

DECEMBER 1999

THE MONTHLY NEWSLETTER of the SANTA CRUZ COUNTY AMATEUR RADIO CLUB

SHORT SKIP

Y2K and AMATEUR RADIO

The following is a summary of Y2K activities involving Amateur Radio from the international to the local points of view.

On the international front, the International Amateur Radio Union (IARU) and associated country organizations will be on the air to help determine what problems, if any, may occur worldwide. NU1AW, the IARU club station in Newington CT, will be on the air in contact with member organizations worldwide.

In the US, W1AW, the Hiram Percy Maxim Memorial Station at ARRL Headquarters in Newington, Connecticut, will be celebrating New Year 2000 on the air! ARRL staff will be manning W1AW and ARRL Headquarters beginning at 1200Z (1200Z is local New Year's day in New Zealand) on December 31, for at least the following 24 hours. W1AW will be fully prepared for whatever Y2K might bring, and the operators will be monitoring and checking into various Y2K nets. Additionally, W1AW will be operated on several bands and modes for general QSOs, including the ARRL New Year tradition of Straight Key Night and other modes such as SSB and PSK31 as time permits.

At midnight Eastern Standard Time (0500 UTC), W1AW will attempt to establish contact with special-event station M2000A on the prime meridian in Greenwich, England. You'll find more details about the M2000A operation on page 43 of your December QST.

If you work W1AW during the New Year 2000 operation, you will be eligible for a special certificate and QSL. Just send your QSL along with a self-addressed, stamped envelope to:

W1AW 2000, ARRL, 225 Main St, Newington, CT 06111

See January QST, page 85, for further details.

On the California state level

The following message is from, Ben J. Green, WD8CZP, Assistant Chief, Telecommunications for the ACS Program in the Governor's Office of Emergency Services, Sacramento.

The State of California Governor's Office of Emergency Services, in preparation for the Y2K Event, is trying to determine if any Amateur Radio mutual aid will be required within the State. Many folks will be either out of town or have guests in for the event. Many won't be available for other reasons. In response to this, California State OES would like to know which California city/county ARES organizations will:

1— be activated, 2— be on standby, 3— not be participating.

Our Region ACS Officers will be in contact with each ARES SECs in order to determine this information. Please notify your ARES organization to poll their personnel to determine how many will be available for Mutual Aid to a community commencing December 30th at 0700(local) until January 3rd at about 1700hrs local.

Have this information available for our Region ACS Officers by 15 Dec 99 so that we may plan accordingly.

On a local basis, many local clubs and ARES/ RACES groups are already planning local

Happy Holidays To All

In this season of giving, please remember your local amateur radio club. Santa Cruz County Amateur Radio Club, Inc. is accepting all donations with a promise of making good use of them. It's also time to renew your annual membership dues for 2000. Unfortunately, our membership has declined a bit each year since 1993. In 1993 we had 199 members at year's end. Right now at the end of 1999 we have 131 members. Yet dues have remained the same price since at least 1992. This means our revenues have declined a bit each year too. We are at a point where extra donations are even more appreciated! hi hi And your membership renewal is especially important.

— 73, Cap (your club secretary)

W6CF Article in QST

The January 2000 QST will feature a special "collector's cover" celebrating 100 years of Amateur Radio and 85 years of QST. The lead article, "Amateur Radio: 100 Years of Discovery," is a historical overview by ARRL Pacific Division Director-elect Jim Maxwell, W6CF."

Happy Holidays

—73, Rich KI6EH

activities for Y2K with municipalities and hospitals.

Are you participating? Please contact your local EC for further information in your local area. See the Pacific Division web site at <http://www.pdarrl.org> for further information on who to contact or contact ARRL HQ.

CLUB MEETING FRIDAY JAN. 21, 7:30P.M.

SHORT SKIP

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By Art Lee WF6P

CHATTER

Don't ever lose your owner's operating manual for your hand held. This is especially true in today's world of high tech. When we bought her a Kenwood TH-28A hand held, my XYL Donna, AB6XJ, could carry the small radio around in her purse. It was perfect. It even had a paging device on it so that I could call her and, presumably, it would alert her by some sort of signal. The problem was, we needed a twin rig to make that feature useful. At least that is my understanding. We never bothered to learn much about paging. Along comes PL (did I ever mention that I hate PL?). Changing PL to hit my brother's repeater in Pinole meant a revisit to the owner's manual. When we cross over the new overpass replacing the Cypress overpass in Oakland, it is a perfect time to hit his repeater. In resetting the PL, I accidentally hit the wrong button(s) and could only get a repeating tone sound. Key up and all we hear is a "beep,beep,beep." Don't ever hit FUNCTION and something else! Stuck on the pager feature? My brother's friends called him to tell him that we were calling, although we could not hear the repeater. Quick Donna, check the manual! What manual? It was no longer resting conveniently in the glove compartment. I had put it somewhere at home where it couldn't get lost or found. Can you believe how many "safe" places there are where one can store an owner's manual?

Leon Fletcher, AA6ZT, and I had an opportunity for a few 2 meter simplex QSOs the other day. We were working on his plumbing. It was two, easy, 10 minute jobs. Changing a couple of leaking faucet seals. The only problem was, we needed to shut off the water supply to the house. That valve didn't do it (they hardly ever do!) so it was up the hill to the street to cut it off at the meter. Hand held time. Sure, we cudda used cell phones, but why not resort to something

less sophisticated. So, with him down at the house and me up on the street level, we completed the water turnoff successfully. Actually, it was a real challenge as the meter valve had to be "played with" to get it to stop the water flow. Good old 2 meters helped us finish the job — in three hours. As Jeff Liebermann, WA6SSY, might say, "Sometimes that's the way those little jobs go."

After a brief absence, we returned home and were shocked to find a 100 foot Eucalyptus tree had fallen near our back yard. It was on city property so the Parks and Rec Department came out to remove it. Donna and I were happy it didn't fall on us, but worse than that, for years I had guyed my 80 meter wire to it. We heard neither the tree fall nor the snap of my 80 meter wire. I'll have to find another tree and exercise my pitching arm to get the wire back up.

I was distressed to read about Tori Murden, the woman lawyer who rowed her 23 foot boat across the Atlantic. On her 81 day leisurely cruise, she used her laptop computer and e-mail to communicate with folks on shore. Shucks, there goes the need for Maritime Mobile ham radio. Satellite hookups are used daily for most communications to and between Navy ships. Today, sailors receive e-mail daily, no matter which ocean they are on. It used to take a month for us to receive mail at sea.

CW is not dead! A week or two ago, Marsha, AB7RJ, my CW pal in Washington, and I couldn't make contact. The band was alive with foreign broadcasts and a CW contest was going full blast. There was not a clear spot on the band between 7.000 and 7.090. I've never heard so many 30+ wpm dits and dahs in my life. I called and called. If I found a clear frequency, before I got an answer to my call one or more stations would come in with a "CQ Contest" right on top of me. I never heard a QRL, ever. Oh well, they were having fun and I was happy for them. I hope someone won the contest.

I hope everyone saw the nice write-up given Wayne Thalls, KB6KN, in the Sentinel a week or two ago. Wayne is very active in the Genealogy Society here in Santa Cruz. He gives lectures on this topic and conducts classes on the use of computers in finding your family roots. Stop in at the Genealogy room in the main library or call Wayne if you want to join their group.

Trade or Sell Table

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

—Dan AA6GD

Ron W6WO To Debut As Net Control

I am happy to announce that Ron Skelton, W6WO, will be joining us at Net Control duty this month. Along with the recent addition of Allen, WB6RWU, we now have five net controls in the rotation.

Ron has suggested some script changes, and he will be giving them a trial run on December 13. We may adopt his changes, or open it up so each of the net controls can personalize our own Net Control segment a bit. Please feel free to give Ron or myself feedback on what you like or don't. Thanks!

— Tom, K6TG

The All Too Common Mode

Part 2 The Solution

In the previous part of this article I described how one form of RFI is caused by currents induced in a TV coax cable shield and how inductive reactance provided by a common-mode choke might be helpful in reducing the interference without affecting a TV signal. What follows is a description of how to select, make and apply of these chokes continuing with the example of RFI to a typical TV cable system.

Recall that common-mode current flows on the coax shield that behaves as a single conductor using a ground path to complete the circuit. That being the case we can greatly increase the inductive reactance in this circuit by winding the coax into a coil on a core of material called Ferrite. Because the currents flowing inside the coax shield and center conductor are equal and opposite, a coaxial choke introduces no inductive reactance in the path of the TV signals.



Ferrite is a man-made material with magnetic properties that is used in a variety of products designed to suit many RF applications. One firm that specializes in ferrite products is Palomar Engineers. For RFI suppression the firm has three types in general use Mix 77, Mix 43 and Mix 64. It is important to remember that the frequencies of concern are those of the interfering signal and not the wanted signal. Mix 43 is best for general use. It works from 1 to 100 MHz. Mix 77 is a little better at the lower frequencies, use this if your problems are on 80 and 40 meters. Mix 64 is a little better on the higher frequencies so if your problems are mostly

on VHF and up use this. The following picture illustrates toroidal ferrite cores available from Palomar Engineers who will supply details on request. (760)747-3343 WWW.Palomar-Engineers.com

A practical problem arises since we would like to wind a half dozen turns or so of our cable system's coax but winding even a few turns onto one of these toroids is a problem due to the diameter of the coax. Another problem is the usual case where the coax cable already has molded plugs. There are a couple of ways to deal with this. One is to use a piece of RG 174 coax for the winding that has a diameter of only 0.1". Radio shack sells a short section already made up with F type connectors part # 15-1560. To get over the connector problem perhaps the best solution is to use a snap open ferrite core product such as that available from MFJ and illustrated below.

Disconnecting the coax cable from the TV/VCR should confirm that RFI is coming via the cable and not via direct induction. If direct

coupling is involved you must look for other solutions and I wish you the best of luck! Touching the cable plug to the input socket without the center conductor will confirm that common-mode currents are involved. In this case the best location for a

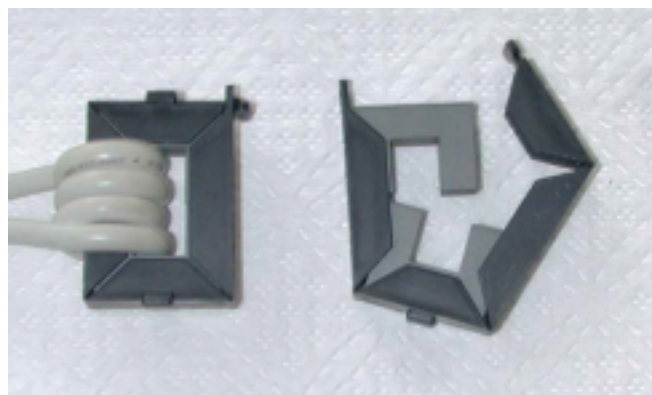
common-mode choke is as close as possible to the input of the TV or any VCR that is in place. If the interference is only present when both the shield and center conductor connections are made, then RF has entered the cable system at some point. In this event a common-mode choke will have little or no effect and the solution might be a high pass filter.

Where the addition of a choke does not substantially reduce RFI we must investigate further. The second major culprit is the AC power wiring to the VCR/TV units. Here again we have poorly grounded and unshielded consumer electronics connected to another huge

antenna. It is a good bet that common-mode currents are also introduced in this way and the treatment is the same—common-mode chokes in the TV and VCR power cords close to the units. There are many other appliances such as HI-FI sets and telephones where small chokes or single beads of ferrite might be needed to deal with common-mode problems.

VCRs and TVs are not alone in their vulnerability, telephone sets and computers have similar problems. A useful short item on computer interference appeared in the December 1999 issue of QST page 49

Mitigation of RFI to an acceptable level is



usually possible but problems are often the result of a combination of mechanisms that may vary with the frequencies involved and a process of elimination will always be helpful. Working to eliminate RFI with your own consumer electronics is the best place to start.

Naturally RFI can become a major bone of contention with your neighbors. While we can not deny being the cause of RFI we are not at fault providing our transmission is clean. The FCC Interference Handbook <http://www.fcc.gov/cib/Publications/tvibook.html> clearly distinguishes between being the cause and being at fault. When you have established good neighborly relations your expertise and meeting the minor expense involved will usually solve the problem but make it clear that your solution does not affect their equipment in any way. Where you have poor relations, as the FCC points out, your neighbors have the option of engaging a service technician at their expense.

— 73 de Ron W6WO

SCCARC Officers - 2000

President	Tom Johnson	KQ6DV	464-3120
Vice President	Don Hennese	KF6KGO	438-1486
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Treasurer	Allen Fugelseth	WB6RWU	475-8846
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	Bruce Wade	W6FKD	423-0575
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	Tom Ginsberg	K6TG	479-1471
	Lauren Hardy	KC6TPW	462-0247
	Ron Skelton	W6WO	
K6BJ Trustee	Royce Krilanovich	AC6Z	475-4798

MONTEREY BAY ACTIVITY

K6BJ / K16EH (Linked) • SCCARC Net Monday 7:30 PM 146.79- /147.945-
146.79- /147.945- • SC ARES Net Monday 8:30 PM 146.835-
(PL 94.8) • Watsonville ARES Net Thursday 8:30 PM 147.945-

K6BJ / UHF
440.925 (PL 123)

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

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

WR6AOK (Felton)
147.12+ (PL 94.8)

N6IYA
440.850+ (PL 94.8) (Linked)

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

6 Meter Local Net 52.8 MHz (PL-114.8) Sunday 8:00 PM

SCCARC 10 Meter Net 28.308 MHz USB Monday 7:00 PM

Mont. Bay Chapter 191 QCWA :Tuesday, 7:30PM, AA6T repeater, 146.700-(NO PL).

SCCARC CALENDAR OF EVENTS

Short Skip Deadline	Friday	Jan. 5
Santa Cruz ARES	Tuesday	Jan. 11
SCCARC Board Meeting 6:30	Friday	Jan. 21
SCCARC Meeting	Friday	Jan. 21
Santa Cruz ARES	Tuesday	Feb. 8
SCCARC Meeting	Friday	Feb. 18

Visit the SCCARC Website at

- www.fireclay.com/k6bj

NEW! – CLUB E-MAIL: k6bj@arrl.net MONTHLY MEETINGS

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

NET CONTROL SCHEDULE (Subject to Change)

12/27	Tom K6TG
1/3	Allen WB6RWU
1/10	Phil KE6UWH
1/17	Ron W6WO
1/24	Jeff KF6BKG



SHORT SKIP

SANTA CRUZ COUNTY AMATEUR RADIO CLUB

P.O. BOX 238

SANTA CRUZ, CA 95061-0238

Forwarding and Address Correction Requested

Next Meeting Jan. 21

FIRST CLASS