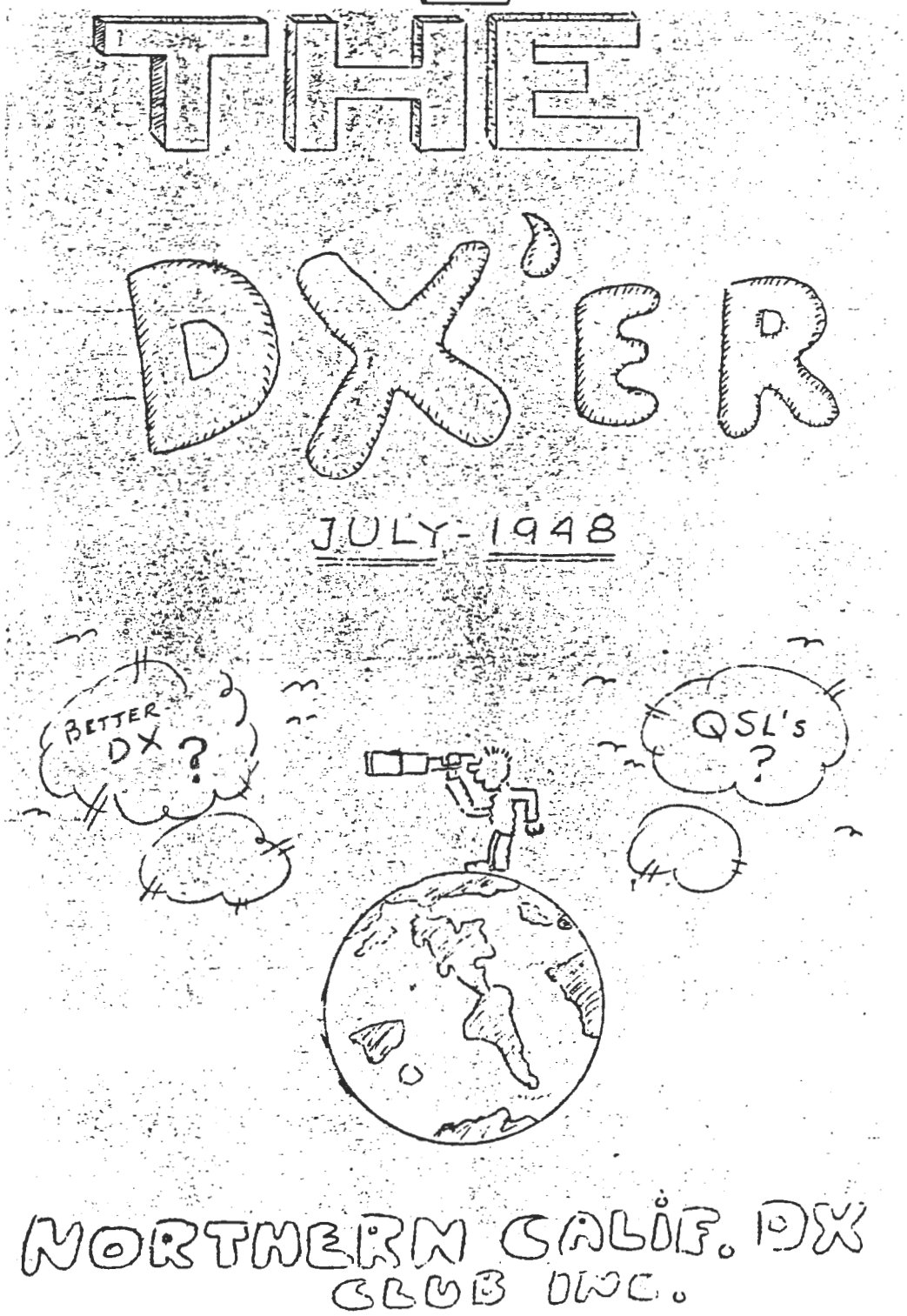
THE DXer

JULY 1989

VOL XLII - NUMBER 7



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July Events

July 8 – IARU HF Championship.
July 8 – Electronic Flea Market, Foothill College, Los Altos.
July 14 – NCDXC meeting, Palo Alto.
July 15 – CQ VHF WPX contest.
July 30 – Deadline for August DXer input.
Aug 5 – ARRL UHF contest.
Aug 11 – NCDXC meeting, Palo Alto.
Aug 12 – Electronic Flea Market, Foothill College, Los Altos.
Aug 12 – WAE DX CW Contest.

Meeting Notice: Friday the 14th of July will be the next regular meeting of the NCDXC. The meeting will start with dinner around 6:00 PM Friday afternoon. The evening's speaker will start at 8:15. The speaker will be Chip Margelli, K7JA. Chip will talk about the recent 4J1FS M.V. Island dxpedition.

Roster Changes

New NCDXC Members

Welcome the following new members to the world's Greatest DX club:

Doyle Souders, KG6MY
1342 Fieldfair Ct., Sunnyvale, CA 94087
Home: 408 735 1609
Work: 408 721 3905

Henry Stewart, KJ6LD
6672 Elwood Rd., San Jose, CA 95120
Home: 408 268 3716

Gregory F. Engle, N6PYI
6489 Placer Ct., Magalia, CA 95954
Home: 916 873 2211

Make the following member changes to your Rosters:

K6ZV, Home telephone number to 415-462-2307.

W6YVK, Everett D. Willis
4856 Pioneer Road,Medford, OR 97501
Change status from regular member to absentee member.

W6FAH, Robert Craft
Change work telephone number to 707-938-3442

W6TPH, William H. Zachman
1488 Carnot Drive, San Jose, CA 95126
Home Telephone 408-293-9908

W0YK, Ed Muns
P.O. Box 1877, Los Gatos, CA 95031-1877
Home Telephone 408-739-5170
Work Telephone 408-447-2244

Respectfully submitted, Thomas F. Jones, K6TS, NCDXC Secretary

NCDXC Officer Election

At the June meeting the following were elected officers of the Northern California DX Club for the 1989-1990 term:

President: Rusty Epps, W6OAT

Vice President: Larry Souza, KG6GF

Secretary: Dave Barton, AF6S

Treasurer: Stan Kuhl, K6MA

Director: Chuck Vaughn, AA6G

Director: John Cronin, K6LLK

Congratulations and best wishes to our new club officers.

DUES are Due

Annual Dues are payable July 1.

- Regular Member $24.00/year.
- Family Member (same QTH) an additional $15.00/year.
- Absent Member (outside of NCDXC area) $16.00/year.

Please send your Dues to:

NCDXC Treasurer
P.O. Box 608
Menlo Park, CA 94026
Tnx de K6MA

July 1948

Well here we are with our first issue and as such we are able to start out with a first class gripe which if allowed to go much further will not only endanger those of us interested in DX but also the entire transmitting fraternity.

Those of us who live in the bay area, congested as it is, are well aware of the notice received in the neighborhoods when even a ten meter rotary goes up. Immediately Mrs. Jones down the block informs Mrs. Smith who lives next door that said "contraption" has certainly interfered with their broadcast reception, this even though the ten meter beam may not yet be in use. But that is not the real gripe this time. Your editor having had to call on some friends (not amateurs) on some personal business, was asked 'how is your radio?', answering: 'Oh just fine' was shown the friend's new big RCA combination phono-radio job. About $500 worth. After looking over same and admiring was informed that a bad buzzing was occurring and that a certain local large department store, where the radio had been purchased sent their man to look it over. Now, the first question asked of this BCL was: 'are there any radio hams in your neighborhood?' My friend answered 'yes, there are two.' (one is incidently a member of this club)...Well sez the service man, that is the cause of your trouble, let me know just who it is and we will get the FCC after him and put him off the air. My friend answered that was not necessary. Where upon the service man left. Now, in this particular case, although the buzzing was of a steady variety, and also occurring at hours when both these hams were away at work it obviously was a power leak of some kind and not an interfering ham. However....ham radio gets another black eye and we are just wondering what is going to happen in this area comes the first of the year and and television. If all these so called servicemen are going to sluff off power leaks, electric blankets, shavers, motors, trucks, cars, busses and faulty house wiring then we say: the burden of proof should be on the complaint, unless of course the ham is definitely heard and identified, which in the case of CW is a little tougher. We do not believe that such goings on of stupid and lazy radio servicemen should be heeded by the FCC. It is tough enough for some of us hams in the city to put up with all the hash and man made static we hear on the DX bands without being blamed for causing the same hash to other services. It is just some thing to start thinking about, as mark our word, TVI is going to be tough enough as it is without being blamed for interference we do not cause.

W6PB-Editor 1948 DXer

de KE6ZE

This months cover and early DXer editorial drops back one year to the first DXer, July 1948. The DXer has been published for 41 years, this is the first issue in our 42nd year. Somehow that just does not seem possible.

This issue of the DXer includes a lot of material submitted over the last few months that shouldn't lay around. The article by Wayne Overbeck on RF hazards concerns a very disturbing issue that may effect us all. It is placed earlier in the DXer than usual, in order to get your reading attention. Think about it, do you: fire up the KW with your tower cranked down, shunt feed your tower next to the house, or have your vertical over living quarters of your home? The note from Rich Lawton concerns an issue under discussion by the ARRL. Let Rod Stafford know your feelings on code/no-code licensing. And finally, the note picked up about the FCC commissioner appointment. Let your congressman hear about that one.

Regards, Dave

The 5th Wave

"OOPS-HERE'S THE PROBLEM. SOMETHINGS CAUSING SHORTS IN THE FINAL".

R. F. Energy Hazards In Amateur Radio

A Preliminary Research Report by Wayne Overbeck, N6NB, Phd., J.D.

Introduction

In view of the controversy surrounding Dr. Samuel Milham's studies of the mortality rates of radio amateurs, I have done a literature survey on the potential hazards of r.f. energy as well as some field research with a professional radiation hazard meter. This began as a personal quest to find out if my high-power vhf operating is hazardous; in the end, though, I found sufficient evidence of potential hazards in amateur activities.

I learned, first of all, that a number of previous studies have shown persons who work with r.f. energy--or live near r.f. energy sources--to have elevated rates of the same cancers that Dr. Milam found in excessive frequency among radio amateurs (eg., leukemia, and lymphoma). Not every study of r.f. energy exposure has reached this conclusion, to be sure. And it is certainly possible that Milham's findings are attributable mainly to occupational exposure to r.f. energy (or to some other factor) rather than to amateur radio activities. However, there is substantial evidence that r.f. energy does pose health hazards. The main question now is how much exposure is required to constitute a health hazard, and which amateur radio activities, if, involved that much exposure to r.f. energy.

The voluntary U.S. standard for r.f. exposure, established by the American National Standards Institute (ANSI C95.1-1982) assumes that the frequency range between 30 and 300 Mhz is the most hazardous because the human body is resonant (and therefore more likely to absorb more energy) in that frequency range. The ANSI standard permits human exposure to an R.F. power density of 1.0 mw/cm(sq), averaged over any 6 minute period, between 30 and 300 mHz. This standard is based on thermal effects. It assumes that there is no danger at energy levels too low to cause measurable whole-body heating.

In the Soviet Union, several studies of laboratory animals noted behavior changes at levels too low to produce whole-body heating. Western scientists have not been able to fully replicate these studies. Nevertheless, the Soviets responded to this research by establishing a standard for public r.f. exposure that is ten times as stringent as the ANSI standard. Perhaps coincidentally, at about the same time the Soviets also began irradiating the U.S. Embassy in Moscow with an average r.f. energy level of 1.5 mw/cm(sq) (15 times the level regarded as safe for Soviet citizens). That is only .5 mw above the ANSI standard, but the U.S. Government considered it dangerous enough to make it a major diplomatic issue.

Nor are the Soviets alone in setting stricter standards than ours. Several western European nations have done so as well. And a study of Portland, OR, residents who lived near some broadcast towers determined that these people had excessive mortality rates from leukemia and lymphoma. That study triggered a major study of r.f. energy hazards by Portland officials. The city ultimately adopted an r.f. standard five times as strict as ANSI. After a similar review by public health officials, Massachusetts also adopted that standard.

There have been very few studies of the r.f. energy exposure levels encountered by radio amateurs. One European study was summarized in the QST Technical Correspondence section in May, 1985. Unfortunately, it involved mainly hf operation, not operation in the vhf region where, according to the ANSI standard, the greatest hazards exist. I could find no previous research into the r.f. energy levels with most vhf amateur radio activities.

Given the lack of previous research at vhf, I decided to conduct my own field survey. I obtained use of a General Microwave model 4 Radiation Hazard Meter owned by the Radiation Safety Office at California State University, Fullerton. Carefully following the measurement procedures described in the ANSI standard (including the discussion of possibly misleading near field effects), I measured r.f. power densities under various amateur radio operating conditions.

Preliminary Findings

My field survey led to two basic conclusions: (1) that many amateur radio activities involved no exposure to r.f. energy at levels exceeding either the ANSI standard or the more stringent standards found in some jurisdictions; and (2) that activities involving high power and antennas in close proximity to people do in certain cases create r.f. exposures exceeding the levels considered safe under these standards. Here are my preliminary findings to date:

*1000 WATTS on 50 MHZ: In my own ham shack, transmitting on 50 mHz at high power (1000 watts DC input) with the antenna pointed east produces r.f. power densities on the order of 3 to 5 mx/cm(sq) all around the operating position (several times the ANSI standard, and drastically higher than would be permitted by the standards in some jurisdictions). The antenna is about 28 feet high, while the station is on the second floor of the house. The operating position is 20 feet east of the mast supporting this antenna. On the other hand, running a kilowatt into my 144 mHz Yagi, which is 5 feet above the six-meter beam on the same mast, produces no r.f. density exceeding 1 mw anywhere in the shack.

*TWO-METER FM: Transmitting in my car on 146 mHz with a 100-watt solid state amplifier and a 19-in roof-mounted whip produces power densities of up to 2 mw in the rear seat passenger area, although the levels are far lower in the vicinity of the drivers seat. With a whip antenna mounted on the rear deck, the rear-seat exposure maybe even more hazardous--particularly during a long trip (e.g. several hams car-pooling to a convention in another city and accessing distant repeaters en route). Outside the car there is a radius of several feet around the antenna in which the power density exceeds the ANSI standard.

*HAND-HELD RADIOS: While mobile operation on two-meter FM with an amplifier may create r.f. hazards to passengers, the use of a hand-held transceiver appears not to pose a serious health risk if the ANSI is correct. The standard simply excludes all transmitters with power outputs below 7 watts on the theory that such a transmitter is incapable of sufficient whole-body heating to be hazardous. Even if this assumption is incorrect, the r.f. power densities I measured in close proximity to a two-meter "rubber duck" antenna on a two-watt hand-held are well below ANSI standard. If hand-helds are dangerous, then other amateur radio activities that involve much greater r.f. exposures are more so.

*HIGH POWER ON HF: When my 70 foot crankup tower is fully retracted to 25 feet and the triband beam is pointed east, the r.f. power density along the sidewalk in front of my house (50 feet from the tower base) reaches levels of .5 mw, with about 300 watts into the antenna at 28 mHz. After running the initial test I obtained a more powerful amplifier and repeated the experiment with 1400 watts output. The resulting r.f. level rose to 1.1 mw on the public sidewalk--reaching the ANSI standard and far exceeding the Massachusetts standard for public exposure.

Note: raising the tower to its full height reduces the r.f. power density to levels that are barely readable on the radiation hazard meter. This has significant implications for amateurs who are forced by local regulations to operate with their antenna only 25 or 30 feet above the ground--and for their neighbors. Although I would never make this argument at a zoning board hearing, a really savvy city ought to require amateur antennas to be at least 35 feet high for public health reasons!

*GROUND-MOUNTED VERTICALS: According to my measurements, a ground-mounted vertical antenna may produce dangerous levels of r.f. energy within a 5 to 20 food radius (depending on the transmitter power level), particularly on the high frequencies (the ANSI standard is frequently dependent, permitting much greater r.f. exposures at lower frequencies).

*UNSHIELDED VHF AMPLIFIERS: A vhf kilowatt amplifier with the top cover removed creates such a serious r.f. exposure hazard that emphatic warnings in large type should accompany every commercial amplifier and every construction article in any amateur radio book or periodical. I removed the top cover from my 50 mHz kilowatt (which uses two 3-400z tubes with a pi-network output circuit) and crouched below the amplifier while I transmitted at full power. As I raised the r.f. probe on the Model 4 up to the point where it could "see" into the r.f. compartment, the r.f. level shot up from a moderately dangerous 3-5 mw to pin the meter at level far exceeding full scale (which is 20 mw in the Model 4's highest range). Even several feet from the r.f. deck, the meter remained pinned at 20 mw.

Over the years I have spent several hours tuning up 50, 144, 220, and 432 mHz amplifiers at full power with the covers removed; this means I have sustained a substantial exposure to hazardous levels of r.f. energy. When I did this, I was carefully following directions in amateur publications that contained no warnings whatsoever about the hazard this involves. Even today, such warnings as exist are so obfuscated by technical jargon and mathematical formulas that many amateurs are certain to overlook or misunderstand them.

*VHF MOUNTAIN-TOPPING: Operating a portable vhf station in a van or camper--something

I have done often--appears to be less hazardous than I had feared. I parked in an open field and set up a 50 mHz Yagi on a 25-foot mast beside my van. I measured the r.f. power density while transmitting at the kilowatt level. The r.f. power density inside the van never exceeded 0.1 mw/cm(sq). Outside, the maximum power density at ground level was 0.5 mw in an area about 50 feet in front of the antenna's main lobe. While this means that the operator of a portable station in a vehicle may be reasonably safe, it raises questions about the safety of bystanders. And what about operating in a tent? Or suppose the antenna isn't quite as high as in this test? What if random reflections create dangerous "hot spots" in the near field? There may be health risks for persons who wander among the antennas of a field-day type station, especially during high power operation in combination with low vhf antennas.

Recommendations

- No amateur should run power in excess of 100 watts into any directional antenna less than 35 feet above the ground without first measuring the r.f. power density involved. Power density measurements should also be made before running more than 25 watts in a vhf mobile installation, particularly if the antenna is rear-deck mounted and passengers will ever ride in the back seat. These activities involve potential r.f. energy hazards; they should not be pursued in ignorance.
- No amateur should transmit into any mobile antennas or ground-mounted antenna when someone is near the antenna.
- No one should ever use or adjust a power amplifier that is not fully shielded.
- Further study is needed to document the effects of r.f. energy and to verify the energy levels associated with various amateur radio activities.
- There is an urgent need for an inexpensive power density meter that amateurs may use to determine r.f. energy levels associated with their operating activities.

From PHD News via the County Line Road Runner

Do Foxes Sing Swan Songs?

Wow! What a year! It started so abruptly, went by so fast, and what a roller coaster experience! I must confess it was definitely one of the high points of my ham career. I must say thank you from the bottom of my heart for your trust and confidence in allowing me to serve our Club.

We started in controversy but I believe ended with resolution of the problems. We started with many saying we were not the same 'old' Club, what is going on, etc. Well, gang, I am happy to report that we are still the same 'old' Club, but we're entering a period of tremendous change and growth and WE HAVE SURVIVED! We are a much stronger organization for our periods of controversy and growth. I believe the amount of questioning and comments are a healthy sign of a very viable and open Club. I believe the Officers have served the Club well! K6MA, K6TS, KG6GF, N6AN, K6RK. We have more membership additions this year than ever before--a sign of good health. The changes the BoD and all of us faced are almost hard to believe: Two new swap shop managers, a new QSL info source, a new Awards Manager, a new DX Ladder manager, a new DXer Editor, a new VP, a new Data Base/Info Manager, a new DX news manager, a new Westlink manager, a totally new repeater committee and Chair! YOU, the individual DXer, came forward and accepted these responsibilities--what a delight for our Club! I am proud and you should be too!

We had a great picnic and even greater support for our raffles by W6MKM--what a stalwart! The packet network is working, DX is being called out. We had one of the finest conventions in Visalia of record--a superb effort by W6TPH and his capable crew. A new repeater controller is to be put up momentarily, our Club members put on DXpeditions to several new DXCC countries, and cycle 22 is not yet peaking! What a year for DX!

What is left hanging? Exploration of the idea of being of service to our outlying members by having a once yearly meeting at three sites--Fresno/Visalia (at the same time as "Visalia"?), Napa/Marin, and Sacramento area. The rest of the gang could meet informally at Harry's? We need a permanent repeater chairman and contest chairman (perhaps the NCCC could be of help?).

My experience with the BoD and other officers was pleasantly rewarding. Take my word that we/they are not interested in doing something 'secret' and below the table--far from it. We invited your input, you helped us and came to our meetings with ideas, and we thank you all for this! I know of no other group of DXers more dedicated to DXing and our Club!

It was my privilege to serve you and the Club--I hope I was constructive and my service benefited the Club. Please support the new BoD and Officers as you did me and my programs. See you in the pileups!

73 es gud dx, Jerry, W8MEP

Treasurer's Report

June 1 to 30, 1989

Checking Account Activity:

May 1989 E.O.M. Balance	$1,995.44
Deposits from Dues	$38.00
Other Receipts	$631.00
Sub-Total	$2,664.44
Accounts Payable	-$764.13
Current June 1989 E.O.M.	$1,900.31

Savings:

B of A as of 6/20/89	$11,402.43
Includes QSL Reserve	
American Savings 6/25/89	$8,024.54
one yr. C.D. due 7/18/89	

Other

Repeater Fund Balance	$764.39

Stan Kuhl, K6MA, NCDXC Treasurer

NCDXC BOD Meeting

The NCDXC BoD Meeting was called to order at 4:45 p.m., June 9, 1989, at the home of W6VG. Present were Club officers: W8MEP, N6AN, K6MA, KG6GF, K6RK. Also present were W6VG, W6TPH, and W6JZU. Items of discussion were:

Visalia Report. Bill, W6TPH, reported his observations concerning our April DX Convention which is a list of do's and dont's. Additionally, he reported that the 1989 Convention operated in the BLACK. The Convention bank account has not been closed out yet due to some outstanding checks. Bill returned the $500 pre-convention money to the Club Treasurer. Remaining monies will be returned as soon as the bank account is closed. Bill indicated a total attendance of 595 of which 474 were pre-registered DXers. Convention budget/bills and accounting are available for review if desired. Well done Bill and Visalia Convention Crew.

1989/99 Nomination Committee. The BoD wishes to thank W6CF and his crew for presenting such a fine bunch of Club officer candidates for the comming year.

The BoD discussed the possibility of the Vice President's office being more equal to the President's job. Presently, the VP fills in when the

President is absent. He also arranges for programs that are given at Club Meetings. After much discussion, it was determined that the present Procedures and By-Laws does not prohibit how the President runs his use of a program chair-person and he can assign that position to another individual. Therefore, the VP is free to respond to his office requirements as the President directs. (Item closed.)

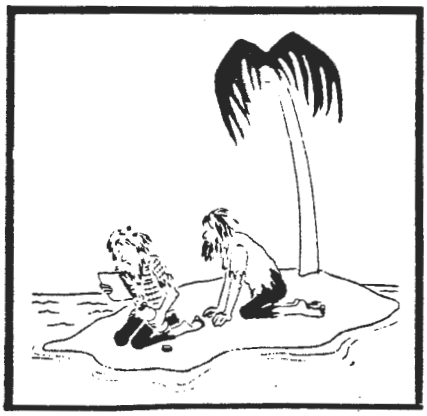
W6TI Repeater Up-Grade Status. W6JZU reported that the controller project is near completion with only one relay which is on order needed to complete the controller board. Installation could occur as soon as testing of the relay is completed.

The BoD again discussed a different type membership status for individuals residing outside of our boundary limits. Present cost of mailing the DXer for one year is approximately $16.00. Additionally, the changes required to the present By-Laws seemed to not warrant such a category of membership. (Item closed.)

NCDXC QSL Cards. We are still having difficulty with printing companies trying to "over print" call letters on present QSL cards. Resolution of the problem is not at hand at this time. We presently have some 6500 cards that can't be over-printed with any degree of success. We still need help or bite a bullet and obtain new cards that permit overprinting. (Item still open.)

The BoD adjourned at 5:50 p.m., and departed for the regular Club meeting at Harry's Hofbrau.

Respectfully submitted, Thomas F. Jones, K6TS



It's from Rubin! He sez, "Bob and Jim, hold out a lil while longer... we're trying to get you new country status." NCAN

NCDXC Meeting

The June meeting of the NCDXC was held at Harry's Hofbrau, Palo Alto, Ca., on 9 June 1989. The President, Gerry, W8MEP, called the meeting to order at 7:30 p.m. Gerry extended a welcome to all visitors: G3CAW, Bill and xyl Edna; KJ6AP; AA6MV; N6IP; K6ZXS and JA7RHJ.

W6MKM, Steve, conducted the raffle. Three prizes were raffled off. A digital volt/ohm meter, 1989 Call Book, and an electronic sensor of some description.

There was no formal program assigned to this meeting as it was voting time for new Club officers. W6CF did provide a bit of update on DXCC status as he presently knows how. Lots of talk concerning new countries but no voting taking place at this time.

First readings were held for: Jeff Kershaw, KJ6FD; Max Babin, W6NAC; Mike Terranova, KJ6AP; and Larry Selman, AA6MV. Second readings were held for: Doyle Souders, KG6MY; Henry Stewart, KJ6LD; Greg Engle, N6PYI; and Fred Naseef, KB6SP. KG6MY, KJ6LD, and N6PYI were voted into membership. KB6SP's application for membership has been turned over for Board of Directors' review and approval. Welcome Doyle, Henry and Greg. Fred's application will be reviewed at the July BoD meeting.

Election of 1989/90 NCDXC Officers and Directors.

W6CF, Jim; KB6BW, Martin; and N6DJM, Morris; provided the following list of candidates:

President, Rusty, W6OAT
Vice President, Larry, KG6GF

Secretary, Dave, AF6S
Treasurer, Stan, K6MA
Director, Chuck, AA6G
Director, John, K6LLK

Gerry asked if there were any other nominations for the above offices. None were received for President, VP, Secretary, or Treasurer. However, two additional Director candidates came from the floor. They were Chuck Patterson, K6RK, and Bill Stevens, W6ZM. A run-off vote was taken between AA6G, K6LLK, K6RK, and W6ZM. The winners were AA6G and K6LLK. The voting for the Pres/VP/Sect/Treas was a blanket vote for the listed individuals. Therefore, your Club officers are as listed above for 89/90.

The BoD thanks Jim, W6CF; Martin, KB6BW; and Morris, N6DJM; for their efforts in obtaining a fine group of candidates.

The meeting was formally adjourned at 9:30 p.m.

Respectfully submitted, Thomas F. Jones, K6TS

FCC Appointment

(Ed. note: This is a group of three messages that were picked up off an electronic mail system, these should be of interest to all amateurs. The original source of the messages is the KN5D BBS Albuquerque, NM.)

Message #1

President Bush has nominated two new commissioners to the FCC. They are Andrew Barrett and Sherrie Marshall. Barrett is a member of the Illinois Commerce Commission, and is expected to be in favor of more deregulation. Marshall is a Washington, DC lawyer. She was formerly a lobbyist for the FCC and the White House.

Message #2

*** URGENT!!! ALL AMATEURS MUST READ!!!! ***

Monday, June 19, 1989---We have received word that Sherrie Marshall has been nominated to the Federal Communications Commission.

Sherrie Marshall is now an employee of the law firm which represents UPS in that firm's so-far successful attempt to remove 220-222 MHz from the Amateur Service for misuse by the land mobile industry. As such, Ms. Marshall is seen to be very prejudiced in her views for the land mobile service, to the exclusion of all other services which can't 'pay their way', especially the Amateur Service.

If Ms. Marshall is confirmed by Senate, it can be well, assured that Amateur Radio will have a very powerful enemy in its rule-making agency at a time when we least can afford it. Why? Because this is not the last grab to be attempted by the spectrum thieves aganst. Amateur spectra. As of Friday, June 16, we understand that there are two more Petitions poised to take away Amateur bands, one against 902-928 MHz, the other against 420-450 MHz. And look for some of the low bands to be struck after that!

It is incumbent upon EVERY Amateur, whether he or she is active on 220 or not, to oppose the confirmation of this nomination. WHY that must happen is this:

Should Ms. Marshall receive confirmation in the Senate, it will be a much harder and more costly fight to keep those bands from also being stolen.

Now, HOW can we fight Ms Marshall's nomination? The answer is two-fold.

First, you must write to each of your Senators and demand that the nomination not be confirmed. To do otherwise is to inflict the stigma of a double-standard where the subject of conflict of interest is concerned. Remember that the Senate very recently rejected former Senator John Tower under very similar circumstances. Do do otherwise with Ms. Marshall can be seen as nothing other than a double standard, or worse, hypocrisy.

Second, the 220 NOTES Newsletter is attempting to organize marches on all Federal Buildings in the country to protest both this nomination and the outcome of Docket 87-14 in cities around the country. We intend to attract the national media and we intend to make THEM bring out the conflict of interest issue as well. If the media can investigate John Tower they can also do it in this case as well – and they should!

Watch your packet bulletin boards (or have your packeteering friends watch for you) for more information. Things are moving too fast for 220 NOTES to keep up in print. The Marshall nomination must be stopped for the future of Amateur Radio, but time is of the essence. Feel free to call the 220 NOTES phone line (815-485-7388) to either offer to help or to get information on our progress. We need your help, your prayers, and a lot of luck, but together we can win this one.

HELP SAVE HAM RADIO---DEFEAT SHERRIE MARSHALL FOR FCC COMMISSIONER! *WB8ICL*

Message #3

WB8ICL is right-on in suggesting that each Amateur write his or her Senator and urge the appointment of Ms. Marshall as Commissioner of the Federal Communications Commission be rejected. I would suggest one slight modification.

The White House has recently sent to the Senate nominations of two individuals as Commissioner, Ms. Marshall is one of the two, and is also preparing to send up the nomination of a new Chairman. Each Amateurs should write and/or call their Senators requesting them to ask the following question of each nominee:

"If confirmed will you, as your first official act, vote to rescind the Commission's action in Docket 87-14 removing three-fifths of the spectrum previously allocated to Amateur Radio Operators in the 220 MHz band and used by them for vital Public Service and experimental services?"

If ANY of the nominees refuses to commit themselves to act in the public interest, by taking this step, the Senate Commerce Committee and the full Senate should reject the nominee as UNFIT TO SERVE.

Joe AD8I

If these people are confirmed we will have more raids on our spectrum. PLEASE HELP FIGHT POLITICAL PAYOFFS!

Donald R. Lee N5IHE. Albuquerque, New Mexico

TH7 IMPROVEMENT

I just bought a Hy-Gain TH-7 tri-band beam. When I saw the SWR curves I was diappointed to see them so high at the extreme lowCW end of the bands. I called Hy-Gain (Roger Cox at Lincoln, NE-1-402-467-5321) for advice. He said to lengthen the 1-1/8" section of RDE-2 and FDE-2 (the driven elements) by 1-1/2". The SWR will be over 2.0 to 1 from 29.0 to 29.7. I don't think this will be a problem to many DX'rs. If the antenna is up already, the pigtails to the driven elements can be lengthened the same amount. You should end up with the resonant point abt 200 khz lower on 10, 75 khz lower on 15 and "some" lower on 20. Hope this helps,

73, Dick Wilson, K6LRN

NO-CODE

Maybe the NO-CODE pushers/takers somehow feel degraded by being required to learn the simple, basic ABC's of radio communication. It's something like the child who doesn't want to learn the multiplication tables because he has a hand calculator. It's interesting that the DBer's (Digital Bander's) learned how to type. I'd say that if one learned to type, one can easily learn to copy 5 WPM CW on a keyboard.

In the ham radio ranks, we have all kinds of people who have successfully learned to copy the Morse Code. We have 1st graders and 90-year olds, the deaf, the dumb, and the blind, and various combinations of the above. We have MS victims, iron-lungers, quadraplegics, and the completely paralized, plus hundreds of immobiles and shut-ins. About the only handicapped people who have had little success in learning code are the mentally retarded.

From the above, I draw an obvious conclusion: The argument that you just can't learn the code has no basis whatsoever. The real problem, I think, is lack of desire. The motivation simply is not there. If you have an attitude that it is somehow demeaning to learn the elementary ABC's of radio communication, then perhaps you are not ready for ham radio.

Ham radio has great basic principles; it's people helping people; it's enjoying a mutual skill; it's learning together; it's sharing a fun experience. When someone comes along and insists on changing our marvelous hobby to suit his ways and eliminate the basics that we have enjoyed for over 75 years, I'm stating right here: We don't want our hobby mutilated! It's really that simple. You want to be a REAL ham? Then join us. But don't try to change our basics until you have proven yourself as a genuine ham communicator. Join us. Play the game with our rules. You just might like it!

Morse Code is the prime cornerstone of ALL radio communications throughout the world. There can be no argument that CW will get the message through during marginal conditions when all other modes are failing. Any ADEPT communicator knows that. So why fight it? Disaster communications has proven this over and over. Our prime justification for holding our ham bands is for serving the public during emergencies and disasters.

When disaster strikes, and the power and the phone lines are down, the chips are down on the REAL hams. We come forward with our emergency gear and make-shift antennas, handling the only form of communications available. REAL ham radio. REAL hams have performed vital services and handled life-saving messages, many times under very perilous, marginal conditions. What better reason can there be for every REAL ham operator to know how to communicate by CW? QRU?

Rich Lawton, N6GG

W6 QSLing

Editor the DXer:

Ask yourself this question, "how long has it been since you received a W6 QSL card and were delighted to have it?"

I just had that experience a few weeks ago!

I received a card from Rusty, W6OAT, which pelased me very much. Really delighted, in fact!

He sent it to me to confirm a QSO between K6FD and SU1EE, where Rusty was a guest operator!

I was surprised no end - I didn't know he was over there! - and that's one W6 QSL that has gone into the collection.....

73, K6FD

Contests

Editor the DXer:

I think our Club and our members could do a bit better "for members belonging to the worlds oldest DX Club."

I think we should have the common decency to participate a bit in the "other DX contests" besides the CQ WW and the ARRL activities.

If every NCDXC member would work a few foreign contestants in their activities, I think they would appreciate the fact and reciprocate in ours. It would be nice to have a lot of foreign DXers calling us in our contests who normally don't get too much involved in the CQ and ARRL tests.

I try to QSO even the JA's in their contest and they seem to be most grateful to hear a K6 come back "U R 599 001" or "599 006".

73, Ray, K6FD

A Cure for Split-Madness

(or, Tracking a DX operator's QSX QRG pattern)

by Dave Barton, AF6S

You don't have to work DX very long to realize that most DX operators, when working pileups in split-frequency mode, have patterns in their choice of the next listening frequency after each contact. Obviously, you could give yourself a big edge if you could always transmit on the next listening frequency. While no operator's pattern is precise enough to make that possible, one can transmit in the general vicinity much of the time by discerning the pattern, which is certainly much better than just playing the odds over the operator's entire tuning range.

One commonly used technique is to simply transmit on the frequency of the last contact. For some DX operators, that works very well because their pattern is to continue on one frequency until too many are calling there, and then jump to a new frequency and repeat the process. I call this operating style "sample and hold". For other operators, however, this method will virtually guarantee that you will always be in the wrong place!

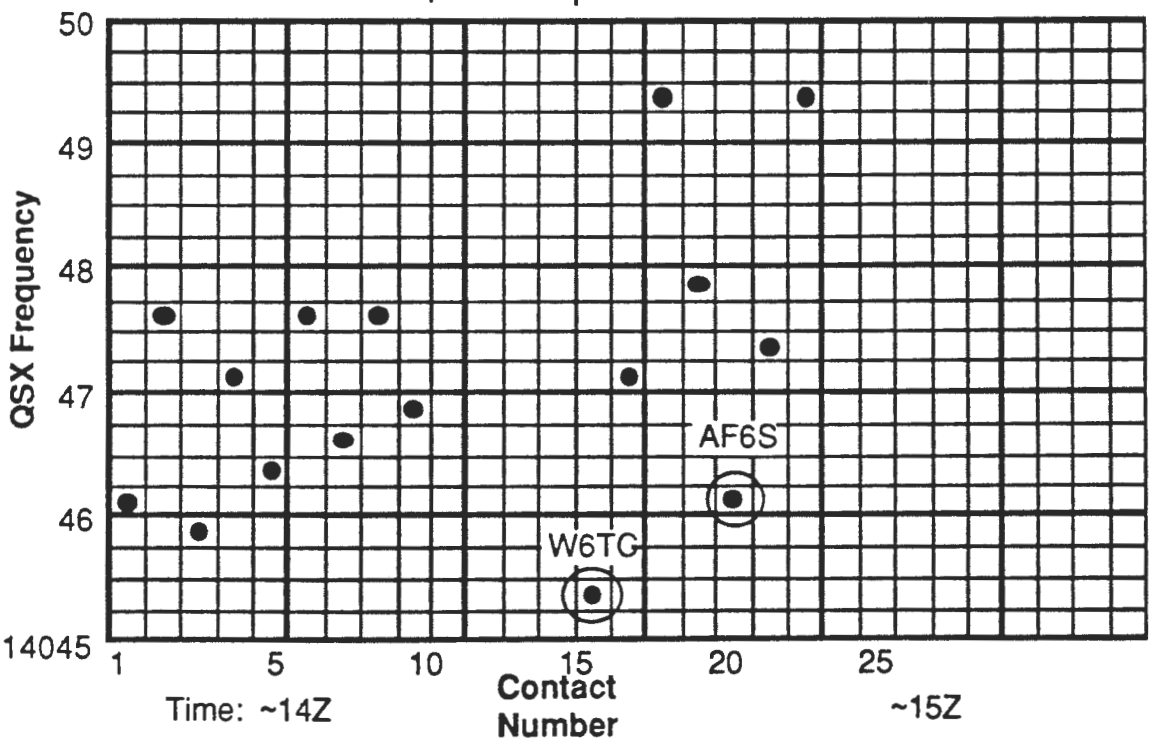
A graph is a good way to detect a pattern. My method is to graph each contact's QSX frequency against contact number. A sheet of "quadrille pad" paper is used, on which the vertical axis represents frequency and the horizontal axis is (arbitrary) contact number. The vertical axis covers the entire QSX spread. On CW, regardless of the spread, there is no point in plotting frequency increments finer than about .25 KHz. On SSB, 1 KHz is close enough. For wide "spreads", the per-square increment should be increased so that the total number of "squares" does not exceed 20. You can make up the blank form ahead of time, with the contact number but not the frequency scale filled in, and photo-copy a bunch of 'em.

To use the chart, just put a dot at the frequency of each contact. Skip filling in one dot for each contact not found; this is very important. The result is a graph of frequency vs. contact number, with some holes in it. The operating pattern will usually reveal itself after ten to twenty contacts. Filling in the chart won't keep you from calling the DX, since it takes little time and you always do it during some other guy's QSO (when *you're* not calling, right?).

After a while, as hinted above, you will find yourself classifying operators by their patterns. Some of the well-known expeditioners come to mind. For example: like many of the best operators, Martti Lane, OH2BH, is a "sample and hold"; so is Jim Smith, VK9NS. Our own Bob, KN6J is a "ramp" operator (starts at the low end of his QSX range and jumps by a small, quite uniform steps upward, making an almost continuous ramp when plotted). ZS8MI (on CW, anyway) does a sort of up-and-down stair-case, with either one or two steps each way of from 0.5 to 1.5 KHz (see sample graph).

The dark side: once DX operators find out that we're "locking on" to their patterns, they might employ countermeasures, consciously breaking from their own patterns.

Typical plot (this one showing ZS8MI's pattern on 31 May, 1989)



CALL	HONOR ROLL -MIX	PH.	CW.	DXCC -MIX	PH.	CW.	5 BAND DXCC -10m	15m	20m	40m	80m
KF6A				274							
AA6AD				271	181	252	109	176	258	54	
W6AED/7					325			100	100		
W6AEO					241						
WA6AHF		312			335		100	100	100	100	100
KG6AM				263	253	136	95	163	238	36	23
N6AN	313			333	276	278	217	276	295	167	115
K6ANP				316	199	211	133	144	199	110	105
N6AUS				258							
KA6BIM				196	190	59	108	131	141	33	8
W6BJH	311			327	192	282	120	117	187	117	100
WA6BSS				280	280	2	125	155	229	49	14
W6BSY	315	313		358	351						
KB6BW					251	2	89	89	151	26	2
K6BWX				225	1	224					
W6CF	315			342	294	185	204	239	306	178	138
K6CN				260	253	158					
W6CTL				316	1	245	142	129	313	88	11
WB6CUA				320	294	280	100	100	100	100	95
WW6D				172	89	147	33	70	136	67	26
K6DC	315			359							
W6DD					126						
W6DPD				300	300						
K6DR				248							
K6DT	312	307		340	320	293	229	251	328	153	121
W6DU				329	276	300	207	223	299	149	101
NQ6E				240		207	116	127	196	136	118
WD6EKR					294		154	218	275	72	71
WD6EKR/M					233		79	187	145	2	2
W6ERS	315			345							
W6ETR						237					
WB6EXW				303			100	100	100	50	11
WW6F				264	260	124	135	133	170	36	33
W6FAH					280	128	156	183	263	134	136
K6FD					271						
W6FGD				317	249	267					
K6FO				277	185	239	134	164	235	125	102
KB6G				253		229					
KD6GC				175							
KG6GF				281			70	120	210	256	124
WB6GFJ				101	300	70	161	192	246	105	50
N6GG				301							
W6GO	312	311		326	325	307	257	286	313	242	206
K5GOE				303	290		182	100	100	100	87
AE6H				208	100	100					
WA6HAT				311		243					
K6HHD				312	308	23	204	174	221	42	40
K6HNZ					290		209	242	254	125	107
N6HR	308			329	315		100	100	100	100	100
W6HXW		323			323						
WC6I				275			139	155	210	149	57
W1ICU		316			335						
K4II	312			339	303	336	197	243	322	248	162
W6ISQ	315	312		348	331	207	157	189	219	122	110
W6JD				315	209	287					
N6JM				286	272	230	178	214	250	117	85
W6JRY	306			321							
N6JV	310			321	167	300	100	100	100	100	100
W6JZU	312			328			75	115	255	22	12
W6KG	314			352	290	108	161	193	210	169	105
W6KH	320			358							
W6KNR	319	319		339	339						
W6KOE		313			332						
W6KQK				310	295	287	243	278	299	152	118
K6KQN				265	260						
NB6L				311	212	162	100	93	186	40	19
WA8LLY				215	182	150	127	135	159	51	16
K6LQA	312			330							
W6LQC	313	312		330	330						
WX6M				308	308	21	145	135	167	65	44
K6MA	319	311		348	322	290	200	200	300	165	121
W8MEP				278							
W6MUR	313			357							
W6MZ	315			333							
W6NA						271	140	190	251	192	109

CALL	HONOR ROLL -MIX	PH.	CW.	DXCC -MIX	PH.	CW.	5 BAND DXCC -10m	15m	20m	40m	80m
W6NKR				289							
W6NLG				316	306	100	100	100	100	26	6
K6NM				300	200	191	100	135	258	152	34
W6NPY				316	200	265	200	200	200	178	139
WA6O				217			88	50	123	2	16
N6OC				303	300						
WA6OEY				227				71	60	170	20	8
N6OJ				316	275	105					
K6OJO	312	311		328	327		187	250	309	17	12
W6OMR	313			332	318						
W6OSP				300							
WB6OTB				271							
WB6OTC				284							
K6OZL				332			100	100	100	100	100
K6PBT				216	191	115	111	133	145	61	15
K6PKO				308	301		270	175	185	97	112
K6PU	316	311		344	325	250	200	200	300	200	100
AG6Q				303	289	168	100	100	100	100	100
KB6Q				294							
W6QDE				281	138	243					
W6QL	315			337	263	69	114	161	201	111	103
N6QR	310			313			100	100	100	100	100
N6RC				213							
W6RGG	315	313		340	336						
W6RJ	316			345			100	100	100	100	100
K6RK	314			326	312	289	100	100	100	100	100
K6RQ	317			354			91	182	285	126	71
N6RR				289			116	210	176	129	88
K6RUW				270	242	120	100	100	100		
DJ6RX	315			336			215	271	303	227	185
AF6S				312		301	247	262	286	192	128
K6SIK				279	274	130	150	170	255	125	117
N6ST	315			320	297	235	171	207	284	126	50
W6SYL						220					
W6TC	316		314	331		314	100	101	100	100	100
W6TER				269							
K6TMB				301	295	235	235	240	290	142	117
WA6TOO				251			58	84	167	6	6
W6TPH				272	238	187	141	181	172	110	100
AE6U				304		276	200	200	200	200	140
K6UD	308			318	306	207	240	244	244	176	147
WB6UOM					300						
W6UR				264	159	158					
K4UVT				287	208	97	31	70	275	53	7
AJ6V				308	216	256	135	160	247	133	62
W6VQD				320	319	1	134	157	282	104	106
KD6VS				304							
K6WD	312			325		272	100	100	100	100	65
WB6WKM				300	100	100	100	100	100	100	63
KE6WL				219	211	153	120	166	185	83	32
K6WR	321	321		351	351		100	100	100	100	100
KH6WT						204					
KK6X				281	227	255					
NG6X				250							
W7XA				325			277	298	309	174	137
K6XM				267	209	222	163	179	246	144	68
K6XN				307	300	263	131	142	237	108	137
W6XP	317	317		333	333						
K6XT	312			327		160	100	100	100	100	65
KD6XY				301	285	50	121	136	222	7	3
KR7Y				301	271	267	149	184	249	142	126
K6YK				316	280	293	241	268	296	203	102
K6YK/M				167							
W6YVK					251		160	198	173	56	42
AA6Z				283							
W6ZKM		311			333		100	100	100	100	100
K6ZM	315			345	311	261	100	100	100	100	73
W6ZM	315	315		350	345		130	142	317	52	111
K8ZTT				286	276	243	175	168	237	105	70
WB6ZUC				317		303	178	244	265	152	105
K6ZX				309		287					

NQ6E 5-BAND DXCC #2002
K6TMB 5-BAND DXCC

DX Ladder

What is this thing called the "DX Ladder"? The DX Ladder is a status report showing members' accomplishments towards the Honor Roll.

The ARRL has issued an updated version of its DXCC Countries list, which shows Current Countries as 321. New eligibility requirements for the Honor Roll are 311 countries worked. Updates to the DX Ladder are being accepted to reflect the change.

The new WARC Bands do not presently count towards 5 band DXCC, but if enough interest is shown, and figures are forwarded to me for WARC contacts, the DX Ladder will be expanded to include these bands also. This will then reflect how members are doing towards the Club "9 Band" plaque.

Larry, KD6XY

	WAZ			5 BAND WAZ					WPX		
CALL	MIX	PH.	CW.	-10m	15m	20m	40m	80m	-MIX-	-PH.	-CW.
WB6WKM	40	40									
KE6WL	39	38									
K6WR	40	40									
KH6WT			40								
K6XM	40										
K6XT	40	40									
KD6XY	40	40	24	28	34	37	6	2			
KR7Y	40								1,526		
K6YK	40	40	40								
W6YVK	40								659		
AA6Z	40										
W6ZKM		40									
K6ZM	40	40									
W6ZM	40	40									
K8ZTT	40										
K6ZX	40										

K6PKD 6-BAND WAC
6-BAND WAS
K6TMB 20 METER SSB WAZ

	WAZ			5 BAND WAZ					WPX		
CALL	MIX	PH.	CW.	-10m	15m	20m	40m	80m	-MIX-	-PH.	-CW.
AA6AD	40										
WA6AHF		40									
N6AN	40	40	40								
K6ANP			40								
KA6BIM	39										
W6BJH	40										
WA6BSS		40									
KB6BW	40										
W6CF	40	40							893		
WB6CUA	40	40		40	40	40	32	24			
WW6D	33										
W6DPD	40	40									
K6DT	40	40							1,416		
NQ6E	40			30	33	40	38	33	600		
WD6EKR/M		40									
W6ERS	40										
W6ETR			40								
WW6F		40									
W6FAH		40									
K6FO			40								
WB6GFJ	40	40							837		
N6GG	40										
W6GO	40	40		40	40	40	40	40			
K5GOE	40	40							1,037	947	
WA6HAT	40										
K6HHD	40										
K6HNZ	40										
N6HR	40								863		
WC6I	39			32	37	40	37	26			
W1ICU	40										
W6ISQ	40	40							869		
W6JD	40										
N6JM	40			34	39	39	28	20	1,664		
N6JV	40								2,162		2,135
W6JZU	40	40									
W6KG	40	40							911		
W6KNH	40	40									
W6KOE	40	40									
W6KQK	40	40									
K6KQN	40	40									
NB6L	40										
K6LQA	40										
W6LQC		40								939	
WX6M	40										
K6MA	40	40									
W6NKR	40										
W6NLG	40	40							450	450	
K6NM	40										
W6NPY	40										
N6OC	40										
WA6OEY	40										
N6OJ	40										
K6OJO	40	40									
W6OMR	40	40									
K6PBT	40										
K6PKD	40	40					40			850	
W6QL	40	40									
N6QR	40	40									
W6RGG	40	40									
W6RJ	40	40									
K6RK	40	40									
N6RR	40										
DJ6RX	40			40	40	40	40	40			
AF6S	39										
K6SIK	40	40	40	39	40	40	40	38			
N6ST	40	40									
W6TC	40		40	40	40	40	40	37			
K6TMB	40	40	38	38	38	40	26	28			
WA6TOO	20										
AE6U	40										
K6UD	40										
WB6UOM	40										
AJ6V	40										
W6VQD		40									
K6WD	40										

Eliminate (Ham IV) Rotator Bearing-Meter Drift

If you own a Ham-IV rotator or similar model from Telex/Hy-gain, and are tired of re-adjusting its Calibrate control, then this article's for you. With an easy modification, you can make yours drift-free, just like a Japanese rotator.

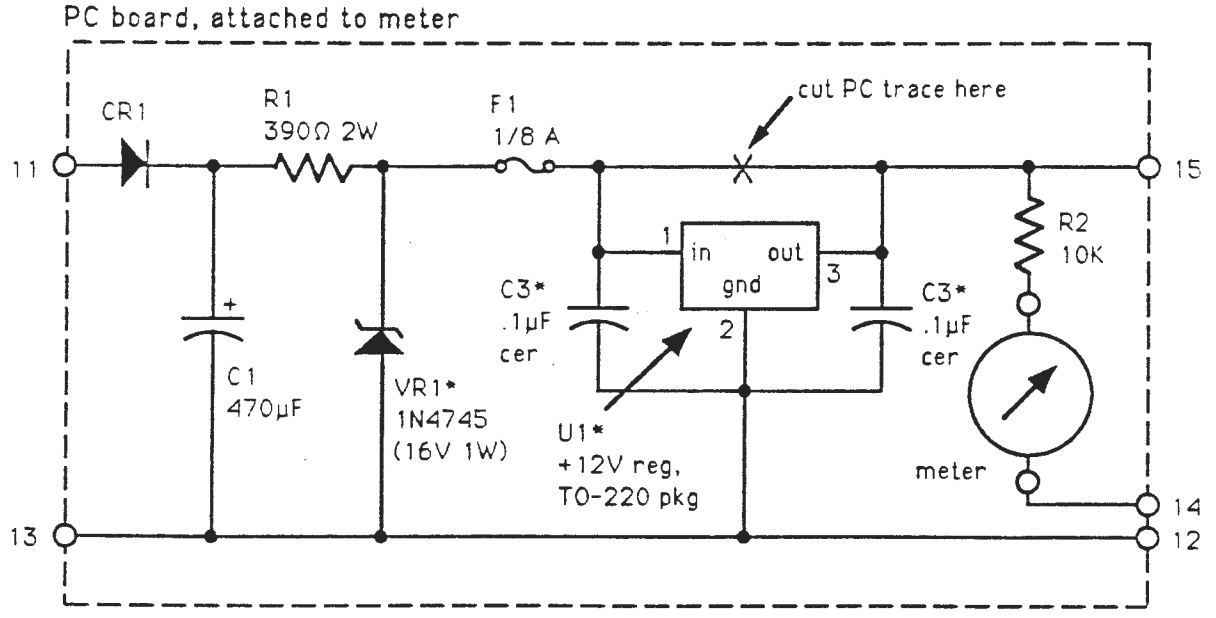
The power supply in the Ham-IV's metering circuit uses a 12 Volt zener diode for regulation. Zeners have a temperature coefficient that depends on their regulating voltage. A 12 Volt zener drifts about about +0.1%/deg C. That may not sound like much, but on cold mornings, mine has changed from the previous evening's warmed up setting by 15 indicated degrees, and that's in California. Also the control is easily bumped, another reason to eliminate it.

The fix is quite simple. Figure 1 is the schematic of the little PC board in the control unit, redrawn somewhat for clarity. Added or changed parts are indicated with an asterisk. As you can see, the major change is the addition of a 3-terminal regulator IC. This is a TO-220 packaged +12 Volt, a uA7812, LM7812, or LM340T-12, available at Radio Shack for less than a dollar. The change also requires two 0.1 micro-Farad, 50 Volt ceramic capacitors and any 16 to 30 Volt, 1 Watt zener in place of the original (this zener protects the regulator from over-voltage, so it's voltage isn't critical).

After taking the case off the control unit, remove the two nuts on the back of the meter to gain access to the small PC board (don't unsolder any wires). Being single-sided and of low density, the circuit is easily traced. The copper foil trace leading from the fuse to one of R2's pads must be cut (see fig. 1). The regulator is soldered to some of the unused pads in one corner of the board. The PCB pattern is just right for our regulator and its two bypass caps. With the regulator's leads downward and it's label toward you, the left-to-right pin order is in-gnd-out. Insulated hook-up wire jumpers bring the input and output of the regulator to the two sides of the trace-cut and another wire connects the regulator's ground pin to the anode of the zener. Changing the zener completes the modification, if you don't want to get rid of the control. Otherwise, the control potentiometer can be replaced with a small one-turn 5 K-Ohm trimmer, solder-mounted on the PCB in series with either meter connection (another trace-cut). In place of the calibrate switch, any type of quick-disconnect will do (you probably won't ever adjust it again, anyway). Now, cover the hole and the word Calibrate with a nice label or, at least, a good looking hole plug.

Dave Barton, AF6S

Figure 1: Schematic of PC Board (Added or changed parts are designated by a *).



WWV Information

WWV broadcasts a brief summary of shortwave propagation conditions at 18 minutes past each hour. WWVH, WWV's sister station in Hawaii has started broadcasting the propagation forcasts at 45 minutes after the hour. WWV and WWVH broadcast on the same frequencies. The time announcements on WWVH are in a female voice though. The propagation information is the same for both stations.

One can also call the general purpose WWV number (303)-499-7111, which plays the same audio as is being broadcast. To get the propagation info, you would have to call at HH+18.

The same propagation indicies that WWV broadcasts at HH+18 are available via a recorded msg at (303)-497-3235. This info is footnoted in "Propagation Forecasting during Cycle 22" in the June 89 QST.

Much more extensive forecast data are available from the NBS Space Environment Services Center's public BBS at (303) 497-5000. Modem settings are 1200,N,8,1. Access is free, except for the toll charge. One of the available reports is a three-day forecast of conditions. Lest anyone doubt the contributions of hams to the understanding of propagation, QST is mentioned several times in the online help.

You may also call the U.S. Naval Observatory in Arlington, Virginia, at 1-900-410-8463 (1-900-410-TIME). Note that this costs 50 cents for the first minute, 35 cents each additional minute. It can be cheaper than calling Fort Collins, and is just as accurate.

Notes from Electronic news media

CALIFORNIA AWARD

Maintained by Phil Frazier, K6ZM

THE CALIFORNIA AWARD

Since the last report, the following CALIFORNIA AWARDs have been given out.

#471	JH3DPB	Yutaka Tanaka	All 14 MHZ SSB
#472	PY1NEZ	Rogaciano de Lima Correa Filho	All 2 X SSB
#473	Y22TO	Bernd Petermann	Mixed
#474	PAØRLF	Rudi Timmermans	All 2 X CW
#475	FK8DD	Samuel Torope	All 2 X CW
#476	N7ET/DU7	Dale Law	All 2 X CW
#477	ZS2RM	P. B. Buckley	All 2 X CW
#478	WK2CWG	William J. Garvey	Mixed
#479	YBØWR	M. S. Lumban Gaol	All 2 X SSB
#480	OE3RE	Hr.Dr. Emmerich Rath	All 2 X CW
#481	FOØXX	481-1 Charles K. Epps, W6OAT	Mixed
		481-2 Robert B. Vallio, W6RGG	"
		481-3 G. Kip Edwards, W6SZN	"
		481-4 Carl D. Cook, AI6V	"
		481-5 Wayne Mills, N7NG	"
#482	LU3JH	Dr. Wolff Parmentier	Mixed
#483	FOØBRM	Morris Brown, N6DJM	All 2 X SSB
#484	CEØZIJ	Gustavo Westermeier L.	FIRST EASTER ISLAND STN All 2 X SSB
#485	IV3YRN	Marco Eftimiadi	All 2 X SSB
#486	TIØRC	Radio Club de Costa Rica	Mixed
#487	TI4SV	Bengt Hallden	All 2 X CW
#488	A35ZM	Philip E. Frazier, K6ZM	FIRST TONGA STATION Mixed
#489	FK8FS	Georges Todori	Mixed
#490	BP9AG	Philip E. Frazier, K6ZM	FIRST BARBADOS STATION Mixed
#491	YU7GMN	Radio Club "MUZLYA"	Mixed
#492	DJ3XD	August Unterwallney	All 2 X CW
#493	P4ØV	Carl D. Cook, AI6V	FIRST ARUBA STATION All 2 X SSB
#494	Y57WG	Wilfried Gottschald	Mixed
#495	OK2DB	Jaroslav Dufka	Mixed
#496	YO3CD	Marius M. Dancila	Mixed
#497	UC1AWC	Minsk Radio Technical Institute	Mixed
#498	KL7AF	Tony P. Smaker, Jr.	All 3.7 MHZ SSB
#499	Y22UB	Werner Barth	All 2 X CW
#500	UA1ZO	Vladimir A. Synkov	Mixed
#501	UD6DKW	V. V. Shishko	All 2 X CW
#502	UAØFF	Vladimir L. Varaksin	All 2 X SSB
#503	UP1BZO	Kaunas P. I. Radio Club	Mixed
#504	UAØFDX	Victor Komzuk	Mixed
#505	VE2EDX	Martin Benoit	FIRST CANADIAN STATION All 2 X CW
#506	HL1LW	Jo, Moōn Ho	All 2 X CW
#507	HB9BU	Alfred Lauber	Mixed
#508	UAØZDD	Vlad A. Serov	All 2 X SSB
#509	UB4WZA	Club Station "YUNOST"	Mixed

Phil Frazier, K6ZM
CALIFORNIA AWARD MANAGER

6146 Tubes

"I have it from a good source – one who buys 6146s by the thousands (or used to, anyway) – that GE changed their 6146 filament voltage a few years ago to 6.9V from 6.3V. As a result, rigs using these GE tubes have lower than normal output. GE did not advise anyone of the change, and my source only learned of it after customers complained of low output. They then returned 5000 6146s to GE and used Sylvania instead. For those few remaining 6146 users (like me) – BEWARE OF GE 6146s!"

For those of you not familiar with 6146s, they are transmitting tubes used in several Amateur transceivers, like the Kenwood TS-830S/820S/530S/520S, etc. I don't know of any recently designed Amateur HF transceiver using tubes at all, but I, like W1WEF and many others, have TS-830s and don't intend on getting rid of them anytime soon, if ever!

Dave, KM3T

COURTESY OF W1WEF AND THE YCCC NEWSLETTER, THE SCUTTLEBUTT

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NCDXC REPEATER W6TI/R
Output 147.36 Mhz, Input 147.96 Mhz
Trustee: Bob Vallio, W6RGG
Repeater Committee Chairman:
Smitty Smithwick, W6JZU
Suggested simplex freq.: 147.54 Mhz

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W6TI, the NCDXC memorial station broadcasts DX bulletins each Sunday at 1800 PST (Monday 0200 UTC) on or about 7.015 Mhz and 14.002 MHz.

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