

FEBRUARY 2001

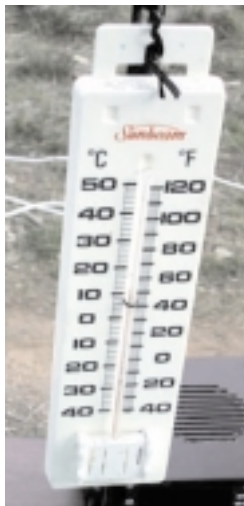
THE MONTHLY NEWSLETTER of the SANTA CRUZ COUNTY AMATEUR RADIO CLUB

SHORT SKIP



FYBO Contest

February 3 brought the 2001 Freeze Your Buns Off QRP contest. The FYBO is the annual contest is hosted by the Arizona Scorpions QRP Club. It is a sort of winter field day. The idea is to get outside in a field location and operate HF radio over a 12 hour period. There are multipliers for field location, alternative power, number of states worked, power (if less than 1 watt), and in line with the contest name, cold temperatures. Californians usually have the hardest time with this multiplier.



What does a thermometer have to do with ham radio?

This year, Rich, KF6QKI, got permission from a friend to allow us to use his property on top of the ridge alongside Mt Madonna State Park. Tom, KQ6DV, and Rich went up to the site on the

Continued of page 3

Jim Maxwell W6CF Club Speaker

February's Speaker will be Jim Maxwell W6CF. The title of his talk will be "WRC 2003 - Whither Goest Morse Code?" It should be a very interesting talk, see you there. 73 KG6AXD Richard

RADIO OVER 100 YEARS OLD

Marconi's transmission was a milestone in long-distance communication January 23, 2001 Web posted at: 11:24 AM EST (1624 GMT)

LONDON, England (CNN) -- People tuning into their radios on Tuesday might have been unaware that January 23 marked a very special anniversary.

Exactly a hundred years ago, at 4:30 p.m. local time, Italian-born radio pioneer Guglielmo Marconi sent the first ever long-distance wireless transmission from the Isle of Wight to Cornwall on the British mainland.

Although Marconi had, years, been sending increasingly long distance transmission marked a ment of long-distance

Not only was it the mission ever made -- tres) -- but it also could be transmitted thing the majority of ment had insisted was



over the previous five messages over tances, the January 23 milestone in the develop-communication.

furthest wireless trans-186 miles (299 kilome-proved that radio waves across the horizon, some-the scientific establish-impossible.

"It was the key move forward for wireless transmission at that time," says Trevor Wright of Chelmsford-based Marconi plc. "186 miles might not seem very far today, but back then it was astounding."

The birth of the wireless Born in Bologna, Italy in 1874, the son of an Italian father and Irish mother, Marconi showed an early interest in physics and electricity.

In 1894 he began experimenting in the use of radio waves to send messages without the use of wires (hence the term "wireless"), progressively increasing the distance over which a message could be transmitted: across a room, down a corridor, the length of a field.

In 1896, due to a lack of interest in Italy, he took his equipment to England where he was granted the world's first ever patent for a system of telegraphy and founded the Wireless Telegraph and Signal Company, of which Marconi plc is the descendent.

Over the next five years he continued to push back the boundaries of radio transmission, sending a message 8.7 miles (14 kilometres) across the Bristol Channel in 1897, and 85 miles (137 kilometres) from France to Britain in 1899.

The transmission of January 23, 1901, however, from Niton on the Isle of Wight to Bass Point in Cornwall, more than doubled his previous record, proving once and for all that distance was no barrier to the sending of radio messages.

"It was hugely important," says Stuart Smith, Chief Executive of the Trevithick Trust which now runs the Bass Point radio station. "Before then scientists thought radio waves only travelled in straight lines and therefore couldn't cross the horizon.

"Marconi proved them wrong."

Despite the significance of his achievement, Marconi kept it secret for a week out of respect for Queen Victoria, who had died the previous day, January 22 (ironically on the Isle of Wight).

The only person he told was his cousin, Henry Jameson Davis, to whom he dispatched a telegram saying: "Completely successful. Keep information Private. Signed William."

Centenary celebrations A number of commemorative events have been planned around

Continued of page 4

CLUB MEETING FRIDAY FEBRUARY 16, 7:30P.M.



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Free to members.

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Prez Sez

You Gotta Love Us!

February always causes me to reflect on how much I love Ham Radio. I guess it's the "Valentine Factor". An article in the San Jose Mercury News about the Earthquake in India noted that the only disaster communications being provided were by "a few satellite telephones and Ham radio operators." This stuff warms my heart! I can hardly count all the ways in which Ham radio has embellished my life. I've made new friends, and learned a lot about science and technology, and geography. Ham radio has broadened my horizons and increased my understanding of other cultures around the world. When you've made a contact you've made a friend, whether they are on some tropical isle in the middle of the ocean or in landlocked Siberia. Politics and religion don't interfere with Ham relationships. I don't believe it's an understatement to say that the Ham radio contributes to world peace and the betterment of mankind. I've also always loved the non commercial aspect of Ham radio: a big attraction for me about the hobby when I first started studying for my license was learning that it was illegal to use your operating privileges for business or profit in any way. Hams, by legal mandate, aren't in it for the money!

Another thing I love about Ham radio is all the help I've received from Hams in areas outside of the hobby. Recently Jim, KF6YRD, graciously walked me through the process of obtaining a teaching credential that will enable me to pursue a new career. I discovered a great veterinarian for my pets through Ham radio. I've found support for my nascent writing career from fellow Hams who are writers. When I was going through my divorce Hams provided a wonderful social network to alleviate my depression. And Ham radio played a part in developing a new relationship for me that resulted in a new marriage. I could go on and on. I encourage everyone to set aside some time this month to reflect on all Ham radio has done for you. Welcome to one of the greatest hobbies in the world!

— 73, KQ6DV

Board Minutes

MINUTES of the BOARD from the SANTA CRUZ COUNTY AMATEUR RADIO CLUB

A regular meeting of the board was called to order at 1835 hours on Friday, January 19, 2001 at Dominican Hospital Education Center in Santa Cruz. The president, Tom KQ6DV, was in the chair. Also present were the vice president, Richard KG6AXD; the secretary, Cap KE6AFE; the treasurer, Elaine KE6FRA; the members of the board Bruce AC6DN, Bill W6PAD, Allen WB6RWU, Ron W6WO, Mike KF6UXB; and a visitor, Sue Ann KG6BXD.

The minutes of the November 17 board meeting were unanimously approved.

The treasurer's report was a financial statement that showed financial activity for the period from November 2000 to January 19, 2001. The report, showing a balance on hand as of January 19 of \$3,418.01, was accepted unanimously upon motion by Cap.

During committee reports, Cap reported for the repeater committee that Dan AA6GD and Cap were in the process of cleaning out the "old building" at the K6BJ repeater site and selling the old junk that had been stored there on behalf of the club. The building is now available for a new club use. The repeaters have functioning well lately though some maintenance work is now needed.

There was no unfinished business.

During new business, Tom began a discussion of club committees for 2001. Volunteers to facilitate committee formation were sought. Tom appointed Bruce to the TVI committee, Sue Ann to the refreshments committee, Cap to the repeater committee, Richard to the Programs and entertainment committee, Dan AA6GD and Richard to the greeters committee, himself to the publicity committee, and Ron to the Newsletter committee. Board approval of Tom's appointments will be taken up in February.

The meeting was adjourned at 1928 hours.

This Months Mystery Item

I would never have guessed it but the clue is that a tuning fork usually has a very high Q. This little jewel is a picture of a 156 MHz resonator built by the University of Michigan that has a Q of 9400: the central disk is just 34

A TIME FOR RENEWAL

Time to renew your club membership again. Dues for the 2001 calendar year are payable as of December 1. Regular memberships are \$25, memberships for additional family members at the same address are \$6 each, and full time students under the age of 18 can become members for \$10. We look forward to having you as a member again in the coming year.

Make out your check to: SCCARC

Send it to SCCARC, PO BOX 238, SANTA CRUZ CA 95061-0238

micro meters across. Traditional high-quality mobile RF components have a Q of less than 2000 and are so big they can only fit off-chip. Super-conducting devices suggest direct A/D conversion of received signals but pre filtering using MEMS will lower the power drain of digital signal processing—a vital issue for mobile radios. I plan to stay tuned to both of these exciting technologies.

FYBO Contest Continued



Rich, KF6KQI using his archery skills.

Friday before the contest. Using a bow and arrow, they were able to get a rope up across the field at about 60 feet high. This rope served as the support for two dipoles. One was 66 foot long and fed with 300 ohm window line and the other a 100 footer fed with 300 ohm TV ribbon cable. These were our main antennas.



Close-up of Rich's "K2."

We also had a resonant 20 meter vertical elevated on a DK9SQ 30 foot collapsible mast and a homebrew multi-band vertical that Ron, K6EXT, made.

We arrived at the site at about 7:00 AM on Saturday morning and hopped on the air to get the coldest temperature. It was 43 F, but within about 15 minutes the temp had dropped down to 39 F to give us another multiplier. We kept busy most of the day; each taking turns on the key. We worked contacts on 10, 15, 20, and 40 meters. The farthest contact was Alaska on 15 meters. One memorable Q was to Steve, VE7SL, in British

Columbia. He was running 500mW and seemed like he was next door. Ron, W6WO, and Kamal, KA6MAL, from our club found us and gave us several contacts on different bands.

The main contest rigs were two K2's. We also had a 20 meter and a 40 meter SST. While we only had one radio on the air as the contest station, the others were kept busy comparing antennas and keeping the non-contesting ops busy. The internal battery in my K2 ran the rig at 5 watts for 7 hours including 52 contacts and a 45 minute rag chew, before falling below 11 volts. It would have run longer, but I decided not to over tax it.



Tom, KQ6DV works 10 meters from his truck.

The day was beautiful. As the sun came up the air warmed to 72 F, but we still felt cold just hearing the temps of 10 F from stations in the Midwest. Later I found out that several of these were set up in snow caves and snow rings and the ops got to them on skis and snowshoes.

As the evening approached the temperature dropped again down to 50 F. We were all pretty tired except for Chata (Tom's dog) who decided to go deer hunting in the dusk. We broke down the site in record time and packed up for the ride down the hill and the warmth of our car heaters.

A review of our log, 87 QSO's from 29 states. We worked station from NY to FL, all across the country and up to AK. With all the multipliers this was good for 80736 points. It will put us in the running. We might even be in the running for a prize. I hope it is as good as the prize a few years ago, a box of Eskimo Pies!

— Jeff, AC6KW



Rich, KF6KQI and Jeff, AC6KW with twin "K2's."



Ron, K6EXT's homemade 20/40 meter antenna.

RadioFest 2001
February 17th in Monterey, CA

Sponsored by the
 Naval Postgraduate School
 Amateur Radio Club
 Sanctioned by the
 American Radio Relay League:
 February 17, 2001
 7:00 am - 3:00 pm
k6ly.org/radiofest
 A Free Public Service & Family Event!
 General Stilwell Community Center
 Ord Military Community (old Fort Ord)
 4260 Gigling Road, Seaside, California
 Flea Market, HRO Sunnyvale
 Amateur Radio Demonstrations
 Fantastic Guest Speakers
 Door Prizes
 Talk-in: 146.97- PL 94.8



By Art Lee WF6P

CHATTER

On our recent trip to visit our daughter Joyce, KN6RR, in Sacramento, I fired up her rig. Last month the switch on the Radio Shack power supply quit on me. This month, the SWR was about 5:1. Bad coax? Bad connection at the antenna? I shut the rig down and figured that it was time for some long overdue maintenance. The Butternut vertical stands proudly but silently in the backyard with no antenna feed line installed and no ground rod connection. Shucks, I couldn't check in with my nets or work my CW skeds. Oh well, there's always email.

Our last club meeting was great, as usual. The speaker was our Santa Clara Valley Section Manager, Glenn Thomas, WB6W. He spoke on the role of the League's Official Observer (OO) program. We listened as we munched on some truly delicious cookies provided by our refreshment committee. We had between 50 to 60 members and guests present. Mike Benack, KG6VH, was there. It had been a long time since we had seen him. He was a regular member a decade ago and put in many hours on the old repeater shack and the moving of antennas to our present site. His XYL, Barbara (Silverthorne), N6MHM, was a great student in the ham class at Cabrillo College. She learned the code in two weeks and had a smooth fist, pounding out Morse characters in a precise, clear manner. Is she doing CW? I hope so but I'll bet that raising their young child takes precedence.

Our editor, Ron Baldwin, K6EXT, passed around his latest project, a beautifully constructed QRP HF transceiver made from a kit. There were many "Oh's" and "Ah's,"

including mine, as members peeked at the circuit boards and wiring.

Our club President Tom Johnson, KQ6DV, does a great job and kicked off the meeting with the thought provoking question, "How many of you have been victims of malicious interference?" I was surprised at the 100% "yes" response. I have never been "hit" by an intentional jammer. Lucky? No, I think by and large, hams are great people. The other morning I had a sked on 7.220 with Terry Parks, N6NUN, on his boat in Ventura. Someone was calling CQ on that freq. I answered, and asked if I could put out a quick call, make my contact and QSY. He very politely agreed and said I could have the frequency! He moved off and I made my contact.

Granddaughter Cheri, KE6BOP, is helping a friend get his ham license. She asked me for some up-to-date training materials so I referred her to ARRL.org on the net. Her friend downloaded a one-inch thick sheaf of papers – all the questions, but no answers. That was odd. He intends to learn the code as well so I will have to "re" find Super Morse or another code learning aid. I have an old "hard copy" of the program but assume it is available over the internet. She ordered the latest edition of "NowYou're Talking" as a starter.

Cell phones: a great development. Last week I saw a young couple driving by in a Toyota pickup truck. Both the driver and passenger were talking on separate phones. I can only assume that they were not talking to each other. It is not hard to imagine that soon there will be no wire-type phones, only cell phones.

As I am writing this column, the February 5th edition of the San Jose Mercury News carried a piece "Ham Radio Linked World To India Rubble." For four days, "before telephone and mobile services were partially restored, the voices of two amateur ham radio operators were among the quake zone's vital links to the outside world ...about casualties and relief needs." So, there is still a continuing need for ARES in our own neighborhood.

100 Years Continued

the Bass Point Station, which has, over the past four years, been restored to its original 1901 condition, complete with replicas of the wireless equipment Marconi himself used.

"At 4:30 p.m. local time we'll be recreating Marconi's original message," says Smith, "And we'll also be using the station to transmit messages of goodwill to anyone who wants to receive them."

Further Marconi-linked events are planned for later in the year to commemorate an equally significant centenary -- that of Marconi's first Trans-Atlantic broadcast, on December 12, 1901.

Among these will be the opening of a Marconi Museum in Cheltenham, and the launch by Marconi plc of a Web site specially dedicated to the great inventor.

Marconi himself was awarded the Nobel Prize for Physics in 1909 in recognition of his pioneering work.

He died in Rome on July 20, 1937.

TREASURER'S REPORT

February 4, 2001

Treasurer's Report

This is the time of year when the club's treasury is filled with membership dues renewals.

Checking account:	\$1,195.29
Money Market account:	\$2,865.50
Total SCCARC funds:	\$4,060.79

ARRL Amateur Radio News

Indian Hams Put Technology to the Task (Feb 8, 2001) – Hams assisting with earthquake relief operations in the Indian State of Gujarat



are even taking advantage of the UO-14 amateur FM satellite as they continue providing communication from the stricken region.

Hams within the quake zone and those keeping

touch from the outside also have found themselves caught up in the human tragedy. The death toll from the quake now is estimated at up to 50,000 and could rise higher. Even more were injured, and one estimate says more than 600,000 were left homeless.



TRADE or SELL TABLE at February MEETING

Bring your surplus radio gear to sell or trade. The table will be set up before the club meeting. Put a price on your goodie and have fun trading or selling: mics, connectors, handhelds and related equipment, receivers, transmitters, etc. Let's have fun!

—Dan AA6GD

Ho-Hum reaction to ARRL CW shift

The ARRL's decision to no longer oppose the elimination of Morse code as an International ham radio licensing requirement has not caused much excitement among the rank and file in the United States Amateur Radio community. At least not among hams who actually operate their stations.

Judging by on-the-air comments monitored by Newline, those U.S. hams who discuss the matter seem to have expected the League's Board of Directors to accept as inevitable the abolition of the international licensing rule that calls for Morse testing. This as nation after nation makes known its decision to vote in favor of dropping international radio regulation S 25 at the next World Radiocommunications conference slated for 2003.

In fact, one has to go to the Internet newsgroups to find any real debate or controversy. There the troops are "as usual" are polarized both for and against the initiative ù but even more so than before last week's announcement. Comments range from the ridiculous to the sublime but there is no way to really derive an consensus from what's being posted.

And as we have so often pointed out, the Internet and especially the Newsgroups are not Amateur Radio. Also, the hams without radios who live there have little to say regarding the future of the United States Amateur Radio service.

(ARNewline(tm))

Unwanted Emissions

The ARRL Technical Relations Office in Washington participated in just-completed International Telecommunication Union studies of "unwanted emissions" in the radio spectrum. Unwanted emissions consist of out-of-band and spurious emissions. The ITU-Radiocommunication Sector has conducted two multi-year studies of out-of-band and spurious emissions during the past decade.

ARRL Technical Relations Manager Paul Rinaldo, W4RI, chaired a second-round task group with an international membership, drafting out-of-band emission specifications. ARRL Lab Supervisor Ed Hare, W1RFI, and his staff participated in task group meetings and provided technical support to the League's Washington office. Representatives of the International Amateur Radio Union also took part.

Out-of-band emissions are those falling outside the necessary bandwidth of a signal and are the result of modulation. "Amateurs know them as key clicks and splatter," Rinaldo said.

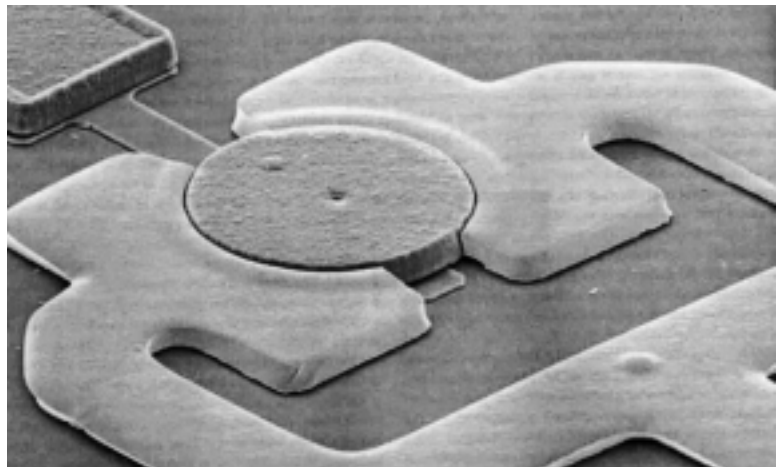
Mystery Item

MYSTERY SPOT

The mystery picture in the January Short Skip was a glimpse of the world's fastest IC technology. They are made from a super-conducting metal called Niobium. Like earlier generations of super-conducting devices they operate at a very low temperature of 10 degrees Kelvin, and of course low temperature means low noise. Their exotic nature is based the Josephson junction which comprises a very thin insulating layer between two super-conducting films. VLSI clock speeds of 20 –40 GHz are commercially available and over 100 GHz can be demonstrated in a laboratory. Ultra high performance low noise A/D converters using this technology suggests direct digitization of signals up to microwave frequencies— this could mean the end of analog stages in radio receivers.

Now for this months mystery item:

I came across this image in a recent issue of the IEEE Spectrum Magazine and thought it was rather special. It is a microelectro mechanical system (MEMS), in a way like a miniature tuning fork. Anyone care to guess what use it might be in the field of radio communications? Look elsewhere in this issue for the answer.



— Ron, W6WO

The ITU defines spurious emissions as emissions beyond 250% of the necessary bandwidth, but the definition is still under debate. ARRL Lab tests have shown that amateur gear could meet a standard of -50 dB relative to main signal for HF and -70 dB for VHF bands and above.

Out-of-band limits for amateur equipment were agreed upon at the final task group meeting last year, and Rinaldo says these are consistent with the idea of establishing a safety net--not stringent levels of emission.

Radio astronomers and earth-exploration passive services are not satisfied with present levels of unwanted emissions from satellites and are concerned about interference to their sensitive receivers. A new ITU task group is studying the issue and preparing information for presentation at WRC-03.

Short Skip Survey

Our newsletter is justifiably regarded as one of the very best, nevertheless from time to time it is a good idea to check on members interests. Our Prez has tasked me with the job and a simple survey was sent via email to ask for your input. Thank you to those who have already responded but I would like to have about a dozen more for the results to be representative. Please respond to my email message and the results will be presented next month.

— Ron W6WO

SCCARC Officers - 2001

President	Tom Johnson	KQ6DV	464-3120
Vice President	Richard Trebbien	KG6AXD	426-0169
Secretary	Cap Pennell	KE6AFE	429-1290
Treasurer	Elaine Pennell	KE6FRA	429-1290
Board	Bruce Hawkins	AC6DN	
	Bill Walters	W6PAD	688-0557
	Allen Fugelseh	WB6RWU	475-8846
	Mike Doern	KF6UXB	477-1161
	Ron Skelton	W6WO	477-1021
	K6BJ Trustee	Royce Krilanovich	AC6Z

MONTEREY BAY ACTIVITY

K6BJ / KI6EH (Linked) • SCCARC Net Monday 7:30 PM 146.79- /147.945- 146.79- /147.945-

K6BJ / UHF

- SCCARC Net Monday 8:30 PM 440.925 (PL 123)
- SCARES Net Monday 8:30 PM 146.835-(PL 94.8)
- Watsonville ARES Net Thursday 8:30 PM 147.945-

K6LY (Monterey)
146.97- (PL 94.8)
444.700+ (PL 123)
(Linked)

- Monterey ARES Net Wednesday 7:30 PM
- NPSARC Net Wednesday 8:00 PM
- Monterey Bay Traffic Net Nightly 9:00 PM
- Monterey Bay Swap Net Wednesday 8:15 PM
- Newsline (Ham News) Broadcast Wednesday 8:30 PM

N6IYA (Felton)
146.745- (PL 94.8)

- SLVRC Net Thursday 7:30 PM
- SLV ARES Net Monday 7:30 PM
- Newsline (Ham News) Broadcast Sunday 9:00 PM

6 Meter Local Net 52.8 MHz (PL-114.8) Sunday 8:00 PM
SCCARC 10 Meter Net 28.308 MHz USB Monday 7:00 PM
Mont. Bay Chapter 191 QCWA :Tuesday, 7:30PM, AA6T repeater, 146.700-(NO PL).

SCCARC Calendar of Events

Santa Cruz ARES	Tuesday	Feb 13
SCCARC Board Meeting 6:30	Friday	Feb. 16
SCCARC Meeting	Friday	Feb 16
SHORT SKIP deadline	Tuesday	Mar 5
Santa Cruz ARES	Tuesday	Mar 13
SCCARC Meeting	Friday	Mar 16

MONTHLY MEETINGS

The SCCARC Meets at 7:30 PM, on the THIRD FRIDAY of the each month (except December). Meeting are at Dominican Hospital, 1515 Soquel Drive, Santa Cruz.

Visit the **SCCARC Website** at -

www.k6bj.org

NEW! — CLUB E-MAIL: yourcall@k6bj.org

NET CONTROL SCHEDULE (Subject to Change)

2/12	Allen WB6RWU
2/19	Phil KE6UWH
2/26	Ron W6WO
3/5	Dave W6TUU
3/12	Tom K6TG
3/19	Jeff KF6BKG



SANTA CRUZ COUNTY AMATEUR RADIO CLUB
P.O. BOX 238
SANTA CRUZ, CA 95061-0238

Next Meeting Feb 16th
Whither Goest Morse Code?

First Class