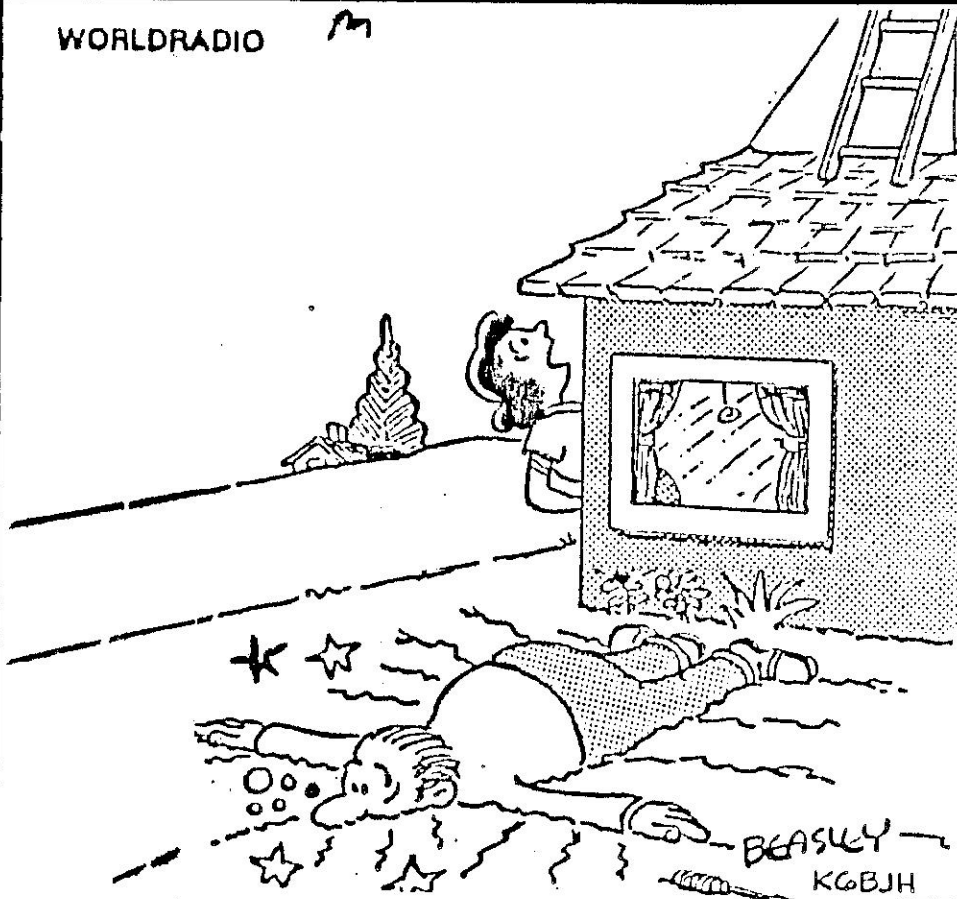




The READOUT

YEAR 12 NUMBER 1 JANUARY 1989

WORLD RADIO *M*



COME DOWN OFF 'OF THE ANTENNA AND
CONSOLE ME, WILLIAM --- I THINK I JUST
FELT AN EARTHQUAKE!

Stanislaus Amateur Radio Association, Inc.
P.O. Box 4601 Modesto, Ca 95352

The READOUT FACTS

READOUT is the official publication of the Stanislaus Amateur Radio Association Inc. "SARA" P.O. Box 4601, Modesto, CA. 95352. Entered as third class mail at the U.S. Post Office Modesto, CA. 95352. Contributions to The READOUT are always welcome and may be submitted to the editor, Bob Pinheiro, WA6ZLO at 1221 Mist Flower Ct. Modesto, CA. 95355. Permission is granted to reprint articles appearing in The READOUT with appropriate credit. SARA owns and operates two F.M. repeaters. 145.39 MHz (-) located on Mt. Oso, 22 miles SW of Modesto at an elevation of 3,370 feet. Our 220 MHz repeater operates on 223.68 MHz (-) and is also located on Mt. Oso at an elevation of 3,500 feet. Both repeaters are equipped with an autopatch for the use of SARA members. SARA owns and operates a Packet Digipeater, WD6EJF-1 also located on Mt. Oso at 3,500 feet. Frequency is 145.07 MHz. SARA conducts an informational net on both repeaters each Thursday evening at 800 pm with the exception of holidays. SARA meets the third Tuesday of each month at the Stanislaus County Administration building at the corner of 12th and H streets in downtown Modesto. Meetings begin at 730 pm. SARA is incorporated in the State of California, is an affiliated club of the American Radio Relay League (ARRL) and Stanislaus County RACES. Dues are \$20.00 per annum and \$10 for students up to sophomores in college. Dues are prorated for newly joining members from the date they join. ARRL memberships and QST renewals may be made through the club with a \$2.00 commission retained by SARA.

PRESIDENT

Phil Hartz.....WD0FFX.....523-9018

VICE PRESIDENT

Joanne ShafferN6SAH.....537-5205

SECRETARY

Linda Franklin.....N6REB.....537-1123

TREASURER

Laverne Landeros....KB6ECF.....578-5554

HAPPENINGS

Next SARA Meeting

January 17, 1989
Program

Open

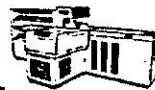
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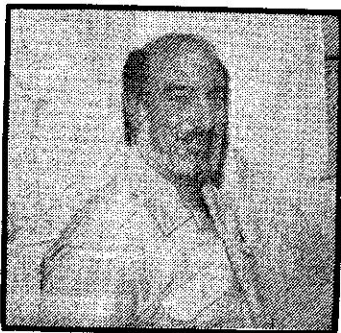
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KB6ECF

EDITOR'S NOTES

By Bob Pinheiro, WA6ZLO

1989 is getting off to a good start for SARA with the election of a strong slate of officers for the new year. Congratulation to the new officers and a big thank you to the 1988 officers who did an excellent job. Please join me in supporting our officers and wish them the best of luck for 1989. IF YOU HAVE FORGOTTEN to renew your membership, please sit down right now while your thinking about it and fill out the renewal form on page 18 of this issue and send it along with your check or money order to the club's post office box. We will be forced to drop your name from our roster and mailing list in February if we don't hear from you. Please don't let that happen. Everyone's support is vital. WELCOME ABOARD two new members. Dave Wallace, KA6-GJN, of Turlock and Kurt Dahdah, KICYH, of Ripon. Dave is an Investigator for the State and Kurt is an engineer originally from Massachusetts. OUR NEW PRESIDENT had his Christmas spoiled a bit when he was rammed by an errant driver at the corner of McHenry and Orangeburg Ave. just before Christmas. No injuries, but the family was shaken up. THE SONORA PASS REPEATER has been moved from it's original home on Confidence Ridge to the home QTH of N6HUH on Monte Grande Peak near Soulsbyville. The new elevation is right at 3100 feet. THE VCR RAFFLE was a very suc-

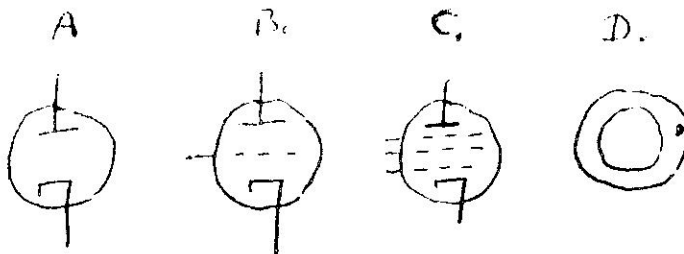
cessful fund raiser for the club, thanks to all of you who took the time to help out. According to the treasurer, we collected a total of \$939. The VCR cost us around \$250, leaving the club with a little less than \$700 for the treasury. Your support of this fund raiser was very much appreciated. It's your support that make things like this possible. THE TWO METER REPEATERS were off the air for a week just before Christmas. According to Leroy, NV6S, the control receiver on the main machine failed knocking it off the air. The backup machine was put into service but developed a problem with grunges and had to be shut down. Leroy and Dave, KJ6-DL, went up the hill and got things back to normal on December 26, 1988. Please remember, because of the death of Ray, WA6OQF, the auto-patch will be out of the circuit for awhile. The downlink equipment was removed from Ray house in December 26, 1988 and must be reinstalled at a new site. Once the new site is selected, we must wait for the phone company to install a telephone line and the entire system must be tuned up and adjusted. It is a very complicated system that takes time and equipment to set up right. Often, having the proper test equipment is a big problem since the death of Jack, W6OIN. Your patience is greatly appreciated. Happy New Year and 73.

BUILDING MATERIALS NEEDED

Last year the club purchased a cargo box to replace the aging two meter repeater building on Mt. Oso. We are getting ready to make the necessary improvements to it before it can be put into service on Mt. Oso and are in need of the following materials. If you have any of these materials and can DONATE them to the club, we can keep our expenses down and not have to hit the treasury as hard. So, please check your garage, shop, barn etc. and see what you have that you could spare for the cause. All donations, large or small, would be greatly appreciated. Please call Bob, WA6ZLO, 523-5880 any evening or anytime Saturday or Sunday if you can help.

- (1) 2 X 4 Douglas Fir (Eight foot Lengths or greater)
- (2) 4 X 4 Douglas Fir Pressure Treated -or- Redwood (Random Lengths)
- (3) 5/8 or thicker sheets of exterior (AC) plywood.
- (4) Corrugated Metal Siding (Random Lengths)
- (5) 1 X 4 or 1 X 6 D.F. Construction Grade
- (6) 1 1/4 inch galvanized sheet rock screws
- (7) 3'0" Solid Core Door, door jam, hardware (dead bolt latch)
- (8) Pier Blocks (12)
- (9) Bags of concrete mix.
- (10) 12/2 Romex Wiring
- (11) 12/3 Romex Wiring
- (12) 50 Amp or greater Electrical Panel
Should include pipes, etc to accept wiring from overhead.
- (13) 4 foot fluorescent light fixtures. We need at least three of these.

Name these tubes!



Answers on page 8.

(Thanks Jim, W6DYF, Sonora)

WA6OQF BECOMES SILENT KEY DEC. 20TH



It is with regret that we record the passing of Raymond Olive, WA6OQF. Ray was 74 when he died of a heart attack in his sleep at his home in Ceres on December 20, 1988. He was last seen alive by his step-son, Jim Greaves, around 7 pm on Sunday December 18th. He was found by a close friend two days later who went to his home to check on him after friends and family could not get in touch with him by phone. Ray had been SARA's chief control station for the repeaters for over 10 years and also provided the

facilities housing the SARA autopatch downlink. Ray was born March 20, 1914 just outside of Santa Maria, CA. and retired after 20 years as a motorcycle mechanic for the Los Angeles Police Dept. Ray was an avid motorcycle rider and together with his brother John, formed the first Modesto Motorcycle Club in the 1930's. He was a life member of the American Motorcycle Association and the ARRL. Ray's loves, in addition to motorcycles and Amateur radio, included the Louisville, Kentucky area where he spent many years, and a love for bluegrass music. Ray lived alone after his wife Nita passed away in 1981. In addition to his step-son, he leaves two brothers, Clarence of Merced and John of Santa Barbara. No public services were held. Ray was cremated and his remains buried at the Arroyo Grande, Ca. cemetery.

SARA AUTOPATCH OUT OF SERVICE

The SARA autopatch will be out of service until further notice because of the death of Ray, WA6OQF. The downlink portion of the system has been located at Ray's house for the past several years. It now must be disassembled and moved to a new at the home of Steve Faries, N6EKV, all of which will take time. Please bear with us! It's expected that the system will be down for at least a month. We will get it back in service as soon as possible.

GOT SOMETHING for the newsletter? Send it to the editor, Bob Pinheiro, WA6ZLO, at 1221 Mist Flower Ct. Modesto, CA. 95355. Packet? C/O WB6V-2, 145.07 MHz. Ceres. WB6V-2 can be reached direct from the Stanislaus County area or via WD6EJF-1 on Mt. Oso. Type C WB6V-2 v WD6EJF-1.

ON THE AGENDA

The December 20, 1988 meeting of SARA was called to order by President Bud, N6OCV, at 730 pm followed by introductions of approximately 40 members and guests.. Minutes of the previous meeting were read by VP, Bill, WA6OHP, and accepted. Treasurer report given by Bob, N6OCS, approved as read. The starting balance \$512.08 and the ending balance was \$1623.61. No news to report on the new two meter repeater building at this time. OCV reported on the passing of Ray, WA6OQF. Motion by John, KG6OU, and seconded that flowers be sent to Ray's funeral. Nominee's for 1989 officers were announced. For President, Phil, WDOFFX. VP, Wes, N6NUO and Joanne, N6SAH. Treasurer, Kevin, N6OGN and Laverne, KB6ECF. Secretary, Linda, N6REB. Secret ballots were cast and unopposed candidates were elected as

were KB6ECF and N6SAH. WA6ZLO reported that he had made arrangements with the County for the use of the meeting room for 1989. The January meeting date of January 17th conflicted with another county meeting and we will meet in the lounge next door for that meeting. ZLO inquired about the location of the proposed club station. OCV said that it was to be portable at this time. ZLO suggested that a permanent site be sought possibly through the County of City both of whom we have emergency communication commitments. Break at 830pm for refreshments and Christmas goodies. Following the break the raffle drawing for the VCR was held. The winner was Father Armando Vergara, HK1AWV, of Ceres. There were 939 tickets sold. Meeting adjourned at 911 pm.



RAFFLE WINNER!

CONGRATULATIONS to Father Armando Vergara, HK1AWV, of Ceres who was the lucky winner of the VCR in the SARA Raffle. Armando's ticket was pull from the basket at the SARA meeting in December.

MAIL FLOODS SARA MAILBOX FROM USA

As a result of a story that appeared in the December issue of WorldRadio magazine, the SARA post office box has been flooded with mail requesting a copy of the Ferrite Beads handout. The handout appeared early last year as an insert in The READOUT which was reprinted with permission from the author, Palomar Engineering in Escondido. Over 300 pieces of mail were received from all over the U.S. from Alaska to Hawaii and from California to New York and Boston. It was obvious that RF interference to electronic devices is a real problem judging from the requests. Notes attached to the requests indicated that the majority of the problems were with VCR's, stereos and the newer type electronic phones. In July, 1988, QST magazine published an excellent article written by Doug DeMaw, W1FB, on this subject. We have received permission to reprint this article and it appears in this issue of The READOUT. SARA recognized this problem two years ago and formed a TVI committee which is headed up by Dan, W6SBE who has had considerable experience solving TVI problems, especially with VCR's and garage door openers and can help you if you need help. Dan's number is 521-2032. If you want a copy of the Ferrite Beads handout send an SASE and a LEGAL SIZE envelope to Bob, WA6ZLO, at 1221 Mist Flower Ct. Modesto, CA. 95355.



HAVE YOU FORGOTTEN to pay your dues? Unless you paid in advance, your dues for 1989 are due NOW. Please use the handy renewal form on page 18 and send it and your check or money order to the club's Post Office box today. Also, you can make your ARRL (QST) membership renewals through the club and the club retains a \$2.00 commission. Make your renewal check payable to SARA and we will do the rest. Thank You!

Tube answers: A. Diode B. Triode C. Pentode D. Inner-tube

Joe Ham Versus VCR RFI

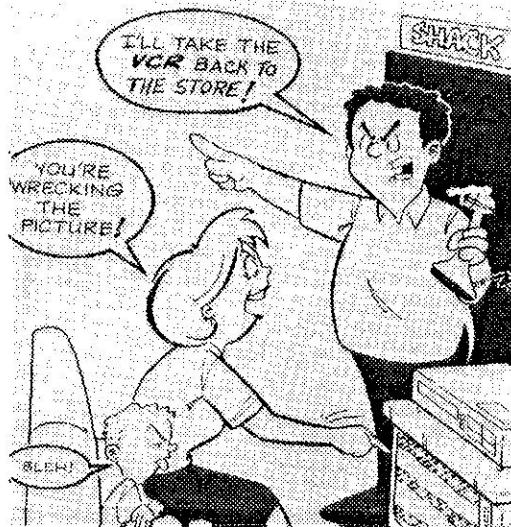
By Doug DeMaw, W1FB

Things were peaceful at the W1FB hostel until a VCR became a family member! There had been no TVI or RFI of consequence, even at maximum Amateur Radio power levels. Suddenly, the tranquility of our living room was transformed to a scene of mayhem each time I went on the air. Does this scenario strike a responsive chord? If so, you are probably among thousands of amateurs (and their neighbors) who face the annoyance of VCR RFI. It is not a simple challenge to meet. Cures for RFI can be effected, but it takes patience and a collection of suppression techniques.

We amateurs found it necessary to "square off" against the TV receivers of the late '40s and early '50s. Many TV sets of that era had no RF-rejection circuits, and going on the air varied from iffy to complete disaster in those days. Various TVI-prevention methods were developed and applied. Finally, we hams had a grip on the problem, and with now-standard cleanup measures, we were able to enjoy Amateur Radio without expecting an irate neighbor to knock on the door or jangle our telephones. We are up against a similar contender today—the wide-open VCR. Fortunately, many TVI-suppression techniques are applicable to VCRs. Let's examine the problem and some cures.

The Symptoms

VCR RFI manifests itself in a manner similar to TVI, since it is a part of the family-TV setup. Interference from amateur signals may appear as total blanking of the TV picture, or it may show up as bars and lines across the screen. The interference comes and goes as we speak



into the mic or key our transmitters. A family member may shriek from some other part of the house, protesting the presence of RFI/TVI! If you own a VCR, I'm sure you've heard something like, "Hey, you're wrecking the TV!" If you have not experienced this kind of TV-viewer anguish, you may be among the lucky few who own VCRs that operate cleanly when RF energy is present; I have heard reports about VCRs that appear to be immune to RFI. I have not been so lucky with my Sharp VC-584UB VCR, nor have a number of ham radio friends who own different brands and models of VCRs.

The problem is complicated, in some instances, by TVI that occurs even when the VCR is turned off! How can this be? Apparently, a VCR that is connected to a TV receiver (VCR turned off) can generate sufficient harmonic energy within itself to cause the TV receiver to be severely afflicted with TVI. I must assume that the diode junctions in the VCR transistors and ICs still receive enough RF energy to cause rectification, and this generates harmonics. Bingo! TVI!

Interference Suppression

We may enter the battle with some standard weapons in hand. First, we shall revert to the use of high-pass filters. One of these units needs to be located at the

antenna input jack of the VCR (better still, inside the VCR where the 75- Ω cable connects to the PC board). You can use the same type of high-pass filter that is used for TV receivers. It will allow the TV signals to reach the VCR front end with minimal attenuation, but will block the flow of HF-band signal energy. In severe cases of TVI/RFI, it may be necessary to use a second high-pass filter at the input (antenna) of the TV set. This was not necessary in my war against VCR RFI. In order for a high-pass filter to be effective, it must be connected (case and filter ground bus) to ground. A short, effective earth ground is best. However, I have had acceptable results when grounding the filter to the chassis of the TV receiver. Locating the ground for your VCR may necessitate removing the VCR case, so be prepared to do this if an external ground post is not found on the rear apron of your VCR. Figs 1 and 2 show high-pass filters that were designed by ARRL Technical Advisor Ed Wetherhold, W3NQN. They are easy to build, and the parts are inexpensive.

AC Line Filter

The TV receiver and the VCR need to be decoupled from the ac line by means of a filter. RF energy can migrate to the VCR and TV set via the ac line. I use the brute-force line filter that I described in *QST* for December 1986.^{1,2} Radio Shack sells an ac-line filter that works quite well, according to reports I have received from other hams.

In order for a line filter to be effective, it should be located as close to the equipment cabinet as practicable. Also, you will need an earth-ground connection to the case of the filter for maximum benefit.

An alternative suppressor for the ac line may be developed by winding a 1/2- x 7 1/2-inch ferrite rod (125 μ) with the ac line cord to the VCR, as shown at A in Fig 3. This RF choke must be located as close to the VCR as possible. The choke prevents the passage of RF currents along the ac cord. The brute-force ac line filter may be more effective than the ferrite choke for curing stubborn cases of RFI. Ferrite rods are available by mail.³ It is helpful to use an

ac-line filter at the transmitter as well. This helps prevent RF energy from traveling to the VCR and TV set via the house wiring.

A toroid core may be used in lieu of the ferrite rod of Fig 3A for making an ac-line choke, using the idea shown in B of Fig 3. The rod will be easier to wind than is a toroid core. In either event, the winding can be taped in position when it is formed. I prefer to use packaging tape—the kind with threads in it—for this job. It is less likely to get loose and gummy with time, which often is the case with black vinyl electrical tape.

Patch-Cord Treatment

The 75- Ω coaxial cables that are used to connect the VCR to the TV receiver, plus the coaxial antenna lead, may also act as pickup antennas for your HF-band RF signals. This is particularly true when the cables are a resonant length at your operating frequency (1/4, 1/2 wavelength, etc). Resonant cables act as good pickup antennas! The unwanted RF energy follows the outer conductor (shield braid) of the coaxial line, then flows along the VCR chassis and internal ground leads. This can induce RF energy into the VCR circuits. The high-pass filters discussed earlier should resolve this problem to a greater extent. But in especially difficult suppression exercises, you may aid your cause substantially by adding decoupling chokes to the patch cord and antenna lead. Such chokes are shown at B and C in Fig 3. Adding these may be done in the same manner as we discussed for decoupling the ac cord of the VCR. You may use a ferrite rod or toroid. Wrap four or five turns of the 75- Ω cable around a 1/2- x 4-inch ferrite rod, or through a large toroid core. These magnetic cores should also have a permeability of 125.

What About 300-Ohm TV Ribbon Line?

Your TV antenna may use 300- Ω balanced feed line. If this is the situation, use the 300- Ω high-pass filter from Fig 2.

Do not wrap the through a ferrite

Whether your coaxial or 300- Ω locate the TV feed your transmitting practicable. This minimize pickup energy (and the h TV-receiver feeds

Harmonic Interfer

Perhaps harmo mitter are causing



Fig 1—A 75- Ω hi toroidal inductor Amidon T-44-0 p uses 11 turns of

the 300-Ω line around or
the core.

If your installation has 75-Ω
ribbon TV feeders, try to
run the feed line as far away from
the antenna and feed line as
possible. This procedure helps to
eliminate unwanted HF-band
harmonics thereof by the
filter.

Reference

Electronics from your trans-
mitter, the disruption of the TV

picture. The cure must be effected at your
transmitter, assuming the TV feed line and
VCR are well removed from your ham sta-
tion and antennas. Here we revert to the
old standard method of cleaning up the
amateur transmitter. This calls for instal-
ling a low-pass filter at the output of the
transceiver or linear amplifier. This filter
will roll off all energy above 40 or 45 MHz,
depending upon the filter design. Your
low-pass filter must be located as near the
transmitter RF output connector as possi-
ble. The case of this filter, plus the chassis
of your transmitter, require a good earth

ground for best results. It is important to
realize that the low-pass filter will not work
correctly unless it is terminated at both
ends in its characteristic impedance—
usually 50 Ω. Therefore, you need to
pay attention to antenna matching. Alter-
natively, you may use a Transmatch
between the filter and your antenna feed
line to maintain an SWR of 1:1. High RF
voltage through the filter, caused by high
SWR, can ruin the filter (arcing and
heating). This is another reason why a low
SWR is important.

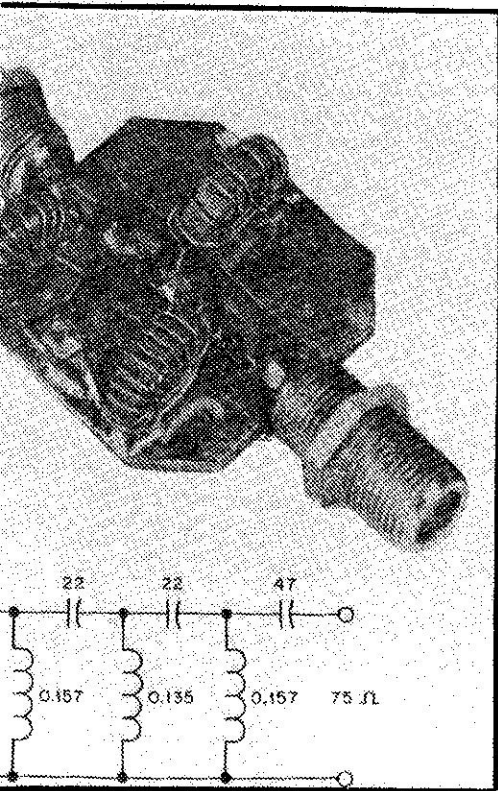


Fig 1—A high-pass filter assembly and circuit diagram. The
coils consist of 12 turns of no. 24 enameled wire on
powdered-iron cores (0.157 μH). The center coil
uses no. 24 wire on a T-44-0 core.

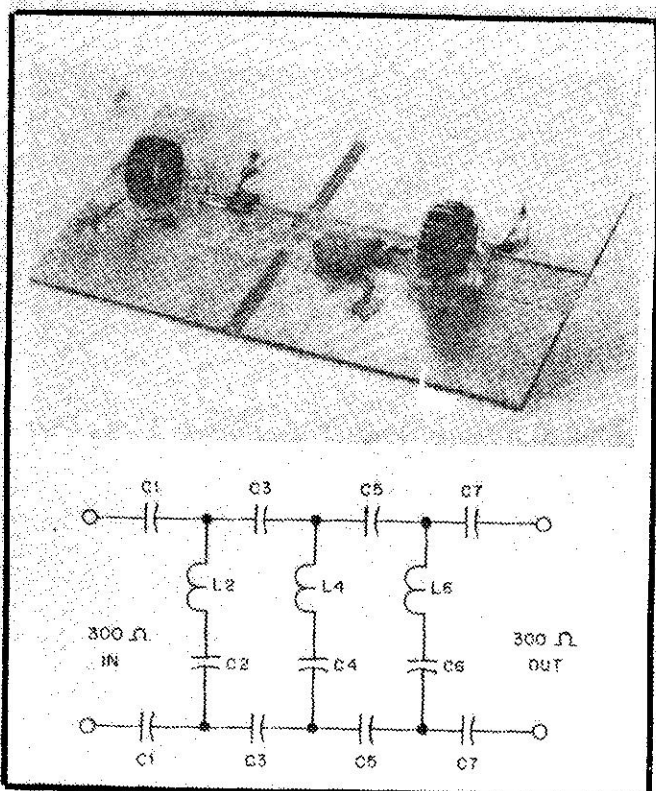


Fig 2—An assembled 300-Ω high-pass filter and diagram. The
capacitors are formed by the rectangles on double-sided PC
board material. Complete details are provided in recent editions of
The ARRL Handbook, interference chapter. Note: L2 and L6 are
placed on one side of the PC board; the center coil (L4) is on the
opposite side of the board (not visible).

What if These Measures Fail?

Now we're down to the nitty-gritty. We've tried the foregoing suppression measures, but RFI/TVI remain. We may have cured 75% of the problem, but lines and audio blurps are still showing up in the TV set. This suggests strongly that RF energy is leaking into the VCR through the cabinet, from the field of the ham antenna. Most VCRs that I have seen are housed in plastic cabinets. This leaves them wide open for incidental absorption of unwanted RF energy. Your computer may, in fact, radiate sufficient RF crud to spoil TV reception, if it is close to the VCR and TV receiver.

A desperate last measure calls for placing the VCR in a metal enclosure that is grounded. In most instances you need not enclose the front of the VCR. Rather, it may be inserted in a cabinet with no front panel. A worst-case interference problem could call for a screen door on the front of the shield enclosure.

No doubt you're thinking about how ugly an enclosed VCR might look in your family room. True, an unfinished metal cabinet could be an eyesore. If you use smooth metal, such as aluminum or galvanized furnace ducting, it will be a simple chore to cover it with variety-store

adhesive-backed vinyl material. The wood-grain pattern lends itself well to improving the aesthetics of a shield box. You may apply this covering inside and outside the outer cabinet.

In order for your shield box to be effective, you will need to ground the box—preferably to an earth ground. The chassis of your TV set may not allow the box to be effective as an RF shield. It may be necessary to provide ventilation at the top rear of the shield box. This will allow heat from the VCR to exit. Small aluminum knock-out vent plugs are available at large lumber yards and hardware stores for a nominal cost. I have used 1-inch vent plugs of this type for a variety of amateur projects.

Some Final Comments

I was able to clean up my Sharp VCR by using the methods described here. I did not need the outer shield box around my VCR. I use the cold-water-pipe system in my house for the earth ground at the TV/VCR site. I suggest you add one suppression device at a time until you cure the RFI problem. It is pointless to over-engineer the suppression job by adding devices that aren't necessary. If all else fails, take the darned thing to the dealer and demand a refund.

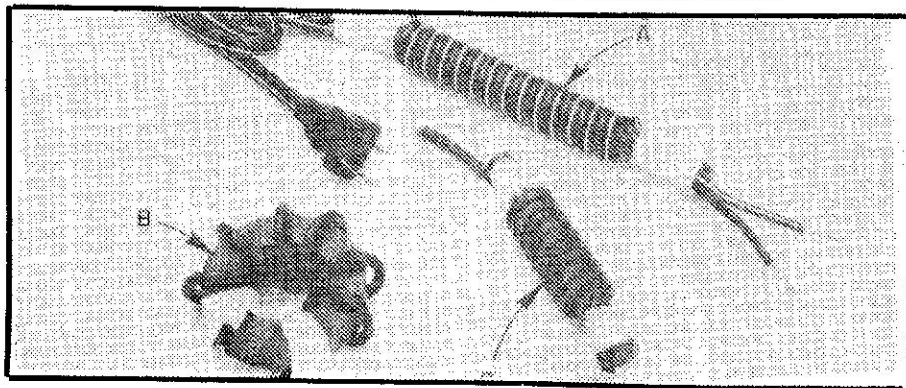


Fig 3—At A, an ac-line RF choke. It is formed by wrapping the VCR ac line cord around a 7½-inch ferrite rod (see text). The rod is an Amidon no. R-61-050-750. At B, an RF choke consisting of 75- Ω coaxial cable that is wound on a toroidal core. An equivalent RF choke on a 4-inch ferrite rod is shown at C. This short rod is an Amidon no. R-61-050-400. An Amidon FT-140-61 or FT-240-61 toroid is suitable for the toroidal choke.

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TECHNICAL REPORT

By Leroy, NV6S

As you know, both two meter machines were off the air for about a week just before Christmas. The initial problem with the main repeater was caused when we lost the control receiver on the hill. I decided to attack the low audio problem with the machine at the same time, so I brought it down the hill. In the mean time, the backup repeater was put into service but it started hanging up and I was forced to take it off the air. I put the main Spectrum repeater on low level here at my house in the interim while I repaired the control receiver. Dave, KJ6DL, and I, when back up the hill the day after Christmas and put the Spectrum back in service. But, Murphy rode up the hill with us and this time the Spectrum repeater receiver quit on us. In the mean time, we managed to get the backup repeater working. We then removed the repeater receiver from the main repeater and started down the hill. We got to the bottom of the hill when the backup started acting up again. So, we turned around and went back up the hill and worked on it again. We finally got it straightened out and it's been working OK since. Not quite sure what was causing it's problem, but it seems to prefer operating on it's own antenna, (Ringo Ranger) instead of the main antenna (Phelps

Dodge) and it's own cavities (duplexer). There may be a bad piece of coax from the duplexer to the transmitter. As to just what was found in terms of defective components, I replaced a capacitor in the control receiver and an audio amplifier in the 220 linking transmitter. I could find nothing defective in the audio circuitry, however, it lacked sufficient gain. I changed values of a series resistor on the mixer board and it now has plenty of gain. In addition to chasing its tail, the backup was sometimes locking up in transmit mode due to a transistor suffering from thermal runaway. The problem with the Spectrum receiver turned out to be the oscillator failing. I retuned the circuit and it came back to life. Phil, WDOFFX and I went back up the hill on December 28th and put the receiver in and put the main Spectrum repeater back on the air. All in all, things are in good shape now with the exception of some fine tuning to correct some minor distortion on the main receiver. I would like to thank Mike, W6VY, who helped out with valuable test equipment to help me trouble shoot the problems. Until the next time, I think I will just go find a bottle of Beams Choice and retire to a ditch somewhere. 73 de Leroy, NV6S, SARA Chief Engineer.

PACKETCLUSTER DIGI FOR MT. BULLION

A Packet system is taking shape in Northern California to enhance the DX spotting capability of many area hams. It operates on two digital frequencies, 144.950 and 146.580 with several "nodes" that are linked together in a "packetcluster" via 220 MHz. Many stations can connect to the system at the same time via a local "node" and get the benefit of many other DX'ers who are also scanning the bands in search of DX. They announce their finds via packet so others can find the DX and join in the fun. In our area, the node is W6LEH, in Modesto, on 146.580 (SIMPLEX). Alternately, some hams in the area, (North and South) are connecting to the W6GO, (Rio Linda) node via Net Rom Digi. DX3 on 144.950 in Pine Grove. This node, in the foothills is temporary, and will be gone soon according to locals in the know. It is not too hard to find your way around in the nodes, as (H)elp files are readily accessible to new users. The system is growing quickly, and another node is planned for Clovis, (K6XJ), and will likely be active by press time. The W6LEH node is currently using an input of 146.580 and is connecting to the "cluster" via 144.950 and DX3. Donations are requested for a 220 "radio" and

miscellaneous gear for a site atop Mt. Bullion, to get a "proper link" to the rest of the Packetcluster. There are many aspects of the Packetcluster which would be of interest to other than avid DX'ers. Propagation information, beam headings, sunrise and set times for areas of the world by call prefix, a "(T)alk" mode to exchange info. with pals, an (A)nnouncement mode for info for all "cluster" users and more! Additional "functions" are planned for the future. If you would care to lend support to the "Central Valley" Node, W6LEH, please contact me, WB7UGZ, Rick, or Denny, WG6P, who can give you further info regarding the DX Packetcluster and how you can help. The node technology and hardware is initially quite expensive, but all of that is in place. What is needed is the funding for maintenance and odds and ends of peripherals to make the thing fly reliably all of the time. For the packet user with a terminal, TNC, and a 2 meter radio, you are set. Just get in and join the excitement. But remember, seldom do you "get something for nothing." If you like what you see and want to keep it going, please chip in!! Thanks and 73 DE Tommy, WJ6O.

Please Pay Your 1989 Dues!!

DX NOTEBOOK

By Tom Farr, WJ6O & Denny Dugal, WG6P

Well, hello again DX fans. Lots of activity past and present to talk about this month. The 3W operation from North Vietnam is now history and the operators are surely home safe and sound in Hungary. If you did not work them, it was certainly only for a lack of trying. If by some wild stretch of the imagination you did not get them, there will be another expedition there beginning on January 20, 1989. The call sign then will be 3WOA and will be a combined effort by USSR and USA hams. In a unanimous vote, the DX advisory committee and the DX awards committee of the league have approved last springs operation of 4J1FS from MALY JVYSOTSKIJ ISLAND as a brand new DXCC country. Cards for this operation will be accepted by the DXCC desk after March 1, 1989. Also passed by the advisory committee was a recommendation that Rotuma Island, 3D2XX, be approved as a separate and therefore new country. This has raised a lot of speculation that there will soon be a lot of "new" ones applying for separate status. Under rule 2 of DXCC rules, an island group can be considered as separate providing there is a separation by water of at least 250 miles. Imagine all of the islands in the South Pacific that can fall under this ruling! Already there has been an application from FO5LZ in the Marquesas Islands for separate

status from French Polynesia. If this keeps up, we may soon see 400 DXCC countries! The US embassy in Egypt has provided us with some exciting CW from SU1EE. Look for Chuck (WA9INK) from there on 40 CW long path each evening and morning. He puts in a very respectable signal at about 7022 MHZ. C9-MKT from Maputo in Mozambique continues to keep his operating permission very active. Ron is allowed 3 days per month and comes up right on schedule. They are operating long path and even on CW finally. Next scheduled operation is January 13-15. Look for them on list operations, and especially with KA1DE (Snooky) at 21.335 at 1800Z. Biggest new news is the scheduled operation from VK9M, Mellish Reef from January 7-17, and then a continuation from VK9W, Willis Island starting in January after a 3 day sail from Mellish. This will be a full blown operation, all bands, all modes. QSL's handled by NM2L, with the usual SASE and donations gladly accepted. The subject of donations, especially to stateside managers of these expeditions, always creates a lot of controversy. Some claim that this is tragic and that ham radio has no place for solicitation of monies and in fact, could be a violation of the rules. Well, your editor feels this way. These expeditions cost a considerable amount of money. As an example, the recent

DX NOTEBOOK

(Continued from Page 15)

expedition of Jim Smith, VK9NS to Canton Island (T31JS) cost somewhere in the vicinity of \$50,000! Quite a staggering amount for a quick 59 sig report huh? So, don't feel insulted about sending a small donation to these expeditions. After all, without those guys, how can you work all the new ones? (HI.) The always on the move Colvins are on the road again. After a successful stop at Cyprus as 5B4 and ZC4, they have now surfaced from Malta, operating as 9H3JW. QSL to YASME. Where will Lloyd and Iris surface next?? As you can see, there is a lot of DX activity right now. Propagation continues on the upswing, with good morning openings on 10 meters and excellent long path 20. WWV reports look better all the time, and it won't be long before the flux tops 200. Dx tip of the month: On 80 and 160 meter CW,

when calling a DX station, slow down your sending speed a little. If you are used to 20+ WPM on 20, remember that 80 and 160 have a lot of QRN. I have gotten through pile-ups simply by sending at 10 WPM on these bands, as the DX can hear my call in between the static bursts. Keep the high speed to the bands where everybody is 20 over 9 in strength! OK everyone, that about does it for the month. I could go on and on, but then we wouldn't have anything for next month. I would like to take this time, on behalf of Tom and myself, to thank all of you for your comments about our column over this past year. Tom and I wish to you and yours the very happiest of New Years. Our hope is that 1989 will see lots more activity from the wonderful world of DX. 73 from Tom, WJ6O and yours truly Denny, WG6P.

V. E. TEST SCHEDULE FOR MODESTO

The Tri-County V.E. team has announced their testing schedule for 1989. The new test site is the Chrysler School at the corner of Conant Ave and Rumble (behind Heritage Ford on Sisk Ave.) in Modesto.

March 2nd Thursday night.	March 4th Saturday morning.
June 1st Thursday night.	June 3rd Saturday morning.
Sept. 7th Thursday night.	Sept. 9th Saturday morning.
Dec. 7th Thursday night.	Dec. 9th Saturday morning.

For more information contact Chet, W6XK, 883-2968 or Denny, WG6P, 571-9046.

1988 BAJA 1000 REPORT

By Al Platt, WB6NAO

We made the annual trip to Mexico to help provide communications for the Baja 1000 off road race the second week in November, 1988. Mel, WA6OYP my son Alan and me met Andy, KA6SJR, at the San Clemente State Park Wednesday morning and went south through Tijuana to La Jolla Beach Campground just south of Ensenada on Puta Banda where we spent the night. We made several contacts on HF with our new XE2 calls and several contacts on the Mt. Laguna repeater which was full scale at our location. One of the hams that lives at La Jolla came down for an eyeball Thursday morning. After lunch we went down to check point #12 at Santo Tomas which is in a small valley. The spot they had reserved for the radio crew was in some trees, under some power lines and 36 feet from the center of Hwy 1. Those Mexican truck drivers must gas up coming in so they can ride there Jake brake all the way through town.

Our checkpoint wasn't scheduled to open until 1500 hrs so we moved up into the motel parking lot after breakfast where we would be away from the power lines and the traffic where we had room to put up our dipoles. Not only did the racers have to compete with each other, but, also with the traffic on Baja's major highway. We kept the checkpoint open until a little after 1000 hrs to accommodate one of the entries from the USSR, but we passed him on the way into Ensenada so I guess he didn't make it either. The other entry from the USSR broke down before he got to checkpoint #12. We stopped at Sordo Mudo on our way out and then crossed the border at Tecate and spent the night at the Thousand Trail Campgrounds at Pio Pico. Andy left us after breakfast in San Diego and went home via Hwy's 15 and 395. We traveled 1,473 miles round trip from Pollack Pines and enjoyed every minute of it.

NO RECIPROCAL LICENSING WITH MEXICO

If you are thinking about traveling in Mexico any day soon, REMEMBER, we DO NOT have a reciprocal licensing agreement with Mexico. That means that you CANNOT operate in Mexico using your USA call. You must have a Mexican license which is not that easy to get. The ARRL and LMRE (Mexican ARRL) are working on such a an agreement and it may become a reality soon.

In the meantime, if you try to take your equipment into Mexico it will probably be confiscated at the border. If you are planning well in advance and would like to apply for a Mexican license, contact the ARRL for a package on how to do it.

**STANISLAUS AMATEUR RADIO ASSOCIATION
MEMBERSHIP APPLICATION**

DATE:	NEW \ RENEWAL	: YEAR
NAME:		CALL:
ADDRESS:		HOME PHONE:
CITY:	STATE:	ZIP:
BUS. ADDRESS:		B\P:
OCCUPATION:		DATE OF BIRTH:
CLASS OF LICENSE: E A G T N	YEAR FIRST LICENSED:	
WHAT AMATEUR RADIO PUBLICATIONS DO YOU SUBSCRIBE TO? (QST) (WORLDRADIO) (73) (CQ) OTHERS:		
ARE YOU A MEMBER OF THE A.R.R.L.? (Yes) (No)		

DUES!

Full Membership (Licensed Amateurs): ... \$20.00 Per Year
 Associate membership (No License): ... \$10.00 Per Year
 Students up to Sophomore in college: ... \$10.00 Per Year
 Family: \$20.00 for the head of the household and \$10 for each for the next two members.
 Maximum of \$40.00. The fourth or more members living in the same house are free.

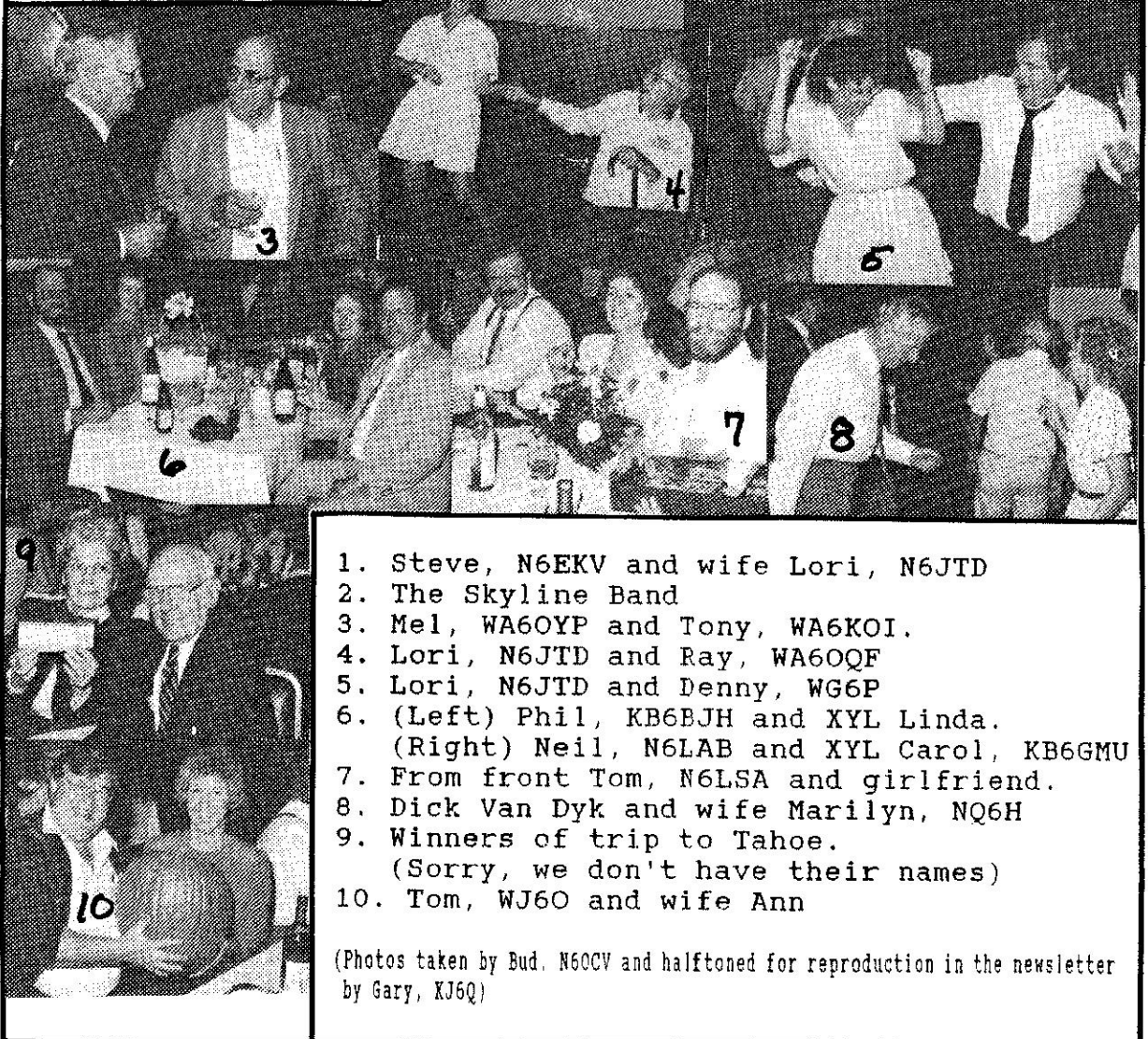
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SARA DINNER DANCE

October 15 th



1. Steve, N6EKV and wife Lori, N6JTD
2. The Skyline Band
3. Mel, WA6OYP and Tony, WA6KOI.
4. Lori, N6JTD and Ray, WA6OQF
5. Lori, N6JTD and Denny, WG6P
6. (Left) Phil, KB6BJH and XYL Linda.
(Right) Neil, N6LAB and XYL Carol, KB6GMU
7. From front Tom, N6LSA and girlfriend.
8. Dick Van Dyk and wife Marilyn, NQ6H
9. Winners of trip to Tahoe.
(Sorry, we don't have their names)
10. Tom, WJ6O and wife Ann

(Photos taken by Bud, N6OCV and halftoned for reproduction in the newsletter by Gary, KJ6Q)

CALENDAR

Jan.	17,	1989.....	SARA Monthly meeting.....	730 pm
Jan.	28,	1989.....	VE Tests Merced College.....	900 am
Feb.	21,	1989.....	SARA Monthly meeting.....	730 pm
Mar.	2,	1989.....	VE Tests in Modesto	630 pm
Mar.	4,	1989.....	VE Tests in Modesto.....	900 am
Mar.	18,	1989.....	SARA Monthly meeting.....	730 pm
Apr.	18,	1989.....	SARA Monthly meeting.....	730 pm
Apr.	21-23,	1989.....	DX Convention in Visalia.....	3 days
May	16,	1989.....	SARA Monthly meeting.....	730 pm
Jun.	1,	1989.....	VE Tests in Modesto.....	730 pm
Jun.	3,	1989.....	VE Tests in Modesto.....	900 am
Jun.	20,	1989.....	SARA Monthly meeting.....	730 pm
Jun.	23-23,	1989.....	Field Day.....	24 hrs
July	18,	1989.....	SARA Monthly meeting.....	730 pm

SARA meets the third Tuesday of each month (except holidays) at the Stanislaus County Administration Building at 12th and H streets in Modesto. The meetings are held in the lower-level conference room starting at 730 pm. Visitors and interested parties are welcome.

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