



# CAARA Newsletter



AFFILIATED CLUB

SEPTEMBER ISSUE- 2013



## President's Desk

by Stan-W4HIX

August 2013

Though August is typically the doldrums of the summer, CAARA continues to be active. The club cookout was again held on the front porch under a couple of the pop-up tents that we are now using at Field Day. Though these pop-up are not as rugged as the food tent we used to have (the one destroyed in the windstorm), they are mighty convenient. Mark W1MAW did the cooking—thanks Mark! This year we even invited the neighbors.

The property at CAARA has now been professionally surveyed. We have iron rods and stakes marking our property boundaries—from the description in the deed of 1867. Also we continue to get quotes on repairing the siding of the building. Along with figuring out the actual work and costs, we've begun fundraising. We have had a very generous donation from one of our Tech in a Day students of \$1,000 and a pledge of \$5,000 of matching money of other donations. Two members of the board have committed a total of \$1,500. We'd like to get 100% participation from the membership. If you can't afford much, make any donation you can. It is much more important to show your support for the organization than the amount of the donation. That said, remember that generosity is a virtue.

The purchase of 6 Stanwood has been delayed a bit because of a request for easement by our neighbor. Believe me, we have very strong support within the City for this sale. If you have any questions or concerns contact me directly

I have gotten a little radio work in in the last few weeks. I have been using JT65A to look at propagation of my station and the club. You can use pskreporter.info to check this out yourself—just look at W4HIX and W1GLO for stations heard over the last 24 hours. My Buddipole is actually doing a really good job on 20m. I made a New Zealand contact on about 15 watts the other evening.

I will be in Italy for three weeks in September, so the club will be left in the able hands of Hank and Jake. Hopefully we'll have a new clerk by that time as Dean has decided not run again for Clerk due to family commitments.

73 de Stan, W4HIX  
w4hix@caara.net

## Clerk's Corner by Dean-KB1PGH



Well the big news coming up in September is the clubs ANNUAL Meeting which is going to be on wednesday September 4th at 7:30 PM. All club members are encouraged to attend as we have a full slate of things to cover. We'll have a "State of the club" address by club President Stan Stone W4HIX, then a "Treasurers state of the club" review by Treasurer Hank McCarl W4RIG. Then we'll have an open period for members to address any problems or questions they might have. Then at the end we'll have Club Officer and Director elections. Speaking of that, I'll be ending my term as clerk on this Annual meeting due to family obligations (A 5 month old baby tends to suck up all your time) plus my term is up anyway. So I highly recommend that anyone who plans to attend the Annual meeting to please review the clubs Constitution and policies section in the members section of the clubs website at [www.caara.net](http://www.caara.net) before the meeting so you'll know what is going on and what to expect. So this is my last "Clerks Corner" column and hopefully someone will

(continued on Page 12)

**CAARA Newsletter**  
**Cape Ann Amateur Radio Association**  
*6 Stanwood Street*  
*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 Club Reporter

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## Welcome to CAARA:

CAARA, an ARRL affiliated club, operates the 2 meter W1GLO repeater on 145.130 MHz (PL 107.2) with antennas located on the ATT 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 (no PL) located at the CAARA Clubhouse with a very limited range. The former W1RK 443.700 (no PL) repeater with antenna at the CAARA Clubhouse in Gloucester, Massachusetts has a limited range.

The Association is one of the few amateur radio clubs that has its own clubhouse. Located at 6 Stanwood Street in Gloucester, it features multiple HF station's with rotatable 10-20 meter beam, G5RV wire antenna, and 2 HF vertical antenna's along with a 2 meter packet station and multiple 2/220/440 MHz transceivers. CAARA also has an impressive collection of older tube radios.

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.

## GPS: Solar Flares and Jamming

*BBC Radio 4* describes how easy it is to jam GPS and that even solar flares can affect the navigation system

Among those interviewed in the show is Professor Catherine Mitchell of the University of Bath who describes the impact of Solar Flares on GPS systems.

The BBC description of the show says:

We all rely on GPS - the Global Positioning System network of satellites - whether we want to or not.

From shipping to taxis to mobile phones, the goods we consume and the technology with which we run our lives depend upon a low-power, weak and vulnerable signal beamed from a few tonnes of electronics orbiting above our heads.

This dependence is a new Achilles' heel for the world's financial, commercial and military establishments.

From North Korea's concerted disruption of the South's maritime and airborne fleet, to white van drivers' evading the boss's scrutiny over lunch, this signal is easy to jam, with disastrous consequences.

Some people are looking at alternatives. Quentin Cooper meets the scientists and engineers developing alternative, resilient, navigation systems.

Listen online to the BBC show Finding a way: The future of navigation

<http://www.bbc.co.uk/programmes/b038yq98>

Just a few milliwatts from an oscillator in a high location can knock out GPS out over a wide area. Research work is currently underway to develop methods of jamming GPS in such a way that those affected are not aware, e.g, no loss of GPS alarm, and making them believe they are in a completely different location. Some pioneering work in this field is being done by researchers at the University of Texas, see

GPS Spoofing experiment knocks ship off course

[http://www.southgatearc.org/news/august2013/gps\\_spoofing\\_experiment\\_knocks\\_ship\\_off\\_course.htm](http://www.southgatearc.org/news/august2013/gps_spoofing_experiment_knocks_ship_off_course.htm)

Ofcom regularly announce details of Jamming

Exercises being carried out in the UK, see <http://stakeholders.ofcom.org.uk/spectrum/gps-jamming-exercises/>

The Galileo GPS system under development may prove slightly harder to jam using simple equipment. It will transmit a wideband signal across bands of frequencies such as 1260-1300 MHz. This may prove to be more robust than the US GPS, however, in an article Peter Blair G3LTF suggests that some amateur radio transmissions in 1260-1300 MHz could affect Galileo GPS receivers several kilometres away.

## California Rim Fire: USA Today report

A *USA Today* report mentions amateur radio involvement with the Yosemite fire

USA Today interview **Larry Brown KJ6WHR**, they say:

***Larry Brown lives in Sonora, Calif., more than 10 miles from the fire. "It's about a half-mile visibility here because of the smoke. Everything smells like smoke. When I open the car door, it smells inside," he said.***

*Brown is a ham radio operator with the Tuolumne County Amateur Radio Electronics Society which is manning phone lines at the Sonora community information line for those affected by the fire.*

*He and others have been impressed "as always," he says, with the work of the firefighters. He says people who live in the Sierra realize that fire is a natural part of the landscape.*

*"This is part of the ecosystem," he says. "We do burn in here every so often. There are plants and things within the canyons that are reliant on the fire to open their seeds, that have adapted to that environment."*

Read the full story at

<http://www.usatoday.com/story/news/nation/2013/08/26/>

## The Lead Acid Blues by Curt- AA3JE

Regular readers will know that I am a member of LBPOCOSTM, the Loyal and Benevolent Protective Order of Cranky Old Shade Tree Mechanics. So it was with a bit of glee, not to say excitement, when I noticed the Chevy was cranking a bit slow one morning. A FAULT! A NEEDED REPAIR! It was with trembling excitement that I ran down into the basement and dug out the voltmeter. I ran back, popped the hood, and applied the test leads.

“AHA!” I cried when it showed 10.8 volts, “A BAD CELL!”

I ran back to the house and over breakfast, I informed “SHE WHO MUST BE OBEYED” that I had a bad battery.

“Why don’t you take it to Sudbay’s and get them to put in a new one?” she asked.

“I would be embarrassed to take so simple a job into the shop,” I replied.

“Please, for me?” she said, “I don’t want to go through this again.”

“This is a two minute job,” I answered.

Now it was true. The last time I swapped a battery was in my old Ford pickup. It had an mystery fault in the electrical system, possibly related to the large mass of electrician’s tape in the wiring harness, that caused it to blow alternators every 2500 miles. I had gotten so good at swapping alternators on that vehicle I kept one behind the seat and could swap an alternator in four minutes flat. About every fourth alternator the charging system would stick on “FULL OUTPUT” and boil the battery into oblivion. So I kept a spare battery in the bed, and it did, indeed, take two minutes. Undo the two nuts on the hold down, loosen the clamps, pop them off, install new battery, and off you went. So how hard could it be? I went to the parts store, got a new battery, and the next Saturday afternoon, I started the job.

The first thing I noticed was that the truck had not one, but two battery trays. There was one in the front, easy to get to, and one in the back, against the firewall. For reasons only known to the robot that assembled the



thing, they put the battery in the back, against the firewall.

So I looked at it. It looked back. I swear it was smirking. For some reason, again due to modern manufacturing techniques, there were four braces that held the windshield assembly to the fenders that completely blocked access to the battery. So they had to come out. I applied the socket wrench, only to find that the nuts were metric.

Back downstairs to get the OTHER socket set. Thus armed, I went back outside, only to find that the nuts were not only metric, but inaccessible. So it was back downstairs for a 45 degree angle drive.

And, the nuts were frozen, back downstairs for the penetrating oil and anti-seize.

So I removed the braces, and the fender fell off. Well, not off entirely, but sort of hung there, limply. So I went back downstairs for a step-ladder. If I leaned against the fender it creaked and swayed in a really nasty way.

Then I tried to get the battery posts off. They were non-standard, since

there was no way anyone could get a wrench on the end of the posts. Finally, they came off.

Now I had to get the battery out. There was an obvious candidate for the hold down nut, but it was blocked by another brace, I unscrewed that brace, and the fender sagged further toward the driveway. I lifted it out, and in the process, the fender separated, and now the aft end was waving slowly in the breeze.

The new battery slid in easily, (finally something went right), and I went to get the braces and the bolts to put things back together. In my excitement, I bumped the container, and the bolts and the braces slid behind the wood box. This required moving the wood, then the box, then recovering the braces and bolts. I found out that if you held the fender with one hand, and reached really hard, you could re-bolt the thing, but then discovered that I had not secured the battery in the box. Three tries later, I found the right order, and the job was done.

For those who want to do this on their own, there are a few safety tips.

1. Wait till the wife is out of the house and not watching.

2. Ignore cat calls and suggestions from the neighbor.
3. Place removed pieces in a sturdy box placed ON THE GROUND, far from the battle scene.
4. Be sure to apply anti-seize (You are going to be doing this again in five years).
5. Learn obscenities in a foreign language to be prepared for when the grandchildren are present.
6. Buy a Ford next time, they still put the battery in the front.

I called the local chapter of the Loyal and Benevolent Protective Order of Cranky Old Shade Tree Mechanics. They are putting me up for an award. They didn't say which. I can't wait.

## **Ham Radio software is made Open Source**

The popular amateur radio software MMTTY, MMSSTV and MMVARI is now open source, enabling anyone to experiment with the code MMTTY, MMSSTV and MMVARI were originally developed by Mako JE3HHT.

MMTTY supports RTTY, MMSSTV supports Slow Scan Television (SSTV), and MMVARI supports RTTY, PSK, and MFSK.

As of 1st August 2013, all three applications are released to open source development under the LGPL license.

More information - <http://mm-open.org/>

## **FIRE DEPARTMENT LOCATES UNLICENSED BROADCASTER IN BROCTON MASSACHUSETTS**

Brockton, Massachusetts did its own investigating after it started hearing music over its alert system. In the end it was not the FCC that came to the rescue but rather a police officer and a political leader from the city. Amateur Radio Newline's Stephan Kinford, N8WB has this very interesting story: — The incident took place on Wednesday, August 14th when firefighters began hearing music coming from the speakers in the firehouse that are used to alert a callout. Kevin Galligan is the city's Deputy Fire Chief. He called for the assistance Officer Scott Uhlman, who is the Brockton Police Department's two-way radio specialist. Ulman is listed in the FCC database as holding the call sign KC1AGW. Also responding to help was Brockton City Councilor Dennis DeNapoli. The two arrived equipped with radio direction finding gear and used it to locate the source of the interfering

signal as coming a rooftop antenna of a one-story building directly across the street from Fire Station. Measurements proved it was the source of the unlicensed signal on 88.9 MHz. Uhlman said they approached a group of men behind building and asked who owned the radio equipment. The men were at first evasive but when Uhlman climbed on the roof with a pair of wire cutters, they quickly located the owner. The station was immediately shut down. The next day the antenna and radio equipment were gone.

## **FCC ORDERS CALIFORNIA COMPANY TO STOP SELLING COMBO 10 AND 11 METER AMPS**

The FCC has issued a Citation and Order to a Fremont, California company known as DNJ Radio. This for its alleged violation of the agency's rules by marketing non-certified amplifiers and kits via its website under the trade-name RM Italy. The agency's San Francisco office was assigned to investigate the matter. It says that it found that that DNJ Radio was offering R M Italy brand linear amplifiers and amplifier kits that were capable of operation on both 11 and 10 meters that had not been certified for sale in the United States. It also said that a disclaimer posted on DNJ Radio's website that the devices were only for industrial, scientific, medical, or export use was not acceptable because using them on 11 meters would violate FCC rules. The FCC ordered DNJ Radio to immediately discontinue marketing these unauthorized devices and gave the company 30 days to provide a list of amplifiers imported or marketed under the name RM Italy. It also told DNJ Radio that any future violations could result in sanctions of up to \$16,000 for each future violation. (FCC)

## **HEAD OF THE CHARLES REGATTA OCTOBER**

19 - 20 Hams are needed to provide communications for the Head of the Charles Regatta in Cambridge, Massachusetts on October 19th and 20th. If you are in the area and have some free time on either of those days, please take your web browser to [tinyurl.com/regatta-volunteer-2013](http://tinyurl.com/regatta-volunteer-2013), create an account and in the comment section, please note what your current certifications are. If you have any questions about volunteering please contact David Wolfe, KG1H via e-mail to [dkwolfe@comcast.net](mailto:dkwolfe@comcast.net). (KG1H)

## All Roads Lead to HRO IN Salem, NH for Biennial Manufacturer Sale on August 24

It was pretty typical, but still pretty cool: a few dozen hams got together on 24 August at HRO in Salem, NH for the store's every-other-year Manufacturers' Sale, and by-the-way two other important Amateur outfits took the time to conduct business at meetings of their own.

The WRTC14 crew—that would be World Radiosport Team Championship for you non-coges-centi—sponsored a meeting to share information and status in the aftermath of July's excellent dry run for the 2014 Real Deal; and the Spectrum Committee (of the ARRL? I forgot to ask) met to discuss what else, but spectrum management issues. I could lie to you and say I knew in detail what went on at those meetings. But the truth is I am not part of spectrum management, and though part (a tiny part) of the WRTC behemoth, I literally fell asleep in a chair in an anteroom when their meeting convened. I had not slept well, and was exhausted. So there you have it.

Fortunately, there is no shortage of sources for the official line of what went on in either session, so you can find out if you want to. One unofficial line has to do with WRTC. Said someone very familiar with the whole shooting match, "They don't have nearly enough people for next year yet. They've got to get a lot more." So bear that in mind.

As for the retail rush, it was a madhouse. There are several empty storefronts neighboring HRO, and the store negotiated their use for the sale. Manufacturers sent representatives, and their wares were on display. There weren't a zillion, but Icom thought enough to send its top guy in this hemisphere, and Yaesu had a man there.

Unadilla was there, and so was the estimable founding father of Davis RF Products, Steve Davis, K1PEK. I think I recall seeing Rick, K1BQT there for MFJ Electronics, but my memory's a little confused there. I may have left somebody near and dear to us out (K1JEK was there for Cobra Ultralite Antennas), and if so I'm sorry.

It was a madhouse, and a great time to meet New England hams. You ended up talking in the crowded aisles to guys (usually; a few YLs) you didn't know yet, and loving it. And spin the dials and listen on some absolutely astonishing—and impossibly expensive—amateur radios. I don't know if the rig I used was worth its \$8,000 price tag, but I'll tell you it made hearing stations a *lot* easier, especially in a pileup. Amazing.

Thanks, Candy Men. We needed that.



Lot's of rep's from the major radio outfits and the grand prize of a Kenwood TS590s was pretty good incentive to show up.

## VP6BR Silent Key

Tom Christian VP6BR, known as the Voice of Pitcairn for his half-century-long role in keeping his tiny South Pacific island, famed as the refuge of the Bounty mutineers, connected to the world, died at his home there on July 7. Mr. Christian, Pitcairn's chief radio officer and a great-great-great-grandson of Fletcher Christian, the mutiny's leader, was 77.

The cause was complications of a recent stroke, his daughter Jacqueline Christian said.

Though Mr. Christian was the world's best-known contemporary Pitcairner, word of his death — reported in the July issue of *The Pitcairn Miscellany*, the island's monthly newsletter — reached a broad audience only this week, when it appeared in newspapers in Britain, Australia and New Zealand.

"It takes awhile for news to get out," Ms. Christian said by telephone from Pitcairn on Thursday.

Britain's only remaining territory in the Pacific, the Pitcairn archipelago lies roughly equidistant between Peru and New Zealand, about 3,300 miles from each. It comprises four small islands: Pitcairn, Henderson, Ducie and Oeno. Only Pitcairn Island, named for the sailor who sighted it from a British ship in 1767, is inhabited.

Pitcairn, settled by the mutineers and their Tahitian consorts in 1790, is a rocky speck of about two square miles. (Manhattan, by comparison, is about 24 square miles.) Most of its inhabitants are descended from the mutineers and the Tahitian women they brought with them.

Mr. Christian, who for his services to Pitcairn was named a Member of the British Empire in 1983, was long considered an elder statesman on the island. He served for years on the Island Council, the local governing body, and was a lay elder in the Seventh-day Adventist Church, to which most islanders belong. For decades, starting in the mid-1950s, he operated radio station ZBP, Pitcairn's official lifeline to the world. His duties included filing daily reports to the island's administrative headquarters, formerly in Suva, on Fiji, and now in Wellington, New Zealand. Mr. Christian filed his reports in Morse code, switching to voice communication only in the mid-1980s after Pitcairn acquired a radiotelephone.

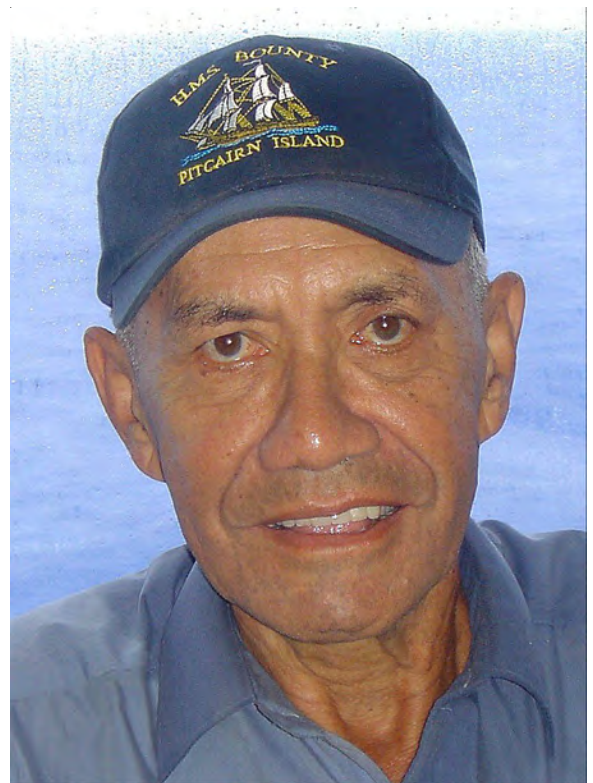
Though Pitcairn today has some trappings of 21st-century technology — electricity 14 hours a day and a country code, .pn, on the Internet — it still maintains a striking degree of isolation. The island has no airstrip: it can be reached by flying to Tahiti and taking a once-a-week plane from there to Mangareva Island, in the Gambier Islands, followed by a two- to three-day sea voyage.

The supply ship comes quarterly, and is met by Pitcairners in aluminum long-boats. Boarding the ship, they sell the local wares (stamps, baskets, honey) on which the island's economy has long depended, along with the curios they carve from miro wood, which they harvest on Henderson Island. They do likewise with the few passenger ships that call at Pitcairn each year.

For many years Mr. Christian also manned an unofficial but no less vital lifeline: his short-wave radio, which he used to converse with amateur radio operators around the globe. Over time — he officially retired in 2000 but continued his amateur broadcasting until just a few years ago — Mr. Christian reached more than 100,000 people.

*Times* of Auckland wrote this week, "Tom Christian — along with the late King Hussein of Jordan — was the most popular contact in the ham radio world."

On his occasional trips overseas, Mr. Christian lectured on Pitcairn's history and daily life. To his enraptured listeners, he was, like the island itself, a living link between the 1700s and the present.



“They think we’ve all got sticks through our noses,” Mr. Christian, smiling, told *The New York Times Magazine* in 1991.

He brought the past to life in more tangible ways. In 1957, as a young assistant on a National Geographic-sponsored dive off Pitcairn, Mr. Christian helped bring up a cache of nails, carbonized wood and old hull fittings — the sunken remains of the *Bounty*.

The ship’s history was recounted in the popular 1932 novel *Mutiny on the Bounty*, by Charles Nordhoff and James Norman Hall. Hollywood filmed it three times: in 1935, with Charles Laughton as Bligh and Clark Gable as Christian; in 1962, with Trevor Howard and Marlon Brando; and in 1984, with Anthony Hopkins and Mel Gibson.

But what the films did not depict was the mutineers’ brutal lives on Pitcairn: by the time an American seal-hunting vessel came across the island in 1808, most of them, including Christian, had been killed in fights with the Tahitian men.

For the mutineers’ descendants, life is challenging in more everyday ways.

“Pitcairn is not a place for a lazy person; you have to work or you’re not going to be able to do anything,” Herbert Ford, the founder and director of the Pitcairn Islands Study Center at Pacific Union College in Angwin, Calif., said on Thursday.

Besides his radio work, Mr. Christian, like all the island’s adults, had a spate of duties.

“He had three or four garden plots, because you have to grow your own food or you’d starve to death,” Professor Ford said. “He also was responsible for public works, as the other people were, like the upkeep of roads and work on the Pitcairn Island long-boats: there’s such a terrible surf that they have to be constantly up-kept. And he would spend part of his week crafting some of the curios that he or members of his family would be selling to passing ships.”

Thomas Colman Christian, son of Frederick Christian, grand-son of Daniel Christian, great-grandson of Thursday Christian, great-great-grandson of Friday Christian and great-great-great-grandson of Fletcher Christian, was born on Pitcairn on Nov. 1, 1935.

***As a boy, he became fascinated by the local radio station, ZBP, erected on Pitcairn by the New Zealand military during World War II.***

At 17, after completing his schooling on the island, he was sent to Wellington to train as a radio operator.

“I was up before daylight,” Mr. Christian told *People* magazine in 1989, recalling his approach to New Zealand. “I went on deck and saw Wellington and these lights running. It seems dumb, but I didn’t know that those running lights were cars.”

At 20, Mr. Christian returned to Pitcairn and began running ZBP. When he was ill or injured (in 1972, after being dashed against the rocks when his longboat capsized, he was evacuated to a New Zealand hospital, where he spent four months), Pitcairn fell silent.

The rest of the time, he kept the island going. In January 1974, amid the global energy crisis, Mr. Christian put out the call on short-wave radio that Pitcairn needed fuel. Barrels of it materialized from around the world.

Pitcairn received wide unwelcome attention in 2004, when seven men were tried on charges of sexually assaulting under-age girls there. The defendants maintained that initiating girls into sex was a time-honored South Seas custom and that they were unaware that British law was in effect on Pitcairn.

Mr. Christian, who was not implicated, publicly disputed the defendants’ contention, as did his wife. (At the trial, held on Pitcairn, six of the seven defendants were convicted under English law of more than 30 sexual offenses in all; the convictions were later up-held on appeal.)

As a result of their stance, Mr. and Mrs. Christian were shunned by much of the island for years afterward, Professor Ford said.

Mr. Christian went about his life, tending his garden, working his radio and continuing to travel and lecture.

At a talk in London in 2005, he had the joy of catching up with an Englishman he first met in 1971. That November, a cargo ship on which the Englishman was traveling stopped at Pitcairn and, disembarking, he was introduced to Mr. Christian.

The Englishman was Maurice Bligh, the great-great-great-grandson of Capt. William Bligh.

From that day forward, Mr. Bligh and Mr. Christian





A picture of the August Sunday morning ARRL VE session at the clubhouse with Bob Quinn- WV1A on the left and the 4 candidates taking their exams on the right. We had 5 candidates pass their Technician Class License exams during the August test session.

Dick K1VRA and Jake K1LDL install the runner for the new electric wiring on the second floor of the clubhouse



## Another good lunchtime QRP session by

*Larry W2LJ*

Propagation numbers baffle me sometimes. Yesterday, when the numbers looked so good, I thought I was going to end up getting skunked. I did end up working Oleg UR3IFD, in the Ukraine, and I also had a very brief, QSB busted QSO with Paul WA9PWP. But other than those two very brief contacts, it was pretty grim. There wasn't else much to be heard and my CQs on several bands went unanswered. Advance the clock 24 hours, to find the SSN is down to 35 and the SFI is only at 110. Not great numbers. But despite the numbers, I had a great outing.

I started out on 17 Meters with a brief QSO with Ted LZ1ND, who was calling CQ. Ted was a good 599+ here in New Jersey, and I got a 549 in return. Not a bad report, and Ted got all my basic information, so I was definitely copy-able in Bulgaria. And it looks like Ted is quite comfortable behind the dial of a QRP rig himself. Here's an old photo I dug up of him on the Web, taken while he was participating in Bulgaria's HF QRP Field Day.

After Ted, I switched on over to 20 Meters and called CQ. I was answered by Ron W5VYN, from Whitesboro, TX. Ron had a magnificent signal into New Jersey. The fact that he was using home brewed gear made it all the sweeter. Ron had asked me if he was generating any key clicks, and I was happy to be able to tell him that he had a perfect, solid and stable 9 in the "T" portion of RST. His home brew rig sounded just as good as any commercial rig out there. That was a nice QSO.

That was followed up by a "quickie" QSO with Greg N4KGL. Greg, who's down in Florida, was using one of those new PAR ENDFEDZ Trail Friendly antennas, which was generating a nice 579 signal for him. It's always nice chatting

with Greg, and I wish I could have stayed on longer. But as always, time flies when you're having fun, and it was time to break down and head on back to work.

So it just goes to show .... you can have a great QRP day, even when the solar conditions say, "Maybe not".

Even so, I had to laugh on the way home from work. As I was driving, I was listening to two Hams on a local 2 Meter repeater bemoan the current sunspot cycle. One was complaining about "How you just can't work any decent DX without at least a 500 Watt amplifier!". I almost lost it right there, I started chuckling so hard.

Lots of QRPers, including N8ZYA, K3WWP, W2LJ and many, many others have log books that attest to the direct opposite!

72 de Larry W2LJ

QRP - When you care to send the very least!



# Evening DX from Knox Mountain

by Jim W1PID

What an evening! Nearly 80 degrees and humid. Judy and I walked to Knox Mountain. I worked Spain, California, Cuba, Morocco, and Texas.

The hike in was fast in order to keep ahead of the mosquitoes. It was well rewarded by the view of the pond after the 1.5 mile hike.

As I approached the pond, a large gray heron swooped up in front of me and headed east to the other end of the pond. It was stunning. We walked around to the front of the cabin. Beautiful!

I tossed a line nearly 50 feet into the cherry tree at the edge of the pond and pulled up a 33 foot wire. I set up the KX3 and used the earchi.org 9 to 1 unun. At first I operated on 20 meters. I worked two Spanish stations in a row and lost them both at the very end to QSB.

After that things picked up a bit. California and Cuba on 20 meters, then I switched to 17 and worked Morocco and Texas. Here's the log:

27 Aug-13 2134 14.008 EA5HFW CW 559 599 Spain  
27 Aug-13 2140 14.013 EA8AGF CW 449 579 Spain  
27 Aug-13 2145 14.022 N6QQ CW 559 599 CA  
27 Aug-13 2146 14.011 CO6RD CW 599 599 Cuba  
27 Aug-13 2155 18.086 CN8KD CW 599 599 Morocco  
27 Aug-13 2156 18.075 WF5W CW 579 599 TX

Mid-way during the operating a hoot owl in the woods not far away let forth with several calls. It was remarkable. Down by the pond Judy was knitting some baby booties in the sunlight.

As I packed up the gear, a bunch of jays started squabbling down by the pond... a chorus of "Dee Dee... Dee Dee. As we headed down the path, I turned back for one more snapshot of the pond.

*[Jim Cluett, W1PID](#), is a regular contributor to [AmateurRadio.com](#) and writes from New Hampshire, USA.*

*Contact him at*



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## CLERK'S CORNER FROM PAGE 1

pick up the torch for future newsletters. As your ARRL EMA Public Information Officer I'll be starting a new column called "The Information Desk". Hopefully I'll keep everyone informed on ham radio activities and all that ham radio has to offer. It will be a good challenge for me as well because ham radio covers such a wide range of topics. Talk to you in October!

## New Air Force MARS Chief Takes Reins of Command

David J. Stapchuk is the new chief of Air Force MARS. He assumed command August 23 from outgoing chief Richard S. Jenson, who has taken on a new assignment. Stapchuk is the director of operations at the 92nd Information Operations Squadron Detachment 1 at Scott Air Force Base in Illinois. In that role he oversees cyber operations in support of the detachment's communications security mission.

"I am excited about my new role as chief, Air Force MARS, and look forward to advancing the Air Force MARS program in fulfillment of the MARS mission to provide contingency radio communications support to US government operations," Stapchuk said.

Stapchuk spent 28 years on active duty as an electronics technician and is currently an information technology specialist. He has supported a variety of Air Force missions over the last 34 years. — *Air Force MARS news release*

**Station Master Antenna Notes, by Karl Shoemaker, AK2O .....I found this interesting as it is the antenna we use for the 2 meter repeater. The operating life is less than 20 years, ours has been up since the early eighties!**

### Introduction

Antennas are an extremely important part of a radio station. They provide performance to radiate R.F. out to distance receiving stations. The more elements (in the proper phase) results with more E.R.P. ( **E**ffective **R**adiated **P**ower). Antennas are subject to environmental wear, from heat, cold, sunlight (UV) vibration, wind and ice loading (not even covering the man-made problems such as bullets, etc.) The type of antenna we will be covering is an omni-directional, gain type. This type is used for base station and repeater service, even on remote and hostile mountain

top sites.

### Requirements

The electrical part needs to be protected with an outer "shell". The outer part can be plastic (ABS) or fiber glass, both which have little effect on the ERP or return loss (RL). The base of the fiber glass can be pushed into a "base" mounting pipe, normally made of aluminum #40 pipe about 2 21/2 inches in outside diameter and 2-3 feet in length. The bottom of the antenna either has a RF connector or a "pigtail" coming out, terminated with the connector. The connector comes in either UHF-male (PL-259), DIN or type "N" male or female. The latter two are better connectors.

### Sources

Several commercial companies manufacture this type of antenna, such as Phelps-Dodge (now Celwave), db-Products, Telewave and Sinclair, to mention a few. To buy them new, commercially is very expensive; in the \$1,000-\$2,000 range when you consider shipping. Phelps-Dodge made a base station/ repeater antenna called the "Station Master". It consists of several end feed half wave elements, mounted inside a ruggedized housing made of fiber glass. It held up fairly well for remote mountain tops site, even hostile one with winter ice loading.

### Theory on the Station

#### Master

The electrical part of the Station Master antenna has a serious flaw in the design. The matching area involved 1/4 wavelength parts, therefore RF currents were very high (half waves have high voltage, etc.) Because of the high RF currents any station trying to duplex develops a problem after some time. A duplex station's receiver is trying to hear a weak signal about - 100 dbm, while transmitting a +50 dbm on a another frequency, close by. In the case of Amateur repeaters, the 2-meter band plan is 600 KHz split between Tx-Rx. Normally a well made duplexer will isolate the Tx noise and desense from the Rx, making a clean repeater. The matching stub for the Station Master is made up of three dissimilar metals. Yup, you read right; they use an aluminum pipe for mounting the



base. The matching stub has a pressure seated ring inside of brass. The brass presses against the inside of the aluminum base and the copper matching section. In time galvanic corrosion makes a bad electrical connection. You may see this when taking the antenna apart; some while corrosion around these connections. The (now bad) connection makes “noise”. This happens from the station’s transmitter’s energy causing the noise, here. This will desense the station’s receiver. It’s mostly noticed on weak user (input) signals. When the wind blows and wiggles the antenna, making and breaking this connection, the signal will have a static or click-click sound to it. If this condition goes without action the desense gets bad enough to disable most of the repeater’s range. u>



Free source for Amateur Service

In commercial service the customer will call a service shop with the complaint of noise and/or poor range, getting into the repeater. This bad connection generally does not have a big affect the power out; only receive sensitivity (input). The repair shop checks out the problem to find a bad, noisy antenna, and calls for a replacement. This replacement is expensive and discarding the old, bad antenna adds to that. Sometimes old antennas are left on remote sites and sometimes end up in a shop’s attic for years or ends up in the dumpster, all cut up. Amateurs can pick up bad antennas, to both parties advantage, usually free to whoever wants them. Any sensible shop will mention to the Amateur this is to never go back in commercial service.



### Restoration-Repairing

Bring these bad antennas home presents some possibilities. For one, can “repair” the existing antenna insides, by cleaning up the corroded matching area. Soldering the brass ring to the copper stub helps a lot. Another option is to strip out the insides to discard it and install a new home-brew collinear antenna, made out of coax section as. The A.R.R.L. repeater handbook has a good design for such an antenna. There is also a page (on this site) about this idea.



## **Bats in your belfry? How about antennas in your attic?**

Two of the most basic rules about antenna construction is that you should get them as high up as possible and as far away from buildings as possible. We don't live in an ideal world, and sometimes this is just not possible. You might live in a subdivision whose homeowner's association does not permit any kind of outside antennas. If this is the case, there are many different things you can try. Some folks go for "stealth" antennas, such as tuning up a metal flagpole, effectively turning it into a vertical antenna. Others tack up a dipole underneath the eaves.

Some hams turn their attic into an indoor antenna farm. Depending on the size of your attic, you could fit quite a few antennas up there. So, instead of bats in your belfry, you could have antennas in your attic.

Many hams have room for a dipole antenna of one sort or another. I recently worked Bill, WD4DBO on 30m. He has a 30m dipole and a 40m dipole up in his attic.

If you don't have 66-ft. to stretch out a 40m dipole, you can simply bend the wire. Bend it as many times as you need to fit all 66 feet of wire into your attic. This is what G0KYA has done. Not only does he bend the 40m elements, he connects elements for the the 20m, 17m, and 10m bands to the center insulator, making this an "attic fan dipole."

You can mount other types of antennas in your attic. Many hams have had success with magnetic loops, such as the MFJ-1786 Super Hi-Q Loop. These antennas can be kind of pricey, though, and the tuning is super sharp. Some hams make their own loops and use an automatic antenna tuner to tune them. These antennas could be a single loop, if your attic is big enough, or a multi-turn loop, if not.

If you do decide to go with an attic antenna, be aware that you may experience some RFI problems with other electronic gear, such as stereos or TVs, in your home. This is only natural, as the antennas will be much closer to this gear. In some cases, you may have to operate at lower power or at times when that gear is not in use, to avoid this interference.

Don't let that deter you, though. Attic antennas do get out. I've worked many hams that use attic antennas and use them quite successfully.

## **US Space Fence shut down**

It is reported on SatWatch that the 216 MHz **US Space Fence**, used to detect orbital objects, was shutdown on September 1, 2013 at 0000 UT The Space Fence is a U.S. government multistatic radar system built to detect orbital objects passing over the United States. There are three transmitter sites operating on 216.983, 216.97 and 216.99 MHz and six receiving stations. According to Wiki the system is understood to be capable of detecting a 10 cm object at an altitude of 30,000 km and makes 5 million satellite observations each month. Early in August Space News reported that: *Gen. William Shelton, commander of Air Force Space Command, "has directed that the Air Force Space Surveillance System be closed and all sites vacated" effective Oct. 1, the memo said.* However, it appears that the shutdown has occurred earlier. The reason for the shutdown is believed to be because the Federal Government is spending more than its budget resulting in automatic budget cuts known as sequestration.

**WEDNESDAY NIGHT, SEPTEMBER 4, AT THE CAARA CLUB AT  
730PM WILL BE ONE OF THE MOST IMPORTANT ANNUAL  
MEETINGS WE HAVE EVER HAD!  
WE WILL BE DISCUSSING THE PURCHASE OF THE BUILDING  
FROM THE CITY OF GLOUCESTER.  
YOUR INPUT IS IMPORTANT!**

*You can get your*  
**FCC Technician Amateur Radio License**  
in *One Day* with

## **TECH-IN-A-DAY**

**Note:** *Morse code is no longer needed for any amateur radio license.*

### *How?*

If you can spare one Saturday, chances are very good you can get your FCC amateur radio Technician license. Don't worry if you're not technically inclined, this method depends much more on short-term memory than technical knowledge or background. By spending six hours studying the questions and answers from the FCC exam question pool, you'll remember enough to pass the exam given at the end of the class. The test is 35 multiple-choice questions and you need 26 correct to pass. This method has worked with teenagers to senior citizens.

### *Why?*

With a Technician license, you can use VHF and UHF amateur radio bands, meaning when the phones go dead and your cell phone doesn't get reception, you will be able to get a message out with a simple hand-held radio. For emergency workers, adding Amateur Radio capability adds to your communications abilities. And, it is great fun with interesting people to meet.

### *Help!*

So after I get my license, what next? The Cape Ann Amateur Radio Association is ready and willing to teach you the practical matters on getting "on the air". We can answer your questions on how to operate, what radio to buy, etc. We get together every Sunday morning for coffee and donuts—come join us sometime. We also have members' meetings once a month with interesting presentations.

### *Schedule*

Date: **Saturday, October 19<sup>th</sup>, 2013**  
Time: 8:30 AM to 5:00 PM (includes exam)  
Place: Lanesville Community Center  
8 Vulcan St  
Gloucester (Lanesville), MA

### *Contact*

Stan Stone, W4HIX  
978 283-2015 e-mail: [techinaday@caara.net](mailto:techinaday@caara.net)  
You must pre-register for this course.

### *Cost & Requirements*

Fee: \$5 (includes materials & snacks)  
Test Cost: \$15 (required by FCC)  
Bring photo ID & Social Security Number