Results of the 2017 CQ World Wide VHF Contest

BY STEVE BOLIA,* N8BJQ

hat will the 2017 CQ World Wide VHF contest be remembered for? Certainly not stellar band conditions or a record number of entries (I wish). It will, however, be remembered as the first contest to use K1JT's FT8 software, which some believe (and some don't) will revolutionize VHF contesting.

The jury is still out on that, but it certainly made things much more interesting and generated lots of comments after the contest. I probably spent a couple more hours on the air making contacts with FT8 and MSK-144 than I normally would have. My Qs were almost evenly split between CW, SSB, and digital modes. Don't give up on the tradi-



PY2CDR and PY2LCD did a QRP multi op from Pico do Olho D'água (GG66rg).

email: n8bjq@cq-amateur-radio.com



Here's PY2CDR operating. The station consists of: FT-817ND, MOXON 6 meter antenna, DK7ZB Light 6-element 2 meter antenna, 60-watt solar panel 12 volts, 18-watt solar panel 5 volts, and 18-Ah batteries.

36 • CQ • January 2018 Visit Our Web Site

tional modes yet; CW and SSB will be around for a long time. Hopefully, the new digital modes may attract some new blood into the game.

As most of you noticed, entries are down from the record we set in 2016 — 719 vs. 905 the prior year. U.S. and other North American entries were just a few less than last year. European and Asian entries, however, were down by almost 200. Hopefully, 2018 will bring much better conditions and more activity. There were another 100 or so who made multiple Qs but didn't submit a log. Please send in a log, even if it is a check log. While I'd like all submitted logs to be computer-generated, paper logs are accepted and, as long as I can decipher your handwriting, they will be converted to Cabrillo. If you have access to a computer, there is a link on the CQWW VHF website where you can use the form that WA7BNM has created to send your paper log as Cabrillo.

Speaking of the CQWW VHF website <www.cqwwvhf.com/>, a big thanks goes to Randy, K5ZD, for bringing the site into the current century and consistent with the other CQ Contest websites. If you haven't visited it yet, please do so. You can search the results from 2000 forward. Results articles from 2005 are also available. If you are missing any certificates, those can also be downloaded.

USA

K2DRH wins, but without Bob. Bob had to be out of town for the contest and asked Wyatt, ACØRA, if he would like to operate the station. Wyatt was planning a major rover operation (maybe next year) and decided he couldn't pass up the opportunity. When it was all over, Wyatt had about 30 more Qs and a healthy 73-grid lead over 2016 winner Jeff, K1TEO. Both of their scores were up quite a bit from 2016. Bruce, KG6IYN, put in a good effort from Los Piños Mountain to finish third. You can read about Bruce's weekend in the Unofficial West Coast Report (see sidebar). There is also a link to a neat time-lapse video. John, N3HBX, finished fourth and John, K1OR, rounded out the top five.

On 6 meters, Jay, W9RM, dominated the field. Tom, WD5K, was second and Vince, KØSIX, finished third. Bill, W4GRW, turned in a great 2-meter score to take first place (and win a new plaque sponsored by Chuck, W5PR). Dick, K1HC, was second and AA2TT third. In the QRP Hilltopper category,

TOP SCORES

WORLD

All B	and	EM3U	456
EA8DBM	56,615	E7ØAA	
IT9XTP	12,870		
OK1DC	8,610	QR	P
VE3DS	8,384	UT6EY	2,924
EA1ASC	7,006	RK1AS	2,720
		UR8GZ	1,875
6 Me	ters	UY50N	1,512
XE2X	28,635	HA2MJ	
9H1AE			
VE3MMQ	13,320	Rov	er
XE2JS	13,202	VE3JAR/R	11,218
AM625VQ.	12,512	HS3NJP/R	7,040
		E27DIX/R	2,898
2 Me	ters	VA2NQ/R	2,139
S56P	23,280	4S7JL/R	660
E24QND	21,510		
OK1GTH	16,376	Multi-	-Op
SM4GGC	16,000	HA6W	45,458
UXØFF		HG1Z	
		J48KEF	14,080
Hillto	pper	9AØV	13,940
HA1ZH/P		VE3SMA	
HA2VR/P	4,420		

Hilltopp	er	9AØV	13,940
HA1ZH/P		VE3SMA	12,750
HA2VR/P			,
IZ2JNN/IN3			
	,		
	US	SA	
All Baı	nd	W9SZ	779
K2DRH	144.534	W1QK	
K1TEO	101,084	AB1YK	
KG6IYN			
N3HBX	41,132	QR	P
K10R	39,269	N4SVC	10,366
		WA2TMC	6,435
6 Mete	rs	K9AKS	5,252
W9RM	116,736	K2GMY	938
WD5K	65,037	AD7KI	900
KØSIX	43,952		
N5JR	35,464	Rov	/er
K7CW	34,410	WW7D/R	43,710
		N2SLN/R	23,712
2 Mete	rs	KK6MC/R	22,425
W4GRW	15,080	W3DHJ/R	
K1HC	3,444	AE5P/R	14,760
AA2TT	2,318		
N4QWZ	1,518	Multi	i-Op
W1XX	1,482	K5QE	180,155
		K2LIM	119,024
Hilltop		K8GP	107,484
K1ZK	3,168	W3SO	
14/47 ITS 4	4 0 40	A 1A 17 A 7	70 00 4

NN7AZ76,024

K1ZK.....3,168 WA7JTM1,848

2017 CQWW VHF TROPHY WINNERS AND DONORS

WORLD: Dr. Gene Zimmerman, W3ZZ Memorial. Won by: Aleksandr Maksimov, EA8DBM USA: Steve Bolia, N8BJQ Trophy. Won by: K2DRH operated by Wyatt Dirks, ACØRA

SINGLE OPERATOR, SINGLE BAND

World 50 MHz: Dennis Motschenbacher, K7BV Trophy. Won by: Jorge Alvarado, XE2X USA 50 MHz: Dennis Motschenbacher, K7BV Trophy. Won by: Keith Morehouse, W9RM WORLD 144 MHz: Bostjan Sever, S56P Trophy. Won by: Bostjan Sever, S56P USA 144 MHz: Chuck Dietz, W5PR Trophy. Won by: Bill Fisher, W4GRW

USA: Northern Lights Radio Society Trophy: Won by: Darryl Holman, WW7D/R

MULTI-OPERATOR

World: Dr. Gene Zimmerman, W3ZZ Memorial (Joe Devenyi, HAØLC donor). Won by: Station HA6W operated by: HA6ZFA, HA6WX, HA5OKU, HAØMK, HAØLZ, HAØMP, HAØLO, HAØLC USA: Bob Striegl, K2DRH Trophy: Won by: Station K5QE operated by: K5QE, N5NU, N1XS, N5YA, AE5VB, K5MQ, W4KXY, K7RSM

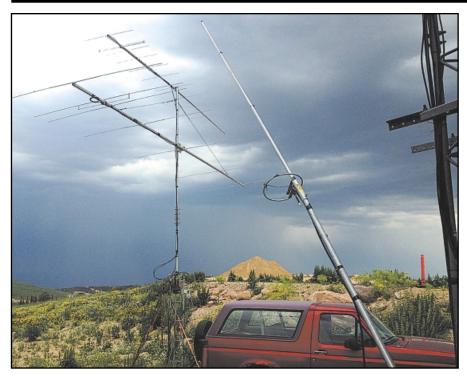
CLUB

USA: Won by: Potomac Valley Radio Club

*Denotes awarded to runner-up in category

ROVERS & GRIDS OPERATED

4S7JL/R	MJ96, MJ97, NJ07, NJ06, NJ09
ABØYM/R	DM79, DM78, DM88, DM89, DN70, DN71
AC7MD/R	
AE5P/R	EM21, EM22, EM32, EM31, EM20, EM30, EL29, EL39
	OK03, OK04
E27DIX/R	OK02, OK03, OK04, OK05, OK06
HS3NJP/R & E23JMM	OK03, OK04, OK15, OK14
K2JB/R	EM96, EM85
	EN52, EN51, EN62, EN61
K9PW/R	
KK6MC/R	
KT5TE/R	EM21, EM22, EM32, EM31, EM20, EL29, EL39
N2DCH/R	FN22, FN12, FN21, FN11
N2SLN/R & KC2SFU	FN11, FN12, FN22
N6GP/R	DM13, DM03, DM14
N6JET/R	
N9GH/R	EN61, EN51, EN60, EN50
VE3JAR/R & VE3CRU	FN04, FN13, FN14, FN03, EN93, FN02, EN92
	FN42, FN33, FN43, FN32, FN41, FN31
	DM88, DM87, DM77, DM78
	EM21, EM22, EM32, EM31, EM20, EM30, EL29, EL39
WB2SIH/R	FN33, FN32
	EM21, EM22, EM32, EM31, EM20, EM30, EL29, EL39
WW7D/R	3, CN88, CN87, CN97, CN86, CN96, CN76, CN77, CN85



Mike, K7ULS, operated from Powder Mountain (9,000-foot elevation) in DN41.

E24QND239 W9RM608 S56P K2DRH448 WD5K.....399 OK1GTH.....178 K1TEO......355 K1TEO.....164 W4GRW KØSIX328 KG6IYN K7CW.....310 KG6IYN310 K1TO.....300 SM4GGC.....100 N5JR 286 OK1DC98 NI\$\$G K10R..... N\$\$KE..... .275 K1HC.....82 EA8DBM.....271 UXØFF80 NR7T.....270 N3HBX65 ..270 PY2NF......64 WA5DM254 6-Meter Grids 2-Meter Grids W9RM192 SM4GGC.....80 K2DRH169 UXØFF66 WD5K163 S56P.....60 W4GRW52 EA8DBM.....140 K2DRH52 OK1GTH.....46 E24QND.....45 N5JR124 UR3EE45 9H1AE121 K1OR.....43 NØKE116 XE2X115 WB2FKO115 K1TEO.....42 R6CS.....40 RD3FD39 KO9A.....113 RK1AS..... K7CW111 K1TO.....111 OK1DC R3CT..... NR7T.....111

QSO & GRID LEADERS

2-Meter QSOs

6-Meter QSOs

Zach, K1ZK, operated from the top of Mount Equinox in Vermont to take first, with Pete, WA7JTM, operating from W7A/MN-147 (Summits on the Air designator for Hedgepeth Hills, Minnesota) in second and Zack, W9SZ, third. N4SVC (operated by Steve, N2CEI) is the QRP champion with Bruce, WA2TMC, second and Curt, K9AKS, finishing third.

K5QE and teammates N5NU, N1XS, N5YA, AE5VB, K5MQ, W4KXY and K7RSM are the U.S. Multi-Op champions. They survived a failure of their rotatable 2-meter antenna and losing the 6-meter station for a couple of hours. The crew at K2LIM (ops: KA2LIM, W9KXI, and KB2YCC) were second, followed by K8GP (ops: W8ZN and K1RA), W3SO (ops: W3IDT, WA3TTS, W3BTX, W3XOX, W3BC, and W3YOZ) and NN7AZ (Ops: AA7A, KC1BB, KC7V, and WO7R).

WW7D tops the USA rovers with a fine 43,000 score. You can read about Darryl's rove at http://bit.ly/2zBgEAq. N2SLN

with KC2SFU finished second, KK6MC was third with Jonesy, W3DHJ, in fourth, which is his best finish since 2006; and Army, AE5P, finishing fifth. There were a total of 20 rovers active this year. I'd like to thank all those who provide many Qs and multipliers from grids that may not normally be active.

In the Club category, the Potomac Valley Radio Club submitted 33 entries to finish first with 378,734 points and win the first USA Club champion plaque. The North East Weak Signal Group was second with 235,883 points (10 entries) followed by the Society of Midwest Contesters with 228,523 points (20 entries) and the New Mexico VHF Society with 228,037 points (14 entries).

DX

Aleksandr, EA8DBM, remains at the top of the DX Single-Operator, All-Band category with 56,615 points. Salvatore,

CLUB COMPETITION

(Minimum of 3 entries required for listing)

UNITED STATES		
Club Name	# Entries	Score
POTOMAC VALLEY RADIO CLUB		
NORTH EAST WEAK SIGNAL GROUP	10	235,883
SOCIETY OF MIDWEST CONTESTERS		
NEW MEXICO VHF SOCIETY	14	228,037
PACIFIC NORTHWEST VHF SOCIETY		
ARIZONA OUTLAWS CONTEST CLUB	18	134,651
GRAND MESA CONTESTERS OF COLORADO	9	114,770
FRANKFORD RADIO CLUB		
DFW CONTEST GROUP	5	58,564
NORTHERN LIGHTS RADIO SOCIETY	7	51,827
NACOGDOCHES AMATEUR RADIO CLUB		
FLORIDA CONTEST GROUP	11	49,558
MT AIRY VHF RADIO CLUB	6	28,870
GEORGIA CONTEST GROUP	3	26,396
SOUTH EAST CONTEST CLUB	4	21,952
CAROLINA DX ASSOCIATION	7	19,966
BADGER CONTESTERS	4	16,093
SOUTHERN CALIFORNIA CONTEST CLUB		

ROCHESTER VHF GROUP	4.	12,319
YANKEE CLIPPER CONTEST CLUB	8	9,489
NORTHERN CALIFORNIA CONTEST CLUB	7.	7,676
WESTERN WASHINGTON DX CLUB	3.	5,828
PORTAGE COUNTY AMATEUR RADIO SERVICE	4.	4,633
NORTH COAST CONTESTERS	3.	1,979
CTRI CONTEST GROUP	3.	1,827
DX		
CONTEST CLUB ONTARIO	11.	53,935
HA-DX-CLUB	3.	17,357
UKRAINIAN CONTEST CLUB	5 .	14,743
EA CONTEST CLUB	4.	10,809
CROATIAN CONTEST CLUB	3.	8,166
CDR GROUP		
BLACK SEA CONTEST CLUB	3.	2,463
YO DX CLUB	3.	1,112
ASOCIACION DE RADIOEXPERIMENTADORES-		
DE NUEVO LEON AC (Mexico)	3.	1,106
CSM CRAIOVA (Romania)	3.	402

38 • CQ • January 2018 Visit Our Web Site

IT9XTP, was second with 12,800 points; followed by Dusan, OK1DC, with 8,600 points; Dana, VE3DS, with 8,300 points; and Anibal, EA1ASC, with 7,000 points. Jorge, XE2X, is number one on 6 meters, with Savvas, 9H1AE, in second; William, VE3MMQ, third; Emilio, XE2JS, fourth; and Gabriel, AM625VQ, operated by EA6VA, in fifth.

Bostjan, S56P, is the 2-meter champion. Nanon, E24QND, is a close second; followed by Tomas, OK1GTH; Stig-Ake, SM4GGC; and Nikolaym, UXØFF. Zoltan, HA1ZH/P, tops the Hilltopper category followed by Gyula, HA2VR/P; Stefano, IZ2JNN/IN3; Valeriy, EM3U; and Zoran, E7ØAA. UT6EY edged RK1AS for the top spot in the QRP category followed closely by UR8GZ, UY5ON and HA2MJ.

HA6W (ops: HA6ZFA, HA6WX, HA5OKU, HAØMK, HAØLZ, HAØMP, HAØLO, HAØLC) repeats as the Multi-op champion, followed by HG1Z (ops: HG1ZE, HA1XY, HG1DRD, HA2QW, HA1CC, HA2MM, HAØXX, Torma, Judit, and Nora), J48KEF (SVØFM and SV8CKJ), 9AØV (9A2YO, 9A2KK, 9A6IAB, 9A7JRV, and 9A6IAB), and VE3SMA (VA3ELE and VE3AXC).

VE3JAR/R with VE3CRU is the Rover champion (you can read about therove in the random comments or on 3830.com). HS3NJP/R came in second followed by E27DIX/R, VA2NQ/R and 4S7JL/R.

N3HBX K3Z0

K3MD

The Contest Club Ontario with 11 entries has the top non-U.S. club score with 53,935 points. The HA-DX-Club is second with 17,357 points (3 entries) and the Ukrainian Contest Club came in third with 14,743 points (5 entries).

The Rest of the Story

17,184 6,741 6,696

179 107

108 **89** 80

K4PI K1HTV

K4BAI

NAM I

WØPV

The 2018 CQWW VHF Contest will be run on July 21st and 22nd. Mark your calendar. Who knows? By then, there could be more new modes to use. You will find the rules in the 2018 May issue of *CQ* and on the CQWW VHF website <www.cqww-vhf.com>.

If you operate, please send in a log. Any size log is appreciated. If you need help, please ask. More logs make crosschecking logs more accurate.

Thanks to JK, K9JK, and Curt, K9AKS, for their assistance. They are quite good at finding things I screwed up. Also thanks to Champ, E21EIC, who collects all of the logs from Thailand, puts them in the right format, and gets them submitted between his travels.

Don't forget to check out the CQWW VHF website <www.cqww-vhf.com>. Comments, suggestions and corrections are always welcome. Quite a bit of the data was entered manually. If you find an error, please let me know.

WN2E WA2VYA NN5T

KG5IEE K5LH

N7NFV

EM50 EM10 EM12

FM12

52 MS 40 TX 42 TX 38 TX 37 TX

2.646

2.052

EM73 FM18 EM72

FM56

EL87

GA VA GA TN

Number/letter groups after call letters denote the follow-
ing: Class (A = all band, 6 = 6 meters, 2 = 2 meters, Q =
QRP, $Q^* = QRP$ portable hilltopper, $R = rover$. $M = multi-$
operator), Final Score, Number of QSOs, Number of grid
locators, State/Province (USA/Canada only), Grid Locator
or Number of grids activated (rover only). Rover scores for
USA are listed separately. Scores in bold indicate certifi-
cate winners. Score in italic are disqualified.

or Number	of gr	ids activat	ed (rove	er only).	Rover s	cores for	K3DNE	Α	6,264	101	54	MD	FM19	KU8E	6	3,978	78	51	GA	EM72	K5XU	6	1,813	49	37	MS	EM42
USA are lis	ted s	separately	. Scores	s in bold	l indicat	e certifi-	K3ZU	Α	6,136	112	52	MD	FM19	KM4HI	6	3,600	80	45	FL	EL89	NW5Q	6	1,364	44	31	TX	EM13
cate winner	s. S	core in ita	lic are d	lisqualif	ied.		WA2FGK	Α	4,860	76	45	PA	FN21	NJ2F	6	2,560	64	40	FL	EL96	WB5JJJ	6	1,287	39	33	AR	EM35
							Op: K2LNS							N4PN	6	2,516	68	37	GA	EM82	KE5TC	6	864	32	27	OK	EM25
							N3ALN	Α	4,704	100	42	MD	FM19	KN4Y	6	2,106	54	39	FL	EM70	KD5J	6	806	31	26	AR	EM45
	- 2	2017 VI	1F RE	SULT	S		K3ISH	Α	3.612	81	43	PA	FN21	WX4US	6	1,950	50	39	FL	EM60	WB7PVL	6	616	28	22	TX	EM13
		NORTH	1 AME	RICA			N3XF	Α	2,312	51	34	PA	FN00	N4MM	6	1,885	65	29	VA	DM09	NM5WB	6	546	26	21	NM	DM64
			ED STA				KC3FQF	Α	1,518	50	22	PA	FM29	N4DKF	6	1,872	52	36	NC	EM96	AA5AU	6	374	22	17	LA	EL49
K1TEO	Α		519	148	CT	FN31	KR1ST	A	1,248	37	24	PA	FN21	N4GG	6	1,848	56	33	GA	EM74	W5ZF	6	340	20	17	NM	DM65
K10R	Ä	39.269	276	107	NH	FN42	K3UA	A	1.131	39	29	PA	EN90	N4WW	6	1,248	48	26	FL	EL98	KA5EBL	6	288	18	16	NM	DM84
WA1T	Ä	24.920	241	89	NH	FN43	K3AJ	Ä	816	32	17	MD	FM19	AD8J	6	1,075	43	25	NC	EM85	KC5RGQ	6	9	3	3	NM	DM72
N1JEZ	Â	19,572	180	84	VT	FN44	AA3S	Â	799	40	17	MD	FM19	AC4G	6	696	29	24	TN	EM65	AD7KI	n	900	36	25	OK	EM16
AF1T	A	7.476	119	42	NH	FN43	W3LL	A	735	39	15	MD	FM19	W6UB	6	520	26	20	TN	EM75	WE5EE	0	210	15	14	LA	EL49
					ME	FN43				29		MD	FM19		6	520 504			SC	FM03		_	182				EL29
N1JD	A	4,173	84	39	CT		K3SX	A	576		18	PA		K2SX	6		28 26	18			WA5BUC	Q 0	102	14	13 1	TX	
K1ZE	Α	3,402	81 56	42 40	MA	FN31	NG3W	Α	325 276	13	13 12		FN01	K8EAB		494	26	19 17	GA FL	EM74	WA5MWD K5QE		180.155	585		TX	EM12 EM31
W1BS	A	2,800				FN32	4U1WB	Α		23		MD	FM18	N4BP	6	408				EL96	Koue	IVI	180,100	585	263	TX	EIVI3 I
N1API	Α	1,736	52	28	CT	FN31	WA3PTV	Α	250	21	10	PA	FM19	NC4M	6	357	21	17	GA	EM74	waann.						
K1GX	Α	900	29	20	CT	FN31	N3MWQ	A	171	14	9	DE	FM29	WV4V	6	315	21	15	FL	EL88	KG6IYN	A	62,640	416	120	CA	DM12
N1YKH	Α	616	31	14	CT	FN41		Α	117	10	9	PA	FN10	AI4WL	6	195	15	13	NC	FM15	K6EU	Α	4,182	78	51	CA	CM97
KA1VMG	Α	273	20	13	CT	FN41	AF3I	Α	70	7	7	PA	FN10	KM4NYI	6	154	14	11	TN	EM85	WB6HYH	Α	3,293	74	37	CA	DM14
W1HBR	Α	180	18	10	CT	FN31	N8HM	Α	9	3	3	MD	FM18	KK4AND	6	96	12	8	FL	EL87	W6ZAR	Α	2,046	65	31	CA	DM13
W3EP	6	25,824	258	96	CT	FN31	K2PLF	6	18,676	203	92	MD	FM19	K4YYL	6	54	9	6	SC	EM84	WA6ZTY	Α	1,638	61	21	CA	CM98
K1TR	6	4,368	104	42	NH	FN32	N3RD	6	10,152	141	72	PA	FN20	WK4Y	6	49	7	7	VA	FM17	N4DLA	Α	902	35	22	CA	CM87
N8RA	6	1,344	42	32	CT	FN31	K3UL	6	2,856	68	42	PA	FN11	K4BSK	6	42	7	6	NC	EM95	K6VCR	Α	792	32	24	CA	DM12
W1FV	6	1,242	54	23	MA	FN42	WA3FET	6	210	15	14	PA	FN00	K4AFE	6	25	5	5	TN	EM55	NØKQ	Α	204	15	12	CA	CM88
N1WRK	6	352	22	16	MA	FN41	K6PFA	6	207	23	9	MD	FM19	N4HWH	6	20	5	4	NC	FM13	NGQQ	6	3,285	73	45	CA	DM03
AG1A	6	187	17	11	MA	FN42	K3HX	6	154	14	11	PA	FN00	KM4IAJ	6	14	7	2	VA	FM18	W6BVB	6	1,176	42	28	CA	DM13
W1BJ	6	84	12	7	ME	FN43	N3DUE	6	52	13	4	MD	FM19	N8AID	6	4	2	2	VA	FM07	K6XV	6	1,007	53	19	CA	CM97
W1WBB	6	72	9	8	RI	FN41	N3QE	6	14	7	2	MD	FM19	N4SVC	Q	10,366	133	73	FL	EM80	K6NA	6	630	30	21	CA	DM13
KA1R	6	40	10	4	MA	FN42	N3AFT	6	6	3	2	MD	FM19						(p: N2CEI	K6KY	6	621	27	23	CA	DM04
K1HC	2	3,444	82	21	ME	FN53	W3S0	M	85,760	387	160	PA	FN00	K3TW	Ω	204	17	12	FL	EL88	N6ORB	6	496	31	16	CA	CM87
		1.482	39				K3CCR	М	6.832	108		MD	FM18	KC8KSK	0	6	2	2	SC	FM03	K6CSI			9	8	CA	CM97
W1XX	2	1,482 3 168	39 64	19	RI	FN41	K3CCR W3RFC	M	6,832 5 198	108 93	56	MD MD	FM18 FM19	KC8KSK W4GRW			2 145	2 52	SC NC	FM03 FM96	K6CSL W6IFN	6	72	9		CA	CM97 CM97
W1XX K1ZK	2 H	3,168	64	19 32	RI VT	FN41 FN33	W3RFC	M	5,198	93	56 46	MD	FM19	W4GRW	2	15,080	145	52	NC	EM96	W6IFN	6	72 54	9	6	CA	CM97
W1XX K1ZK W1QK	2 H H	3,168 420	64 30	19 32 14	RI VT CT	FN41 FN33 FN31					56			W4GRW N4QWZ	2	15,080 1,518	145 33	52 23	NC TN	EM96 EM66	W6IFN K6MCS	6 6 6	72 54 40	9	6 5	CA	CM97 CM98
W1XX K1ZK W1QK AB1YK	2 H H	3,168 420 416	64 30 25	19 32 14 13	RI VT CT NH	FN41 FN33 FN31 FN32	W3RFC WA3EKL	M	5,198 144	93 16	56 46 9	MD MD	FM19 FM19	W4GRW	2	15,080	145	52	NC	EM96	W6IFN K6MCS KK6NWJ	6 6 6	72 54 40 1	9 8 1	6 5 1	CA CA CA	CM97 CM98 DM12
W1XX K1ZK W1QK AB1YK NG1R	2 H H H	3,168 420 416 306	64 30 25 17	19 32 14 13 9	RI VT CT NH CT	FN41 FN33 FN31 FN32 FN31	W3RFC WA3EKL W3IP	M M	5,198 144 18,387	93 16 184	56 46 9	MD MD	FM19 FM19 FM19	W4GRW N4QWZ K8GP	2 2 M	15,080 1,518 107,484	145 33 460	52 23 169	NC TN VA	EM96 EM66 FM19	W6IFN K6MCS KK6NWJ KD7WPJ	6 6 6 H	72 54 40 1 60	9 8 1 7	6 5 1 5	CA CA CA CA	CM97 CM98 DM12 DM07
W1XX K1ZK W1QK AB1YK NG1R N1PRW	2 H H H	3,168 420 416 306 52	64 30 25 17 9	19 32 14 13 9	RI VT CT NH CT MA	FN41 FN33 FN31 FN32 FN31 FN42	W3RFC WA3EKL W3IP KC4PX	M M A	5,198 144 18,387 15,648	93 16 184 158	56 46 9 81 96	MD MD VA FL	FM19 FM19 FM19 EL98	W4GRW N4QWZ K8GP WB2FKO	2 2 M	15,080 1,518 107,484 32,240	145 33 460 245	52 23 169 124	NC TN VA NM	EM96 EM66 FM19	W6IFN K6MCS KK6NWJ KD7WPJ KB9FKO	6 6 6 H H	72 54 40 1 60 24	9 8 1 7 7	6 5 1 5 3	CA CA CA CA	CM97 CM98 DM12 DM07 DM13
W1XX K1ZK W1QK AB1YK NG1R N1PRW K1SX	2 H H H H Q	3,168 420 416 306 52 180	64 30 25 17 9	19 32 14 13 9 4	RI VT CT NH CT MA MA	FN41 FN33 FN31 FN32 FN31 FN42 FN42	W3RFC WA3EKL W3IP KC4PX K4EA	M M A A	5,198 144 18,387 15,648 15,051	93 16 184 158 162	56 46 9 81 96 87	MD MD VA FL GA	FM19 FM19 FM19 EL98 EM74	W4GRW N4QWZ K8GP WB2FKO W7QQ	2 2 M	15,080 1,518 107,484 32,240 17,298	145 33 460 245 163	52 23 169 124 93	NC TN VA NM NM	EM96 EM66 FM19 DM65 DM75	W6IFN K6MCS KK6NWJ KD7WPJ KB9FKO K2GMY	6 6 6 H H	72 54 40 1 60 24 938	9 8 1 7 7 47	6 5 1 5 3	CA CA CA CA CA	CM97 CM98 DM12 DM07 DM13 CM88
W1XX K1ZK W1QK AB1YK NG1R N1PRW	2 H H H	3,168 420 416 306 52	64 30 25 17 9	19 32 14 13 9	RI VT CT NH CT MA	FN41 FN33 FN31 FN32 FN31 FN42	W3RFC WA3EKL W3IP KC4PX K4EA KC4NX	M A A A	5,198 144 18,387 15,648 15,051 13,188	93 16 184 158 162 151	56 46 9 81 96 87 84	MD MD VA FL GA TN	FM19 FM19 FM19 EL98 EM74 EM75	W4GRW N4QWZ K8GP WB2FKO W7QQ Al5I	2 2 M A A A	15,080 1,518 107,484 32,240 17,298 12,816	145 33 460 245 163 143	52 23 169 124 93 89	NC TN VA NM NM	EM96 EM66 FM19 DM65 DM75 DM65	W6IFN K6MCS KK6NWJ KD7WPJ KB9FKO K2GMY WB2TVB	6 6 6 H H Q Q	72 54 40 1 60 24 938 28	9 8 1 7 7 47 7	6 5 1 5 3 14 4	CA CA CA CA CA CA	CM97 CM98 DM12 DM07 DM13 CM88 DM04
W1XX K1ZK W1QK AB1YK NG1R N1PRW K1SX N1SOH	2 H H H Q M	3,168 420 416 306 52 180 1,188	64 30 25 17 9 15 54	19 32 14 13 9 4 12 22	RI VT CT NH CT MA MA	FN41 FN33 FN31 FN32 FN31 FN42 FN41 FN42	W3RFC WA3EKL W3IP KC4PX K4EA KC4NX K9IL	M A A A A	5,198 144 18,387 15,648 15,051 13,188 8,066	93 16 184 158 162 151 109	56 46 9 81 96 87 84 74	MD MD VA FL GA TN	FM19 FM19 FM19 EL98 EM74 EM75 EM56	W4GRW N4QWZ K8GP WB2FKO W7QQ A151 WA8ZBT	2 2 M A A A	15,080 1,518 107,484 32,240 17,298 12,816 11,200	145 33 460 245 163 143 139	52 23 169 124 93 89 80	NC TN VA NM NM NM NM	EM96 EM66 FM19 DM65 DM75 DM65 EM12	W6IFN K6MCS KK6NWJ KD7WPJ KB9FKO K2GMY	6 6 6 H H	72 54 40 1 60 24 938	9 8 1 7 7 47	6 5 1 5 3	CA CA CA CA CA	CM97 CM98 DM12 DM07 DM13 CM88
W1XX K1ZK W1QK AB1YK NG1R N1PRW K1SX N1SOH	2 H H H Q M	3,168 420 416 306 52 180 1,188	64 30 25 17 9 15 54	19 32 14 13 9 4 12 22	RI VT CT NH CT MA MA	FN41 FN33 FN31 FN32 FN31 FN42 FN41 FN42 FN430	W3RFC WA3EKL W3IP KC4PX K4EA KC4NX K9IL WB4WXE	M A A A A	5,198 144 18,387 15,648 15,051 13,188 8,066 7,744	93 16 184 158 162 151 109 109	56 46 9 81 96 87 84 74 64	MD MD VA FL GA TN TN AL	FM19 FM19 FM19 EL98 EM74 EM75 EM56 EM74	W4GRW N4QWZ K8GP WB2FKO W7QQ A151 WA8ZBT WA5LFD	2 2 M A A A A	15,080 1,518 107,484 32,240 17,298 12,816 11,200 5,355	145 33 460 245 163 143 139 89	52 23 169 124 93 89 80 51	NC TN VA NM NM NM NM TX TX	EM96 EM66 FM19 DM65 DM75 DM65 EM12 EM12	W6IFN K6MCS KK6NWJ KD7WPJ KB9FKO K2GMY WB2TVB N6RPM	6 6 6 6 H Q Q	72 54 40 1 60 24 938 28 966	9 8 1 7 7 47 7 35	6 5 1 5 3 14 4 23	CA CA CA CA CA CA	CM97 CM98 DM12 DM07 DM13 CM88 DM04 DM04
W1XX K1ZK W1QK AB1YK NG1R N1PRW K1SX N1SOH N2SLO WB2JAY	2 H H H Q M	3,168 420 416 306 52 180 1,188 7,700 7,140	64 30 25 17 9 15 54	19 32 14 13 9 4 12 22	RI VT CT NH CT MA MA MA	FN41 FN33 FN31 FN32 FN31 FN42 FN41 FN42 FN430 FN30	W3RFC WA3EKL W3IP KC4PX K4EA KC4NX K9IL WB4WXE WA4GPM	M A A A A A	5,198 144 18,387 15,648 15,051 13,188 8,066 7,744 5,000	93 16 184 158 162 151 109 109 90	56 46 9 81 96 87 84 74 64 50	MD MD VA FL GA TN TN AL FL	FM19 FM19 FM19 EL98 EM74 EM75 EM56 EM74 EM90	W4GRW N4QWZ K8GP WB2FKO W7QQ A151 WA8ZBT WA5LFD N5EPA	2 2 M A A A A A	15,080 1,518 107,484 32,240 17,298 12,816 11,200 5,355 5,049	145 33 460 245 163 143 139 89 87	52 23 169 124 93 89 80 51 51	NC TN VA NM NM NM TX TX NM	EM96 EM66 FM19 DM65 DM75 DM65 EM12 EM12 DM64	W6IFN K6MCS KK6NWJ KD7WPJ KB9FKO K2GMY WB2TVB N6RPM	6 6 6 6 H Q Q M	72 54 40 1 60 24 938 28 966	9 8 1 7 7 47 7 35	6 5 1 5 3 14 4 23	CA CA CA CA CA CA CA WA	CM97 CM98 DM12 DM07 DM13 CM88 DM04 DM04
W1XX K1ZK W1QK AB1YK NG1R N1PRW K1SX N1SOH N2SLO WB2JAY N3RG	2 H H H Q M	3,168 420 416 306 52 180 1,188 7,700 7,140 6,916	64 30 25 17 9 15 54 116 118 98	19 32 14 13 9 4 12 22 44 42 52	RI VT CT NH CT MA MA MA NY NY	FN41 FN33 FN31 FN32 FN31 FN42 FN41 FN42 FN30 FN30 FM29	W3RFC WA3EKL W3IP KC4PX K4EA KC4NX K9IL WB4WXE WA4GPM NG4C	M A A A A A A	5,198 144 18,387 15,648 15,051 13,188 8,066 7,744 5,000 4,680	93 16 184 158 162 151 109 109 90 74	56 46 9 81 96 87 84 74 64 50 52	MD MD VA FL GA TN TN AL FL NC	FM19 FM19 FM19 EL98 EM74 EM75 EM56 EM74 EM90 FM16	W4GRW N4QWZ K8GP WB2FKO W7QQ A151 WA8ZBT WA8ZBT WA5LFD N5EPA K5AM	2 2 M A A A A A A	15,080 1,518 107,484 32,240 17,298 12,816 11,200 5,355 5,049 4,717	145 33 460 245 163 143 139 89 87 87	52 23 169 124 93 89 80 51 51 53	NC TN VA NM NM NM TX TX NM NM	EM96 EM66 FM19 DM65 DM75 DM65 EM12 EM12 DM64 DM64	W6IFN K6MCS KK6NWJ KD7WPJ KB9FKO K2GMY WB2TVB N6RPM W7FI N7IR	6 6 6 H Q Q M	72 54 40 1 60 24 938 28 966 18,954 14,664	9 8 1 7 7 47 7 35 200 171	6 5 1 5 3 14 4 23	CA CA CA CA CA CA CA CA CA	CM97 CM98 DM12 DM07 DM13 CM88 DM04 DM04 CN87 DM43
W1XX K1ZK W1QK AB1YK NG1R N1PRW K1SX N1SOH N2SLO WB2JAY N3RG WA2VNV	2 H H H H Q M	3,168 420 416 306 52 180 1,188 7,700 7,140 6,916 6,174	64 30 25 17 9 15 54 116 118 98 101	19 32 14 13 9 4 12 22 44 42 52 42	RI VT CT NH CT MA MA MA NY NY NY	FN41 FN33 FN31 FN32 FN31 FN42 FN41 FN42 FN30 FN30 FM29 FN30	W3RFC WA3EKL W3IP KC4PX K4EA KC4NX K9IL WB4WXE WA4WXE WA4GPM NG4C WX4G	M A A A A A A A A	5,198 144 18,387 15,648 15,051 13,188 8,066 7,744 5,000 4,680 4,320	93 16 184 158 162 151 109 109 90 74 96	56 46 9 81 96 87 84 74 64 50 52 45	MD VA FL GA TN TN AL FL NC FL	FM19 FM19 EL98 EM74 EM75 EM56 EM74 EM90 FM16 EL87	W4GRW N4QWZ K8GP WB2FKO W7QQ AI5I WA8ZBT WA5LFD N5EPA K5AM KB7IJ	2 2 M A A A A A A A A A A	15,080 1,518 107,484 32,240 17,298 12,816 11,200 5,355 5,049 4,717 3,450	145 33 460 245 163 143 139 89 87 87 61	52 23 169 124 93 89 80 51 51 53 50	NC TN VA NM NM NM TX TX NM NM NM	EM96 EM66 FM19 DM65 DM75 DM65 EM12 EM12 DM64 DM62 EM12	W6IFN K6MCS KK6NWJ KD7WPJ KB9FKO K2GMY WB2TVB N6RPM W7FI N7IR K7ULS	6 6 6 6 H Q Q M	72 54 40 1 60 24 938 28 966 18,954 14,664 11,484	9 8 1 7 7 47 7 35 200 171 130	5 1 5 3 14 4 23 81 78 87	CA CA CA CA CA CA CA CA UT	CM97 CM98 DM12 DM07 DM13 CM88 DM04 DM04 CN87 DM43 DN41
W1XX K1ZK W1QK AB1YK NG1R N1PRW K1SX N1SOH N2SLO WB2JAY N3RG WA2VNV K2QO	2 H H H H Q M A A A A A	3,168 420 416 306 52 180 1,188 7,700 7,140 6,916 6,174 3,239	64 30 25 17 9 15 54 116 118 98 101 71	19 32 14 13 9 4 12 22 44 42 52 42 41	RI VT CT NH CT MA MA MA NY NY NY NY	FN41 FN33 FN31 FN32 FN31 FN42 FN41 FN42 FN30 FN30 FM29 FN30 FN30 FN30 FN30	W3RFC WA3EKL W3IP KC4PX K4EA KC4NX K9IL WB4WXE WA4GPM NG4C WX4G K4ZW	M A A A A A A A A	5,198 144 18,387 15,648 15,051 13,188 8,066 7,744 5,000 4,680 4,320 3,984	93 16 184 158 162 151 109 109 90 74 96 83	56 46 9 81 96 87 84 74 64 50 52 45 48	MD VA FL GA TN TN AL FL NC FL VA	FM19 FM19 EL98 EM74 EM75 EM76 EM74 EM90 FM16 EL87 FM18	W4GRW N4QWZ K8GP WB2FKO W7QQ AI5I WA8ZBT WA5LFD N5EPA K5AM KB7IJ KC7QY	2 2 M A A A A A A A A A A A	15,080 1,518 107,484 32,240 17,298 12,816 11,200 5,355 5,049 4,717 3,450 3,010	145 33 460 245 163 143 139 89 87 61 62	52 23 169 124 93 89 80 51 51 53 50 43	NC TN VA NM NM NM TX TX NM NM TX NM	EM96 EM66 FM19 DM65 DM75 DM65 EM12 EM12 DM64 DM62 EM12 DM64	W6IFN K6MCS KK6NWJ KD7WPJ KB9FKO K2GMY WB2TVB N6RPM W7FI N7IR K7ULS KE7SW	6 6 6 6 H H Q Q M	72 54 40 1 60 24 938 28 966 18,954 14,664 11,484 9,212	9 8 1 7 7 47 7 35 200 171 130 147	6 5 1 5 3 14 4 23 81 78 87 49	CA CA CA CA CA CA CA CA UT WA	CM97 CM98 DM12 DM07 DM13 CM88 DM04 DM04 CN87 DM43 DN41 CN87
W1XX K12K W1QK AB1YK NG1R N1PRW K1SX N1SOH N2SLO WB2JAY N3RG WA2VNV K2QO N2WK	2 H H H H H Q M A A A A A A	3,168 420 416 306 52 180 1,188 7,700 7,140 6,916 6,174 3,239 2,730	64 30 25 17 9 15 54 116 118 98 101 71 62	19 32 14 13 9 4 12 22 44 42 52 42 41 39	RI VT CT NH CT MA MA MA NY NY NY NY NY	FN41 FN33 FN31 FN32 FN31 FN42 FN41 FN42 FN30 FN30 FM29 FN30 FN30 FN03 FN03 FN03	W3RFC WA3EKL W3IP KC4PX K4EA KC4NX K9IL WB4WXE WA4GPM NG4C WX4G K4ZW KK4MA	M A A A A A A A A A A A	5,198 144 18,387 15,648 15,051 13,188 8,066 7,744 5,000 4,320 3,984 2,856	93 16 184 158 162 151 109 109 90 74 96 83 66	56 46 9 81 96 87 84 74 64 50 52 45 48 42	MD MD VA FL GA TN TN AL FL NC FL VA SC	FM19 FM19 EL98 EM74 EM75 EM56 EM74 EM90 FM16 EL87 FM18 EM92	W4GRW N4QWZ K8GP WB2FKO W7QQ AI5I WA8ZBT WA5LFD N5EPA K5AM K87IJ KC7QY AJ4F	2 2 M A A A A A A A A A A A A A A A A A	15,080 1,518 107,484 32,240 17,298 12,816 11,200 5,355 5,049 4,717 3,450 3,010 2,622	145 33 460 245 163 143 139 89 87 61 62 69	52 23 169 124 93 89 80 51 51 53 50 43 38	NC TN VA NM NM TX TX NM NM TX NM NM TX NM	EM96 EM66 FM19 DM65 DM75 DM65 EM12 EM12 DM64 DM62 EM12 DM64 DM64 EL29	W6IFN K6MCS KK6NWJ KD7WPJ KB9FKO K2GMY WB2TVB N6RPM W7FI N7IR K7ULS KE7SW WZ8T	6 6 6 H H Q Q M A A A A	72 54 40 1 60 24 938 28 966 18,954 11,484 11,484 9,212 8,016	9 8 1 7 7 47 7 35 200 171 130 147 132	6 5 1 5 3 14 4 23 81 78 87 49 48	CA CA CA CA CA CA CA CA WA AZ UT WA WA	CM97 CM98 DM12 DM07 DM13 CM88 DM04 DM04 CN87 DM43 DN41 CN87 CN85
W1XX K1ZK W1QK AB1YK NG1R N1PRW K1SX N1SOH N2SLO WB2JAY N3RG WA2VNV K2QO N2WK W2SJ	2 H H H H Q M A A A A A A A A A A A A A A A A A A	3,168 420 416 306 52 180 1,188 7,700 7,140 6,916 6,174 3,239 2,730 2,624	64 30 25 17 9 15 54 116 118 98 101 71 62 63	19 32 14 13 9 4 12 22 44 42 52 42 41 39 32	RI VT CT NH CT MA MA MA NY NY NY NY NY NY NY NY	FN41 FN33 FN31 FN32 FN31 FN42 FN41 FN42 FN30 FN30 FN30 FN30 FN30 FN30 FN30 FN30	W3RFC WA3EKL W3IP KC4PX K4EA KC4NX K9IL WB4WXE WA4GPM NG4C WX4G K4ZW KK4MA WA4LDU	M	5,198 144 18,387 15,648 15,051 13,188 8,066 7,744 5,000 4,680 4,320 3,984 2,856 1,944	93 16 184 158 162 151 109 109 90 74 96 83 66 52	56 46 9 81 96 87 84 74 64 50 52 45 48 42 36	MD MD VA FL GA TN TN AL FL NC FL VA SC SC	FM19 FM19 EL98 EM74 EM75 EM56 EM74 EM90 FM16 EL87 FM18 EM92 EM93	W4GRW N4QWZ K8GP WB2FKO W7QQ AISI WA8ZBT WA5LFD N5EPA K5AM KB7IJ KC7QY AJ4F K5LY	2 2 M A A A A A A A A A A A A A A A A A	15,080 1,518 107,484 32,240 17,298 12,816 11,200 5,355 5,049 4,717 3,450 3,010 2,622 1,581	145 33 460 245 163 143 139 89 87 87 61 62 69 51	52 23 169 124 93 89 80 51 51 53 50 43 38 31	NC TN VA NM NM TX TX NM NM TX NM TX NM TX NM TX	EM96 EM66 FM19 DM65 DM75 DM65 EM12 EM12 DM64 DM62 EM12 DM64 EL29 EM13	W6IFN K6MCS KK6NWJ KD7WPJ KB9FKO K2GMY W6ZTVB N6RPM W7FI N7IR K7ULS KE7SW WZ8T N7EPD	6 6 6 H H Q Q M A A A A A A	72 54 40 1 60 24 938 28 966 18,954 14,664 11,484 9,212 8,016 7,832	9 8 1 7 7 47 7 35 200 171 130 147 132 137	6 5 1 5 3 14 4 23 81 78 87 49 48 44	CA CA CA CA CA CA CA CA WA WA WA	CM97 CM98 DM12 DM07 DM13 CM88 DM04 DM04 CN87 DM41 CN87 CN85 CN87
W1XX K1ZK W1QK AB1YK NG1R N1PRW K1SX N1SOH N2SLO WB2JAY N3RG WA2VNV K2QO N2WK W2SJ N2BEG	2 H H H H H Q M A A A A A A A A A A A A A A A A A A	3,168 420 416 306 52 180 1,188 7,700 7,140 6,916 6,174 3,239 2,730 2,624 2,304	64 30 25 17 9 15 54 116 118 98 101 71 62 63 52	19 32 14 13 9 4 12 22 44 42 52 42 41 39 32 36	RI VT CT NH CT MA MA MA NY NY NY NY NY NY NY NY NY NY	FN41 FN33 FN31 FN32 FN31 FN42 FN42 FN42 FN30 FN30 FN30 FN30 FN03 FN03 FN03 FN03	W3RFC WA3EKL W3IP KC4PX K4EA KC4NX K9IL WBAWXE WA4GPM NG4C WX4G K4ZW KK4MA WA4LDU W8KHP	M	5,198 144 18,387 15,648 15,051 13,188 8,066 7,744 5,000 4,680 4,320 3,984 2,856 1,944 1,872	93 16 184 158 162 151 109 90 74 96 83 66 52 45	56 46 9 81 96 87 84 74 64 50 52 45 48 42 36 36	MD MD VA FL GA TN TN AL FL VA SC SC KY	FM19 FM19 EL98 EM74 EM75 EM66 EM74 EM90 FM16 EL87 FM18 EM93 EM93 EM93	W4GRW N4QWZ K8GP W7QQ AI5I WA5ZBT WA5LFD N5EPA K5AM KB7IJ KC7QY AJ4F K5LY KG5UCA/R	2 2 M A A A A A A A A A A A A A A A A A	15,080 1,518 107,484 32,240 17,298 12,816 11,200 5,355 5,049 4,717 3,450 2,622 1,581 1,462	145 33 460 245 163 143 139 89 87 61 62 69 51 40	52 23 169 124 93 89 80 51 51 53 50 43 38 31 34	NC TN VA NM NM NM TX TX NM NM TX NM TX NM TX NM TX	EM96 EM66 FM19 DM65 DM75 DM65 EM12 DM64 DM64 EM12 DM64 EL29 EM13 EM01	W6IFN K6MCS KK6NWJ KD7WPJ KB9FKO K2GMY WB2TVB N6RPM W7FI N7IR K7ULS KE7SW W28T N7EPD KD7UO	6 6 6 6 H H Q Q M A A A A A A A	72 54 40 1 60 24 938 28 966 18,954 14,664 11,484 9,212 8,016 7,832 6,380	9 8 1 7 7 47 7 35 200 171 130 147 132 137 115	6 5 1 5 3 14 4 23 81 78 87 49 48 44 44	CA CA CA CA CA CA CA CA WA WA WA WA	CM97 CM98 DM12 DM07 DM13 CM88 DM04 DM04 CN87 DM43 DN41 CN87 CN87 CN87 CN87
W1XX K1ZK W10K AB1YK NG1R N1PRW K1SX N1SOH N2SLO WB2JAY N3RG WA2VNV K2QO N2WK W2SJ N2BEG K2AMI	2 H H H H H Q M A A A A A A A A A A A A A A A A A A	3,168 420 416 306 52 180 1,188 7,700 7,140 6,916 6,174 3,239 2,730 2,624 2,304 1,342	64 30 25 17 9 15 54 116 118 98 101 71 62 63 52 45	19 32 14 13 9 4 12 22 44 42 52 42 41 39 32 36 22	RI VT CT NH CT MA MA MA NY NY NY NY NY NY NY NY NY NY NY NY NY	FN41 FN33 FN31 FN32 FN31 FN42 FN41 FN42 FN30 FN30 FN30 FN30 FN03 FN03 FN03 FN03	W3RFC WA3EKL W3IP KC4PX K4EA KC4NX K9IL WB4WXE WA4GPM NG4C WX4G K4ZW KK4MA WA4LDU W8KHP K5EK	M	5,198 144 18,387 15,648 15,051 13,188 8,066 7,744 5,000 4,320 3,984 2,856 1,944 1,872 1,820	93 16 184 158 162 151 109 90 74 96 83 66 52 45 51	56 46 9 81 96 87 84 74 64 50 52 45 48 42 36 36 35	MD MD VA FL GA TN TN AL FL VA SC SC KY NC	FM19 FM19 EL98 EM74 EM75 EM56 EM74 EM90 FM16 EL87 FM18 EM92 EM93 FM99 FM03	W4GRW N4QWZ K8GP W52FKO W7QQ A15I WA8ZBT WA5LFD N5EPA K5AM KB7IJ KC7QY AJ4F K5LY KG5UCA/R	2 2 M A A A A A A A A A A A A A A A A A	15,080 1,518 107,484 32,240 17,298 12,816 11,200 5,355 5,049 4,717 3,450 3,010 2,622 1,581 1,462 1,290	145 33 460 245 163 143 139 89 87 61 62 69 51 40 42	52 23 169 124 93 89 80 51 51 53 50 43 38 31 34 30	NC TN VA NM NM NM TX TX NM NM TX NM TX NM TX TX TX TX TX	EM96 EM66 FM19 DM65 DM75 DM65 EM12 DM64 DM64 EL29 EM12 DM64 EL29 EM12 EM01 EM01 EM01	WGIFN KGMCS KKGNWJ KD7WPJ KB9FKO K2GMY WB2TVB NGRPM W7FI N7IR K7ULS KE7SW WZ8T N7EPD KD7UO WY7KY	6 6 6 6 H H Q Q M A A A A A A A A A	72 54 40 1 60 24 938 28 966 18,954 14,664 11,484 9,212 8,016 7,832 6,380 6,322	9 8 1 7 7 47 7 35 200 171 130 147 132 137 115 102	6 5 1 5 3 14 4 23 81 78 87 49 48 44 44 58	CA CA CA CA CA CA CA CA WA WA WA WA WA	CM97 CM98 DM12 DM07 DM13 CM88 DM04 DM04 CN87 DM43 DN41 CN87 CN87 CN87 CN87 CN97
W1XX K1ZK W10K AB1YK MG1R N1PRW K1SX N1SOH N2SLO W82JJAY N3RG WA2VNV K2QO N2WK W2SJ N2BEG K2AMI W2BVH	2 H H H H H Q M A A A A A A A A A A A A A A A A A A	3,168 420 416 306 52 180 1,188 7,700 7,140 6,916 6,173 2,730 2,624 2,304 1,342 1,064	64 30 25 17 9 15 54 116 118 98 101 71 62 63 52 45 34	19 32 14 13 9 4 12 22 44 42 52 42 41 39 32 36 22 19	RI VT CT NH CT MA MA NY NY NY NY NY NY NY NY NY NY NY NY NY	FN41 FN33 FN31 FN32 FN32 FN31 FN42 FN30 FN30 FN30 FN30 FN30 FN30 FN30 FN30	W3RFC WA3EKL W3IP KC4PX K4EA KC4NX K9IL WB4WXE WA4GPM NG4C WX4G K4ZW K44WA WA4LDU W8KHP K5EK K4FJW	M	5,198 144 18,387 15,648 15,051 13,188 8,066 7,744 5,000 4,680 4,320 3,984 2,856 1,944 1,872 1,820 1,750	93 16 184 158 162 151 109 109 90 74 96 83 66 52 45 51 40	56 46 9 81 96 87 84 74 64 50 52 45 48 42 36 36 35 35	MD MD VA FL GA TN TN AL FL VA SC SC KY NC VA	FM19 FM19 EL98 EM75 EM75 EM56 EM74 EM87 FM16 EL87 FM18 EM93 EM93 EM93 EM93 EM98	W4GRW N4QWZ K8GP W7QQ AISI WA5LFD N5EPA K5AM KB7IJ KC7QY AJ4F K5LY KGSUCA/R W5TV NH7RO/W5	2 2 M A A A A A A A A A A A A A A A A A	15,080 1,518 107,484 32,240 17,298 12,816 11,200 5,355 5,049 4,717 3,450 3,010 2,622 1,581 1,462 1,290 1,140	145 33 460 245 163 143 139 89 87 61 62 69 51 40 42 37	52 23 169 124 93 89 80 51 51 53 50 43 38 31 34 30 30	NC TN VA NM NM TX TX NM NM TX NM TX NM TX TX NM TX TX TX TX TX TX	EM96 EM66 FM19 DM65 DM75 DM65 EM12 EM12 DM64 DM62 EM12 DM64 DM62 EM12 DM64 EL29 EM13 EM21 EM21 EM21 EM21	WGIFN KGMCS KK6NWJ KD7WPJ KB9FKO K2GMY WB2TVB NGRPM W7FI N7IR K7ULS KE7SW WZ8T N7EPD KD7UO WY7KY W7GLF	6 6 6 6 H H Q Q M A A A A A A A A A A A A A A A A A	72 54 40 1 60 24 938 28 966 18,954 14,664 11,484 9,212 8,016 7,832 6,382 6,382 4,964	9 8 1 7 7 47 7 35 200 171 130 147 132 137 115 102	6 5 1 5 3 14 4 23 81 78 87 49 48 44 44 58 34	CA CA CA CA CA CA CA WA WA WA WA WA WA WA	CM97 CM98 DM12 DM07 DM13 CM88 DM04 DM04 CN87 DM41 CN87 CN85 CN87 CN87 CN87
W1XX K1ZK W1QK AB1YK NG1R N1PRW K1SX N1SOH N2SL0 W82JAY N3RG WA2VNV K2VNV K2VNV W2SJAY W2SK K2AMI W2BVH N2BEG K2AMI W2BVH N2OK	2 H H H H H Q M A A A A A A A A A A A A A A A A A A	3,168 420 416 306 52 180 1,188 7,700 7,140 6,916 6,174 3,239 2,730 2,624 2,304 1,342 1,064 850	64 30 25 17 9 15 54 116 118 98 101 71 62 63 52 45 34 32	19 32 14 13 9 4 12 22 44 42 52 42 41 39 32 36 22 19	RI VT CT NH CT MA MA MA NY NY NY NY NY NY NY NY NY NY NY NY NY	FN41 FN32 FN31 FN41 FN42 FN41 FN42 FN30 FN30 FN30 FN30 FN30 FN30 FN30 FN30	W3RFC WA3EKL W3IP KC4PX K4EA KC4NX K9IL WBAWXE WA4GPM NG4C WX4G K4ZW KK4MA WA4LDU W3KHP K5EK K4FJW W3CP	M	5,198 144 18,387 15,648 15,051 13,188 8,066 7,744 5,000 4,680 4,320 2,856 1,944 1,872 1,872 1,750 1,750	93 16 184 158 162 151 109 90 74 96 83 66 52 45 51 40 42	56 46 9 81 96 87 84 74 64 50 52 45 48 42 36 35 35 35	MD MD VA FL GA TN TN AL FL VA SC SC KY NC VA GA	FM19 FM19 EL98 EM74 EM75 EM56 EM74 EM90 EL87 FM16 EL87 FM18 EM93 EM93 EM93 EM03 EM08 EM08 EM08 EM08 EM08 EM08 EM08 EM08	W4GRW N4QWZ K8GP W7QQ AISI WA8ZBT WA5LFD N5EPA K5AM K87IJ KC7QY AJ4F K5LY KGSUCA/R W5TV NH7RO/W5	2 2 M A A A A A A A A A A A A A A A A A	15,080 1,518 107,484 32,240 17,298 12,816 11,200 5,355 5,049 4,717 3,450 2,622 1,581 1,462 1,290 1,140 627	145 33 460 245 163 143 139 89 87 61 62 69 51 40 42 37 33	52 23 169 124 93 89 80 51 51 53 50 43 38 31 34 30 30 19	NC TN VA NM NM TX TX NM NM TX NM TX TX NM TX TX TX TX TX TX TX TX	EM96 EM66 FM19 DM65 DM75 DM65 EM12 DM64 DM62 EM12 DM64 EL29 EM12 DM64 EL29 EM01 EM01 EM01 EM01 EM01	W6IFN K6MWJ KM6WWJ KD7WPJ K89FKO K2GMY W82TVB NGRPM W7FI N7IR K7ULS KE7SW W28T N7EPD K07UO WY7KY W7GLF M6ZE/7	6 6 6 6 H H Q Q M A A A A A A A A A	72 54 40 1 60 24 938 966 18,954 14,664 11,484 9,212 8,016 7,832 6,380 6,322 4,964 4,088	9 8 1 7 7 47 7 35 200 171 130 147 132 137 115 102 104 104	6 5 1 5 3 14 4 23 81 78 87 49 48 44 44 58 34 28	CA CA CA CA CA CA CA WA WA WA WA WA WA WA	CM97 CM98 DM12 DM07 DM13 CM88 DM04 DM04 CN87 DM43 DN41 CN87 CN85 CN87 CN97 CN97 CN97 CN87 CN87
W1XX K1ZK W10K AB1YK MG1R N1PRW K1SX N1SOH N2SLO W82JJAY N3RG WA2VNV K2QO N2WK W2SJ N2BEG K2AMI W2BVH	2 H H H H H Q M A A A A A A A A A A A A A A A A A A	3,168 420 416 306 52 180 1,188 7,700 7,140 6,916 6,173 2,730 2,624 2,304 1,342 1,064	64 30 25 17 9 15 54 116 118 98 101 71 62 63 52 45 34	19 32 14 13 9 4 12 22 44 42 52 42 41 39 32 36 22 19	RI VT CT NH CT MA MA NY NY NY NY NY NY NY NY NY NY NY NY NY	FN41 FN33 FN31 FN32 FN32 FN31 FN42 FN30 FN30 FN30 FN30 FN30 FN30 FN30 FN30	W3RFC WA3EKL W3IP KC4PX K4EA KC4NX K9IL WB4WXE WA4GPM NG4C WX4G K4ZW K44WA WA4LDU W8KHP K5EK K4FJW	M	5,198 144 18,387 15,648 15,051 13,188 8,066 7,744 5,000 4,680 4,320 3,984 2,856 1,944 1,872 1,820 1,750	93 16 184 158 162 151 109 109 90 74 96 83 66 52 45 51 40	56 46 9 81 96 87 84 74 64 50 52 45 48 42 36 36 35 35	MD MD VA FL GA TN TN AL FL VA SC SC KY NC VA	FM19 FM19 EL98 EM75 EM75 EM56 EM74 EM87 FM16 EL87 FM18 EM93 EM93 EM93 EM93 EM98	W4GRW N4QWZ K8GP W7QQ AISI WA5LFD N5EPA K5AM KB7IJ KC7QY AJ4F K5LY KGSUCA/R W5TV NH7RO/W5	2 2 M A A A A A A A A A A A A A A A A A	15,080 1,518 107,484 32,240 17,298 12,816 11,200 5,355 5,049 4,717 3,450 3,010 2,622 1,581 1,462 1,290 1,140 627 325	145 33 460 245 163 143 139 89 87 61 62 69 51 40 42 37	52 23 169 124 93 89 80 51 51 53 50 43 38 31 34 30 30	NC TN VA NM NM TX TX NM NM TX NM TX NM TX TX NM TX TX TX TX TX TX	EM96 EM66 FM19 DM65 DM75 DM65 EM12 EM12 DM64 DM62 EM12 DM64 DM62 EM12 DM64 EL29 EM13 EM21 EM21 EM21 EM21	WGIFN KGMCS KK6NWJ KD7WPJ KB9FKO K2GMY WB2TVB NGRPM W7FI N7IR K7ULS KE7SW WZ8T N7EPD KD7UO WY7KY W7GLF	6 6 6 6 H H Q Q M A A A A A A A A A A A A A A A A A	72 54 40 1 60 24 938 28 966 18,954 14,664 11,484 9,212 8,016 7,832 6,382 6,382 4,964	9 8 1 7 7 47 7 35 200 171 130 147 132 137 115 102	6 5 1 5 3 14 4 23 81 78 87 49 48 44 44 58 34	CA CA CA CA CA CA CA WA WA WA WA WA WA WA	CM97 CM98 DM12 DM07 DM13 CM88 DM04 DM04 CN87 DM41 CN87 CN85 CN87 CN87 CN87
W1XX K1ZK W1QK AB1YK NG1R N1PRW K1SX N1SOH N2SL0 W82JAY N3RG WA2VNV K2VNV K2VNV W2SJAY W2SK K2AMI W2BVH N2BEG K2AMI W2BVH N2OK	2 H H H H Q M A A A A A A A A A A A A A A A A A A	3,168 420 416 306 52 180 1,188 7,700 7,140 6,916 6,174 3,239 2,730 2,624 2,304 1,342 1,064 850	64 30 25 17 9 15 54 116 118 98 101 71 62 63 52 45 34 32	19 32 14 13 9 4 12 22 44 42 52 42 41 39 32 36 22 19	RI VT CT NH CT MA MA MA NY NY NY NY NY NY NY NY NY NY NY NY NY	FN41 FN32 FN31 FN41 FN42 FN41 FN42 FN30 FN30 FN30 FN30 FN30 FN30 FN30 FN30	W3RFC WA3EKL W3IP KC4PX K4EA KC4NX K9IL WBAWXE WA4GPM NG4C WX4G K4ZW KK4MA WA4LDU W3KHP K5EK K4FJW W3CP	M	5,198 144 18,387 15,648 15,051 13,188 8,066 7,744 5,000 4,680 4,320 2,856 1,944 1,872 1,872 1,750 1,750	93 16 184 158 162 151 109 90 74 96 83 66 52 45 51 40 42	56 46 9 81 96 87 84 74 64 50 52 45 48 42 36 35 35 35	MD MD VA FL GA TN TN AL FL VA SC SC KY NC VA GA	FM19 FM19 EL98 EM74 EM75 EM56 EM74 EM90 EL87 FM16 EL87 FM18 EM93 EM93 EM93 EM03 EM08 EM08 EM08 EM08 EM08 EM08 EM08 EM08	W4GRW N4QWZ K8GP W7QQ AISI WA8ZBT WA5LFD N5EPA K5AM K87IJ KC7QY AJ4F K5LY KGSUCA/R W5TV NH7RO/W5	2 2 M A A A A A A A A A A A A A A A A A	15,080 1,518 107,484 32,240 17,298 12,816 11,200 5,355 5,049 4,717 3,450 2,622 1,581 1,462 1,290 1,140 627	145 33 460 245 163 143 139 89 87 61 62 69 51 40 42 37 33	52 23 169 124 93 89 80 51 51 53 50 43 38 31 34 30 30 19	NC TN VA NM NM TX TX NM NM TX NM TX TX NM TX TX TX TX TX TX TX TX	EM96 EM66 FM19 DM65 DM75 DM65 EM12 DM64 DM62 EM12 DM64 EL29 EM12 DM64 EL29 EM01 EM01 EM01 EM01 EM01	W6IFN K6MWJ KM6WWJ KD7WPJ K89FKO K2GMY W82TVB NGRPM W7FI N7IR K7ULS KE7SW W28T N7EPD K07UO WY7KY W7GLF M6ZE/7	6 6 6 6 H H Q Q M A A A A A A A A A A A A A A A A A	72 54 40 1 60 24 938 966 18,954 14,664 11,484 9,212 8,016 7,832 6,380 6,322 4,964 4,088	9 8 1 7 7 47 7 35 200 171 130 147 132 137 115 102 104 104	6 5 1 5 3 14 4 23 81 78 87 49 48 44 44 58 34 28	CA CA CA CA CA CA CA WA WA WA WA WA WA WA	CM97 CM98 DM12 DM07 DM13 CM88 DM04 DM04 CN87 DM43 DN41 CN87 CN85 CN87 CN97 CN97 CN97 CN87 CN87
W1XX K1ZK W1QK AB1YK NG1R NIPRW K1SX N1SOH N2SLO WB2JAY N3RG WA2VNV K2QO N2WK W2SJ N2BEG K2AMI W2BVH N2OA W2UDT	2 H H H H Q M A A A A A A A A A A A A A A A A A A	3,168 420 416 306 52 180 1,188 7,700 7,140 6,916 6,174 3,239 2,730 2,624 1,342 1,064 850 455	64 30 25 17 9 15 54 116 118 98 101 71 62 63 52 45 34 32 22	19 32 14 13 9 4 12 22 44 42 52 42 41 39 32 36 22 19 17	RI VT CT NH CT MA MA MA NY NY NY NY NY NY NY NY NY NY NY NY NY	FN41 FN33 FN31 FN32 FN31 FN42 FN30 FN30 FN30 FN30 FN30 FN03 FN03 FN03	WSRFC WA3EKL WSIP KC4PX K4EA KC4NX K9IL WB4WXE WA4GPM NG4C WX4G K4ZW KK4MA WA4LDU W8KHP K6EK K4FJW W3SCP K4MM	M	5,198 144 18,387 15,648 15,051 13,188 8,066 7,744 5,000 4,680 4,320 3,984 2,856 1,944 1,872 1,820 1,750 1,590 1,380	93 16 184 158 162 151 109 109 90 74 96 83 66 52 45 51 40 42 46	56 46 9 81 96 87 84 74 64 50 52 45 48 42 36 36 35 35 30 30	MD MD VA FL GA TN TN AL FL VA SC SC KY NC VA GA FL	FM19 FM19 EL98 EM75 EM75 EM56 EM74 EM90 FM16 EL87 FM18 EM92 EM93 EM99 FM03 EM79 FM03 EM86 EM74 EM92	W4GRW M4QWZ K8GP W70Q AI5I WA5LFD N5EPA K55PA K5FU K67UJ K65UCA/R W5TV NH7ROW5 W5GZ NH5ROW5 W5GZ NH5ROW5	2 2 M A A A A A A A A A A A A A A A A A	15,080 1,518 107,484 32,240 17,298 12,816 11,200 5,355 5,049 4,717 3,450 3,010 2,622 1,581 1,462 1,290 1,140 627 325	145 33 460 245 163 143 139 89 87 61 62 69 51 40 42 37 33 18	52 23 169 124 93 89 80 51 51 53 50 43 38 31 34 30 30 19	NC TN VA NM NM NM TX TX NM NM TX NM TX TX TX TX TX TX TX NM	EM96 EM66 FM19 DM65 DM75 DM65 EM12 EM12 EM12 EM12 EM13 EM13 EM01 EM21 EM21 EM21 EM21 EM21 EM21 EM21 EM2	WGIFN K6MKY K6MWJ KD7WPJ KB9FKY K89FKY WB2TVB NGRPM W7FI N7IR K7ULS KE7SW W28T N7EPD KD7UO W7KY W7GLF NGZE/7	6 6 6 6 H H Q Q M A A A A A A A A A A A A A A A A A	72 54 40 0 1 60 24 938 28 966 18,954 14,664 11,484 9,212 8,016 6,380 6,322 4,088 4,088 3,993	9 8 1 7 7 47 7 35 200 171 130 147 132 137 115 102	6 5 1 5 3 14 4 23 81 78 87 49 48 44 44 58 34 28 33	CA CA CA CA CA CA CA CA WA AZ UT WA	CM97 CM98 DM12 DM07 DM13 CM88 DM04 DM04 CN87 DM43 DN41 CN87 CN87 CN87 CN97 DN71 CN87 CN97 CN97 CN97 CN87 CN87
W1XX K1ZK W1QK AB1YK NG1R NG1R N1PRW K1SX N1SOH N2SLO W82JAY N3RG WA2VNV K200 N2WK W2SJ N2BEG K2AMI N2BEG K2AMI N2OA W2UDT N2SO	2 H H H H H Q M A A A A A A A A A A A A A A A A A A	3,168 420 416 306 52 188 7,700 7,140 6,916 6,174 3,239 2,730 2,624 2,304 1,342 1,064 850 455 112	64 30 25 17 9 15 54 116 118 98 101 71 62 63 52 45 34 32 22 14	19 32 14 13 9 4 12 22 44 42 52 42 41 39 32 36 22 19 17	RI VT CT NH CT MA MA MA NY NY NY NY NY NY NY NY NJ NY NJ NY NJ NY NJ NY NJ NY NJ NY NJ NJ NJ NJ NJ NJ NJ NJ NJ NJ NJ NJ NJ	FN41 FN32 FN31 FN32 FN31 FN42 FN41 FN42 FN30 FN30 FN30 FN30 FN03 FN03 FN03 FN03	W3RFC W33PK K64PX K64PX K64PX K89L W84WXE WA4GPM M64C WX4G K4ZW KK4MA W44LDU W8KHP K5EK K4F,W W3CP K4MG	M	5,198 144 18,387 15,648 15,051 13,188 8,066 7,744 5,000 4,620 3,984 2,856 1,944 1,872 1,750 1,590 1,380 646	93 16 184 158 162 151 109 90 74 96 83 66 52 45 51 40 42 46 19	56 46 9 81 96 87 84 74 64 50 52 45 48 42 36 35 35 30 30 19	MD MD VA FL GA TN TN AL FL VA SC SC KY NC VA GA FL NC	FM19 FM19 EL98 EM774 EM75 EM76 EM774 EM90 FM16 EL87 FM18 EM93 EM93 EM93 EM98 EM86 EM86 EM86 EM86 EM86 EM86 EM86 EM8	W4GRW N4GWZ K8GP W82FK0 W70Q AISI WASZBT WASZBT WASLEP K5AM K87IJ K670Y AJ4F K5LY K65UCA/R W5TV W5TX	2 2 M A A A A A A A A A A A A A A A A A	15,080 1,518 107,484 32,240 17,298 12,816 11,200 5,355 5,049 4,717 3,450 3,010 2,622 1,581 1,462 1,290 1,140 627 325 208	145 33 460 245 163 143 139 89 87 61 62 69 51 40 42 37 33 18 16	52 23 169 124 93 89 80 51 51 53 50 43 38 31 34 30 30 19 13	NC TN VA NM NM NM TX TX NM TX	EM96 EM66 FM19 DM65 DM75 DM65 EM12 DM64 DM64 EL29 DM64 EL29 EM13 EM01 EM21 EM13 EM01 EM22 DM52 DM52 DM52	WGIFN KGMKS KKGWUJ KD7WPJ KB9FKO K2GMY WB2TVB NGRPM W7FI N7IR K7ULS KE7SW W28T N7EPD W97KY K07UD W97KY K21W W7TLF	6 6 6 6 H H Q Q M A A A A A A A A A A A A A A A A A	72 54 40 0 1 60 24 938 28 966 18,954 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11,484 11	9 8 1 7 7 47 7 35 200 171 130 147 132 137 115 102 104 104 102 86	6 5 1 5 3 14 4 23 81 78 87 49 48 44 44 58 34 28 33 42	CA CA CA CA CA CA CA CA WA OR	CM97 CM98 DM12 DM07 DM13 CM88 DM04 DM04 CN87 DM43 DN41 CN85 CN87 CN97 CN87 CN87 CN87 CN87 CN87 CN87
WTXX K1ZK WTQK ABTYK NG1R N1PRW K1SX NTSOH N2SLO WB2JAY N3RG WA2VNV K2QO N2WK W2SJ N2BEG W2SJ N2BEG W2BYH N2OA W2UDT N2SO WB2UJS	2 H H H H H Q M A A A A A A A A A A A A A A A A A A	3,168 420 416 306 52 180 1,188 7,700 7,140 6,916 6,174 3,239 2,730 2,730 4,342 1,342 1,064 850 455 112 2,310	64 30 25 17 9 15 54 116 118 98 101 71 62 63 52 45 34 32 22 14 70	19 32 14 13 9 4 12 22 44 42 52 42 41 39 32 36 32 19 17	RI VT CT NH CT MA MA NY NY NY NY NY NY NY NY NY NY NY NY NY	FN41 FN31 FN32 FN31 FN32 FN42 FN41 FN42 FN30 FN30 FN03 FN03 FN03 FN03 FN12 FN20 FN20 FN20 FN20 FN20 FN20 FN20 FN2	W3RFC W33PK KC4PX K4EA KC4PX K4EA KC9IL W84WXE WA4GPM NG4C WX4G K4ZW WA4LDU W8KHP K5EK K4F,W W3CP K4MM N1GC	M	5,198 144 18,387 15,648 15,051 13,188 8,066 7,744 5,000 4,680 4,320 3,984 2,856 1,944 1,872 1,872 1,590 1,590 1,590 1,380 646 475	93 16 184 158 162 151 109 90 74 96 83 66 52 45 51 40 42 46 19 22	56 46 9 81 96 87 84 74 64 50 52 45 48 42 36 35 35 30 30 19	MD MD VA FL GA TN TN AL FL NC SC KY NC VA GA FL NC FL	FM19 FM19 EL98 EM74 EM75 EM75 EM76 EL87 FM18 EM93 EM93 EM93 EM93 EM93 EM95 EM94 EM95 EM97 EM95 EL97 EM95 EL97	WAGRW NAOWZ K8GP WB2FK0 W700 AI5I WA8ZBT WA5LPS K87IJ K67OY AJ4F K65LY K65UCA/R W51V NH7ROW5 W50Z KV5TX K05GEN	2 2 M A A A A A A A A A A A A A A A A A	15,080 1,518 107,484 32,240 17,298 12,816 11,200 5,355 5,049 4,717 3,450 3,010 2,622 1,581 1,462 1,290 1,140 627 325 208	145 33 460 245 163 143 139 89 87 61 62 69 51 40 42 37 33 18 16 13	52 23 169 124 93 89 80 51 51 53 50 43 38 31 30 30 19 13 7	NC TN VA NM NM NM TX TX NM NM TX	EM96 EM66 FM19 DM65 DM75 DM65 EM12 DM62 EM12 DM62 EM12 DM64 EL29 EM13 EM21 EM21 EM21 EM21 EM21 EM21 EM21	WGIFN K6MCS KK6NWJ KNDWPI KNDWPI K99FK0 K99FK0 K26MY WB2TVB WFETN WFR TTILS KE7SW WZ8T K7TED K07UG W7TKY W7GLF K21W WTTILS KE7SW WZ8T K7EPD K07UG K7EPD K07UG K7EPD K7EP	6 6 6 6 H H Q Q M A A A A A A A A A A A A A A A A A	72 54 40 1 60 24 938 28 966 18,954 14,664 19,212 8,016 6,380 6,380 6,382 4,088 3,993 3,738 2,970	9 8 1 7 7 47 7 35 200 171 130 147 132 137 115 102 104 104 104 286 68	6 5 1 5 3 14 4 23 81 78 87 49 48 44 44 58 34 28 33 42 33	CA CA CA CA CA CA CA CA WA AZ UT WA	CM97 CM98 DM12 DM07 DM13 CM88 DM04 DM04 CN87 CN87 CN87 CN87 CN87 CN87 CN87 CN87
WTXX K1ZK WTQK ABTYK NG1R N1PRW K1SX NTSOH N2SL0 W82JAY M3RG WA2VNV K200 N2WK W2SJ N2WK W2SJ N2BEG K2AMI W2BVH N20A W2UDT N2SO W82UJS K2TV K2XA	2 H H H H H Q M A A A A A A A A A A A A A A A A A A	3,168 420 416 306 52 180 1,188 7,700 7,140 6,916 6,174 3,239 2,730 2,624 2,304 1,342 1,064 850 455 112 2,310 989 900	64 30 25 17 9 15 54 116 118 98 101 71 62 63 52 45 34 32 22 14 70 43 45	19 32 14 13 9 4 12 22 44 42 22 41 39 32 36 22 19 17 7 17 13 8 3 3 3 3 2 3 2	RI VT CT NH CT MA MA MA NY NY NY NY NY NY NY NY NY NY NY NY NY	FN41 FN32 FN31 FN32 FN42 FN41 FN42 FN40 FN30 FN30 FN30 FN30 FN30 FN29 FN120 FN20 FN20 FN20 FN20 FN20 FN20 FN20 FN	W3RFC W33PK KC4PX K4EA KC4PX K4EA KC9IL W84WXE WA4GPM NG4C WX4G K4ZW WA4LDU W8KHP K5EK K4F,W W3CP K4MM N1GC	M	5,198 144 18,387 15,648 15,051 13,188 8,066 7,744 5,000 4,680 4,320 3,984 2,856 1,944 1,872 1,872 1,590 1,590 1,590 1,380 646 475	93 16 184 158 162 151 109 90 74 96 52 45 51 40 42 46 19 22 30	56 46 9 81 96 87 44 64 50 52 45 48 42 45 36 35 35 30 30 19 19 15	MD MD VA FL GA TN TN AL FL NC FL VA GA FL VA FL VA	FM19 FM19 FM19 FM19 EL98 EM74 EM75 EM76 EM76 EL87 FM16 EL87 FM18 EM92 EM93 EM79 FM03 EM74 EL97 EM97 EL97 EL97 EL97 EL97 EL98 FM3	W4GRW N4GWZ K8GP W82FK0 W700 A151 WA5LFD N5EPA K5AM K671Y AJ4F K5LY K6SUCA/R W5TV K6GSUCA/R W5TV K6SU KV5TX KD5GS	2 2 M A A A A A A A A A A A A A A A A A	15,080 1,518 107,484 32,240 17,298 12,816 11,200 5,355 5,049 4,717 3,450 2,622 1,581 1,462 1,290 1,140 627 325 208 126 104	145 33 460 245 163 143 89 87 87 61 62 69 51 40 42 37 33 18 16 16 16 16 16 16 16 16 16 16 16 16 16	52 23 169 124 93 89 80 51 51 53 50 43 38 31 34 30 30 30 19 13 13 7 8	NC TN VA NM NM NM TX TX NM TX NM NM NM NM TX TX TX TX NM NM NM NM TX TX TX NM NM NM TX TX TX NM	EM96 EM66 FM19 DM65 DM75 DM65 EM12 DM64 EM12 DM64 EL29 EM13 EM01 EM21 EL18 DM55 EM21 EM21 EM21 EM21 EM21 EM21 EM21 EM21	WGIFN K6MCS KK6NWJ KD7WFJ KD7WFJ K99FK0 K99FK0 K99FM W7FI N7IR K77ULS KE7SW W28T N7EPD K07ULS W78TV W76LF N6ZLF K27U W77DZ K37P N7BT N7BT N7DZ N7DZ	6 6 6 6 H H Q Q M A A A A A A A A A A A A A A A A A	72 54 400 1 60 24 938 28 98 94 11,484 9,212 8,016 7,832 6,382 4,964 4,088 3,993 3,738 2,970 2,706 2,160	9 8 1 7 7 7 47 7 35 200 171 130 137 115 102 86 68 8 59	6 5 1 5 3 14 4 23 81 78 87 49 48 44 44 58 33 42 33 33 33	CA CA CA CA CA CA CA WA WA WA WA WA WA WA WA WA WA WA WA	CM97 CM98 DM12 DM07 DM12 DM07 DM04 DM04 DM04 CN87 DM41 CN87 CN87 CN97 CN87 CN87 CN87 CN87 CN87 CN87 CN87 CN8
W1XX K1ZK W1QK AB1YK NG1R N1PRW K1SX N1SOH N2SLO WB2JAY N3RG WA2VNV K2QO N2WK W2SJ N2BEG K2AMI W2BVH N2OA W2SO WB2UJS K2TV	2 H H H H H Q M A A A A A A A A A A A A A A A A A A	3,168 420 416 306 52 180 1,188 7,700 7,140 6,916 6,174 3,239 2,730 2,624 1,342 1,064 850 455 112 2,310 989	64 30 25 17 9 15 54 116 118 98 101 71 62 63 52 45 34 32 22 21 47 70 43	19 32 14 13 9 4 12 22 22 44 42 42 45 22 42 19 17 13 8 8 33 23 20 17	RI VT CT MA MA MA NY NY NY NY NY NY NJ NY NJ NY NJ NY NJ NY NJ NY NJ NY NJ NY NJ NY NJ NY NJ NJ NJ NJ NJ NJ NJ NJ NJ NJ NJ NJ NJ	FN41 FN31 FN31 FN32 FN31 FN42 FN41 FN42 FN30 FN30 FN30 FN03 FN03 FN03 FN03 FN12 FN12 FN12 FN12 FN20 FN20 FN20 FN20 FN20 FN20 FN31 FN20 FN31 FN20 FN31 FN20 FN31 FN20 FN31 FN20 FN31 FN20 FN32 FN31 FN32 FN32 FN33 FN33 FN33 FN33 FN33 FN33	W3RFC W33PK W3IP KC4PX K4EA K6AN K9IL WB4WXE W7AGPM NG4C WX4G K4ZW W6KHP K5EK K4FJW W6KHP K5EK K4FJW W7AGPM N1GC K9VXM W4ML	M	5,198 144 18,387 15,648 15,051 13,188 8,066 7,744 5,000 4,680 4,320 3,984 2,856 1,944 1,872 1,250 1,750 1,590 1,380 646 475 450	93 16 184 158 162 151 109 90 74 96 83 66 52 45 51 40 42 46 19 22 30	56 46 9 81 96 87 84 74 64 65 55 2 45 36 36 35 30 30 19 19 15	MD MD VA FL GA TN TN AL FL VA SC SC KY NC VA GA FL NC FL VA Op:	FM19 FM19 EL98 EM74 EM75 EM56 EM74 EM90 FM16 EL87 FM18 EM92 EM93 EM93 EM93 EM79 FM03 EM86 EM74 EL97 EM95 EM97 EM97 EM97 EM97 EM97 EM97 EM97 EM97	W4GRW N4GWZ K8GP WB2FK0 W700 AI5I WASLET WA5LEP N5EPA K5AM K87IJ K670Y AJ4F K5LY K65UCA/R W5TV NH7RO/W5 W662 NSSJ KV5TX K05GEN AGSS K5TMT	2 2 M A A A A A A A A A A A A A A A A A	15,080 1,518 107,484 32,240 17,298 12,816 11,200 5,355 5,049 4,717 3,450 2,622 1,581 1,462 1,290 1,140 627 325 208 104 9 65,037	145 33 460 245 163 143 139 87 87 87 87 61 62 69 51 40 42 37 33 18 16 13 11 3 13 13 13 13 13 13 13 13 13 13 1	52 23 169 124 93 89 80 51 51 53 50 43 38 31 34 30 19 13 7 8 8 8	NM NM NM TX NM NM TX	EM96 EM65 DM75 DM65 DM75 DM65 EM12 EM12 DM62 EM12 DM64 EL29 EM13 EM01 EM21 EL18 EM01 EM21 EM13 EM01 EM21 EM13 EM13 EM13 EM13 EM13 EM14 EM13 EM14 EM15 EM15 EM16 EM16 EM16 EM16 EM16 EM16 EM16 EM16	WGIFN K6MCS KK6NWJ K07WPJ K89FK0 K89FK0 K2GMY WB2TWB W7FI N7IR N7IRS KE7SW W28I N7EPD K07UO W7GLF N62EI K21W W7TIDZ K67P N7BT N7OBT	6 6 6 6 H H Q Q M A A A A A A A A A A A A A A A A A	72 54 40 1 60 24 938 28 966 18,954 11,464 11,484 9,212 6,380 6,322 4,964 4,088 3,933 3,738 2,970 2,706 2,160	9 8 1 7 7 47 7 35 200 171 130 147 132 137 102 104 104 102 86 68 78 9 63	6 5 5 1 5 3 3 14 4 23 81 78 87 49 48 44 44 58 34 28 33 32 42 29	CA CA CA CA CA CA CA CA WA AZ WA WA WA WA WA WA WA WA AZ	CM97 CM98 DM12 DM07 DM13 CM88 DM04 DM04 CN87 DM43 CN87 CN87 CN87 CN97 DM71 CN87 CN87 CN87 CN87 CN87 CN87 CN87 CN87
W1XX K1ZK W1QK AB1YK NG1R N1PRW K1SX N1SOH N2SLO W82JAY N3RG WA2VNV K200 N2WK W2SJ N2WK W2SJ N2BEG K2AMI W2BVH N2OA W2UUT N2SO W82UJS K2XA K2SSS WA2ACV	2 H H H H H Q M A A A A A A A A A A A A A A A A A A	3,168 420 416 306 52 180 1,188 7,700 7,140 6,916 6,174 3,239 2,730 2,624 2,304 1,342 1,064 850 455 112 2,310 989 900 442 48	64 30 25 17 9 15 54 1116 118 98 101 71 62 63 52 45 34 32 22 22 14 70 43 45 68 88	19 32 14 12 22 44 12 22 42 42 366 22 29 17 13 8 8 3 20 17 6	RI VT CT MA MA MA NY NY NY NY NY NY NY NY NY NY NY NY NY	FM41 FN32 FN32 FN32 FN31 FN42 FN42 FN30 FN30 FN30 FN30 FN30 FN29 FN12 FN20 FN20 FN20 FN20 FN20 FN20 FN20 FN2	W3RFC W33PK W3IP KC4PX K4EA K6AN K6U W84WXE W84GPM NGAC WX4G K4ZW WX4G K4ZW W84HP K5EK K4FJW W84HP K5EK K4FJW W4ML K5VIP K51F	M	5,198 144 18,387 15,651 13,188 8,066 7,744 5,000 4,680 3,984 2,856 1,944 1,872 1,590 1,750 1,590 1,380 646 475 450	93 16 184 158 162 151 109 90 90 96 83 66 52 45 51 40 42 46 19 22 30	81 987 887 887 884 74 645 50 52 45 48 36 36 35 30 30 30 19 15	MD MD VA FL GA TN TN AL FL VA SC KY NC VA GA FL VA Op: VA FL	FM19 FM19 FM19 FM19 EL98 EM74 EM75 EM56 EM74 EM90 FM16 EL87 FM18 EM92 EM93 EM93 EM95 EM95 EM86 EM74 EL97 FM03 EM86 EM74 EL97 FM16 EL88 FM07 FM16 EL98 FM16	W4GRW M40WZ K8GP WB2FK0 W700 AI5I WA3EST WA5LFD K55AM K87IJ K67CY AJ4F K5LY KGSUCA/R WHTRO,W5 W5CZ NSSJ KV5TX K05GEN AGSS KSTMT W05K NSJR	2 2 M A A A A A A A A A A A A A A A A A	15,080 1,518 107,484 32,240 17,298 12,816 11,200 5,355 5,049 4,717 3,450 2,622 1,581 1,462 1,290 1,140 627 325 208 126 104 9 65,037 35,464	145 33 460 245 163 139 89 87 61 62 69 51 40 42 37 33 18 16 13 11 13 13 13 13 89 89 87 87 87 87 87 87 87 87 87 87 87 87 87	52 23 169 124 93 89 80 51 53 50 43 31 34 30 19 13 13 7 8 8 3 163 154	NC	EM96 EM96 EM965 DM75 DM65 DM75 DM65 EM12 EM12 DM64 EL29 EM12 EM01 EM21 EM01 EM21 EM00 EM21 EM00 EM00 EM00 EM00 EM00 EM00 EM00 EM0	WGIFN KGMCS KGMCS KGPWJ KD7WFJ KB9FKO R2GMY WB2TVB NGRPM W7FI N7IR K77ULS KE7SW W28T N7EPD KD7UO W79KY W76LF N6ZE/T K21W W71D K67P N7BT N70OZ K77P N7BT N70OZ K77P N6LB	6 6 6 6 H H Q Q M A A A A A A A A A A A A A A A A A	72 54 40 1 60 24 938 28 966 18,954 11,484 9,212 8,016 7,832 4,964 4,084 3,993 3,738 2,970 2,706 2,160 1,820	9 8 1 7 7 7 47 7 35 200 171 130 147 102 86 68 78 59 63 53	6 5 1 5 3 14 4 23 81 78 87 49 48 44 44 58 33 42 28 33 33 24 29 24	CA CA CA CA CA CA CA WA WA WA WA WA WA WA WA WA WA WA WA WA	CM97 CM98 DM12 DM07 DM12 DM07 CM88 DM04 DM04 DM04 CN87 CN87 CN87 CN87 CN87 CN87 CN87 CN87
WTIXX K1ZK WTIQK ABIYK NG1R NIPRW KISX NISOH N2SLO WB2JAY N3RG WA2VNV K2QO N2WK W2SJ N2BEG W2SJ N2BEG W2BUJS K2TV K2QU K2Y K2XA K2SSS WA2ACTV AACTT	2 H H H H H Q M A A A A A A A A A A A A A A A A A A	3,168 420 416 306 52 180 1,188 7,700 6,916 6,174 3,239 2,730 2,624 1,342 1,064 850 455 112 2,310 989 900 442 48 2,318	64 30 25 17 9 15 54 116 118 98 98 101 71 62 45 34 45 22 14 70 43 45 26 8 61	19 32 14 13 9 4 12 22 24 44 42 52 42 41 39 32 62 19 17 13 8 8 33 22 00 17 6 19	RI VT CT MA MA MA MA NY	FN41 FN31 FN32 FN32 FN31 FN42 FN42 FN30 FN30 FN30 FN30 FN29 FN120 FN20 FN20 FN20 FN20 FN20 FN20 FN20 FN	W3RFC W33PK K64PX K64PX K64BX K69LX K91L W84WXE WA4GPM N64C WX4G K42W KK4MA WA4LDU W8KPP K85KK K4F,W W3CP K4MM N1GC K4MM W4ML K5VIP KE1F	MM	5,198 144 18,387 15,648 15,051 13,188 8,066 7,744 5,000 4,620 3,984 2,856 1,944 1,872 1,590 1,750 1,590 1,590 4,50 1,590 1,590 1,380 4,50 1,590 1,590 1,590 1,590 1,380 1,590 1,500	93 16 184 158 162 109 90 74 96 83 66 52 45 51 40 42 46 19 22 30 18 21 17	56 46 9 81 96 87 84 74 64 65 50 52 45 36 33 30 19 19 19 15	MD MD VA FL GA TN AL FL NC FL VA SC SC KY C VA GA FL VA Op: VA FL GA	FM19 FM19 FM19 FM19 FM19 EL98 EM74 EM75 EM56 EM74 EM90 FM16 EL87 FM18 EM93 EM93 EM79 FM03 EM86 EM74 EL97 EM95 EL97 EM95 EL98 FM07	WAGRW NAGWZ K8GP WB2FK0 W700 Al51 WA8ZBT WA5LPA K55AM K87IJ KC70Y AJ4F K56LY K65UCAR W5TV NH7ROW5 W56GZ NSSJ KV5TX KOBSEN AGSS KSTMT WD5K NSJM	22M AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	15,080 1,518 107,484 32,240 17,298 12,816 11,209 5,355 5,049 4,717 3,450 3,010 2,622 1,581 1,462 1,290 1,140 627 325 126 104 9 65,037 35,464 45,2,766	145 33 460 245 163 89 87 87 87 661 62 69 40 42 37 33 18 16 13 11 3 3 39 89 87 40 40 42 40 40 40 40 40 40 40 40 40 40 40 40 40	52 23 169 124 93 80 51 51 53 50 30 30 19 13 13 7 8 3 163 124 129	NC	EM96 EM66 DM75 DM75 DM65 DM75 DM64 EM12 EM12 DM64 EL29 DM64 EL29 DM64 EL29 DM55 EM01 EM21 EM21 EM21 EM21 EM21 EM21 EM21 EM2	WGIFN K6MCS KK6NWJ K07WFJ K07WFJ K89FK0 R2GMY WB2TVB WFETVB K7TULS KE7SW WZBI N7EPD K07US KE7SW WZBI K2TW WZBI K07EP N7EPD K07U K07U K07U K07P R0ZE/7 K2TW K07P R7BI R7OQZ K7HP N6LS	6 6 6 6 H H Q Q M A A A A A A A A A A A A A A A A A	72 54 40 1 60 24 938 966 18,954 11,4664 11,484 9,212 8,016 7,832 4,988 3,993 3,738 2,970 2,706 2,160 1,827 1,660	9 8 1 7 7 47 7 35 200 171 130 147 132 104 102 86 68 87 8 59 63 53 70	6 5 1 1 5 3 14 4 23 81 78 87 49 48 44 44 58 33 42 333 24 29 24 23	CA CA CA CA CA CA CA WA WA WA WA WA WA WA WA WA WA WA WA WA	CM97 CM98 DM12 DM07 DM13 CM88 DM04 DM04 DM04 CN87 CN87 CN87 CN87 CN87 CN87 CN97 CN97 CN87 CN87 CN87 CN87 CN87 CN87 CN87 CN8
W1XX K1ZK W1QK AB1YK NG1R N1PRW K1SX N1SOH N2SLO W82JJY N3RG WA2VINV K22O N2SW W28VH N2OA W2UDT N2SO W82UJS K2AMI W2BVH K2OA W2UUT K2XX K2SS WA2ACV AA2TI W2KVIZ	2 H H H H H Q M A A A A A A A A A A A A A A A A A A	3,168 420 416 306 52 180 1,188 7,700 7,140 6,916 6,174 3,239 2,730 4,734 2,304 1,342 2,304 1,304 1,304 855 4112 2,310 989 900 442 48 2,318 485	64 30 25 17 9 15 54 1116 118 98 101 71 62 63 52 45 34 32 22 22 14 70 43 45 68 88	19 32 14 13 9 4 12 22 24 11 39 32 366 22 9 17 17 13 8 33 23 20 17 6 19 12	RI VT NH CT NMA MA MA NY NY NY NY NY NY NY NY NY NY NY NY NY	FN41 FN31 FN32 FN31 FN42 FN30 FN30 FN30 FN30 FN30 FN30 FN30 FN30	W3RFC W33PK K64PX K64PX K64PX K89L W84WXE WA4GPM NG4C WX4G K4ZW WX4H W84HP K5EK K4ZW W3CP K4AMM N1GC K6VVXM K4MM N1GC K6VVXM K5VIP KE1F W4AMP K624JD	MM	5,198 144 18,387 15,648 15,051 13,188 8,066 7,744 5,000 4,320 3,984 2,856 1,944 1,820 1,750 1,590 1,590 1,380 646 475 450	93 16 184 158 162 109 109 109 74 96 83 66 52 45 40 42 46 40 42 46 41 19 22 30	56 46 9 81 96 87 84 45 45 45 48 42 43 36 35 30 30 30 30 19 15 15 16 16 16 16 16 16 16 16 16 16 16 16 16	MD MD VA FL GA TN TN AL FL VA SC KY NC VA GFL NC FL VA GA FL GA GA GA GA	FM19 FM19 FM19 FM19 EL98 EM74 EM75 EM56 EM74 EM90 FM16 EL87 FM18 EM92 EM93 EM83 EM79 FM08 EM79 FM08 EM79 FM08 EM74 EL97 EM95 EL98 EL98 EL98 EL99 EL98 EL99 EL98 EL97 EM95 EL98 EL97 EM95 EL98 EL98 EL97 EM95 EL98 EM74	W4GRW N4GWZ K8GP W82FK0 W700 A151 WA5LPD N5EPA K5AM K871) K67GY AJ4F K5LY K6SUCA/R W5TV K95UCA/R W5TV K05GE N5SJ KV5TX K05GEN A6SS K5TMT W05K N5JR W45DM W5PR	2 2 M A A A A A A A A A A A A A A A A A	15,080 1,518 107,484 32,240 17,298 12,816 11,200 5,355 5,049 4,717 4,717 3,450 3,010 2,622 1,581 1,462 1,290 1,140 627 325 208 12,400 1,140 627 325 408 104 937 35,464 32,766 42,366	145 33 460 245 163 189 89 87 61 62 69 51 40 42 37 33 18 16 13 11 3 399 286 270	52 23 169 124 93 89 80 51 51 53 50 43 38 31 34 30 19 13 13 7 8 8 3 163 124 129 105	NC TN VA	EM96 EM66 EM66 DM75 DM65 DM75 DM65 DM75 DM62 EM12 DM64 DM62 EM13 EM01 EM2 EM13 EM01 EM2 EM13 EM01 EM2 EM18 DM52 EM00 EM2 EM18 DM52 EM00 EM2 EM10 EM2 EM10 EM2 EM10 EM12 EM12 EM12 EM12 EM12 EM12 EM12 EM12	WGIFN K6MCS KK6WWJ K07WFJ K89FK0 K89FK0 K89FK0 K89FKN WB2TW WB2TW W7FI N7IR K7ULS KE7SW W28T N7EPD KD7UO W77KF K71W W71DZ KG7P N7ER N7BT N7BT N7BT N7BT N7BT N7BT N7BT N7BT	6 6 6 6 H H Q Q M A A A A A A A A A A A A A A A A A	72 54 40 1 60 24 938 966 18,954 14,664 11,484 9,212 8,016 6,322 4,964 4,088 3,738 2,970 2,706 2,160 1,827 1,680 1,680	9 8 1 7 7 7 47 7 7 35 200 171 130 147 1152 104 104 104 286 68 78 9 63 53 70 52	6 5 1 1 5 3 3 14 4 23 81 78 87 49 48 44 44 44 28 33 33 33 24 29 24 23 23 23	CA CA CA CA CA CA CA CA WA AZ UT WA	CM97 CM98 DM12 DM07 DM13 CM88 DM04 DM04 DM04 CN87 CN87 CN87 CN87 CN87 CN87 CN87 CN87
WTXX K1ZK WTQK ABTYK NG1R N1PRW K1SX NTSOH N2SL0 WB2JAY N3BG WA2VNV K2QO N2WA2VNV K2QO N2WBC WB2UJY N2BFG K2AMI WZBYH NZOA WZUDT NZSO WB2UJS KZTV WZKYZ AAZTT WZKVZ NZDCH	2 H H H H H Q M A A A A A A A A A A A A A A A A A A	3,168 420 416 306 52 180 1,188 7,700 6,916 6,174 3,2730 2,624 1,342 1,064 850 455 112 2,310 989 990 442 48 2,318 456	64 30 25 17 9 15 54 116 118 98 101 62 63 32 45 34 45 32 22 14 43 45 68 61 19 19 19 19 19 19 19 19 19 19 19 19 19	19 32 14 13 9 4 12 22 24 14 42 52 42 41 39 32 36 22 19 17 13 8 33 20 17 6 19 12 1	RI VT CT MA MA MA MA NY	FN41 FN31 FN32 FN31 FN42 FN41 FN42 FN40 FN30 FN30 FN30 FN29 FN30 FN29 FN120 FN29 FN120 FN29 FN110 FN20 FN31 FN20 FN31 FN32 FN30 FN31 FN32 FN31 FN32 FN31 FN32 FN31 FN32 FN31 FN32 FN31 FN31 FN31 FN32 FN31 FN31 FN32 FN31 FN31 FN32 FN31 FN32 FN31 FN32 FN31 FN31 FN32 FN31 FN31 FN31 FN31 FN31 FN31 FN31 FN31	W3RFC W33PK KC4PX K4EA KC4PX K4EA KC9IL W64WXE W74GPM NG4C W74G K42W W84HP K5EK K4FW W74LDU W8KHP K5EK K4FW W74LDU W8KHP K5EK K4FW W74LDU K5VIP K4MM K5VIP K4MM K64JD K15FR	MM AAA AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	5,198 144 18,367 15,651 13,188 8,066 7,744 5,000 4,880 4,320 1,384 2,856 1,944 1,872 1,250 1,590 1,380 450 450 1,590 1,590 1,380 450 450 1,590 1,590 1,380 4,500 1,590 1,590 1,380 4,500 1,590 1,500 1	93 16 184 158 151 109 90 74 96 83 66 52 45 51 40 42 46 19 22 30 18 21 17 13 12	56 46 9 81 96 87 84 74 64 50 52 48 42 43 36 35 30 30 19 15 15 16 16 11 11 10	MD MD VA FL GA TN TN AL FL VA SC SC VA GA FL VA GA FL GA FL	FM19 FM19 FM19 FM19 FM19 FM19 EL98 EM774 EM75 EM56 EM74 EM90 FM16 EL87 FM18 EM92 EM93 EM79 FM03 EM86 EM74 EL97 EM96 EM74 EL97 EM96 EL98 FM07 EL98 FM07 EL98 FM07 EL98 FM07 EL98 FM07 EL98 EM74 EL98 EM74 EL98 EM74 EL99	WAGRW N4QWZ K8GP WB2FK0 W700 AI5I WA8ZBT WA5LEP K85W K85V K87IJ KC7QY AJ4F K6SUCA/R W5TV NH7ROW5 W5QZ N5SJ KV5TX K05GEN AGSS KSTMT WD5K N5JR W45DM W5PR W5DM W5PR	22M AAAAAAAAAAAAAAAAAA666666	15,080 1,518 1,518 107,484 17,298 12,816 11,200 1,1200 1,1200 1,140 627 1,581 1,462 1,681 1,460 1,681 1,691 1,691 1,691 1,691 1,491 1,691 1,491	145 33 460 245 163 139 87 61 62 69 51 40 42 37 33 18 16 13 11 13 3399 286 254 166 166	52 23 169 124 93 89 80 51 53 50 30 30 30 19 13 13 163 163 1624 129 105 93	NC	EM96 EM66 EM66 DM75 DM75 DM65 DM75 DM64 DM62 EM12 DM64 DM62 EM12 DM64 EL29 DM64 EL29 DM55 EM01 EM21 EM21 EM21 DM55 EM00 EM12 EM12 DM75 EM00 EM12 EM12 DM75 EM10 DM75	WGIFN K6MCS KK6NWJ KD7WFI K07WFI K09FK0 K2GMY WB2TVB NGRPM W7FI N7IR K7IU.S KE7SW WZ8T N7EPD K07UO K07HV W7TDZ K67P K21W WTTDZ K67P N7BT N7BOZ K7TPP NGLB K7SS K7TS K67V N7BT N7BT K67P N7BT N7BT K67P N7BT K	6 6 6 6 H H Q Q M A A A A A A A A A A A A A A A A A	72 54 40 1 60 24 938 28 966 18,954 11,484 4,964 4,964 4,968 2,706 2,160 1,426 1,425	9 8 1 7 7 7 47 7 35 200 171 130 132 137 104 102 86 68 78 59 63 53 70 52 57	6 5 1 1 5 3 3 14 4 4 23 81 78 87 49 48 44 44 58 33 33 32 24 29 24 23 25 25	CA C	CM97 CM98 DM12 DM07 DM13 CM88 DM04 DM04 CN87 DM43 DN41 CN87 CN87 CN87 CN87 CN87 CN87 CN87 CN87
W1XX K1ZK W1QK AB1YK NG1R N1PRW K1SX N1SOH N2SLO W82UJAY N3RG WA2VNV K2SU W2SVI N2DG W2WK W2SSI W2BVH N2OA W2BVH N2OA W2BVH N2OA W2BVI K2XO W2BVI K2XO W2BVI W2SU W2BVI W2SU W2BVI W2SU W2BVI W2SU W2BVI W2SU W2BVI W2DDT W2SO W3E	2 H H H H H Q M A A A A A A A A A A A A A A A A A A	3,168 420 416 306 52 180 1,188 7,700 7,140 6,916 6,174 3,239 2,730 2,624 2,304 1,342 2,304 4,345 455 112 2,310 989 900 442 48 2,318 456 2 6,435	64 30 25 17 9 15 54 116 118 98 101 71 62 63 52 45 34 32 22 14 70 43 45 26 8 61 19 11 19 19 19 19 19 19 19 19 19 19 19	19 32 14 13 9 4 12 22 44 42 42 41 39 32 366 22 19 17 6 19 12 15 45	RI VT NH CT NH MA MA MA NY	FN41 FN31 FN31 FN32 FN31 FN42 FN30 FN30 FN30 FN30 FN03 FN03 FN12 FN12 FN12 FN20 FN30 FN20 FN31 FN20 FN31 FN20 FN31 FN20 FN31 FN30 FN31 FN30 FN31 FN30 FN31 FN30 FN31 FN30 FN30 FN30 FN30 FN30 FN30 FN30 FN30	W3RFC W33PK W3IP K64PX K4EA KC4NX K9IL W84WXE WA4GPM N64C W0X4G WX4G WX4G WA4LDU W8KHP K5EK WA4LDU W8KHP K5EK K4MM N1GC K0VXM W4ML K5VIP KE1F K4MM K6UJD KI5FR	MM AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	5,198 144 18,367 15,648 15,051 13,188 8,066 7,744 5,000 4,680 4,320 1,944 1,872 1,820 1,750 1,590 1,380 4,50 1,380 4,50 1,380 1,380 4,50 1,380 1	93 16 184 158 151 109 109 74 96 52 45 51 40 42 44 46 49 19 22 30 18 17 13 11 17 13 11 17 13 14	56 46 9 81 96 87 84 64 50 2 45 48 36 36 36 35 30 30 19 19 15 11 10 10 10 10 10 10 10 10 10 10 10 10	MD MD VA FL GA TN TN AL FL VA CSC KY NC AGA FL VA GA GA GA FL VA GA GA FL VA	FM19 FM19 FM19 FM19 FM19 EL98 EM74 EM75 EM56 EM74 EM90 FM16 EL87 EM92 EM93 EM93 EM79 FM03 EM86 EM74 EL97 EM95 EL98 FM07 FM18	WAGRW NAGWZ K8GP WB2FKO W700 AI5I WASLET WASLED NSEPA KSAM K871J K670Y AJ4F KSLY K65UCA/R W5TV NH7RO/W5 W662 NSSJ KV5TX K05GEN AGSS KSTMT WD5K NSJM W5PR WSTN NASDM	2 2 M A A A A A A A A A A A A A A A A A	15,080 1,518 1,518 1,518 32,240 17,298 12,816 5,355 5,049 4,11,200 2,622 1,581 1,140 627 325 208 65,037 35,464 28,350 65,037 85,464 88,856	145 33 460 245 163 163 139 89 87 87 61 62 69 51 40 42 37 33 39 18 16 13 3 11 3 3 3 9 9 11 11 11 11 11 11 11 11 11 11 11 11	52 23 169 124 93 89 80 80 51 51 53 38 31 34 30 19 13 37 7 8 8 3 163 129 105 93 105 105 105 105 105 105 105 105 105 105	NC	EM96 EM66 EM75 DM75 DM75 DM75 DM64 DM62 EM12 DM64 EL29 DM64 EL29 DM55 EM01 EM21 EM21 EM21 EM21 EM21 EM21 EM21 EM2	WGIFN K6MCS KK6NWJ K07WFJ K07WFJ K89FK0 K89FK0 K89FM W7FI N7IR N7IR N7ILS KE7SW W28T N7EPD K07UO W77KP W7GLF N62E77 K21W W7TDZ K6TPP N7BT N7COZ K77HP N6LB K7SS KX7L K4XU	6 6 6 6 H H Q Q M A A A A A A A A A A A A A A A A A A	72 54 40 11 60 24 938 28 966 18,954 14,664 3,931 3,738 2,706 1,827 1,880 1,426 1,425 1,426 1,425 1,438 1,380	9 8 1 7 7 7 47 7 35 200 1711 130 132 137 104 104 104 104 59 63 53 70 52 57 43	6 5 1 1 5 3 14 4 23 81 78 87 49 48 44 44 28 33 34 42 23 23 23 25 20	CA CA CA CA CA CA CA CA CA WA AZ UT WA AZ WA WA OR WA OR OR OR OR	CM97 CM98 DM12 DM07 DM13 CM88 DM04 CN87 DM43 DN41 CN87 CN87 CN87 CN87 CN87 CN87 CN87 CN87
W1XX K1ZK W1QK AB1YK NG1R NG1R N1PRW K1SX N1SOH N2SL0 W82JAY N3RG WA2VNV K2QO N2WK W2SJ N2WK W2SJ N2BEG K2AMI W2BVH N2OA W2UDT N2SO WB2UJS K2TV K2XA K2SSS WA2ACV AA2TT W2KV/Z N2DCH	2 H H H H H Q M A A A A A A A A A A A A A A A A A A	3,168 420 416 306 52 180 1,188 7,700 6,916 6,174 3,2730 2,624 1,342 1,064 850 455 112 2,310 989 990 442 48 2,318 456	64 30 25 17 9 15 54 116 118 98 101 62 63 32 45 34 45 32 22 14 43 45 68 61 19 19 19 19 19 19 19 19 19 19 19 19 19	19 32 14 13 9 4 12 22 24 14 42 52 42 41 39 32 36 22 19 17 13 8 33 20 17 6 19 12 1	RI VT CT MA MA MA MA NY	FN41 FN31 FN32 FN31 FN42 FN41 FN42 FN40 FN30 FN30 FN30 FN29 FN30 FN29 FN120 FN29 FN120 FN29 FN110 FN20 FN31 FN20 FN31 FN32 FN30 FN31 FN32 FN31 FN32 FN31 FN32 FN31 FN32 FN31 FN32 FN31 FN31 FN31 FN32 FN31 FN31 FN32 FN31 FN31 FN32 FN31 FN32 FN31 FN32 FN31 FN31 FN32 FN31 FN31 FN31 FN31 FN31 FN31 FN31 FN31	W3RFC W33PK KC4PX K4EA KC4PX K4EA KC9IL W64WXE W74GPM NG4C W74G K42W W84HP K5EK K4FW W74LDU W8KHP K5EK K4FW W74LDU W8KHP K5EK K4FW W74LDU K5VIP K4MM K5VIP K4MM K64JD K15FR	MM AAA AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	5,198 144 18,367 15,651 13,188 8,066 7,744 5,000 4,880 4,320 1,384 2,856 1,944 1,872 1,250 1,590 1,380 450 450 1,590 1,590 1,380 450 450 1,590 1,590 1,380 4,500 1,590 1,590 1,380 4,500 1,590 1,500 1	93 16 184 158 151 109 90 74 96 83 66 52 45 51 40 42 46 19 22 30 18 21 17 13 12	56 46 9 81 96 87 84 74 64 50 52 48 42 43 36 35 30 30 19 15 15 16 16 11 11 10	MD MD VA FL GA TN TN AL FL VA SC SC VA GA FL VA GA FL GA FL	FM19 FM19 FM19 FM19 FM19 FM19 EL98 EM774 EM75 EM56 EM74 EM90 FM16 EL87 FM18 EM92 EM93 EM79 FM03 EM86 EM74 EL97 EM96 EM74 EL97 EM96 EL98 FM07 EL98 FM07 EL98 FM07 EL98 FM07 EL98 FM07 EL98 EM74 EL98 EM74 EL98 EM74 EL99	WAGRW N4QWZ K8GP WB2FK0 W700 AI5I WA8ZBT WA5LEP K85W K85V K87IJ KC7QY AJ4F K6SUCA/R W5TV NH7ROW5 W5QZ N5SJ KV5TX K05GEN AGSS KSTMT WD5K N5JR W45DM W5PR W5DM W5PR	22M AAAAAAAAAAAAAAAAAA666666	15,080 1,518 1,518 107,484 17,298 12,816 11,200 1,1200 1,1200 1,140 627 1,581 1,462 1,681 1,460 1,681 1,691 1,691 1,691 1,691 1,491 1,691 1,491	145 33 460 245 163 139 87 61 62 69 51 40 42 37 33 18 16 13 11 13 3399 286 254 166 166	52 23 169 124 93 89 80 51 53 50 30 30 30 19 13 13 163 163 1624 129 105 93	NC TN VA NIM NM NM TX TX NM NM TX TX TX TX TX TX TX TX TX TX TX	EM96 EM66 EM66 DM75 DM75 DM65 DM75 DM64 DM62 EM12 DM64 DM62 EM12 DM64 EL29 DM64 EL29 DM55 EM01 EM21 EM21 EM21 DM55 EM00 EM12 EM12 DM75 EM00 EM12 EM12 DM75 EM10 DM75	WGIFN K6MCS KK6NWJ KD7WFI K07WFI K09FK0 K2GMY WB2TVB NGRPM W7FI N7IR K7IU.S KE7SW WZ8T N7EPD K07UO K07HV W7TDZ K67P K21W WTTDZ K67P N7BT N7BOZ K7TPP NGLB K7SS K7TS K67V N7BT N7BT K67P N7BT N7BT K67P N7BT K	6 6 6 6 H H Q Q M A A A A A A A A A A A A A A A A A	72 54 40 1 60 24 938 28 966 18,954 11,484 4,964 4,964 4,968 2,706 2,160 1,426 1,425	9 8 1 7 7 7 47 7 35 200 171 130 132 137 104 102 86 68 78 59 63 53 70 52 57	6 5 1 1 5 3 3 14 4 4 23 81 78 87 49 48 44 44 58 33 33 32 24 29 24 23 25 25	CA C	CM97 CM98 DM12 DM07 DM13 CM88 DM04 DM04 CN87 DM43 DN41 CN87 CN87 CN87 CN87 CN87 CN87 CN87 CN87

NJ MD MD

PA FN10 MD FM19

FM19 FM18

A 24 4 6 33,300 300

W4WN1

DM43 DM33

DITS and DAHS

The .A_B. _C_.'s of Morse Code Operating

BY ED TOBIAS, KR3E

This small but solid guide is the perfect read for those interested in learning or improving CW operating techniques!

Within its pages you'll find:

- The secret of becoming a proficient CW Operator
- Where and how to practice, practice.
- Straight Key or Paddle?
- Adjusting your Straight Key or Paddle
- Keyers, lambic Keying and Bugs
- Contests & Events, DXing
- Operating QSK
- CW Filters
- Signs, Signals and Procedures
- Tips on Taking CW On the Road
 ... and much, much more!

6 X 9 Paperback Only \$15.95

NEW

Shipping & Handling: U.S. & Possessions \$3.00; CN/MX \$5.00; All Other Countries \$10.00

CQ Communications, Inc. 17 West John St., Hicksville, NY 11801 http://store.cg-amateur-radio.com

NEW radiosport SuperLight

Travel Headsets

RS10SL Listen Only

\$119

RS50SL w/Boom-Mic w/InLine PTT \$219

for Elecraft KX2/KX3 ELAD FDM-Duo Yaesu FT-817 and more...

RS55SL w/Boom-Mic Full Range Stereo TRRS (CITA) Plug

RS15SL w/Boom-Mic Single-Sided TRRS (CITA) Plug

\$155

\$159

Travel Bag radiosport logo December Special

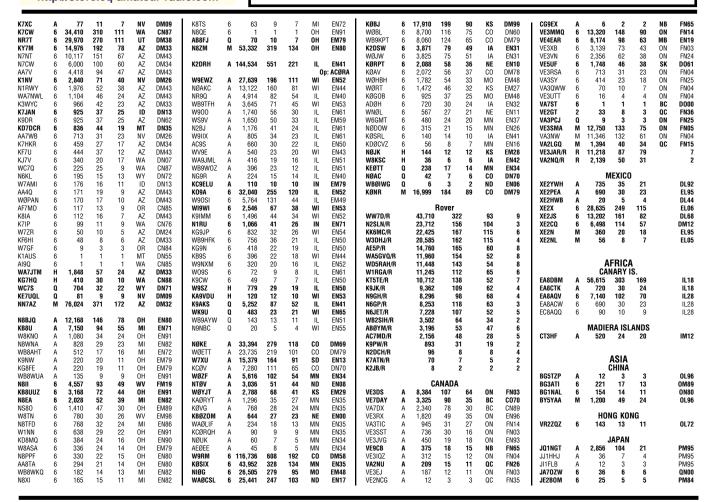
\$35







805-504-3944 M-F 9AM-6PM, Sat 10AM-2PM (Pacific Time)



www.cq-amateur-radio.com January 2018 • CQ • 41

JR8QFG	6	4	2	2	QN03	9M4COK	M	990	33	15	JJ00				INLANI						IALTA		
JAØNFP JG1GCO	6	4 0	2 N	2 0	PM97 PM95	9M4CRX	M	28	5	4	OJ05	OF8UV/9	6	504	24	21	KP46	9H1AE	6	26,136	216	121	JM75
JR2WLQ	2	2	1	1	PM84									-	DANOE					MC	LDOVA		
JJ1WWL/1		55	11	5	PM96			El	JROPI	E		F6HZZ	6		RANCE 30		JN23	ER2RM	6	30	6	` 5	KN46
JA1GZK/1	Н	1	1	1	PM96			A	USTRI <i>i</i>	١		F6CZV/P	6	690 25	ას 5	23 5	IN77	LIILIIII	٠	00	٠	٠	11140
JR1UJX	Q	924	64	11	PM95	0E1S0W	2	108	9	6	JN88	10021/1	u	20	J	3	"""			NETH	ERLAN	DS	
JR1NKN	Q	16	4	4	PM95	0E3MDB	Q	451	22	11	JN88			GF	RMAN	Υ		PA5WT	Α	399	21	19	J022
JE1ILP	Q	9	3	3	PM95							DL3JJ	6	7.200	100	72	J060	PA5KT	Α	330	19	15	J011
JJ2YKZ	M	12	3	3	PM84			BALEA	RIC ISL	ANDS		DK2OY	6	884	34	26	J044						
		e.	LANKA			AM625VQ	6	12,512	136	92	JM19										RWAY		
4S7JL/R	R	660	33	10	5										REECE			LA9BM	6	1,435	41	35	JP40
4073L/11		000	33	10	•	FILANY			ELARUS		W040	J42T	6	792	33	24	KN00			P	DLAND		
		TH	AILAND	1		EU4AX	2	220	11	10	K013	SV4RRK	6	20	5	4	KM09	SP3UR	6	418	22	19	J092
E24QND	2	21.510	239	45	OK16		BU	MA AIMS	U HEB	ZEGOVINA		SV1NZX	6	9	3	3 88	KM17	SP7AWG	6	36	6	6	J091
HS3LSE	2	324	18	9	0K14	E7TT	6	9,315	115	81	JN92	J48KEF	M	14,080	159	88	KM08	SP9RCX	2	648	27	12	J090
HS3ANP	2	306	17	9	0K14		٠		p: E73S	٠.	UNU			н	JNGAR	v							
HS4QLM	2	210	15	7	OK17	E71W	6	154	14	11	JN93	HA8XI	Α	9.776	109	52	JN96			P0	RTUGA	L	
HS4LKW	2	200	25	4	0K16	E7ØAA	H	399	21	19	JN93	HG3X	2	28.320	240	59	JN96	CT7AIX	Α	352	22	16	IM59
E23UYT	2	174	29	3	NJ99							HA5JX	2	8	2	2	JN97	CT1BOL	6	4,263	87	49	IN51
E29UGB	2	132	22	3	NJ98				ILGARI			HA5UA	6	2,700	60	45	JN97	CT1GVN	6	3,978	78	51	IM67
E24VSR	2	128	16	4	0J06	LZ2ZY	Α	1,600	40	20	KN13	HA7LW	6	858	33	26	JN97						
HS5NMF HS8JWH	2	114 102	19 17	3 3	OK03 NJ98	LZ1YE	6	460	23	20	KN22	HA1RJ	6	72	9	8	JN87				MANIA		
E24KHS	2	90	15	3	0K14	LZ2J0W	Q	12	3	3	KN34	HA2KSD	6	16	4	4	JN97	Y02GL	A	2,244	43	34	KN05
HS8GLR	2	64	16	2	0J07			C	ROATI <i>A</i>	ı		HA1ZH	Н	6,125	87	49	JN86	YO7LYM YO5BRE	A	364 330	17 16	13 15	KN14 KN07
E29AU	2	36	6	3	0K03	9A1CBM	Α	2.562	52	42	JN83	HA2VR/P HA5KDQ	H	4,588 24.621	79 191	37 87	JN87 JN97	Y07LDT	A	33U 8	2	2	KN14
LLUNO	-	00	Ü	Ü	Op: E21IZC	SATUDIN	м	2,302	32	42	Op: 9A5ST	наэкиц	u	24,621	191	87	Op: HA5IW	YO2NAA	6	828	36	23	KN05
HS6ZBQ	2	36	6	3	NK96	9A3CJW	Α	42	6	6	JN83	назнх	0	1.218	42	29	JN86	Y07AWZ	6	272	17	16	KN14
E2ØYLM	2	18	3	3	0K16	9A9I	2	5.562	103	27	JN85	HA60A	ā	12	3	2	JN97	Y02LEL	6	54	9	6	KN05
HS4ZGZ	2	12	3	2	0K07	9AØV	M	13,940	170	41	JN95	HA6W	M	95.029	382	163	KN08	Y07CKP	6	30	6	5	KN14
HS4WLA	2	8	2	2	0K17							HG6Z	M	8,424	117	36	JN97	Y03GNF	6	20	5	4	KN34
HS8JKY	2	8	2	2	NJ98				i REPU									Y05CUQ	6	20	5	4	KN16
E21HSY	Q	8	2 300	2	0K03	OK1DC	Α	8,610	107	42	JN69			IF	RELAND)		Y06MT	6	12	4	3	KN26
E27AAA E24TAQ	M	11,400 10.836	258	19 21	0K04 0K04	OK1GTH	2	16,376	178	46	JN69	EI5IX	6	2,232	62	36	1053	YOSSAO/P	H	18	6	3	KN26
E27AL	M	10,830	270	20	0K25			ne	NMAR	v								Y05AXF/P	u	176	14	11	KN16
HS9JGQ	М	8.600	172	25	0K06	0U3U	6	16	. IN IVITAL 1	ι 4	J045				ITALY					SC	DTLANI	1	
E24SBC	M	5,916	174	17	OK03	0000	٠		-	-	0040	IQ4FF	6	456	24	19	JN64	GMØV	Α	588	28	21	1085
HSØQQB	M	5,180	185	14	0K04			EN	IGLANI)		I4JEE	6	210	15	14	JN54	amb v	^	000			Op: GMØOQV
HS1EFA	M	2,400	150	8	OK03	GØFPU	6	1	1	1	1092	IZ1DFG IZ2JNN/IN3	6	120 1.032	12 43	10 12	JN44 JN55						
HS3PIK	M	1,496	68	11	OK05							IZZJNIV/ING	Н	30	43 6	5	JN65			S	ERBIA		
E28AD	M	1,296	54	12	NK98			EUROP				IZ3NVN	ü	1	1	1	JN65	YU1AHW	6	1.302	42	31	KN13
E23VYK	M	1,122	51	11	OK16	R6KA	6	825	33	25	KN75	IZOALW	۷.	•	•	•	01100			,			Op: YT2TA
E2ØAE HS3WZO	M	468 264	39 22	6 6	0K04 0K14	RD3FD	2	4,368	56	39	L005				ATVIA			YU1RA	6	108	12	9	KN04
HS9AY	M	114	19	3	0J06	R6CS R3CT	2	4,320 3,196	54 47	40 34	KN95 KO86	YL3CAAC	н				КО06	YU1BFG	M	11,084	128	68	KN04
E28LX	M	96	12	4	0K08	UA1ANA	2	2,340	39	34 30	K069	YL3CAAC YL3CAAD	Н	2	1	1	K006						
HS3NJP/R		7.040	176	20	4	RK1AS	á	2,340	40	34	KP40	ILOUAND	п	2			KUUU			S	ICILY		
E27DIX/R	R	2,898	63	23	5	RN3DKQ	ă	162	9	9	K085			LIT	THUAN	IA		IT9XTP	Α	12,870	143	90	JM68
E22EXA/R	R	64	8	4	2	UA6AH	M	168	12	7	KN94	LY2FN	2	40	5	4	K014	IT9NAN	6	986	34	29	JM77
	_		MALAY				_	EUR0P					_		CEDON						OVENI <i>i</i>		
9W2JMW	Q	1	1	1	0J12	TA1D	6	4,655	95	49	KM39	Z3K	6	16	4	4	KN02	S59A	6	6,633	99	67	JN76

The "Unofficial" Left Coast Report for the 2017 CQWW VHF Contest

BY BRUCE KRIPTON, KG6IYN

It was the analog of times. It was the digital of times.

As would be the norm for my operating in any contest, I started this event about two hours after the starting gun. With work and family obligations (both of those are also important), there wasn't time to stage and build a day in advance as I normally try to. All work to set up and run the event happened Saturday morning with subsequent teardown Sunday afternoon, once the contest was over (for those interested, a "complete" time lapse video of the event from beginning to end is available here: http://bit.ly/2zkOnLv.

Radios turned on, computer running, time synced to WWV and it's off to the races. Coming out of the gate, it's all local traffic, with a few exceptions 300 miles east in Arizona on 2 meters.

About an hour in for me (close to three hours in from the official start time) propagation on 6 meters starts up to the Pacific Northwest: Oregon, Washington, Idaho and various parts of Canada. As the next couple of hours progress, Es starts a slow, clockwise rotation towards the Midwest and Great Lakes region and some odd hits to the Northeastern U.S. that became more of a persistent "path" for well over two hours.

After that, on 6 meters, it was random contacts in the 500- to 1,000-mile range to the Texarhoma region. As we got into the late afternoon hours and rolling in to early Saturday evening, it

was back to the Pacific Northwest again, which is where the evening ended.

Sunday morning, all was quiet on the 6-meter side, but it was time again to catch the "early birds" in Arizona and Nevada on 2 meters (Thanks to the Desert Rats and other clubs that are encouraging activity during these events). As midmorning progressed, 6 meters came to life in a big way to the southern central states again [with shorter and longer hops via Sporadic E (Es) mixed in] and stayed that way until the closing bell at end of the contest.

And now for the weird and Left Coast-related observations:

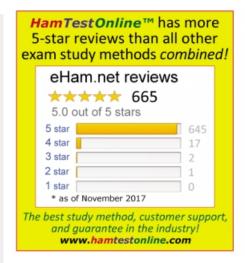
If you happened to "watch" the contest on the propagation reporting sites on the internet, it was clear that almost all of the reported activity was from the central states to the east coast or thereabouts. Way off to that infamous lower left-hand corner of the continental United States, there was only a small group of operators working the openings on 6 meters. Here is where I describe why I opened the ULCR for 2017 with "It was the analog of times. It was the digital of times."

If you happened to participate in the ARRL June VHF Contest a month earlier, there was a big "game changer" that happened with the latest release of WSJT X and its JT65 updates right before the contest. Effectively it made contacts possible even when there was no apparent propagation mechanisms avail-

42 • CQ • January 2018 Visit Our Web Site

S56P	2	23,280	194	60	JN76
S59GS	Q	1,058	31	23	JN75
		;	SPAIN		
EA1ASC	Α	7,006	104	62	IN70
EB1DJ	Α	4,459	88	49	IN52
EA1HRR	Α	2,914	56	47	IN83
EA3HJO	Α	962	37	26	JN11
EA4DE	6	6,528	102	64	IN80
EA5IDQ	6	4,674	82	57	IM98
EA1DHB	6	2,948	67	44	IN82
EA4AA	6	2,820	60	47	IN80
EA3AYQ Ea3kn	6 6	1,666 64	49 8	34 8	JN11 JN01
EA3KN EA4CU	0	180	0 14	0 12	IN80
EA460	u	100	14	12	INOU
		9	WEDEN		
SM6WET	6	49	7	7	J068
SM4GGC	2	16.000	100	80	J069
0	-	.0,000		-	0000
		U	KRAIN	F	
US1Q	Α	6,751	99	43	KN86
					Op: UT1IC
UY1HY	Α	4,230	61	47	K060
UT7QF	Α	2,204	50	29	KN77
UY7QN	Α	1,632	40	24	KN77
UT8LE	Α	1,232	31	22	KN79
UT7QB	Α	765	31	17	KN77
UT3UA	A	648	27	24	K050
UZ5Q	Α	319	20	11	KN77
UX2QL	A	208	13	8	KN87
UY5Q0 UT2QQ	A	104 99	9 11	8 9	KN77 KN77
UY5YA	A	28	7	4	KN87
UT5EL/A	A	18	3	3	K031
UR5LEH	Â	8	2	2	KN89
UW7LL	6	1,656	46	36	KN79
UW1HM	6	1,400	40	35	KN69
UT8IO	6	1,140	38	30	KN87
US8ZAL	6	660	30	22	KN66
UX4UA	6	285	19	15	K050
UY9VY	6	121	11	11	KN68
UT6U	6	108	11	9	K050
UT4XU	6	99	11	9	K040
UZ5U	6	72	9	8	K071
UT5CB	6	16	4	4	KN59
UR5QW	6	. 6	3	2	KN77
UXOFF	2	10,560	80	66	KN45
UR3EE	2	5,220	58	45	KN88
UT7EL	2	1,560	39	20	KN77

IIXAUU





US5IUF UT2UB	2	418 408	19 17	11 12	KN88 K050			SOUTH B	I AMEI Razil	RICA	
UR8QE	2	252	18	7	KN77	PU2TRX	Α	220	30	4	GG66
UR7QD0	2	160	16	5	KN77	PY2ZZ	Α	168	28	3	GG66
URØQA/P	2	150	15	5	KN77	PY2AXH	Α	51	9	3	GG66
UR7QDU	2	14	7	1	KN77	PU1XZU	Α	32	4	4	GG77
EM3U	Н	456	19	12	KN59	PP5EK	A	2	1	1	GG43
UT1ZZ/A	Н	4	2	1	KN48	PV8DX	6	63	9	7	FJ92
UT6EY	Q	2,924	48	34	KN77	PV8A7	6	15	5	3	FJ92
UR8GZ	Q	1,875	40	25	KN66	PY2NF	2	768	64	6	GG66
UY50N	Q	1,512	37	24	KN89	PU2TYA	2	30	15	1	GG66
UX4IJ	Q	1,218	29	21	KN88	PY2KS	2	30	15	i	GG66
UT3G/P	Q	1,088	32	17	KN76	PU2NAX	2	28	14	i	GG66
					Op: USØGB	PY2TTE	2	20	5	2	GG76
UR6QW	Q	256	16	8	KN77	PU2MVF	2	16	8	1	GG66
UZ7W	M	3,108	60	42	KN18	PY2RBN	2	10	5	i	GG66
UT7E	M	2.346	44	34	KN78	PU2PSP	Ô	111	21	3	GG66

PUZMIMP M 1,192 77 8 GG66
PY2LCD M 200 27 4 GG66

VENEZUELA
VV6CR A 168 14 8 FJ78

CHECK LOGS

These logs were used for cross-checking. Checklogs are always appreciated. AB3AI, CT1AVR, E72U, EA8BPX, FP/KV1J, GW6KLQ, IKTLMX, KØGU, K3MEC, LY2X, LZ1VQ, N1FD, PY2SHF, RN6MA, SP2HHX, UR1I, UR4LIN, UR5WMM UT4UFZ, Y050H0.

DISQUALIFIEDE24QND – Excessive unverified QSOs and grids.

able on 6 meters. So, for that event, there were more folks on digital than I have ever seen ... either on the radio by listening, or on the computer via the waterfall. The humorous note for me was seeing 20 to 30+ traces (or more) going by on the computer screen, all of them more than strong enough (many were S-9+) to have easily been worked by phone. So, for those of us on the Left Coast, we were taking advantage of slow, but solid runs, as well as search-and-pounce operations, without contention on phone and CW (analog), while others were fighting it out on digital with lots of other folks and making a digital Q every three to four minutes at best.

KN87 K080 KN89

Jumping back to the current CQWW VHF Contest, the previous week saw the release of WSJT X and its improved FT8 mode. Now clearly there's an advantage that FT8 can potentially make a valid contact and exchange in about 30 seconds, instead of three to four minutes with JT65, but we observed the same challenges noted in the June ARRL VHF Contest. Twenty to 40 signals at a time on the waterfall, most signals over S-9, and many stations running more power than needed while causing interference to other stations also trying to make contacts. The folks out here on the Left Coast once again leveraged phone and CW to work the spotty Es conditions that prevailed for the duration of the contest, where often there was only a short window for a full exchange of information to make a valid contact entry. For much of the contest, the propagation did not support second chances.

The other interesting aspect was that so many participants were playing with digital, the calling frequencies and spots adjacent to them on CW and phone were often dead quiet. No one calling CQ, no local chatter, etc. So while all was quiet here, there were huge pileups in the central states and eastern seaboard on phone, CW, and digital. If you weren't calling CQ from the Left Coast, you weren't making contacts, despite

reports several of us were in "solid" to Texas for several hours, we heard no traffic on our side — just CQ replies from random grid squares that the Es was kind enough to "light up" for us.

Lessons Learned

We observed and "eavesdropped" on many PSK-31 and WSJT-X based QSOs. It was interesting, but it was clearly a detractor that so many were learning the ropes in a contest venue. It was also interesting to "see" a signal jump from a mid-S "something" to S9+20 or more when the operator got frustrated and didn't think he was getting out. The point again was that there was a lack of folks using more conventional modes (CW, phone) when the propagation supported it. For those on the Left Coast, jumping on the radio and listening to the calling frequencies for a few moments, hearing nothing and turning off the radio was an opportunity lost. Call CQ for at least several minutes, spin the dial up beyond 50.200, and at least to 50.350, to see if you can "hear" any digital activity, which could be an additional indicator the band is open to somewhere.

For the folks doing digital — if you're getting chewed up in the dogpile or pileup and the propagation is good, go back to CW or phone where you'll likely make loads of contacts with those who do not have digital capabilities, then fall back to digital modes when the propagation enhancement starts to fade.

As always, I want to thank to folks at *CQ* Magazine for sponsoring and supporting this event each year as well as the operators who also played on the airwaves over the weekend. To date, and having enjoyed this contest for over 10 years, from here on the Left Coast, this was a new high-water mark for new and longtime operators participating in the contest – a trend I hope will to continue to grow.

Comments and feedback are always welcome, you can email here: <kg6iyn@arrl.net>. - 73, Bruce, KG6IYN