, vertical/wire antennas along with an operating 2 meter packet station as well as 2/440 meter voice and 220 MHz Transceivers.

Amateur radio exams are held on the second Sunday of each month at 10:00 AM 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 Rick Maybury 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 9:00 PM, 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.

New! The club is open every Tuesday from 5-8PM for CAARA members to stop by and socialize, as well as use the extensive collection of ham radio gear.

home computer as well so you'll know that your gear is getting properly cooled. I guess this month's theme is "Preventative maintenance" on your ham gear. You spend a lot of money on it so a little TLC goes a long way. I guess this would mean that you can check all your mobile gear as well. Take the two seconds to check the connections in your car's battery to your rig and make sure all the connections are tight and that there is no corrosion on the terminals. Even check all your fuse connections from your rig's DC line. Sometime corrosion builds up in the blade fuse holders causing popped fuses and lower amperage readings. I have seen that first hand in my portable HF gear. While we are at it. If you have any lead acid batteries that you keep on stand by or if they are on float charge take the time to check the fluid levels in them now to make sure that the water levels stay above the plates. Gee, all this ham radio gear may seem a little "High Maintenance" but in this hobby you sometimes have to "Pay to Play" and be a responsible ham radio operator. Until next month try to get on the air as much as you can!

73, Dean KB1PGH

MCM Electronics Shuttters Two Plants, Announces Merger with Newark element 14

MCM Electronics, in business for 40 years, will close two plants and its corporate headquarters in Ohio and lay off more than 90 workers, the *Dayton Daily News* reported earlier this summer. The company, which carries an electronics inventory of more than 300,000 items, including 3-D printers, tools, wire, cable, and other items, has been a Dayton Hamvention® vendor. The layoffs will begin at month's end and continue through the end of the year.

On its Facebook page, MCM has announced that it is partnering with Newark element 14, and that MCM products will become available via the Newark website, which is not yet available.

Rockwell Collins Sold to United Technologies

United Technologies has acquired avionics maker Rockwell Collins in a \$30-billion deal. United Technologies said it wants to further enhance its role in aviation for both its military and commercial customers in the area of new aircraft connectivity systems.

Collins Radio and later Rockwell Collins for many years manufactured top-tier Amateur Radio equipment. Art Collins, W0CXX, founded Collins Radio Company in

1933. The Cedar Rapids, Iowa-based firm initially built shortwave and AM broadcasting gear as well as the military and scientific communities, and Collins provided the radio equipment to keep in touch with Admiral Richard Byrd's South Pole Expedition in 1933. During World War II, Collins became the principal supplier of military radio and navigation equipment, and Collins later produced Amateur Radio equipment and provided communication gear for early NASA missions. Collins Radio Company was purchased by Rockwell International in 1973. In 2001, the avionics division of Rockwell International was spun off to form Rockwell Collins. In its Amateur Radio heyday, the Collins S-Line was considered the king of the hill. Vintage Collins gear remains popular, and Collins mechanical filters are still widely used.

630/220 meters to open October 16 - Pre-registration required

CQ MF/LF Editor John Langridge, KB5NJD/WG2XIQ, reports that the FCC has authorized amateur radio use of the 630 and 2200-meter bands, effective October 16, 2017, providing registration procedures have been followed and no objections are received within 30 days.

The PLC (Power Line Communications) database is live and hams may begin registering immediately. They may begin operating on 472 kHz (630 meters) and 137 kHz (2200 meters) as early as October 16 if they register today and receive no objection in the next 30 days. Hams may not operate on the bands without going through this process.

The link to the sign-up page is here:

<https://utc.org/plc-database-amateur-notification-process/>

The effective date for use of the new bands by amateurs was published in today's Federal Register. The relevant pages are at: <https://www.gpo.gov/fdsys/pkg/FR-2017-09-15/pdf/2017-19578.pdf>

The FCC's Public Notice is at: http://transition.fcc.gov/Daily_Releases/Daily_Business/2017/db0915/DA-17-893A1.pdf

John is asking all amateurs to register, even if they don't plan to use these bands in the near future, as the FCC rules prohibit UTC (the Utilities Technology Council) from deploying PLC in these bands closer than 1 kilometer from registered stations. Registration now will protect your ability to use our new MF/LF bands in the future.

2017 BOXBORO HAMVENTION



The yearly flea market and hamfest at Boxboro was fun and the weather was great on Saturday. Good amount of vendors, but not like the days of old. No MFJ, no free hats from the major three companies: Icom, Kenwood, or Yaesu. CAARA ran a Tech in a Day class run by Rick- WZ1B and assisted by Bill- WZ1L. If you have not been to this fest, put it on your bucket list.

PORTABLE OPS

by Dean- KB1PGH



On Sunday, August 27th, I was able to have a portable HF ops session at Bothways Farm in Essex where I work. The location is very quiet with no RFI or EMI. I used my Icom IC 7300 SDR rig and a 4 band wire dipole which works on 40,20,10 and 6 meters hung on the Buddipole mast. I had a 125 amp hour deep cycle battery along with my Honda 2000 generator. The weather was perfect with sun and in the 70's and most importantly the band conditions were pretty good as well. I tried 6 meters for kicks but the band was dead. I did have good luck though on 10 meters though. I talked

to a station on the top of Mount Washington in New Hampshire for a while. As I was talking to him a couple guys joined us from Virginia and another from Kansas. These sorts of contacts keeps reminding me that even though 10 meters may sound dead, keep giving out CQ's and your call as you never know who is listening. For a couple other contacts I made I talked to a station in New Jersey on 40 meters, a station from Vienna on 20 meters and another station from Brazil on 20 meters as well. The Kansas QSO party was going on so the bands were full of stations from that state. I did a lot of listening to the bands during this session instead of operating since I don't get the chance to turn on the HF rig. Plus it gave me the chance to relearn how to use the Icom 7300. My lesson learned during this session is to always give 10 meters a chance even when you think the band is dead.



PUBLIC SERVICE



On Sunday, September 24, CAARA provided race coverage for the Long Gull Race in Gloucester as well as the YukanRun race in Manchester using both club repeaters - 2 and 440.

The Long Gull race had over 1000 runners and the YukanRun race had about to be 600. Thanks to local hams Bill, Curtis, Jon, Chris, Ruth, Matt, and Hank.

CAARA helped two runners in trouble by alerting the race officials and ambulances were called in to assist.

The pictures above were taken at the YukanRun race in Manchester.

Dark Secrets of the Inner Circle

By Curtis- AA3JE

"You really need to write them down, Pop," said my son, serious for once.

"You really want me to write down how often I screw up?" I answered.

"GRAMPY'S GONNA RITE DOWN HOW TO SCREW UP!" screamed my grandson.

"No, Grampy is gonna write down what to do AFTER you screw up." I replied.

"GRAMPY'S GONNA RITE DOWN WHAT TO DO AFTER YOU SCREW UP!"

There was a small pause as the party in the next booth, one of whom was bleeding from the ears, moved to a table as far away as the restaurant allowed.

"Indoor voice, please."

"SORRY GRAMPY! INDOOR VOICE"

He's a great kid. Volume control is busted though.

"No, really dad. It's good stuff to know."

I thought about it and decided one or two hints might be helpful.

WORKING ON LIVE ELECTRICAL CIRCUITS.

Now this is manifestly unsafe, and NOT GOOD TO



DO! It happens when you, or the previous owner are a bit lax in labeling exactly which breaker goes to which outlet. It makes it worse then they had a passion for six gang switches wired in pairs, so you do not



know (a) what that switch does, and (b) which way is off.

Now my usual plan is to just turn off the main breaker, but as "SHE WHO MUST BE OBEYED" is now addicted to on line computer games that take an hour to play, any loss

of power to the cable modem is a home disaster, that was out.

So I turned off all the likely breakers, got the neon "hot checker" and went out to the outside light. I have been ignoring this light for years since I don't know where the switch is, don't know which breaker it is, and it's 24 feet in the air. First I set up the ladder, climbed up, and attempted to remove the cover. "Snap" "Snap" and both cover screws snap off.

Then I go to Ace and buy a new light. Removing the bulbs was foolish, as the salt air corrodes them in the sockets within a year.

Next I wondered how hard it would be to get the fixture off. This turned out to be easy when I accidentally hit it with the ladder and it fell right off, dangling by the wires. I climbed up and checked it with the checker. Cold! So I unscrewed the wire nuts and was greeted by a huge blue spark!

It is recommended you check your checker before using it to be sure it is not broken as mine was. This simplified the problem as now I knew which breaker was involved, (the blown breaker) and carefully wrote it on the breaker. It was then a simple matter to pull the old fixture, scrape clean and add anticorrosion goo, connect the new, and pop it back up.

So this is the first dark secret. Even if you have done your best to turn it off and have checked it with the test lamp, when you first unscrew the wire nut on BOTH the hot and the cold wire, hold the wire in the insulated pliers and short it to ground. No blue spark, its ok. This is better than being knocked off the ladder and landing in the dog poo (again). Use a shorting stick before you touch a connector!

HOW TO GET GREASE OFF YOUR DRESS PANTS.

This occurs when you have been waiting for your wife when going out, and have been waiting long enough so as to have finished the latest issue of *Giggles, Guns and Girls*, and decide to check the motor oil. With the engine running. It tends to splash about a bit.

As your wife can spot a grease stain at 50 yards, when she comes down, she sends you off to change. It seems like a lot of work, so here is the secret to removing grease from pants while still wearing them.

Three safety measures, and this is stupid and dangerous anyway.

1. DO THIS OUTDOORS, to avoid the FLAMING BALL OF DEATH problem.
2. Preferably use nonflammable computer or brake cleaner (see #1).
3. DO NOT do this in an enclosed space due to #1 and the PASS OUT AND HIT YOUR HEAD problem.

But since all you have is a big pressure can of starting ether, unbuckle your belt, slip the can inside your pants, POINTING OUT, and spray the spot from inside. It will vanish.

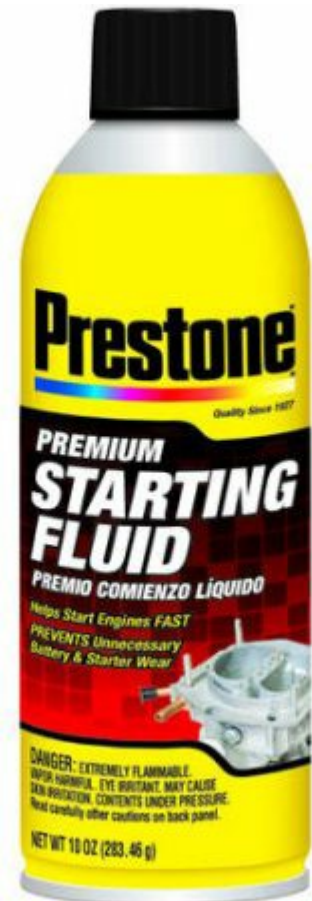
Let the fumes dissipate, then join your happy spouse.

“WHAT ON EARTH KIND OF COLOGNE ARE YOU USING NOW? IT SMELLS LIKE AN OPERATING ROOM!”

“A new one, dear, it’s called “Eu De Income”. Supposed to wow the ladies.”

“Just open the window.”

So there you have it. #1 use a shorting stick, #2 Removing grease spots. You have to wait a month for more hazardous and unsafe hints from the old duffer. If I live that long.



American Red Cross Asks ARRL’s Assistance with Puerto Rico Relief Effort

The American Red Cross (ARC) has asked the ARRL for assistance with relief efforts in Puerto Rico. ARC needs up to 50 radio amateurs who can help record, enter, and submit disaster-survivor information into the ARC Safe and Well system. In the nearly 75-year relationship between ARRL and ARC, this is the first time such a request for assistance on this scale has been made. ARRL now is looking for radio amateurs who can step up and volunteer to help our friends in Puerto Rico.

Requirements

- There are very specific requirements and qualifications needed for this deployment.
- Due to the nature of this deployment you will need to process in as ARC volunteers. This includes passing a background check. The ARC has indicated that it will cover all expenses for transportation, lodging, and feeding while on deployment. ARC will also provide liability coverage for volunteers. The only out-of-pocket expense to the volunteer would be personal items purchased during deployment.

- ARRL and ARC will require training for volunteers being deployed. ARC will provide general deployment training and advanced training in working in austere environments. ARRL will provide to ARC training on Amateur Radio equipment and modes to be used, reporting guidelines, and operating guidelines.
- Deployment will be for up to 3 weeks.

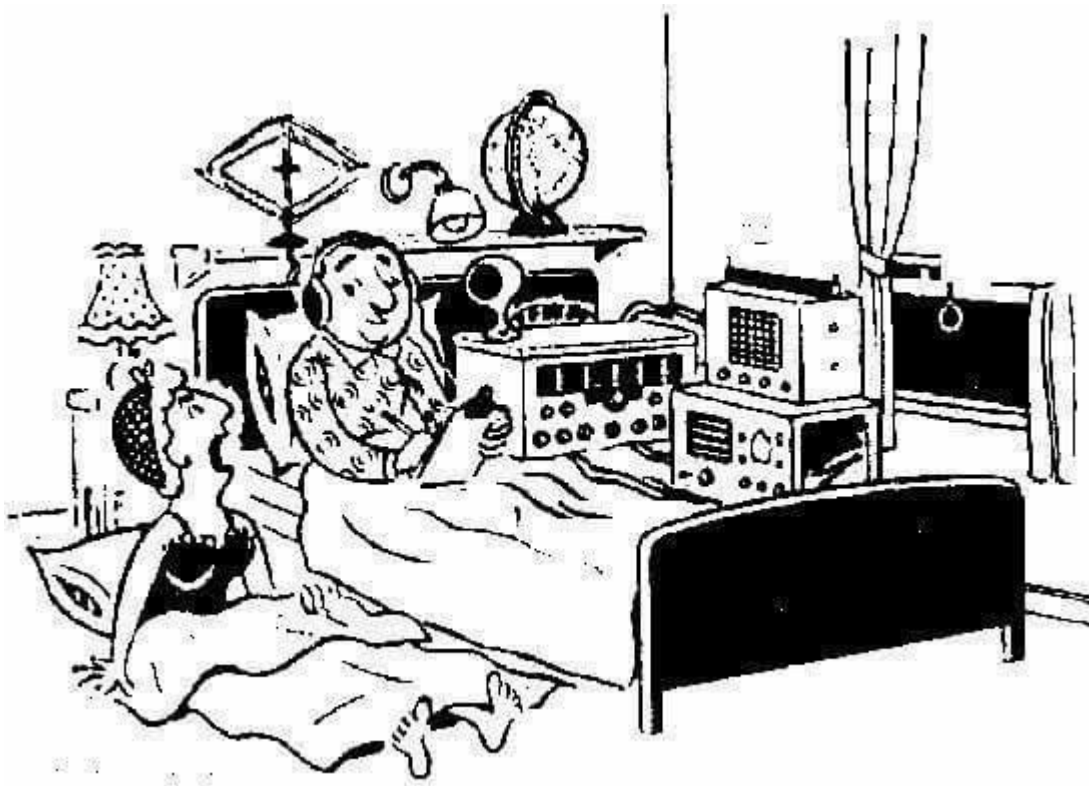
Qualifications

- General class Amateur Radio license or higher
- Familiarity with *WinLink*, HF voice, and VHF simplex communications
- Strong technical skills
- Ability to work under difficult conditions
- Ability to deploy for up to 3 weeks
- Ability to work as part of a team

Helpful Skills

- Spanish language skills
- Previous experience in disaster response
- Previous or current work as a Red Cross volunteer
- Previous experience with shelter operations

If you feel that you meet these qualifications and would like to be considered for this deployment, please [contact](#) ARRL Emergency Preparedness Manager Mike Corey, K11U (860-594-0222), who will make the introduction of qualified volunteers to ARC.



I thought you said ham radio was just a hobby!

Hurricane Damages Giant Radio Telescope

After a tense 36 hours, scientists and ham radio operators have confirmed that the Arecibo Observatory in Puerto Rico—arguably the world’s most iconic radio telescope, which has a dish stretching a thousand feet across—has come through Hurricane Maria mostly intact, but with some significant damage.

The information comes from Arecibo telescope operator Ángel Vazquez, who managed to get to the site and communicate via short-wave radio in the early evening of September 21.

Because of the storm, a 96-foot line feed antenna—which helps focus, receive, and transmit radio waves—broke in half and fell about 500 feet into the huge dish below, puncturing it in several places, says Pennsylvania State University’s Jim Breakall, who talked with Vazquez.

A fixture of the observatory since 1966, that line feed weighs about ten thousand pounds and is easily visible in images of the telescope as the pointy thing hanging off the platform. It was once used to detect mountains on the surface of Venus, and it is still crucial for studies of the part of Earth's atmosphere called the ionosphere, says former observatory director Frank Drake, who is also my dad.

“It allows the Arecibo telescope to achieve the most sensitivity of any radar telescope in the world,” Drake says, noting that it’s not clear how much time or money could be needed for repairs. “The end result is that the telescope will not be fully operative for some time at all wavelengths.”

Radio Quiet

On September 20, Hurricane Maria came ashore as a Category 4 storm and traversed Puerto Rico, flooding towns, toppling bridges, demolishing buildings and blasting the island with winds exceeding 150 miles an hour. Even now, nearly 48 hours after Maria went through, reports from many parts of the island are devastatingly sparse. Electricity is nonexistent, phone lines are mostly down, and roads are blocked, complicating both communications and rescue operations.

As it exited the island, Maria’s eye passed within miles of the seaside town of Arecibo—and the giant radio telescope, which is nestled in a sinkhole to the south, set among a bubbling landscape of forested mountains.



Upgrade to General Class

The Cape Ann Amateur Radio Association is proud to announce a course for Technician Class Amateur Radio operators looking to upgrade to the General Class Amateur Radio license. Classes will be held starting on October 21st, 2017, on Saturday mornings from 10:00 – 12:00 with an additional hour for extra help and practice exams. The course will run for 8 – 10 weeks depending on the needs of the students to be prepared for the exam.

Cost for the course will be \$25 plus you will need to procure a copy of the “[Gordon West General Class Study Manual & Software Package](#)”:

There will be a VE session at the end of the class, once all feel confident with the materials. The cost for the exam will be \$15.

There is no pre-registration for the class. Interested operators should show up at the CAARA Comms. Center, 6 Stanwood Street, Gloucester, MA, 01930 on Saturday morning at or before 10:00 ma and we'll get your information then.

This class will be open to all currently licensed Technician Class Amateur Radio operators; will have a minimum of 5 students and a cut-off limit of 15 students. Amateur Radio operators with higher grade licenses looking for a refresher course are invited, but Technician Class operators looking to upgrade will be considered first.

If you would like more information or are interested in attending, please contact:

William Morris, W1WMM
merc2211@yahoo.com

Jon Cunningham, K1TP
jcunham@aol.com

Gardi Winchester II, KA1BTK
gardiw2@gmail.com



Someone At Honda Needs A Spanking

By Curt- AA3JE

It had to happen eventually. After 10 years of faithful service my Honda Emergency Generator finally succumbed to Rockport. A family of field mice had set up a nest in the generator shed, and evidently they liked a breeze. They made a big nest with fur, dried grass, very nice, and right beside the air intake for the motor.

Needless to say the next time I used it all that stuff got sucked into the engine cooling passages (little tiny passages), and the motor overheated and went into emergency shut down.

Ignoring the markings that said, *"If you don't read Japanese, don't even think about disassembling this!"*, I pulled it apart. To clean those passages I had to completely disassemble the motor generator unit.

I was about to do that, when "SHE WHO MUST BE OBEYED" intervened.

"HOW OLD IS IT?" she asked.

"Ten years."

"NEW GENERATOR!"

"Honey....."

"IMAGINE ME, ALONE, IN THE DARK, IN WINTER, WITH A GENERATOR THAT DOES NOT WORK. CAN YOU IMAGINE THAT? DO YOU WANT TO BE REMINDED OF THAT EVERY SIX TO EIGHT MONTHS FOR THE REST OF YOUR LIFE?"

New Generator.

And that was that. I got a good trade in on the old one, and got a new generator that had a better screen on the air intake, and loaded the shed with enough mothballs to get me registered as a toxic waste site with Mass DEP. It was new, it was shiny, it worked great, and it had more power than the old one.

I should be happy, right?

Exactly two years later, despite the "battery maintainer" I kept on line, I went to do the monthly generator test, (you live on South End, you TEST YOUR GENERATOR), and to my horror, all I heard was the faint click of the solenoid.

So I dragged out the big charger, charged it overnight, and tried again. Two clicks.

Sighing, and wishing again that my son was not the lazy (expletive deleted to promote family harmony) he was, I rigged up a block and tackle and lifted the shed off the generator, as it was designed to be.

I pulled the battery. Typical Japanese motorcycle battery, I thought.

I drove to Maestranzi, the only go-to guys for outside equipment, and the parts guy said, “I have it, but you ain’t gonna be happy.”

“Why?”

“\$200”

“For a frigging motorcycle battery?”

“Yep.”

I did some quick research on line. Seems as if Honda has been making some really fast bikes with some really big engines. Engines that take 230 Cold Cranking Amps. Since the battery in my CAR has 180 CCA, and the battery in the bikes is about the size of two cigarette packages. (Note, for those too young to remember, a cigarette pack is about 1x4x3 inches).

So the guys at YUSA designed a miracle battery that stored an incredible amount of cranking energy in a tiny, tiny, tiny and amazingly expensive battery for these rice burning hot rods.

And when the design guys at Honda wanted to make a sexy new generator model, one said to another,

“There’s no frigging room for the battery box.”

And the other replied,

“We just put in one of the new YUSA super batteries, they got cranking power to spare!”

Idiots.

For a few moment I decided if I wanted to buy the aftermarket “NORMAL BATTERY TRAY” that some guy sells for these turkeys, but it was \$99, and a 250 CCA battery is \$100, so it cost the same.

So I bought it, installed it, and all is well.

But someone at HONDA needs to be spanked!



Volt Tattler 2- Looks like a fun kit!

Disclaimer

Volt Tattler 2 is a device intended to enhance DC power systems that have already been properly designed. Progress Direct Systems LLC, its employees and its representatives are not responsible for any damage to any system or systems either directly or indirectly caused by any Volt Tattler device.

Introduction

Radio Amateurs, audio enthusiasts, alarm technicians and others commonly use some sort of D.C. voltage supply to power equipment. Often they will connect an expensive piece of electronic equipment to a much less expensive DC power supply. Field and temporary setups are particularly prone to questionable power connections, draining batteries and power supply failures. When power supplies fail the voltage can go up or down depending on the failure mode of the power supply. Equipment can be damaged by high and even by low voltage operation.

“But my power supply has meters? If the voltage goes high or low I can simply switch off the power supply to avoid damaging my equipment.”

During operations, especially contests, concerts, professional photo sessions etc., we are busy doing what needs to be done. Even if you have a meter, how often do you look at your power supply voltage? I believe that a failure is most often noticed because equipment has stopped working or the smell of burning electronics signals that the magic smoke has escaped. If you are not looking at your meter when the problem occurs your equipment can malfunction and even be badly damaged. VoltTattler monitors your system DC voltage approximately 20 times each second. If your voltage should, for example, rise above a high voltage threshold, VoltTattler will audibly announce the transgression sounding out Morse “H” (. . .) repeatedly until the condition is fixed. It also will sound a Morse “L” (. - .) if the voltage should drift low.

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DIY LiFePO4 power for ham radio

Over the past few weeks, I've received lots of feedback about my homebrew 10Ah LiFePO4 battery pack. This pack is primarily used man-portable powering rigs, laptops or tablets, LED lighting, or any number of other power-hungry devices we use for extended field radio.

Based on that feedback I thought it would be a good idea to do a three (or possibly more) part series on homebrew lithium iron phosphate power for ham radio in the field.

In this first episode, I'm sharing a DIY build tutorial for a 4S1P 10Ah LiFePO4 pack, based on Headway 38120 cells. The pack features a battery management system, solar charge controller, and can be easily expanded for QRO power levels, or greater capacity. Full build and wiring instructions in the video.

In the next video we'll take this battery pack out into the field with a PowerFilm F15 1200, flexible thin-film solar panel. I'll review the panel, and show you all how the pack, battery charge controller and solar panel all work as an integrated system, providing power for our off-grid amateur comms.

Finally the third video will be especially interesting to the QRP Campers, hikers, SOTA operators, ... who need minimal weight but maximum capability in the field. This build tutorial is a 2.5Ah LiFePO4 pack, based on A123 ANR26650 cells. This mini lithium iron phosphate battery pack should be perfect for the Yaesu ft-817, Elecraft kx2, kx3, or mcHF field operator. <https://youtu.be/SJGKuriGRok>

FCC FACT SHEET*

Part 95 Personal Radio Service Reform

Report and Order - WT Docket No. 10-119

Background: The Commission's Part 95 Personal Radio Services (PRS) rules address a wide variety of wireless devices that are used by the general public to satisfy personal communications needs. These devices generally use low-power transmitters, communicate over shared radio frequencies, and (with a few exceptions) do not require an individual FCC license for each user. Some common examples of PRS devices include walkie-talkies; radio control toy cars, boats, and planes; hearing assistance devices; CB radios; medical implant devices; and Personal Locator Beacons.

This draft Report and Order completes a thorough review of the PRS rules in order to modernize them, remove outdated requirements, and reorganize them to make it easier to find information. As a result of this effort, the rules will become consistent, clear, and concise.

What the Rules Would Do:

🗣️ *GMRS/FRS Reform.* General Mobile Radio Service (GMRS) and Family Radio Service (FRS) devices are both used for personal communications over several miles. The public may be most familiar with FRS walkie-talkies. While GMRS and FRS share spectrum, GMRS provides for greater communications range and requires an FCC license, while FRS does not require a license. The rules will increase the number of communications channels for both GMRS and FRS, expand digital capabilities to GMRS (currently allowed for FRS), and increase the power/range for certain FRS channels to meet consumer demands for longer range communications (while maintaining higher power capabilities for licensed GMRS).

🗣️ *CB Reform.* Rule changes to the decades-old Citizens Band (CB) rules will remove outdated requirements that are no longer needed, including labeling requirements and a limit on use of channels when conditions allow long range communications. The rules also clarify how handsfree devices can be used with CB radios.

🗣️ *Overall rule reform.* This action achieves a thorough review of Part 95 rules and creates a new rule structure where common administrative rules are consolidated to reduce duplication and individual subparts are structured with a common numbering scheme. It removes outdated and unnecessary rules while clarifying others.

Go to website for another 60+ pages of info...

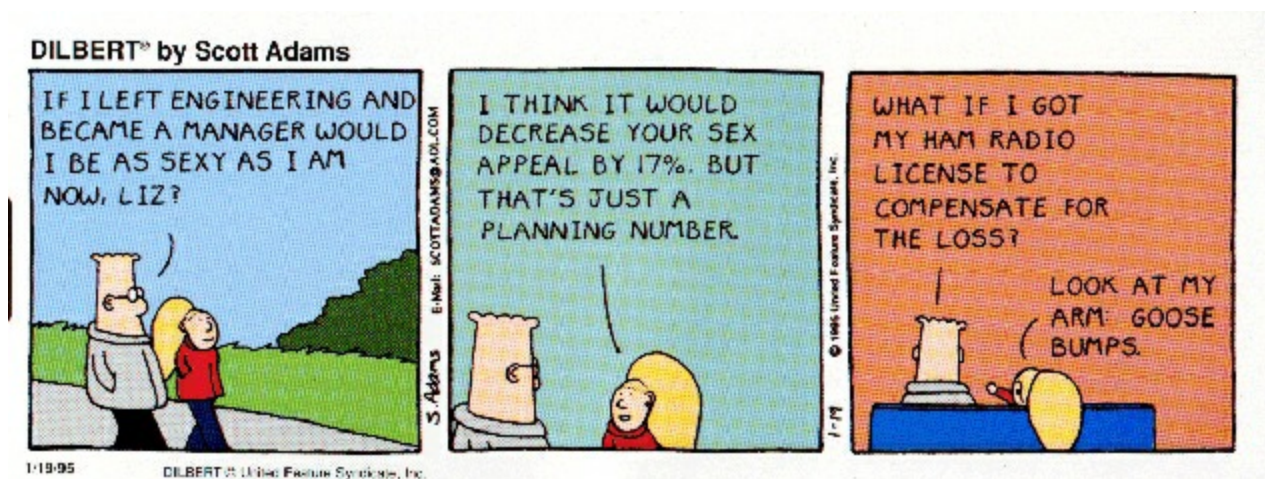
<http://files.constantcontact.com/40babb3f001/8322e7d8-9d3b-4586-a4d2-b950f8cb4486.pdf>

ARLS009 FalconSAT-3 Now Open for Amateur Radio Use

The Air Force Academy satellite FalconSAT-3 is now open for Amateur Radio use as a digital store-and-forward system. Built in 2005 and 2006 by cadets and faculty in the Space Systems Research Center at the US Air Force Academy in Colorado Springs, FalconSAT-3 was launched in 2007.

The satellite has completed its scientific and training missions, and the Academy now is making it available for Amateur Radio use. The Packet Bulletin Board System operates at 9600 baud with a 145.840 MHz uplink/435.103 MHz downlink. Output power is 1 W, and the downlink is continuously on. Digipeating is enabled for live QSOs, but unattended digipeating operation is not authorized at this time.

Additional information is available on the AMSAT website at, <https://www.amsat.org/falconsat-3/>.



Ham radio organization sending help to Puerto Rico

Fox TV reports the National Association for Amateur Radio, headquartered in Newington, is sending gear and volunteers to Puerto Rico

The organization, which has roughly 750,000 licensees, put out a call for volunteers to go to the island and transmit essential communication.

"The island is still kind of cut off," said **Mike Corey K1IU**, Emergency Preparedness Manager with the ARRL. "San Juan is starting to come back online. There's still a lot of the island that is without communications, and this will go a long way to help bridge some of those gaps."

The country remains largely without power, cell phone service or Internet. Ham radio, however, does not use cellular technology to operate, and can be powered by generators, batteries or solar power. "You can, within an hour, have a full-operating amateur radio station and communicate with the world on very little power," said **Valerie Hotzfeld NV9L**, a ham radio operator who is heading to Puerto Rico to volunteer.

At the organization's national headquarters, volunteers packed up radio kits in storm-proof cases, which will ship out Tuesday night. Volunteers will use the radio kits to transmit data between shelters in Puerto Rico, as well as send data to the Red Cross's 'Safe and Well' database.

Watch the video and read the full story at

<http://fox61.com/2017/09/26/newington-based-ham-radio-organization-sending-help-to-puerto-rico/>

Revised ARRL Frequency Chart Now Available...good deal!

An updated ARRL frequency chart is now available for printing and downloading at <http://www.arrl.org/graphical-frequency-allocations>. The chart has been updated to include our new bands at 2,200 and 630 meters.

The new chart is available in the following PDF formats:

- 8.5 X 11 grayscale
- 8.5 X 11 black and white
- 8.5 X 11 color
- 11 X 17 color

Traditional ham radio no longer so attractive

IARU President Tim Ellam VE6SH/G4HUA pointed out to the IARU Region 1 General Conference in Landshut that traditional aspects of Amateur Radio may not be attractive to all newcomers

The ARRL reports:

IARU President Tim Ellam, VE6SH/G4HUA, welcomed the attendees, urging them to reflect upon what will attract the majority of young people into Amateur Radio, “and what our mutual expectations should be.” Ellam said his personal observation is that, while some younger people are interested in the more traditional aspects of Amateur Radio, many are only interested in ham radio as an adjunct to other possibly unrelated interests.

“I applaud the excellent work that has been undertaken in this region through the Youngsters on the Air (YOTA) program.” Tim said, crediting the hard work of IARU Region 1 Youth Working Group Chair Lisa Leenders, PA2LS. YOTA’s summer Amateur Radio camps have attracted young hams from around the world; this year’s was held in the UK.

“Our ambition should be to embrace these individuals in their activities and accept that some of the more traditional aspects of the hobby will hold little interest to them, and indeed may no longer be relevant,” he continued. “That is not to say that some are not enthused with what we all hold as the core of our hobby, such as contesting or operating generally. I fear, though, that we need to look at what will attract the new generations to Amateur Radio and make sure we promote Amateur Radio as meeting their needs, rather than promoting the historical view of what Amateur Radio has to offer.”



Read the full ARRL story at

<http://www.arrl.org/news/iaru-president-traditional-aspects-of-ham-radio-may-not-be-attractive-to-newcomers>

PRODUCT REVIEW *by K1TP*



I received this beautiful station accessory from a friend in the club as a gift. It runs on 12 volts dc and emits an amazing glow in the shack. They are custom made from Plexiglas and LED lights and draw very little current.

I was going to use an rf sensor circuit to turn on the sign whenever I keyed up but realized that would not work so well with ssb or cw....it would be great for fm or am with a constant rf source. So I wired it direct to the radio power supply and it turns on whenever I have the radio on. I love it and highly recommend your wife or yl buy it for you as a Christmas or birthday gift, or just buy one and tell her you always had it if she asks! I am told they are available on eBay.

Next Issue:

Exclusive photo's of the newly elected Board of Directors

Approved Budget for 2017-2018

Article and photos on the siding renovation which is scheduled to start in early October.