Results, 12th ARRL 10-Meter Contest

Start with unexpectedly good propagation. Add a thousand or so eager contest enthusiasts, and toss in a few openings. The result? Some mighty pleasurable operating!

By Michael B. Kaczynski,* W1OD and Edith Holsopple,** N1CZC

The 28-MHz band is well known for its extreme variations. During solar maximums, long-distance propagation is so efficient that a few watts of RF output can provide astounding signal strengths. When the bottom of the solar cycle is approached, 10 meters may go completely dead. These periods are occasionally punctuated by some north-south path openings, usually involving very long skip.

To the uninitiated, the above quote, taken from *The ARRL Handbook for the Radio Amateur,* makes 10 sound like a boring place to be when the sunspots go away. As I'm sure many 10-meter enthusiasts will agree, the years surrounding sunspot minimums can also be the most exciting time to work the band—you never know what you'll hear, or when you'll hear it!

The 12th running of the ARRL 10-Meter Contest, held December 8-9, 1984, wasn't a record breaker. For the majority of the 709 log entrants representing 68 sections and 50 DXCC countries, however, the band was in relatively good shape considering the solar-flux level (76-77). It's interesting to see how the level of solar flux affects participation (See Fig. 1).

The solid line represents the number of entries we received, while the broken line indicates the corresponding solar-flux level. Our graph of solar-flux information begins in 1979, near the peak of Cycle 21. As can be seen from the graph, the level of solar flux directly affects the number of entries we receive.

In 1980, for instance, as the solar flux approached 260, we suffered a slight decrease in participation. Conditions on this weekend were actually *too* good, with the maximum usable frequency (MUF) approaching 50 MHz. Six-meter operators were treated to worldwide propagation, while conditions on 10 weren't quite as good as the year before.

As solar-flux levels decreased to between 160 and 170 (1981-1982), the MUF approached 28 MHz—10 meters was at its Cycle 21 peak. Participation reflected this peak, as over 1600 entries were received in each of these years. Where there is a peak, however, there must also be a valley. From 1982 until the present, sunspot activity has been in a downslide. Hence, MUFs have been dropping, resulting in fewer extended openings and less activity on 10 meters.

This shift in conditions has also wreaked havoc with the leader boxes, with only six of 1983's winners represented. K4XS and AA2Z (numbers one and two, respectively) were the only mixed-mode W/VE participants to top the 200-k mark, with KE5CV and N2RM hot on their tails. TI1C, operated by TI2CF, was the undisputed DX champ, with five times the score of the number-two entry of VK2WU.

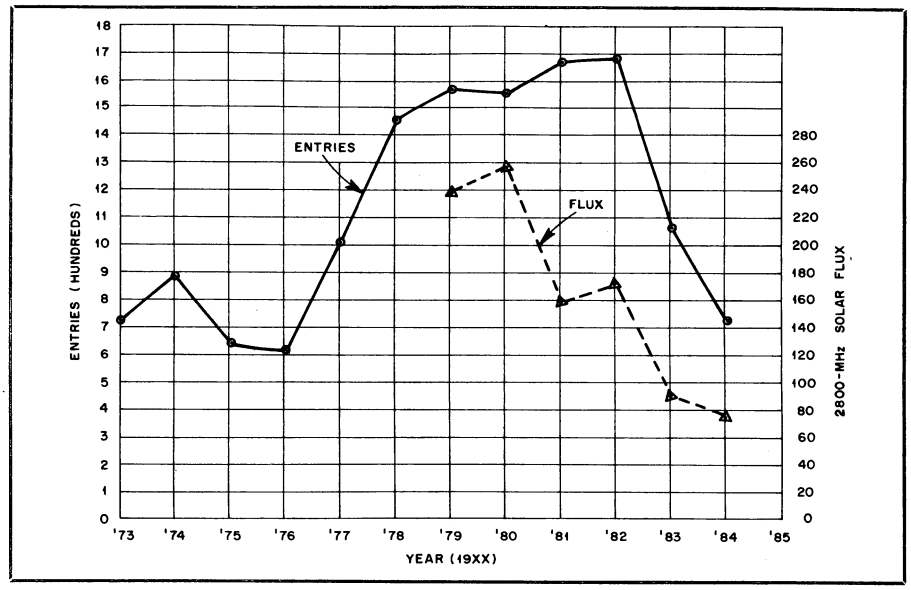

Fig. 1 — Correlation between 10-Meter Contest entries and 2800-MHz solar flux. The solid line corresponds to entries, while the dashed line represents solar flux.

Fours and fives, with the exception of W9WAQ (number eight), dominated the CW scene. W5XZ managed to edge out K1ZX/4 by just over 6000 points (about 3% of his total score) for the top CW spot. N4AR, the only repeat top-ten stateside finisher on CW, slipped from a top berth in '83 to number five in '84. EA6KZ was the only DX station represented in both this year's and last year's CW box. He moved up from number six to number three.

Phone was by far the most popular mode in the 1984 10-Meter Contest. N5AU (WB5VZL, opr.) and KE5FI dominated the competition, scoring over 200,000 points each. KI1G operated the only repeat phone station in this year's standings (as well as the only New England station), K1NG, to a fifth-place finish. LU1BR moved up from number seven in 1983 to number three in '84. TI1W, operated by TI2KD, headed the DX portion of phone competition.

For the second year in a row, K5LZO placed second in the stateside multioperator category. In 1983, 'LZO and crew were edged out by W5VX. This year, NR5M and team put in an outstanding effort for top spot, with almost 395 k. That score would have placed number three in 1983, when scores were almost *double* those of this year. LU4US copped top ranking in the DX multioperator category, defeating second-place LU1E by 90 k. The guys from down under, VI3EZ, placed number four, with 1983's number-four station, GW8GT, coming in fifth. N4BP/C6A rounded out the DX multioperator top five.

During the contest, some stations reported generally good conditions, while others, especially those in the upper latitudes, observed no openings at all. North-south paths clearly proved the most reliable, as was evidenced by large scores from southern stations.

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Top Ten—W/VE

Mixed Mode Call	Score	CW Call	Score
K4XS	283,584	W5XZ	182,952
AA2Z	223,680	K1ZX/4	176,648
KE5CV	186,340	WC4E	117,000
N2RM	173,250	N4VZ	89,960
K3ZO	144,600	N4AR	86,436
AA4DV	116,476	K4BAI	64,512
K4VX	107,260	KD4U	59,620
KF3M	89,100	WD4AHZ	56,964
WB7FDQ	87,898	W9WAQ	55,000
K8MN	87,368	KJ4X	53,900
		NO4R	53,900

Top Ten—W/VE

Phone Call	Score	Multiop Call	Score
N5AU (WB5VZL)	257,894	NR5M	394,752
KE5FI	239,616	K5LZO	226,780
K3KG	191,226	WØAIH/9	216,678
WØXK	146,452	WT4A	172,018
K1NG (KI1G)	117,040	N2EOC	141,260
WI4K	102,480	K5RVK	136,364
N4MM	99,698	W6VLD	130,248
K3ZJ	98,640	K8ZE	128,316
N2BJ	98,328	W4WWW	126,420
NC9C	94,068	KA1ZD	91,988

Top Five—DX

Mixed Mode Call	Score	CW Call	Score
TI1C (TI2CF)	454,800	EA5CF	26,432
VK2WU	82,665	YV7QP	22,796
YU3MA	34,080	EA6KZ	18,496
DL6RAI	20,520	F3JL	13,320
XE1VV	20,400	ZS6BCR	12,772
Phone		**Multiop**	
TI1W (TI2KD)	176,956	LU4US	330,120
NP4CC	160,208	LU1E	239,316
LU1BR	139,048	N4BP/C6A	177,408
LU4DM	116,604	VI3EZ	147,266
KG4DX	96,792	GW8GT	41,490

W7FGT, in Arizona, noted all modes of propagation: short path, long path, scatter, transequatorial and backscatter. At some times, Gustav added, antenna direction didn't seem to make much difference.

From Africa, ZS6BCR took advantage of conditions on Friday evening to work numerous W1s and W2s. Chris also reported good short-skip openings from his Pretoria QTH, but no takers.

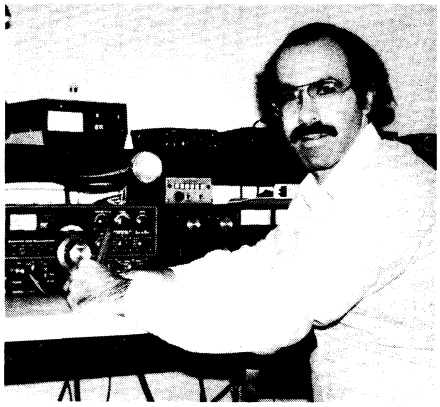
GW4BLE reported two stateside openings from his QTH, and YU3MA noted hearing some U.S. stations for a short period, but no JAs. Australians, as well as several stations from the Caribbean, were heard from Yugoslavia.

All this goes to show that even in a "dead" band contest, there is a payoff for those hearty souls who tough it out. Punctuated by openings, 10 meters can hardly be described as a dull place to be. Low expectation enhanced the surprise of DX QSOs. KØSCM reported a fantastic opening on Sunday morning. KA5KWX had good openings to all parts of the U.S., South America and the Pacific, as well as an unusual number of nighttime openings.

Novices were an unusual treat this year. Like an ice-cold drink on a hot summer day, Novice QSOs were welcomed by those who occasionally strolled the Novice bands, seeking to raise their totals by 8-point bursts. The Novices who provided the refreshing boosts reported few takers in "their" territory. Our thanks to those brave souls for hanging in there. See you in lucky number 13, to be held on December 13-15, 1985.

SOAPBOX

One of the better signals heard came from a nearby electric fence (K4JHT). Conditions were poor, but surprising how a CQ would bring them out of the woodwork (N4UH). Amazing how a "dead" band comes to life during a contest (W2DW). The propagation was downright *weird* (KF3M). I had so much fun this year that next year I plan to operate the whole 48 hours. Who needs the F layer? E layer and troposphere worked fine (WA2TBA). My score went up about 1 k from last year when I used a vertical. This year, I used a beam (KV1L). Band conditions were extremely bad this year. I couldn't even hear the ops across town! (KS6Q). Band conditions weren't all that bad considering MUF. Great contest, lots of fun (NC6T/NF6H). Now I know how the "Maytag Repairman" feels. On Sunday afternoon, a couple of high-speed ops came by, but chose not to slow down from about 30 WPM so I could work them. I guess this isn't a Novice contest, although scoring indicates that it should be (KA5PVB/N). The contest this year was an exercise in being in the right place at the right time! Stations would boom in for 2 or 3 minutes, then fade away. This was a very good test of operator skills and endurance (N5EZA). I worked 185 QSOs in one hour. Who says we need sunspots? (KØSCM). The band was in and out most of the time. I had no time to really operate, as I was babysitting 2 grandkids and a pooch, both days. I enjoyed what time I had (KR9G). 'Tis really stinko when one's 160 test score is better than one's 10-meter score! (K8MN). I got a new rig two days before the contest. That, plus better propagation, tripled my 1983 score (KA5KWX). I always did prefer to ferret out the weak, scratchy ones rather than work a "bundle of boomers." My receiver is 23 years old and the transmitter is 26 years old. I'm still using the original tube in my final (KØVV). Unscientific propagation report: "Propagation is at its best when Daddy has to babysit." Zeros boycott the contest? Were they part of the sunspot conspiracy? This is my lowest score since 1978 (KA6BIM). I was very pleased to work LU8DQ with just 5-W output and a simple vertical antenna (WA2HSQ). You have to suffer through the bad times on 10 to appreciate the higher activity at the sunspot peak. The conditions this year were reflected in the smaller-sized envelope and smaller postage I used to send in my results (WB2AMU). I really enjoyed my first contest. I picked up 3 new states and 2 new countries. It was unreal how all the signals vanished when Sunday football started on television (KB4KEM). Sunday afternoon, I was faced with an important decision. Do I contest or do I ski? Since the skiing conditions were much better than propagation, I shut down the rig and headed off to the mountains. I figured



Mitch, WB1GQR, took top honors from the rare VT Section.

DX Continental Leaders

Continent	Mixed Mode	CW	Phone	Multiop
Africa	—	ZS6BCR	5L2AK	—
Asia	JH2KKW	JA1YWX	CT2FH	JG1ZUY
Europe	YU3MA	EA5CF	F6KBF	GW8GT
North America	TI1C	HH2VP	TI1W	N4BP/C6A
Oceania	VK2WU	AH6AZ	ZL1ANJ	VI3EZ
South America	—	LU1EWL	LU1BR	LU4US

Division Leaders

Division	Mixed Mode	CW	Phone	Multiop
Atlantic	N2RM	K3TG	K3ZJ	KB3A
Canadian	VE3CWE	VE3DZV	VE3CVX	VE3SAU
Central	W9XT	W9YYG	WB9FOL	WØAIH/9
Dakota	K6DMO	KNØV	WBØMWJ	—
Delta	WM4Z	W5XZ	N4BSN	—
Great Lakes	K8MN	N4AR	NC9C	K8ZE
Hudson	KA2AEV	W2LPV	N2BJ	N2EOC
Midwest	K4VX	WØIZ	WØXK	KØFA
New England	AA2Z	K1VUT	K1NG (KI1G)	KA1ZD
Northwestern	NG7P	W6KZV/7	N7ABJ	KE7C
Pacific	N6NF	N8BJQ/6	K6HNZ	—
Roanoke	AA4DV	KJ4X	N4MM	K4YTZ
Rocky Mountain	KA5FSB	WØETT	W5HI	—
Southeastern	K4XS	K1ZX/4	K3KG	WT4A
Southwestern	WB7FDQ	W7FGT	K6SVL	W6VLD
West Gulf	KE5CV	NJ5N	N5AU (WB5VZL)	NR5M

A look at the guys from Down Under. (From left) VK3s DMU, DXI, FY and ASE, operated VI3EZ to the largest score from Oceania. Not shown in the picture are VK3EW and VK3COF.

Greg, N9CIW, and his "disaster area" finished number two on phone in Illinois.

out my effective radiated power (ERP) for this location in northern VT: rare section— + 20 dB; crummy propagation— – 30 dB; power-line noise— – 10 dB; result— – 20 dB. Now I have a good, solid excuse for my low score (WB2JSJ/WB1GQR). The weak-signal work was a lot of fun. I'm looking forward to an increase in sunspot numbers next year (CT2FH). I have been enjoying Amateur Radio for over 4 years, and I hope to enjoy ham life forever (JE7BIZ). I regret that I couldn't make a contact with any DX station (JK1RJQ). I suppose I'm not the only one to complain about the propagation, or am I just spoiled? Anyhow, I don't have to send a dupesheet this time (EA8ZI). The band was crazy this year. I heard about a dozen other Ws, but I guess you had lots of QRM (DL6RAI). I'm 17 years old and this is my first experience ... Great! (EA5EVS). I'm a 52-year member of ARRL (OZ8T). We had great fun. The band isn't dead yet. It gets absolutely freezing up here on the summit of Mt. Donna Buang at night. We'll be back next year (VI3EZ/p).

WD9GYX used this setup to make over 200 QSOs from the Illinois Section.

Scores

DX scores are listed by continent and country according to the ARRL DXCC list. U.S. and Canadian scores are listed by call area and ARRL section. Single-operator scores are listed first, followed by multioperator. Each line score lists call sign, score, QSOs, multipliers and entry class (A = Mixed Mode; B = CW Only; C = Phone Only; D = Multioperator).

DX

Africa

A22ME	3780-	105-	18-C
EA8ZI	24,752-	238-	52-C
5L2AK	28,224-	252-	56-C
ZS6WB	18,984-	226-	42-C
ZS6BCR	12,772-	103-	31-B

Asia

JA1ZLO (JF2IWL, opr.)	9144-	254-	18-C
JA1YWX (JR4NIV, opr.)	9120-	152-	15-B
JH2KKW	5768-	155-	14-A
JO1CRA	5004-	139-	18-C
JO1NZT	4752-	108-	11-B
JH9CAV	2224-	115-	8-A
JE7BIZ	2184-	138-	7-A
JA2BNN	1602-	89-	9-C
JO1ITV	828-	69-	3-B
JE3GAR	630-	45-	7-C
JJ1EEA	510-	38-	5-A
JP1TRJ	410-	41-	5-C
JN1KKN	380-	38-	5-C
JO1QZI	324-	27-	3-B
JH1MTR	288-	18-	4-B
JE7SLC	168-	28-	3-C
JH8JYV	144-	10-	4-A
JJ1OSP	126-	15-	3-A
JA1JGP	120-	18-	2-A
JE1ARQ	80-	7-	4-A
JA1OP	68-	17-	1-B
JA2SAP/1	60-	5-	3-B
JE1TTO	44-	11-	2-C
JK1RJQ	30-	10-	1-A
JA1AAT	54-	6-	3-A
JO1MCC	18-	9-	1-C
JA6GGD	8-	2-	2-C
JG1ZUY (JA6-9330, JI2GUT, JM1LPN, JO1NAH, oprs.)	32,778-	512-	27-D
JA6YAI (JE6MQW, JF6s OBZ, PPQ, JR6s EZE, GAG, oprs.)	22,800-	405-	24-D
JA2YKA (JA9s SSY, XXS, JE2VYM, JF2DQJ, JG2s MTC, VTD, JG3OET, JI2JXR, JJ1BTC, JL3LDL, oprs.)	19,090-	342-	23-D
JH1YDT (JF2UHV, JF3HBS, JH4UTP, JI1QPU, JH1WMU, JO1HSX, JR6KDV, oprs.)	14,250-	311-	19-D
JA7YFB (JE7MOY, JF7s GQK, JHT, JH7s XKI, XMO, JHØQNT, JN1RON, JR7s GYC, JLU, LCI, OEF, QYB, RLB, oprs.)	13,536-	283-	18-D
JA1YCL (JHs 8MHZ, ØDUG, JL1QOC, JO1GAD, oprs.)	12,870-	366-	15-D
JA7YFH (JE7s HMC, JWU, WQH, XTQ, JG2XUR, JO1HBF, JR7s MPT, VOL, oprs.)	7920-	192-	15-D
JA1YXP (JI2DLF, JN1OTG, JN1SBT, JO1BKL, JR4HCV, oprs.)	5434-	197-	11-D
JA6YDH (JE6s PSL, VFJ, JF6GQC, JR6s PKJ, QHK, oprs.)	6880-	162-	16-D
JAØYAK (JA9VSX, JHØs FBO, MVU, TJU, oprs.)	3740-	119-	11-D
JA7YWD (JE1XGQ, JQ1ENT, JRØNLK, oprs.)	1666-	75-	7-D
JA6YBR (JF6DEA JH5GLL, oprs.)	1134-	64-	7-D
JA7YCQ (+JR7MZC)	632-	59-	4-D
RA9UAD	40-	10-	2-C
VU2NCX	2400-	60-	20-C
4X6IF	2700-	60-	15-A
5B4DN	688-	43-	8-C

Europe

CR7NH (CT4NH, opr.)	8400-	105-	40-C
CT1TM	3192-	57-	28-C
CT2FH (K1RZ, opr.)	34,060-	262-	65-C
DL6RAI	20,520-	187-	38-A
DL1HBT	7296-	76-	24-B
DJ1ZU	1976-	42-	19-A
DJ3HJ	1920-	60-	16-C
DL8PC	1054-	31-	17-C
DF5EO	1044-	29-	18-C
DA2ER (W9UI, opr.)	870-	29-	15-C
DL2OM	828-	23-	9-B
DL7UB	350-	14-	7-A
DL1TH	280-	10-	7-B
DL8AAM	12-	3-	2-C
EA5CF	26,432-	118-	56-B
EA5CGU	7224-	94-	43-C
EA3RU	6450-	129-	25-C
EA3EGI	5888-	128-	23-C
EA5EVS	2904-	44-	33-C
EA3NU	2790-	93-	15-C
EA3CCN	2774-	73-	19-C
EA3ELZ	2289-	54-	21-C
EA2CR	1530-	45-	17-C
EA4CFN	640-	20-	16-C
EA2OY	546-	39-	7-C
EA7BYM	364-	14-	13-C
EA1AWW	308-	14-	11-C
EA3ELM	300-	15-	10-C
EA5FAG	192-	12-	8-C
EA3ERT	188-	59-	16-C
EA7DZL	144-	9-	8-C
EA3BOX	140-	10-	7-C
EA6KZ	18,496-	136-	34-B
EA6SX	11,022-	200-	33-C
EA6VQ	4582-	79-	29-C
F6KBF (F6IIR, opr.)	24,544-	208-	59-C
F3JL	13,320-	90-	37-B
F6AOJ	7392-	88-	42-C
F6BVB	1360-	34-	20-C
GW4BLE	14,144-	136-	52-C
GW8GT (G3OAY, GWs 3KYA, 4TTU, 5NF, oprs.)	41,490-	281-	55-D
HG5AAP	1600-	50-	16-C
HG5AAS	1596-	42-	19-C
HG4XX	1394-	41-	17-C
HA5LZ	468-	13-	9-B
HA3GJ	156-	13-	3-B
I4CSP	1450-	29-	25-C
I2LVN	216-	12-	9-C
LA9ZV	168-	14-	6-C
OH1ZAA	760-	19-	10-B
OK1DBM	2958-	52-	17-A
OK1TW	1634-	44-	19-A
OK1DMA	512-	25-	8-A
OK1KZ	220-	15-	5-A
ON4JJ	300-	15-	10-C
OZ5EV	1260-	42-	15-C
OZ1DKG	224-	8-	7-B
OZ8E	160-	8-	5-B
OZ8T	72-	8-	4-A
PA3CEF	2552-	29-	22-B
PI4DEC (PAs 2FAS, 3AWW, 3CZW, 3DJL, ØBOE, ØTUK, oprs.)	16,920-	188-	45-D
SM6LWH	320-	10-	8-B
SP9PRO	100-	10-	5-C
SP6AGD	24-	4-	3-C
SP6DVP	2-	1-	1-C
UZ6LWZ (UA6s LRT, 150-1240, oprs.)	1800-	47-	18-D
UP2BGB	4-	2-	1-C
Y26DO	648-	27-	9-A
Y21WM	192-	16-	6-C
Y23WM	160-	8-	5-B
Y24MB/A	80-	8-	5-C
Y22HF	48-	7-	3-A
YO8KOD	500-	25-	10-C
YO6DDF	12-	3-	2-C
YU3MA	34,080-	215-	60-A
YU7SF	352-	11-	8-B
YU3NP	50-	5-	5-C

North America

N4BP/C6A (+N4UM)	177,408-	865-	72-D
FM7WH	280-	10-	7-B
HH2VP	6264-	54-	29-B
HP1AVY	11,968-	187-	32-C
KG4DX	96,792-	654-	74-C
AL7CQ	128-	8-	4-B
NP4CC	160,208-	1054-	76-C
TI1C (TI2CF, opr.)	454,800-	1862-	100-A
TI1W (TI2KD, opr.)	176,956-	1066-	83-C
XE1VV	20,400-	194-	40-A
ZF2AG (N8AG, opr.)	81,472-	608-	67-C
ZF2IK	5832-	81-	18-B

Oceania

N7ET/DU7	1068-	133-	3-A
AH6AZ	7872-	82-	24-B
KH6SP (WB3HVS, opr.)	5060-	87-	22-A
VK2WU	82,665-	603-	55-A
VK2BQQ	1472-	46-	8-B
VI3EZ (VK3s ASE, COF, DMU, DXI, EW, FY, oprs.)	147,266-	885-	67-D
YB5AQD	552-	46-	6-C
ZL1ANJ	18,832-	214-	44-C

South America

CE5EMZ	30,100-	430-	70-C
CE3AEZ	2806-	61-	23-C
LU1BR	139,048-	764-	91-C
LU4DM	116,604-	738-	79-C
LU1VK	64,740-	415-	78-C
LU4LAV	55,728-	387-	72-C
LU1EWL	10,368-	81-	32-B
LU4US (+LU1UDZ)	330,120-	963-	140-D
LU1E (LUs 2DSL, 3AJW, oprs.)	239,316-	1142-	98-D
PP2ZDD	77,672-	511-	76-C
PS7KM	7626-	93-	41-C
PY2AC	4576-	44-	26-B
ZY5CA (PY5CA, opr.)	3172-	61-	26-C
PY1APS	224-	8-	7-B
YV5JEA	55,536-	534-	52-C
YV7QP	22,796-	139-	41-B

W/VE

1

Connecticut

AA2Z	223,680-	1063-	80-A
W1WEF	70,338-	458-	57-A
N1CC	45,100-	302-	55-A
K1KI	44,240-	395-	56-A
K1BV	16,464-	165-	42-A
K1YRP	14,720-	120-	40-A
K1EM	12,342-	161-	33-A
KB1H	5616-	108-	26-C
KB1IZ	4150-	83-	25-C
K1SSO	3456-	72-	24-C
KA1ZD (+K1ZZ)	91,988-	567-	61-D
KA1MDH (+K8CH)	640-	13-	8-D

Eastern Massachusetts

K1VUT	52,416-	251-	52-B
WA2TBA	49,128-	344-	46-A
WB1AEL	34,944-	206-	42-B
KV1L	28,272-	181-	38-B
KA1DWX	25,284-	144-	43-B
W1FM	12,028-	139-	31-A
W1AX	10,744-	76-	34-A
KA1CLV	8700-	72-	29-B
KQ1F	7936-	62-	32-B
KR1B	4656-	59-	24-A
KB1KM	2280-	37-	15-B
WA1PLK	64-	8-	4-C
AE1B (+AB1X, KG1V)	27,416-	204-	46-D

Maine

N1ATO	67,160-	381-	46-C
KB1CV	24,720-	167-	40-A
KM6FC	22,080-	218-	48-A
KA1OR	17,538-	160-	37-A
K1BZ	5820-	71-	30-A
W1MGP	1804-	41-	22-C
KC2TX/1	256-	16-	8-C
WB1GLH	168-	7-	6-B
KB1U (+N1AFC)	37,920-	306-	48-D

New Hampshire

K1TR	13,596-	103-	33-B
KM1H	10,034-	173-	29-C
W1END	9548-	75-	31-B
W1UCI	960-	35-	12-A
KA1X (+AK1L)	46,242-	334-	63-D

Rhode Island

K1NG (KI1G, opr.)	117,040-	665-	88-C
KA1TS	44,268-	434-	51-C
KC3MB	29,044-	274-	53-C

Vermont

WB1GQR	49,678-	421-	59-C
W3SOH	7384-	89-	26-A

Western Massachusetts

N3ADQ	18,444-	174-	53-C
K1SF	13,528-	178-	38-C
WA1ZAM	6464-	91-	32-A
N1CKW	2370-	51-	15-A
KA1XN	1064-	31-	14-A
KQ1V	71,154-	509-	59-A

2

Eastern New York

N2BJ	98,328-	723-	68-C
N2BZP	22,448-	238-	46-A
N2EGR	17,014-	181-	47-C
WB2KEX	13,816-	157-	44-C
W2KHQ	10,788-	92-	29-B
W2DW	5760-	74-	30-A
AA2Y	4300-	43-	25-B
WA2JQK (+WA2UKP)	30,141-	257-	51-D

New York City-Long Island

WB2PWR	52,608-	411-	64-C
KA2AEV	45,594-	304-	51-A
KS2G	21,952-	224-	49-C
W2KZE	18,424-	188-	49-C
WA2SUH	17,850-	175-	51-C
WB2AMU	13,268-	103-	31-B
W2MOY	12,680-	130-	40-C
W2GKZ	10,024-	101-	28-A
WB2HTW	8640-	120-	36-C
N2DNY	5248-	82-	32-C
N2CPE	3120-	65-	24-C
WB2DLA	3072-	46-	16-B
WA2ATL	2610-	48-	15-C
WA2HSQ	2516-	37-	17-B
K2OVS	2000-	50-	20-C

Northern New Jersey

W2FCR	87,636-	654-	67-C
W2HN	26,208-	168-	52-A
W2LPV	13,888-	63-	28-B
KK2G	5616-	117-	24-C
W9NTU	5208-	93-	28-C
KT2D	4116-	69-	21-A
WA2UDT	2688-	53-	21-A
WA2SSH	2280-	44-	20-A
N2EOC (N2BOW, N2CEI, oprs.)	141,260-	763-	70-D
KC2GE (+WB2PSD)	59,236-	427-	59-D

Southern New Jersey

N2RM	173,250-	826-	77-A
WA2PPN	50,344-	406-	62-C
W2PAU	18,860-	150-	41-A
NC2V	9360-	78-	30-B
NF2C	8234-	117-	23-A
N2AWC	60-	5-	3-B

Western New York

NA2A	24,932-	271-	46-C

KA2KAG 16,992- 118- 36-B
KW2J 14,632- 118- 31-B
WA2MNM 8000- 100- 40-C
W2FXA 7600- 101- 25-A
WB2FBP 3588- 69- 26-C
WB2TKD 2444- 47- 26-C
KB2SE 1760- 44- 20-C
KB2NU 1632- 33- 17-A
KK2B 1216- 32- 19-C
NA2Q 24- 5- 2-A
KD2AL 6- 3- 1-C

3

Delaware

AC3T (KA3B, opr.) 79,200- 600- 66-C
KC3AM 19,720- 158- 58-A
N3CDV 5016- 75- 33-A

Eastern Pennsylvania

W3ARK 43,488- 266- 48-A
W6GMZ 39,900- 319- 50-A
AK3M 34,900- 349- 50-C
N3BNA 23,828- 199- 37-A
KQ3V 20,448- 213- 48-C
N3DXG 16,128- 168- 48-C
KA3LCF 10,112- 158- 32-C
W3HMR 8450- 153- 25-A
AE3J 7458- 83- 33-A
KT3F 6048- 84- 36-C
WA3TQJ 4212- 80- 26-A
K3QQ 3608- 53- 22-A
K3EBZ 2442- 52- 22-C
WA3JXW 2128- 50- 19-A
W3ADE 1488- 31- 12-B
AC3D 1476- 41- 18-C
KH6CP/3 720- 22- 10-A
KA3NDF 72- 4- 3-B
N3CZB 28- 4- 2-A

Maryland-District of Columbia

K3ZO 144,600- 758- 75-A
K3ZJ 98,640- 685- 72-C
N3II 62,968- 463- 68-C
K3TC 47,800- 318- 50-A
N3AOE 35,840- 640- 56-C
K3TG 34,200- 171- 50-B
K4CGY 25,200- 242- 50-A
W3PWO 22,770- 207- 55-C
W3GN 13,650- 195- 35-B
N3CDA 9576- 114- 42-C
WA3EEE 8262- 162- 51-C
WB3BRF 7680- 101- 32-A
W3TFA 3024- 42- 18-B
NN3SI (W4KM, opr.) 2958- 48- 17-A
W4KM 2184- 43- 13-A
KA3MFT 1120- 80- 14-A
KA3NAJ 700- 19- 7-B
WA3YJA 672- 24- 14-C

Western Pennsylvania

KF3M 89,100- 538- 66-A
K3UA 2646- 63- 21-A
W3HDH 1904- 38- 17-A
WA3GQU 1260- 35- 18-C
KB3A (+W3KHQ) 30,282- 255- 49-D

4

Alabama

WZ4F 86,310- 455- 63-A
KA4AJA 5544- 99- 28-C
KB4FAI 2376- 31- 18-B

Georgia

K3KG 191,226-1099- 87-C
WI4K 102,480- 732- 70-C
N4VZ 89,960- 346- 65-B
K4JPD 75,530- 580- 65-A
K4BAI 64,512- 288- 56-B
K4EZ 50,526- 265- 63-A
K4DLI 29,904- 267- 56-C
KB4GID 16,704- 114- 36-B
N4KUJ 10,660- 130- 41-C
K4KG 10,120- 115- 44-C
WD4DSS 7200- 58- 30-B

Kentucky

NC9C 94,068- 702- 67-C
N4AR 86,436- 343- 63-B
WA4QMQ 72,468- 563- 61-A
KD4U 59,620- 270- 55-B
NO4R 53,900- 243- 55-B
WR4F 35,496- 306- 58-C
KB4GEJ 22,102- 137- 43-A
KI4DC 10,864- 97- 28-B
W4RHZ 4560- 60- 19-B
WD4CRG (+N4DIT) 56,442- 409- 69-D
KA4KJG (+KA4KJH, KE4NS, NN4H, WB4VFW) 39,360- 273- 60-D

North Carolina

AA4DV 116,476- 549- 74-A
KF4HK 41,328- 328- 63-C
WD4OHD 19,610- 171- 37-A
WD4AVY 18,942- 231- 41-C
N4UH 15,088- 184- 41-C
N4KVF 5460- 78- 30-A
KS4S 2414- 50- 17-A

Northern Florida

K4XS 283,584-1356- 84-A
WC4E 117,000- 443- 65-B
KA4YIW 29,640- 197- 38-A
KT4D 20,706- 203- 51-C
W4WKQ 20,244- 196- 42-A
WT4A (+KØOO, KF4W, KB4HF) 172,018- 842- 77-D
WD4IIO (W4s ILE, WPD, WD4FNX, oprs.) 25,080- 193- 33-D

South Carolina

KJ4X 53,900- 240- 55-B
WD4EOG (WA1MKE, opr.) 38,304- 342- 56-C
WA4LDU 8484- 101- 42-C
NU4B 2624- 40- 16-B
K4YTZ (AA4AM, KA4KXM, KB4MX, KC4ZJ, KD4RH, oprs.) 81,344- 523- 62-D

Southern Florida

K1ZX/4 176,648- 618- 71-B
WD4AHZ 56,964- 303- 47-B
N4JHN 28,032- 210- 48-A
KI4IW 14,220- 158- 45-C
WW4W 11,760- 147- 40-C
WV4Y 4560- 51- 20-B
WK4F 4554- 69- 33-C
W4HVU 2350- 47- 25-C
K3DG 1624- 35- 14-A
N4GPY 690- 23- 15-C
W4WWW (+KA4s EEF,IQZ, KD4S, KR4X, W4UEA) 126,420- 748- 70-D
N4EJW (+N4EJV) 75,354- 453- 57-D

Tennessee

N4BSN 72,670- 559- 65-C
WM4Z 24,800- 170- 50-A
K4JHT 16,320- 160- 51-C
K4XO 11,716- 100- 29-B
N4FNB 10,212- 138- 37-C
K4PR 3648- 63- 24-A

Virginia

N4MM 99,698- 631- 79-C
VE3JGC/W4 10,496- 125- 41-A
W4TMN 10,332- 126- 41-C
N3OS 10,080- 80- 30-B
K4RDU 8528- 81- 26-B
W4JVN 8528- 104- 41-C
KE4GX 7392- 99- 33-A
WU4G 6162- 79- 39-C
W4YE 5896- 67- 22-B
KB4KEM 800- 17- 10-B
N4EUK 728- 26- 14-C
KC4HN (+KF4YH, N4JGE) 68,376- 413- 66-D

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Arkansas

WA5TCL 62,192- 598- 52-C
KA5PFD 22,264- 242- 46-C
W5EIJ 2680- 46- 20-A
N5DDI 1216- 32- 19-C

Louisiana

W5XZ 182,952- 594- 77-B
WB9AZQ/5 8736- 111- 39-A

Mississippi

KA5KWX 19,188- 120- 39-B
N5FDF 14,364- 147- 38-A

New Mexico

NC5O 17,280- 108- 40-B
W5HI 16,848- 162- 52-C
KA5FSB 7950- 139- 25-A
N5DVY 6776- 83- 28-A
W7LHO 6048- 54- 28-B
N5EZA 3078- 58- 19-A

Northern Texas

N5AU (WB5VZL,opr.) 257,894-1417- 91-C
KE5CV 186,340-1040- 77-A
K5QHD (KY5N,opr.) 59,808- 459- 48-A
N15N 25,840- 170- 38-B
AD5F 23,088- 140- 39-B
K5ZD 15,631- 230- 49-A
KB5UL 10,044- 79- 31-B
KA5PVB 176- 8- 4-B

Oklahoma

N5AFV 4140- 39- 23-B
K5DEC 98- 7- 7-C
NØIN (+W3AS) 29,842- 206- 43-D

Southern Texas

KE5FI 239,616-1248- 96-C
WA5IYX 29,700- 270- 55-C
KC5CP 29,070- 253- 57-A
N5HFR 28,224- 504- 56-C
W5ASP 11,220- 157- 30-A
W5LLU 5456- 88- 31-C
N5AF 4746- 72- 21-A
K5HIM 1152- 24- 2-C
NR5M (+KE5IV, N5JJ) 394,752-1563- 96-D
K5LZO (+KA5SBS, WB5RUS) 226,780- 964- 85-D
K5RVK (+W5ASP) 136,364- 775- 73-D

6

East Bay

N6GRM 8700- 101- 30-A
K6SIK 2508- 57- 22-C
K2GMY 1036- 37- 14-C
KS6Q 96- 12- 4-C

Los Angeles

K6SVL 82,236- 623- 66-C
N6HC 60,306- 448- 57-A
K6EID 46,008- 316- 54-A
W6CN 5712- 136- 21-C
K6DMN 4374- 81- 27-C
KA6GDX 2080- 80- 13-C

Orange

NC6T (NF6H, opr.) 33,432- 198- 42-B
W6TMD 15,756- 100- 39-B
KA6SAR 11,832- 95- 29-B
K6PVS 7380- 90- 41-C
WA6GFR 884- 26- 13-A
W6VLD (K6TXA, KB6EKL, KR6U, N6KN, W3CEQ, WA6DPQ, WA6HJK, oprs.) 130,248- 729- 67-D
WB6WUW (+AC6O, KB6A) 18,360- 168- 34-D

Santa Barbara

WA6FGV 28,980- 232- 42-A
W6SWM 14,382- 153- 47-C
NV6I 7992- 107- 36-A

Santa Clara Valley

N6NF 55,120- 372- 52-A
K6HNZ 41,040- 360- 57-C
N6RZ 28,808- 277- 52-C
WA6TKT 13,756- 159- 38-A
K6YA 12,896- 151- 31-A
KJ6Z 4140- 50- 23-A
N6UW 3650- 50- 25-A

San Diego

W6ZT 23,856- 140- 42-B
KF6BB 4988- 86- 29-C
KF6KE 3024- 63- 24-B
K6HAI (KW6V, KA6UCO, KF6NW, W6s EHR, JXA, PKW, ZBE, N6JFV, WB6LLO, oprs.) 11,594- 122- 31-D

San Francisco

K6JFY 6300- 63- 25-B
KD6GC 496- 21- 8-A

San Joaquin Valley

KA6BIM 13,816- 192- 49-C
N8BJQ/6 6900- 65- 25-B
WA6YAB 1908- 33- 18-A
KA8UCC/6 240- 7- 6-B

Sacramento Valley

WD6CQH 120- 6- 5-B

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Arizona

WB7FDQ 87,898- 502- 71-A
WA7KLK 54,786- 397- 69-C
W7FGT 36,120- 215- 42-B
KX7J 12,284- 121- 37-A
KD7YO 6090- 105- 29-C
W7YS 4000- 50- 20-B
WB7APW 1740- 29- 15-B
N7CEE 1066- 21- 13-A

Idaho

KA7T 3432- 39- 22-B
W7GCL 252- 12- 6-A
W7IWU 28- 4- 2-A

Montana

KE7X 15,912- 102- 39-B

Nevada

K6MQX/7 6858- 88- 27-A
W7ABX 1440- 36- 20-C

Oregon

KA7KDU 8448- 127- 24-A
N7AKQ 3990- 83- 21-A
W7GUR 2618- 58- 17-A
W7MLJ 928- 29- 16-C
WA6PVA (+NI7T) 12,628- 154- 41-D

Utah

W7TE 5512- 53- 26-B
WA7ADK 3294- 61- 27-C

Washington

NG7P 33,558- 188- 51-A
WA7UQV 25,628- 204- 43-A
W6KZV/7 20,336- 121- 41-B
N7ABJ 13,320- 185- 36-C
W7QN 5400- 52- 25-B
KS7L 4544- 67- 16-B
N7ETC 2408- 43- 14-B
W7IEU 1344- 28- 12-B
W7DFO 1152- 24- 12-B
W7DRA 156- 13- 3-B
WA7UVJ 136- 17- 2-B
W7PSS 44- 11- 2-C
KE7C (+WB7OJV) 14,960- 170- 44-D

Wyoming

NC7O 3024- 36- 21-B
KC7KC 1456- 26- 14-B
KB7M 64- 8- 4-C

8

Michigan

N8CXX 34,776- 322- 54-C
K8MPF 22,512- 187- 42-B
KC5DV/8 14,356- 194- 37-C
K8KUH 7644- 98- 39-C
K8CV 7296- 88- 32-A
N8CSY 5580- 93- 30-C
W8WVU 5100- 47- 25-B
WB8MDG 3570- 78- 17-A
K8LJQ 2860- 46- 13-B
N8CQA 2852- 33- 23-A
KA8PLH 224- 13- 4-B
K8SIA 120- 6- 5-B
K8ZE (+W8MNL) 128,316- 758- 68-D

Ohio

K8MN 87,368- 422- 67-A
N8RA 43,974- 349- 63-C
W8FN 43,264- 208- 52-B
K8WW 34,560- 192- 45-B
W8KKF 25,960- 236- 55-C
NJ8L 23,300- 184- 50-A
NA8W 14,352- 184- 39-C
WD8BOK 13,608- 162- 42-C
KV8Q 13,440- 101- 32-B
KA8RBQ 6400- 100- 32-C
W8NPF 5400- 75- 36-C
K3JT 4554- 67- 23-A
N8EKS 4094- 56- 23-A
WA8GLF 2736- 38- 18-B
WB8VUU 2650- 53- 25-C
WA8RCN 2368- 37- 16-B
KC8YR 1840- 40- 23-C
WA2AZG 1504- 26- 16-A
AD8W 990- 33- 15-C
WD8KTM 72- 6- 6-C
W8LT (K3JT, KD8NS, NZ4K, oprs.) 74,760- 450- 60-D

West Virginia

N8APA (+N8ABW) 21,736- 209- 52-D

9

Illinois

W9VA 69,502- 424- 59-A
W9YYG 66,304- 293- 56-B
WD9DZV 48,552- 314- 51-A
WD9GYX 32,752- 203- 46-A
AG9E 25,080- 285- 44-C
NA9J 25,080- 190- 33-B
WD9EXD 23,392- 168- 43-A
N9CIW 22,776- 292- 39-C
W9QWM 19,890- 186- 39-A
AD9K 6820- 110- 31-C
KR9G 4588- 62- 37-C
N9EVW 2944- 61- 23-A
W9ZGP 2852- 62- 23-C
KA9QYA 2412- 67- 18-C
KY9F 1840- 46- 20-C
W9FSD 1296- 27- 12-B
W9REC 1292- 34- 19-C
W9HOT 1248- 34- 16-A
WB9NHV 682- 31- 11-C
KA9SLM/9 420- 14- 7-B
KB8AC 182- 12- 7-B
KC9DL (+KG9Z) 25,994- 265- 41-D
W9CA (+N9AIB) 15,820- 168- 35-D
K9EAX (+WB9BVW) 9516- 122- 39-D

Indiana

W9RE 55,754- 357- 61-A
WB9FOL 49,014- 389- 63-C
N8DE 43,554- 356- 61-A
KU9N 17,028- 198- 43-C
KBØC/9 13,300- 175- 38-C
W9NZW 4698- 81- 29-C
K9VQK 3752- 67- 28-C
KB9C 1800- 29- 15-B

Wisconsin

W9XT 86,552- 490- 62-A
W9WAQ 55,000- 250- 55-B
WA1UJU 46,644- 333- 46-A
N9CQQ 24,360- 174- 35-B
W9OP 22,896- 286- 36-A
W9GIL 17,628- 140- 39-B
KQ9L 17,100- 225- 38-C
N9AW 12,648- 146- 31-A
KW9O 12,644- 108- 29-B
N9KS 10,740- 155- 30-A
WA9TZE 9432- 82- 36-A
WB9HGS 6808- 71- 23-B
KD9ET 4464- 68- 24-A
W9HE 3400- 50- 17-B
KD9GS 1824- 40- 16-A
WØAIH/9 (WØUC, KØFVF, oprs.) 216,678-1029- 77-D
N9EJL (+KC9XF) 42,504- 427- 44-D

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Colorado

WØETT 19,092- 111- 43-B
ACØS 14,008- 103- 34-B
WØIZV 4980- 83- 30-C
KØOST 1408- 21- 16-B
KDØNR 1394- 41- 17-C
KQØT 924- 33- 14-C

Iowa

KBØPR 84,420- 670- 63-C
NEØP 43,350- 338- 51-A
WØEJ 38,700- 387- 50-C
WØIZ 38,544- 219- 44-B
KDØHY 36,822- 361- 51-C
KØVV 32,880- 274- 60-C
KØLCI 20,580- 142- 35-B
NØEFG 15,308- 178- 43-C
WØPPF 14,570- 155- 47-C
WBØCHS 9144- 127- 36-C
KØEVC 4980- 83- 30-C
KMØQ (+KAØs ONA, SBW, KJØI, NØDYP) 13,200- 147- 33-D

Kansas

KSØU 30,080- 160- 47-B
KØIEW 10,608- 136- 39-C
WØAWP 6148- 52- 29-B
NØLL 1232- 22- 14-B

Minnesota

KNØV 31,920- 190- 42-B
K6DMO 19,968- 216- 39-A
AJØN 9000- 90- 25-B
KØVW 2368- 50- 16-A
KAØQAV 960- 35- 6-B

Missouri

WØXK 146,452- 893- 82-C
K4VX 107,260- 788- 62-A
NØFQW 14,756- 238- 31-C
WØJRP 13,510- 141- 35-A
WØQBX 11,440- 143- 40-C
WØHBH 7876- 99- 22-A
KAØDHB 5400- 86- 25-A
KØFA (+WBØs OQV, SQY, KØs FA, LAF, KQØZ, NØAQC, KAØs ELU, PGL) 36,900- 410- 45-D

Nebraska

KØSCM 41,030- 333- 55-A
KVØI 30,832- 261- 41-A
KBØYK 3420- 58- 19-A
KØSW 2700- 50- 27-C
WØOLL 702- 27- 13-C

South Dakota

WBØMWJ 31,376- 296- 53-C

VE

Maritime-Newfoundland

VE1BNN 77,376- 496- 78-C
VO1AW 5562- 206- 27-A

Quebec

VE2DTI 3348- 62- 27-C
VE2QO 594- 27- 11-C

Ontario

VE3CVX 85,680- 612- 70-C
VE3CYX 48,360- 372- 65-C
VE3FWQ 46,332- 429- 54-C
VE3DZV 15,540- 110- 35-B
VE3LUG 13,992- 106- 33-B
VE2AEJ/3 11,532- 91- 31-B
VE3AXV 6592- 103- 32-C
VE3CWE 5916- 76- 29-A
VE3OMU 2720- 34- 20-B
VE3OHG 1620- 54- 15-C
VE3FEA 1404- 34- 18-A
VE3SAU (VE3s FHU, NPB, OAF, OJN, oprs.) 13,860- 154- 42-D

Saskatchewan

VE5XU 1230- 82- 15-A

Alberta

VE6CPP 740- 21- 10-A
VE6CCL 96- 7- 4-A

British Columbia

VE7DVV 288- 12- 6-B
VE7ZZZ (VE7s EPN, WWW, oprs.) 100- 10- 5-D

Checklogs

K5RF, KA2NMP, Y21DC, Y37XC, Y37OM, ZL2BDC