

On the Subject of Dogs & Grounds, An Unusual Telephone Service Call

by Jim KN6PE via the Internet

Ever have problems with your station ground? If so, then you may appreciate the following story, as originally reported in the Syn-Aud-Con Newsletter, Vol 4, No 3, April 1977.

This story was relayed by Pat Routledge of Winnipeg, ONT about an unusual telephone service call he handled while living in England.

It is common practice in England to signal a telephone subscriber by signaling with 90 volts across one side of the two wire circuit and ground (earth in England). When the subscriber answers the phone, it switches to the two wire circuit for the conversation. This method allows two parties on the same line to be signaled without disturbing each other.

This particular subscriber, an elderly lady with several pets, called to say that her telephone failed to ring when her friends called and that on the few occasions when it did manage to ring her dog always barked first.

Torn between curiosity to see this psychic dog and a realization that standard service techniques might not suffice in this case, Pat proceeded to the scene. Climbing a nearby telephone pole and hooking in his test set, he dialed the subscriber's house. The phone didn't ring. He tried again. The dog barked loudly, followed by a ringing telephone. Climbing down from the pole, Pat found:

- * dog was tied to the telephone system's ground post by an iron chain and collar
- * dog was receiving 90 volts of signaling current
- * after several jolts, the dog was urinating on ground and barking
- * wet ground now conducted and phone rang.

Which goes to prove that some grounding problems can be passed on.

DATED MATERIAL: PLEASE DO NOT DELAY

JOHN BRACKENRIDGE
WB6FRZ
574 WILD OAK DR
WINDSOR, CA 95492

ADDRESS CORRECTION REQUESTED

Sonoma County Radio Amateurs, Inc.
PO Box 116
Santa Rosa, CA 95402



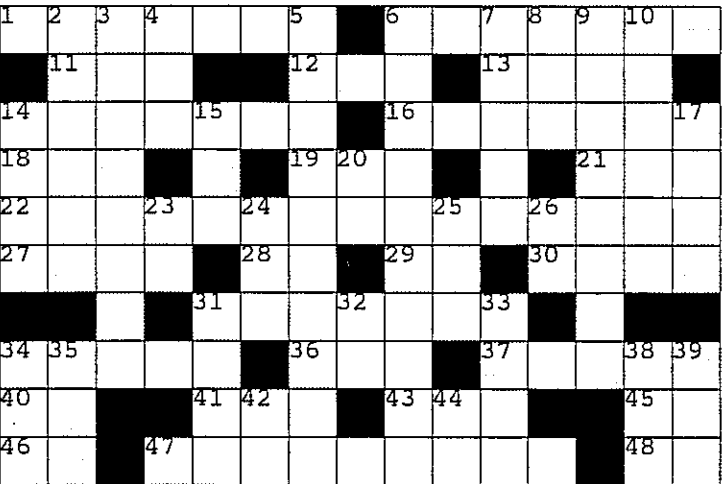
SHORT SKIP



Sonoma County Radio Amateurs, Inc.

JANUARY 1995 Club Station W6LFJ P.O. Box 116 Santa Rosa, CA 95402 Repeater Station WB6PVS VOL 20 #1

CQ Crossword by Al Bloom N1AL



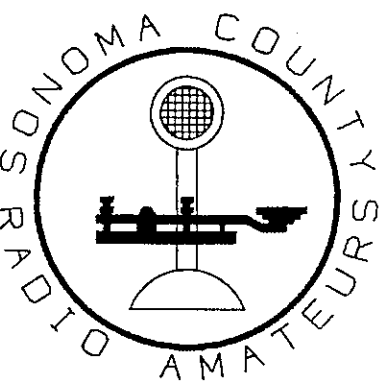
Across:

- 1 Hope the FCC doesn't do this to your gear!
- 6 An upside-down milliohm.
- 11 They won't let you deduct your radio.
- 12 Type of disc drive.
- 13 Continent with lots of rare DX countries.
- 14 A word to describe jammers.
- 16 What a rheostat does.
- 18 Sent at the end of a digital message.
- 19 QTH. (abbr.)
- 21 Semiconductor Industries Assn.
- 22 What you often find a Repeater Chairman doing.
- 27 Very active ARRL-affiliated clubs.
- 28 Current that goes both ways.
- 29 State in 7-land.
- 30 A non-ham often does this on Field Day.
- 31 The bigger the better.
- 34 Bonus point power for Field Day.
- 36 "Roger, Roger, Over" on CW.
- 37 Radiates at higher frequencies than the highest amateur band.
- 40 Spread spectrum.
- 41 QRM to your neighbor.
- 43 When you will be destined.
- 45 Radio control.
- 46 Broadcast.
- 47 The basis of all electronics.
- 48 Old-fashioned GHz.

(solution next month)

Down:

- 2 Motorola radios.
- 3 Operating procedure for computers.
- 4 A state university in 8-land.
- 5 It's found between capacitor plates.
- 6 Repeater tester.
- 7 Farm implement in 5-land.
- 8 Organization that defines computer communication layers. (abbr.)
- 9 AMSAT has been involved with many of these.
- 10 Morse code won't help you learn it.
- 14 ARRL holds one of these every year to test emergency preparedness.
- 15 What UPS did to us on 220 MHz.
- 17 You see them at runs and walkathons.
- 20 Operating system.
- 23 Our country 'tis of thee.
- 24 "One if by ___" connected by wire or radio.
- 25 Old timer's net.
- 26 Central African Republic prefix.
- 31 Our lads (and lassies) in Newington.
- 32 Where you'll end up if you climb your tower without a safety belt.
- 33 Our first man in space.
- 34 A voice mode found outside the repeater bands.
- 35 Oscillator.
- 38 Energy unit.
- 39 A club for talkers.
- 42 Iron.
- 44 Opposite of "de".



QRV:Jim Durkin KE6FSK BBS:DonnKing KD6ZVG CIRCULATION:June Linnehan KD6LSU
AUDIO TAPING:John Breckenridge WB6FRZ,Laurel Meyer KC6FKX,Bob Phillips N6RMW

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Pub. Relatns: SteveCarnigliaKK6VY 579-9608
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TVI/RFI: Al Bloom N1AL 538-7115
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Education: Steve Carniglia KK6VY579-9608
N1AL WB6FRZ KC6RHA KK6VY
WB6TMY K6XZ K6ZWB KC7VS
Refreshmnts at meetings: Bob Olsten WD6DPE
Raffle at meetings: Dave Willey KD6KWM
Membership lottery: Jim Andrews KC6PJW
RACES RO: Jim PelmulderN6PTM 823-7947
ARRL Liaison: Alan Bloom N1AL 538-7115
Badge Chair: Fred Leoni N6YEU 431-8202
Packet BBS: John WX3K and Jim KC6PJW

Repeater Control Op's:
WB6PER Jim 526-2972 N6PTM Jim 823-7947
WD6CKPHoppy 542-6750 N6VUC Merl 584-3898
KD6CJQ Kelly 837-9434

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Business cards: \$10

\$11 First 1/4 Column
\$3 Additional 1/4 Columns
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Pre-printed inserts: \$32/sheet

Guaranteed circulation: 200/month
AD DEADLINE: 10th of previous month

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VICE PRESIDENT: Dave New AA6YX 829-6608
SECRETARY: Alan Bloom N1AL 538-7115
TREASURER: Angela Dickey KC6OCD 795-1269
MEMBERS-AT-LARGE: Jim Andrews KC6PJW 795-2163
Marie Mappus KI6QY 664-1978

REPEATER CHAIRMAN:
ACTIVITIES CHAIR:

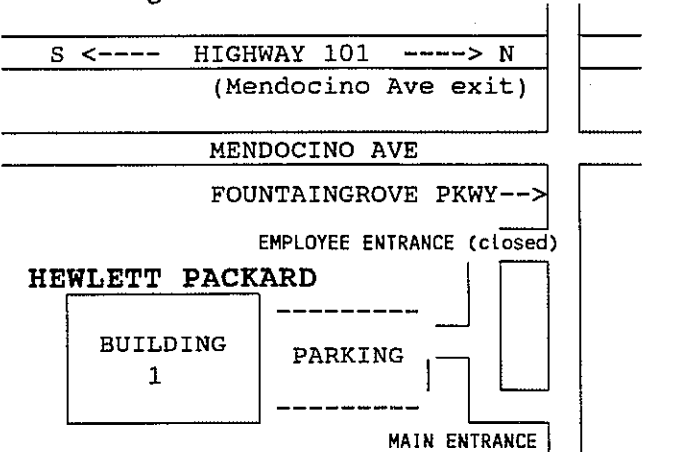
SHORT SKIP STAFF:
EDITOR: Alan Bloom N1AL 538-7115
1578 Los Alamos Rd, Santa Rosa 95409 alanb@sr.hp.com
AX.25 packet address: n1al@wx3k.#nocal.ca.usa.noam
SWAP SHOP EDITOR: Greg Cowles KE6FXK 829-1583

Club Meetings:

7:30 PM, 1st Wednesday each month at the
Hewlett Packard plant in Santa Rosa. (See
map below.) All are welcome.

Next Meeting: January 4, 1995
Program: The ARRL
Speaker: John Wallack W6TLK, SF SM

ARE YOU NOT AN SCRA MEMBER?
If so, then this is a complimentary copy.
Our club is involved with almost every area of
Amateur Radio: Repeaters (13/73), Field Day,
license classes (Novice through Extra),
volunteer exams, RACES, DX programs,
packet radio, hidden xmtr hunts -- you name it.
We invite you to attend our next monthly
meeting (see below)or check into the Tuesday
night SCARS net on the 146.13/73 repeater at
7PM. You will hear the latest Amateur Radio
Newsline broadcasts, announcements of SCRA
activities and a Swap Shop. Membership in
SCRA is open to anyone interested in Amateur
Radio. If you would like to join, there is a
membership application on page 11. Hope we
can have an "eyeball" QSO with you at the
next meeting! 73 ...



SCRA Member Directory Questionnaire

Name _____ Call _____ Class _____
Birthdate (year optional) _____
Year first licensed _____ Spouse's Name _____ Spouse's call _____
Childeren's Names/Calls _____
Profession _____ Employer _____
Hobbies other than ham radio _____
Electronics Experiance (other than ham radio) _____
Ham Radio Interests: Packet _____ DX _____ Homebrewing _____ Traffic handling _____
EME _____ Satelites _____ Two Mtr FM _____ Contests _____ Public Service _____ RACES _____
Others (Plese elaborate) _____
Special skills: (Foreign languages, Computer whiz, Etc.: _____

Application for Membership in SCRA

Name _____ Callsign _____ Lic. Class _____
Addr. _____ Phone Nr _____ () New Mbr
_____ ZIP _____ Date _____ () Renewal

Dues: \$12/year, \$18/year family. New members also pay a \$6/person initiation fee. Dues for new members *only* are pro-rated \$1 (\$1.50 family) per month, starting at renewal time, March 1.

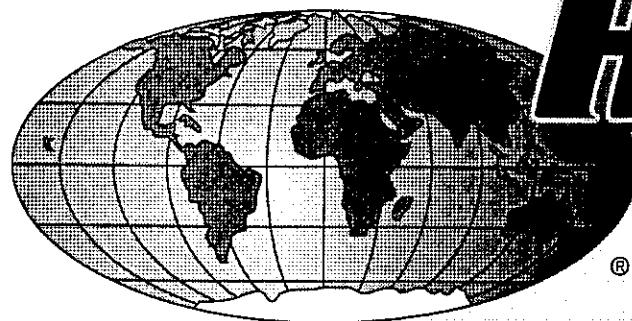
I WOULD LIKE TO PARTICIPATE IN:

- () Public Service Events
- () RACES or ARES Emergency services
- () Field day, other operating events
- () Helping with SCRA Flea Market
- () Acting as club Net Control Station
- () Helping with *Short Skip* newsletter
- () Taking a Novice class
- () Teaching a Novice class
- () Taking an upgrade class
- () Teaching an upgrade class
- () Other _____

Badge (New Members only)

Fill in this section exactly as you want it to appear on your badge.

Callsign _____
First Name _____
City _____



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Tom, KB6LUC, Mgr.
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(800) 444-9476
Gary, WB7SLY, Mgr.
East of Highway 17

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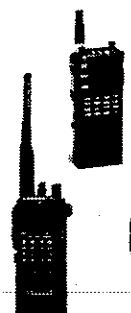


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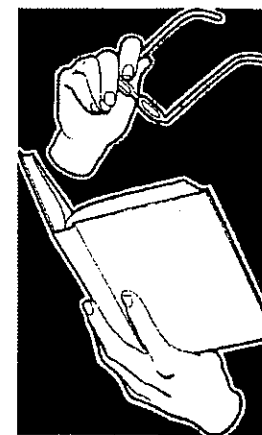
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Ye Olde Hamshack Book Review

by Rick Reiner, K6ZWB

Welcome to the hamshack book review. Each month I will endeavor to bring to your attention a book that could be a welcome addition to your library. Some may be newly published, some may not. Some may be interesting reading, and of course some may not. But I will try the best I can to review something for everyone. Here follows the first of many to come and this is a book with something for everyone.



The ARRL Handbook for Radio Amateurs 1995

The American Radio League \$30.00

My fellow amateurs. Here is the issue of the ARRL Handbook you have been waiting for.

This is the first major change in "the Handbook" since the publishers increased the size of the publication in the late 1970's and also realized we hams were interested in that fascinating device, the transistor.

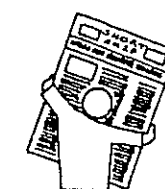
The totally revised 1995 Handbook has thirty chapters plus a complete index covering from the definition of ham radio on through to the rules and regulations governing the hobby.

Touring through the chapters, you will discover more modes of communication than you may have imagined. There are well-written articles guiding you through the building of transceivers of a few watts to building linear amplifiers at the legal limits. There are numerous construction projects, mathematics for ham radio, packet articles and even all the information you need for controlling your transceiver with a computer.

I could go on and on! Some may feel I have already, but I think by now you have gotten the point that I'm pretty excited by the new Handbook. Try it; I think you'll like it.

Short Skip on Audio Tape

by John Breckenridge WB6FRZ



Some newer members may not be aware that each issue of *Short Skip* is transcribed onto cassette tape and sent to interested hams and non-hams who are visually impaired. This service is sponsored by SCRA and provided free of charge. I began the program two years ago this October after a request from Pat KD6MAZ. If you know of any ham or ham-in-training that could benefit from the audio tapes, please have them contact me.

It is now fitting for me to publicly acknowledge those who have selflessly given of their time and efforts to help supply audio copies of *Short Skip* for the blind. A big thank you to Laurel KC6FKX, who has faithfully performed audio transcription duty since the beginning of this program. And a big thank you to Bob N6RMW, also for alternating audio transcriptions with Laurel. The success of the program is due in a large part to the dedication and thoughtfulness of both of you.

In addition, thanks to those of you who have offered your support of the program in various ways. The offers to donate equipment and time lighten the load. Even if I have not taken advantage of your generosity, be assured that it is very much appreciated.

And thanks to the SCRA club and its officers, who, for the second year in a row, have wholeheartedly embraced and supported this worthy program.

Questionnaire Time!

Rick K6ZWB and Kathy KC6UXJ are working up an SCRA membership directory to catalog the interests and abilities of the members. Please take a few moments to fill out the questionnaire on the inside back cover. You can either mail it to the club PO box or bring it to the next meeting. Thanks!

RENEW YOUR ARRL MEMBERSHIP THROUGH THE CLUB AND THE CLUB GETS TO KEEP \$2 (no expense to you). Make out your check to SCRA, and send it with your ARRL renewal form to SCRA, PO Box 116, Santa Rosa, CA 95402 or give it to the Treasurer.

Antenna Moratorium

by Al Bloom N1AL



Thanks to all the members who made it to the Sonoma County Board of Supervisors meeting Tuesday Dec 13. A total of about 40 radio amateurs showed up. Supervisor Michael Cale commented that it was obvious that this issue is very important to us, so I think our show of force had a good effect.

About 6 weeks ago, in response to citizens' complaints, primarily about cellular telephone base station antennas, the county passed a temporary ordinance banning all antennas in all the residential and agricultural areas of the county. Since there is not much commercially-zoned land within the county's jurisdiction, that meant antennas were banned in nearly all the unincorporated area of Sonoma County.

The Board of Supervisors was to again consider the matter at their Dec 13 meeting at 4:00 PM. Unfortunately, they were running late, and they didn't get to it until after 6:00. Nearly all the hams stayed the distance, so we had the room pretty well filled.

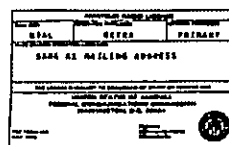
It turns out that the Supervisors had never intended to ban amateur radio antennas. Mr. Jim Olmstead of the Planning Commission staff recommended to the Board that amateur antennas be exempt from the ban. Only one member of the audience spoke against that idea. After Ken McTaggart N6KM, ARRL Volunteer Counsel from Sonoma, spoke in our behalf, the board voted to accept Mr. Olmstead's recommendation. We are now back to the previous situation where if your antenna is below 35 feet you don't need a use permit, and antennas over that height are legal with the proper paperwork.

Ken will be working with Planning Commission staff to develop new regulations specifically addressing amateur antennas. We would like to have regulations that are reasonable enough that amateurs are encouraged to go through the proper channels and put up legal antennas.

We are also working with the City of Santa Rosa to develop new antenna regulations for amateurs. Antenna Committee Chairman Joe Senft KM6TN is spearheading that effort. Joe has had several meetings with the SR City Attorney already. The ideal would be to have

identical regulations in both jurisdictions. That would set a strong precedent for the other towns in the County to follow.

Our successful response to the County antenna ban has been due largely to the efforts of Ken and ARRL Section Manager John Wallack W6TLK, who have been doing a lot of behind-the-scenes politicking. We owe them both a big vote of thanks. Thanks also to all of you who lent your support at the meeting. ■



Next SCRA VE Test Session

Mark your calendars for Saturday January 14th. That is when the next VE testing session will be held, at the Hewlett Packard facility in Santa Rosa, same place as the club meetings.

Registrations will be from 8:30 until 9:30 AM. Testing will start at 9:30. Please try to arrive by 9:00 as late registrations disrupt the session. All written tests Novice through Extra, and the 5, 13 and 20 WPM code tests will be given.

The test fee is \$5.75. Please bring a check made out to the ARRL VEC. Also bring with you: Your current license (if any) and a photocopy, any CSCE's held for credit (if any) and a photocopy. Code-Technicians need to bring proof of code credit and a photocopy. Everyone needs photo I.D., a pen and a pencil. Calculators are optional and may be checked by examiners for stored memory. So grab your backpack and throw all that stuff into it and come get tested!

Any questions? Call Claude Jones AB6OL at 527-8593. ■



George Shedore
Manager
KS6W

6819 REDWOOD DRIVE
COTATI, CA 94931

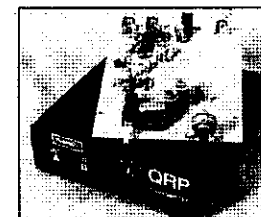
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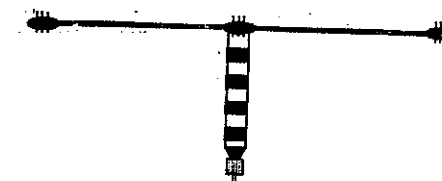
- 50/144/220/440 MHz Synthesized Transceivers
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- Etc...



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- ARRL Handbook
- License Manuals
- Antenna Books
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APRIL:

- 5 - SCRA meeting 7/7:30 PM
- 8 - SCRA VE FCC exams, HP Santa Rosa
- 15 - **Deadline for May *Short Skip***
- 21-23 - DX Convention Visalia 408-225-1819
- 28-30 - Dayton Hamvention

MAY:

- 3 - SCRA meeting 7/7:30 PM
- 6 - Wine Country Century bike tour
- 27-28 - CQ Worldwide Prefix Contest, CW

JUNE:

- 3-5? - ARRL June VHF QSO Party
- 7 - SCRA meeting 7/7:30 PM
- 17 - **Deadline for July *Short Skip***
- 24-25 - Field Day

JULY:

- 5 - SCRA meeting 7/7:30 PM
- 8 - SCRA VE FCC exams, HP Santa Rosa
- 8-9 - IARU HF World Championship
- 8-9 - CQ Worldwide VHF Prefix Contest
- 15 - **Deadline for August *Short Skip***

AUGUST:

- 2 - SCRA meeting 7/7:30 PM
- 5-6 - ARRL UHF Contest
- 19 - **Deadline for September *Short Skip***

SEPTEMBER:

- 6 - SCRA meeting 7/7:30 PM
- 16 - SCRA Flea Mart, Seb. Holy Ghost Hall
- 16 - SCRA VE FCC exams at Flea Market
- 16 - **Deadline for October *Short Skip***
- 23-24 - CQ Worldwide RTTY Contest

OCTOBER:

- 4 - SCRA meeting 7/7:30 PM
- 14 - **Deadline for November *Short Skip***
- 28-29 - CQ Worldwide DX Contest, Phone

NOVEMBER:

- 1 - SCRA meeting 7/7:30 PM
- 4-6 - ARRL Sweepstakes, CW
- 18 - **Deadline for December *Short Skip***
- 18-20 - ARRL Sweepstakes, Phone
- 25-26 - CQ Worldwide DX Contest, CW

DECEMBER:

- 6 - SCRA Christmas party
- 9-10 - ARRL 10 Meter Contest
- 16 - **Deadline for January *Short Skip***
- 31 - ARRL Straight Key Night

Board Meeting Minutes

December 14, 1994

The meeting was called to order by 1994 President Merle Pfeiff N6VUC at 5:43 PM in the meeting room at the Northbay Savings Bank. Other officers present were 1994 Vice President/1995 President Kelley Cureton KD6CJQ, 1995 Vice President Dave New AA6YX, 1994/5 Secretary Al Bloom N1AL, 1994 Treasurer Mike Michlig KN6JQ, 1995 Treasurer Angela Dickey KC6OCD, 1994 Repeater Chairman Jim Rutherford WB6PER, 1994/5 Member-at-Large Marie Mappus KI6QY, 1995 MAL Jim Andrews KC6PJW, and President Emeritus Rick Reiner K6ZWB. Also present were four other SCRA members.

SIGNATURE CARDS for the room key and the two bank accounts were filled out for next year.

A **SANTA NET** by KE6FSK after the club net through Christmas was approved by the board.

SCRA PROPERTY: If you have any club property, get the info do Dave AA6YX so he can update the property list.

CORRESPONDENCE: Secretary N1AL listed the following communications: from WB6FRZ re the *Short Skip* tape recording project, Kenwood newsletter offer, T shirt ad, sweatshirt ad, letter to KE6EAQ re RACES mailing, letter to the Sonoma Co. Board of Supervisors re the antenna ban. The board voted to allow release to KE6EAQ of a list of all Santa Rosa hams for a RACES mailing. m/s K6ZWB/KN6JQ

STORAGE LOCKER: N1AL suggested we don't need a complete equipment list to estimate the required size.

BUDGET: KN6JQ submitted a proposed budget that will be considered by the new board next month.

KC6CJQ noted that the autopatch codes should not be read into the taped version of *Short Skip* since some recipients are not members.

PROGRAMS for next year are W6TLK speaking on ARRL in January, and WX3K and KC6PJW's packet night in February. The Program Chairman (Vice President) does not need board approval when setting up programs.

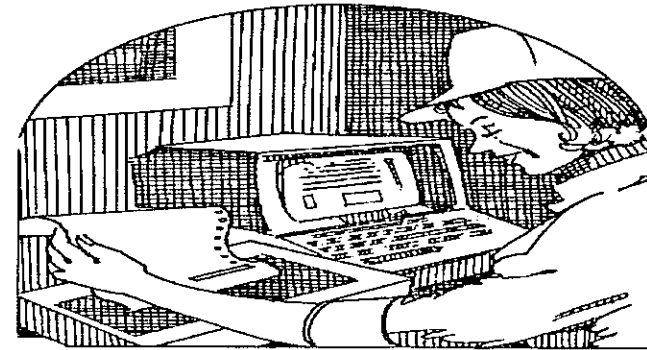
JANUARY BOARD MEETING may be moved, possibly Jan 9.

ANTENNA COMMITTEE: Joe Senft KM6TN met Tuesday (same time as the Sonoma Co. Board of Supervisors meeting) with Santa Rosa City Attorney Bruce Leavit and Director of Planning Wayne Goldberg.

The new **VOLUNTEER EXAMINER** team liason is Claude Jones AB6OL. Dave AA6YX will inform the ARRL-VEC.

KM6TN noted technical problems another north bay repeater has had when it lost its Repeater Chairman. Joe was assured that in SCRA, there are at least two other members (KD6CJQ and N6PTM) who could take over if necessary.

Meeting adjourned at 6:31. m/s WB6PER/N1AL
Respectfully submitted by Al Bloom N1AL.



Printouts From the Packet BBS

Downloaded by Donn King KD6ZVG

Pentium Flaw Test From N9OGC

The New York Times 13 Dec 94 national edition published the following test to determine if you have a flawed chip: "...test involves entering into a spreadsheet or other calculation program the following equation:

(4,195,835 divided by 3,145,727) multiplied by 3,145,727. The correct answer is 4,195,835. A flawed Pentium chip will calculate the answer as 4,195,579."

It makes me wonder. With a simple calculator I get 4,195,834.8 but my TI scientific model rounds it up as well. Perhaps ALL of our numbers have been wrong. [Ed note: my HP calculator shows 4,195,835!]

Toll Free FCC # From KC5COF

The FCC has a new automated callsign checking system via a touch tone phone at 1-800-322-1117. Chris Engleman KC5COF

FCC Patrol Cars From N2YMB

According to Broadcasting and Cable Magazine, the FCC will roll a new fleet of souped-up spectrum patrol cars out of the garage this summer. The commission is including a trunk load of mapping and global positioning technology into 10 of its cars. FCC engineers hope the beefed up mobile digital direction finder (MDDF) vehicles will cut the time needed to find illegal radio operators. A prototype model displayed at the FCC carried \$75,000 worth of signal tracking and location equipment installed inconspicuously in a blue Chevrolet Caprice. via RaRa RAG

New Members & Corrections



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Jim Peimulder
N6PTM

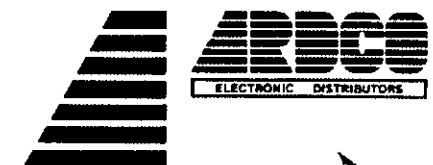
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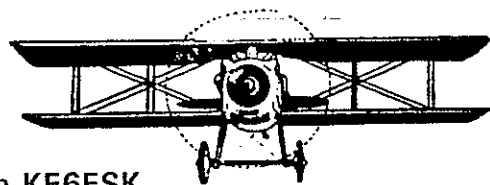


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STEVE BASHAM
Manager



QRV



by
James Durkin KE6FSK

Ripley (of Believe Or Not fame) once published that Lindbergh was not the first person to fly over the Atlantic. His news brought a rush of angry protesters demanding an apology in writing for such an outlandish claim. There was, however, one little problem that the public had overlooked. Ripley just happened to be right. Others had crossed that Atlantic in airplanes before Lindbergh. Lucky Lindy just happened to be the first to do so all by himself.

With that in mind, I hope that this author's readers will forgive an even more outlandish claim:

Marconi (the Father of Radio) did not invent wireless!

In 1897 Guglielmo Marconi, the famous Italian inventor, sent a wireless signal across the Bristol Channel for a total of eight miles. His transmitter used a spark-gap oscillator and a wire antenna with a grounded wire of approximately the same length. His aerial-ground circuit contained adjustable inductance/capacitance for tuning, with the sending and receiving units tuned to resonance with each other. His feat was hailed around the world. Marconi had become the *father of radio*!

It is not my intention to detract from anyone's fame, but rather to put that fame in clearer perspective. While it is true that Bill Monroe is the *father of bluegrass*, he in no way invented that particular style of music. He did, however, refine it, perfect it, and make it available. Marconi did the same with radio. And though others at the same time as Marconi made significant contributions to the field, to this day Marconi has stood out among the others. Even Edison, whose vacuum tubes played a large role in radio's development, did not receive much credit, partly due to others' advancements, and partly due to the fact that Edison, not seeing an immediate commercial return, soon lost interest altogether.

The True "Father of Radio"?

But Marconi's name stands. And it will probably stand as long as there is radio. But there is also a certain individual who should receive just as much recognition, if not more. This individual was a *cause celebre* during his time. He was sought after constantly, not only by the press, but by the industrial and commercial elite. Even George Westinghouse endorsed and financed many of his projects. If it were not for this inventor and Westinghouse, we would not have alternating current today. I am speaking, of course, of Nikola Tesla.

Tesla was born precisely at midnight between July 9 and 10, 1856 in Smiljan, a tiny village in Croatia. His father raised young Nikola to become a minister of the Serbian Orthodox Church. Young Nikola's interests lay elsewhere, however. At the age of five, he devised a new type of water wheel that had no paddles. It spun

easily on the current. This device inspired what would in later years become Tesla's bladeless turbine. Despite this amazing first attempt, his early years were devoted to dismantling his father's clocks and watches and attempting to reassemble them, somewhat without success, to his father's dismay.

Arriving in America, he had only five cents to his name. This did not deter him. He began working odd jobs and using the money he made to work on his inventions. His desire to be surrounded by the financially endowed soon began to pay off, for his inventions, not to mention his almost arrogant self promotion, soon got the industrial giants' attention.

In no time at all, the media jumped on the bandwagon, for Tesla not only had a gift of gab, but backed up his claims with outstanding demonstrations. He often would perform, to his audience's delight, amazing feats such as holding a lighted bulb or tube with no wires attached, or having streamers of lightning jump from his fingers with no ill effect. Associates such as Colonel Crooke and Mark Twain were often the first to volunteer as guinea pigs for his demonstrations.

Yet for all his notoriety he remained, if not poor, able to live just within his means. The greatest tragedy was when his wonderful laboratory full of a half of a lifetime's work mysteriously caught fire and burnt to the ground. Tesla, having no notes but a remarkable memory, began all over again. How much was lost forever, no one can truly say. But, it is known that at a theater once, Tesla lit the entire stage and auditorium with only two metallic plates. No source of illumination was apparent as the light seemed to come from everywhere and nowhere. That particular demonstration was never repeated, nor duplicated. The technology behind that trick is forever buried, along with Tesla.

One could ask, with all of the knowledge and notoriety of such a man, why isn't he celebrated as much today? Why has history seemed to ignore him? The answer is not simple. The great panic of 1893, the ruthless takeovers by J.P. Morgan, that fact that Tesla was an odd man who was not only praised by the public but condemned by his peers, all contribute to the fact that history has not been kind to him.

Tesla developed a series of high-frequency alternators producing frequencies of up to 33,000 Hz. This was the forerunner of HF alternators developed by others for CW telecommunications. He then used the air-core transformer (Tesla Coil) with primary and secondary windings to convert low voltage/high current to high voltage/low current, which is used in one form or another in virtually every radio and television set today.

He then took all of these apparatuses and connected them to a resonant wire antenna and an equally long resonant ground wire, hooked all of these up to his spark-gap oscillator, and successfully transmitted a signal 150 feet. Not very far, I admit, but he did it. And he did it in 1893. He not only beat out Marconi by two years in successful transmission, but he beat him out by several years with his techniques. (next page)

QRV (continued)

Tesla believed that not only was the Earth a good conductor, but that atmospheric strata at low altitudes offer "to all experimental evidence" a perfect conducting path. The theory was ignored until the 1950's, when scientists working on the propagation of VLF/ELF electromagnetic waves confirmed Tesla's theories as they apply to low frequency transmissions. The Tesla magnifying transmitter was the first in the world powerful enough to create ELF resonance in the ionosphere.

One of Tesla's assistants was H. P. Broughton, father of William G. Broughton, licensee of the Schenectady Museum memorial amateur radio station W2IR. At the station's dedication speech in 1976, William Broughton touched upon highlights of Tesla's historic demonstration at St. Louis as personally told to him by his father.

"Eighty-three years ago, in St. Louis, the National Electric Light Association sponsored a public lecture on high-voltage high-frequency phenomena," said William Broughton. "On the auditorium stage a demonstration was set up by using two groups of equipment.

"In the transmitter group on one side of the stage was a 5-kva high-voltage pole-type oil-filled distribution transformer connected to a condenser bank of Leyden jars, a spark gap, a coil, and a wire running up to the ceiling. In the receiver group at the other side of the stage was an identical wire hanging from the ceiling, a duplicate condenser bank of Leyden jars and coil. Instead of the spark gap, there was a Geissler tube that would light up like a modern fluorescent lamp bulb when voltage was applied. There were no interconnecting wires between the transmitter and receiver.

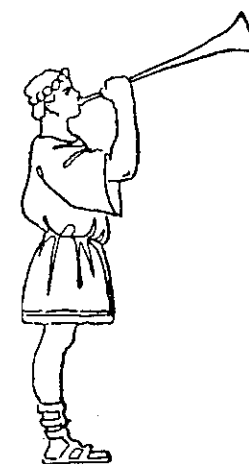
"The transformer in the transmitter group was energized from a special electric power line through an exposed two-blade knife switch. When this switch was closed, the transformer grunted and groaned, the Leyden jars showed corona sizzling around their foil edges, the spark gap crackled with a noisy spark discharge, and an invisible electromagnetic field radiated energy into space from the transmitter antenna wire. Simultaneously, in the receiver group, the Geissler tube lighted up from radio-frequency excitation picked up by the receiver antenna wire.

"Thus wireless was born. A wireless message had been transmitted by the 5-kw spark transmitter, and instantly received by the Geissler-tube receiver thirty feet away. The world-famous genius who invented, conducted, and explained this lecture demonstration," he concluded, "was Nikola Tesla."

Of course, Sir Oliver Lodge deserves much credit for pioneering radio. In 1894 he demonstrated the possibility of wireless transmission using Hertzian waves.

Major Edwin H. Armstrong invented the regenerative or feedback circuit, which brought radio into the era of amplified sound. He also developed the superheterodyne beat-note circuit, which underlies all modern radio and radar reception.

And the list goes on and on. Many pioneers have made their marks in history by envisioning the new and impossible and making those visions into reality. But if one ever stood out as being ahead of not only his time but our time as well, then that person would have to be the true father of radio, the mad inventor, Nikola Tesla! ■



COMING EVENTS:

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SCRA INFO HOTLINE:
(707) 579-9608
VE EXAMS HOTLINES:
(408) 984-8353/255-9000

JANUARY:

Dec 31-Jan 1 - Straight Key Night
1 - Livermore Flea Mart 510-447-3857
2 - RACES etc. Net, 7:30 PM
4 - SCRA meeting 7/7:30 PM
7-8 - ARRL RTTY Roundup
14 - SCRA VE FCC exams, HP Santa Rosa
14 - **Deadline for February Short Skip**
16 - RACES etc. Net, 7:30 PM
19 - CDF/VIP Meeting 7:30 PM
21 - Winterfest, Monterey 408-394-5761
21-22 - ARRL January VHF Sweepstakes
27-29 - CQ Worldwide 160M DX Contest, CW
Jan 28-Feb 5 - ARRL Novice Roundup

FEBRUARY:

Jan 28-Feb 5 - ARRL Novice Roundup
1 - SCRA meeting 7/7:30 PM
6-10 - ARRL School Club Roundup
11 - **Deadline for March Short Skip**
18-19 - ARRL DX Contest, CW
24-26 - CQ Worldwide 160 M Contest, Phone

MARCH:

1 - SCRA meeting 7/7:30 PM
- **1992 DUES PAYABLE!**
4-5 - ARRL DX Contest, Phone
11 - First Foothill College Flea Market
18 - **Deadline for April Short Skip**
25-26 - CQ Worldwide Prefix Contest, Phone