



# CROSSTALK

## News Bulletin of the TRW Amateur Radio Club

### Member, American Radio Relay League

MARCH 1987

\*\* FD'71 \*\* FD'73 \*\* FD'75 \*\* FD'76 \*\* WAS \*\* WAC \*\*

Garrett/W6TRW Repeater: 145.32/- .600(2A-PL) -- UHF: 442.000in/447.000out

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#### CALENDAR FOR MARCH AND APRIL

Wednesday	Each Wednesday, noon	Emergency Communications Team Check-in. 145.32 via repeater and simplex.
Friday	Each Friday, 7-8am	Club Breakfast, S Cafeteria, VERY informal, good breakfast for less than \$2.00!!
Saturday	Mar 28, 8-11am	Swap Meet. Corner of Compton/Marine and Aviation, in Manhattan Beach. Seller's lot is directly behind the Standard Station. See new rules concerning Swap Meet Inside!!
Tuesday	Mar 31, noon	Club Meeting. <b>MEETINGS RETURN TO R4/1041.</b> Speaker will be Bill Larson. Topic will be RF Radiation Safety. Bring your badge for a free door prize ticket!
Tuesday	Apr 14, after work	Executive Board Meeting. All members are welcome! At Shakey's Manhattan Beach, 2000 N. Sepulveda Blvd., just south of Marine Ave.
Saturday	Apr 25, 8-11am	Swap Meet.
Tuesday	Apr 28, noon	Club Meeting, R4/1041.

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QST QST QST QST QST QST QST

#### TRW AMATEUR RADIO CLUB SWAP MEET

-- ATTENTION --

#### RULES CHANGE - EFFECTIVE SATURDAY, 28 MARCH 1987

Effective with the next TRW Amateur Radio Club Swap Meet on Saturday, 28 March 1987, the following rule change will take place:

No one will be allowed on the TRW property before 0600 on Saturday. This includes any of the TRW roadways or parking lots. TRW Security personnel have been instructed to remove anyone from the TRW property prior to 0600.

This rule change was required by the TRW Systems Employee Association (SEA) and was made necessary due to insurance liability concerns and cost.

The Swap Meet seller's lot opens at 0700, and the event is over at 1130. Vehicles, both buyers and sellers, will be allowed to enter the TRW property at 0600 - no earlier. Sellers can start to line up at the entrance to the seller's lot at that time.

It is strongly suggested that no one come to the Swap Meet area before 0600 so that we do not run the risk of being shut down by the City of Manhattan Beach due to neighborhood complaints about cars lining up during the night in front of their homes. Continued success can only be assured by strict adherence to the rules of TRW Inc., the City of Manhattan Beach, and the TRW Amateur Radio Club.

Frank Cartier, WA6RAY  
TRW Amateur Radio Club Swap Meet Manager

#### From the Library

George Lee, W6IOW

What's new in the March Issues of:

QST: The shopper's Guide to Packet Radio TNCs (info for new buyers).

Monolithic Microwave Integrated Circuits - Part 2 (performance).

The Omni-Shift Tuner (a system for HF Packet/AMTOR/RTTY).

How to Build and Use Balun Transformers.

Review of TR-751A 2 Meter All-Mode Transceiver.

HR: Modular Xmit & Rcv Converters for 902 MHz (using MMICs).

The TEXNET Packet Switching Network (Part I: System Definition and Design).

Simple IC-735 to C64 Interface (software controls freq, mode, memory and VFO).

C64 & GLB PK-1 Interface Circuit.

"Packetimer" for the PK-1

CQ: An Antenna Selector Switch with Auto Grounding.

Mission to Shanghai (by Ted Cullian, K6RF, ex-TRW member!)

What's new in soldering (informative!)

Review of the HW-6502 2 M HT and HWA-6502-2 Mobile Console.

73: Not arrived.

"Small High Efficiency Antenna (alias the loop)" by W5QJR is in the shack for your reference.

The library is looking for a home for some back copies of QST. We are also in need of some 8 1/2" by 11 1/2" boxes for storing magazines. If you can help call George Lee, his number is on the back page.



It looks as though we could lose the bottom 2 MHz of the 220 MHz Amateur Radio band. The Federal Communications Commission has filed on February 12th, a Notice of Proposed Rule Making (NPRM), General Docket 87-14, in which they want to change the allocation of 220-222 MHz from Amateur Radio (Part 97) to Land Mobile (Part 90) on a non-shared basis.

It is our purpose here and now to offer guidelines for all of us to voice our views on this grave issue. We believe that we must all unite behind defeat of this NPRM not only to save the 220 MHz band, but to stop any further encroachment upon valuable Amateur Radio frequency spectrum. With 2 Meters overflowing with activity and 440-450 MHz mostly closed, there is absolutely no other VHF band we can go to for clean, reliable FM two-way communications except the 220 MHz band. Plus, don't forget, most of the 2 meter repeaters are controlled on the low end of 220 MHz, and without those controls available your favorite 2 Meter repeater might be forced to be turned off!! Let's fight now for the band and squelch any further attempts to steal spectrum from all of us who enjoy Amateur Radio.

#### The following should be in your letter:

Item #1: You must name the NPRM number, 87-14

Item #2: You should identify yourself, give your callsign, and indicate your club affiliation, if any. Your use and especially your public service use of the band is important, but keep the letter brief and "to the point."

Item #3: Demand immediate call to action by your Congress person, because the F. C. C. will make the decision as soon after the deadline for filing reply comments as possible.

#### Address your letters to the following:

For California Hams:

Honorable Pete Wilson  
720 Hart Office Building  
Washington, D. C. 20510

Honorable Alan Cranston  
112 Hart Office Building  
Washington, D. C. 20510

Honorable Carlos Moorhead  
2346 Rayburn Building  
Washington, D. C. 20515

For out of California Hams, write your U.S. Senator. His address is found in your local telephone directory.

Please sent letters to these people also:

Fred Thomas  
Office of Engineering and Technology  
FCC  
2025 M Street, N.W.  
Room 7102 B  
Washington, D. C. 20554

William J. Tricarico  
Secretary, FCC  
1919 M Street, N.W.  
Room 222  
Washington, D. C. 20554

If you want your comments to be treated as "official" comments, you must send the original and 9 copies to Mr. Tricarico at the above address. If you only want to voice your opinion and not file a large document, by sending only the original and one copy your comments will be treated as "informal" comments. Filings must be on normal 8 1/2" by 11" paper. NO QSL CARDS WILL BE ACCEPTED AS COMMENTS. Remember, the deadline for filing your comments is April 6th, 1987.

Well, I guess that I put my plea for a new newsletter editor too far back in the last issue and nobody read it. However I am serious!! This is my last year and I want someone to come forth and start taking over the Crosstalk as soon as possible. This issue came this close -> <- to not getting out at all. My work is demanding more of my time and with a one week vacation this month I am typing this when it should be at the printer. So if you get this a little later than usual, it's because I couldn't get to it when I should have. My phone number and mail station are on the back page under Editor so examine your priorities and give me a call.

Past President Walt Pearson continued his sleuthing about the halls of TRW and is completely and totally responsible for returning our meeting room to us. I don't know all of the details but there were some shenanigans going on and one "club" had three meeting rooms tied up. In any case, the old room of R4/1041 is ours again and we will have our next meeting there! Fine job Walt!!

Weiler's Law: Nothing is impossible for the man who doesn't have to do it himself.

#### IS YOUR NAME ON THIS LIST??

If your name is included in the list below we have not received your check and a 1987 application. You will be dropped from the rolls of W6TRW membership. This is the last Crosstalk you will receive.

If you have sent in your check and application and find your name on the list, please contact Bill Dews immediately at 536-1656 and let him know. Also if you want to continue as a member of the TRW/ARC and cannot find an application, please call Bill and he will send you one.

Adams, R. J.  
Allen, B. R.  
Anderson, Chet  
Athanasas, T. J.  
Aust, M. V.  
Banjo, Michael A.  
Barker, Peter L.  
Barnes, Sanford H.  
Barnett, C. W.  
Barton, S. R.  
Blackmer, Dale H.  
Bogdan, Jim  
Browning, John W.  
Buskirk, J. G.  
Chapman, S. H.  
Cooper, G. A.  
Curtis, R.  
Dromgold, Ray  
Eleff, Rudy  
Farnsworth, E. P.  
Fisk, Marion  
Ford, Henry E.  
Garland, Earl E.  
Gilmore, Phillis  
Gorman, Bob  
Haines, Vern  
Harris, Stan  
Harris, Terry R.  
Houghton, Don E.  
Hudson, N. W.  
Huhta, Art  
Hurt, F. T.  
Ivers, Alan  
Jensen, Dale  
Joharchi, Adbolazim  
Kaspersky, Leon

Koenig, J.  
Lace, Bob  
Larson, J. C.  
Lee, Al  
Lee, Bill  
Lee, G. H.  
Macassey, Julian  
MacLean, John S.  
Martens, G. T.  
Medeiros, D. A.  
Moody, Douglas D.  
Moyand, Luis A.  
Mun, Chun S.  
Newport, Paul  
Orlich, M. C.  
Pettingell, J.S.  
Reinberg, Ed  
Robertson, R. H.  
Salcedo, R. V.  
Scharffenberg, D.  
Schultz, Ken  
Shepherd, J. R.  
Smiljanich, Mike  
Smith, D. L.  
Terrey, Ron Q.  
Thorpe, J. C.  
Treece, Richard H.  
Vennie, G. L.  
Ward, M.  
Warner, Richard  
West, Ernest C.  
Wheeler, E. G.  
Wheeler, P. C.  
White, W. H.  
Wike, J. W.

A matter which often escapes the attention of the performance minded radio amateur is the deterioration of antennas over time. This was recently brought forcibly to the attention of the users of the 2 Meter repeater, by some noticeably degraded repeater performance, but it really shouldn't take an operating crisis to remind us of the impact of our environment on our hobby. Unfortunately, many hams believe that if they spend enough money on a new antenna, that they will never have to touch it again after the initial "antenna raising party."

Several factors can work together against the unsuspecting antenna owner, to render a relatively new antenna useless, or worse yet, a source of interference. One concern, especially in Southern California, is the corrosive atmosphere in close proximity to the ocean. Sodium chloride (from sea salt), hydrocarbons, sulfur dioxide, and nitrous oxide from automobile and industrial exhaust combine with moisture in the air (especially fog) to react strongly with metals, especially the aluminum in many ham antennas.

Another condition which makes the problem even worse, is the fact that either by design or by chance, many antennas allow dissimilar metals to be used next to each other. The resulting galvanic action, in addition to the corrosive atmosphere already mentioned, just hastens the process. Finally, if corona discharge happens to be a problem in a particular installation, that also will speed the destruction of the antenna.

There can be several results from corroded antennas. The worst, and most obvious might mean broken elements or high VSWR, but some results can be much more subtle, although just as troublesome. For example, two metals separated by an "insulator" of non-conducting oxide can perform just like a diode rectifier in the presence of an RF field. If two RF fields are applied to this "diode," it can function as a diode mixer, and if the resultant mix happens to fall within the bandpass of the receiver which is connected to this antenna .... presto! we then have a condition which is erroneously referred to as "intermod." The seriousness of this condition, and degree to which it affects the receiver, will be related to many external influences: slight changes in the frequency of both mixing transmitters, amplitude changes in one or both of the mixing transmitters, temperature of the "diode" metals, and moisture content of the air.

There are several things which can be done to mitigate the effects of antenna corrosion. At the time of installation, all metal surfaces must be protected as much as possible from the environment. At points of necessary contact between two metal surfaces, and anti-oxidant (conductive) compound should be used, then the interface should be protected from the elements. Aluminum can be sprayed with clear plastic. Don't neglect mounting hardware. Many antennas have optional stainless steel hardware kits which are a good investment.

In any case, the best protection is a regular maintenance plan. Near salt water the antenna probably should be taken down and cleaned annually, although that might be a big task for larger beams. Metal to metal connections should be cleaned and reassembled, just as for a new antenna. Removing the antenna from service for a short period may seem like excessive work, but it will pay big dividends in antenna service and reliability.

#### Clarke's Law of Revolutionary Ideas:

Every revolutionary idea - in Science, Politics, Art or Whatever - evokes three stages of reaction. They may be summed up by the three phrases:

"It is impossible - don't waste my time."

"It is possible, but it is not worth doing."

"I said it was a good idea all along."

The meeting was called to order at noon by President Chris Wachs, WA2KDL. Twenty four members, and one visitor were present.

It was reported that the Vice President was unable to obtain a speaker for this meeting, and was unable to be present to present the program himself. He is working on a speaker for the next General Meeting.

The meeting minutes for the previous General Meeting could not be approved as they had been mislaid by the Secretary and not delivered to the newsletter editor for publication.

The Emergency Coordinator indicated that work was still progressing (slowly) on the Emergency Communications Plan which is being formulated by Security.

A report on planning for Field Day activities was given by Bill Schrecengost, KE6LB. Bill reported that the Field Day Co-Chairman Carl Kennedy was moving from the area and would be unable to participate in Field Day. Bill is looking for "a few good men" to volunteer to help, and will announce a planning meeting in the near future. It was also reported that the Club is looking for another LAACARC Representative to replace Bill Daley, K6BO who is retiring from the position after 5 years!

George Lee, W6IOW, gave a report on the Club Library followed by a report from the Activities Chairman Jim Wike, W6GPE. Jim reported that the Annual TRW/ARC Saint Patrick's Day Observance would again be held at Shakey's in Torrance, on Friday, March 13.

A discussion of the planned ARRL 1987 Networking Conference was then held, where it was observed that there was an announcement in the March QST describing our Club as host. More information on that subject will be presented to the membership as it is available.

The final discussion was a presentation regarding the proposed Torrance Antenna Ordinance. It was stated that the limitations on this ordinance (if it is passed) may be very far-reaching, and of interest to hams and commercial communications services outside the city limits of Torrance. The Hughes ARC is acting as a focal point for this issue, and would like concerned hams to contact them for information as to what they can do to effectively oppose this planned legislation.

The meeting was adjourned at 1300.

Parkinson's Second Law: Expenditures rise to meet income.

#### Field Day

#### Bill Schrecengost, KE6LB

Planning for the 1987 Field Day is progressing steadily. The Friendship Park site on the south east side of Palos Verdes Hills is committed again this year with the Los Angeles County Parks and Recreation Department. It is a quiet grassy park with restroom facilities and an unobstructed view in all directions except west. A near perfect RF propagation site!

Three Band Captain spots have been filled. As of this date we don't have Band Captains for 10/15 Meter CW, 20 Meter CW, 2 Meter VHF, and 40/80 Meter SSB. We are in need of operators and loggers for all bands. We hope to operate Class 7A, but may have to settle for 6A or 5A depending on how many Club members get involved. Anyone wishing to get involved in that ARRL sponsored fun weekend exercise, call me at 536-3316 and I will mail you an information sheet with a map of the Field Day site layout. Strong emphasis will be placed on training amateurs in all phases of radio communications (set up and operation of Packet, UHF/VHF, HF DX, etc). Field Day participants can help set up Friday afternoon or evening, or get involved in operating any one of the 7 radio stations from one to several hours as desired. If you like the great outdoors and camping and/or emergency communications you will love our Field Day exercise. Hope to hear from all of our Club members.

John's Collateral Corollary: In order to get a loan you must first prove you don't need it.

#### Emergency Communications Notes

Rich Sauer, N6CIZ

We've made some changes to improve radio communications this month. As you may have noticed if you've used the repeater lately, the W6NWP machine has a new home. Jim K7JAJ, Paul KG6CR and myself installed the repeater and antenna on building 134 at Vermont and 190th St. From the San Diego Freeway you can see the Isopole antenna near the wind sock at the top of the building. We now have the capability of switching to either the W6NWP repeater or the W6TRW machine on E2. Both sites have a back-up battery to keep us on the air in the event of a power failure. Future plans call for a voting system which will automatically switch over to the receiver that's hearing you best.

Swap Meet manager WA6RAY, Frank, has asked the Emergency Communications Team to help out at the swap meet every month. With almost 3000 people attending the event, the chance of some emergency cropping up is quite high. I've agreed that the ECT can help out by providing a person who will monitor the repeater, keep the frequency clear for swap meet coordination traffic and be available to call emergency services if needed. I'd like some volunteers who can schedule a couple of hours from 6 am to noon on the day of the swap meet. It won't take a lot of effort. Just listen and be ready to help if needed. If you have one of the Club's HT's, I'll be calling you and expecting you to help. This isn't just an exercise - it's a monthly activity that ECT members need to support! Speaking of exercises, the Wednesday noontime check-ins are becoming more popular, if the number of stations checking in is any indication. The net starts at 1200 and runs to 1215. News bulletins, announcements and traffic for the net are the first items of business. Then stations check in by reporting their location and power level. This gives us an idea of the coverage area of the repeater - something we need to know when we establish command posts in a real emergency. The net is quite informal and the only requirements for checking in are a two meter radio operating on the TRW repeater frequency of 145.32 and a 2A PL. Besides, if you check in I promise to put your call here in Crosstalk and make you famous.

Before I mention the list of famous people who checked in last month, let me say a special "Thank you" to Randy W6ZWS who has filled in as net control when I was unable to get on the radio. If anyone else would like to try their hand at it "go for it!" It really is kind of fun and is good experience in case a real emergency should occur and you are called on to be "it".

Ok. Now to that list of soon-to-be-famous ham radio operators who have checked into the Wednesday net. On February 11th the checkins were: N6CIZ (Net Control), KG6JP, W6IOW, N6DMV, N6MEL, W6IPM, W6ZWS and W6EKK. February 18th: W6ZWS, Randy (Net Control), W6EKK, W6IMQ and WD6??? Scott, who wasn't making the machine very well. The checkins on February 25th were: W6ZWS (net Control - again - where's that CIZ character, anyway?), W6EKK, W6IOW, W6MEL, KE6LB, N6JLS, KG6BH, WD6BNR, W6IPM and N6EXQ. On March 4th: N6CIZ (Net Control - about time!), KA6JKY, W6EKK, KG6CR, N6AZY, NU6U at W6TRW, W6IOW, W6ZWS and N6JLS. Thanks to all of you for taking the time to check in.

Lewis's Law: No matter how long or how hard you shop for an item, after you've bought it it will be on sale somewhere cheaper.

Scott's Second Law: When an error has been detected and corrected, it will be found to be correct in the first place.

Malek's Law: Any simple idea will be worded in the most complicated way.

Simon's Law: Everything put together falls apart sooner or later.

#### Swap Meet Volunteer Aide

Bill Montgomery, N6MEL

Well, I took the plunge last Saturday. Up at 5:45; stop at Winchells for coffee and a roll; race over to the TRW parking lot and check in with Frank Cartier, WA6RAY. So far, so good - then Frank tells me to monitor traffic entering the main entrance to the Swap Meet lot. He explains in detail what he needs me to do as to getting the sellers in as soon as possible and keeping the buyers out. "Will do," I respond.

Then the big moment arrived - it's 7 AM PST and the flood gate is opened. In pour dozens of would be sellers. Some are new..."where do I go?," they ask. "Take any empty space between the white lines," I reply! The regulars - they just zipped by in a cloud of dust and a hearty "Hi Ho Silicon."

One late regular said he had a spot all reserved by a friend. And sure enough he was in and setting up a few spaces from the entrance in a matter of seconds. I thought the lot was about full by then and had tried to tell him, but I was wrong.

I had a couple of rigs for sale myself so Frank parked me next to his vehicle which is right by the entrance. My ham buddy, N6NVS, Paul, kept an eye on my stuff while my attention was elsewhere on the entering vehicles. Later on when Frank said to close the main entrance I was able to walk around some and even made a purchase. A 20 Amp power supply for 40 bucks seemed like a good enough deal and even though I don't need one right now it will look good in the radio shack. Hi Hi. One just can't let these bargains slip by now can one.

Well, I had a great day. Frank took care of any problems that came up. I saw a lot of ham friends and made a couple of new ones.

If you haven't tried working a Swap Meet give it a go. Frank will surely appreciate the help and you'll be a better ham for it.

Johnson's Third Law: If you miss an issue of a magazine, it will be the issue which contained the article, story or installment you were most anxious to read.  
Corollary: All of your friends missed it, lost it or threw it out.

Etorre's Observation: The other line moves faster.

#### New Members - - Old Members

Welcome to the Club:

Norbert Nizze, KB6OKC, with a brand new Novice ticket, and working toward that next step Technician, but without a rig it may be tough going. Norbert is a member of the ARRL too.

R. Bruce Marcum, KB8AY, holder of an Advanced ticket and a ham for 14 years. Bruce's interests are in VHF and that Call sign is nice - KayBay (the 8 is silent) Hi Hi!! Bill Lee, W6RDH, has moved from his retirement haven in North Carolina to Carlsbad, CA! Bill wrote in his letter with his 1987 application that the heat, humidity and bugs drove them back to California's climate. Welcome back Bill.

Hope to see you all at the next Club meeting, Tuesday March 31st, back in Bldg R4, room 1042 at Noon!

You've no idea what a poor opinion I have of myself, and how little I deserve it. W. S. Gilbert

O'Toole's Commentary on Murphy's Law: Murphy was an optimist

#### Executive Board Meeting 10 Mar 1987

Jim Cox, K7JAJ

The meeting was called to order at 1735 by President Chris Wachs, WA2KDL. Twelve voting members and two visitors were present. Chris then introduced Harold Price, NK6K, who gave an explanation of the 1987 ARRL Networking Conference, to be held at Space Park on August 29, 1987. The explanation was followed by questions and discussion from the board members.

Vice-President Steve O'Neal, N6CRR, reported that the speaker at the next General Meeting would be Bill Larsen from TRW, who would speak on radiation safety. It was also noted that the next general meeting would be held in R4/1041 again.

Secretary Jim Cox, K7JAJ, gave a combined report for the Secretary and Technical Chairman, interspersed with much verbal abuse. The minutes of the last General Meeting were provided for inclusion in the Crosstalk. It was reported that the W6NWP repeater is now in service in a new location, with a new antenna and a back-up (emergency) battery. It will remain in service until an antenna party can be held for the W6TRW repeater. It was moved, seconded and unanimously approved that the Executive Board authorize the repayment of funds expended for the new repeater installation. It was then moved, seconded and approved that Rich Sauer, N6CIZ, be appointed by the board to fill the remaining term for Technical Chairman. The position of Secretary remains to be filled as Secretary/Technical Chairman Jim Cox resigned effective April 6th as he is leaving TRW. The Treasurer's report was presented in written form by Treasurer Dave Stockwell, WA6ATK. The treasury still shows a positive balance.

The Activity Manager's report was given by Jim Wike, W6GPE. Jim reported that all was ready for the annual TRW/ARC St. Patrick's Day festivities on Friday March 13, at Shakey's in Torrance.

The Trustee's report was then given by Phil Bergeron, N6PB. Phil stated that the level of activity was relatively low right now but could be expected to increase soon.

The Membership Chairman, Bill Dews, K6AWD, reported that there are presently 140 members (dues paid for 1987). Frank Cartier, WA6RAY, gave a report on Swap Meet activities. It was moved, seconded, and unanimously approved to approve the QST submitted by Frank, relative to Swap Meet arrival time. The QST is to be announced on repeaters, nets, bulletin boards, etc.

The Crosstalk Editor, John Keller, N6JLS, is still looking for a replacement, and will retire by the end of the year if none is found.

Emergency Coordinator Rich Sauer, N6CIZ, requested approval of the purchase of a Noise Bridge for use by Club members and at the Field Day site. A motion was made and after much discussion was approved.

The Field Day report was then given by Bill Schrecengost, KE6LB. Bill circulated volunteer forms and reported that some progress is being made toward appointing Band Captains and operators.

The meeting was adjourned at 1900.

The Peter Principle: In a hierarchy every employee tends to rise to their level of incompetence.

Corollaries:

In time, every post tends to be occupied by an employee who is incompetent to carry out its duties.

Work is accomplished by those employees who have not yet reached their level of incompetence.

#### Reducing VCR TVI

Chuck, W7MAP

Many of us are concerned about TVI. A particularly troublesome form of TVI is that which finds its way into home VCRs. After three early withdrawals from contests, I resolved to do something about my VCR interference, and hopefully find a solution that would keep both my kids and neighbors happy.

After five or six false starts, I discovered that most of the RFI was getting into my VCR from the shield on the 75 ohm coax. Most newer homes are wired for cable (as was mine), and three or four hundred feet of shielding makes a wonderful antenna.

To test for this kind of interference, simply remove the antenna connection from the VCR and (with tape playing) gradually put more power into your antenna system. In my case, if the cable distribution from my house was connected to the VCR, I had no interference while watching normal TV, but I found the picture was destroyed during record and playback. In my neighbor's case I destroyed regular TV as well as VCR record and playback with any power level above 100 watts. I also discovered that if I disconnected the cable system, I could run any power level and watch VCR tapes.

At first I tried to get the RFI off the shield by using all of the published methods, i.e., ferrite, highpass, filters, ground, etc. Nothing worked, until one day I figured that in a balanced system, both leads could be filtered. To accomplish this, I used two Radio Shack coax to 300 ohm baluns, and a six dollar balanced TVI filter.

To use the set up, simply hook the balun to filter to balun and place it into the line in front of the VCR. The results are very gratifying. I can run full legal power and simultaneously playback or record tapes on the VCR, in addition to watching regular TV. Somewhat more gratifying is the fact that my neighbor with the VCR hasn't had any interference after installing the same configuration.

Thanks to the Northrop Radio Club Newsletter who got it from the West Coast VHFer

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Scott's First Law: No matter what goes wrong, it will probably look right.

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Finagle's Fourth Law: Once a job is fouled up, anything done to improve it only makes it worse.

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Laws of Applied Confusion: The one piece that the plant forgot to ship is the one that supports 75% of the balance of the shipment.

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Putt's Law: Technology is dominated by two types of people. Those who understand what they do not manage. Those who manage what they do not understand.

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Antenna Facts: At a recent antenna raising party someone accidentally drove their car over one of the elements of the beam laying on the ground and it was immediately assumed that this was the driven element.

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Our copy is so bad this month that we can't afford to read it ourselves. We are writing this column blindfolded.