

## Calendar of Events

Sep 1	Wed	5:30 PM 7:30 PM	No-Host Dinner at Coco's, 1501 Farmers Lane, Santa Rosa SCRA Meeting, Luther Burbank Art & Garden Center, 2050 Yulupa Avenue, Santa Rosa
Sep 3	Fri	7:30 PM	Marin ARC Meeting, Alto Clubhouse, 27 Shell Road, Mill Valley
Sep 4	Sat	10:00 AM	Red Oak Victory ARC Meeting, Point Richmond
Sep 8	Wed	6:30 PM	SCRA Board of Directors Meeting
Sep 18-19	Sat & Sun		MS Society Waves to Wine Ride - Net Control at LBC
Sep 21	Tues	7:30 PM	Hamilton Wireless Assoc., Bldg 549, Hamilton Field, Novato
Sep 22	Wed	7:00 PM 7:30 PM	REDXA Meeting, Carrow's, Petaluma Valley of the Moon ARC Meeting, McDougall Hall, Sonoma Developmental Center, Glen Ellen.

Sonoma County Radio Amateurs, Inc.

P. O. Box 116

Santa Rosa, CA 95402-0116

RETURN SERVICE REQUESTED

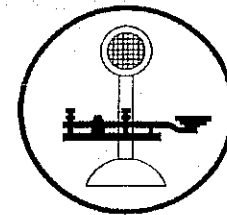
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John Breckenridge II  
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WB6FRZ

Club Station  
W6LFJ

## Short Skip

newsletter of the

Sonoma County Radio Amateurs, Inc.

P. O. Box 116, Santa Rosa, CA 95402-0116

(707) 579-9608

<http://www.sonomacountyradioamateurs.com>

Repeaters

146.985- • 146.73- • 224.48- • 441.375+

Repeater Station  
W6SON

Volume 29 Number 9

September 2004

## QUA

by

Brian Torr N6IY  
SCRA President

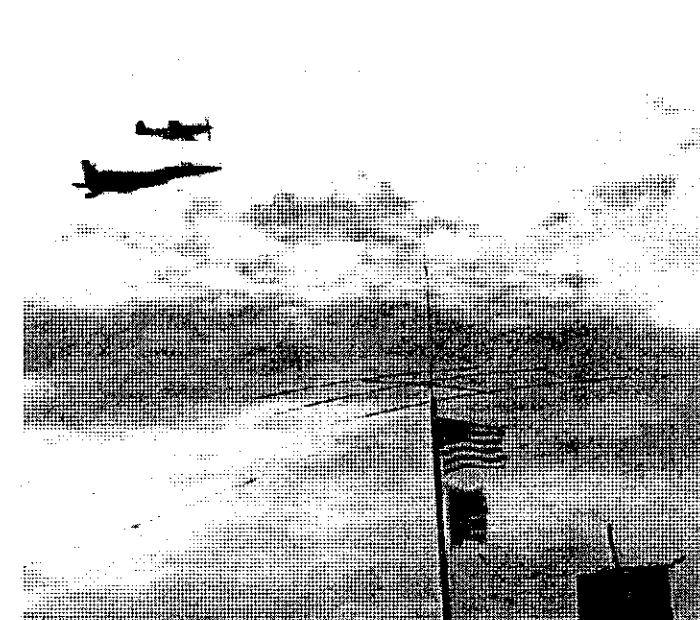
It's hard for me to believe that summer's almost over. It seems like just a week ago I was scurrying around getting ready for Field Day. Field Day was over two months ago! I see that SCRA's Field Day logs have been received by ARRL. No word yet on how we ranked in our category, but I'm sure we'll be proud of our place in the standings.

Now I'm looking forward to making contacts with some Greek hams. For the next few weeks, they'll be able to use special call signs commemorating the 2004 Olympic Games. The QSL cards should make nice wallpaper.

SCRA still has one big public service event coming up, the Waves To Wine bike tour. It takes place on Saturday and Sunday, September 18 and 19. We should have a sign-up sheet at the September meeting. We'll need all the help we can get, so please be generous with your time. If you will not be able to make it to the meeting, feel free to call me or e-mail me and I'll put your name on the list.

So far, this has been a pretty fun year. We've had some great programs at our meetings, largely due to the suggestions that you've given us. A few members have even provided the program. In September, for example, Bob Olsten, WD6DPE, will be telling us about Carrier Telephone History. I haven't gotten all the details on this yet, but I've always found it fascinating how the needs of a particular group results in a new form of communication.

(continued on page 8)



P-51 Mustang &amp; F-16 Flyover

By KG6KTP

## PCAM AIR SHOW OUTSTANDING!

Even the weather was the best ever for the annual air show put on by the Pacific Coast Air Museum at the Charles Schulz Sonoma County Airport. The morning fog burned off by midday leaving a bright, sunny day with temperatures in the mid-70's.

Members from SCRA, the Empire Amateur Radio Society and the Redwood Empire DX Association put up and manned the booth exhibiting Amateur Radio to the more than 20,000 attending the event. The displays included and operating HF station as well as some antiques for the public to knob-twiddle. Many visitors commented that they had built one of the 1960's era Heathkit SWL receiver on display. A number of contacts were made on HF as there were several contests over the weekend and even US lighthouses on the air. Some guests sat down and operated, including a Ham who hadn't operated in several years.

(continued on page 3)

2004 Club Officials

President	Brian Torr	N6IYY	707 575-5871
Vice President	John Mullan	KD2L	707 575-9176
Secretary			
Treasurer	Jim Lee	KE6VGV	415 892-0317
Director	Randy Black	KE6VMZ	707 546-0723
Director	Greg Gordon	AC6VJ	707 523-7077
Past President	Bill Hillendahl	KH6GJV	707 544-4944
Activities Chairman			
Public Service Chairman	John Mullan	KD2L	707 575-9176
Repeater Chairman	Greg Gordon	AC6VJ	707 523-7077

Short Skip & Web Staff

Editor	Bill Hillendahl	KH6GJV	707 544-4944
Hank's Swap Shop	Jeff Basham	KK6JAB	707 542-3860
Web Master	Jeff Basham	KK6JAB	707 542-3860

Contacts

Antenna Ordinance/Legal	Lee Dibble	KE6EAQ	707 544-1675
Public Relations	Bill McCall	W6WDM	707 538-2844
Raffles	Karl Johnston	K6QMT	
Refreshments	Ted DeCroff	KB6PTA	707 542-4008
Volunteer Exam Liaison	John Mullan	KD2L	707 575-9176
ARRL WAS/VUCC Mgr	Steve Lund	K6UM	707 823-4544
ARRL DXCC Mgr	Chuck Ternes	N6OJ	707 763-2528

SCRA Hotline

707 579-9608

SCRA E-Mail

scra@sonomacountyradioamateurs.com

SCRA Web Site

http://www.sonomacountyradioamateurs.com

Tuesday Night Net

Check in to the SCRA net each **Tuesday** evening on the **146.985- (PL 88.5)** repeater at **7:00 PM**. Announcements are made of upcoming SCRA and other amateur radio activities in the area and what is listed in Hank's Swap Shop. You will also hear the weekly *Amateur Radio Newsline* broadcast.

Short Skip Advertising Rates

Business Cards	\$ 12
1 <sup>st</sup> Quarter Column	\$ 13
Each Addn'l Quarter Column	\$ 4
Full page (one side)	\$ 35
Pre-printed inserts (each)	\$ 35

**Guaranteed circulation of 150 per month!**  
For more information, contact the Editor.

HUNGRY BEFORE THE MEETING?

JOIN US FOR DINNER! We meet at Coco's restaurant, 1501 Farmers Lane (corner of Farmers & Hwy 12), Santa Rosa. People start showing up at 5:30 PM. No RSVP is required! See you there! (Except December!)

NEXT MEETING

September 1st

7:30 PM

Program:

Carrier Telephone History

by Bob Olsten WD6DPE

(see article)

CLUB MEETINGS

The club normally meets the first Wednesday of each month. This month's meeting will be at:

**Luther Burbank Art & Garden Center**  
**2050 Yulupa Avenue**  
**Santa Rosa, CA**

The meeting starts at 7:30 PM  
**ALL ARE WELCOME!**

Please join us at our next meeting. Anyone interested in Amateur Radio may be eligible for membership. A membership application is included in this newsletter.

For more information, contact any SCRA officer, director or member.

CONTEST CORNER

by Kevin Alt, K6BSG

Hello testers. Another rather quiet month for contesting. CQ WW RTTY contest, several QSO parties, and several VHF/UHF/EHF contests. Happy DX'ing.

- 4 Sep - Russian RTTY WW Contest - 80-10 meters. Logs due Oct 4 to contest@radio.ru or Radio Magazine, Seliverstov per 10, 107045 Moscow, Russia.
- 4-5 Sep - All-Asian DX Contest - Phone, 160-10 meters. See: [www.jarl.or.jp/English/4\\_Library/A-4-3\\_Contests/2004AA\\_Rule.htm](http://www.jarl.or.jp/English/4_Library/A-4-3_Contests/2004AA_Rule.htm).
- 4-5 Sep - IARU Region 1 Field Day - SSB, 160-10 meters. See: [www.iaru.org](http://www.iaru.org).
- 5 Sep - DARC 10-Meter Digital Contest - Digital Modes. See: [www.darc.de/referate/hf/contest/dl9gs](http://www.darc.de/referate/hf/contest/dl9gs).
- 6-7 Sep - MI QRP Labor Day CW Sprint, 160-6 meters. See: [www.qsl.net/miqrpcclub/](http://www.qsl.net/miqrpcclub/).
- 8-10 Sep - YLRL Howdy Days - CW/SSB. See: [www.ylrl.org](http://www.ylrl.org).
- 11 Sep - Second-Class Operators Club (SOC) Marathon Sprint - CW, 160-10 meters.
- 11-12 Sep - WAE DX Contest - SSB. See: [www.darc.de/referate/dx](http://www.darc.de/referate/dx).
- 11-13 Sep - ARRL September VHF QSO Party, 50 MHz and above. See: [www.arrl.org/contests/forms](http://www.arrl.org/contests/forms).
- 12 Sep - North American Sprint - CW, 80-20 meters. See: [www.ncjweb.com](http://www.ncjweb.com).

CHARLES J. TARR

Attorney at Law

WA6VAC

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Sonoma County Radio Amateurs, Inc.

Membership Application

New [ ] Renewal [ ]

Please Print Clearly

Name \_\_\_\_\_ Call Sign \_\_\_\_\_ License Class \_\_\_\_\_ Date \_\_\_\_\_

Address \_\_\_\_\_ Hm Phone \_\_\_\_\_ Wk Phone \_\_\_\_\_

City/State \_\_\_\_\_ Zip \_\_\_\_\_ E-Mail \_\_\_\_\_

ARRL Member? [ ] Yes [ ] No

Dues & Fees: (SCRA dues year is from 3/1 to 2/28)

Individual/Associate Member \$ 24 (\$6.00/qtr)

Family Membership \$ 36 (\$9.00/qtr)

Under 18 Membership \$ 12 (\$3.00/qtr)

Badge \$ 7

Payment Calculations:

Make checks payable to SCRA

Dues - Full Year (3/1 to 2/28) \$ \_\_\_\_\_

Dues - Prorated \_\_\_\_\_ Qtrs. X \$ \_\_\_\_\_/qtr \$ \_\_\_\_\_

Badge \$ \_\_\_\_\_

Other - \$ \_\_\_\_\_

Donation \$ \_\_\_\_\_

Total \$ \_\_\_\_\_

Badge Information

Call Sign \_\_\_\_\_

First Name \_\_\_\_\_

City \_\_\_\_\_

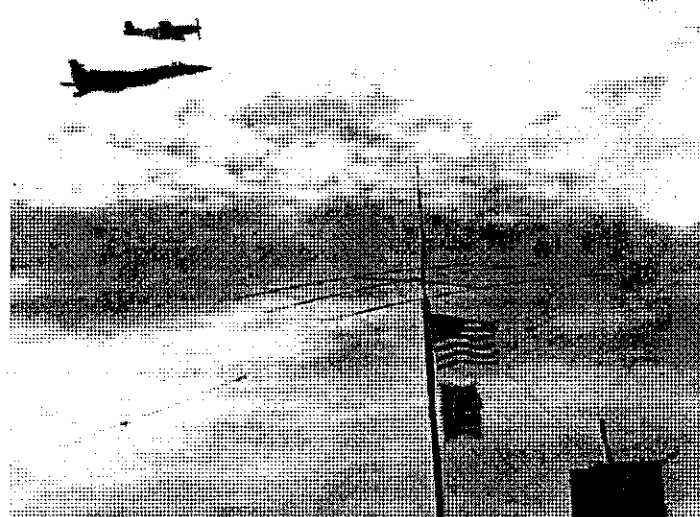
Mail to: SCRA, P. O. Box 116, Santa Rosa, CA 95402

## QUA (from page 1)

And speaking of programs, we have not as yet nailed down a program for our October meeting. One suggestion that was made several months ago was a "Boat Anchor Night." I'm sure there are several of us that could bring a boat anchor (the radio kind, not the marine kind) to show off. I think I've got a few in my closet somewhere. Think about it. If there's enough interest at the September meeting, we can make that our program for October.

I was sorry to see that Walter, KG6OXW, had to resign as our Secretary. He's done a great job for us this year, but school takes priority. Walter told me a few months ago that this might happen, and we'll all do our best to pinch hit for him until the end of the year.

This of course brings me to another topic: Elections!! Elections will be held in November, and we currently have two vacant positions (Vice President and Secretary). Also, I will not be running for re-election. I've enjoyed being your President, but my job is demanding more of my time. Please give consideration to running for an office. As my mother often told us kids, many hands make light work. With a full complement of club officers, the jobs are not overly demanding. 73, Brian, N6IYY



This one's so cool I had to show it again! Ed.

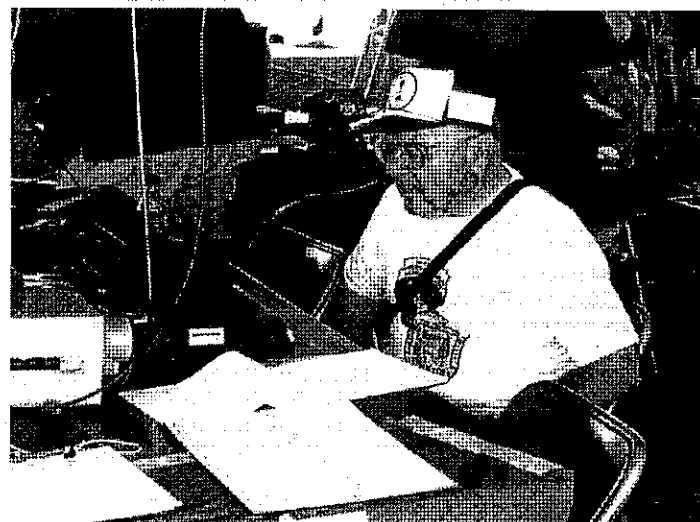
Photo by KG6KTP



Brian Torr N6IYY and Kevin French KG6ABB man the public information portion of the exhibit. Photo by KH6GJV



Ron Gove KG6KTP and Randy Black KE6VMZ operate a little QRP at the PCAM air show. Photo by KH6GJV



Bob Olsten WD6DPE checks the scanner monitoring the Air Boss frequency. Photo by KH6GJV

## SEPTEMBER PROGRAM

## Carrier Telephone History

Our own Bob Olsten WD6DPE will be talking about Carrier Telephone History at our September meeting. Was this the precursor of the current BPL rage? Come to the meeting and find out. Hope to see you there!

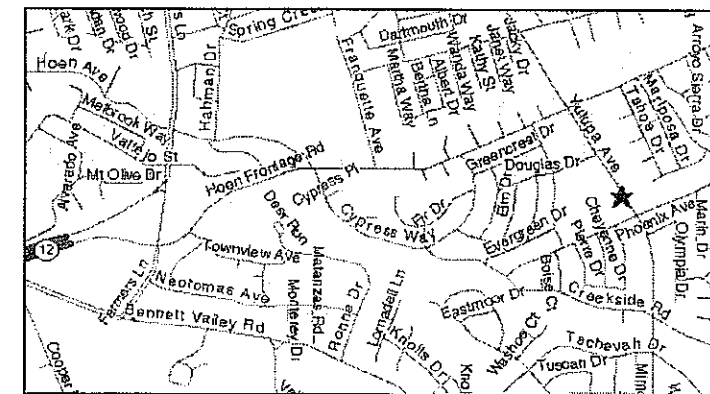
Brain Torr N6IYY put on another episode of Ham Radio Squares at the August membership meeting. Nine members vied for the coveted "center square" as the questions flew with both truthful and facetious answers. Both educational and entertaining, Ham Radio Squares once again proved to be a favorite program of the members. Wait until next season!

### HSC Giant Anniversary Sale with Free Swap Tables for SCRA Members Saturday, September 18th

HSC's Big Anniversary sale will be held on Saturday, September 18<sup>th</sup>. Ed Jacobson W1EJ, HSC Manager, has offered a limited number of spaces for SCRA members to set up swap tables during the day, no charge of course. He has room for about ten spaces at the front of the building and if interest is high, room for another 5 or 6 behind the building. Because of the limited area the table spaces would need to be reserved in advance. If any members are interested, please contact Ed at 585-7344, or email @edj@halted.com. Thanks, Ed!

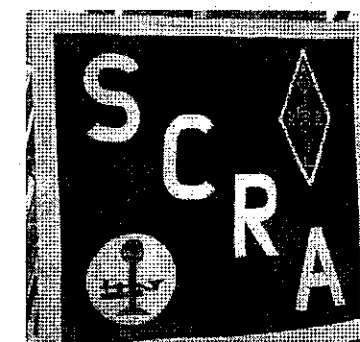
Are you a budding author? Write an article for *Short Skip* on a Ham radio-related subject, technical or non-technical. E-mail the article to kh6gjb@arrl.net. We'd love to see YOU in print!

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www.cds1.net



## MEETING LOCATION

Luther Burbank Art &amp; Garden, 2050 Yulupa Ave, Santa Rosa (Bennett Valley)

SCRA BANNER  
COMES HOME

After being missing in action for about five years, SCRA's banner showed up at the PCAM air show. A former member who years back steadfastly denied that he had the banner dropped it by the booth during the air show. Thanks for returning it.

## PCAM (from page 1)

Of course, those that helped with the exhibit had a great time wandering around checking out the displays and watching the overhead activities.

Many thanks to Brian Torr, N6IYY, Jim Lee KE6VGV, Ron Gove KG6KTP, Randy Black KE6VMZ, Kevin Alt K6BSG, Karl Johnston K6QMT, Bob Olsten WD6DPE John Breckenridge WB6FRZ, John Felton KE5RI, Kevin French KG6ABB, Jim Walden W6ESJ, Tim Bosma W6MU and Bill Hillendahl KH6GJV for putting it all together and keeping Amateur Radio in the public's eye.

Photos from the air show are spread out in *Short Skip*.

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## ARES Comm Log

by Rich Freitas KF6SZA  
Sonoma County District  
Emergency Coordinator

### Personal Preparedness: Rolling Blackouts

We've touched on a number of preparedness topics in this column in the past, most have dealt with emergency communications from an operations standpoint but sometimes it's important to prepare for an event from a personal point of view. This article, taken from a Red Cross fact sheet, will give you some information on rolling blackouts and how you can deal with them.

A rolling blackout occurs when a power company turns off electricity to selected areas to save power; the areas are selected using sophisticated computer programs and models. Blackouts usually occur during peak energy usage hours but they can happen at any time of day. Hospitals, airport control towers, police stations, and fire departments are often exempt from rolling blackouts.

The initial item of importance is to assemble a cache of essential supplies including: flashlight, batteries, portable radio, at least one gallon of water, and a small supply of food. Due to the extreme risk of fire, do not use candles during a power outage.

If you use a computer, keep files and operating systems backed up regularly. Also, turn off all computers, monitors, printers, copiers, scanners, and other devices when they're not being used; that way, if the power goes out, this equipment will have already been safely shut down. It can also prevent your equipment from being damaged by power surges when the electricity is turned back on.

Remember that telephones that require electricity to work will be rendered inoperative in a blackout; plan for an alternate means of communication including having a standard telephone handset, cellular telephone, radio or pager. Remember, too, that some of these systems may not operate when the power is out

where they are located. So, even if you have power, your access to remote technology may be interrupted if the power that serves those areas is disrupted. Check with remote service providers to see if they have power backup systems, and how long those systems will operate.

If you are considering obtaining a generator, get advice from a licensed professional such as an electrician. Some municipalities, Air Quality Districts, have air quality permit requirements. Always plan to keep the generator outdoors - never operate it inside, including the basement or garage. Do not hook up a generator directly to your home's wiring without utilizing a transfer switch to isolate the generator from the power grid. Connecting a cord from the generator to a point on the permanent wiring system and back feeding power to your home is an unsafe method to supply power during an outage.

During a blackout, turn off or disconnect appliances, equipment (like air conditioners), or electronics you were using when the power went off (it's a good idea to leave a single light bulb turned on so you'll know when the power is restored). When power comes back on, it may come back with momentary "surges" or "spikes" that can damage equipment such as computers and motors in appliances like the air conditioner, refrigerator, washer or furnace.

If it's hot outside, take steps to remain cool. Move to the lowest level of your home, as cool air falls. Wear lightweight, light-colored clothing; drink plenty of water even if you do not feel thirsty. If it's cold outside, put on layers of warm clothing. Never burn charcoal for heating or cooking indoors. Never use your oven as a source of heat. If the power may be out for a prolonged period of time, plan to go to another location.

The weekly ARES net for the greater Santa Rosa area is conducted on Mondays at 7:30 pm on 146.985 MHz, - offset, 88.5PL. All ARES members and guests are invited to check-in. Please join us.

### Sonoma County Radio Amateurs, Inc. Membership Meeting 8-4-2004 MINUTES

1. Call to Order, Verification of Quorum - The meeting was called to order by President Brian Torr N6IYY at 7:30 PM at the Luther Burbank Art & Garden Center. There were 24 people present.
  - a. Introductions
    - i) Officers and Directors - The club officers and directors introduced themselves.
    - ii) Program - "Ham Radio Squares"
    - iii) Visitors - Derek
    - iv) New Calls and Upgrades - None
2. Approval of Minutes - Dave, W6IBC moved that the minutes of the May 5, 2004 meeting be approved as amended. The motion was passed.
3. Officer and Director Reports
  - a. President - Brian Torr, N6IYY - Nothing to report.
  - b. Vice President - John Mullan, KD2L - Excused
  - c. Secretary - Walter Masten, KG6OXW - Walter announced that this was his last meeting due to his school commitments.
  - d. Treasurer - Jim Lee, KE6VGV - \$4616.96 in checking and \$2930.97 in savings
  - e. Directors
    - i) Randy Black, KE6VMZ - Nothing to report
    - ii) Gregory Gordon, AC6VJ - Excused
  - f. Past President - Bill Hillendahl, KH6GJV - Nothing to report
4. Committee Reports
  - a. ARES - Rich, KF6SZA - Not present
  - b. Mobile Comm Van - Was discussed
  - c. Activities Committee - Open position. Volunteer Wanted!!
    - i) PCAM is coming up Aug 20, 21, & 22 (8/22 is a set up day). We will be setting up a radio station.
  - d. Newsletter - Bill Hillendahl, KH6GJV - Went out
  - e. Public Service Committee - Sep 18/19 Waves to Wine
  - f. VE Liaison - John Mullan, KD2L - Excused
  - g. Repeater Committee - John, KE5RI
  - i. Status of Repeaters - The "R" is gone and the VHF repeater duplexer needs to be tuned.
  - h. SCRA v NARCC - Nothing to Report.
5. Unfinished Business - None
6. New Business - Bruce, N6CT moved that we support AD6XI, Josh's antenna project with a letter of support. The motion passed.
7. Member Biography - None
8. Recess - A recess was held from 8:15 PM until 8:30 PM
9. Program - "Ham Radio Squares"
10. Raffles - Karl Johnston, K6QMT -
11. Announcements
  - a. Next Membership Meeting - Spetmeber 1: Carrier Current Telephones by Bob Olsten WD6DPE
  - b. Board Meeting - August 11 at Marie Calendar's
12. Adjournment

### Sonoma County Radio Amateurs, Inc. Board of Directors Meeting 8-11-2004 MINUTES

Board Members Present: Brian Torr, N6IYY; Jim Lee, KE6VGV; Randy Black, KE6VMZ; Bill Hillendahl, KH6GJV  
Board Members Absent: John Mullan, KD2L  
Board Members Excused: Walter Masten, KG6OXW  
Guests Present: Rich Freitas, KF6SZA; Jeff Basham, K6JAB

13. Call to Order, Verification of Quorum, Introductions. The meeting was called to order by President Brian Torr, N6IYY, at 6:45pm. The meeting was held at Marie Callendar's, 2460 Mendocino Avenue, Santa Rosa. A quorum was present in that four of the seven voting board members were present.
14. Approval of Minutes - KE6VGV, moved that the minutes of the 7/14/2004 board meeting be approved. The motion passed.
15. Officer and Director Reports
  - a) President - Brian, N6IYY, had nothing to report
  - b) Vice President - John, KD2L was not present
  - c) Secretary - Walter, KG6OXW was not present

- d) Treasurer - Jim Lee, KE6VGV reviewed the account balances
- e) Directors
  - i) Randy, KE6VMZ had nothing to report
  - ii) Gregory, AC6VJ was not present
- f) Past President - Bill, KH6GJV had nothing to report
16. Committee Reports
  - a) ARES - Rich, KF6SZA, reported that a face-to-face meeting with the Blood Bank of the Redwoods is being planned. Rich is also looking for ideas for a SET.
  - b) Mobile Comm Van - Rich, KF6SZA asked when the Toaster will be painted, so that the graphics could be added shortly thereafter
  - c) Activities Committee
    - i) PCAM - Bill, KH6GJV, reported that sign-ups were light. He may have to cancel if he does not get more sign-ups.
  - d) Newsletter - Bill, KH6GJV, had nothing to report
  - e) Public Service - John, KD2L, was not present to give a report. The next event would be the Waves to Wine on September 18 and 19.
  - f) VE Liaison - Brian, N6IYY, reminded the board that we need to be looking for a location to hold the VE exams.
  - g) Repeater Committee - Gregory, AC6VJ not present
    - i) Net Control volunteers - 9/7 - KG6GJV; 9/14 - Open; 9/21 - Open; 9/28 - Open. Brian, N6IYY, will send out a request on the e-mail reflector asking for volunteers.
    - ii) Status of the repeaters - No report
    - iii) SCRA vs NARCC Update - No report.
17. Unfinished Business
  - a) Meeting Program for September - Bob, WD6DPE, will be talking about carrier telephone history.
18. New Business
  - a) The level of detail in the published minutes was discussed.
19. Adjournment - The meeting was adjourned at 7:50 pm

If you are not getting the ARRL San Francisco Section news by e-mail and you are an ARRL member, be sure to subscribe under your Members Only information or go to <http://www.arrrl.org/sections/?sect=SF> or <http://www.pdarrrl.org/sfsec/>

## SCRA's DIGIPEATER Is Back On The Air

ARES District Emergency Coordinator Rich Freitas KF6SZA made a request to the repeater committee to have the DIGIPEATER put back on the air. The repeater committee obliged Rich by installing the DIGIPEATER in the club's vaults. The DIGIPEATER is back on the air on 145.050MHz. To DIGIPEAT through it connect to W6SON, and, to connect to the bulletin board use SCRA.

Gregory Gordon AC6VJ



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(800) 854-6046  
Tom, KM6K, Mgr.  
Hwy. 163 & Claremont Mesa  
sandiego@hamradio.com

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510 Lawrence Exp. #102  
94085  
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So. from Hwy. 101  
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Jim, KA3LL, Mgr.  
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newcastle@hamradio.com

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Joe, KD0GA, Mgr.  
John, N5EHP, Mgr.  
denver@hamradio.com

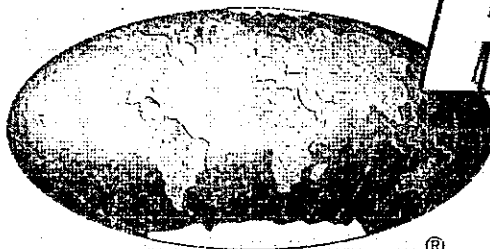
**PHOENIX, AZ**  
1939 W. Duntap Ave., 85021  
(602) 242-3515  
(800) 444-9476  
Gary, N7GJ, Mgr.  
1 mi. east of I-17  
phoenix@hamradio.com

**ATLANTA, GA**  
6071 Buford Hwy., 30340  
(770) 263-0700  
(800) 444-7927  
Mark, KJ4VO, Mgr.  
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atlanta@hamradio.com

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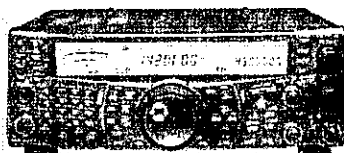
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### TS-2000 HF/VHF/UHF TCVR

- 100W HF 6M, 2M • 50W 70CM
- 10W 1.2 GHz w/optional UT-20 module
- IF Stage DSP • Built-in THC, DX packet cluster
- Backlit Front Key Panel

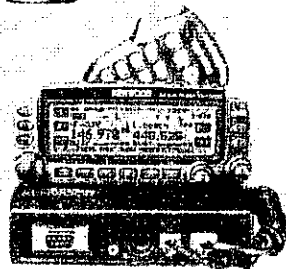
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### TH-D7A(G) 2M/440

- 2M/440 Dual Band
- Built-in 1200/9600 Baud TNC
- APRS Compatible
- DX Packet Cluster Monitor
- 200 Memos., CTCSS
- VC-III Messaging Control

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### TM-D700A 2M/440 Dualband

- 50W VHF 35W UHF • Opt. Voice Synthesizer
- Receives 118-1300 MHz (cell blocked)
- Remote Head Inst. only (kit included)
- 200 Memories • Built in 1200/9600 baud TNC
- Advanced APRS Features
- DX Packet Cluster
- Tone Scan • GPS/VIC-H1/PC Ports

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### VX-7R

- 50/2M/220/440 HT
- Wideband RX
- 900 Memories
- 5W TX (300mW 220MHz)
- Li-Ion Battery
- Fully Submersible to 3 ft
- Built-in CTCSS/DCS
- Internet WIRE compatible

Great Price!



### IC-706MKIIG HF/VHF Transceiver

- All mode HF/6M/2M/70CM
- 100W HF/6M, 50W/2M, 20W/440 MHz
- AF-DSP • Plug and Play Filters - No Soldering
- Easy-to-Navigate menus

Low Pricing!



### IC-756 PRO II All mode Transceiver

- 160-6M @ 100W • Enhanced Rx performance
- 32 bit IF DSP • SSB/CW Synchronous tuning
- Enhanced 5 inch color TFT w/spectrum scope
- Selectable IF filter shapes for SSB & CW
- Multiple DSP controlled AGC loops
- Advanced CW functions
- 101 alphanumeric memories

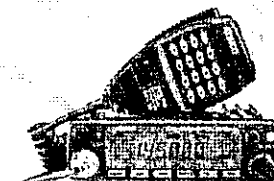
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### DJ-196T 2M/HT

- 5 Watt out
- 40 memories
- Alphanumeric display
- CTCSS + DCS built in
- "S" meter
- Auto Dialer

Low Pricing!



### DR-135TP 2M mobile

- 50 Watt out • Alpha numeric display
- 100 mems • Built-in TNC 1200 & 9600 Baud
- Front Panel GPS in • Rear DB-9 port
- CTCSS/DCS Encoder/Decoder built in

Low Pricing!



### FT-100D HF/6M/2M/70CM Trans.

- Compact Transceiver w/detachable front panel
- Rx 100kHz to 970MHz (cell blocked)
- Tx 100W 160-6M, 50W 2M, 20W 70CM
- Built-in DSP, Vox, CW keyer
- 300 Memories

Low Pricing!



### FT-1000MP MKV HF Trans.

- Enhanced Digital Signal Processing
- Dual RX
- Collins SSB filter built-in
- 200W, External power supply

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