

# The Northern California DX Club, Inc.

## The DXer

JUNE 1984

VOLUME XXVIII

NUMBER 6

### THE JUNE MEETING

**DATE:** Friday, June 8, 1984

**TIME:** 6:30 PM COCKTAILS 7:30 PM DINNER

**PLACE:** Harry's Hofbrau, in PALO ALTO -- take the Embarcadero turnoff toward the Palo Alto Airport/Golf Course

**PROGRAM:** ELECTION of OFFICERS  
YASME Tour of South America - Lloyd W6KG  
and Iris W6QL - 1983/84

### THE PREZ SPEAKS:

This month's meeting will be an important one as we will once again elect new officers. You are all encouraged to attend this meeting and exercise your right to vote. The nominating committee of W6QHS, W6GO & WB6NBR submitted the following slate of candidates at the last meeting:

<b>PRESIDENT</b>	Len -K6ANP
<b>V PRESIDENT</b>	Lou -K6TMB
<b>SECRETARY</b>	Dick -WB6WKM
	Lyle -N6BLN
<b>TREASURER</b>	Morris -N6DJM

Other nomination will be accepted from the floor just prior to the election. See you there.

73 - Chuck K6RK





DXPEDITION to NORTH COOKS  
BY Ron - **K6OZL/ZK1XL**

Fulfilling a childhood dream is as rare as hens teeth once the years start rolling by but this DXer had a chance to fulfill two at once; live in the South Pacific and go on a DXpedition. The opportunity came about when I happen to run into **ZK1CY** on 20 meters one evening and Tuatai mentioned he had to go up north on government business. I just asked casually if I could go along and do some operating as we had talked about this before, Tuatai came back and said "YES" without any hesitation

I arrived in Rarotonga, South Cooks the evening of February 6th, soaked to the bone with sweat and little did I know then that I would sweat everyday until my arrival back in Los Angeles some 12 weeks later! Preparations got underway almost immediately for the trip north. Immigration had to give permission to go up to the northern group, something Tuatai had worked on even before I had arrived. Food had to be obtained as there are no super markets in the northern group. The list grew and when we left we had two large crates packed with provisions; one antenna box donated by **VE3HFS** and **VE3XJ**. Needless to say I worked every **VE3** I heard calling.

Vic, **ZK1CG** gets letters every year from hams who want to be booked into a nice hotel for a week or so in the northern group. Well, it just ain't that way. All known civilization is left behind once the small coastal freighter leaves Raro. The boat ride up is hot, smelly, and totally beyond what I have experienced as a radio officer aboard USA tankers. There are at least 80 people living on the covered hatches outside and you can imagine what the most popular room onboard looked like after one day at sea. The crew hosed the head down daily with a three inch hose at full blast to try and clear the clogged toilets. Finally on February 22nd we arrived at Penrhyn Atoll, some 540 miles south of the equator. By the way, the former name is Tongareva but thats another story.

I soon learned that you have to have connections when going on a DXpedition. The doctor is the brother of Tuatai's wife and we stayed with the doctor and his family on Penrhyn. There is no house to rent or place to stay by yourself on Penrhyn. You must obtain permission from the Chief Administrative Officer (CAO) before arriving on any island in the Northern group as places to stay are almost impossible to find. We were well warned before hand about the Penrhyn people and had to watch the house 24 hours a day to be sure our gear didn't walk away some night or weekend when the doctor's family went out to the numerous motu's to gather pearl shells.

Operation began on February 23rd after the antennas were up temporarily at a low height. Tuatai brought with him a transceiver that was for the Health Departments use on Penrhyn. A very simple random wire was strung up from the house to a palm tree and that was the antenna,

something similar to the way of life as they know it in the South Pacific. Two skeds a day were maintained daily on 12 MHz back to Raro and I had to QRT during those skeds so the operation was limited in that respect.

The Europeans were a big disappointment at first, I couldn't hear any but as the days went by I could hear them long path then short path opened up. I had to fight off the JA's and stateside over the North Pole short path into Europe, thus I used cw most of the time. The feedback I was getting out of Europe was quite encouraging and I worked them nightly in fact, one CQ and the Europeans had found me and the fun began in earnest. I had to choose to either stay on 20m and work Europe or QSY to 80/160 for the USA.

Living in the South Pacific on a remote atoll is very simple, either you like it or you hate it, nothing else. After a month or so Tuatai and I had our fill of Penrhyn, we were ready to leave. We started asking Raro on the health departments radio when was the next boat scheduled to leave Raro???? I wanted to leave in time to attend the International DX Convention in Visalia, CA. and I was getting worried about making it. Finally I couldn't stand it any longer, I asked Tuatai to talk to Tereappaii, ZK1AA's XYL and run a phone patch for me to Air Rarotonga to see about chartering an airplane to fly to Penrhyn. Tereappaii got the owner on the patch and I must have said the correct magic words "American Express Gold Card," as he didn't back down. The flight was going to set me back \$4800 New Zealand. Finally a way out of here!!! The Americans had a nice long runway built during WW2 and had recently come back and worked on it (1962). The only one stipulation from the CAO was that no airplanes could land or takeoff on Sunday. It so happens that the only day Air Raro is not flying is Sunday. We made another patch to the owner. This time I got their working frequency of 3]30 KHz and I talked to them direct daily, using my TS430S and 160m dipole fed with open wire. More complications were beginning to creep into the works. The Cook Island Government had found out about the charter and would not allow the plane to leave Raro unless a group of gov't officials were on the plane to visit Rakahanga then fly on to Penrhyn, all at my expense. Meantime the cutoff date for the DX convention came and went. Reluctantly I sent a cable cancelling the plane. Spirits were pretty low then but the pileups were a good escape for our problems.

The rumors were flying that the next boat was leaving Raro on April 11th, another sked with Tereappaii confirmed this. Spirits were raised and to celebrate a hog was prepared for the big feast, South Pacific style. After daily meals of beans for breakfast and corned beef for dinner, it was a good meal, believe me. Another outstanding meal was the fresh crayfish caught in the middle of the night on the reefs. All you have to do is get out of bed at 3am and walk out to the reef and pick them up! Crayfish tails are the same as lobster tail and excellent. Coconut crabs are plentiful with legs some 13 inches long.

(continued on Page 4 )

MAY MEETING of the NCDXC BoD

**K6RK**, Chuck called a meeting of the following members of the board: **W6DU**, **W6ZYC**, **K6TMB**, **WB6OOL**, **K6SSJ**, and **WB6ZUC** at **W6VG'S** home. At 7:15 PM the group began business with a discussion of **N6AN'S** suggested election procedure revision and approved the deletion of the word "each" from section 3-106, d where it occurs in the phrase "and each of the Directors at Large."

**WB6WKM** presented a treasury report after which **W6DU** suggested we set aside \$12.50 yearly for each life member to be marked "Life Member" in the treasury report. It was so agreed. The Board also agreed that dues should be high enough to take care of yearly expenses and that when that is no longer so, that dues will be raised.

A contribution of \$50.00, same as last year, was approved for Westlink.

A discussion ensued of a new repeater control system. **K6RK** charged the repeater committee chairman to study the various possibilities and bring a recommendation to the July membership meeting.

**K6TMB** read a draft of a letter to the membership giving information of the jamming efforts.

**K6RK** reported on his and **N6ST'S** inspection of the Fresno Holiday Inn at the city center. The only week-end available in 1985 is April 19th so it was signed up. The Inn is setting aside 275 of their 322 rooms and 700 rooms total are available within walking distance of the hotel.

Various possibilities of programs for future meetings were discussed.

There was a reminder that officers will be elected June 8.

Co-ordination of Christmas parties with the **NCCC** was mentioned along with the thought that a joint meeting in the form of a picnic be tried with that group.

The meeting was adjourned at 8:45 PM

Respectfully submitted  
Josephine Clarke, **WB6ZUC**

**NORTH COOKS (cont)**

Finally the big day arrived and the small coastal freighter came and on April 17th we said our final 73s on the ham bands and took the beam down, packed one large crate and left Penrhyn at 6PM. I had worried about leaving Penrhyn because the doctor started getting visits from worried natives in the middle of the night regarding a sick patient. This worried me also because one of the customs on Penrhyn is if someone dies all work on Penrhyn stops for a mourning period of 30 days! I told the doctor that the boat will be here next monday and for God sakes keep that patient alive for a few more days. **I WANT OFF OF HERE!!!!**

The boat ride back to Raro was hot as usual and the cabin temperature was never below 90 degrees, so it was better to stay up on deck and sleep on the deck. We arrived back in Raro on April 23rd, a holiday. Since Wednesday was a holiday too I had Tuesday to get my business done and leave Wednesday, April 25th, my 40th birthday. The plane was delayed six hours but at 9 PM on April 25th I left the runway bound for Tahiti, a scant hour and a half away by jet. It was a tearful departure and a joyous one to say thank you to Tuatai, **ZK1CY/ZK1MA** for such a successful DXpedition.

(continued on Page 8)

THE MAY MEETING of the NCDXC

The meeting at **Miguel's** in Hayward was called to order at 9 PM with the following guest introducing themselves: **N6JCJ** (son of **KX6C**), **K6OCY**, and **HZ1AB** (operator **Bob Walsh**).

President Chuck, **K6RK**, reminded the club that elections will be conducted at the next meeting, which will be held at Harry's Hofbrau. Chairman of the nominating committee, Dave Gleason, **W6QHS**, gave the preliminary slate as: for President **K6ANP**, V President, **K6TMB**, Secretary **WB6WKM & N6BLN** and Treasurer **N6DJM**.

Steve, **N6ST**, our chairperson for the convention next year said that he has made arrangements (along with **K6RK**) for next year's convention to be back in Fresno at the new Centre Plaza Holiday Inn (Tel: 209 268-1000). The hotel has reserved 275 rooms for us and there are 700 rooms within walking distance of the Holiday Inn. The dates are April 19th thru April 21st for those wishing to make early arrangements.

A first reading was given for **K6OCY**, Chuck Bryant.

A second reading for **WA9WYB** met with approval. Welcome to the best of DX clubs, Rich.

**K8ZTT** introduced Mary Bradshaw, **KB6BYS**, who just got her technicians license and she asked for help on the air with code.

Phil, **K6ZM** gave a very fine slide show presentation on his operation from **3D6ZM-Fiji**, **A35ZM-Tonga**; **ZK2ZM-Niue**; and **ZLØADP**. In addition to being a good operator Phil is a good photographer and raconteur.

Kip, **W6SZN** gave a short account of the Clipperton groups stay in Manzanillo and of the vagaries of the XE fishing fleet re Clipperton.

Then came the much awaited awards ceremonies with the following kudos given out:

1982 CQWW Contest :           NCDXC winner Single OP CW **N6QR**  
                                  "           "           "           " SSB **VP5KP**  
                                  "           "           Multi   " CW **N6RO**  
                                  "           "           "           " SSB **N6RO**

MILLION POINT AWARDS

Both Modes	CW	SSB	
<b>AI6V</b>	<b>ZK2RU</b>	<b>F0ØJO</b>	<b>5W5DM</b>
<b>K6ZM</b>	<b>N6TV</b>	<b>8P6KX</b>	<b>J2ØDU</b>
<b>N6RO</b>		<b>K6RU</b>	<b>W6BH</b>
<b>N6VV</b>		<b>N6OJ</b>	
<b>N6QR</b>			

1983 ARRL DX Contest:   MILLION POINT AWARDS  
                                  CW   **N6RO**  
                                  SSB   **K6HNZ & AI6V**  
                                  800,000 Point Award - **K6ANP**

1983 NCDXC Marathon:   CW   **N6QR**  
                                  SSB   **WA6AHF**  
                                  MIXED **W6BSY**

The meeting was adjourned at 10:40 PM

Respectfully submitted  
Josephine Clarke, **WB6ZUC**

The ICOM IC-730 is one of the best combinations of receiver dynamic range, operating convenience and small size. The synthesizer is particularly quiet and the dynamic range is among the best I have measured -- a characteristic in common with all the latest ICOM offerings.

I have corrected some minor problems over the last year or two, and have been asked for circuit information which is included here. For increased SSB talk power, I modified the ALC time constants and the microphone input circuit. I changed the VOX to a circuit I prefer because it cannot be defeated by high speaker level, and swapped the CW and SSB delay time constants.

On CW, the original keying was too soft and delayed for my taste; two component value changes and one addition satisfied my needs. The added 560 pf. capacitor is needed to avoid clicks after the other component changes.

On receive, I wanted more IF gain, and cured an audio noise on SSB receive originating in the CW sidetone circuit. I found and cured AGC-induced audio distortion (a common problem on current transceivers) and decreased the AGC decay time slightly. I lowered the CW sidetone frequency, increased the receive audio lows and modified the receive audio lowpass filter to an elliptic-function configuration with sharper cutoff.

Two important changes to me are the addition of a 250 Hz second IF filter available at "CWN" on the mode switch and a change of the control functions so that the "split" switch functions instead as "transmit A/B." I used a Kenwood 455.7 kHz filter, but the circuit could use the ICOM filters available now. I learned about the CW filter circuit from W6CYX, and KR60 worked out the filter control bugs and suggested the TX A/B need.

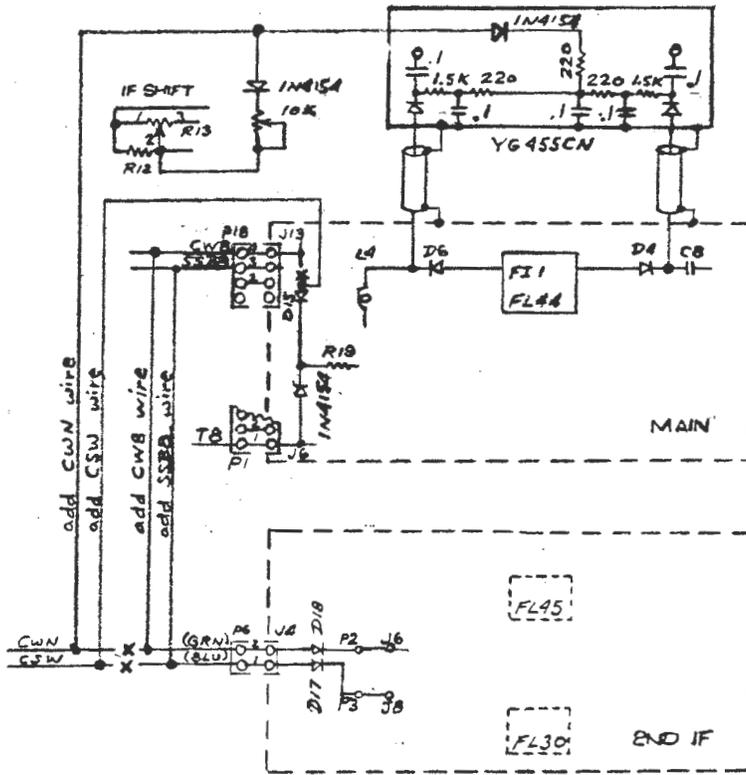
The use of toothed ("star") washers on the grounding screws of the RF board has been suggested to prevent destructive oscillation in the RF driver transistors. An unsolved problem (haven't had time) is the presence of broadband RF noise from the final amplifier (noticed on Field Day). I intend to control the fan by a thermal switch as it is on the TS-130's we used for the Northern California DX Foundation 20 meter beacons.

To work on the Main and Detector circuit boards, I unscrew them from the tray and tip them out as a pair, cables and all, to be held in a plastic vise. I mounted the IF filter on the bottom of the main board, projecting through a rectangular hole I cut in the tray. Added components I tacked on with teflon tubing on leads.

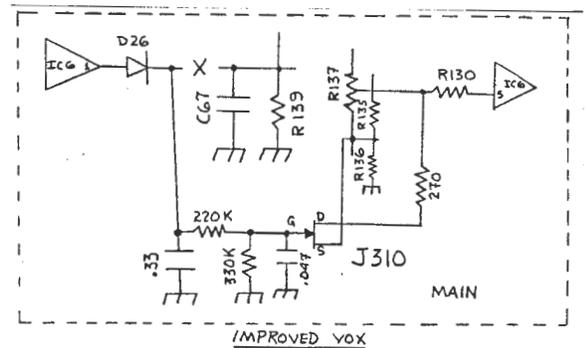
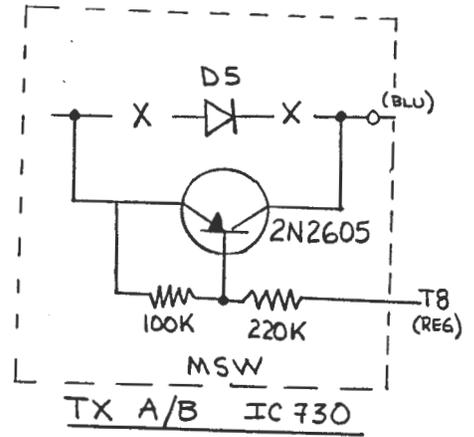
I've enjoyed the rig a lot, and have had no problems with any of the modifications, even on our trips to Europe. I haven't yet figured out how to make the step size change automatically as in the IC-740 series, and am open to suggestions. The accompanying table and schematics detail the changes made.

	<u>Function</u>	<u>Components</u>	<u>Change</u>
ALC	More TX audio	Main board R169 ALC to GND ALC to GND	10K to 47K add 220K add 0.047 $\mu$ f
KEYING	Cure mush	Main board C81 C33 Base to Col. of Q10	0.22 to 0.1 $\mu$ f 10 to 4.7 $\mu$ f add 560pf.
<u>SIDETONE</u>	Noise on SSB Tone lower	Main board R114 Main board C55 C56 C57	1K to 82K 0.022 to 0.033 $\mu$ f Mylar 0.022 to 0.033 $\mu$ f Mylar 0.022 to 0.033 $\mu$ f Mylar
<u>1F GAIN</u>	Increase	Main board across R35	add 0.068 $\mu$ f
<u>XMIT AUDIO</u>	Less lows	Main board C65	1 $\mu$ f to 0.22 $\mu$ f
<u>AGC</u>	Fix audio distortion Faster Decay	DET. board R9 R8	47K to 1K 3.3M to 2.2M
<u>AUDIO FILT.</u>	Sharper cutoff	DET. board C24 C25 C26 C20 From R34 to C26	.1 to .01 $\mu$ f Mylar .1 to .01 $\mu$ f Mylar .0068 to .0033 $\mu$ f Mylar .047 to .01 $\mu$ f Mylar add .001 $\mu$ f Mylar
<u>RCV AUDIO</u>	Add lows	DET. board C27 C19	.047 to 1 $\mu$ f 0.1 to 0.33 $\mu$ f
<u>SPLIT</u>	TX A/B	MSW board D5	Replace with transistor CKT "TX A/B"
<u>CWN</u>	250/500 Hz 455 Filt.	See CKT "CWN Filter"	
<u>VOX</u>	CW/SSB Delay  Improved	Main C62 C63 Set CKT "improved VOX"	.47 to 1.0 $\mu$ f 1.0 to .47 $\mu$ f

TABLE I: IC 730  
IMPROVEMENT SUMMARY



CW FILTER IC730  
COURTESY W6CYX, KR60



## NORTH COOKS (cont)

18,935 QSO's were made using a TS-430S/Yaesu linear and also a Hal CWR-6850 RTTY terminal. CW was the major mode as I like CW better than SSB, and ZK1CG had made 10,000 SSB QSO's on the last DXpedition to North Cooks. Four hams made it into the ZK1XL log on 7 bands, number one being Frank, N4WJ. Frank gets a genuine Penrhyn Atoll Pearl Shell and Pearl worth a lot of money if Frank ever wants to cash it in (he will have to go to Penrhyn to do it). Congratulations go to K1MM, K1MEM, and K1ST for 7 banders too. (Note: I have a number of IRCs for sale. 40¢).

### Calendar of Events

June 2-3	New York State QSO Party
June 2-3	RSGB National Field Day
June 9-10	ARRL VHF QSO Party
June 9-10	So. American CW Contest
June 16-17	Six Meter QSO Party
June 16-17	All Asian Phone Contest
June 16-17	NINE Land CW Contest
June 23-24	ARRL Field Day
July 1	Canada Day Contest
July 7-8	Venezuelan SSB Contest
July 14-15	IARU Radio Sport Contest
July 28-29	Venezuelan CW Contest
July 28-29	County Hunters CW Contest

Aug. 5-6	Illinois QSO Party
Aug. 11-13	New Jersey QSO Party
Aug. 11-12	DARC European CW Contest
Aug. 18-19	SEANET SSB Contest
Aug. 18-19	SARTG RTTY Contest
Aug. 25-26	All Asian CW Contest
Sep. 5-6	YLRL "Howdy Days"
Sep. 8-9	DARC European SSB Contest
Sep. 15-17	Washington State QSO Party
Sep. 15-16	SAC CW Contest
Sep. 22-23	SAC SSB Contest
Sep. 29-30	Delta QSO Party
Oct. 17-18	YLRL Anniv. CW Party
Oct. 20-21	Pennsylvania QSO Party
Oct. 27-28	CQ WW DX Phone Contest
Oct. 31 - Nov. 1	YLRL Anniv. Phone Party
Nov. 9-10	DARC Euro. RTTY Contest
Nov. 24-25	CQ WW DX C.W. Contest

Special Thanks to Frank, W1WY of CQ Magazine for his monthly contribution to the Calendar of Events.

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## EUROPEAN DX-CONTEST

The Deutscher Amateur-Radio-Club (DARC) has the honour to invite amateurs all over the world to participate in the annual EUROPEAN DX-CONTEST.

- Contest-periods:** CW: August, second weekend  
1984: 11/12, August  
1985: 10/11, August  
Phone: September, second weekend  
1984: 8/9, September  
1985: 14/15, September  
RTTY: November, second weekend  
1984: 10/11, November  
1985: 9/10, November  
0000 GMT Saturday to 2400 GMT Sunday
- Bands:** 3.5 - 7 - 14 - 21 - 28 MHz.
- Classifications:** Single Operator - all band; Multi Operator - Single transmitter; Multi operator/Single-transmitter-stations are only allowed to change band one time within a period of 15 minutes. A quick band-change and return for working new multipliers is allowed.
- Rest period:** only 36 hours of operation out of the 48 hours are permitted for single-operator-stations. The 12 hours of non operation may be taken in one, but no more than three periods at any time during the contest and have to be marked in the log.
- Exchange:** A contest QSO can only be established between a non-European and a European Station. Exchange the usual five or six digit serial number RST/RIS report plus a progressive QSO number starting with 001. W/K-stations in addition give their state (e.g. 599011 MA).
- Points:** Each QSO counts 1 point. A station may be worked once per band. Each confirmed QTC - given or received - counts 1 point (see below).
- Multipliers:** The multiplier for non-European stations is determined by the number of European countries worked on each band. Europeans will use the last ARRL countries list. In addition each call area in the following countries will be considered as a multiplier: JA, PY, VE, VO, VK, ZL, ZS, UA90 (see special regulations for RTTY Fig. 13). Each W/K-state will be considered a multiplier, but not W/K call areas.  
The multiplier on 3.5 MHz may be multiplied by four  
The multiplier on 7 MHz may be multiplied by three  
The multiplier on 14/21/28 MHz may be multiplied by two
- Scoring:** The final score is the total QSO points plus QTC points multiplied by the sum total multipliers from all bands.
- QTC-Traffic:** Additional point credit can be realized by making use of the QTC traffic feature. A QTC is a report of a confirmed QSO that has taken place earlier in the contest and later sent back to a European Station. It can only be sent from a non-European station to a European station. The general idea being that after a number of European stations have been worked, a list of these stations can be reported back during a QSO with another station. An additional 1 point credit can be claimed for each station reported (note special regulation for RTTY see 13).
- a) A QTC contains the time, call and QSO number of the station being reported, i.e.: 1300/DA1AA/134. This means that at 1300 GMT you worked DA1AA and received number 134.  
b) A QSO can be reported only once and not back to the originating station.  
c) Only a maximum of 10 QTCs to a station is permitted. You may work the same station several times to complete this quota. Only the original contact, however, has QSO point value.  
d) Keep a uniform list of QTCs sent. QTC 3/7 indicates that this is the 3rd series of QTCs sent and that 7 QSOs are reported.  
Europeans may keep the list of the received QTCs on a separate sheet if they clearly indicate the station who sent the QTCs.
- Contest Awards:** Certificates to highest scorer in each classification in each country, reasonable score provided. Continental leaders will be honored. Certificates will also be given to stations with at least half the score of the continental leader.
- Disqualification:** Violation of the rules of this contest or unsportsmanlike conduct, or taking credit for excessive duplicate contacts will be deemed sufficient cause for disqualification. The decisions of the Contest-Committee are final.
- Logs:** It is suggested to use the log sheets of the DARC or equivalent. Send large size S.A.S.E. to get the wanted number of log- and summary-sheets (40 QSOs or QTCs per sheet). Use a separate sheet for each band. All entrants are required to submit cross-check (dupes) sheets for each band on which they worked more than 200 QSOs. For each duplicate contact, that is removed from a log by the checker, a penalty of three additional contacts will be crossed out.
- Special regulations for RTTY:** In the RTTY-Section of the EUROPEAN DX-CONTEST also contacts between all continents and also one's own continent are permitted. Multipliers will be counted according to the EUROPEAN- and ARRL-countries list. QSO as well as QTC-traffic with one's own country (district) is not allowed. SWLs apply to the rules accordingly.
- Deadline:** CW: September 15th; Phone: October 15th; RTTY: December 15th.  
European Country-List: C31 - CT1 - CT2 - DL - EA - EA6 - EI - F - FC - G - G3 - GI - GJ - GM - GM Shetland - GU - SW - HA - HB - HB0 - HV - I - IS - IT - JW Bear - JW Spitzbergen - JX - LA - LX - LZ - OE - OH - OH0 - OJ0 - OK - ON - OY - CZ - PA - SM - SP - SV - SV5 Rhodes - SV9 Crete - SV Athos - T77/M1 - TA European part - TF - UA 1346 - UA2 - UA Franz-Josefs-Land - UB - UC - UN/UK1N - UO - UP - UQ - UR - Y22-99/DM - YU - YU - ZA - ZB2 - 1A0 - 3A - 4U1 Geneva - 4U1 Vienna - 9H1

Mailing Address (also U.S.):

WAEDC-Committee  
Postbox 1328  
D-8950 Kaufbeuren  
West-Germany

DXER DEADLINE:

Deadline for the JULY DXer is June 29th.

Criteria for the awarding of certificates and trophies in the WAEDC

- Minimal requirements for a certificate or a trophy are 100 QSOs or 10000 points in addition at least one of the following conditions must be fulfilled.
- Certificates**
  - Top score in a country resp. district
  - In countries or districts with high participation an additional certificate will be given for each full block of ten participants
  - Members of the Top Ten or Top Six (multi operator) lists
  - Continental winners
  - Stations with at least half the score of their continental winner
  - Participants with at least 250000 points
- Trophies**
  - Continental winners in the single operator category are awarded a plaque
  - Continental winners in the multi operator category will be awarded a plaque if they have at least 100000 points or at least the score of the winner in the single operator category in their continent
  - A station may receive a plaque in the same category only once within a three year period
  - Special plaques will be presented to all members of the Top Ten/Six if they have been in this list for at least five times
  - The WAEDC-Committee reserves the right to honour outstanding achievements in the contest by additional plaques

**NORTHERN CALIFORNIA DX CLUB INC., P.O. Box 608, Menlo Park, CA 94026**

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(707) 523-1066

**DX LADDER**

Send report to: Jim Hicks, KK6X  
2260 Santa Fe Dr. Santa Rosa, CA 95405

**NCDXC REPEATER: W6TI/R**

**TRUSTEE** Bob Vallio W6RGG  
**REPEATER COMMITTEE**

**CHAIRMAN:** Charlie Kump W6ZYC  
Input Frequency: 147.96 MHz  
Output Frequency: 147.36 MHz  
Suggested Simplex 147.54 MHz

**NCDXC THURSDAY NIGHT NET**

On W6TI/R Thursday at 8:00 PM  
**NET CONTROL:** Dave Barton AF6S  
**DX NEWS:** Phil Garrahan W6LQC  
**PROPAGATION:** Al Lotze W6RQ  
**WEST LINK:** Jay O'Brien W6GO  
**CONTEST NEWS:** Len Geraldini K6ANP  
**SWAP SHOP:** Dick Letrich WB6WKM  
**QSL INFO:** Jay O'Brien W6GO

**NCDXC DX BULLETIN BROADCASTS**

W6TI, the NCDXC Memorial Station broadcasts DX bulletins each Sunday at 1800 GMT or Monday at 0200 GMT on 14.002 MHz  
W6TI Trustee Bob Vallio, W6RGG

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