

Results of the 2018 CQ DX Marathon

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Whether you are a supporter of FT8 or want nothing to do with it, this new mode had a major impact on the 2018 CQ DX Marathon. With truly bad band conditions in 2018, we expected a significant drop in total QSOs and lower overall scores. We did see lower total scores but total QSOs were essentially flat from 2017 and actually higher than 2016. More than half of all QSOs in 2018 were made using digital modes, with the majority of those being FT8. In 2016, digital QSOs made up just 20% of the overall QSO total.

FT8 did bring some new hams to the DX Marathon, but their FT8 QSOs clearly came at the expense of phone QSOs, which were 40% of all QSOs in 2015, yet just 16% in 2018. Perhaps the weak-signal capabilities of FT8 allowed stations with smaller antennas and lower power to work more countries. North America appeared to jump on the FT8 mode very quickly as NA was the only continent to record an increase in overall participants in 2018. Although fewer participants submitted logs in 2018, as expected, the people who did submit were very active. The average number of QSOs per person was up 20% over 2017 and identical to the level in 2015, when sunspot activity was very good. Digital-only submissions saw a big increase from just 5% of the total in 2015 to 15% in 2018. Phone-only submissions dropped to just 6% of the total, while CW-only submissions remained steady.

The maximum possible score in 2018 was 333, a slight increase over 2017. Although signals may be weak, there is still plenty of DX activity. Not surprisingly, fewer high score records were broken in 2018, but 22 new records is still very impressive, considering the band conditions. One of the new records was a new 6-meter high score set by I4EAT — 147 — more than the highest 10- or 12-meter scores. The majority of his QSOs were digital, presumably FT8. The 10-, 12-, and 15-meter bands accounted for only 17% of total DX Marathon QSOs in 2018, reflecting the poor conditions on our higher HF bands. Twenty, 30, and 40 meters accounted for 64% of all QSOs,



Jim, K2JL, had the top worldwide Formula Class score in 2018 — very impressive considering he had three major operations in 2018. Jim felt the DX Marathon was very therapeutic — we agree. Jim was licensed in 1978 and has never run more than 100 watts. Jim uses a TS590 plus various wires and a 43-foot vertical antenna.

with 30 meters recording the largest increase — 175%. The majority of the 30-meter QSOs were digital.

And the Winners Are...

Winning the DX Marathon takes a lot of patience and time in front of the rig, especially during periods of low sunspots. Bill, K2TQC, seems to have the right formula for winning — once again Bill came out on top, making three years in a row as top worldwide DX Marathon scorer. Bill had a total score of 326 — very impressive considering the conditions. Confirming the broader trend we saw in 2018, the majority of Bill's QSOs were on CW and digital. In second place, and a former Marathon top place finisher, was Eduard, OM3EY, who finished with a total score of 323. Oms, PY5EG, finished third at 322. Rounding out the top five were Serge, R6YY, in fourth place with a score of 321; and Marvin, VE3VEE, with a score of 318 in the fifth position. Serge has placed in the top 5 for the last four years. Marvin was also once again the number-one finisher in the 20-meter only category. Newcomers to the over-

all Top Ten worldwide include John, K2ZJ (6th), Graham, VK3GA (7th) and Shin-ichi, JAØDAI (10th).

In the Limited Class category, congratulations to Alex, EW7A, who jumped from 14th place in 2017 to first in 2018. His score of 274 was very impressive in light of the current conditions. Alex uses a hex beam for the higher bands. Second and third place positions went to newcomers to the top three: W9RF at 265 points and PY2SPW at 255 points, respectively. In Formula Class, 100-watt option, the winner is James, K2JL, with a very impressive score of 293 points. James uses a 43-foot vertical and wires for his antenna system. TA4RC finished second with 273 points and HA7LJ finished third with 261. Istvan (HA7LJ) has consistently placed in the top three in Formula Class. Working the Marathon with wire antennas is a difficult challenge with no sunspots.

Even more difficult working DX are those brave hams who do so with QRP power. This year we saw another decline in 5-watt submissions and average scores were also lower than in pre-

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vious years. Congratulations to Karel, OK2FD, for winning the QRP category with score of 262 points. Fulvio, IV3AOL, repeated his second-place finish of last year with an impressive 234 points, which was identical to his 2017 score.

Each year, about 25% of the DX Marathon participants choose to submit scores for a single mode, and 2018 was no exception. As noted above, phone submissions dropped significantly while digital-only submissions almost doubled. CW-only submissions were down slightly, but very close to the annual average.

One person who seems to really enjoy CW is Lada, OK2PAY, who, for the fourth year in a row, had the highest overall CW-only score. The top North America CW score went to John, K3MA, who finished just 5 points behind Lada. Both Lada and John will soon hold beautiful DX Marathon plaques for their efforts. Ken, W1NG, was 2 points behind K3MA and continues his string of top CW finishes.

On phone, Bruno, PY6BA, in his first attempt at winning, made a very strong effort and came in first with a score of 300. Gert, PA2LO, repeated his second-place finish from last year with a very respectable score of 269.

Digital-only submissions were up 30% from 2018 and represented over half of the single-mode submissions. This is a major change — in 2015 digital submission were only 5% of the total entries. The digital-only category also saw the only increase in high scores. The ability of FT8 to work weak signals clearly was responsible for the score increases. The top digital-only score was the same as phone and only a few points behind the top CW score at 300. The winner of the digital category once again is Jan, OM5XX, who increased his 2017 score by 10 points to win the digital plaque. Coming in second at 270 points was Piero, IK5FKF — always a top contender in the digital category. Vlad, RZ1OA, came in third with 260 points.

In addition to the overall and mode plaques, each year we award plaques to the top score on each continent plus the highest score on each of the 10- through 80-meter bands. Top honors for Africa once again went to EA8AXT with his 307 points, just one point less than his 2017 score and higher than his 2016 winning score. In Asia, JAØDAI has never finished lower than 4th in the last 5 years, but in 2018 had the high score with 311, which is also his highest score in

TOP SCORES

BOLD = Plaque Winners
* = Certificate Winners
Callsign is followed by Score

Unlimited Class	Africa	10 Meters	K7ZV.....161
K2TQC 326	EA8AXT 307	PY2CP 131	K4IQJ.....127
OM3EY.....323	CT3MD.....261	PY2TMV.....65	
PY5EG.....322	ZS2EZ.....228	ZY2G.....47	
R6YY.....321	ZS6C.....224	PU2LEW.....45	
VE3VEE.....318	ZS6AI.....220	PU2XMY.....19	
K2ZJ.....318			
	Asia	12 Meters	CW-Europe
Limited Class	JAØDAI 311	WK3N 112	OK2PAY.....307
EW7A 274	TA4RC.....273		DL6DH.....277
W9RF.....265	A92GE.....270	15 Meters	PAØINA.....246
PY2SPW.....255	TA2LG.....261	PU2WSQ 226	
HA0IV.....254	R9AB.....253	PU2WDF.....225	CW-North America
PY1SX.....252		PY2CX.....219	K3MA 302
	Europe	PU5YSV.....176	W1NG.....300
Formula Class - 100w	OM3EY 323	ZS6HON.....156	W4QN.....286
K2JL 293	R6YY.....321		W4JS.....268
TA4RC.....273	PA3FQA.....312	17 Meters	K6XT.....266
HA7LJ.....261	DL5AN.....310	EA1DR 287	
YV5OIE.....260	9A2AJ.....310	LY5M.....213	Zones
TA1CM.....259			KL7KK*.....228
	North America	20 Meters	WO7R*.....302
Formula Class - 5w	K2TQC326	VE3VEE 318	VE3VEE.....318
OK2FD 262	VE3VEE.....318	CX3AL.....217	K2TQC.....326
IV3AOL.....234	K2ZJ.....318	K3HW.....169	CO2QU*.....190
K8ZT.....222	K9NU.....313	PP7DX.....152	HK3W*.....268
W8QZA.....208	W9ILY.....309	K2RK.....141	HCSVF*.....157
KZ3I.....87			PY5EG.....322
	Oceania	30 Meters	CE7KF*.....160
CW	VK3GA 313	PY2ADR 252	LU5HA*.....222
K3MA302	YB5QZ.....303	PY2XO.....220	PA3FQA*.....312
W1NG.....300	ZL2IFB.....300	PY2LCD.....214	OM3EY.....323
W4QN.....286	VK3BDX.....271	W1JR.....206	R6YY*.....321
DL6DH.....277	VK3SIM.....267	K6FW.....122	R9AB*.....253
			YO3APJ*.....273
	South America	40 Meters	A92GE*.....270
Phone	PY5EG 322	W9KNI 297	VU2IBI.....211
IPY6BA 300	PY6BA.....300	9A2EU.....268	BV1EK*.....235
PA2LO.....269	PR8ZX.....298	PP5JR.....228	JAØDAI.....311
EA5HRV.....246	PY5DK.....298	K9CJ.....216	4F3OM*.....190
W4HY.....246	PY7DJ.....293	CM2RSV.....163	YB5QZ*.....303
KL7KK.....228			VK6DW*.....192
	6 Meters	80 Meters	VK3GA.....313
Digital	I4EAT*147	N3QE 188	ZL2IFB*.....300
OM5XX 300	IW2CAM.....92	PY5XH.....76	EA8AXT.....307
IK5FKF.....270			ZS2EZ*.....228
		160 Meters	TF3DC*.....194
		W1TC*182	

Note: Top scorers in some zones received Plaques or Country Certificates.

the last 5 years. The battle for the Europe's top score is always close but, once again, OM3EY came out on top with a score of 323 followed closely by R6YY with 321. Their scores are almost identical to last year's and we congratulate both on their continued excellent results in the DX Marathon. In Oceania, VK3GA managed to improve on his 2017 winning score to once take top honors with a score of 313. YB5QZ and ZL2IFB were close behind in 2nd and 3rd, respectively. No North America plaque is awarded as Bill, K2TQC, already took overall worldwide honors. Oms, PY5EG, one of the top winners since the beginning of the DX Marathon, took home top South America honors with a score of 322.

About 10% of DX Marathon participants submit single-band scores each year and 2018 was no different. For the 2018 single-band competitions, there were only six entries for 10-meters, all from Brazil. The 10-meter plaque was won by PY2CP with an amazing top score of 131 points — higher than 2017's 10-meter winning score. WK3N once again took top honors for 12 meters with a score of 112. We had some



John, OM5XX, has been very active since he retired and is a DX Marathon multiple plaque winner. He is shown here with his 2015 Limited Class plaque and his 2017 Digital plaque. Very soon he will add the 2018 Digital plaque to his collection.



Shin-ichi, JA0DAI, is a retired engineer and an active DX Marathon participant who credits the Marathon with keeping him active every day. He has a large array of antennas — clearly helping him to win the 2018 plaque for top Asia score.

CLUB SCORES

Club	Score
CDR GROUP.....	14,609
Rio DX Group.....	4,564
Northern Illinois DX Association.....	4,425
Araucaria DX Group.....	3,819
Mother Lode DX/Contest Club.....	2,831
Carolina DX Association.....	2,811
Willamette Valley DX Club.....	2,086
East Tennessee DX Association.....	1,985
Metro DX Club.....	1,826
YB Land DX Club.....	1,645
Yankee Clipper Contest Club.....	1,534
Salt City DX Association.....	1,315
Radio Club Venezolano.....	1,044
NERG.....	979
Society of Midwest Contesters.....	901
Bahia Dx Group.....	875
CMDXGroup.....	864
Potomac Valley Radio Club.....	844
Lone Star DX Association.....	791
Central Arizona DX Association.....	763
ARI.....	652
Florida Contest Group.....	632
VU Contest Group.....	608
Croatian Contest Club.....	578
Southern California DX Club.....	573
Bavarian Contest Club.....	566
Arizona Outlaws Contest Club.....	528
Vytautas Magnus Univ Radio Club.....	492
Rhein Ruhr DX Association.....	435
GITRAD.....	429
Frankford Radio Club.....	421
LUCG.....	390
CABREUVA DX.....	375
Regionalis Radios Sportklub Puspokladany.....	363
GDXC.....	353
North Eastern Radio Group.....	337
Belarus Contest Club.....	309
CWOPS.....	307
GPDX.....	301
CDXC.....	300
São Paulo Contest Group.....	297
Northeast Wisconsin DX Association.....	292
INDIO'S DX TEAM.....	287
USKA.....	286
REDXA.....	282
599 DX Group.....	275
DDXG.....	275
TEAMPAPA.....	273
YO DX Club.....	273
Grand Mesa Contesters of Colorado.....	266
HA-DX-CLUB.....	264
Secunda Amateur Radio Club.....	264
Panhandle DX and Contest Club.....	257
Central California DX Club.....	251
Western WA DX Club.....	251
Maritime Contest Club.....	249
Cantareira DX Group.....	248
599 DX Association.....	243
GADX.....	237
Ham Society Of the Philippines.....	231
Chilean Pacific DX Group.....	226
Mid High DX Association.....	222
Milford Ohio Amateur Radio Club.....	222
North Coast Contest Club.....	222
EA CONTEST CLUB.....	216
CDXA.....	213
Southern California Contest Club.....	208
Nixa Amateur Radio Club.....	206
NCCC.....	205
Southwest OH DX Assoiation.....	202
Sunday Creek Amateur Radio Federation.....	202
RL Luxembourg.....	198
RZS Amateur Radio Club.....	196
DX3H.....	190
Utah DX Association.....	189
CAPE FEAR AM RADIO SOC.....	187
WACOM.....	182
Iu7dzl rc miramar.....	172
CARL, Inc.....	168
Shude High School Amateur Radio Club.....	168
USA.....	164
Kentucky Contest Group.....	159
AZUAY RADIO CLUB.....	157
Magalies Radio Amateur Klub.....	156
SPDXA.....	145
Clark County Amateur Radio Club.....	139
Tennessee Contest Group.....	130
ACG.....	127
Federacion de Radioaficionados de Cuba.....	116
Harwell ARS.....	116
Northern California Contest Club.....	112
RadioSport Manitoba.....	104
First State Amateur Radio Club.....	71

very intense competition on the 15-meter band, but PU2WSQ came out on top with an impressive 226 points and PU2WDF followed in second place with 225 points. Seventeen meters proved to be a good DX band with Oscar, EA1DR, winning the top spot with an amazing score of 287. VE3VEE was once again the king of 20 meters with the very good score of 318. Twenty meters was definitely the hot band of 2018, as Marvin's 20-meter only score put him in a tie for 5th place overall worldwide. PY2ADR took top honors on 30 meters with a high score of 252. It was nice to see so many 30-meter submissions in 2018. Bob, W9KNI, continued his winning ways with the high 40-meter score of 297, slightly below 2017's winning score, but all his QSOs were phone or CW — no FT8. The 80-meter plaque was won by N3QE with a score of 188. Congratulations to all of the single-band plaque winners. The top 160-meter score of 182 will earn W1TC a nice certificate for taking top honors on the top band. Once again, I4EAT was king of 6 meters with his score of 147, which is higher than the top 10- and 12-meter scores and 9 points higher than his 2017 winning 6-meter score.

In 2017, we awarded 106 DX Marathon certificates in various categories, including the top continental score for each of the three modes, top score in each country, top score in each CQ zone, top score in each Canadian call district plus the top score in each U.S. call area for each of the four DX Marathon classes. For 2018, we added certificates for the top single-mode score in the U.S. The detailed listings showing all certificate winners are available on the DX Marathon and CQ websites. Congratulations to all the 2018 certificate winners.

Although propagation was down in 2018, there were 22 new DX Marathon records set by participants. New records

TOP SCORES: CONTINENTAL MODE, USA & CANADA CALL

Phone		W4K4IE*127
TC5OCK*65	W5K5DC*209	
PA2LO*269	W6N5YJZ*83	
W4HY*246	W7N7RD*155	
YB1AR*177	W8WT8E*170	
PY6BA300	W9W9RF*227	
CW		USA Formula 100W
EA8KC*216	W1K1RI*219	
ZL1BBW*199	W2K2JL253	
PY4HO*265	W3K2RK*115	
	W4N4KW*153	
Digital	W5G5THG*170	
ZS6AI*220	W6K6LE*112	
VU2IBI*211	W7N7UVH*110	
OM5XX300	W9N9LJX*158	
K7MTR*248	WØAD1C*184	
YBØEIN*220		
PY2APK*240	USA Formula 5W	
	W3KZ3I*87	
USA Unlimited	W4K4AR*44	
W1W1NG*300	W6W8QZA*208	
W2K2TQC326	W8K8ZT*222	
W3K3RA*305		
W4K5EK*308	Canada	
W5W5IF*299	VE1VE1OP*249	
W6N6JV*300	VE2VE2BR*271	
W7WØ7R302	VE3VE3VEE318	
W8K8AJS*275	VE4VE4HAZ*104	
W9K9NU*313	VE5VE5UA*253	
WØK6XT*266	VA7VA7CRZ*214	
	VE9VE9VIC*164	
USA Limited		
W1K11U*141		
W3WA3WZR*152		

* Certificate Winners

included 11 new country records, six new continental mode records, two Formula Class 5-watt option records plus new records for highest 6-meter, club competition, and Zone 10. Even with reduced conditions, breaking records is still very possible.

In the popular club competition, the CDR Group in Brazil again took top honors while setting a new club score record. The battle for second place was very close, with the Rio DX Group beating the Northern Illinois DX Association by only 130 points. NIDXA is the sponsor of the top three DX Marathon plaques. Don't forget to include your club name on your 2019 DX Marathon submission.

Error Rates Drop

Each year the DX Marathon website publishes a large amount of information to help participants minimize errors in their submissions. The Helpful Hints page can be accessed from the DX Marathon home page. In 2018, we published approximately 1,500 callsign exceptions and notes to help every participant reduce the number of errors in their submissions. We also recommend that you regularly update your logging program callsign database if it has one. Unusual callsign prefixes seem to multiply every year, so updating your program's database is critical to properly determining the DX location and/or Zone.

In 2018, the number of participants with no errors was about the same as 2017 — 22%, but we did see a significant drop in the overall QSO error rate to 1.7% — the lowest ever recorded in the DX Marathon since electronic scoring was initiated. Perhaps more participants are using the information we provide on the DX Marathon website, plus there is less chance of callsign errors when operating on FT8. The highest error category in 2018 was wrong coun-

try, which accounted for nearly 29% of all score reductions. There were many unique callsigns used in 2018, so it is critical to review your DX Marathon submission carefully.

The second highest error category was wrong zone at 27%. Confusion with U.S. zones is one of the biggest sources of zone errors. It is very important to note that U.S. callsign numbers are no longer required to match their QTH. A W6 could be in New York, or a KL7 could

COUNTRY WINNERS

Callsign is followed by score		GI4DOH*.....240	PJ7AA*.....120
* = Certificate Winners		GUØSUP*.....155	PYØFW*.....96
4F3OM.....190	7Z1SJ*.....207	GW4EVX*.....139	PY5EG.....322
9A2AJ*.....310	9H3HZ*.....116	HAØHW*.....264	R6YY.....321
A92GE.....270	B18CKU*.....168	HB9BYQ*.....286	R9AB.....253
BV1EK.....235	CE7KF.....160	HC5VF.....157	SQ8N*.....306
CO2QU.....190	CT11UA*.....301	HK3W.....268	SV9COL*.....161
CT3MD*.....261	CX3AL*.....217	IZ5CML*.....288	TA1CM*.....259
DL5AN*.....310	DP1POL*.....148	JAØDAI.....311	TA4RC*.....273
EA1DR.....287	EA8AXT.....307	K2TQC.....326	TF3DC.....194
EI7CC*.....237	EI7CC*.....237	KL7KK.....228	VE3VEE.....318
ES4RLH*.....210	EA1DR.....287	LU5HA.....222	VK3GA.....313
EV1R*.....309	EA8AXT.....307	LX1NO*.....223	VU2IBI.....211
F4ESV*.....303	EI7CC*.....237	LY2MM*.....258	YB5QZ.....303
FS/W9MK*.....116	ES4RLH*.....210	MØNKR*.....306	YO3APJ.....273
	EV1R*.....309	OD5YA*.....248	YU1WAT*.....169
	F4ESV*.....303	OE1SGU*.....289	YV5OIE*.....260
	FS/W9MK*.....116	OH2BLD*.....303	Z68HZ*.....160
		OK2PAY.....307	ZL2IFB.....300
		OM3EY.....323	ZS2EZ.....228
		ON6SAT*.....242	
		OZ7YY*.....275	
		PA3FQA.....312	
		PJ2/W9VA*.....72	

Note: Top scorers in some countries received plaques.



Fabricio, PU2WSQ, is active on all modes and primarily operates the 10-, 12-, 15-meter bands from his QTH in Sao Paulo, Brazil. He is shown holding the plaque for top 15-meter score in 2017.



Vassilis, SV1CNS, is shown here holding his 2017 plaque for winning Formula Class, 100-watt option. Vassilis has been a very active DXer for many years with a multitude of DX awards.



Bruno, PY6BA, has been an active ham since 1994, primarily chasing DX with some nice antennas. He clearly worked hard in 2018 as he had the top phone score and will soon have a DX Marathon plaque in his shack.

be in Puerto Rico. In addition to the U.S., there are many special callsigns in Russia that do not follow the traditional callsign mapping, thus creating many errors in zones 16, 17, 18, and 19. Zone 2 also continues to be a problem. Very few VE2 stations are actually located in Zone 2 — most are in Zone 5. The DX Marathon website does list the most active Zone 2 stations.

Invalid callsigns and Busted Calls were the next highest error categories. Unfortunately, the number of bad and incorrect DX Spots seems to be on the increase. We also saw an increase in the number of pirates active on the bands. When logging a QSO from a DX spot, listen carefully to the DX station to make sure the callsign is logged correctly, 40% of all point subtractions

were due to busted or incorrect callsigns. Some invalid callsigns may have been busted calls that were so bad that we could not determine the real callsign. Once again, there were many mix-ups between “0” (Zero) and “O” (Oh). The computer is not forgiving, so check your log carefully.

There are also mix-ups in dates, with different parts of the world using different date formats. The database that is used for scoring the DX Marathon includes start and end dates for all major expeditions, so please ensure that dates and times are properly logged along with the callsign, country, and zone for each QSO. Not-in-log reductions dropped significantly from 2017. With more logs being posted online, it is easy to check if you are in the log before entering that QSO in the DX Marathon. We do publish a lot of helpful information on the DX Marathon website, but there is nothing we can do to make sure you are in the log.

As part of this issue you will find a complete listing of all scores plus a listing of the top scores in all available categories. The DX Marathon website will include additional information and details on the 2018 results plus photos of plaque winners as they become available. For any questions or comments about the DX Marathon, please contact the author. Thank you for your participation in 2018 and best of luck in 2019!

Results 2018 CQ DX Marathon

UNLIMITED CLASS				OM5XX	260	40	300	AA4SC	233	40	273	PY2AE	213	40	253
Callsign	Countries	Zones	Score	ZL2IFB	261	39	300	YO3APJ	235	38	273	KZ2I	214	38	252
K2TQC	286	40	326	W5IF	259	40	299	VE3UTT	234	39	273	W9OA/9	213	39	252
OM3EY	283	40	323	PR8ZX	258	40	298	VE2BR	232	39	271	PY2ADR	212	40	252
PY5EG	282	40	322	PY5DK	262	36	298	VK3BDX	232	39	271	W7YAQ	212	39	251
R6YY	281	40	321	W9KNI	257	40	297	A92GE	231	39	270	WA5VGI	212	39	251
VE3VEE	278	40	318	OH4UI	259	38	297	IK5FKF	231	39	270	W7CD	213	38	251
K2ZJ	278	40	318	K5BG	255	40	295	PA2LO	231	38	269	VE1OP	210	39	249
VK3GA	273	40	313	K9NB	255	40	295	9A2EU	228	40	268	W9ZCL	212	37	249
K9NU	273	40	313	N6WT	254	40	294	W4JS	229	39	268	K9MK	209	40	249
PA3FQA	272	40	312	PY7DJ	254	39	293	HK3W	231	37	268	KA6BIM	209	39	248
JA0DAI	271	40	311	AA9A	253	39	292	VK3SIM	227	40	267	OD5YA	208	40	248
DL5AN	270	40	310	DL1NKS	252	37	289	OZ2ABI	227	39	266	K7MTR	208	40	248
9A2AJ	270	40	310	OE1SGU	249	40	289	K6XT	227	39	266	EA5HRV	211	35	246
EV1R	269	40	309	IZ5CML	250	38	288	PY4HO	225	40	265	W4HY	207	39	246
W9ILY	269	40	309	DJ9ZB	247	40	287	K6YK	226	38	264	PA0INA	209	37	246
K5EK	268	40	308	EA1DR	247	40	287	HA0HW	225	39	264	PY4OY	206	39	245
OK2PAY	267	40	307	W6OU	248	39	287	OZ1HX	223	40	263	CT1ILT	204	39	243
EA8AXT	268	39	307	W4QN	246	40	286	OE4VIE	223	39	262	W6XK	204	39	243
M0NKR	267	39	306	HB9BYQ	248	38	286	CT3MD	224	37	261	WS1L	205	38	243
SQ8N	266	40	306	W0RIC	245	38	283	TA2LG	238	23	261	ON6SAT	206	36	242
K3RA	265	40	305	KC6AWX	242	40	282	RZ1OA	221	39	260	K9RR	204	37	241
OK2SG	263	40	303	K1PTF	241	40	281	LY2MM	219	39	258	VE3ZZ	205	36	241
N2BJ	264	39	303	PY2COY	241	39	280	VK3VT	218	39	257	VK3AWG	202	39	241
OH2BLD	263	40	303	N4EFS	242	38	280	N5ZC	217	40	257	SQ3MZM	205	36	241
YB5QZ	263	40	303	N6RV	240	39	279	ND9G	216	40	256	G14DOH	201	39	240
F4ESV	263	40	303	NI3P	238	40	278	WS7L	216	39	255	PY2APK	200	40	240
K3MA	262	40	302	W9MK	238	40	278	YF9CDL	220	35	255	N4MIK	201	38	239
W07R	262	40	302	DL6DH	237	40	277	VK2CA	215	39	254	K9ARZ	208	31	239
CT1IUA	261	40	301	PY6TS	238	38	276	WX6V	215	39	254	W1AJT	201	38	239
N6JV	261	39	300	OZ7YY	235	40	275	W7WM	214	40	254	WA4JQS	200	38	238
PY6BA	262	38	300	K8AJS	235	40	275	VE5UA	214	39	253	NJ6G	199	39	238
W1NG	260	40	300	NU8Z	234	40	274	R9AB	215	38	253	E17CC	198	39	237

