

# 1998 ARRL International DX Contest Phone Results

Best Propagation  
in Years!—N3HBX

**S**omebody threw away the broken CD from last year as the 1998 Phone DX Contest weekend saw excellent activity and tremendous scores. The score increases over those from 1997 on 15 and 20 meters were astounding, and showed what is possible when the solar flux rises even only a few points. In the US and in Canada, eastern stations happily worked JAs and other Asian stations while hams in the west even more joyously logged hundreds of Europeans and Middle Eastern stations. This year's competition seems to be a precursor of great things to come. Ten meters showed signs of life and it might take only one more year before the polar paths open up for the masses.

The 1998 contest looked like a "tune-up" year for many stations as preparations are being made to enter the next solar upswing as ready as possible for the highest level of competition ever. New technology in station hardware has found its way around the world, dozens of new stations have been built since the last cycle peak, traveling operators are taking trips like never before, and interest in contesting is rising again. The multi-operator categories were particularly popular this

year, both to "work out the kinks" and perhaps to attract a fresh crop of enthusiastic operators with whom to staff stations for the future.

K1AR tuned-up his running skills for the future with an awesome 4.4 megapoint victory in the high-power single-op class this

year. One of the highlights of all-band contesting is to break 1000 QSOs on a single band while doing well on the other bands, too. Well, John didn't just break 1000 QSOs on one band, but put up 1394 QSOs on 20 and 1296 on 15! Those two bands combined were more QSOs than the other competitors could muster on all bands combined! Second place finisher K1ZM and third place holder N2NT both made the grade at around the 2700-QSO level. W9RE and WB9Z battled it out for the Midwest and finished in 6th and 9th places respectively. From Washington state W7EW operated W7AT into the 12th spot and first from the far west.

W2GD took up residence again in Aruba at P40W and put over 7 million points on the board to win the high power single-op category from the DX side. W5AJ went about the same direction and put 8P9P into second place with a nice 5.3 million-point score. What could be better than tropical weather and scorching rates? KB3AFT went to WP3R and took third at 5.2-million points. Getting further away from the home continent N6TJ put his famous ZD8Z call to good use and an 8th place finish followed by NH7A in 9th, and the very welcome multiplier of XQ8ABF

## Top Ten

### W/VE Single Operator, QRP, Phone

N1TM	204,624
N1CWR	176,040
W6CN	142,875
W8QZA/6	114,480
N6AZR	111,552
N7VY	55,002
NQ7X	54,960
N7IR	51,360
KA5PVB	35,040
N8XA	31,872

### W/VE Single Operator, Low Power, Phone

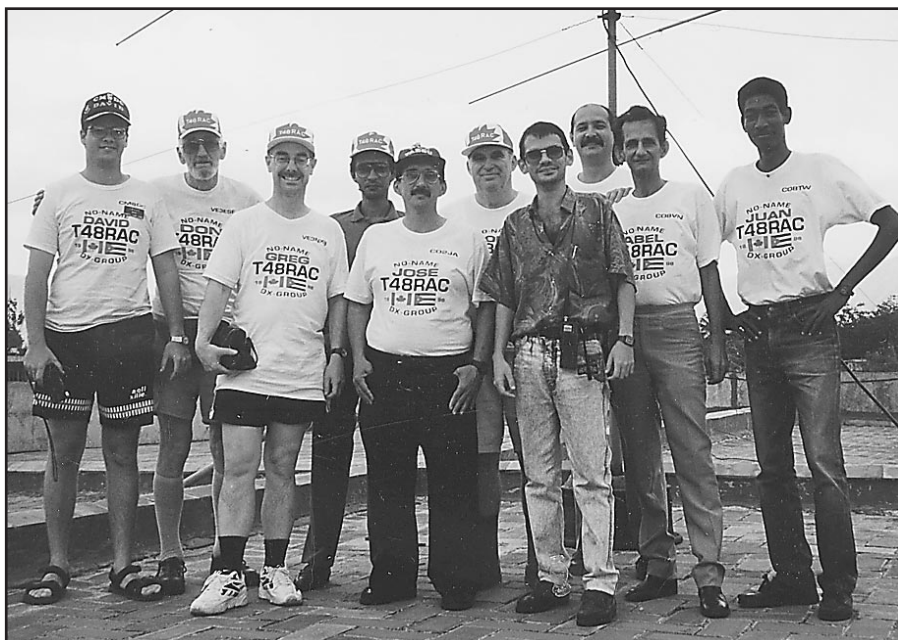
K4ZAM	1,018,791
K5RX	882,318
W2TZ	877,365
KN4T	754,320
WO4O	726,453
N6OJ	706,626
WD5K	701,883
NA2U	692,874
K6RO	654,804
N9JF	651,240

### DX Single Operator, QRP, Phone

F5BEG	86,388
LW1ECO	66,825
LW3DWX	62,073
JA2DLM	39,204
JR4DAH	37,386
JA2JSF	36,270
JA6UBK	26,565
CT1ETT	23,424
YU1KN	15,006
OK1DKS	11,475

### DX Single Operator, Low Power, Phone

4M5E	1,184,358
(YV5NWX,op)	
LU8HLI	856,908
PY1OB	667,878
JH4UYB	549,480
L36E	544,872
LU8ADX	541,236
LT4A	463,275
(LU1BCE,op)	
4A1AC	419,244
(XE1BEF,op)	
8P6CV	412,257
S57J	364,320



The Cuban and Canadian team at T48RAC finished 10th place among the North American Multi-Single stations. (Left to right: CM8DC, VE3ESE, VE3NXB, CO8KL, CO2JA, VE3NQG, CO8LY, CO8HF, CO8VN and CO8TW.)



Benjamin, XE2AUB, completed 400 QSOs operating single-band (10 meters).

### W/VE Single Operator, High Power, Phone

Call Sign	Score	160	80	40	20	15	10
K1AR	4,476,600	28/22	222/65	296/78	1394/130	1296/123	80/32
K12M	3,726,450	66/43	211/69	252/79	1026/112	1065/116	110/36
N2NT	3,362,646	48/31	255/66	270/83	996/109	1107/109	38/15
K5ZD (K9PG,op)	3,262,800	50/34	226/64	240/72	1273/108	849/98	81/24
N6BV	3,204,792	32/25	211/62	343/76	980/103	1001/105	97/30
W9RE	2,976,162	19/13	93/48	249/73	994/115	1151/107	91/26
W3BGN	2,695,140	35/27	188/56	124/60	1108/106	887/97	73/26
K3ZO	2,599,038	35/26	135/51	244/70	714/98	1044/112	90/26
WB9Z	2,490,597	24/18	155/53	192/67	565/96	1050/110	102/37
K8LX	1,984,344	14/10	66/44	127/68	821/103	748/106	82/25

W/VE 160	W/VE 80	W/VE 40	W/VE 20	W/VE 15	W/VE 10
AA1BU 5,814	K1FZ 136,275	N7DD 210,936	VE6JY 715,428	N2IC/Ø 542,250	KZ5MM 62,640
W2VO 5,610	K1LZ 103,284	NC4NC 48,585	VE3XN 375,192	N8II 462,396	K4ZW 30,750
VE3DO 1,539	W9RM 74,844	W3KT 46,956	VA3MM 372,960	N7ML 421,377	KKØSS 25,392
W6HG 1,134	VE1JF 36,381	KZ2I 46,689	N3HBX 339,066	(KE7X,op)	VE1RAA 23,490
	W4SVO 33,024	NO9Z 39,195	NB7N 306,636	NA5B 411,936	AJ2C 21,294
	W2LU 31,563	NGVWX/8 37,914	N5DX 274,134	WW4RR 404,427	W9GIL 20,412
	W6ZJ 30,084	N5DO 37,422	WS1M 253,341	(N4Z,op)	K6KAY 15,732
	(KØ6QL,op)	WA4QDM 28,416	W7FP 235,002	VA3MG 362,340	(N/T)
	NA4CW 10,080	WF2W 26,901	KB2BF 226,044	K4JYO 323,088	W5VGX 15,162
	W2FR 7,956	W4JKC 21,336	K6HNZ 216,300	N4MXT 262,080	KY5N 14,790
	WØSF 7,800			K7VS 232,869	NM9C 14,595
				KGØZI 227,808	

### DX Single Operator, High Power, Phone

Call Sign	Score	160	80	40	20	15	10
P4ØW (W2GD,op)	7,051,413	165/36	445/55	605/55	1596/59	2020/59	2446/59
8P9P (W5AJ,op)	5,353,773	94/27	369/51	694/58	1795/59	1374/58	1487/54
WP3R (KB3AFT,op)	5,290,560	134/34	439/57	887/56	1659/60	1302/59	1090/54
HU1X	5,021,856	118/42	433/56	599/59	1146/59	1610/59	1182/54
KP3P (K7BV,op)	4,861,584	128/32	589/54	636/57	1190/58	1561/58	1090/53
FS5PL	4,738,944	34/13	397/54	626/54	1512/59	1999/59	936/48
V47KP (W2OX,op)	4,187,781	125/28	320/49	721/54	1181/58	1630/58	820/44
ZD8Z (N6TJ,op)	3,450,954	84/26	199/44	311/49	1204/59	881/58	1247/57
NH7A	3,320,898	24/8	158/34	715/54	876/55	1698/58	803/49
XQ8ABF	2,673,000	Ø/0	1/1	218/42	1262/58	1049/57	1595/58

DX 160	DX 80	DX 40	DX 20	DX 15	DX 10
SP7VCK/7 3,024	ZF2JB 214,878	9A5Y 154,413	SP2FAX 368,691	ZX5J 598,791	LU6ETB 539,850
EA1DVF 630	ØT8T 88,836	(9A3LG,op)	PA3DZN 341,787	ZF2MR 593,304	LU3FZW 464,448
LY1FW 3	(ØN4UN,op)	ØT8T 138,159	DF9ZP 340,194	HC1ØT 517,194	PQ5W 439,314
UTØZZ 3	YV1CR 73,899	(ØN4MA,op)	GM8X 313,821	P43P 459,492	LU2DW 413,649
	I4AVG 50,061	9J2AM 133,878	SØØK 300,150	LT1F 414,816	LU5MM 406,215
	ØT8L 36,645	EA3FQV 123,648	HU4X 296,652	(LU1FKR,op)	LU9HS 390,978
	S57Ø 35,802	VK4DZ 116,325	LU2NI 284,316	CT98BØP 413,295	CX8CP 367,836
	JH5FXP 35,112	IR1A 104,676	ØH6RX 282,576	CT8T 356,940	LU5FC 349,533
	HC1HC 32,430	S5ØØ 101,712	RW1ZA 271,695	(CT1ESV,op)	W8EXF 330,813
	YTØT 25,536	ØMSM 99,375	H6GNF 261,696	HK4QIM 333,036	(LU7DW,op)
	ØL6X 23,808	(ØM2RA,op)		IO4LEC 327,120	LU2FA 316,476
		F6CUK 74,235		ZP5MAL 317,538	
		YU7KW 71,910			

who finished tenth with 2.6 million points. The first place score out of European belongs to GW3YDX at almost 1.4 million points.

The low power category was dominated again this year by Jim, K4ZAM (ex WA4ZZA) who maximized 15 meters with 560 QSOs and 95 countries to win over the North Texas station of K5RX. The conditions

were good for N6ØJ, too, who made 15 meters play to a 6th place finish and first out west. From the DX side YV5NWG used his contest call of 4M5E to make over 2400 QSOs and win the contest over LU8HLI and PY1ØB. Fourth place went to a great score from JH4UYB who made over 1200 low-power QSOs from Japan! Congratulations!

F5BEG, operating QRP, made 313 QSOs to produce 86 kilopoints and a winning score in the QRP category! LW1ECO finished second at 66,000. The QRP race stateside was the neat story of the one-two punch of winner N1TM over second place N1CWR, who both moved up from 1997's finish of 7th and 8th places! Congrats on the nice improvement!

### Special Plaques

#### Single Operator

W/VE Combined Score	K12M	National Contest Journal
W/VE Low Power Combined Score	KN4T	Rochester, NY, DX Assn
W/VE 40 Meters Combined Score	N7DD	Pace Engineering, In Memory of Jim Rafferty, N6RJ
W/VE Under 18 Combined Score	AD6DO	Connecticut DX Assn, Father Moran, 9N1MM, Memorial
World Combined Score	V47KP (W2OX,op)	Mike Manafo, K3UOC
Japan Combined Score	JA1ELY	JA7WME
Atlantic Division CW	K3ZO	Richard Pitzeruse, K2NY Memorial—Salt City DX Assn
Great Lakes Division CW	N9AG (N8NR,op)	Livonia Amateur Radio Club, Livonia, MI
Great Lakes Division Phone	K8LX	Livonia Amateur Radio Club, Livonia, MI
Japan All Band CW	JH5FXP	Akita DX Assn
Japan All Band Phone	JH7DNO	Communication Ham Club, JH7YJF
Japan Low Power All Band CW	JH4UYB	Western Washington DX Club
Japan Low Power All Band Phone	JH4UYB	Western Washington DX Club
Seventh Call Area All Band CW	W2VJN/7	Willamette Valley DX Club
Seventh Call Area All Band Phone	W7AT (W7EW,op)	Willamette Valley DX Club
Ninth Call Area All Band CW	W9RE	Northern Illinois DX Assn

#### Multioperator

Caribbean Multi-Single CW	PJ9C	The YASME Foundation
Multi-Multi Combined World	V26B	W2PV Memorial—Schenectady ARA

### W/VE Plaque Winners—Phone

#### Single Operator

All Band	K1AR	Frankford Radio Club
1.8 MHz	AA1BU	Butch Greve, W9EWC, Memorial
7 MHz	N7DD	David L Thompson, K4JRB
14 MHz	VE6JY	William F Beyer, Jr, N2WB
Low Power	K4ZAM	Dauberville DX Assn
QRP	N1TM	Michigan QRP Club
Assisted	N2A	Richard Hallman, N7TR (N2TX,op)

#### Multioperator

Single Transmitter	K8AZ	Steve Adams, WS4F
Two Transmitter	KC1XX	Mad River Radio Club
Unlimited	K3LR	Western New York DX Assn, W2RR

### DX Plaque Winners—Phone

#### Single Operator

World	P4ØW (W2GD,op)	North Jersey DX Assn
Asia	JH7DNO	NU6S in Memory of Dave Walker, NX6D
Europe	GW3YDX	Jerry Griffin, K6MD
North America	8P9P (W5AJ,op)	Chod Harris, VP2ML
Oceania	NH7A	W7EW—in Honor of W7IYW
1.8 MHz	SP7VCK/7	Fred Race, W8FR, ZL2BT Memorial
3.5 MHz	ZF2JB	K12M Communications Inc.
14 MHz	SP2FAX	Central California DX Club
21 MHz	ZX5J	Long Island DX Assn
Low Power	4M5E	Island Villa Contest Club, WP2Z (YV5NWG,op)

QRP	F5BEG	Southern Arizona DX Assn
Assisted	LU4HAW (LU3HIP,op)	Willamette Valley DX Club

#### Multioperator, Single Transmitter

World	PJ9G	Carl Cook, AI6V/P49V
Asia	JA7YAA	Yankee Clipper Contest Club
North America	VP5A	Nick G Lash, K9KLR
Oceania	WH6H	AH9B/V73B

#### Multioperator, Two Transmitters

World	6D2X	W6NL & K6BL
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#### Multioperator, Unlimited

World	WP3X	The Not Kenwood Club
Asia	JA3ZØH	Hajime Kato, JO1RUR/2, KHØG
Europe	9A1A	Operators at K1TTT



Pictured are the towers and antennas well above the tree line at J72YAF (JA1KSO,op) Nob operated single-band (15 meters) from this fine station.



## Top Five

### W/VE Multioperator Single Transmitter, Phone

Call Sign	Score	160	80	40	20	15	10
K8AZ	3,147,120	36/31	137/62	190/85	1018/123	768/120	107/44
W1OJ	2,694,654	40/30	176/63	186/72	910/108	729/113	113/31
NE3F	2,088,576	26/18	110/51	180/74	871/110	520/103	106/28
N8NR	1,999,530	12/10	106/53	174/75	515/98	766/112	136/42
N4RV	1,971,744	39/28	130/60	139/64	287/85	1044/114	109/25

### W/VE Multioperator Two Transmitter, Phone

Call Sign	Score	160	80	40	20	15	10
KC1XX	6,776,580	63/42	351/75	546/92	1802/137	1354/134	146/50
W2PV	6,272,784	68/41	366/75	321/89	1853/129	1341/127	167/47
W9JA	5,685,150	28/20	138/64	385/97	1672/139	1363/130	189/52
N3RS	5,539,740	36/31	240/69	267/86	1279/136	1646/137	167/49
K1RO	4,809,591	65/41	261/64	316/84	1435/125	1152/123	132/40

### W/VE Multioperator Unlimited Transmitter, Phone

Call Sign	Score	160	80	40	20	15	10
K3LR	10,373,508	87/48	452/92	704/110	2190/153	1757/147	516/56
W3LPL	9,119,760	112/51	565/90	544/100	2034/150	1613/138	267/63
N2RM	7,586,115	56/40	431/73	571/95	1678/135	1938/138	161/42
K1KI	7,337,946	67/42	367/77	419/93	2122/142	1355/135	208/50
KB1SO	5,883,540	42/33	313/70	414/88	1821/127	1203/128	177/48

## Top Five

### DX Single Operator Assisted, Phone

Call Sign	Score	160	80	40	20	15	10
LU4HAW (LU3HIP,op)	1,572,000	0/0	10/7	47/19	939/59	999/59	625/56
ZZZZ (PY2YP,op)	988,140	0/0	1/1	15/10	608/56	644/53	647/52
IN3ZNR	722,925	0/0	61/22	44/21	750/57	720/53	0/0
IR2W	701,460	1/1	103/26	344/48	308/53	543/52	0/0
EA3DX	688,200	0/0	19/7	113/33	738/53	680/55	0/0

### DX Multioperator Single Transmitter, Phone

Call Sign	Score	160	80	40	20	15	10
PJ9G	6,563,520	145/35	515/52	852/57	1378/59	1730/59	2217/58
VP5A	6,098,274	201/39	740/57	1066/59	1868/59	2476/59	292/33
WP2Z	5,911,815	99/23	425/54	844/56	1590/59	2227/59	1276/54
VP5NC	5,763,141	175/39	445/54	947/58	1494/58	2695/58	421/44
VP9ID	4,589,292	245/32	584/52	1021/57	1717/59	1723/53	155/28

### DX Multioperator Two Transmitter, Phone

Call Sign	Score	160	80	40	20	15	10
6D2X	8,914,056	143/44	838/55	1644/60	3020/61	3133/61	281/47
KH7R	5,863,941	41/19	466/49	1226/60	1677/59	2654/59	653/45
J38G	5,777,943	19/10	299/41	766/56	1482/59	2505/58	1882/53
IQ4A	3,162,141	2/2	417/40	1137/59	1639/59	1618/59	0/0
JH7PKU	1,474,134	0/0	153/24	380/50	869/56	1121/57	23/6

### DX Multioperator Unlimited Transmitter, Phone

Call Sign	Score	160	80	40	20	15	10
WP3X	12,587,448	395/58	1195/59	1635/59	2772/61	3547/60	2242/59
V26B	10,519,470	263/44	792/58	1531/59	3049/59	3031/60	1864/53
9A1A	3,133,728	56/15	662/49	1026/58	1629/59	1091/53	0/0
II3T	1,692,912	36/13	232/31	588/54	1107/58	750/52	0/0
JA3ZOH	1,532,628	0/0	149/35	442/52	686/59	1171/57	21/4

## Top Ten

### W/VE Single Operator Assisted, Phone

Call Sign	Score	160	80	40	20	15	10
N2A (N2TX,op)	2,818,752	40/31	156/62	201/83	949/110	776/107	94/31
K3WW	2,633,364	51/39	129/63	178/78	666/108	845/117	108/39
K3NZ	2,518,074	46/35	123/59	182/77	744/114	646/113	158/44
K2BU	2,498,832	42/32	117/52	142/63	622/108	1034/118	115/29
K2WK	2,420,364	31/28	77/51	93/59	1435/129	266/99	95/38
N3RR	2,202,984	38/26	158/65	259/81	570/111	514/110	153/41
KS1L	2,183,769	11/10	63/41	77/51	833/109	974/118	81/28
W2RE	2,045,565	22/17	185/58	134/67	700/100	607/113	106/38
N8TR	1,842,393	34/28	98/57	154/79	476/98	599/113	126/38
W1GD	1,577,016	33/26	109/50	120/65	443/101	502/111	134/39

## W/VE Region Leaders

Boxes list call sign, score, and power (A = QRP, B = Low Power, C = High Power).

Northeast Region (New England, Hudson and Atlantic Divisions; Maritime and Quebec Sections)		Southeast Region (Delta, Roanoke and Southeastern Divisions)		Central Region (Central and Great Lakes Divisions; Ontario Section)		Midwest Region (Dakota, Midwest, Rocky Mountain and West Gulf Divisions; Manitoba and Saskatchewan Sections)		West Coast Region (Pacific, Northwestern and Southwestern Divisions; Alberta, British Columbia and NWT/Yukon Sections)	
N1TM	204,624 A	N1CW	176,040 A	N8XA	31,872 A	KA5PVB	35,040 A	W6CN	142,875 A
AA2U	7,869 A			N8WS	6,435 A	WB0HZL	23,064 A	W8QZA/6	114,480 A
W3TT (N9GG,op)	6,270 A			AF9J	3,948 A	N0UR	21,450 A	N6AZR	111,552 A
WZ2T	2,325 A					KI0II	10,530 A	N7VY	55,002 A
AA3GM	1,575 A							NQ7X	54,960 A
W2TZ	877,365 B	K4ZAM	1,018,791 B	N9JF	651,240 B	K5RX	882,318 B	N6OJ	706,626 B
NA2U	692,874 B	KN4T	754,320 B	VE3BW	602,616 B	WD5K	701,883 B	K6RO	654,804 B
WA1LNP	633,495 B	WO4O	726,453 B	N9VVV	453,330 B	VE5SF	444,099 B	WN6K	418,863 B
WS1A	597,360 B	KC8FS	536,544 B	K9NW	416,658 B	W5MN	410,184 B	KJ7TH	179,376 B
W3UJ	576,834 B	N4DL	511,200 B	W9AU	387,450 B	K0RI	335,445 B	W6PLJ	174,240 B
K1AR	4,476,600 C	W4AN (K4JNY,op)	1,685,358 C	W9RE	2,976,162 C	NR0X	854,358 C	W7AT (W7EW,op)	1,772,199 C
K1ZM	3,726,450 C	K3ZJ8	1,362,240 C	WB9Z	2,490,597 C	K5YAA	700,398 C	N6ED	1,181,721 C
N2NT	3,362,646 C	KS4XG (at AA4NC)	1,222,767 C	K8LX	1,984,344 C	W0GG	545,490 C	N6RV	1,111,320 C
K5ZD (K9PG,op)	3,262,800 C	N4UH	1,129,482 C	K9BGL	1,125,735 C	N5LZ	516,240 C	K6GX	1,089,153 C
N6BV	3,204,792 C	K3OSX	701,760 C	VE3KZ	745,176 C	N5ZC	480,930 C	N7TT	1,081,584 C

Not far behind in third was W6CN who did his part to make the west competitive.

N2TX used the special call of N2A to run his way to the top of the single-op assisted category over K3WW and K3NZ. With the call of N2A, the challenge of splitting time between running and multiplier hunting diminishes somewhat as the fun of running with a strange call takes over. LU3HIP put LU4HAW on the air in the assisted class and won easily over the contest's best callsign of 1998, ZZZZ (PY2YP,op—another great call!).

The single bands had their stalwarts again in 1998. On the Top Band AA1BU squeaked by W2VO to win domestically, while SP7VCK/7 really did a great job to make 63 QSOs on 160 from Poland to win the DX side. Eighty meters from the US and Canada was pretty good as K1FZ handily won the crown over KILZ (are they brothers?). A particularly strong score came from the midwest as W9RM worked more countries than anyone with 81 to finish third—this is a real achievement in light of the East Coast's superior propagation to the multiplier-rich European continent! From the DX side ZF2JB made over 1200 QSOs to win over a terrific effort by ON4UN using OT8T to win second. The QRM level in Europe on 80 meters makes a single-band effort a real challenge.

Sitting next to ON4UN was ON4MA on 40 meters. ON4MA also used OT8T but finished 2nd behind a nice effort by 9A3LG who operated 9A5Y and found six more multipliers to win! 9J2AM also operated 40 and finished third from Zambia. What a nice multiplier that is for the W/VEs! Thank you! The 40 meter competition was close and spread around the world as VK4DZ managed to finish 5th in the world from down under. N7DD really blew away the competition on 40 from the US with almost 750 QSOs and 94 countries. Most of the big scores in the US on 40 came from the multi-operator entries.

Canada took the prize on 20 as VE6JY used his large antennas to produce over 2000 QSOs from Alberta and 715,000! What a great score that is. VE3XN took the second in a near tie with VA3MM! N3HBX piled-up 340,000 from the US for 4th place. Another excellent op from Poland, SP2FAX, took 20-meter honors from overseas with a

fine 370,000 score and nearly 2100 QSOs. He was followed in close order by PA3DZN and DF9ZP for 2nd and 3rd spots.

Fifteen meters was great throughout the world. N2IC/Ø in Colorado had to be pleasantly surprised with his 1400 QSO effort and 542,000 1st place finish over N8II and his 462 kilopoints. Another excellent score came with the 3rd place finisher, N7ML operated by KE7X from Montana—not someplace we often hear about as having great conditions! Nice job, Fred! ZX5J kept CQing until the end and piled up just enough QSOs (31 in fact) to beat ZF2MR for 1st place on 15 from the DX side! This battle was the closest of the contest, and from two very different locations. HC1OT pulled-in third from Quito with nearly 3000 QSOs.

South America really rules 10 meters. LU6ETB went up seven megahertz from last year from his 15-meter effort and made an incredible 3050 QSOs to win the world over fellow countryman LU3FZW. Speaking Spanish on 10 meters can make a huge difference in the results obtained by US and Canadian stations (see sidebar story on K3LR). The stations are there, we just have to be able to communicate with them! KZ5MM did an excellent job to work 60 countries on 10 from Texas to get a domestic win! He was followed by K4ZW from Virginia.

The multiop categories really were smokin' in 1998. And interestingly, we have winners in the multi-single and multi-multi categories who are very close together regionally in the eastern Midwest: K8AZ won M/S and K3LR won M/M! Was this area the place to be in 1998? Perhaps these locations were in just the right spot to make the most of the European openings and get some Asian QSOs that the heavy eastern seaboard competitors could not. The key for these winners was to be there when they had their chance. Nice job to all the winning crew members! W1OJ picked up 2nd place behind AZ with 2.6 million points, while KØDU from Colorado finished 6th. NK7U wins the "way out west" honors with a 7th overall finish in multi-single.

The multi-single battle from the Caribbean and South America was fierce between PJ9G and VP5A. These groups finished 2nd and 3rd last year, but in '98 it would be a one-two finish as PJ9G edges out the win. Ten meters was very different for both teams and caused serious differences in strategy that almost equaled-out in the end. VP5A beat PJ9G by over 1700 QSOs combined on 160 meters through 15 meters, but PJ9G beat VP5A by over 1900 QSOs on 10 meters alone and that proved to be enough to win! With the relatively low numbers of multipliers available to the DX station, it really pays to maximize the QSO rate and use the highest bands open. Nice efforts also appeared in the 3rd and 4th slots from WP2Z and VP5NC—each with over 6000 QSOs.

The multi-two class in the US was a horse race between KC1XX and W2PV (at K2TR). In the end XX pulled-out a 1st place victory at 6.7-million points to PV's 6.2-million points. Twenty meters was the key band for

## The Big Win!

Tim Duffy, K3LR, has been a part of multiple transmitter/multiple operators contesting for over 20 years. He got his first taste of multi-multi madness with W3AU in 1976 and has been dreaming of "the Big Win" ever since. Tim studied contesting and multi-multi techniques under the tutelage of Bob, K3EST (who has operated from Tim's station recently) and operated at W2PV and N2AA in the great multi-op environment of the late 70s and early 80s. Spending the 80s and early 90s quietly acquiring and assembling his own station, Tim and his crew hit the airwaves with his station's first multi-multi operation in 1992. Six years later K3LR has won the 1998 ARRL International Phone DX Contest. Steady improvements in his station and antenna farm combined with seasoned operators have brought Tim a coveted win in arguably the most competitive category of contesting.

Maybe the best part of K3LR's achievement is that the win came from an area other than the eastern seaboard. While LR is definitely in the third district, Sharon Pennsylvania is virtually an Ohio W8! Being in the interior of the country presents challenges to winning contests over competition from further east where the shot to Europe and its thousands of QSOs is better. In fact, of K3LR's 5706 QSOs, 64 percent were made with European stations. It is not unusual for winning scores to be composed of 80 percent or even 90 percent European QSOs. The difference in 1998 for LR was the excellent conditions on 20 meters that provided outstanding European openings and also excellent Asian openings. Fifteen meters even opened up to provide Asian QSOs that have been nearly non-existent since the early 90s. Putting it all together for a terrific victory such as this is the result of many factors that include the hardware and operating skills mentioned earlier, but probably the most important factor is tenacity. When the conditions are right you have to be there! K3LR and staff have been there slugging it out and now can enjoy the very rare satisfaction of a coveted multi-multi victory!

K3LR certainly will not disappear after this victory. Tim is building a full-size 3-element 80-meter Yagi for the 1999 contest season and is constantly recruiting operators—the key to winning, according to Tim. The 1998 contest saw the following highlights and antennas as described by Tim himself:

- \* W3GH, who operated multi-multi in Western Pennsylvania 32 years ago, operated 160. The "Green Hornet" used the five element parasitic vertical array to work 48 countries—an improvement of 16 countries over 1997!
- \* On 80 meters we were lucky to have John, VE3EJ on our team. John commented that things felt "right" from the start. His adept multiplier passing and encouraging "gab" messages across the computer network kept the team focused on winning. John used the 4-square vertical array to produce 452 QSOs and 92 countries! In 1997 the 80-meter total was 350 QSOs and 86 countries. We finished third last year so the improvements on every band in 1998 were critical to winning.
- \* On 40 meters K8GL and K9VV combined their talents to break the USA's QSO and mult records with 704 QSOs and 110 countries! The antennas are a stack of full-size 4-element WA3FET OWA Yagis at 190 and 100 feet. The guys worked 103 JA stations and there were still many unreadable pile-ups of JAs in the noise. VV used his multi-lingual talents to encourage QSOs during slow times while GL used his powerful voice to trip the VOX on three other bands! Years of operating from the propagationally challenged areas of W8 and W9 have made this 40-meter team one of the best.
- \* On 20 meters, N9RV, ND8L, and VE3OI took control of the 5 over 5 over 5 K3LR-designed Yagis (50-foot booms) to produce 2190 QSOs and 153 countries! A huge improvement over last year's excellent 1562 and 138. N9RV is the "Iron Man" whose experience and dominating style are an unbeatable combination. ND8L got a taste of the 20 meter madness while VE3OI came out of a 10-year contesting retirement to find multipliers.
- \* The biggest change from last year accompanied the great conditions on 15 as N3RA and K3UA put 1757 QSOs and 147 countries in the log! The 1997 totals were 353 and 96. Three 6-element Yagis were used along with the intense operating style of UA and the multi-lingual, efficient style of RA. The 15-meter "dream team" had seven hours with over 100 QSOs. After 25 years of contesting K3UA has become one of the finest operators in the country.
- \* On 10 meters KA3JWJ and XE2AC put the three-high stack of 7-element Yagis to great use with 517 QSOs and 56 countries. XE2AC put his Spanish language skills to work as over 80% of our total QSOs on 10 were with South America. We can't wait for 10 to open up like the good old days of the last solar peak!



Phil, K3UA, and Scotty, N3RA, manned the 15-meter station at the K3LR multi-multi station.



## Affiliated Club Competition

	Score	Entries
<b>Unlimited Category</b>		
Frankford Radio Club	243,591,930	173
Yankee Clipper Contest Club	221,027,178	176
Potomac Valley Radio Club	97,101,300	121
<b>Medium Category</b>		
North Coast Contesters	45,459,279	17
Society of Midwest Contesters	31,536,594	39
South East Contest Club	27,002,283	14
Northern California Contest Club	23,157,222	30
North Texas Contest Club	15,784,734	24
Willamette Valley DX Club	14,019,252	12
Florida Contest Club	13,662,063	27
Southern California Contest Club	11,857,893	22
Florida Contest Group	10,631,634	9
Western Washington DX Club	10,318,167	30
Tennessee Contest Group	10,302,222	21
Texas DX Society	9,889,356	8
Southern California DX Club	9,864,255	14
Mad River Radio Club	8,703,018	14
Central Texas DX and Contest Club	8,113,002	10
Minnesota Wireless Assn	7,832,196	7
Central Arizona DX Assn	7,713,999	21
Rochester (NY) DX Assn	5,845,413	18
Grand Mesa Contesters	5,595,294	12
Oklahoma DX Assn	4,965,900	9
Southwest Ohio DX Assn	4,725,432	5
Order of Boiled Owls of New York	4,606,089	9
Salt City DX Assn	3,437,307	13
Carolina DX Assn	2,882,127	8
Western New York DX Assn	2,664,942	13
Northern California DX Club	2,629,578	16
Eastern Iowa DX Assn	1,881,891	6
California Central Coast DX Club	1,743,702	9
Mother Lode DX/Contest Club	1,345,374	9
Kansas City DX Club	1,144,023	5
Kentucky Contest Group	1,057,377	9
Northern Arizona DX Assn	791,847	8
West Park Radiops	719,277	15
Schenectady ARA	478,911	3
Northrop Grumman Radio Club	333,339	4
AK-SAR-BEN	256,623	7
Mississippi Valley DX/Contest Club	209,544	3
Ozaukee Radio Club	196,797	3
Long Island DX Assn	137,679	3
South Jersey Radio Assn	115,764	5
Indian River ARC	23,199	4
<b>Local Category</b>		
Hudson Valley Contesters and DXers	10,495,944	10
River City Contesters	9,310,218	5
Great Falls Area ARC	2,033,766	7
Western Illinois ARC	1,991,901	9
Northern Ohio DX Assn	1,681,794	3
CT RI Contest Group	1,026,969	6
Redwood Empire DX Assn	876,471	3
Bay Area DXers	499,044	3
Sterling Park ARC	336,294	3
Roanoke Valley ARC	310,974	5
Santa Barbara ARC	199,416	3
Williamsburg Area ARC	156,225	3
Garden State ARA	126,594	6
Yegua Valley Contest Club	87,834	3
Northern New York Contest Club	34,347	3

each with QSO totals around 1800! It is sure nice—and yet strange—to hear the W2PV call back on the air. Third place was snagged by the fine crew at W9JA who racked-up almost 1700 QSOs on 20 meters from Wisconsin. This is no small achievement. Perhaps in the next year or two Paul and his crew will find that perseverance pays off with a win like the ops at K8AZ and K3LR discovered in 1998. K6RC won the M2X class from way out west with an excellent 3.8-megapoint score and 6th place finish nationally. From Mexico 6D2X approached 9,100 QSOs to win the DX side of M2X over a near-6800 QSO effort from KH7R way out in Hawaii! IQ4A and JH7PKU put up great scores from Europe and Asia to win their continents.

Multi-Multi is the battle of the titans. And titans they are because the biggest stations keep getting bigger and better! There were 15 excellent scores from the US this year, and as earlier reported K3LR took 1st over W3LPL. This 2nd place finish for LPL marks the 3rd such finish in the last 10 contests—the other seven finishes were wins! The LR

crew had a great time with this contest and will remember this one for a long, long time! The “way out West” winner in the M/M class was KO6N whose crew compiled 3339 QSOs and 4.2 million points! Nice job. The WP3X crew did a great job to win the world over the heavy competition of V26B! With almost 12,000 QSOs the gang in Puerto Rico have to be feeling pretty good about themselves and the performance of the station! Croatia’s 9A1A won for Europe and JA3ZOH put up almost 2500 QSOs to win for Asia!

That’s it for this year. We expect to write about huge ten-meter scores next year! But don’t forget about the low bands because there will still be plenty of good stuff to be had there.

## SOAPBOX

### W/V E

Conditions were pretty good. I especially liked the opening on 10 meters, to South America, the last hour. However, QRM was awful. I found there to be complete dry spells, for hours at a time, on 15 and 20 meters (AF9J). 15 meters is the best it’s been in quite awhile (KC7UP). March madness, due to excellent propagation, prevented few contacts on each band (KC2AOZ). Bands were good. However, I heard many, but wasn’t able to work them (W9YS). I didn’t intend to enter the contest, but the conditions were so good I decided otherwise (K3AV). This is my first contest; I had a lot of fun and enjoyed it immensely (K0LLS). My first contest and I’ll be back for many more (VE1TRH). Great operating conditions (W4OGG)! It isn’t easy making contacts when you are a QRP. You have to really work for each QSO, and make every watt count (WB0HZZL)! Us low power types need 10 meters—can’t wait (W2TZ). What a contest! After 42 years I finally worked Hawaii (W1EWN)! This was a very popular contest! It was the first time in over 40 years of trying that I was able to get a million points (N4UH). El Niño whacked me again! However, Sunday was contest heaven; I was able to work over 400 stations on 15 meters (K4JYO). Everything was search and pounce. It felt like a Pogo Stick was between the computer and the radio. Or, maybe that was just wishful thinking (W6TKV). Bands are improving, participants are up, records shall fall next year (W7AT)! I have had my ticket since 1956 and this is my first contest, and it won’t be my last (W6ND)! Forty meters was the most fun as it was the first cross-band operation I have ever participated in (KA5PVB)! Sure nice to be able to work lots of JAs again (N9JF). Good to hear the JAs on 15 meters in the Midwest. Here comes the sun (W9UR)! It was fun working some Europe and Africa on 15 meters for the first time this sunspot cycle (K6GT). Fifteen meters has again become the band of choice. I picked up 50% more mults just tuning the bands (W5ASP). This contest was phenomenal! However, it was more difficult than the CW contest (N6RV). I wasn’t too sure which band I should be on when there were four bands open at the same time; what fun (N9VVV)! I Usually do CW, but I decided to give SSB a try. I exceeded my expectations on this one (W1EQ)! I tripled last year’s score and as a celebration of my third year as an amateur, this is an experience I’ll never forget (KS4XG). Conditions are on the rise (K4FCC)! I don’t usually operate SSB contests, but I have to admit I had fun on this one (WG9L)! Conditions weren’t quite as good as the CW weekend, but it was still good (KK7GW). This year we entered as Multi Single with a limited operating crew. Our objective was to better our score from last year, and we were able

to double it (W4NC)! My operating time was kept to the bare minimum; Mother Nature had other ideas (K4NR). Man, those JAs were loud Sunday afternoon, on 15 meters (K0EJ)! I enjoyed being called by exotic DX stations (KQ2M). Great contest, great conditions, and I only fell asleep twice (KS1L)! Had tons of fun and the bands were in good shape. I was able to work JAs with less than a 100 W, and could hear them great (KC7ZRH).

## DX

There was a nice opening to VE and W on Sunday (PA3GAB). I enjoyed the outstanding signals from the West Coast (PA3EPN). Many thanks for a nice contest (SV2AEL). I hope to come back next year with more power and a lot of hours (PA0IJM). In Japan the band width of 80 meters is very narrow. As a result it is difficult for low power stations, like me, to get the frequency on which to call CQ (JE1SPY). I went to the Cayman Islands for the contest, unfortunately my 80-meter antenna went to Jamaica. However, I was lucky to get it back in time for the contest (KK9A). Bad conditions during the whole contest (YV7QP). I didn’t think it was possible to work so many states in such a short period of time. I enjoyed the contest very much (CT3BX). To those who heard and responded to my peanut whistle, thank you! Eighty watts and a dipole just can’t cut it (TI7/N4MO). This was the first contest that I was able to work several US and Canadian stations (PY2DJ). Again I was impressed by the patience and kindness of the American operators relative to my poor signal, especially on 40 meters (DJ6QO/P). This is last contest from VS6WO/VR2WO, I’m moving to Singapore (VR2WO). Welcome again, aurora (OH6NIO)! Sunday’s propagation was hot! Signals were louder and the northern West Coast came in pretty good (DL6FBL). Many thanks for a nice contest! It was a pleasure to work with many US ham friends (9X0A)! We had a big surprise 20 minutes before starting we had a pile-up on 20 meters and an hour later nobody replied to our calls (EA2CCG). It’s a pity there was no propagation at all on 10 meters. However, the other bands had better conditions. I was able to work stations I’ve never even heard before (EA6LP). Good propagation the whole time I was on the air, but the temperatures were terrible. It’s like one big sauna here (PY3RK). Thanks for the contest (ER5DX)! A fine contest, but no signs from the USA or Canada. I hope to see more sunspots next year (PA0KDM). This is a contest for pleasure! I was glad to hear old friends still going strong (DJ0SH). There were nice openings on 15 meters where the QSO rate increased to 3 QSOs a minute (OT8U). It was so hard to work QRP (UA4SKW). Terrific weather, however our antennas were poor for 80 and 160 meters. Though we all had a great time (HR6/W4OVU)! It was great working this contest Field Day style. We were able to work all states on 15 and 20 meters and all but one on 40 meters. What fun (OE9S)! This was our second year in the multi-sleep category and less of a learning curve this year. Unfortunately, 160 and 75 were too noisy and 10 was not open enough at our location (WE3C/VP5A). Just an entry to air our new group contest call (M8U). Great opening to the USA on 15 meters, Saturday night. The entire North American continent remained open until 0230Z (VK5AI). Thanks to all the hams who dug my low power signal out of the din. The butternut worked great (C6A/AA6EW)! Things got nice in the last hour and when the clock turned 23:59Z, Sunday night, I said “Ok, last QSO,” over the air and someone responded quite excited “Wait, you still have 45 seconds!” (P43P). I was very pleased to work W4 and W5 on 10 meters (9M6BG). I really enjoyed the contest! After observing I finally found some VY2s working through DX clubs (LY3MR).











