

Upcoming Volunteer Examiner Sessions – 1998

Date	Time	Sponsor	City	Place
February 7	0900 (9:00am)	VOMARC	Glen Ellen	Sonoma Developmental Center
March 7	0900 (9:00am)	MARC	San Rafael	Kaiser Hospital
March 21	1700 (5:00pm)	SMRS	Petaluma	Senior Citizen Center
April 18	0900 (9:00am)	SCRA	Santa Rosa	Hewlett Packard, SR
April 25	0900 (9:00am)	VOMARC	Glen Ellen	Sonoma Developmental Center
May 16	1700 (5:00pm)	SMRS	Petaluma	Senior Citizen Center
June 6	0900 (9:00am)	MARC	San Rafael	Kaiser Hospital

NOTE: This is a partial list of tests for the year.

Walk-ins OKAY!! Exact change or checks will be greatly appreciated!

Candidate Requirements:

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. A photo identification or two non-photo identifications. 2. The original and a photocopy of your current license, if you are already licensed. 3. Any original valid CSCE's and photocopies. | <ol style="list-style-type: none"> 4. Radiotelegraph license if held (See VE). 5. Medical Exemptions (See VE). 6. Fee: \$6.35 <i>except Novice license which is free. (Elements 2 and 2A.)</i> |
|---|---|

WARNING: Test dates are subject to change or cancellation without notice. Call to confirm test date and location. Handicapped persons call ahead so we can accommodate you. For copies of this schedule, send SASE to: Radio Exams, PO Box 176, Petaluma CA 94953-0176

SCRA (Sonoma County Radio Amateurs): 707/579-9608, recording
 MARC (Marin County Radio Amateurs): 415/883-9789, recording
 VOMARC (Valley of the Moon Radio Amateur Radio Club): 707/996-6461, Jim
 SMRS (Sonoma Mountain Repeater Society): 707/762-9414, Dale

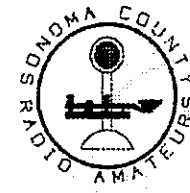
Sonoma County Radio Amateurs, Inc.
 PO Box 116
 Santa Rosa CA 95402-0116

ADDRESS CORRECTION REQUESTED

BULK RATE
 U.S. POSTAGE PAID
 SANTA ROSA, CA
 PERMIT NO. 658

'97 Dues are due. \$18 ind. / \$27 fam.
 BRECKENRIDGE, JOHN WB6FRZ
 574 WILD OAK DR
 WINDSOR, CA 95492

Next Meeting: February 4



Club Station
W6SON

Short Skip

Sonoma County Radio Amateurs, Inc.

PO Box 116, Santa Rosa, CA 95402-0116

146.730MHz ● 224.48MHz ● 441.375MHz



Repeater Station
W6LFJ

Volume 23 Number 2

February 1998

Telegraphic Codes --- Of Morse and Men

By Kenneth Brown, G0PSW

The first line telegraph message is thought to have been sent from Washington to Baltimore in May 1844 by Samuel Finley Breeze Morse, (1791 – 1872). He is said to have tapped out the message, "What hath God wrought?" using a code of interrupted signals which he and his associate Alfred Louis Vail, (1807 – 1859), had developed some years earlier. After this momentous achievement and following the founding of Western Union in 1856, coast to coast telegraph lines were quickly installed and it then became commercially possible to send and receive telegraphic traffic by line.

Since then and with an eye on faster speeds of transmissions and higher accuracy, newspapers, railways, and post offices made great use of the telegraph to provide their customers with speedy, economic, personal and commercial communications. This also paved the way for transmitting traffic by radio from the late 1890's following successful experiments by Marconi.

One way of speeding the flow of traffic was to operate an agreed set of short codes to replace well-known sentences or phrases. At that time there was no common national or international standard. The first of many conferences to discuss and try to resolve this issue was held in the US in April 1857, culminating with the release of the National Telegraphic Review and Operators' Guide. This Guide makes the first authentic reference to the well-known greeting "73"; at that time meaning love and kisses. Later editions kept this definition but, as time went by, the meaning of 73 changed from a Valentine type of greeting to a vague sign of operators' fraternalism.

Western Union, in 1859, set up the Standard 92 Code. Replacing common sentences and phrases with selected numbers between 1 and 92 as the message was telegraphed to a distant station. At the distant end the numbers were decoded and a plain language version delivered to the recipient. The definition of 73 changed yet again to a very flowery 'accept my compliments'. From 1859 to 1900 the many telegraphic manuals show variations of this meaning. Each major telegraph and railway company had its own distinctive telegraphic codes. Since there was no agreed standard, all were different and as a consequence, there was much confusion in communicating within the different networks. During this time there were even two alphabetical morse codes, the American and Continental (European) versions. Although there were basic similarities, there were also some major differences. This, combined with the multiplicity of telegraphic codes, caused confusion and made communication with and between US establishments particularly difficult.

The US 1908 Dodge's Manual gives today's definition of 73: Best Regards. Other Dodge numbers were 88: Love and Kisses, 55: Lots of Success and 99: Get Lost (probably unofficial).

1998 CLUB OFFICERS

PRESIDENT	Dave New	AA6YX	829-6608
VICE PRESIDENT	Kelly Curton	KD6CJO	837-9434
SECRETARY	Jennifer Dewey	KF6DDQ	847-3654
TREASURER	Joel Nadler	KJ6LF	545-1782
MEMBERS-AT-LARGE	Ken Harrison	N6MHG	539-2701
	Dave Willey	KD6KWM	577-0191
REPEATER	Kelly Curton	KD6CJO	834-9434
ACTIVITIES	Dave Willey	KD6KWM	577-0191
PUBLIC SERVICE	VACANT		

SHORT SKIP STAFF

EDITOR	Holly Gleason	KE6MNT	824-0315
CIRCULATION	Ken Harrison	N6MHG	539-2701
AUDIO TAPING	John Breckenridge	WB6FRZ	
	Laurel Meyer	KC6FKX	
	Bob Phillips	N6RMW	
SWAP SHOP EDITOR	Ken Harrison	N6MHG	539-2701

SCRA HOTLINE: 707-579-9608
 Web Address: <http://cds1.net/scra>
 Short Skip On-line: <http://cds1.net/shortskip>

Next Meeting: Wednesday, February 4

Program : Not received by deadline

-Ed-

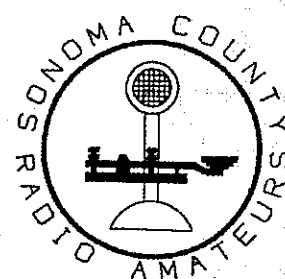
Tuesday Night Net

Check into the Tuesday Night SCRA net on the 146.73 repeater at 7:00 pm. Announcements of upcoming SCRA activities, a Swap Shop and the latest Amateur Radio Newsline broadcasts can be heard.

Short Skip Advertising Rates

Business Cards:	\$10
First Quarter Column:	\$11
Each Additional Quarter Column:	\$ 3
Full Page, 1 side	\$32
Pre-printed inserts	\$32/sheet

Guaranteed Circulation of 200 members per month

**Club Meetings**

7:30 pm on the 1st Wednesday each month at the Hewlett-Packard plant in Rohnert Park meetings. All are welcome.

We invite you to attend our next monthly meeting (see below). Membership in SCRA is open to anyone interested in Amateur Radio. If you would like to join, there is a membership application in this issue.

continued from Page 1

QRZ to QRZ and QSA to QSX. On 1st July 1913, the "Q" code finally became an official international information code, updated as changing circumstances demanded to include new codes relating to such matters as aviation and maritime.

Some time later came the "Z" code, running in parallel with the "Q" code. This originated as a company code of Cable and Wireless with application limited, in the main, to high speed machine morse operating at speeds of typically 120 wpm. Widely used by many countries, including Germany, the "Q" and "Z" codes continued in use throughout the war. After the war, high-speed morse became less widely used and was replaced by other forms of communication such as RTTY and Facsimile. The "Z" code, therefore, gradually went out of fashion and slowly disappeared. Examples of the "Z" code include ZAA: you are not observing circuit discipline, ZAN: we can receive absolutely nothing, ZST: send slips twice, ZAP: acknowledge please, and there were a lot of others.

Operating during the 1930's and early 1940's, at the same time as the "Z" and "Q" codes, was the "X" code, then in use by European military service as a wireless telegraphy code. This consisted of the letter X followed by a number. For example, X34 meant: your morse is bad, X50: your morse is good, X100: affirmative, X112: interrogative, X279: what is the strength of my signal?, X496/257: I am winding in my aerial prior to landing/I have nothing further for you.

The "X" code continued in use with the European Forces until 1942 when, at the insistence of the US Military, it was replaced by the "Q" code for use as the telegraphy code of the Allies. However, the odd "X" code can still be heard from veteran telegraphists even now, but not very often.

So the "Q" code became the standard international military and civil telegraphic letter code used in CW communications. Some less well-known examples of the "Q" code used by base stations of the British Army included QAU followed by QHU, meaning: I am waterlogged, I am about to jettison fuel; AS5: abandoning wagon, generally followed! Even less well-known is QGG: send the pony by the next train.

Widely used by radio amateurs operating CW, today's "Q" code has slightly different meanings but is still very similar to the 1912 version.

One of the great benefits of using the "Q" code is the pleasure in being able to communicate with overseas operators who may not be fluent in the English language.

In conclusion, it is sad there will be no successor to the "Q"

code; no longer is the morse code taught to budding telegraphists, except to the favoured few specialist Aldis lamp operators in the Royal Navy. Data stream transmissions have displaced morse and taken over everyday communications. Such is the march of time.

Acknowledgements: Grateful thanks to Pat Hawker, G3VA and Peter Broom, G5DQ for their help and advice.

Kenneth E. Brown joined the Royal Signals of the British Army in 1943 as a "boy entrant". After training as a wireless operator, he was assigned to the War Office in London, the main communication centre of the UK forces with radio links all over the world including Washing DC and Quebec. Some older "telegraphists" occasionally used the "X" and "Z" codes which peaked his interest in them. After retiring in 1991, he became interested in amateur radio CW with a renewed interest in the old codes. The research is contained above.

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UPCOMING EVENTS INFORMATION

A General upgrade class teaching 0-5 WPM CW training starts 01/22/98 at 6:00 p.m. in the main lobby at Rohnert Park Hewlett -Packard. For more info call the hot line: 579-9608. An on-the-air CW training class starts Sunday the 25th from 7:00 - 8:00 p.m. on the 146.730 repeater. All are welcome to listen in. A 2-meter FM radio or scanner is all that's needed. Content of the net will match the preceding Thursday night CW class. Contact Dave - KD6KWM for more info. 577-0191

Join us for the monthly foxhunt. It starts at Piner High School on Fulton Road in Santa Rosa at 9:00 a.m. the third Saturday of each month. Talk-in on 146.730.

Field Day end of June. KD6VUM has agreed to chair this fun event!! (Thanks Larry) More info to follow.

September SCRA Flea Market. We need a Chairperson. So far nobody has come forward to fill this important position. This is SCRA's BIG money maker for the year. We will have to scale back on many SCRA club events if we don't have the flea market. If nobody has stepped up to fill the position by Feb. 1st - WE WILL HAVE TO CANCEL!!!

SCRA INCOME & EXPENSE STATEMENT AS OF 1/16/98

BEGINNING BALANCE:

Checking.....	350.65
Petty Cash.....	82.72
Savings.....	1493.63
BEGINNING TOTAL.....	1927.00

INCOME:

Dues	
Initiation.....	36.00
Other.....	307.00
ARRL Income.....	28.00
Monthly Raffle.....	75.00
Refreshments.....	18.25
ShortSkip.....	192.00
TOTAL INCOME.....	656.25

EXPENSES:

Awards.....	-22.95
Officers' Expenses.....	33.22
Post Office Box.....	-40.00
Repeater	
Maintenance.....	-4.77
ShortSkip Printing.....	-87.72
TOTAL EXPENSES.....	-122.22
TOTAL FOR MONTH.....	534.03

ENDING BALANCE:

Checking.....	886.43
Petty Cash.....	80.97
Savings.....	1493.63
ENDING TOTAL.....	2461.03

FCC Electronic Renewal Form 900

The FCC's Wireless Telecommunications Bureau (WTB) has consolidated eight renewal forms for various services into one. Form 900, "Application for electronic Renewal of Wireless Radio Services Authorizations," is an interim measure to permit all licensees of the WRB, including hams, to renew their licenses on-line.

Form 900 is only for renewals within 120 days prior to license expiration. you can only enter changes such as name and address.

SCRA BUDGET FOR 1998 - 1999

INCOME:

ARRL Inc.....	600.00
Badge Income.....	20.00
Initiation.....	120.00
Dues.....	3500.00
Field Day.....	450.00
Flea Market.....	3000.00
Membership Supplies.....	50.00
Monthly Raffle.....	400.00
Refreshments.....	200.00
SHORTSKIP.....	800.00
XMAS Dinner.....	1000.00

EXPENSES:

ACTIVITIES	
Field Day.....	-1000.00
Flea Market.....	-2000.00
Fox Hunt.....	-25.00
SCRAPS	
XMAS Dinner.....	-1000.00
ARRL Membership.....	-725.00
Awards.....	-400.00
Badges, New Member.....	-100.00
Badges, Replace.....	-20.00

DONATIONS:

Newsline.....	-100.00
Toys for Tots.....	-100.00
Miscellaneous.....	-100.00
Newsline Phone.....	-100.00

OVERHEAD:

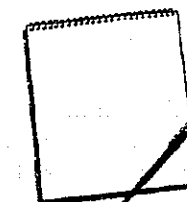
ARRL Insurance.....	-320.00
Officer's Exp.....	-150.00
Post Office Box.....	-40.00
Refreshments.....	-200.00

REPEATER:

Maintenance.....	-1250.00
Phone.....	-225.00
SHORTSKIP.....	-2000.00

Total Income.....	10140.00
Total Expenses.....	-10005.00
Difference.....	135.00

SCRA MINUTES



January 7, 1998

Submitted by
Jen Dewey, KF6DDQ

7:50 Meeting was brought to order by
Dave AA6YX

Visitors: Brian KF6NTG and Ron

Treasurers Report: Joel, KJ6LF: \$1927.00, Dues are coming in. Budget looks low now because people are just starting to pay dues for 1998. Dues are due in March. Be sure to pay ARRL dues through the club.

Activities: Dave, KD6KWM. 1. Third Saturday of the month - Fox Hunt - Piner High at 9:00 a.m. 2. We need people to take over committee for the Flea Market. 3. CW Class - 5 people would like to see it on the air. Listen to the Net to find out when.

VE Sessions: Claude, AB6OL. Third Saturday in January at Hewlett Packard in Santa Rosa. 9:00 a.m. Must have all ID Ready to go.

Repeaters, Kelly, KD6CJQ. He has received GOB for 440. He will try to get 2m interface as much as possible. There is limited access.

Net Control for February will be Colleen, KF6DHA.

Old Business: There was not enough Quorum to vote.

Next meeting we will be looking for chairs for Committees.

New Business:
Jim, KE6UAR, will be teaching the written or theory portion of General. John, KM6XO will teach code to at least 5 WPM at the same time. Classes will be at HP Rohnert Park on Thursday January 22 from 6:00 to 9:00 P.M. Call Greg at 523-7077 for more information or to sign up. Meet in the Visitor's Lobby.

Steve says that the 440 repeater can be used for code practice. Kelly just needs to know what format that will be used.

Dave, KD6KWM, told about an article in the July 1997 QST issue. It talked about making CW tones using HT on 2 meters.

Steve KV6A got a call from a person who has had interference on TV between 7:30 and 10:30 P.M. in the northern part of Rohnert Park. It was decided that a small group of people would use the spectrum equipment and Doppler equipment and see if they could find and fix the problem.

Larry, KD6VUM, needs volunteers that went to Alcatraz. He wants to go through all the QST cards that came in. Meeting will be Friday January 9th at 7:30 at his house. He is still working on a trip to Half Dome.

Ted, KB6PTA, talked about doing PSA's. He wants to provide a tape to TV stations or cable stations

Steve, KV6A, will help anyone that wants to head up field day. Contact Steve or any officers. We have permission to use a City of Santa Rosa Park if we want it. We also have permission to use the site that we used last summer.

From K6ZWB- We need to get swap meet together ASAP.

Ken, N6MHG, mentioned that Kermit, KB6GGB, in Texas passed away at the beginning of January.

Steve, KV6A, gave a plaque to Steve Feil for last years services as Secretary.

The program was given by Kelly, KD6CJQ: "What are controllers?"

Board Meeting Minutes



January 14, 1998

Submitted by
Holly Gleason, KE6MNT

Meeting was brought to order by Kelly Cureton, KD6CJQ, at 5:40 p.m. at Bank of the West on Marlow Road, Santa Rosa.

Present: Kelly Cureton, KD6CJQ; Joel Nadler, KJ6LF; Ken Harrison, N6MHG; and Dave Willey, KD6KWM. Absent: Dave New, AA6YX; Jen Dewey, KF6DDQ. Guests: Holly Gleason, KE6MNT; Bill Hillendahl, KH6GJV, and Jim Carillo-Lee, KE6VGV.

Dave, KD6KWM: Announced that Larry Gustafson, KD6VUM, has volunteered to chair Field Day. Foxhunt will be this Saturday at 9:00am, Piner High School.

Joel, KJ6LF: Needs more membership packets. Pictures on front should be updated; current pictures are very outdated. Club dues are due in March. Need to go over 1998 Budget.

It's Time to Renew!

It's time to renew your membership in the Sonoma County Radio Amateur Club.

Fill out the 1998 Membership Form on page 7 of this newsletter and mail it in with your check to the club. Or, if you come to the monthly meeting, see Joel, KJ6LF. You can help the club out further by paying your ARRL membership fees to the club too. A receipt will either be mailed or written at the monthly meeting.

Thanks to all of your for your continued support!

Hank's Swap Shop

Currently hosted by Ken Harrison, N6MHG
579-9607, ext. 12 or ken@cds1.net

FOR SALE:

MFJ vertical HF antenna (no instruction book); Icom IC 2IA 2m HT with cig. plug adapter and 3 battery holders. (\$200/offer); HTX-404 UHF HT, 2m radio, no PL, 440 mag mount; Mag mount base with 2m and 440 half wave antennas; four Radio Shack UHF/VHF receivers - various ages, capabilities; Swan watt meter model WM 1500; Heathkit AC power supply (50W); Heathkit 50 W. amplifier (input 10W); Icom 440 HT, IC-4AT. no PL; ..and much, much more! **Contact Don, W6CPE @ 916-757-6490 or email: joaned@mother.com or kc6ocd@juno.com**

Two Ringo Ranger 2m Antennas. Need a little cleanup. \$20 ea; Cushcraft 11 element 2m Yagi. \$40/BO. **Contact Scott, KE6NWG @ 707-773-0794**

Kenwood TS-180 transceiver with: DFC (Digital frequency control); PS-180 Matching Power Supply; SP-180 Matching Speaker; AT-180 Matching Antenna Tuner; MC-50 Microphone; 250 Hz. CW Filter installed; Maintenance and Operator manuals. The radio is an 8 (1-10) because of a few small scratches on top. Electrically a 10! The works for: \$450. and you pick up. Can demo! **Contact Dennis, N6NG @ 510-223-0465 or email: n6ng@sj.bigger.net**

Laserwriter 2NT Apple 300 dpi laser printer. Requires appletalk. \$100; Box of assorted resistors, OP AMPS, POTS, SCRs, etc. \$ Make offer; **WANTED:** Kenwood 732a control head or will sell RF radio body; **Contact Steven, KD6CJR @ 707-579-8346 or email: sfeil@juno.com**

Printer - Panasonic 1180 - \$40; Printer - Epson Apex 80 - \$30; 12" monitor - Mono - \$5; 12" monitor - CGA - \$5; Cornell Dubiler Capacitor Decade Box model CDB3 .01mf to 1.0 mf - \$15; Doric model 130a DIGITAL Capacitance Meter - \$25; EH Research model G710 Pulse Generator 20Hz to 50 MHz, delay, amplitude, width controls & more - \$50; HP model 1220a portable Oscilloscope, dual trace, 12 vdc & 117 vac power, A/B function - \$100. **Contact John, KE6VGA @ 707-575-3233 or email: tubbytunes@metro.net**

WANTED:

Yaesu FT-101ZD HF rig. **Contact Chris, KF6IVC @ 707-579-2145**

Kantronics KPC-3 TNC. **Contact Dave, KD6KWM @ 707-577-0191 or email: kd6kwm@cds1.net**

Les Logan Bug model 500 (black) or model 501 (chrome). J-43 straight key. **Contact Sam, WN6W @ 707-575-0400 or email: sbrewer@prodigy.net**

Volt/Ohm meter working or not but must have 5 kV scale. Simpson is preferred. **Contact Tracy, WB6TMY @ 707-527-8124 or email: radions@jps.net**

Inexpensive Shortwave Receiver. Can be solid state or tube type. **Contact Ken, N6MHG @ 707-573-7201 ext. 10 (leave message) or email: ken@cds1.net**

Bencher Iambic Paddle with MFJ Keyer. **Contact Don, KF6LLZ @ 707-579-4730 or 527-7075**

SWAP MEETS

Placerville Swap Meet: Monthly event on the third Sunday of the month. Time: 7:00am - 11:00am. Location: In front of the Radio Shack Store in Placerville. Talk in 146.865 - 146.2440.700 + 88.5. Not for profit event; no sellers fee. For more information email jwilson@inforum.net

Livermore Swap Meet - 1st Sunday of each month at Las Positas College in Livermore, CA, 7:00 AM to noon, all year. Talk in 147.045 from west, 145.35 from the east. Contact Noel Anklam, KC6QZK, (510) 447-3857 eves.

The Naval Postgraduate School ARC is having its 7th Winterfest on Feb. 21, 1998, in Monterey. Visit <http://www.mcktech.com/wf98.htm> web site for details. It's a free public service event with the flea market paying for the event. Contact Doug McKinney at KC3RL@mcktech.com, or phone at (H) (408) 663-6117 in Prunedale, CA.

Autopatch Procedure Reminder

When making an autopatch, please follow these procedures:

1. Identify immediately before dialing all in the same transmission. Do not announce "autopatch". Simply give your callsign, then dial the code and your number all in one transmission.
2. If the party you are calling doesn't know you are calling from amateur radio, please let them know so that they don't say anything that might be embarrassing or illegal.
3. When you are through with your call, enter the disconnect code and unkey. The repeater will announce that your call is completed. Identify your station after you hear the courtesy tone. **Remember** to disconnect your autopatch and identify when you are done with your phone call. The repeater doesn't know you are done until you tell it so by entering the disconnect code. If your autopatch won't disconnect for you when you enter the code, transmit again and enter the disconnect code after waiting about 1 second with the key down. (This allows the repeater to stabilize and get ready to accept your tones.)

If you have any questions or difficulty, don't hesitate to contact a control operator. They will be happy to help you out.

CONTACTS

Public Relations	Steve Carniglia	KV6A	579-9608
QSL Mgr	Fred Leoni	N6YEU	431-8202
TVI/RFI	Al Bloom	N1AL	538-7115
Antennas	Lee Dibble	KE6EAO	544-1675
Awards	Steve Lund	K6UM	823-4544
Field Day	Vacant		
Swap Meet	Larry Gustafson	KD6VUM	523-0266
Education	Greg Gordon	AC6VJ	523-7077
VEC Exams	Bill Kinder	KO6ZG	894-9591
Badge Chair	Fred Leoni	N6YEU	431-8202
Refreshments	Steve Corey	N6WMW	
	Ted DeCroff	KB6PTA	
Raffle at meetings	Ken Harrison	N6MHG	
Membership lottery	James Cureton	KD6GSF	
Packet BBS	Jim Andrews	KC6PJW	795-2163
Fox Hunt	Dave Willey	KD6KWM	577-0191



Repeater Control Op's

Kelly KD6CJQ	837-9434
Hoppy WD6CKP	542-6750
Steve KV6A	579-9608
Merl N6VUC	584-3898
Ken N6MHG	539-2701
Joel KJ6LF	545-1782
Larry KD6VUM	523-0266

Application for membership in SCRA

Name: _____ Callsign: _____ License Class: _____
 Address: _____ City, Zip code: _____ Date: ____/____/____
 Phone _____ E-mail address: _____ New Renewal

SCRA Dues:

Individual \$18/yr; Family \$27/yr +\$ _____
 Badge fee \$6.00 (new members/badge replacements) +\$ _____
 Prorate discount _____ (# months) x _____ (rate) -\$ _____

ARRL Dues:

\$31 (\$25 if over age 65) +\$ _____

Additional Donation to SCRA: +\$ _____

Total Dues \$ _____

Dues for new members only are prorated at \$1.50/month for individuals and \$2.25/month for families, starting at renewal time.

SCRA Dues renewal date is March 1st.

ARRL dues: Under 21 rates require application form.
 Make checks payable to SCRA

INTEREST GROUPS

I would like more information about:

- Public Service Events
- ACS Emergency Services
- Taking a Novice or Technician Class
- Teaching a Novice or Technician Class
- Taking an upgrade class
- Teaching an upgrade class
- Helping with VEC license exams
- Helping with SCRA Flea Market
- Acting as club Net Control for a month
- Field Day or other operating events
- Helping with the newsletter
- Other _____

Name Badge Information: (new members)

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

Callsign: _____ First Name: _____

City: _____

AutoSlot Request: Licensed SCRA members are entitled to a repeater autoslot. Fill in the information below to apply. (Please do not call Control Ops for autoslot requests.)

Phone Number: _____ - _____

Is this your home phone? Yes No

HSC ELECTRONIC SUPPLY

* NEW LOCATION! *

5861 Redwood Drive, Rohnert Park

RAMSEY KITS

- VHF power amplifiers
- All-mode HF receivers
- QRP CW Transmitters
- Etc...

ARRL BOOKS

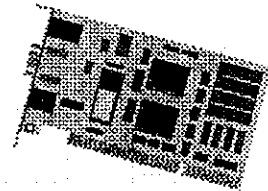
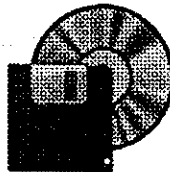
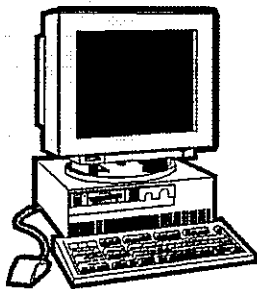
- ARRL Handbook
- License Manuals
- Antenna Books
- Etc...

OAK HILLS QRP KITS

- Transceivers: 80, 40, 30 & 20M
- Wattmeters
- SCAF Filters
- MFJ accessories
- Code keys
- Van Gorden Antennas
- Surplus Electronics
- Tools, parts, etc...

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HRO Home Page
on the World Wide Web
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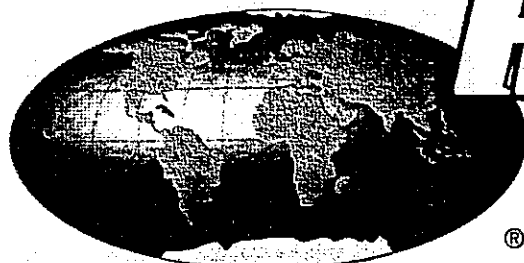
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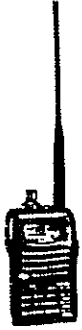
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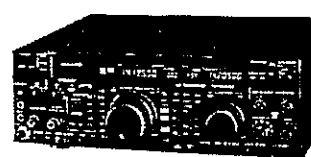
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