Northern California DX Club DXer

Volume XLIII - Number 9 September 1990

RON'S COMMENTS

September is here, the Marathon is over, and so is your NCDXC membership if you haven't paid your dues by Sept. 30th!

Looking ahead to October, Jim Smith, VK9NS, will be our guest speaker at our October 12th meeting. Due to the large crowd expected the meeting will be held at the Belmont Holiday Inn. Old timers will remember a number of meetings held there in the past.

Location: Ralston Ave. (also called Marine Parkway) and Hwy 101 in Belmont on the Bay side of 101.

We must order and send our money in advance. If you're coming for dinner don't delay, SEND CHECK TODAY!

Menu is two choices and includes taz and tip.
A. Stuffed loin pork chop, sage and apple dressing, rice pilaf, fresh vegetables and dessert. $15.00.
B. Chicken Dijonaise, sauteed bonless breast of chicken topped with dijon mustard sauce, roasted red potatoes, fresh vegetables and dessert. $15.00.
All dinners are served with rolls, butter, beverage, choice of soup, tossed green salad or fruit compote.

Send your $15.00 checks and your choice to our secretary K6MA, Stan Kuhl, 1149 Heatherstone Way, Sunnyvale, CA 94087. Please, **do not** send to Box 608.

A full bar is available and no music is a promise by Holiday Inn. This will be one of the major programs of the year so don't miss out. Stan must see your check and selection by Friday, October 5th.

CHRISTMAS PARTY

Christmas is just around the corner and so is the NCDXC Christmas party! This year it will be held Thursday evening, December the 13th. The location will be the Stanford University Faculty Club (thanks to Harry, KX6C). This is a rare opportunity to eat at the famous and prestigious establishment (unless, of course, your Uncle Elmer who teaches there might invite you.

Circle your calendar for December 13th.

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NEXT MEETING

The next meeting is scheduled for September 14th. The meeting will be held at Harrys Hofbrau in Palo Alto. Attitude adjustment is 6:00 P.M. with dinner at your convenience about 7:15. Club business will begin about 8:00. The program will be a slide presentation of the operations at ZS8MI, who will not be with us, but surely thinking of us.

CLUB INFORMATION

THE NORTHERN CALIFORNIA DX CLUB, INC., PO BOX 608, MENLO PARK, CA 94026
The DXer is the bulletin of the NCDXC and is published monthly for the benefit of its members. Unless otherwise noted, permission to use any portion of this publication is hereby granted, provided credit is given to the DXer.

NCDXC OFFICERS
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Director: Chuck Vaughn, AA6G
Director: Larry Souza, KG6GF

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NCDXC REPEATER W6TI/R
Output 147.36 Mhz, Input 147.96 MHz
Trustee: Bob Vallio, W6RGG
Repeater Committee Chairman:
Ralph Hunt, AG6Q
Suggested simplex freq.: 147.54 MHz

NCDXC THURSDAY NIGHT NET
On W6TI/R Thursday at 8:00 PM local time.
Operations Manager: Ralph Hunt, AG6Q
DX News: Bob Artigo, KN6J
Propagation: Al Lotze, W6RQ
Contest News: Rich Hudgins, WX6M
Westlink: Craig Smith, N6ITW
Swap Shop: Ben Deovlet, W6FDU
933 Robin Lane
Campbell, CA, 95008
408/374-0372
QSL Information: Mac McHenry, W6BSY

NCDXC DX BULLETIN BROADCASTS
Trustee: Bob Vallio, W6RGG. General interest broadcasts at 1800Z Sunday and 0200Z Monday on 14.002 MHz and 7.016 Mhz

MEETING MINUTES

NCDXC General Meeting July 13, 1990

The July general meeting was held at the Royal Palace Restaurant with president Rusty, W6OAT, presiding.

1. First reading membership were held for K6DKQ, KC6ESL and KB6WUY.

2. Second reading membership voted affirmative was held for Ed Schuller, WA6CTA.

3. The Program event was Electronic Surveilance by FBI Special Agent D.W. Szady. I understand the program was the most entertaining of the year, sorry I missed it.

4. Rusty presented the new club officers for the '90-'91 year, and handed over the gavel to Ron, NG6X.

The above minutes are the best effort reconstruction by several members attending, since neither incoming or outgoing secretary were present.

Respectfully submitted;
Stan Kuhl, K6MA
NCDXC Secretary

NCDXC July BOD Meeting

There was no July 1990 NCDXC BOD Meeting.

NCDXC August BOD Meeting

The BOD meeting was held 1 August 1990 at H-P Sales Offices, Evelyn Ave, Mt. View. Ron, NG6X presided. Present were NG6X, NQ6X, W6TEX, KG6GF, N6DJM and K6MA.

1. California Award; Plaque shown for K6ZM who managed the award for 20 years. The new awards manager for the California Award is Rubin, WA6AHF.

2. DX Convention: BOD unanamously approved $750 "seed" money for the Visalia DX Convention initial expenses.

3. Agreed that there will not be a September Picnic this year. Regular meeting at place TBD. Ron, NG6X, will be out of town, Bill, W6TEX will preside at the September meeting.

4. Smitty, W6JZU, stepping down as Repeater chairman after many years. Ralph, AG6Q, is the new Repeater Chairman.

5. Life Membership for W6TSQ unanimously approved by the BOD.

6. Bill, W6TEX, requested help for future meeting programs. Most noteworthy is Jim Smith is firm for the October meeting.

7. The club now has an overhead projector, thanks to Chuck, AA6G. The BOD approved repair expenses, $120, and new bulb, approximately $40.

8. Modification of New Membership application was suggested by N6DJM to include if previous application was made.

9. Membership Applications for proposed secnod readings were reviewed for K6DKQ, KB6WUY and KC6ESL.

10 There well not be a BOD meeting next month. Regular General meeting 14 September at Harry's Hofbrou, Palo Alto.

Respectfully submitted,
Stan Kuhl, K6MA
Secretary, NCDXC

NCDXC General Meeting 10 August 1990

The August meeting was hald at Harry's Hofbrau, Palo Alto, with president Ron, NG6X presiding.

1. Program was by N6TCF of Batteries and their applications.

2. Visitors introduced were A92EV and xyl, OE6MGB and WA6ERV.

3. Jim Maxwell, W6CF, gave a short report on DXAC activity. Separage country request has been received on Penguin Island, no action yet. Jim was surprised that the DX Publications have not publized the ARRL BOD minutes proclaiming LLoyd, W6KG, and Iris, W6QL, Hams of the Decade.

4. Steve Stevenson, W6MKM, reported on the progress of the 1991 DX Convention. New as well as old activities are in the works but not firmed up yet; such as Friday Night BBQ, Ladies tour, and Bus trip from Bay area to Visalia. Contest for the best Patch is still open. Price for the registration not determined as yet.

5. First readings were held for AA6TD and K6AAL.

6. Second reading membership were held for K6DKQ, KC6ESL and KB6WUY. All members present voted affirmative.

7. Life membership was unanimously approved for Sam, W6TSQ.

8. Meeting adjourned 2115 hrs.

de K6MA NCDXC Secretary.

PROPAGATION

from ed tilton, w1hdq

There is life in the aging sunspot cycle. Though the overall trend in solar activity has been downward since june of 1989, we still get pleasant surprises now and then. It may not be of much use during the summer, but August is setting some records for this year. As of Sunday the Solar Flux is up to 270, the highest since back in 1988. The low for the month so far is 166, at least 20 units above other monthly lows for this year to date.

This may be just a short spurt, but if it should carry into the fall months it would make for an interesting DX season. The June low was 137 and some other months have gone into the low 120's. Anyone interested in keeping solar flux records should listen for WWV at 18 minutes past the hour. The same information is given by WWVH in Hawaii at 45 minutes past the hour. This Hawaiian signal may be better than WWV during the late night and early morning hours.

As to propagation in general, the relatively high Solar Flux levels should make for above average summer conditions, especially on 21, 24 and 28 mhz.

American sunspot numbers for august 9 through 15 were 104, 141, 147, 145, 148, 188 and 190 respectively, with a mean figure of 151.9.

FEATURE

DXLOG Program Review Version 1.52 by N3AHA (as edited by AG6Q)

For some (ALL?), the "downside" of chasing awards has to be the paper trail that follows the QSO. Maintaining a log, QSLing, keeping track of QSLs not received, DXCC award totals, and different endorsements, for example, could be a full time job. I call this aspect of amateur radio the "Paperwork Blues". Does the paperwork ever end?

To some club members DXing is a memory of past conquests. For them new ones are needed to provide a continuing zest for life in the "chase". The rest of us are still chugging through the QSOs, QSLs and the paperwork to achieve our goals. Fortunately...., there may be a solution to this nightmare, namely DXLOG by PAYL Software currently in release 1.52.

DXLOG performs exactly as advertised - mainly to eliminate the manual labor-intensive chore of keeping QSO and QSL records - the Paperwork Blues! In addition, DXLOG can determine worked and needed countries, calculate beam headings, print reports listing outstanding QSLs, print labels in various styles, print completed application forms when eligible for new awards/endorsements, print DXCC, WAZ, and Russian Oblast references and import QSOs or print labels from K1EA ConTest files. Wow!

DXLOG requires an IBM PC or compatible computer with a minimum of 512K RAM using DOS version 2.1 or later. In addition a fixed disk drive and one diskette drive, or two 5 1/4 inch diskette drives, or one 3 1/2 inch drive is also required. The QSO capacity is dependent on the system you use; somewhat limited with diskettes but practically unlimited QSO capacity with a hard disk.

The program comes complete with user friendly documentation. It is very easy to read and understand. However, if anyone were to offer an improvement suggestion, perhaps its organization could be restructured. For example, the section for starting the program plus initial entries should have been grouped together but instead, the initial entries followed a reference section. The reference section should have followed the initial entries section and perhaps restricted itself to explanations of each main menu functions and not how to start up the program.

Installation was easy. This process ran through a series of questions asking the user such things as date format, GMT conversion, QSL data label type, name, address including DXCC and WAZ award information. DXLOG would then compute beam headings to all countries based on the latitude and longitude provided by the user.

Data entry, although labor intensive initially, provides the cornerstone for success with this software. It consisted of normal QSO information entry with fields for QSL sent, sent via, manager and received and a general comments field. Time spent here will be well worth the effort as will be demonstrated shortly. I started by adding confirmed QSOs for which I had DXCC credit. After entering all credited QSLs, I generated a dummy DXCC submission so that DXLOG could "tag" those countries for which I had been provided credit. Then I scanned the remainder of my QSLs and added QSOs for each band/mode country so confirmed. This effort may take several evenings. After my DXCC totals matched my manual records, I began work on CQ zones and Russian oblasts. DXLOG can make life easy by automatically matching a callsign with a country, zone, or oblast. Incidently, when adding Russian QSOs I suggest you check the QSL with what DXLOG recognizes as the oblast. DXLOG uses the callsign prefix to determine the oblast and older QSLs may indicate oblast numbers that do not match the oblast prefix. In other words, DXLOG is not at fault.

After adding all QSLs for each band/mode I checked DXLOG totals with my manual totals. Talk about Paperwork Blues - I had manual records for everything, 12 different data checks! It was comforting to know that DXLOG had all the same reports that I was keeping manually. After verifying my DXLOG/manual totals matched, I backed up my data again and then "chucked" the manual record sheets. After printing out the DXLOG reports, I soon forgot I ever tracked DX manually. It made me a satisfied DXLOG user.

There are plenty of differing reports DXLOG has in its repertoire that will make the Paperwork Blues less tedious. This included a DXCC country reference much like the ARRL DXCC list with marks for worked & confirmed for each band/mode country and statistics for each different method of working DXCC (Great for DXer DX-Ladder input). A CQ Zone reference and oblast reference are also provided. DXLOG will print a countries needed list, an outstanding QSL list, a time ordered logbook, and a QSO list by country or call. DXLOG will also print three different types of QSL labels.

In operation DXLOG can be a means of quickly checking if a country is needed on any band/mode either from the main menu or directly from outside DXLOG. Direct import from K1EA's CT contest program is also available. A method of doing this for the experienced DXer, who doesn't need all contest QSOs, is to browse contest logs with the

QuickCheck utility and if needed, add the QSO to DXLOG.

This program is very user friendly and additions/deletions to the ARRL DXCC countries list will not be a problem. The user can add, delete, or modify any country within DXLOG. Future program enhancements will include a general purpose tracking/real time logging system and a packet radio interface with DX call out filtering for Packetcluster systems.

I really enjoyed manipulating all the DXLOG features and know that I will continue to use the program as a satisfied customer. After all, DXLOG is a valuable DX, WAZ, and Russian oblast accounting and tracking system. It will minimize the "Paperwork Blues" and commands a closer look by all serious or casual DXers. It is well worth the $44.95 sticker price. If you are still not convinced, two demonstrator disks are available for your own evaluation. The number of contacts is limited but it provides the opportunity for a little test drive before deciding to purchase.

For more information or to purchase, write to PAYL Software, P. O. Box 926, Levittown, PA 19058 or call (215) 945-4404. Should you choose to try the demonstrator disk, write to me, Ace Jansen, 51 Kenbrook Circle, San Jose, CA 95111 or call (408) 224-3017.

73 & plenty of DX Ace, N3AHA

9B DXCC

9BDXCC Update

The third year is almost over for the NCDXC's 9BDXCC award. I hope you are all crossing off countries on your checkoff sheets! If you need a checkoff sheet there is one included with this DXer.

The following is a brief review of the rules:

1) Purpose: To promote continued interest in DXing by all club members on all HF bands and to recognize DXing achievements by individual club members.

2) To be eligible work at least 100 countries on one band since October 10, 1987.

3) Bands: 160M - 10M including WARC bands

4) Use NCDXC checkoff sheet to keep track of countries worked.

5) Numbered tags for the plaque are issued in the following increments: 100, 150, 200, 250, 260, 270, 280, 290 and 300

6) This award uses the honor system, no QSLs are required.

The club anniversary, October 10, is the cutoff date for working countries each year. After October 10, you will have 1 month, until November 10 to make your submission me, AA6G. Your submission consists of stating how many countries over 100 you have worked on each band (just the total, not each country) and a corresponding amount of money to cover the one time cost of the plaque, the cost of engraved country tags and the cost of mailing if you don't intend to come to the meeting in which the awards will be given. If you already have the plaque, you need only apply for additional tags for which you now qualify. The tentative date for this meeting is January 1991. Below is the summary of costs you need to use to determine the amount to include with your submission.

9BDXCC Plaque (one time)		$25.00
Per Band Country Total Tag		.50 ea.
Surface Mail - U.S	5.00	
Surface Mail - Foreign	7.00	
Airmail - Foreign	20.00	

To determine the number of tags, first see rule 5 above for the increments in which they are issued. For example, if you worked 110 countries on 40m, 190 on 20m and 125 on 15m, you would need to include $2.00 for tags. That covers a 100 tag for 40m, 100 and 150 tags for 20m and a 100 tag for 15m. Send your band country totals and your check payable to the NCDXC (in U.S. Funds) to AA6G at the following address:

Chuck Vaughn
4387 Othello Dr.
Fremont, Cal. 94555

ANNOUNCEMENT

Yasme Sails Again

Not really - but in spirit!

Lloyd Colvin, W6KG, and Iris Colvin, W6QL, announce once again their departure on a half-year YASME DX-PEDITION. They will depart on 20 August 1990 on a flight from San Francisco to London to Dar es Salamm, Tanzania. They hope to use the call 5H0KG there. The well-known DXer, Tom Warren, 5H3TW, has a place for the Colvins to stay and operate. After that, Lloyd and Iris hope to visit many of the remaining countries where they have not been before, and to operate in such countries if permission to operate can be obtained. As usual, they will be on all bands, operating about half SSB and half CW. They plan to visit both Mozambique and Madagascar, but, as of now, do NOT have permission to operate.

As usual, all QSLs should go to YASME, P.O. Box 2025, Castro Valley, CA 94546.

73, Bob Vallio, W6RGG, Secretary, YASME Foundation

EDITORS COMMENT

This editor wishes to apologize to DXer Dave Leeson, W6QHS, for mixing up Fig. 2 and Fig. 3 in his otherwise excellent article in last months DXer. The outcome of this debacle is the addition of another line item in the checkoff list used prior to releasing future editions.

About deadlines. Following discussion with DXer Ron, W6VG, official Mailer of the DXer, a uniform deadline for the DXer has been established. This date will be the Thursday, one week prior to the general meeting date. For the October issue this means that the deadline will be October 4. The DXer will be released for printing on the morning of October 5, and mailings will begin Monday, October 8.

TECH INFO

Hedy Lamarr and Spread Spectrum

The May issue of Forbes magazine has an eye opening article on the invention of spread spectrum modulation. It seems the daughter of a prominent Viennese banker, Hedwig Kiesler, patented an antijamming radio in 1940 and gave it to the U.S. government as her contribution to the war effort. Three years earlier she had fled Austria out of her dislike for the Nazis and Hitler.

The frequency hopping technology she thought up would keep radio controlled torpedoes from being intercepted or jammed. The technology was simple. A seemingly random series of radio signals, hopping from frequency to frequency at split-second intervals would be picked up by a synchronized receiver.

Kiesler learned about weapons design from one of her husbands who was an arms manufacturer. Strangely, the United States never saw the value of the technology and it was never used in World War II. Sylvania independently developed the same concept in 1957 and spread spectrum was used in 1962 during the blockade of Cuba. It is now the principal means of ensuring secure military communications. Kiesler's patent expired without her ever receiving a cent in royalties although spread spectrum is now used all over the world.

What is particularly interesting is the stage name of Hedwig Kiesler. Perhaps better remembered as Viennese actress and sex symbol Hedy Lamarr, it was she who developed spread spectrum with her American composer, George Antheil. While crediting the idea solely to Lamarr, he refined the synchronization scheme based on the operation of a player piano. The number of frequencies proposed in the patent (88) matches the number of keys on a piano and specifies the use of slotted piano rolls to synchronize the jumps in frequency in the transmitter and receiver.

(from June, 1990 "Squelch Tales" of the San Diego Repeater Association and the Summer 1990 "SBARC Key Klix")

CALL:_____ NCDXC 9BDXCC Start Date:_____

Country	160	80	40	30	20	17	15	12	10
A2									
A3									
A4									
A5									
A6									
A7									
A9									
AP									
BV									
BY									
C2									
C3									
C5									
C6									
C9									
CE									
CE9/KC4									
CEØ E.I.									
CEØ S.F.									
CEØ J.F.									
CM, CO									
CN									
CP									
CT									
CT2									
CT3									
CX									
D2, 3									
D4									
D6									
DA - DP									
DU									
EA									
EA6									
EA8									
EA9									
EI									
EL									
EP									
ET									
F									
FT8W									
FT8X									
FT8Z									
FG									
FG, FS									
FH									
FK									
FM									
FO C. I.									
FO Tahiti									
FP									
FR G.I.									
FR J.N., E.									
FR Reunion									

Country	160	80	40	30	20	17	15	12	10
FR T.I.									
FW									
FY									
G									
GD									
GI									
GJ, GC									
GM									
GU, GC									
GW									
H4									
HA									
HB									
HBØ									
HC									
HC8									
HH									
HI									
HK									
HKØ M.I.									
HKØ S.A.									
HL, HM									
HP									
HR									
HS									
HV									
HZ									
I									
ISØ									
J2									
J3									
J5									
J6									
J7									
J8									
JA, KA									
JD M.T.									
JD O.									
JT									
JW									
JX									
JY									
K, W, N, A									
KC6 E.C.I.									
KC6 W.C.I.									
KG4									
KH1									
KH2									
KH3									
KH4									
KH5									
KH5K									
KH6									
KH7									
KH8									

Country	160	80	40	30	20	17	15	12	10
KH9									
KHØ, KG6									
KL7									
KP1									
KP2, KV4									
KP4									
KP5									
KX6									
LA									
LU									
LX									
LZ									
OA									
OD									
OE									
OH									
OHØ									
OJØ									
OK									
ON									
OX									
OY									
OZ									
P2									
P4									
PA									
PJ2, 3, 4, 9									
PJ5, 6, 7, 8									
PP - PY									
PYØ F.N.									
PYØ P. P.									
PYØ Trin.									
PZ									
S2									
S7									
S9									
SØ									
SJ - SM									
SP									
ST									
STØ									
SU									
SV									
SV9									
SV5									
SV/A									
T2									
T3Ø									
T31									
T32									
T33									
T5, 6O									
T7									
TA									
TF									
TG									

7/90

Country	160	80	40	30	20	17	15	12	10
TI									
TI9									
TJ									
TK, FC									
TL									
TN									
TR									
TT									
TU									
TY									
TZ									
UA1, 3, 4, 6									
UA, 4K FJL									
UA2, UZ2									
UA9, Ø									
UB, UT, UY									
UC									
UD									
UF									
UG									
UH									
UI									
UJ									
UL									
UM									
UO									
UP, LY									
UQ, YL									
UR, ES									
V2									
V3									
V4									
V5,ZS3									
V8									
VE, VO, VY1									
VE1 Sable									
VE1 St. Paul									
VK									
VK L.H.I.									
VK Willis									
VK9X									
VK9Y									
VK9 M.R.									
VK9 N.I.									
VKØ Heard									
VKØ M.I.									
VP2E									
VP2M									
VP2V									
VP5									
VP8									
VP8 S.G.I.									
VP8 S.O.I.									
VP8 S.S.I.									
VP8 S. Shet.									
VP9									

Country	160	80	40	30	20	17	15	12	10
VQ9									
VR6									
VS6									
VU									
VU4 A/N Is.									
VU7 L.I.									
XE									
XF4									
XT									
XU									
XW									
XX9, CR9									
XZ									
Y2 - 9									
YA									
YB - YD									
YI									
YJ									
YK									
YN, HT									
YO									
YS									
YU									
YV									
YVØ									
Z2									
ZA									
ZB									
ZC4									
ZD7									
ZD8									
ZD9									
ZF									
ZK1 S. Cook									
ZK1 N. Cook									
ZK2									
ZK3, ZM7									
ZL									
ZL7									
ZL8									
ZL9									
ZP									
ZS1,2,4,5,6									
ZS P.E., M.I.									
ZS W.B.									
1AØ									
1S									
3A									
3B6, 7									
3B8									
3B9									
3C									
3CØ									
3D2 C.R.									
3D2									
3D2 Rotuma									

Country	160	80	40	30	20	17	15	12	10
3D6									
3V									
3W, XV									
3X									
3Y Bouvet									
3Y Peter 1									
4J									
4S									
4U1ITU									
4U1UN									
4W									
4X, 4Z									
5A									
5B									
5H									
5N									
5R									
5T									
5U									
5V									
5W									
5X									
5Z									
6W									
6Y									
7O									
7P									
7Q									
7X									
8P									
8Q									
8R									
9G									
9H									
9J									
9K									
9L									
9M2									
9M6, 8									
9N									
9Q									
9U									
9V									
9X									
9Y									
J2/A									

CALL	HONOR ROLL -MIX	PH.	CW.	DXCC -MIX	PH.	CW.	5 BAND DXCC -10m	15m	20m	40m	80m	160m	OTHER BANDS -6m	12m	17m	30m
KF6A				274												
AA6AD				271	181	252	109	176	258	54						
W6AED/7					325			100	100							
W6AEO					241											
N3AHA				222	210	90	73	118	153	35	12					
WA6AHF		312			335		100	100	100	100	100					
KG6AM				288	272	180	153	205	248	40	25					
N6AN	318			339	288	286	218	281	300	176	118			59	73	31
K6ANP				316	199	211	133	144	199	110	105					
KA6BIM				196	190	59	108	131	141	33	8					
W6BJH	311			327	192	282	120	117	187	117	100					
WA6BSS				290	290	2	131	164	241	52	21					
W6BST	323	322		366	360											
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				325	2	256	179	168	322	89	11					
WB6CUA	318			324	304	294	100	100	100	100	96					
WW6D				172	89	147	33	70	136	67	26					
K6DC	315			359												
W6DD					126											
W6DPD				317	317											
K6DR				248												
K6DT	312	307		340	320	293	229	251	328	153	121					
W6DU	312			331	282	302	212	237	302	152	103					
NQ6E				240		207	116	127	196	136	118					
WD6EKR					303		170	234	291	78	72					
WD6EKR/M					240		79	193	149	2	2					
W6ERS	321			351												
W6ETR						237										
WB6EXW				303			100	100	100	50	11					
W6FAH					299	204	193	206	278	146	140					
K6FD				296	271											
W6FGD				323	258	273										
K6FO				277	185	239	134	164	235	125	102					
KB6G				253		229										
?D6GC				175												
?6GF				316			70	120	210	293	170					
?B6GFJ				101	300	70	161	192	246	105	50					
N6GG				301												
W6GO	317	317	311	331	331	316	260	290	315	245	210					
K5GOE				303	290		182	100	100	100	87					
WA6HAT	312			320		243										
K6HHD	312			316	311	23	209	176	223	43	40					
K6HNZ					290		209	242	254	125	107					
N6HR	308			329	315		100	100	100	100	100					
W6HXW		323			323											
WC6I				287			151	173	225	161	66					
WI1CU		316			335											
K4II	312			339	303	336	197	243	322	248	162					
KA6ING				203			198						39			
W6ISQ	315	312		348	331	207	157	189	219	122	110					
KN6J												100				
W6JD				322	216	298				183						
N6JM				290	278	234	196	221	255	119	86	15				
W6JRY	306			321												
N6JV	322			330	279	318	253	247	298	249	202	67		54	60	52
W6JZU	312			328			75	115	255	22	12					
W6KG	314			352	290	108	161	193	210	169	105					
W6KH	323			362												
K6KLY				286	286	9	185	165	172	115	75		59			
W6KNH	319	319		339	339											
W6KOE		322			341											
W6KQK				310	295	287	243	278	299	152	118					
K6KQN				265	260											
NB6L				311	212	162	100	93	186	40	19					
WA8LLY				254	234	194	184	188	186	64	17		42	12		
K6LM	316	312	307	321	316	309	100	100	100	100	100					
K6LQA	312			330												
W6LQC	313	312		330	330											
?6M	314	314		318	318	119	154	158	196	115	103	17				
?A	323	315		352	330	301	228	200	300	185	121					
W6MEP				301			100	100	100	41	27					
W6MUR	313			357												
W6MZ	315			333												
W6NA						271	140	190	251	192	109					
W6NKR				289												
W6NLG	316			321	311	100	100	100	100	26	6					

-	HONOR ROLL			DXCC			5 BAND DXCC					OTHER BANDS -				
CALL	-MIX	PH.	CW.	-MIX	PH.	CW.	-10m	15m	20m	40m	80m	160m	-6m	12m	17m	30m
K6NM				300	200	191	100	135	258	152	34					
W6NPY				316	200	265	200	200	200	178	139					
N6NXV				258	258	29	140	152	166	45	10					
WA6O				217			88	50	123	2	16					
W6OAT				341	314	308	249	280	316	255	184					
N6OC				303	300											
WA6QEY				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				318												
WB6OTB				271												
K6OZL				332			100	100	100	100	100					
WG6P				306	306	283	184	210	303	207	118	12		3	6	1
K6PBI				216	191	115	111	133	145	61	15					
K6PKO				308	301		270	175	185	97	112					
K6PU	323	318		350	335	290	200	200	300	200	100					
AG6Q				318	299	222	141	172	229	129	110					
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												
W6RJ	316			345			100	100	100	100	100					
K6RK	320			332	319	303	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				286	282	140	183	186	262	128	120					
WA6SLO					310		249	278	310	198	202					
N6ST	320			327	304	244	180	211	291	129	52					
W6STL						220										
W6TC	320		318	332		318	200	200	200	200	157					
W6TER				269												
W6TEX				312		280	100	100	100	100	100					
K6TMB				308	304	248	215	245	292	140	116					
WA6TOO				251			58	84	167	6	6					
W6TPH				272	238	187	141	181	172	110	100					
W6TUI				275	274		109	125	187	125	116					
AE6U				305		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				319	226	262	147	164	254	134	62					
KD6VS				304												
K6WD	312			325		272	100	100	100	100	65					
WB6WKM				305	100	100	100	100	100	100	63					
KE6WL				219	211	153	120	166	185	83	32	4				
K6WR	324	324		354	354		100	100	100	100	100					
WA9WYB				310	298	174	100	100	100	100	76					
KK6X				281	227	255										
NG6X				250												
[illegible]				325			277	298	309	174	137					
				267	209	222	163	179	246	144	68					
	321	321		337	337											
[illegible]	312			327		160	100	100	100	100	99					
KD6XY				305	288	54	124	137	225	8	3					
KR7Y				301	271	267	149	184	249	142	126					
W6YVK					251		160	198	173	56	42					
AA6Z				283												
WZ6Z				298			194	205	267	194	118	14				
W6ZKM		311			333		100	100	100	100	100					
K6ZM	315			345	311	261	100	100	100	100	73					
W6ZM	315	315		356	351		130	142	317	52	111					
WB6ZUC				317		303	178	244	265	152	105					
K6ZX				309		287										

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de Larry, KD6XY

	WAZ			5 BAND WAZ					WPX		
CALL	MIX	PH.	CW.	-10m	15m	20m	40m	80m	-MIX-	-PH.-	CW.-
AA6AD	40										
N3AHA	40	38	30	25	33	37	19	8			
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	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								
W6FAH		40									
K6FO			40								
KG6GF	39										
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	40			35	39	40	39	28			
W1ICU	40										
KA6ING	39	39		39							
W6ISQ	40	40							869		
W6JD	40										
N6JM	40			35	39	39	28	20	1,742		
N6JV	40			40	40	40	39	36	2,741		2,828
W6JZU	40	40									
W6KG	40	40							911		
[illegible]KLV	39	39	4	36	36	35	25	21			
[illegible]6KNH	40	40									
W6KOE	40	40									
W6KQK	40	40									
K6KQN	40	40									
NB6L	40										
K6LQA	40										
W6LQC		40								939	
WX6M	40	40									
K6MA	40	40									
W8MEP		40									
W6NKR	40										
W6NLG	40	40							450	450	
K6NM	40										
W6NPY	40										
N6NXV	40	40	16	35	38	37	22	9		538	
W6OAT	40	40	40	40	40	40	40	38			
N6OC	40										
WA6OEY	40										
N6OJ	40										
K6OJO	40	40									
W6OMR	40	40									
WG6P	40	40	40	35	36	40	37	31			
K6PBT	40										
K6PKO	40	40				40				850	
W6QL	40	40									
N6QR	40	40									
W6RJ	40	40									
K6RK	40	40									
N6RR	40										
DJ6RX	40			40	40	40	40	40			
AF6S	39										
K6SIK	40	40	40	40	40	40	40	40			
[illegible]A6SLO		40		40	40	40	34	39			
[illegible]ST	40	40									
[illegible]6TC	40		40	40	40	40	40	37			
W6TEX	40										
K6TMB	40	40	38	40	40	40	32	28			
WA6TOO	20										
W6TUI		40		30	33	40	29	26			
AE6U	40										

	WAZ			5 BAND WAZ					WPX		
CALL	MIX	PH.	CW.	-10m	15m	20m	40m	80m	-MIX-	-PH.-	CW.-
K6UD	40										
WB6UOM	40										
AJ6V	40										
K6WD	40										
WB6WKM	40	40									
KE6WL	39	38									
K6WR	40	40									
K6XM	40										
K6XT	40	40									
KD6XY	40	40	24	28	34	37	6	2			
KR7Y	40								1,526		
W6YVK	40								659		
AA6Z	40										
WZ6Z	40	40		35	37	39	37	30			
W6ZKM		40									
K6ZM	40	40									
W6ZM	40	40									
K6ZX	40										

de Larry, KD6XY

DX LADDER:

There were 22 updates to the ladder this issue, with 3 new members contributing their figures for the first time. Out of 148 listings there have been 70 members who have sent one or more updates since January of 1989. If any other members have your figures handy send them to me and I'll do the rest.

There has been some queries regarding an RTTY column being added to the Ladder. If there is enough intefest I'll add this data also.

The next Ladder will probably be issued in the December DXer.
de Larry, KD6XY

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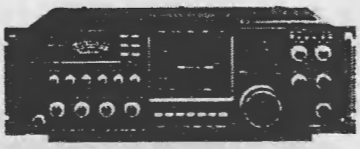

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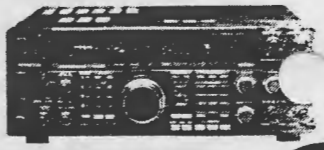

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