

Coming Events

December 1999

1 st SCRA meeting 7:30 PM - Michele's Restaurant - 7th and Adams
Old Railroad Square - Santa Rosa (Bring slides of your shack)

8 th SCRA board Meeting 5:30 PM - 8979 Conde Lane, Windsor

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

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Year Paid = 1999
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Short Skip

Sonoma County Radio Amateurs, Inc

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Repeater Station
W6SON

Volume 24 Number XII

December 1999

Home Networking, VDSL and HF Radio Interference

HF Amateur Bands Just Became Shared With High Speed Data Services

By
Ed Mitchell, KF7VY,
<http://hamradio-online.com>

Ham Radio Online was the first to document the interference problems with the new "Home Phone Networking" technology. Home Phone Networking, also known as HomePNA (from the industry group that is developing standards - Home Phone Networking Association), modulates computer data signals over existing home telephone wiring. Using existing HomePNA technology, you can create a 1 Mbps computer network inside your home using your existing telephone wiring. The 1 Mbps technology works by modulating data signals at 5.5 to 9.5 Mhz - and is literally transmitting an HF radio signal, using the phone wires as a transmission line. Those of us who have experimented with HomePNA technology have found that it is capable of generating significant HF radio interference, and is also highly susceptible to nearby, low power Amateur radio transmissions.

In an only a few months time, the HomePNA technology has exploded onto the home networking scene. Market researchers believe that HomePNA will rapidly reach 50 to 70% marketshare. Depending upon the demographics of where you live, you may soon find yourself competing with a home phone line network for access to 40 meters.

During the summer, the HomePNA announced they had agreed on a preliminary draft of a new 10 Mbps home phone line network technology. Diamond Multimedia has jumped the gun in advance of the final specification, and is now shipping the 10 Mbps technology. Because details of the 10 Mbps technology are not yet public, we do not know which HF frequencies are used by the new technology. Indications are that the new 10 Mbps systems are based on VDSL. There are plans to eventually increase the HomePNA network technology to speeds of 30 Mbps or faster by using the entire HF radio spectrum up to 30 Mhz.

VDSL is another of the "DSL" technologies that telephone companies are using to deliver high speed data services over existing copper phone lines. You may already have heard of "ADSL", which is the type of DSL presently being deployed by phone companies for fast Internet service. VDSL can provide up to 52 Mbps transmission speeds, and operates by modulating its signals over the entire HF radio spectrum.

The VDSL proponents are well aware that VDSL generates significant amounts of HF radio interference, and that it is also susceptible to outside RF interference. The basic VDSL technology puts a signal onto unshielded copper phone lines running down your street, at a level of -60 dBm/Hz. Because they are aware that this level will cause interference to HF Amateur radio operation (an open admission that VDSL destroys HF radio), they have placed in the specification for VDSL, the option for service providers to add 20 db of attenuation in the HF Amateur band allocations. This places the signal level, within the Amateur bands at -80 dBm/Hz. However, they are knowingly planning to do nothing about the rest of the HF spectrum, causing severe noise problems for short-wave listeners. If widely deployed, VDSL will mark the end of shortwave broadcasting and listening here in the U.S.

If, and it's a big IF, a service provider elects to implement the optional -80 dBm/Hz signaling in the Amateur bands, this, in theory, reduces the noise to a level where it will almost fade into the noise

level at 35 feet from a phone line carrying the VDSL signal. In theory, The tests that were conducted used a perfectly balanced short phone line segment (see research papers at the VDSL forum at <http://www.vdsl.org>) and matching baluns on the 20 meter dipole used for the tests. In real life, once the VDSL signal leaves the pole and traverse into your house, the quality of the wire installation is a random unknown. Based on experience with HomePNA 1.0 phone line networks, and their problems on real-life residential in-home phone wiring, it is highly likely that VDSL signaling will emit far more noise than laboratory tests suggest.

Deployments of VDSL

Phone companies are anxious to finalize and deploy VDSL since it would enable them to compete equally with cable TV systems. I won't go through all the technical details, but it would enable them to deliver digital video signals to the home. Currently, cable TV systems are making rapid plans to add phone service to their cable TV systems. So you can see, phone companies have significant incentives to get VDSL working soon. In some locations across the U.S., local telephone companies are now selling and providing VDSL services.

Watch for the "DSL" technologies to be pushed aggressively over the next few years. The phone companies' futures are riding on their ability to make these technologies work.

HF Radio Just Became a Shared Band

Home phone line networking and VDSL technology are significantly different than other forms of HF noise. This is not pulse type power line noise that can be eliminated with a noise blanker. The interference is caused by the simple fact that these new technologies are true HF radio transmitters and receivers. In effect, the Amateur allocations (and all of HF) have just become a shared allocation. HF Amateur radio will now share its HF bands with your neighbor's high speed internet access and home computer network. Amateur transmissions will also pose a challenge as they will have the potential for disrupting these HF-based signaling systems.

This is a critical issue to which most Amateurs have not given any thought. Perhaps it won't matter. As noted in a previous column, the Amateur service just became a VHF/UHF centric radio service anyway, and HF radio operation amongst U.S. Amateurs is declining.

But its important for all of you to realize what is going on here - HF radio won't be the same ever again. The noise level at HF will increase dramatically. If you are lucky, aybe your neighbors won't use these new technologies for a few years yet. But when the FCC is faced with the choice of preserving narrow segments of HF for Amateur telegraphic operations, versus providing high speed Internet services to homes, their decision will be easy. Don't look for salvation in regulations.

Some of us are frustrated by all this ... and I don't mean by the new technologies that will pollute HF. Our frustration is from the apparent lack of interest by the Amateur community. As a result, HF radio use by any suburban or urban dweller really is dying.

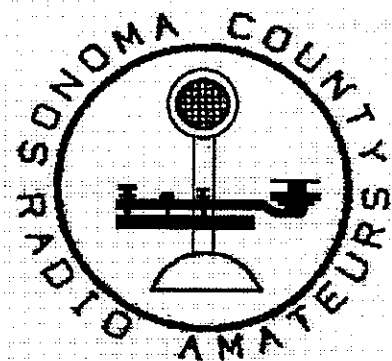
Submissions: antennas@qth.net

1999 Club Officers

PRESIDENT	Larry Gustafson	KD6VUM	523-0266
VICE-PRESIDENT	Stephen Brinck	KF6RCH	415-693-7095
SECRETARY	Bill Hillendal	KH6GJV	538-0331
TREASURER	Joel Nadler	KJ6LF	545-1782
MEMBERS-AT-LARGE	Brian Torr	N6IYY	575-5871
	Jim Cardillo-Lee	KE6VGV	
REPEATER CHAIRMAN	Kelly Cureton	KD6CJQ	837-9434
ACTIVITIES	Greg Gordon	AC6VJ	523-7077
PUBLIC SERVICE	John Mullen	KD2LQ	575-9176
PAST PRESIDENT	Dave New	AA6YX	820-6608

SHORT SKIP STAFF

EDITOR	Henry Tate	KE6ORF	415-663-8227
CIRCULATION	Ken Harrison	N6MHG	539-2701
AUDIO TAPING	Jeff Basham	W2JAB	
	Laurel Meyer	KC6FKX	
	Bob Phillips	N6RMW	
	Ken Harrison	N6MHG	
SWAP SHOP EDITOR	Ken Harrison	N6MHG	
SCRA Webmaster	Ken Harrison	N6MHG	
Assistant Webmaster	Claude Jones	AB6OL	



CLUB MEETINGS

7:30pm on the first Wednesday of each month at:
Michele's Restaurant
 7th and Adams (old Railroad Square) SANTA ROSA.
ALL ARE WELCOME!!

We invite you to attend our next monthly meeting. 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.

Next Meeting:
DECEMBER 1, 1999
 7:30pm
Michele's Restaurant
 7th and Adams (old Railroad Square)
 SANTA ROSA
Christmas Party and Slide Show

Short Skip Advertising Rates

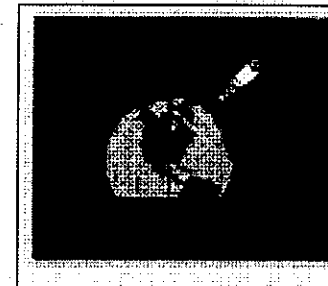
Business Cards:	\$10
First Quarter Column:	\$11
Each Additional Quarter Column	\$ 3
Full Page, one side	\$32
Pre-printed inserts	\$32/sheet

Guaranteed Circulation of 200 per month

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CONTACTS

ARRL Public Relations	Steve Carniglia	KV6A	579-9608
QSL Manager	Fred Leoni	N6YEU	431-8202
TVI/RFI	Al Bloom	N1AL	538-7115
Field Day	Greg Gordon	AC6VJ	523-7077
Education	Greg Gordon	AC6VJ	
VEC Exams	Bill Kinder	KO6ZG	894-9591
Refreshments	Ted DeCroff	KB6PTA	
Meeting Raffle	Ed Aho	KF6HAB	
Membership Lottery	Jeff Basham	KF6TGQ	575-9354
Activities/Foxhunts	Greg Gordon	AC6VJ	523-7077
Antenna Ordinance/Legal	Lee Dibble	KE6EAQ	



Repeater Control Op's

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

Application for Membership in SCRA

Name _____ Call sign _____ License Class _____
 Address _____ Phone _____ Date _____
 City _____ Zip _____ E-mail _____
 New Renewal

SCRA Dues: The renewal date is March 1st. Dues are \$18/year for individuals and \$27/year for families. New member initiation (badge) fee is \$6/person. New member dues are prorated at \$1.50/month for individuals and \$2/25 per month for families starting at renewal time.

ARRL Dues: \$34/year or \$28/year for seniors with proof of age. (Under 21 rates require application form.)

Make checks payable to SCRA

I WOULD LIKE MORE INFORMATION ABOUT:

- | | |
|--|--|
| <input type="checkbox"/> Public Service Events | <input type="checkbox"/> Helping with SCRA Flea Market |
| <input type="checkbox"/> Emergency Services | <input type="checkbox"/> Acting as Net Control Station |
| <input type="checkbox"/> Taking a Novice or Technician class | <input type="checkbox"/> Helping with VEC license exams |
| <input type="checkbox"/> Teaching a Novice or Technician class | <input type="checkbox"/> Field Day and other operating events |
| <input type="checkbox"/> Taking an upgrade class | <input type="checkbox"/> Helping with <i>Short Skip</i> (newsletter) |
| <input type="checkbox"/> Teaching an upgrade class | <input type="checkbox"/> Other _____ |

BADGE (New Members Only)

Fill in this section exactly as you want it to appear on your badge.
 Call sign _____
 First Name _____
 City: _____

Auto slot Request: Licensed SCRA members are entitled to a repeater auto slot. Fill in the information below to apply and send the form to: SCRA, PO Box 116, Santa Rosa CA 95402

Name: _____
 Call sign: _____
 Phone Number: _____

Hanks Swap Shop

FOR SALE

11-23-99 Listing.

MFJ Deluxe Versa Tuner II with box and manual. Works great. \$75.

Contact Joe, KO6PS @ 707-528-4683 or email: ko6ps@prodigy.net

Kenwood TS-830S HF transceiver in excellent shape with SP230 Deluxe Speaker, AT230 antenna tuner and mic. \$650 or offer.
Heathkit SB1000 Linear Amplifier never used. \$600.
NCG 15 Meter Transceiver in new condition. \$100.
MFJ 20 Meter CW Transceiver with portable antenna tuner and rechargeable power pack. Like new! \$125.
MFJ 3KW Versatuner V like new. \$250.

Contact Grant Canfield, NH6GF @ 707-431-7706

Four Motorola ConvertaCom heads with mics.
Motran Low Band transceiver with head.
FREE TO GOOD HOME. You pickup or pay freight.

Contact Tim, WB6BBX @ 707-795-3563 or email: texline@pacbell.net

Kenwood TS-140S excellent condition no manual or mic. \$400 /bo.
Cushcraft 3 element beam (Possibly an A3S) \$50.

Contact Chuck, N6OJ @ 707-763-2528 or email: n6oj@jps.net

ICOM IC-756 HF thru 6m transceiver. Serious bells and whistles including LCD display with Spectrum scope. See specs at:
<http://www.icomamerica.com/amateur/hf/#IC-756> asking \$1700. (can ship item)

Contact John, W6TLK @ 707-833-1873 or email: jwallack@jps.net

Kenwood TS-830S HF Transceiver 160 - 10M including WARC with VFO-230 Remote VFO and SP-230 External Speaker and manual.
Very good condition. All for \$500.

Contact Leland, W6GEE @ 707-942-9076 or email: WA6DFA@aol.com

WANTED

WANT: Schematics for Kenwood TH-41A Hand Held Transceiver.

Contact David @ 707-433-1622 or email: n5psm@arrl.net

WANT: Help with programming a Radio Shack Pro-74 800 MHz race Scanner. (RS #20-513)

Contact Jeff, W2JAB @ 707-575-9354 or email: w2jab@sonic.net

WANT: Kenwood TS-950SDX and Alpha amplifier.

Contact Mitch, WUIQ @ 707-836-7552 or email: cartunz@pacbell.net

Satellites, power grid face potential solar threat: Forget Y2K! Watch out for OI' Sol! Increased solar activity due to the current sunspot cycle is expected to affect satellites on which US telecommunications customers depend, says National Oceanic and Atmospheric Administration Director D. James Baker. The solar maximum also could impact US power grids. Starting next year, space storms, radiation showers and effects on power grids are all expected during the upcoming maximum, which is expected to last about three years. NOAA officials said the storms alter the Earth's magnetic field and may send strong enough electrical charges that would overwhelm vulnerable power grids. The last cycle of geomagnetic storms occurred in the late 1980s and resulted in blackouts in Montreal, England and Scandinavia and damaged four Navy satellites. This round of activity is expected to have more dire consequences, Baker says, because customers are much more dependent now on satellite technology. In addition, there are many more satellites than there were a decade ago. Meanwhile, Amateur Radio operators have been looking forward to the solar maximum hoping for improved HF conditions and enhanced propagation on VHF and even UHF.--from press reports and The Hudson Loop

**Congratulations To The SCRA Board Elect
for 2000!**

President:	Rick Reiner K6ZWB
Vice President:	Greg Gordon AC6VJ
Secretary:	Bill Hillendahl KH6GJV
Treasurer:	Jim Cardillo-Lee KE6VGV
Members at Large:	Bill McCall W6WFM Rich Freitas KF6SZA

PARTS PROFESSIONALS // WHOLESALE-RETAIL // NO REPAIRS

BASHAM'S ELECTRONIC SUPPLY
345 West College Ave., Santa Rosa, CA 95401

Mon.- Fri. 8:00-5:30	Steve Basham	(707) 527-6000
Saturday 9:00-12:00	OWNER	(800) 675-7557
Sunday Closed		Fax (707) 527-1368

Sonoma County Radio Amateurs, Inc.
Membership Meeting 11-3-99

MINUTES

1. Call to Order, Verification of Quorum - The meeting was called to order by President Larry Gustafson KD6VUM at 7:42 PM at the Santa Rosa Agilent Technologies facility. There were 42 people present.
 - a. Introductions
 - i. Officers & Directors - The club officers and directors introduced themselves.
 - ii. Guest Speakers - None
 - iii. Visitors - There were two visitors.
 - iv. New Calls & Upgrades - New Member Toni Dill KF6ZCW just received her Technician Plus license. Mark Pedroia KF6TYS upgraded to Tech Plus.
2. Approval of Minutes - Ted DeCroff KB6PTA moved that the minutes of the September 1, 1999, be approved as printed in Shortskip. The motion passed.
3. Officer & Director Reports
 - a. Treasurer - Joel Nadler KJ6LF reported the current club account balances, and, the income and expenses for the last reporting period. Joel reminded the membership about renewing their ARRL dues through the club.
 - b. Officers - Larry Gustafson KD6VUM reminded the membership of the club Christmas party on December 1st at Michele's starting at 7:30 PM. The dinner will cost \$22 per person. Santa will show up. Members can have Santa deliver gifts to those present. Bill Hillendahl KH6GJV displayed a shirt with the club logo embroidered on it. He asked if there was interest in placing an order for shirts. A number of members showed interest. Bill will have sample shirts and costs at the January meeting. Joel Nadler KJ6LF advised that the HamCall CD-ROM database is available this year again. If enough people order, a 40% savings can be realized, resulting in a unit cost of \$30-35. A sign-up sheet was passed.
 - c. Directors - None.
4. Committee Reports
 - a. Activities Committee - Greg Gordon AC6VJ announced coming events related to amateur radio.
 - b. Newsletter Editor - Henry Tate KE6ORF - Henry said that Shortskip had been mailed and members should be receiving their copies soon.
 - c. Public Service - John Mullan KD2LQ reported that there were no more events scheduled through the end of the year.
 - d. Repeater Committee - Kelly Cureton KD6CJQ said that they would be working on the system this coming weekend. He hopes to get the 220 repeater operating better.
5. Unfinished Business - None
6. New Business
 - a. Larry Gustafson KD6VUM proposed that all members of the Board of Directors be issued name badges indicating that they were members of the board. Bill Hillendahl KH6GJV spoke against the

proposal, stating that the Board had already approved badges for the office of President and Life Member, and that the additional cost of yearly badges for other Board members was not justified. Joel Nadler moved that office name badges be purchased for Board members. The motion passed.

7. Show & Tell - None.
8. Program - Election of Officers and Directors for 2000 - Nominations were opened for the offices. No new nominations came from the membership. The candidates each made a presentation. Ballots were distributed to the membership. Darlene LaMont KD6GCK and Jim Robinson KE6UAR acting as the Elections Committee, collected the ballots and tallied the votes.
9. Recess - The meeting went into recess at 8:22 PM and resumed at 8:44 PM.
10. Raffle
 - a. Regular - Ed Aho KF6HAB conducted the raffle.
 - b. Membership - The membership raffle was conducted.
11. Announcements
 - a. Election Results - The Officer and Directors elected for 2000 were as follows:
President - Rick Reiner K6ZWB
Vice President - Greg Gordon AC6VJ
Secretary - Bill Hillendahl KH6GJV
Treasurer - Jim Cardillo-Lee KE6VGV
Directors -
Rich Freitas KF6SZA
Bill McCall W6WDM
 - b. Next Program - Christmas Party and Slide Show
 - c. Board Meeting next Wednesday at Master's Touch Mortgage, 8979 Conde Lane, Windsor, at 6:30PM.
12. Adjournment - The meeting was adjourned at 8:56 PM.

Sonoma County Radio Amateurs, Inc.
Board of Directors Meeting 11-10-99

MINUTES

Board Members Present: Larry Gustafson KD6VUM, Steve Brink KF6RCH, Bill Hillendahl KH6GJV, Joel Nadler KJ6LF, Greg Gordon AC6VJ, Brian Torr N6IY, Jim Cardillo-Lee KE6VGV, John Mullan KD2LQ and Kelly Cureton KD6CJQ.

Board Members Absent: None.

Guests Present: Rich Freitas KF6SZA, John Breckenridge WB6FRZ, Bill McCall W6WDM, Rick Reiner K6ZWB and Sue Mullan.

1. Call to Order, Verification of Quorum, Introductions - The meeting was called to order by club Vice President Steve KF6RCH at 6:37 PM. The meeting was held at the offices of Master's Touch Mortgage, 8979 Conde Lane, Windsor. A quorum was present in that nine of the nine voting board members were present.
2. Approval of Minutes - John KD2LQ moved that the minutes of the Board meeting of October 13, 1999, be approved as printed in Shortskip. The motion passed unanimously.
3. Officer & Director Reports
 - a. Treasurer - Joel KJ6LF reviewed the club income, expenses and account balances. Joel also compared the current figures to the budget for the year. Joel reported that the club insurance premium invoice arrived. Steve KF6RCH moved that the insurance invoice of \$329 be paid. The motion passed. Joel passed around the charge log for the club's account with Superfast Copy. One charge was not recognized. Joel will pay all but the questionable charge. Newsline is again requesting contributions. The club budgets \$100 as an annual donation. Steve KF6RCH moved that \$100 be contributed to Newsline. The motion passed. Joel passed around the sign up for the HamCall CD-ROM database. If ten copies are ordered, the cost is reduced by 40%.
 - b. Officers - Bill KH6GJV reported that he, Jim Robinson KE6UAR and Darlene LaMont KD6GCK stopped by Marie Mappas' home and checked on her rotor operation. Bill was able to obtain advice from others who own similar rotors and correct the problem. Bill reported that he had asked Ken Harrison N6MHG about an e-mail reflector for sending messages to members. Ken told Bill that the current SoCoHam reflector only has about thirty persons on it and some of them are not SCRA members. Ken told Bill that as he has time, he will look into something that the club can use. Bill also reminded some BoD members that he needed to get certain documents returned so that they can be kept in the club files.
 - c. Directors - None.
4. Committee Reports
 - a. Activities Committee - Greg Gordon AC6VJ - Greg had nothing new to report.
 - b. Newsletter - Henry Tate KE6ORF was not present to make a report.
 - c. Public Service Committee - John KD2LQ reported that there were no more events for the year. The last minute March of Dimes event on Pacificon weekend went well. March of Dimes will be in touch next year. Steve KF6RCH moved that John be commended for his excellent effort as Public Service Chairman this year. The motion passed unanimously. John volunteered to be the chairman again next year.
 - d. Repeater Committee - Kelly KD6CJQ reported that the coax cable on the 220 repeater had been replaced and that the system is working better. The new backup batteries were installed. They also reset some audio levels on the equipment. Kelly said that the Uniden 440 repeater is nearly ready to go back up on the site. The 440 is currently running on the old Mitrec radio. He hopes to put the Uniden back on the air next weekend. Kelly also reported on the possibility of installing a phone line to the English Hill repeater. The installation would require about thirty feet of half-inch conduit to run from the main structure to the cabinet where the repeater resides. The phone company would charge \$32.90 for installation and \$16.20 per month for a phone line. There are also plenty of open pairs available on the phone trunk at the site.
 - i. Net Control Operators for the Weekly Net - 11/16 RMW, 11/23 RCH, 11/30 VUM, 12-7 RCH, 12-14 VUM, 12/21 RMW, 12/28 LF
5. Unfinished Business
 - a. Meeting Programs - Dec - Christmas Party, Jan - Larry Nutting on Code Keys
Future program ideas - Member Shacks, Cell Phone Technology, Surface Mount Devices, CATV Systems, PG&E Safety, ARRL Pacific Division Director, Force 12
6. New Business
 - a. Shortskip Advertising Request - Gary Westre KE6JIO submitted a request to place a business card ad for his cigarette sales business in Shortskip. Steve KF6RCH moved that the request be declined. The motion passed.
 - b. Building for SCRA - The idea of finding a building in which SCRA could hold its meetings and set up a permanent station was discussed. Members were asked to let the BoD know if they hear of a building that could be donated.
7. Announcements - None
8. Adjournment - The meeting was adjourned at 8:09 PM

- b. Club Calendar - No changes.
- c. Storage of Club Property - No change.
- d. Dipole Antenna Purchase - Joel KJ6LF said that the order is pending.
- e. Year 2000 Meeting Location - Brian N6IY said that he will be sure that the club is on the room calendar at Agilent for the next year.
- f. Shortskip Audio Tape Co-ordinator - Jeff Basham W2JAB volunteered to take the position.
- g. Roster Distribution to Members - Joel said that he will get the roster to the printer for the next edition.
- h. Club Public Address System - There has been no response as to where it may be.
- i. Corporation Tax Return - Lee Dibble KE6EAQ is handling the issue with the Franchise Tax Board.
- j. Christmas Dinner - The dinner will be at 7:30 PM at Michele's. The cost is \$22 per person. There will be a 50/50 raffle in addition to the regular raffle.