

# QSA-5

Founded 1933

The Marin Amateur Radio Society Monthly Newsletter Apr-May 2013 and a bit of June Page 1

## From our Pres.

We are a smaller club. I certainly share part of the blame for this what with not getting the renewal emails out until June. I sent out 75 emails and as of this writing we have 49 current members. I promise that the entire content of this column is not an exhortation to renew your membership.

Now that I have said that I cannot quite resist. If you have not yet renewed please do so. You can renew on-line using PayPal or any major credit card, just go to the web site and click the renew link. If you did not receive a renewal email, please email me at WA6UDS@ARRL.NET

OK now that I have got that out of the way, we are a smaller club. My unscientific research indicates that there are between sixty and eighty of you out there who might read this. From my seat at front of the room at a membership meeting I see a lot of you have hair that is distinguished and grey just like mine. Club membership across the spectrum of interests is down, not just ham clubs. People just don't join clubs and go to meetings the way we did. Meeting other people with the same interests now happens online.

I seem to keep getting off track. We are a smaller club and I don't see us getting a lot bigger any time soon. We need to consider some aspects of club governance in light of this trend. We currently have nine positions on the board of directors and two Trustees of License who are also board members. If I assume that there are eighty members, then the board is now 14% of the membership. If we really only have 49 members then the board is almost 25% of the membership.

On one hand it means that at least numerically you are well represented, on the other hand it is hard to find people with the time and interest in serving on the board. As a board we are considering adjusting the size and composition of the board. According to our bylaws changes in the composition of the board must be voted on by the membership.

In general we want to reduce the board and change the way Trustees of License are selected. This is not the kind of change that should be decided by the old boys at a poker game over bourbon and branch. I am looking for your suggestions and I want to get your responses to some ideas on the topic.

At the 2 August membership meeting I will pose the question and suggest some ideas for discussion. I would also like to invite anyone who is interested to attend the 8 August board meeting where we will discuss the topic and try to formulate one or more amendments to the bylaws that would then be submitted to the membership for a vote.

73. Curtis WA6UDS

## New Repeater Setup

:  
146.700 203.5 Big Rock  
146.700 179.9 Mt Tam  
146.700 167.9 Mt Barnabe

Being a Simulcast system, these three sites have actual repeaters which transmit AT THE SAME TIME unlike the former setup where Big Rock was the only transmitter and the other sites were inputs, only.

147.330 173.8 San Pedro  
which will be shut off when  
147.330 179.9 Mt. Tam  
is operational.

These are all VHF freqs we'll need for use inside Marin County.

**THE WAYBACK MACHINE**

Issue #18 by William Continelli  
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In our last installment, we traced the development of FM and repeaters from 1932 up to 1970. Since the FCC rules at that time had no provision for repeater operation, stations in repeater service were operated under the Part 97 provisions covering remote control. The FCC, in February, 1970, came out with Docket #18803, which set forth the Commission's proposed repeater rules. These included small subbands set aside for repeater operation, a ban on linked, cross-band and multiband repeaters, a requirement for "whistle on" or other tone control, and a requirement that the licensee of a repeater station be in attendance at the transmitter or at an authorized fixed control point to monitor all transmissions of the station. In regards to the 2 meter band, the FCC set up the repeater subband in such a way that two thirds of it would not be accessible to Technicians.

Reaction was quick and negative. The ARRL and others felt that the proposed rules were so restrictive that they might be the end of amateur repeater operation as it existed at that time. Counter proposals, far less restrictive than the FCC's, were submitted to the Commission. While amateurs waited for the revised FCC rules, another problem had to be solved. When two meter FM operation started in the 60's, 146.94 had been chosen as the national simplex frequency. This was the highest wide band FM frequency available to Technicians.

After repeaters came along, amateurs discovered that the surplus commercial equipment in use had a maximum bandwidth of 600 khz

Thus, 146.34 was chosen for the first repeater input. However, in areas where .94 was in heavy use by simplex stations, 146.76 was chosen as the output. This led to the problem of non-standard splits, and in some areas of the country, repeaters such as .34/76, .28/94, and .34/82 could be found. The frequency 146.94 was a battleground between the simplex vs. repeater groups.

Amateurs were also fighting a minor battle over 146.64 Mhz, which, in some parts of the country, was a DX simplex frequency. To make matters worse, all transceivers back then were crystal controlled. With crystals at \$10 per pair, it cost \$120 (about \$350 today) to fill all 12 channels in a 2 meter radio. It was possible to equip your radio with the repeaters and simplex frequencies used in one area, then find all of your channels were useless 200 miles away. A National Plan was needed.

The Texas VHF-FM Society proposed such a plan, which was described in the May, 1972 issue of QST. In it, the repeater offset was standardized at 600 khz, 146.94 and 146.64 became repeater outputs, 146.40 through 146.58 became simplex, and 146.52 was chosen as the national simplex frequency. In the 146-147 range, accessible to Technicians and above, there were 13 repeater and 7 simplex channels. The 147-148 range, available only to Generals and above, had 14 repeater and 6 simplex channels. Note that in the Texas plan, all repeater inputs were 600 khz below the output--even in the 147-148 range. Except for changing the inputs to the high side above 147 mhz, the Texas Plan was adopted. The gradual acceptance of a 2 meter band plan still did not resolve the FCC issue. The

Texas Plan, as good as it was, violated the FCC's 1970 proposal. The Commission still had not issued any repeater rules, nor had they acted on the ARRL's 1969 request to give Technicians the full 2 meter band. Finally, in September 1972, the FCC issued new rules covering repeaters, logging and portable/mobile operations. Liberal repeater subbands were authorized at 52-54, 146-148, 222-225, and 442-450 Mhz. Logging requirements, especially for repeater and mobile stations, was simplified: repeater operators no longer needed a tape recorder hooked up to their stations. The requirement for a portable or mobile station to notify the FCC of operation in a particular Radio District was also reduced--no longer would amateurs contemplating a cross country trip with their radios have to write to each District on their journey in order to inform the Engineer of the trip. Repeaters would have to be licensed: call signs beginning with the prefix "WR" would be issued. The repeater license application was complex--each applicant for a repeater license had to submit certain data to the FCC regarding the technical, operational, and effective radiated power of the proposed station. "Whistle on" or tone control was no longer required, two repeaters could be linked, but multi-linked or crossband repeaters were prohibited. Repeater monitoring and control requirements were made more flexible. And finally, the FCC acted in part on the ARRL's 1969 proposal. Although they did not give Technicians full 2 meter privileges, they did grant them the 147-148 segment. Technicians could now operate all 2 meter repeaters without violating FCC rules.

More on next page.

The new FCC repeater rules, coupled with the Texas Plan, caused a surge in 2 meter FM activity. It also was the shot in the arm the hobby needed to fully recover from the decrease in growth caused by Incentive Licensing. Manufacturers such as Drake, Standard, Regency, Tempo, Genave, Clegg and Midland poured rigs onto the amateur market.

Heathkit had the very successful HW-202 followed by the even more popular HW-2036. The increase in the number of Technicians on 2 meter FM finally killed the "Technicians are experimenters, not communicators" theory. And finally, thanks to 2 meter FM, amateur radio grew by over 33% in the 1970's. In 1975, due to increased demand, the FCC authorized the use of 144.5-145.5 Mhz for repeater operation. Technicians were given access to this subband. In 1978, the FCC relaxed the rules, eliminated the separate repeater licenses and the "WR" prefix, and gave Technicians the full 2 meter band. From 1978--1981, the synthesized revolution took place, as affordable PLL and microprocessor rigs drove the last of the crystal controlled radios off the market. Today, a name brand, 2 meter HT costs about \$175. With it, you can access over 4000 repeaters, or scan the VHF Hi band. Compare that to 1972, when a crystal controlled radio, equipped with 12 channels, cost \$300--or about \$800 in today's dollars. We truly have come a long way.

In our next installment, we will look at a couple of license proposals in the mid 70's and the controversy they caused. I hope you will join me.

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**BS Has a Long Life**

Contrary to the words in the song about the "coonskin cap on the head of ol' Dan", Daniel Boone didn't care for them. He wore a beaver hat.

Grizzly Adams didn't save the orphaned bear cub. He shot the mother, grabbed the two male cubs and sold one. The other he kept and named Benjamin Franklin. Perfectly acceptable in his day.

The majority of eye witnesses at the Big Bend Tunnel (1870-1873 ) on the Chesapeak and Ohio RailRoad when John Henry beat the steam drill agreed that he didn't die but kept on working on the tunnel for some time afterward.

**Condolences**

On condolences, we've come to dislike the term. Really tired of it. Like a rubber stamp. Visualize a vending machine where you insert a quarter and after a few rattles a small bag of condolences plops down into a chute below. You then hand them out as required. Maybe keep a couple spares for when your neighbor's dog dies, to go along with "Sorry for your loss." Of course that would depend on how well you liked that dog. (grin)

## Board of Directors Meeting. 13 June.

Board Members present: Curtis Ardourel, Dave Hodgson, August Koehler, Doug Slusher, John Boyd, Cal Anber, Marc Bruvry, and Phil Dunlap also present Craig Mirkin.

The meeting was called to order by Curtis Ardourel at 19:30 hours.

The agenda was approved as amended. Dave / Cal

The minutes of the April 11, 2013 meeting were approved as published. Cal / Doug

Communications- Dave reported receiving snail mail dues from two members

Treasurer- Dave's report for May showed \$3,866.00 income and \$1,190.31 expenses; and total cash assets of \$38,332.34.

### **Committee reports:**

Membership- Renewals 2 via the website are 2 via snail mail.

Recreation – The picnic date will be September 14, 12 Noon. Club to supply food.

Public Service – The Dipsea went well two injuries, Next event will be the Double Dipsea 6/22

Technical- The equipment changed out for Mt. Tam and Big Rock to fix audio problem. Dipsea went well in morning but had TX/RX issues in the late morning and afternoon. Doug will be installing a preamp and feels the antenna which is 30 plus years old is at the end of its life and will be replaced on Mt. Tam. Next is to finish Barnaby and Building 401 for 147.330.

Field Day – Doug met with Jim Robertson club to supply it's generator, microwave, coffee pot. Cal to do the cooking Saturday dinner.

RACES – Doug to give presentation on new repeater system at upcoming quarterly meeting.

### **Old Business:**

Website Redesign – Craig Mirkin talked about his background in web design and how he can help with the redesign of the club site, Craig and Curtis will meet to firm up design, Craig will bring back to Board his ideas for changes. The Board approved Craig's help with the clubs web site. Cal / John.

Ham Shack Procedures – Still working on a guide.

The Sunday Nets - How to sign up on the web site. Mark polled 75 meter net users and received 4 replies none having a consensus to change to 40. Net will stay on 75 at same times. Cal will email to the Board his ideas for the net IE: volunteer net control, number of weeks before a member will be doped from the role call etc.

### **New Business:**

Curtis recruited a member to fill the current vacant Board seat; The Board approved Ed Essick K6ELE to fill the vacancy. Cal / Mark

The Board approved Christmas dinner to be on Sunday December 8<sup>th</sup>. Cal / Phil

The Board will look for someone to help Phil with QSA5.

There being no further business, the meeting was adjourned at 21:30 hours. Cal / Doug

Next meeting will be August 8<sup>th</sup> 19:30 Hours

Respectfully submitted, Dave Hodgson KG6TCJ Acting on behalf of the Secretary Randy KA6BQF, Marin Amateur Radio Soc.

**Marin Amateur Radio Society  
General Membership Meeting  
Friday, June 07, 2013**

The meeting was called to order at 19:30 hrs by President Curtis Ardourel.

A round of introductions was the first order of business. Twenty-two members or guests were present.

There will be a presentation after the business meeting.

The agenda was adopted as presented.

The minutes of the May 03, 2013 general membership meeting, were approved without objection as printed.

President Ardourel reported on the actions at the May 09 Board of Director's Meeting. The July General Membership Meeting and July Board of Director's Meeting were cancelled. The annual picnic is scheduled for September 14 at Piper Park. The Board agreed to make 6 of the new chairs available to members in exchange for a donation of \$100.00 ea.

There were four reports under "Fun with Amateur Radio".

President Ardourel announced Robert Salter, AI6EE as a new member.

President Ardourel discussed that we have a vacancy on the Board of Directors, and asked that if anyone had an in filling the vacancy, they should contact him or any Board member.

Secretary Jenkins reported that communications were ads.

Treasurer Dave Hodgson submitted a report for May showing \$3,866.00 income and \$1,190.31 in expenses. Accounts total \$38,332.34.

Membership: Phil commented that some renewals were coming in..

Recreation: The 2013 picnic will return to Piper Park on 9/14. The Christmas party was mentioned.

Public Service: The Dipsea and Double Dipsea are coming up.

The Technical Committee: Doug reported on the simulcast system. Big Rock was up and running on 146.700, PL 203.5. Tam will go up on 146.700 PL 179.9, on Saturday, June 8. Barnabe will go in after that on 146.700, PL 167.9. Tam West will become a stand-alone repeater on 147.330, PL 179.9. The San Pedro back-up repeater on 147.330 is currently on the air.

Comm Truck: No change.

Education: Nothing scheduled

VE Liaison: Randy reported that the next session would be July 13.

Website: There was a comment that the Silent Key page on the website was out of date.

RACES: There will be an officer's meeting 6/15, with Doug making a report on the new repeater system.

Building Management: No report.

Field Day: Doug reported that we need someone on the food committee, and that volunteers were needed for Friday set-up.

Old business: None

New Business: None.

There being no further business, the business meeting was adjourned at 20:21 hrs.

There was a presentation by Rem O'Donnelley, K6BBQ on "Operating Tricycle Mobile".

Respectfully submitted, Randy Jenkins, KA6BQF, Secretary.

## ROBBERY OF THE G. & C. STORE

AT 7:30 p. m. on December 6th, 1883, five men rode into Bisbee from toward Tombstone, dismounted about 100 yards from the store of Goldwater and Castanada, tied their horses to the ground and proceeded to mask themselves, all but one man who was afterwards identified as Tex Howard, alias Tex Willis. All wore blanket lined canvas overcoats and each man was armed with a Winchester saddle gun and two six-shooters.

After having made their hasty preparations, they walked briskly toward the Goldwater-Castanada store. W. E. Delaney and Dan Dowd, alias Big Dan, took position just outside of the front door to act as guards, while O. W. Sample, alias Big Red, John Kelly, alias Yorkey, and Tex Howard entered the store.

The following day being pay-day at the Copper Queen Mine the payroll was supposed to have been in possession of Goldwater-Castanada, but it chanced that the money in question did not arrive, it having missed stage connections enroute. They looted the safe and obtained money and jewelry, variously estimated at from \$900 to \$1000, the exact amount never having been published.

In the meantime, the outside guards were also busy. Every person appearing upon the scene of action being ordered inside of the store. John Tappinier refused to enter the store and turned to run, but two bullets cut him down and he died instantly. The sounds of these two shots caused others to investigate and Delaney and Dowd shot at every man whom they saw and D. T. Smith and J. R. Nolley were quickly added to their list of dead.

Mrs. R. H. Roberts, hearing the shooting, stepped to a window facing the street and looked out. As she stood, partly concealed by the window curtains, she was seen by Delaney and Dowd and they, believing that she was a man waiting for a good shooting chance, shot her dead.

As the outlaws were working their way toward their

horses, Deputy Sheriff William Daniels opened fire on them and wounded Big Red Sample, but all of the outlaws managed to get to their horses and they quickly mounted and were away. Sheriff Ward of Cochise County wired from Tombstone that a reward of \$1500 would be paid for the apprehension of each man. A posse was quickly formed and in pursuit.

John Heith, the owner of a saloon in Brewery Gulch, took a very active part in the organization of this posse and at times virtually took charge of it in his efforts to lead them away from a plain trail left by the outlaws. He acted in a very suspicious manner, always calculated to favor the outlaws, and the other members of the posse became suspicious of him.

When camp was made at dark that night, Heith was detailed to guard the horses and while he was engaged in that duty, the other members of the posse held a business meeting with him as their subject. In piecing the evidence covering the events of the few days previous to the hold up, it was learned that Heith had been very friendly with this bunch of men and that they had been making his saloon their headquarters.

It was decided to arrest him and send him to Tombstone where he could be safely held for investigation. The men drew lots for the arresting honor and Ed Barker, assayer for the Copper Queen Mining Company, and Stewart Hunt, afterwards sheriff of Cochise County, were the lucky ones. They rode out to the herd, made the arrest quickly and effectively, not giving Heith any chance whatever to use his gun. They then took him to Tombstone where he was placed in jail to await further investigation.

Sample and Howard went to Clifton where they met an acquaintance named W. W. Bush, and to him they related what they had done also displaying a gold watch, naming it as a part of the loot. They talked freely to him and told him of their plans and what directions had been taken by the other three men. As soon as he could make

a quiet get away from them, he went to Deputy Sheriff Hill and disclosed all of the information which he had received from Sample and Howard. Hill immediately took up the matter with the Cochise County authorities with the result that Sheriff Ward did not leave a stone unturned, working night and day until all of the gang were landed in jail. In forty-five days from the date of the commission of the crime, all six men were in jail and not a shot had been fired in their apprehension.

Sample and Howard were arrested at Clifton. Kelley, masquerading as an east bound hobo, was arrested at Deming. Dowd and Delaney crossed the line into Mexico but Ward followed them and arrested Dowd at Coralitos in the State of Chihuahua and Delaney at Minas Prietos in the State of Sonora.

A special term of court was convened on February 4th, 1884. These men were arraigned on the 8th and all pleaded "Not Guilty" to the crime of murder. Their case was set for the 9th and on the 11th they were found "Guilty" as charged and on the 19th death sentence was pronounced, to be carried out on March 6th.

Inasmuch as Heith had staged an afternoon dance at his saloon on the day of the crime, it was presumed that this was done with the intent of getting as many people away from the vicinity of the proposed crime as possible. It was proven that the crime was planned in his saloon and that he received a portion of the loot, the same having been found in his possession.

Heith demanded a separate hearing which was set for February 16th and was completed on the 20th. The evidence brought in at the trial was mostly circumstantial but he was found "Guilty of having been an accessory before the crime" and was sentenced to a life term of imprisonment in the state penitentiary at Yuma.

The people did not take kindly to the decision of the jury in the Heith case and at about 8:00 a. m. of February 22nd, 1884, a bunch of Bisbee and Tombstone miners went to the Cochise County Jail, where there had been twelve



men on guard day and night. However, at this hour in the morning, with the night force off duty, and the day guard partaking of their morning's meal, Sheriff J. L. Ward chanced to be the only man on guard and, being but one man against at least 100 drink infuriated miners, he could do nothing but let them have their way and take Heith out.

They took Heith west on Toughnut Street until the railroad crossing was reached and here they swung him up to the cross arm of a telegraph pole. His body hung there nearly all day and was viewed by thousands of men, women and children.

Some enterprising citizen went to the Cochise County Commissioners and obtained a permit to build a tier of seats around the scaffold upon which the other five men were to be hung, expecting to charge fifty cents admission, but the night before the date set for the execution a mob went to the court house and demolished the seats. It is understood that the majority of the members of this mob consisted of well known and prominent women of Tombstone.

A few days before the execution of these five men, John L. Sullivan, then heavyweight champion of the world, chanced to be in Tombstone and these men, learning of his presence in town, sent for him to come and visit them in the county jail. John, being a good old scout, went.

Dan Dowd said to him, "John Sullivan, you think you are a great man because you can knock out any man in the world in five rounds but the sheriff of this county, who is a much smaller man than you, can knock out five men in one round."

At 1:10 p. m. of March 8th, 1884, the funeral procession started, headed by Sheriff J. L. Ward, Frs. Callagher and Jovenciau; next Omar W. Sample alias Big Red, accompanied by Sheriff Robert Paul of Pima County; then came James Howard alias Tex Howard alias Tex Willis, accompanied by Wallace Corbett; next came Daniel Dowd alias Big Dan, accompanied by Deputy Sheriff Hatch; next

in the procession came W. E. Delaney, accompanied by Deputy Sheriff Crowley of Willcox and last in line came Daniel Kelley alias Yorkey, accompanied by Deputy Sheriff Fred Ward.

All of the prisoners marched to their doom with pleasant smiles on their faces and Delaney, Sample and Kelley recognizing familiar faces in the crowd, shouted their last good byes to them in a cheery manner. All shook hands with the officers and priests and denied their guilt.

As the condemned men stood on the scaffold, taking their last good-bye look at the world, Sheriff Ward asked them if they had anything to say. Dan Dowd said "It's getting pretty hot, so you might as well go ahead with the hanging." Tex Howard said, "Dan, it's liable to be a whole lot hotter where we are going." When the black caps had been adjusted, Kelley shouted, "Let 'er go," and they "Let 'er go."

## On the Pampanito

**Date:** 23 June 2013

**TO:** Den Regan , CO , USS Pampanito Amateur Radio Club

**FROM:** Michael Fischer, Radio Operator

**SUBJECT:** Report on Operations Aboard

With my son Steve, K6ETA, as a guest operator, he and I reported aboard at 0945. We spent some time conversing with Jake and Anthony in the pier shed. Jake had just concluded overseeing a Boy Scout overnight, and was going off duty, but he wanted to relive some of the more hilarious events of the night. (One of them: as the scouts were departing, Jake asked them what country the submarine had sailed for. Dumbfounded looks all around, until one of them answered, " Korea ?") Den here: more evidence of the continued "dumbing down" of America!

The day was dismal and gloomy— Alcatraz was hidden not by fog, but by low clouds and drizzle, which changed later in the day to full-on light rain, putting somewhat of a damper on the summer-weekend tourist volume. Nonetheless, we chatted with visitors from England, Germany, China, Slovakia, Switzerland, Italy, New Zealand, Ireland— as well as Minnesota, Ohio, South Dakota, Georgia, Texas, Florida and Maryland. As always, they were surprised and delighted to hear SSB conversations in the radio room. Many photos were taken of Steve or me, microphone in hand—even some videos. What, one wonders, will be done with those photos?

It was a problematic day on the radio—not only was it Field Day, but the solar flares were wreaking havoc with the bands. 15-, 17-, and 20-meter bands were virtually dead. 40 meters was fully occupied for much of the day by Field Day contestants (of course, we joined in the fray, and will be listed in the logs of about 15 stations.) After Field Day was over, the ionosphere got overloaded or something—or the active radio operators of America were overloaded with air time? Even though Jim, our friend on the Noontime net at 7.268.5, told interested members of the net to go down to around 7.260, we had only one taker. Radio fatigue had definitely set in. The only conversation we found on the 20-meter band was an extended one about the intricacies of raising and/or cooking potatoes, groan. Anyway, with no activity on the radio, it got quite boring calling CQ to no avail; so we secured operations about 1330. Virtually all of our 25-30 contacts were West of the Rockies . (To be truthful, I was extra-motivated to shut down early, since I had worked the 0000-0400 shift at the San Quentin Field Day site earlier in the day.) Indeed, I was so pooped that I failed to transcribe the rough log into the official logbook—next time.

As we were leaving, a family was looking closely at the large poster of Pampanito sailors on the pier shed window—the father asked how he could get a copy, because his own father was among the crew in the photo! So Steve took his photo with the poster, and put him in touch with Anthony to add him to the boat's "family."

Oh—the once-per-second "tick" is still there, on all bands. Also, our two-meter radio needs to be re-programmed, since the Marin Amateur Radio Society repeater array has been entirely changed to a simulcast system.

Respectfully submitted,

Michael Fischer, K6MLF, RO

USS Pampanito, SS-383 NJ6VT

**Contributed by Gordy Fuller WB6OVH, MARS member, Fair Oaks, CA**

## **How Napoleon's semaphore telegraph changed the world**

By Hugh Schofield BBC News, Modane, France

Bernard Pinaud shows how the semaphore system works [Continue reading the main story](#)

Napoleonic semaphore was the world's first telegraph network, carrying messages across 18th Century France faster than ever before. Now a group of enthusiastic amateurs are reviving the ingenious system.

Before the web, before the computer, before the phone, even before Morse code, there was *le systeme Chappe*. Not for the first time or for the last, at the end of the 18th Century France made an important technological advance - only to see it overtaken by newer science.

In this case, it was the world's first ever system of telegraphy.

According to most accounts, the very word "telegraph" - distance writing, in Greek - was coined to describe Claude Chappe's nationwide network of semaphore.

At its most extensive, it comprised 534 stations covering more than 5,000km (3,106 miles).

Messages sent from Paris could reach the outer fringes of the country in a matter of three or four hours. Before, it had taken despatch riders on horseback a similar number of days.

Map of France showing the spread of the Chappe telegraph. Information provided by Jean-Claude Bastian, [telegraphie-chappe.com](http://telegraphie-chappe.com)

But then it ended almost quickly as it began. In the 1840s and 50s, electronic telegraphy - with stations set up along the new railway lines - began to take over.

The Chappe stations disappeared into obscurity, plundered for materials and buried in vegetation.

Only in recent years has a resurgence of amateur interest permitted a handful of sites to be rescued from oblivion.

One such is the station of Mollard-Fleury, half-way up a mountainside near Modane in the Alps.

[Continue reading the main story.](#)

## **How a Chappe station worked**

- The two arms each rotate into seven separate positions, creating 49 combinations, while the central beam can be vertical or horizontal - making 98 in all
- Six of these positions represented service messages - "ready to transmit", "taking a break" and so on
- The remaining 92 corresponded to 92 pages in a code-book or *vocabulaire*, each of which contained 92 different words
- That made a total vocabulary of nearly 8,500 words
- The word army, for example, might be the 24th word on page 19. So the operator would send the signal for 19 to indicate the page, then 24 for the word on that page

Enthusiasts worked out the probable location by consulting maps in the archives in Paris. In 2002 they found the remains of the post in woods above the village of Sardieres.

Now they have just rebuilt an exact replica, using original designs drawn up by an inspector on the line.

Visitors who make it up the brisk climb find a two-room cabin of wood and stone. The second room contains a system of wheels and pulleys, controlling the signal system which is set on a mast above the roof.

A panoramic view looks south-east across the valley to more snow-capped mountains. Beyond is Italy.

"This station was part of the Lyon to Milan line that Napoleon built in 1805 as he prepared to resume war in Italy," explains Bernard Pinaud, who over the summer will give demonstrations of the semaphore.

"Ultimately it extended as far as Venice, allowing the emperor to get messages to his armies in northern Italy in a matter of a few hours."

One such message has been discovered in the records of a nearby village.

It reads: "The Legion of the South may recruit men in Turin from among the Piedmontese prisoners-of-war or Austrian deserters . However it must not recruit men who are not from Piedmont."

This message would have been transcribed into semaphore signs by a superintendent in Paris.

It would then have been passed down the chain of stations, each about 10km (six miles) and visible from the next.

The last French telegraphy stations were built in the mid-19th Century - many disappeared into obscurity

In each hut, a single operator had the task of surveying his neighbours by telescope. As soon as there was activity, he copied down the signals and passed them on.

Of the meaning of the message, the operator had not a clue. He merely worked the machine.

Born into a family of scientists in western France, Claude Chappe (1763 - 1805) made the important observation that the human eye is excellent at discerning angles.

So he designed a system built round three parts - a long central beam, with two shorter arms attached at either end.

Each manoeuvre was reckoned to take about 30 seconds, and the messages were transmitted in full - words like "*de*" and "*a*" included. Telegram-ese had not yet been invented.

For the operators it was tiring and laborious, especially as they had pay docked for delays.

Continue reading the main story.

#### **French Revolution timeline**

1789 - French Revolution ends rule of monarchy going back to 9th century; followed by establishment of the First Republic.

1799 - Napoleon Bonaparte leads coup to overthrow government; consolidates position with new constitution.

1804-1814 - Napoleon crowns himself emperor of First French Empire; series of military successes brings most of continental Europe under his control.

1815 - Napoleon defeated in Battle of Waterloo; monarchy reestablished.

1848 - Fall of King Louis-Philippe; Louis-Napoleon, nephew of Napoleon Bonaparte, proclaimed president of Second Republic.

1852-1870 - Louis-Napoleon takes title of Napoleon III in Second Empire.

Still, by all accounts they acquitted themselves well. The record was 60 minutes for a message travelling from Paris to Strasbourg. It bore news of the birth of Napoleon's son.

We have a description of one of the Chappe stations in Alexandre Dumas's *The Count of Monte Cristo*, which was written in 1844 and set 30 years earlier.

The count sees the contraption "like the claws of an immense beetle" and feels wonder that "these various signs should be made to cleave the air with such precision as to convey to the distance of three hundred leagues the ideas and wishes of a man sitting at a table".

He then bribes the operator to send false information down the network, causing a financial panic in Paris.

From the outset, the prime purpose of the system was military.

Four years into the Revolution - with fears growing of foreign invasion to restore the monarchy - the Republican government commissioned Citizen Chappe to build the first line, from Paris to Lille.

A year later, in September 1794, the government heard news - on the day it happened - that the northern border town of Conde had been captured. They telegraphed back their congratulations, which were received in Conde the very same evening.

New lines opened to Strasbourg, then to Lyon and Brest. Napoleon built the line to Italy, and also - as he contemplated invading England - an extension to Boulogne on the English channel.

Under the restored monarchy after 1815, there were new lines to Marseille and to Bayonne in the south-west.

The last stations were built in 1849, but by then it was clear that the days of line-of-sight telegraphy were done. The military needs had disappeared, and latterly the operators' main task was transmitting national lottery numbers.

The shortcomings of visual communication were obvious. It only functioned in daytime and in good weather. And of course the invention of electronic telegraphy changed everything. In 1844 Samuel Morse showed that it worked down a wire from Washington to Baltimore in the United States. Soon the Chappe towers were to look as antiquated as perfumed wigs.

Smoke, fire, light, flags - since time immemorial man had sought to speak over space.

What France did in the first half of the 19th Century was create the first ever system of distance communication.

On the long trek to the internet, it is an overlooked - but significant - early step.

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**General Membership Meeting** is held on the first Friday of each month at Alto District Clubhouse at 27 Shell Road in Mill Valley, starting at 7:30 PM. Come a little early for pizza or whatever. From hwy 101, head west toward Mill Valley on E. Blithedale. Turn right at the first stop light a block off the highway. Angle right at next stop sign, then turn left at next corner, Shell Road. We are in a two story building, second from the corner on the left directly under the power lines.

**Business/Board Meeting** meets at the Alto District Clubhouse in Mill Valley on the second Thursday at 7:30 PM. Members are encouraged to attend and try to keep the clowns honest.

**Sunday morning informal meeting**, grinningly called the bible/babble class, meets every Sunday morning at the Alto District Clubhouse in Mill Valley starting at roughly 0800 hours and runs to around 1100 hours +or-. Sometimes we even talk about radio.

**The Sunday Emergency nets.** Come on down and watch Matt K6OHD do the nets. You could try it yourself, while Matt stands by, and get rid of any mike fright you might have. If at any time you feel a panic attack coming on, Matt will get you thru it.

<p><b>Marin Amateur Radio Society</b>  <b>President:</b>                  Curtis Ardourel WA6UDS                  510-595-3494  <b>Vice President:</b>                  John Boyd KE6ORI 924-04419  <b>Secretary:</b>                  Randy Jenkins KA6BQF  <b>Treasurer:</b>                  Dave Hodgson KG6TCJ 332-1864  <b>Additional Board Members:</b>                  (for a total of around eleven)                  Cal Anber N6TIA 209-275-5252                  Rita Brenden KG6WPN 707-557-5521                  Marc Bruvry KF6VNT 492-9292                  Phil Dunlap K6PHD 491-0318</p>	<p><b>Education Chair:</b>                  Randy  <b>VE Liaison:</b>                  Randy Jenkins KA6BQF                  510-526-4089  <b>Building Co-Managers</b>                  Dave or Curtis.  <b>Trustee for W6SG:</b>                  Augie Koehler KØCQL  <b>Trustee for K6GWE:</b>                  Doug Slusher KF6AKU  <b>Sunday Emergency Nets:</b>                  Mark Bruvry or other volunteers.</p>	<p><b>DX Representative of ARRL:</b>                  Jerry Foster WA6BXV 892-3829  <b>WEBMASTER</b>                  Glenn Meader N1ZKW 987-3948                  N1ZKW@ARRL.NET  <b>Public Service Event Coordinator</b>                  Randy Jenkins KA6BQF                  510-526-4089  <b>ARRL San Francisco Section Mgr.</b>                  Bill Hillendahl KH6GJV@ARRL.ORG  <b>Editor of QSA-5 and Procurer of The Bellywash</b>                  Phil Dunlap K6PHD 491-0318                  K6PHD@ARRL.NET  <b>Membership:</b>                  Phil Dunlap K6PHD</p>
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**Marin Amateur Radio Club, Inc.**  
**P. O. Box 6423**  
**San Rafael, CA 94903**

**Dues structure is: \$25. per year. \$30. for family memberships.** No dues are charged for Life or Honorary members.

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