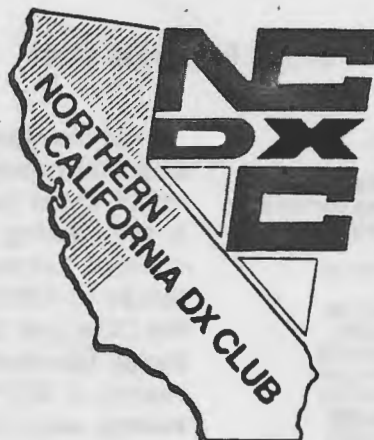


THE



DXer

FEBRUARY 1988

VOL XLI - NUMBER 2

CALENDAR

- Feb. 7 North American Sprint, CW.
- Feb. 12 NCDXC February Meeting.
- Feb. 13-15 YL/OM Contest, Phone.
- Feb. 14 North American Sprint, Phone.
- Feb. 17 Repeater expansion ballots should be in the mail by today!
- Feb. 17 NCDXC Board Meeting, W6VG QTH.
- Feb. 20-21 ARRL DX Contest, CW.
- Feb. 24 Deadline for inputs to Mar. *DXer*.
- Feb. 26-28 CQWW 160 Meter DX Contest, Phone.
- Feb. 27 Antique radio flea market, Foothill College.
- Feb. 27-Mar. 1 YL/OM Contest, CW.
- Mar. 5-6 ARRL DX Contest, Phone.
- Mar. 11 NCDXC March Meeting.
- Mar. 26-27 CQWW Prefix Contest, Phone.
- Apr. 22-24 Visalia International DX Convention, Grosvenor Holiday Inn, Visalia. Hotel reservations: (209) 651-5000.
- Apr. 29-May 1 Dayton Hamvention, Dayton, OH.

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**NEXT MEETING - FRIDAY, FEBRUARY 12
TOM SCHILLER, N6BT, TO SPEAK**

We'll celebrate Lincoln's birthday this year by holding our regular monthly meeting at Harry's Hofbrau, Palo Alto. Take Embarcadero Road East from the Bayshore Freeway in Palo Alto to the Palo Alto golf course. Contester Supreme Tom Schiller, N6BT, will discuss methods for optimizing your scores for the upcoming ARRL DX Contests. This should be a

good one. Cocktails at 6:00 PM, dinner at 7:00, meeting at 8:00.

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FROM THE PREZ

This is the month when we determine the destiny of our repeater expansion question. Later in this *DXer* you will see a summary of the repeater subcommittee efforts headed by AA6G. Many hours of effort were spent by the committee in their assignment to present a meaningful report to all club members. I am sure you will agree that this is an assignment yielding results that will not please everyone. Keep in mind that the purpose of the report is to present the relative merits of the various technical proposals offered. Any of the four technical solutions will work and the decision to implement a specific solution is predicated upon further evaluation efforts and your direction of whether to (or not to) expand the repeater. A return addressed postcard is also contained in this *DXer*. Please take time to read the subcommittee report and **VOTE** for your preference. I thank all members of the subcommittee for their outstanding effort and for enduring some stress while arriving at their conclusions.



Ted, KA6W

**ALL CARDS MUST BE POSTMARKED
NO LATER THAN 17 FEBRUARY TO BE
COUNTED AND PUBLISHED IN THE
MARCH *DXer*!**

The ARRL DX contests start this month (CW) and end in March (Phone). In order to sweeten the reward (in addition to beating the SCDXC) your Board of Directors is offering a reward to all NCDXC members who participate and submit log entries in either the CW, Phone or both portions of the ARRL DX contests. Read on and learn about what the B.O.D is offering.

The DXer - February 1988

THE NORTHERN CALIFORNIA DX CLUB, INC.

P.O. BOX 608, Menlo Park, CA 94026

The DXer is the bulletin of the NCDXC and is published monthly for the benefit of its members. Permission to use any portion of this publication is hereby granted, provided credit is given to the DXer.

NCDXC OFFICERS

President	Ted Algren	KA6W
Vice Pres.	Jim Knochenhauer	K6ITL
Secretary	Roger Gearhart	W6PKB
Treasurer	Frank Holst	W6ZKM
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Director	Chuck Vaughn	AA6G
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PO Box 473, Redwood Estates, CA 95044

Send DX ladder reports to

Jim Hicks, KK6X

2260 Santa Fe Dr., Santa Rosa, CA 95405

NCDXC REPEATER W6T/R

Input 147.96 MHz; Output 147.36 MHz;

Simplex 147.54 MHz

Trustee	Bob Vallio	W6RGG
Repeater Committee chairman	Lou Beaudet	K6TMB

NCDXC THURSDAY NIGHT NET

On W6T/R Thursday at 8:00PM local time.

Operations Manager	Ralph Hunt	AG6Q
DX News	Phil Garrahan	W6LQC
Propagation	Al Lotze	W6RQ
Contest News	Bob Dorsey	K4UVT
Westlink	Dave Buttom	KD6AZ
Swap Shop	Steve Munro	KZ6Z
QSL Info	Jan O'Brien	K6HHD

NCDXC DX BULLETIN BROADCASTS

Trustee	Bob Vallio	W6RGG
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W6TI, the NCDXC memorial station, broadcasts DX bulletins each Sunday at 1800 PST (Monday at 0200 GMT) on 7.015 and 14.002 MHz.

Oh yes, come to the February meeting and learn how to maximize your scores! Rumor has it that the Great Contest Kahuna will perform his down home/up-beat sunspot dance to ensure great conditions for the contest Shoot-Outs...same meeting.

The time has come to select our DXer of The Year. Ruben, WA6AHF and his committee are looking for nominations. Send your nominations to Ruben, Ron Panton, W6VG or Lee Williams, WA6IME. Some deserving NCDXC member deserves your nomination!

Vy 73 es GUD DX,

Ted, KA6W

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MINUTES OF THE JANUARY 1988 MEETING

The January meeting of the NCDXC was held at Harry's Hofbrau, Palo Alto, on January 8, 1988. The president, Ted, KA6W, opened the meeting at 7:35 PM. Vice president Knock, K6ITL, welcomed our many guests. A special announcement to remind the mem-

bers of the rapidly approaching DX convention in April and that rooms at the Inn are in short supply. Jim, W6CF, made two awards on behalf of Catperson, who is still basking in the sun at Malibu. The first, the coveted Catperson Achievement Award, was presented to K6SMH/G0CLY for his unstinting support of the DXer over the past year. The second was a special badge (donated by KA6W) honoring important advances in QRP technology made by W6KH. Both awards were humbly accepted in person by the respective winners. Bob, K4UVT, again reminds us all of the impending ARRL DX contests and the need for us little guys to turn in our scores in as well as those of the heavy hitters. The BOD is considering recommending a participation award. Larry, KG6GF, presented plaques and awards to the winners of the 1987 Summer Marathon. For SSB, 1st place winner was WN6R with 176, for CW, W6YHM with 166 and for mixed, K6ZM with 144. The treasurer's report was accepted as published in the DXer. Knock explained the price increase on the club QSL cards. Simply stated, the new supply cost more and the added costs are passed on to the consumer. The program for the evening was a travelog presented by Hillar, N6HR, on his recent trip to New Zealand. The slide show was excellent and enjoyed by all. Two former members, W6TUI and WA6TJM, were welcomed back into the fold and Larry Knain, W6NWS, was inducted into membership. First readings were held for K2ITG, WG6H, K6PJV, WB6AFJ, K1LHT, WX5S, WA6YFD and WB6ITM. The BOD had waived first reading attendance for the latter two applicants, WA6YFD for illness and WB6ITM for inconvenience. However, the membership assembled voted to overturn the Board's action on WB6ITM and the secretary was requested to extend to the applicant a warm invitation to resubmit his application when he will be able to attend. The membership felt strongly that the tradition of having new applicants present themselves at the first reading was too important a custom to be suspended except in extreme cases. The meeting adjourned at 10:12 PM.

A good time was had by all.

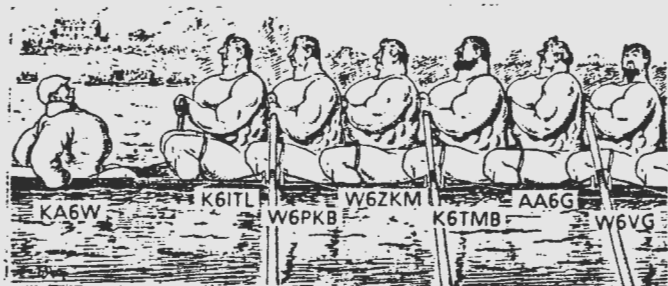
Respectfully submitted,
Roger A. Gearhart, W6PKB
Secretary

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MINUTES OF THE JANUARY 1988 MEETING OF THE NCDXC BOARD OF DIRECTORS

The president, Ted, KA6W, called the meeting to order at 7:10 PM at the home of W6VG. Present were club officers K6ITL, W6ZKM, W6VG, AA6G, KA6W, K6TMB and guests W6M'KM and W6CF; W6PKB appeared later. The DXer of the Year Committee was

discussed. Ruben, WA6AHF, is the committee chairman, as announced earlier. Frank, W6ZKM, gave the treasurer's report. Dave, N6AUS, had been invited to attend the meeting in his capacity as Data Base Manager, but was unable to attend. Steve, W6MKM,



The NCDXC BOD - Steering a Straight Course

reported that the raffle netted a profit of \$46. Jim, W6CF, gave an overview of DXer costs. The size of the publication and the content of the February DXer were discussed. Chuck, AA6G, presented the repeater subcommittee report analyzing the four proposals. The BOD voted to accept the report of the subcommittee with the stipulation that the costs to the NCDXC and the user groups be included in the table. The BOD gave thanks and high praise to the committee for a job well done. Ted, KA6W, appointed a committee of K4UVT, W6ZKM and W6PKB to work on a suitable award for participation on behalf of the club in the ARRL DX contests.

The meeting adjourned at 10:17 PM.

Respectfully submitted,
Roger A. Gearhart, W6PKB
Secretary

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TREASURER'S REPORT - JAN. 1-31, 1988

[Correction: The date span given for the Treasurer's Report printed in last month's DXer was incorrect. It was given as Oct. 1-30, 1987. The report was actually for Dec. 1-31, 1987. Sorry! de W6CF.]

Checking account activity

Dec. check balance	\$4138.94
Deposits from dues	88.00
Other receipts	531.50
Subtotal	\$4758.44
Accounts payable	(737.08)
Current balance	\$4021.36

Bank of America Savings \$11261.31

Reserve Fund/Savings Account

Dues Life Members 86-87	\$ 624.00
Dues Life Members 87-88	624.00
Subtotal	\$1248.00

At depletion of reserve fund-
Savings balance \$10013.31

Certificate of Deposit American S&L
1 yr 7.411% annual yield \$5800.00

Frank H. Holst, W6ZKM
Treasurer

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IMPORTANT NOTICE

PLEASE MAIL REPEATER EXPANSION BALLOTS NO LATER THAN FEBRUARY 17

Each voting member of the NCDXC will receive a postcard ballot on repeater expansion with this issue of the DXer. In order to tabulate votes in time for a full report in the March issue of the DXer, President Ted, KA6W, requests that all ballots be in the mail no later than February 17. Ballots mailed after February 17 may not arrive in time to be counted. Vote!

IMPORTANT NOTICE

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W7PHO, SILENT KEY

We are sad to report the death of Bill Bennett, W7PHO, on December 23, 1987. Bill was 78 years old. He died of a heart attack while sitting at his radio. He had completed a QSO with one of his many DX friends. T18CBT, and was monitoring the Family Hour Net. Bill added a lot of color to the DX world and will be missed by many. The Family Hour group is planning to continue the Net as a memorial to W7PHO. WA3WIP is looking for input from Bill's many friends to put together a record of his accomplishments. If you have anything to add please send it to George, WA3WIP. Joanie, KA6V, is taking over Bill's QSL Manager chores.

The W6GOIK6HHD List

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10 KW CB AMPLIFIER SIEZED

On December 4, after conducting a lengthy investigation, the FCC Atlanta Office along with the US Marshal's Service, seized an estimated \$10,000 worth of electronic equipment, including a 10- kW linear amplifier, from the resident of Althur Ford, in Ellenwood, GA, according to an FCC Public Notice

The use of this equipment is prohibited under section 301 of the Communications Act, and FCC Part 95. Penalties include fines of up to \$100,000 and imprisonment. This is part of a program by the FCC to curtail operation of illegal CB equipment.

ARRL Letter

GOLDEN JUBILEE DXCC AWARD PERIOD ENDS; APPLICATIONS STILL ACCEPTED

This is to remind those who are working toward the Golden Jubilee DXCC award that the award period ended December 31, 1987 at 2359 UTC. Applications will, however, be accepted until December 31, 1988. According to the DXCC desk, over 4100 certificates have been mailed out so far.

Applications *must* be made on an official Golden Jubilee DXCC application blank. They are available from ARRL Hq. or from *DXer* editor W6CF for an SASE.

ARRL Letter & W6CF

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C9MKT NOW COUNTS FOR DXCC

The C9MKT documentation has been accepted by the ARRL. Ron had permission to operate from Nov. 23 through December 6.

QRZ DX

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AUSTRALIAN DX NET UPDATE

Listed on page 39 in the January, 1988 issue of 73, were several DX nets within Australia. A number of updates to the list have been supplied by Jim, VK3YJ, as follows.

ANZA Net - meets on 14.135 MHz at 0500 UTC.
Contact: VK4CPA, ex VK3PA.

Pacific DX Net - not currently active.

14.220 Nets - Jim Smith, VK9NS, runs a net on this frequency six days per week at 0600 UTC. The 7th day session, on Monday, is for YL operators only. The YLs will gladly accept rare DX stations, or new YL operators giving them a call.

Tnx NA5E/73 Magazine

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NEW ADDRESS FOR XU1SS

A new address has been reported for XU1SS, reportedly, because the Nonthabury address has been compromised. The new address is: Mr. Chou Hieng (P.S.), P.O. Box 17, Aranyaprathet Prachinburi 25120, Thailand. No callsign or operator's name should be mentioned on the envelope.

W2FGD via QRZ DX

REPORT FROM LLOYD AND IRIS

10 January, 1988
Kathmandu, Nepal

Dear Friends:

Our YASME operation as 9N5QL lasted from 27 December 1987 through 7 January 1988. We made 3,500 QSOs, half phone and half CW, on 28mc thru 7mc. Hams were contacted in 121 countries.

We were restricted as to frequencies and time of operation, but it did not seriously interfere with the operation. We were very lucky to obtain permission to operate, which was especially granted in honor of the King of Nepal's birthday. There are only two permanent hams in Nepal, Father Moran, 9N1MM, and Chief Radio Engineer, Krishna Khatri, 9N1MC. A group of amateurs from Japan operated as 9N7YDY during part of the time that we were there. All of the hams listed were a great help and helped us install and make repairs to our station.

We had one of our all-time lucky breaks. We arrived past midnight and asked a taxi cab driver to take us to a hotel. He did not know tht we were radio amateurs and neither did the hotel managers. When we awoke in the morning, we found that we were in a room on the top fourth floor all by itself, and on the roof above, an additional floor with a sun-deck about 10' x 10' with regular stairs leading to it. It was a magnificent place for our beam. We could have searched for a month and not found a better QTH located on a high place in the center of Kathmandu in the Himalayan Mts.

There is no QSL bureau in Nepal, so all QSLs should go to the YASME Foundation.

73 es 88.

Lloyd Colvin
W6KG

Iris Colvin
W6QL

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MARION ISLAND ZS8MI???

Word from Bill, ZS6XD, confirms the prevailing wisdom that any operation from Marion Island ZS8MI this year is extremely unlikely. ZS6BBY and ZS6RM have had their application to operate from ZS8 turned down, as previously reported. The authorities have made it very clear that anyone who wishes to operate from Marion must be a South African who is willing to join the regular research team for a 13-month tour of duty. This year's team is fixed, so any operation will not start before next year. The authorities have not received any application to operate or even visit

Marion from George Collins VE3FXT, so the chances of that operation coming to pass appear to be nil.

The DX Bulletin

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NEW ASSISTANT MANAGER, DXCC AT HQ

ARRL Hq. has just announced that Glen E. Norton, KA1OTG is the new Assistant Manager in the DXCC Branch at HQ.

Glen is from New Britain Connecticut, was first licensed in 1986, and now holds a General class license. He is currently attending Central Connecticut State University, part time, majoring in Computer Science.

Glen is interested in DX, enjoys CW and 20-meter phone.

ARRL Letter, Jan. 15, 1988

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DX CALENDAR

Thanks to *The DX Bulletin* and *QRZ DX* for the following.

Auckland - ZL1AMO and company is scheduled to fire up Feb. 5 for about 10 days. They have SSB and RTTY capabilities, as well as Ron Wright's preference for CW. Remember he listens down as well as up. Sunrise 1740Z, sunset 0820Z. QSL to ZL1AMO.

Baker-Howland - Jim Smith, VK9NS, says that he has chartered a ship from Tarawa for March 21 to April 8 (4 days travel each way) for about \$25,000. The 23 small donations received so far won't cover many expenses, and even \$2,000 from the NCDXF is less than the HIDXA is contributing. He welcomes your help.

Guinea-Bissau - K8MN has received his license as J52US. Bill expects to be very active for the next two years on all bands and all modes, including RTTY. He is currently favoring 21275 kHz at 1700Z. QSL to WA8JOC, but be patient - no cards are yet on hand.

Marshall Islands - Karl, DL1VU, should come on from Marshall Is. soon, after a short stay in Guam. Karl prefers CW. Watch 7005 kHz at 1230Z +. Sunrise 1950Z, sunset 0810Z. QSL this KX6 operation to DL4YAH.

Mauritius - W1AW says 3B8FQ will be there through March. Try 20 CW 1915-2015Z.

South Georgia - Reg, VP8BPZ, still hopes to be QRV the first week in February. Watch 14295 at 1300Z.

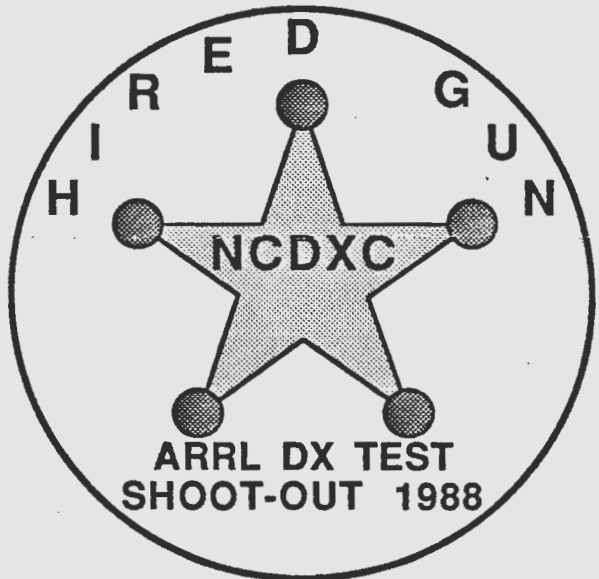
Western Samoa - Beni, HB9CVX, is on a Pacific tour, starting in Western Samoa early Feb. CW only on 3510-20, 7010-15, 14030, 21030, 28030 kHz, listening up 2. QSL to Box 88, CH-6000 Lucerne 10, Switzerland. Use the above address - the Callbook reportedly has the wrong box number listed.



Big Guns and Little Pistols for the February and March Shoot-outs at the ARRL DX Contest Corral.



Join the Posse and Earn Your Badge.



To be awarded to all Phone and/or CW participants who submit a log.

Badge designed by AA6G

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DARLEY CLUB TO BE ACTIVE IN ARRL TEST

Jerry Bliss, G0CLY/K6SMH, reports that the Darley Radio Club plans to make a big effort in the upcoming ARRL test, both phone and CW. The call will probably be GB5DX, a special events call used before by the Darley group.

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CHINESE BROADCASTING ON 7 MHZ QRT

JARL President Shozo Hara, JA1AN, reports that all Chinese broadcasting within the 7-MHz amateur band has ceased.

This objective was the result of a 17-year campaign by JARL and the Ministry of Posts and Telecommunications of Japan.

ARRL Letter, Jan 15, 1988

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NEW DIRECTORS FOR THE NCDXF

Theodore P. Algren KA6W, and Bruce W. Butler, W6OSP, have been elected to the Board of Directors of the Northern California DX Foundation. Ted currently is President of the Northern California DX Club, and Bruce is Vice President of the Redwood Empire DX Association, so each new Director brings to the Foundation an extensive background of DX as well as business-related expertise. Also serving on the all-volunteer NCDXF Board are W6RJ (President), W6OAT (Vice President), W6DU (Secretary), WB6UOM (Treasurer), N6HR, K6UD, K6TMB, W6SZN, and W6QHS.



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CONCERN RAISED ABOUT RF ENERGY AND CANCER

An alleged link between Amateur Radio operators and certain forms of cancer has once again found its way into the press. A similar incident occurred in 1985. Reportedly, in an article in the *American Journal of Epidemiology*, Dr. Samuel Milham has again related a possible link between hams' exposure to RF energy and incidences of several kinds of cancer.

A similar article by Dr. Milham appeared in the *Lancet*, the British Journal of Medicine, (April 6, 1985), where he studied the deaths of 1691 Silent Keys from Washington state and California. He claimed he found a greater number of deaths among the Silent Keys from certain kinds of leukemias than were reported in the general population of white males in a typical year.

Concern over this is understandable, but before you pull the plug on that ham rig there are a few things to consider. This study also showed that radio amateurs had fewer deaths than the general population from certain other kinds of leukemia, and in the earlier article there were, in the opinion of competent professionals, serious flaws in Dr. Milham's methodology. For example, QST Silent Key lists include only

about one-third of deceased radio amateurs (not all are reported to us) and those who are reported are not representative of the population as a whole. The bottom line is that even the experts have disagreed as to the significance of the study, and it certainly did not establish a casual link between Amateur Radio operation and certain cancer incidences.

The ARRL position on the original study was summed up in October 1985 QST, where an editorial was presented covering the study, as well as other pertinent data and findings.

HQ has not yet seen the current study, so there is no way to know if the flaws in methodology seen in the original study have been corrected. When the article is received by the ARRL it will be reviewed carefully by the ARRL Committee on Biological Effects of RF Energy.

ARRL Letter, Jan. 15, 1988

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NCJ IN NEW EXPANDED FORMAT

The January/February issue of the *National Contest Journal* is now out, and it is a humdinger! 40 pages worth of contest and DX news in a new 8-1/2" x 11" format. Of course, some of those pages are advertisements, but the advertisements help pay the freight for the increased size. The issue contains several articles on contest DXpeditions, technical articles on bead baluns, antenna switching and propagation, a couple of personal profiles, including one on our friend Martti, OH2BH, a USSR Tidbit column by Tom Frenaye, K1KI, and on and on. Subscriptions are available from the ARRL for \$10.00 per year

Jim, W6CF

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BOOK REVIEW - THE WOODPECKER PROJECT

What DXer hasn't been irritated by the infamous Russian Woodpecker - the rat-a-tat-tat signal that sometimes renders an entire band useless for minutes at a time? The Woodpecker first appeared on the scene in 1976. After identification, complaints were repeatedly lodged with the U.S.S.R. - with little result. It is still with us.



In 1985 the Association of North American Radio Clubs (ANARC), a consortium of radio hobby groups in

North America, became aware of the paucity of hard technical information on the Woodpecker available to the general public. They launched a coordinated world-wide monitoring effort, using volunteers to collect data on the operation of the Woodpecker. After analysis, a 63 page preliminary report was issued and circulated to delegates at the 1987 World Administrative Radio Conference for the HF Broadcasting Service. It contains background information on the emergence of the Woodpecker, early attempts made at obtaining relief from the U.S.S.R., and a great deal of information on the nature and scope of the interference, operational characteristics (such as frequency hopping and dwell times) of the Woodpeckers, and so on. Although clearly not the type of job that could be done (and probably has been done) by well-funded professionals, it is a first class piece of work for a small group of volunteers. Copies may be obtained for \$7.00 postpaid from The Woodpecker Project, c/o The Association of North American Radio Clubs, PO Box 143, Falls Church, VA 22046-0143.

Jim, W6CF

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BEETHOVEN'S CURIOUS "V"

by Don K. DeNeuf, WA1SPM

Although famous composer Ludwig von Beethoven was born in Bonn, Germany in 1770, he established himself in Vienna, at the age of 22. At 28 he discovered he was losing his hearing and despaired almost to the point of suicide. However, he overcame his depression and went on to produce some of the world's most inspired music, despite the handicap.

His Fifth Symphony became the "Sound-theme" of the 1939-40 New York World's Fair. The Nazis had started their European drive (which eventually developed into World War II) at this time, and several countries which had been or were being overrun had exhibits and pavillions at the Fair. The first bar of the symphony consists of a strong and perfect Morse code letter "V - di-di-di-dah" and the theme is repeated, with variations throughout the work which was often called the "Victory Music" at the Fair. (Unlike several other languages, the German word for victory, "sieg," contains no letter "V.")

It could have been just a coincidence, but some wondered whether Beethoven had, for the benefit of future generations, introduced the actual Morse signal "V". Others pointed out that the symphony had been composed long before Morse invented his famous telegraph code in 1838, while still others

argued that signalling codes had been developed long before Morse's time.

As one example, Francis Bacon devised a code in 1605 for use in his work on cryptography. Later, James Swain formulated a code utilizing the sound of a scratch to indicate a "dash" and a tap to represent a "dot." This code was used for years by prisoners in cells to communicate with each other.

Beethoven died in 1827. The New York World's Fair closed in 1940. Some years ago I almost died laughing at a TV commercial using the "V" theme. It was an ad for Vanquish capsules and as the notes were heard an aspirin tablet appeared for each dit, then an elongated Vanquish capsule made the "dah." All the associations clicked at the same instant: Vanquish/victory; Churchill holding up his fingers in a "V" for Victory; dididi-dah being the letter "V" in Morse; the Roman letter V standing for the numeral 5 which is the number of the symphony, etc. My family thought I'd finally gone 'round the bend.

Several of Guiseppe Verdi's overtures also contain Morse characters. The overture to "Nabucco" (1842) contains a clear International "Q" (or T T A, depending on your code speed!). That to "Alzira" (1845) has a bar which sounds like "T-period" in International while four dashees, the American Morse symbol for new paragraph, can be heard several times. "La Forza del Destino" (1869) begins with two stentorian letters "O" or figures "5", depending on your Morse upbringing. Finally, the overture to "Luisa Mueller" (1849) has a wealth of code hidden in it. G, P, V, S, J, and T A are easily discernable. Allowing for a "banana boat swing" (or perhaps an Italian accent) one might also hear "NR", "AF" and "TUR" in this work.

From *Dots & Dashes*, the Journal of the Morse Telegraph Club, Oct-Nov-Dec 1987.

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LIGHT WEIGHT HAMS RECALLED

A Pennsylvania firm has expanded a voluntary recall of about 3,000 hams suspected of being contaminated. The recall, announced in early January, 1988, and reported in the *New York Times* on Jan. 8, involves about 3,000 hams, each weighing about 10 pounds. The hams are generally sliced for the retail trade. According to the report, there was some processor problem.

Tnx W6ITH

Repeater Links Subcommittee Report

PURPOSE

The purpose of this subcommittee was to evaluate the four linking proposals for the W6TI repeater for cost to the club, technical feasibility and maintainability. This evaluation is now being presented to aid you, the members of the NCDXC, in your decision as to expand or not to expand the current club repeater coverage via links. It was not our purpose to expand, reduce or modify the proposals, although many estimates and judgements had to be made. The subcommittee consisted of WB6DFX, AA6G, K6LLK, W6RGG and K6TMB.

TECHNICAL DESCRIPTION

The following explanations refer to the block diagrams of the four proposals shown in Figure 1. These are brief descriptions showing the highlights of each system.

Proposal #1 shows a Hub Repeater system. For this evaluation it was assumed that the transmit and receive sites are at the same location. The hub repeater is the central control with each of the remote sites accessing one another through the hub. An individual user can access the system on 2M through any one of the remote sites or through the hub directly on the linking frequency on 1.2GHz. The hub is placed on a centrally located site such as Mt. Diablo. Additional remote sites can be added to the system. The club has full responsibility for the hub and Black Mountain, and the users for their own remote systems.

Proposal #2 is a standard linking system and uses a link frequency pair above 220MHz. The link transmitter and receiver are co-located with the existing W6TI repeater on Black Mountain. Each user group is responsible for their own local system to access W6TI via the provided link. The local system would most likely be located on a high level site near the local group. The local frequency pair could be anything chosen by the user group and co-ordinated through NARC.

Proposal #3 uses a remote pick-up of the the current 2M W6TI signal and retransmits it on a link frequency pair to a primary (local) system. Any frequency may be used for the local users except 147.36/147.96 and of course the linking frequency. The remote pick-up is likely to be a high level site and the primary a low level site. The local group assumes responsibility for both the remote pick-up and the primary systems. Multiple primary systems could access the remote pick-up.

Proposal #4 is similar to #1 except that the W6TI repeater is still the main system and the high level repeater/translator only links the remote systems to W6TI. The club has shared responsibility for the high level repeater/translator and the users have full responsibility for the low level remotes.

TECHNICAL FEASIBILITY

In reviewing each proposal for technical feasibility it became apparent that each proposal is a viable alternative. The real question is what is the level of difficulty in implementing each proposal?

Proposal #1 is the most difficult. This lies mainly in the proper control of the entire hub system. The control problems are out of the current experience of any of the subcommittee members

and the experience of some is great. Questions such as "How are remote sites controlled if the hub goes down?" and "How to disable all other remote sites from transmitting when one remote site is already transmitting?" came up. And there are others. The main hardware problem is that a commercially built controller is not available. A major design effort would be necessary to produce one.

Proposals 2 and 3 are examples of existing systems except when multiple low level user systems are added. Commercially available controllers should be able to handle any of these problems. Proposals 2 and 3 are equally feasible.

Proposal #4 is of equal difficulty to #1 and therefore has many of the same controlling problems.

MAINTAINABILITY

The maintainability issue centers mainly around who is going to do the maintenance of these systems.

Proposals 1 and 4 require access to a site other than Black Mountain. New technical people would have to be recruited to service a system on Mt. Diablo or some other site. It would be too much for the current people to service multiple sites.

Proposal #2 would be serviced by the current people as the equipment would be located in the same building as the W6TI repeater.

Proposal #3 as well as all user links in the other proposals are the responsibility of the local users.

COST

The estimated cost to the club is shown by the matrix in Figure 2. The source of these costs is the latest AES price catalog and the experience of the the subcommittee members with their purchases of these items. It must be pointed out that the cost to each user group for a local system, no matter which proposal, is likely to be in the \$3000 to \$5000 range.

OTHER ISSUES

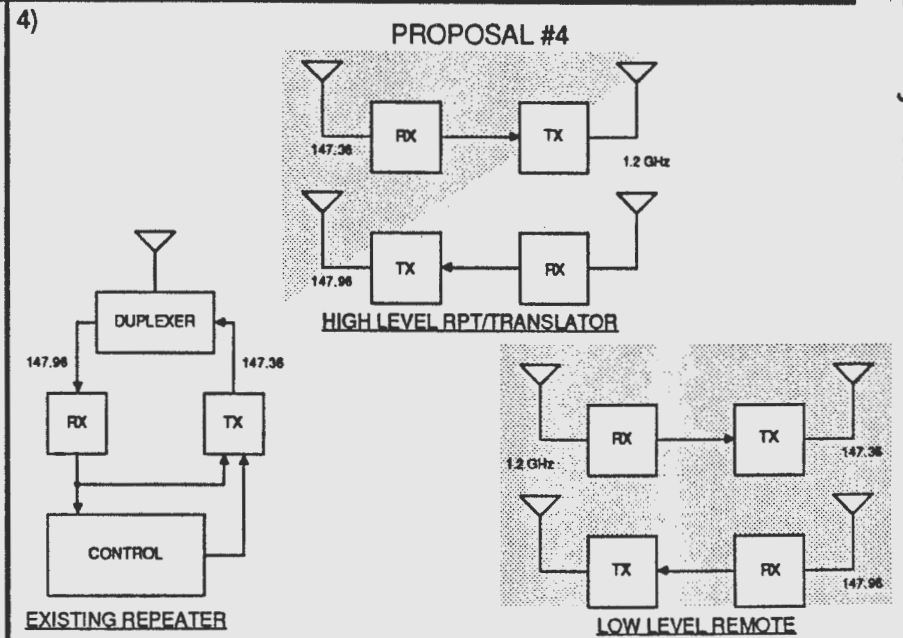
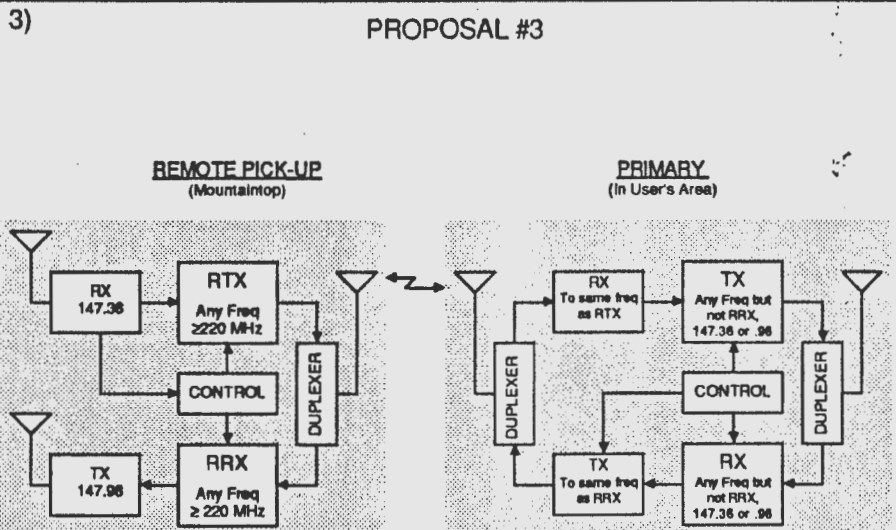
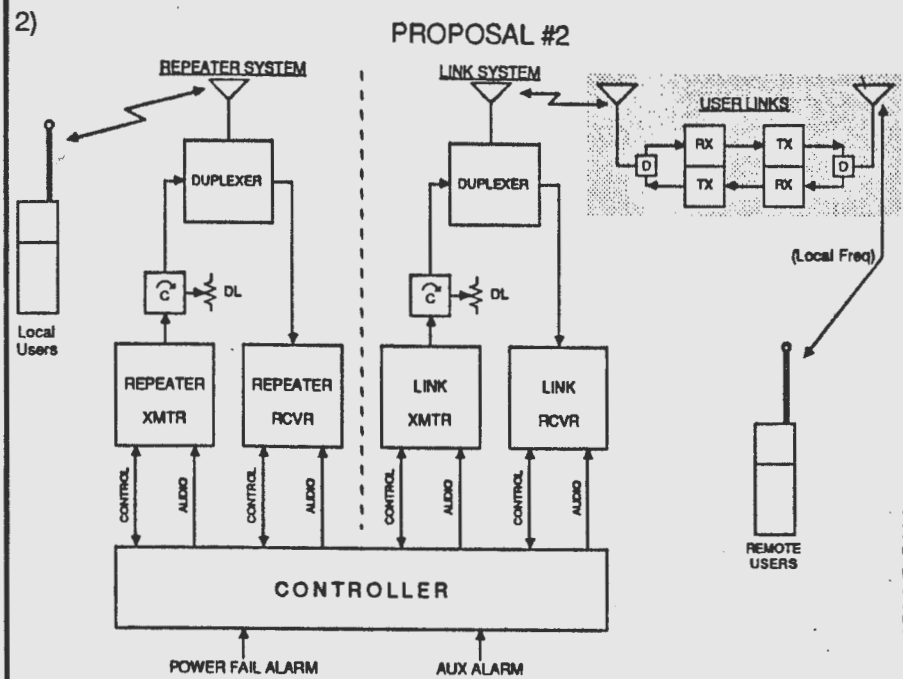
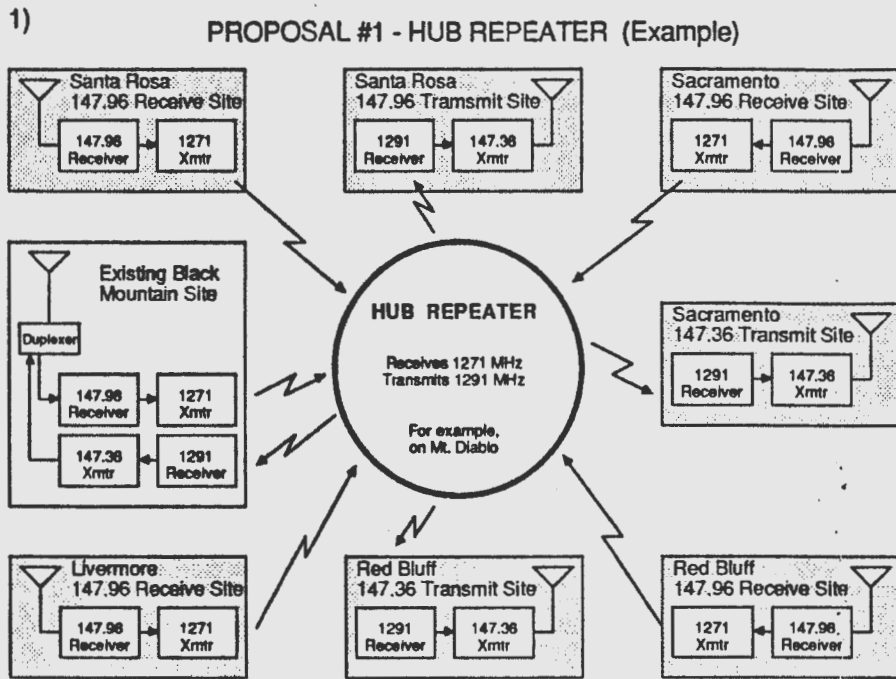
The cost matrix shows the non-recurring costs of hardware items for each proposal. There are also recurring costs probably on a monthly basis. These costs include an estimated \$200/month for site rental on Mt. Diablo for proposals 1 and 4 and \$13 a month for a telephone line to control the systems for proposals 1 and 4.

SUMMARY

A table summarizing the major points for the four proposals is presented. The approach in summarizing the points in this table was chosen over the advantages/disadvantages approach as it is realized that an advantage to one may be seen as a disadvantage to another.

Anyway that you view these proposals it is apparent that repeater expansion by links is not a simplistic issue and careful thought should be given when you cast your vote.

The Link Subcommittee



Costs Borne by Users

FIGURE 1

COST MATRIX OF NON-RECURRING HARDWARE ¹					
System Components	Proposal #1 - Hub System		Proposal #2	Proposal #3	Proposal #4
	@ the Hub	@ Black Mtn			High Level Translator ²
ICOM RPT-1210 1.2GHz Rptr	\$1300	\$1300			\$650
1.2 GHz Omni Antenna	125				(2) 125
1.2 GHz Yagi		(2) 300			
1.2 GHz Duplexer	800				
420 MHz Rcvr/Xmtr Strips			600		
420 MHz Omni Antenna			400		
420 MHz Duplexer			500		
420 MHz Circulator			300		
2M Xmtr/Rcvr Strips					250
2M Omni Antenna					2-Yagis @ 50
7/8" Hardline @ \$5/ft.	TBD @ Site	TBD @ Site	TBD @ Site		TBD @ Site
7/8" Hardline Connectors @ \$64ea.	128	256	128		64
Belden 9913 coax @ \$.50/ft.					50
Dummy Load			100		
Sidearm Antenna Mounts	170		170		85
Emergency Power Package	200	75			100
Telephone Interface	150				75
Cabinet (locking)	250	250	250		125
Misc.	500	500	500		250
Subtotal	3623	2681	2,948	0	1,824
Total	\$6,304		\$2,948	\$0	\$1,824

1 Cost to NCDXC only

2 Cost shared 50/50 between NCDXC & Users

() Multiple Qty Included in Cost Shown

FIGURE 2

ITEM	PROPOSAL			
	1	2	3	4
Complexity	Most	Moderate	Moderate	Most
Technical Feasibility	Least	Good	Good	Least
Maintainability	Hardest	Easiest	Moderate	Hardest
Cost to NCDXC	\$6,304	\$2,984	\$0	\$1,824
Cost to User Group ¹	\$3K to \$5K	\$3K to \$5K	\$3K to \$5K	\$3K to \$5K
NCDXC Responsibility	50%	50%	None	25%
User Responsibility	50%	50%	100%	75%
Flexibility	Most	Least	Moderate	Most

1 Cost of one local system only

Summary of the Proposals

REPEATER EXPANSION - LETTERS

[Editor's note: Several letters have been received this month which discuss various aspects of repeater expansion. They are printed below, in order of receipt, except for the lengthy note from WA6AUD, which is printed last.]

EXPANSION IS PRACTICAL

de W6GO -

The Blue Ribbon committee chaired by AA6G has evaluated proposals for repeater expansion. Their report is elsewhere in this issue of the DXer. They reviewed four ways to expand the repeater coverage and found them all to be doable. They have also priced these proposals; I feel that the actual cost will be reduced by a "scrounging" effort that the committee couldn't quantify.

Their excellent effort gives us an opportunity to put this in perspective. Using their figures, even the highest price proposal will cost the individual member less than it cost to add PL! The issue now is not financial or technical, but what is best for the club.

Repeater expansion will bring DX callouts to you from farther away, and will add to the cohesiveness of the NCDXC, the best DX Club in the world.

Jay, W6GO

RAGCHEWING ON 736

de W6REC -

Obviously a decision needs to be made "does the club want expansion." But another factor concerns me that may influence others also. Currently I am against expansion because I feel the quality of information on 736 is not worth expanding. I have lots of repeaters to listen to ragchewing - only one for DX announcements. Since 736 is rife with rag chewing, sometimes for more than an hour at a time, I don't listen anymore.

I suggest the club decide if 736 is for ragchewing or DX announcements. If the decision is for DX then decide if expansion is desired.

At my new location in Galt I have no need for expansion and I don't expect coverage at my QTH in Fort Bidwell; it's too far.

73.

Duane, W6REC

REPEATER EXPANSION: FEASIBLE, AFFORDABLE, DESIRABLE

de W6QHS -

The repeater technical committee spent substantial effort to evaluate several repeater expansion alternatives for feasibility and cost. Their conclusion in the accompanying report is that all the alternatives are workable, and that the costs of even the most ambitious alternative are easily within the ability of the club to afford.

Their favorable conclusion leaves only one question to be answered by the membership: Are we willing to extend the hand of friendship throughout our area of influence or do we want to project a closed, provincial attitude?

I agree that repeater coverage expansion is feasible, and that the one-time cost is commensurate with the benefit and is well within the means of the club to afford. The dedicated effort for implementation is available within the club. I feel that the club members can, and should, vote in favor of moving ahead.

Dave Leeson, W6QHS

REPEATER EXPANSION - WHY IS A VOTE NEEDED?

de WA6AUD -

The recent proposals on improving the coverage of the NCDXC two-meter repeater has raised some interesting points. The club has changed in its demographics over the years, membership has long since been anything but a cohesive local group and even the center of membership has shifted from the San Francisco-Oakland area down to the Santa Clara Valley. Realizing that it is hard to change one's viewpoint on such questions, and especially when one has been amply served by the current arrangement, it is easily understood that any proposal at all that involves changes will also generate some differences.

Years back the club mostly met at the Fork and Cork in San Mateo. It was a central meeting spot, not too long a trip for those members in the East Bay where the club originated, not an arduous trip for the then handful of members in the North Bay and not a long trip up the peninsula for those in the lower bay. Frankly the Cork and Fork would not be able to accommodate the membership these days, the meeting place has more or less been solidified in Harry's Hofbrau, and some will even say the once high tone of the club meetings has measurably declined. But times change, membership changes, and even the club members as individuals change in their thinking and perspectives.

Years back an attempt was made to float the idea that with the obvious growth facing the club that some changes should be considered. For years it was the tenet that the club was "The DX Club" for every DXer north of the Tehachapis. Southern California

was left to claim everything south of the Grapevine to the Mexican Border and east to the Colorado River. Even now if a member in good standing moves from the northern enclave of the NCDXC they are immediately labeled "absentee" members. But it was also felt that DXers would spring up in areas other than the immediate Bay Area and with distance a factor, it would also bring up divisive forces which might encourage the formation of local DX clubs, this possibly not only being divisive but also a definite possibility of undermining the pre-eminent position of the NCDXC. The idea, as with many others heard over the years, died aborning. There was but one club and Northern California DX Club was its name. There can be no others. That was considered one of the eternal truths. Some still believe it.

But in these latter days one comes up with the face to face confrontation of the Redwood Empire DX Club, the Delta DX Club, the River City DX Club ... and there are more, unheralded, unsung but still existing. In many instances dual membership is found. Some suspect that in increasing numbers there is not. One might even hear the question asked by some of the out-landers: "Why should I join the Northern California DX Club? What will they give me that I don't have now and don't tell me that I will be able to enjoy the cafeteria at Harry's Hofbrau." The one who so speaks usually considers it a good question. But then again, the one who raises the need for improved two-meter repeater coverage also thinks that his is a valid point. And should you be somewhere in the middle, you might consider that possibly there is merit to both proposals.

A recent article in the *DXer* noted that an election would be held to determine whether or not the repeater coverage should be expanded. The decision will hinge on how the majority of the club will vote.

This raises a good point, should the activities of the club be based on the majority rule. Or, looking at the other side, if the club engages in any club activity, should it be undertaken if it will only help the members in a localized area, the Santa Clara Valley for example, or should it be an endeavor aimed at benefiting the maximum of club members no matter where they are located, just so that they are within the geographical delineation of the Northern California DX turf.

Some will immediately say that with the preponderance of membership in the Santa Clara Valley, that should be the prime consideration, all other is fringe area and beyond possible hope. If they can see the light, good for them. If they cannot, well, just continue to gnash your teeth in the outer darkness.

However, for the privilege of providing club funds to establish, maintain and up-grade the club repeater, all members will be required to pay the same annual

dues. The club needs it. And this is one of the privileges of membership granted to all members.

The idea of a majority vote sounds good, it will give a clear understanding of how the club stands on the matter. Those within convenient distance of the present repeater will have nothing to gain but a possible assessment to face. While each member will undoubtedly give a careful, considerate and even evaluation of the matter, it does seem that the south bay area, from Oakland to Alviso and from San Martin to San Francisco, will have little to gain unless they live in a canyon and in a shadow of the repeater emissions. Certainly a vote will solidify the club and everyone will be ready to accept the vote of the majority. Then it will just remain to be seen whether a vote will really solve the problem of different levels of club services to its membership.

But then again, being one of the majority and with clear access on a line of sight basis to the repeater location on top of Black Mountain, there can be easy understanding that with convenient access, who would want things otherwise. Perhaps we are fortunate here in that we can see the top of the tower on top of Mt. Sutro in San Francisco for San Francisco TV reception, we can also see the TV tower on the edge of the mountain there on Mt. Hamilton and overlooking San Jose. We can also receive the Salinas TV channel and the Sacramento TV channels. Thus we are immune to the blandishments of the cable companies. But we always listen with an open mind ... and a closed purse. Being a DXer, one learns.

But it is good to test the majority and it should also be considered as to requiring a majority participation if the club is to undertake any effort at all. Certain there should be a benefit for the majority before the club expends any funds. It is time to rule that unless there is a majority, there is no action.

The club membership currently is in excess of 350 members. Some quick calculation should show that a majority of 350 will be 175 members plus one. Thus it must be noted that less than a majority of the club members attend a club meeting. Let's face it. It is time for the club to stop holding club meetings, and possibly incurring the expenditure of club funds, unless a majority of the membership attends. This cannot be considered as anything else than an extension of the majority vote on the expansion of the repeater coverage.

Then there are other activities where the club rushes in without even giving consideration to the fact that the majority of club members are not benefiting or even participating. The club picnics which have been held in the past. Were these attended by a majority of the membership or a minority? Or the annual Christmas parties ... was the season gladdened by a visit of Santa to the majority ... or to the minority?