



# CROSSTALK

A Publication of the TRW Amateur Radio Club

APRIL 1992



## CALENDAR

Every Monday: DCS Net on 145.32 Repeater, 7:30 PM

Every Wednesday: Emergency Communications Team Net on  
145.32 Repeater @ Noon

Every Friday: Club Breakfast in Bldg S Cafeteria, 7 to 8 AM

April 7: Executive Board Meeting, Upper Crust Pizza, Inglewood  
& Marine, 5:30 PM

April 14: Emergency Communications Team meeting, R3/1413, Noon

April 25: Swap Meet, parking lot on NW corner of Aviation & Marine,  
7 to 11 AM

April 27: OPEN HOUSE at the Bldg 65 shack, 4 to 8 PM

April 28: Club Meeting, E2/1200, Noon

May 5: EBM

May 12: ECT meeting

May 26: Club Meeting

May 30: Swap Meet

**FIELD DAY:** Its not too early to volunteer to help the W6TRW team on Field Day. There are plenty of things to do besides operating. You can help log, make coffee, help with the food preparation or just help setup and tear down the site. Whatever you can do will help, if you feel uneasy about contest operation there are slow times when you can get your feet wet. Believe me it's fun and a good way to learn those emergency operating skills that may be helpful during a real disaster.

*"Breathes there a ham with soul so dead,  
who never to himself hath said,  
this is the year I go on FIELD DAY!"*

David Sumner, K1ZZ (QST, June 1986)

## FIELD DAY UPDATE

Plans for Field Day are going well. A new band will be added this year, 12/17 meters. These are small bands but are great during daylight hours. I expect that the pace will be a little slower than on 15 or 20 meters so this would be a terrific place to break-in if you have not operated Field Day in the past. Bill Shanney has agreed to bring his tent trailer and use it for 12/17 and 80 CW. We plan to buy new antennas so a good signal should be heard by all. What an opportunity! Great bands, good shelter, old friends, outstanding food, and its free!! Give me a call if you would like to operate 12/17 (or anything else).

As I promised the bands we expect to operate are:

80 CW	UHF/VHF (includes packet & satellite)
75 SSB	Novice (includes 10 SSB)
40 CW	10 CW
40 SSB	15 SSB
20 CW	15 CW
20 SSB	12/17 SSB & CW

I am working on band captains from last year for a repeat performance but there are still several opportunities available and every band needs operators.

To improve our performance we will start at 11:00 a.m. instead of 12:00 noon. This should help our performance on the daylight bands and not hurt the night bands. It will also help at the end of Field Day when we are breaking down.

I am looking for some special help getting a blurb in the local newspapers. Does anyone have an "in" with any of the local publications? Even if you have an "in" at the North Nowhere Herald Tribune back home - publicity is publicity.

I would also like to have a few folks come up and help with the breakdown - even if they couldn't operate, they would have the gratitude for their friends. How about a couple of hours of good exercise after church on Sunday?

Next month I will publish a list of band captains, operating times and a tentative schedule.

John Shepherd, WB6VYX  
TRW ARC Field Day Chairman  
R6/1537 x27227 (310-541-7618)

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**UPCOMING CLUB MEETINGS:** Dave Qualls has lined up some great speakers for the monthly club meetings.

- **April 28:** Art Goddard, W6XD (Rockwell) will speak on "A Search For Extra Terrestrial Intelligence: Another First For Ham Radio"
- **May 26:** Fried Heyn, WA6WZO, ARRL Southwest Division Director will show a short video tape on Field Day and answer questions on Ham Radio in general.
- **June 30:** Joe Moell, K0OV (RF Engineer at HAC, Fullerton) will speak on "T-Hunting, Jammer Hunting and Radio Direction Finding"
- **July 28:** Gordon West, WB6NOA - Topic to be announced.

## HAM WINDOWS

The Club recently purchased Kenwood's Ham Windows program. It is a PC Windows program that combines a logger, rig control, awards tracking, SWL database, almanak, and TNC control. For example, it allows you to be tuning around on HF under the log window and have the TNC window keep watch in the background on a DX packet cluster. If a prefix which you don't have logged comes up on packet, the log window will alarm.

The program costs about \$180. Though the program evidently is not copy protected, it needs a Customer Registration Number entered on startup, or it will only run three times. You can add HAM BASE, a database of all hams in the US (at extra charge - we didn't buy this). When you enter a call on the log window, say as you being a QSO, you can get his name, address, and license class on the screen. The program will also print QSL labels for you.

We expect to use it on the computer in the building 65 shack. I say expect, because there are some problems. The program requires 2 MBytes of memory (our shack computer has 1 MB). The program wants to find the TNC on the COM1 port and the rig on COM2. This means the serial mouse has no home. We either need a bus mouse or more serial ports, and I am told that the current Windows is not happy with COM3 and COM4.

When we do get it up, I'll do an in-depth review.

-David, KF6IB

FOR SALE: ICOM IC-761 HF transceiver, 100 watts output, all modes, built in keyer, 250 Hz CW filter, antenna tuner, and self contained power supply, \$1500. SP-20 Speaker w/audio filter, \$100. Call Bill Shanney, KJ6GR, (310) 542-9899 evenings.

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## My "Ungrounded" Shack

by Bill Shanney, KJ6GR

I recently purchased a new VCR and TV and was pleasantly surprised when my TVI problems disappeared. I still have the TV antenna coax wound on a 2.4" ferrite core of #72/77 material and use a good quality high pass filter as recommended in the new ARRL publication "Radio Frequency Interference: How To Find It And Fix It" (chapter 6)<sup>1</sup>.

My neighbor decided to purchase the same TV and I thought that the occasional TVI problem I had with their old TV would be a thing of the past. Well I was wrong. The problem just moved to 40 meter TVI instead of 15 meters. I reasoned that the new TV had improved sensitivity and rechecked the common mode chokes and high pass filters I had installed between their CATV input, VCR and TV. I installed a bigger common mode choke at the input and the problem went away. In the process I read the new ARRL interference book from cover to cover. An illustration on page 6-6 caught my attention, it shows a long ground lead from a second story shack radiating RF energy. Well, my shack is on the second floor but I installed a set of quarter wave counterpoise wires at my antenna tuner ground to make sure the shack is at RF ground. I never thought of it before but these resonant counterpoise wires can make pretty efficient radiators and at harmonics too. (Note 1)

A good shack ground is important for safety reasons but also serves as a return path for harmonics reflected from the station low pass filter. It does little good to prevent the harmonic energy from going up the coax to the antenna if your ground system radiates it. A reference cited in the ARRL interference book describes a low impedance, lossy ground reference.<sup>2</sup> I started thinking about this novel concept.

I've been using Cho-Sorb beads<sup>3</sup> on coax lines as baluns, to prevent feedline radiation, for a long time. They provide about 8 dB of RF absorption per bead (the absorbed RF is turned into heat). I decided to use these same beads to add loss to my shack grounds. Figure 1 shows a simplified diagram of my shack and the locations of these absorbing beads.

A brief summary of my reasoning follows:

- Two or three beads were placed on each chassis ground lead to absorb RF at the fundamental and harmonics
- Three beads were placed at the chassis end of the counterpoise wires to absorb RF at the fundamental and harmonics and minimize counterpoise radiation
- Five beads were used as a balun on all interconnect cables to prevent feedline radiation. This prevents harmonics reflected from Low Pass Filter and Low Pass linear input filter from radiating.

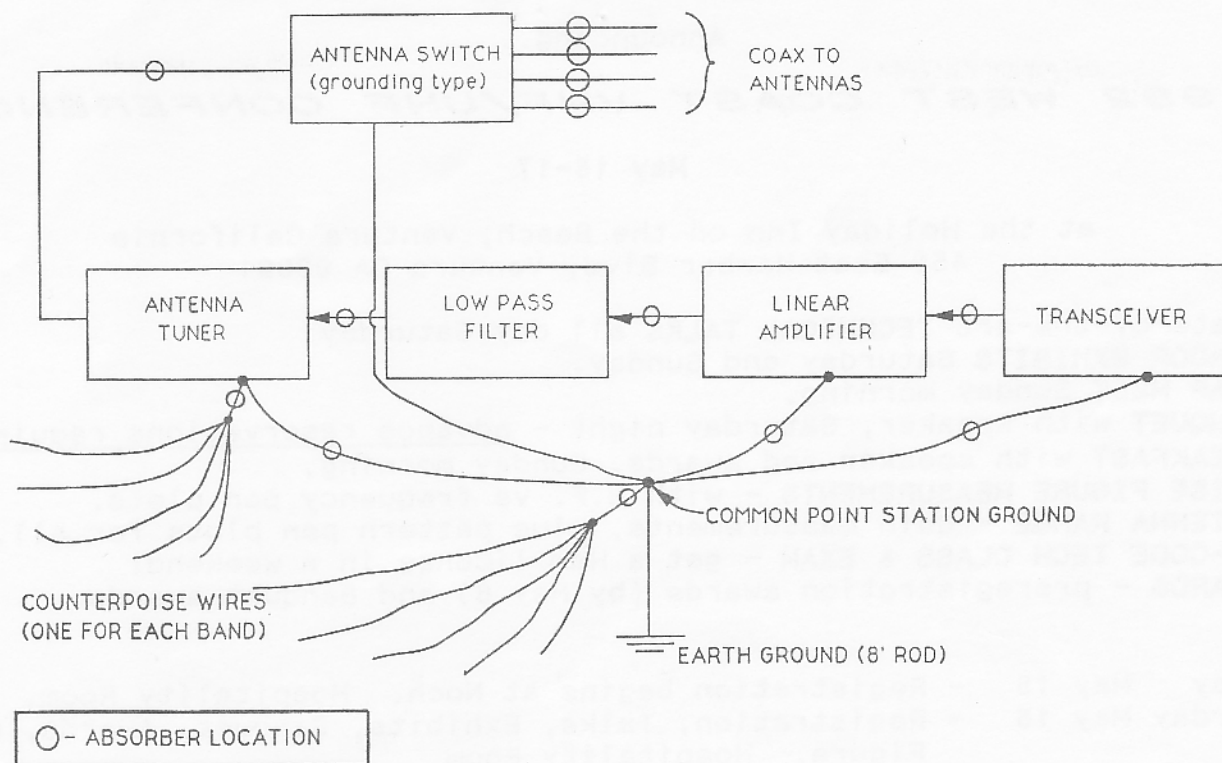


FIGURE 1.

I also use #72 or 77 toroids on my rotor and dc control cables to prevent RF pickup and re-radiation. DC and AC power cords are also wound on toroids to prevent radiation and pickup from the power lines. I have lightning arrestors on all antennas and my antenna switch grounds unused inputs.

Has all this work helped? I don't honestly know, but I'm certain that I'm not radiating excess RF from my ground system. No TVI complaints have been received for a few weeks now. One of these days I'll ask my neighbor to run a high power test. I seldom use the linear these days, unless its a new DXCC country for me. My output power, measured at the antenna input, is still the same and the DX still answers my calls. I'm content knowing that my "ungrounded" shack doesn't radiate unwanted RF energy.

#### References:

1. Radio Frequency interference: How to Find It And Fix It, Ed Hare and Robert Schetgen, editors. The American Radio Relay League: Newington, CT, 1991.
2. "Eliminate TVI with Common-Mode Current Controls", by Richard Buchan, QST, May 1984, pp 22-25.
3. "Cho-Sorb" EMI absorbing beads are available from Radiokit, P.O. Box 973, Pelham, NH, 03076. Tel. (603) 635-2235.

Note 1. Any form of tuned counterpoise may radiate if it is off the ground. This includes using the MFJ-931 artificial ground.

Announcing...

## 1992 WEST COAST VHF/UHF CONFERENCE

May 15-17

at the Holiday Inn on the Beach, Ventura California  
450 East Harbor Blvd, Ventura CA 93001

- \* State-of-the-art **TECHNICAL TALKS** all day Saturday.
- \* **VENDOR EXHIBITS** Saturday and Sunday.
- \* **SWAP MEET** Sunday morning.
- \* **BANQUET** with speaker, Saturday night - advance reservations required.
- \* **BREAKFAST** with speaker and awards, Sunday morning.
- \* **NOISE FIGURE MEASUREMENTS** - with N.F. vs frequency pen plots.
- \* **ANTENNA RANGE** - Gain measurements, plus pattern pen plots for all.
- \* **NO-CODE TECH CLASS & EXAM** - get a Ham license in a weekend!
- \* **AWARDS** - preregistration awards (by May 6) and Banquet awards.

Friday May 15 - Registration begins at Noon. Hospitality Room.  
Saturday May 16 - Registration, Talks, Exhibits, Banquet, Awards, Noise  
Figure, Hospitality Room.  
Sunday May 17 - Breakfast, Swap Meet, Exhibits, Antenna Range.

The hotel is right on the beach and has a heated pool, free parking, exercise room, game room, laundry, free HBO, gift shop, within walking distance of Ventura's famous Antique Row, pier, Mission, and Museum.

SPECIAL HOTEL CONFERENCE RATE OF ONLY \$55! (Per night, double occupancy, plus room tax. Be sure to mention the conference. Valid until May 1.)  
Hotel reservations: 1-800-842-0800

**WARNING!!!** Last year the hotel was sold out! Don't wait!

<u>EVENT</u>	<u>COST</u>	<u>QUANTITY</u>	<u>TOTAL</u>
Registration (by May 1 for pre-reg Awards)	\$15	x _____ =	_____
Banquet ( <u>Advance reservations required</u> )	\$25	x _____ =	_____
Breakfast	\$10	x _____ =	_____
Proceedings (available at conference)	\$10	x _____ =	_____
No-Code Tech class - call 714-979-2633			_____
		TOTAL	_____

Make checks payable to: Ventura County Amateur Radio Club  
Send to: VCARC, P.O. Box 2103, Oxnard CA 93033. Info: 805-647-4294

Name \_\_\_\_\_ Call \_\_\_\_\_  
Street \_\_\_\_\_  
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Phone \_\_\_\_\_

NOTES: Banquet reservations are required by May 6. Banquet tickets may not be available at the door. Don't miss out on the prizes! No refunds after May 6. For exhibit space call 805-264-1978.





# ARRL NATIONAL CONVENTION

August 20 - 23, 1992

Los Angeles Airport Marriott Hotel



Sponsored by Los Angeles Area Council of Amateur Radio Clubs  
and Orange County Council of Amateur Radio Organizations

**EARLY BIRDS RECEIVE FREE LOGO PIN**

## EXHIBIT HOURS

Friday: 6PM to 9PM

Saturday: 9AM to 5PM

Sunday: 9AM to 1PM



## PRIZES

Early Bird Prize

Advance Registration Prize

Hourly Door Prizes

Grand Door Prize

## SPECIAL EVENTS

Thursday: Industry Reception

Friday: ARRL Educational Workshop,  
Hospitality Suites

Saturday: Breakfast, Swap Tables,  
Alternative Programs,  
Volunteer Exams, Luncheon,  
Banquet, Wouff Hong

Sunday: Breakfast, Auction, T-Hunt

## PROGRAM HIGHLIGHTS

ARRL & FCC Forums

Antenna & RFI Seminars

DX & Contest Forums

Various Digital Forums

ARES/RACES/NTS

AMSAT/QCWA/MARS

Legal Forum

T-Hunting, ATV, etc...

## ACT NOW!

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\* \* \*

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### HOW MANY?

### AMOUNT

_____ Early Bird Registration	@ \$10.00	_____
(Before 5-15-92 - Includes Pin)		
_____ Pre-Registration (Before 8-1-92)	@ \$12.00	_____
_____ Admission (After 8-1-92)	@ \$15.00	_____
(16 years and under - Free)		
_____ Saturday Breakfast	@ \$12.00	_____
_____ Saturday Luncheon	@ \$15.00	_____
_____ Saturday Banquet	@ \$30.00	_____
_____ Sunday Breakfast	@ \$12.00	_____

TOTAL ENCLOSED: \_\_\_\_\_

Make checks payable to HAMCON Inc., P. O. Box 570756, Tarzana, CA 91356