

Results of the 2022 CQ World Wide VHF Contest

BY JOHN “JK” KALENOWSKY,* K9JK

Wow ... hard to believe that this is already my fourth year as director for this contest. Just as I think I’m starting to get the hang of my duties as director: Monitoring log submissions and responding to questions from participants, doing the log checking, compiling the results, writing this article, some things happen and best laid plans encounter difficulties — more on that later in the article.

This year’s third full weekend of July was another active year for the CQWW VHF Contest, though the impact of world events was definitely felt in the number of log submissions received from Europe. The total count of logs received in 2022 dropped from last year, with 850 received (plus another 14 classified as checklogs), but that is still the fifth-highest log count in the recent history of the contest.

A total of 49,996 QSOs were reported in this year’s 864 logs, yielding an average of just over 50 contacts for each log. For 6 meters, 40,261 QSOs were reported in the 755 logs that included QSOs on that band versus 9,735 QSOs in the 430 logs that reported QSOs on 2 meters. The percentage of QSOs by band in 2022 is consistent with recent years — 80.5% of QSOs reported were on 6 meters and 19.5% were on 2 meters, as compared to an 82% / 18% split in 2021 and a 79% / 21% split in 2020.

Digital mode usage grew (again) in 2022. According to the two letter MOde reported on the Cabrillo QSO: Lines in the submitted logs, 38,738 of all QSOs were completed using “DG” or “RY”, 77.4% overall. By band, it was 33,256 of 40,281 6-meter QSOs (82.6%) and 5,482 of 9,735 (56.3%) of 2-meter QSOs that were completed using digital modes this year. This is the first year in which more than half of the 144-MHz QSOs reported using “DG” or “RY”.

USA

The log count from the contiguous 48 U.S. states increased this year to 515

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If you made a 50-MHz contact with EN95, it was likely with XM3A, operated by Igor Slakva, VE3ZF, operating from the top of Mt. McLean on Manitoulin Island. (Credit: Igor Slakva, VE3ZF)

(plus four checklogs), an approximately 5% increase over the count from 2021. The Single-Operator, Single-Band category using 6-meters (SOSB6) continues as the most popular category overall in this contest. Nearly half of the logs from the U.S., 242, were SOSB6. Single Operator All-Band continued as the second most popular category with 202, a shade under 40%. The count of Rover logs grew by five from last year to 27. Single-Operator All-Band QRP matched the count from 2021 with 16. The Single-Operator, Single-Band, 2-meters (SOSB2) category was a little more competitive in 2022 with 13 entries. There were 10 Multi-Operator and five Hilltopper entries rounding out the U.S. total. The 4th call area continued its reign as the log submission leader with 118. The 5th call area was second busiest with 62, taking that spot away from 7th call

area which finished in third place for 2022 with 54 logs.

After claiming the top score in the SOSB6 category in 2021 (and top Rover category scores in prior years), Wyatt, ACØRA stayed in the one spot again for 2022 but added 2 meters to his equipment array to achieve the top score in the Single Operator, All Band category. Wyatt’s final QSO / Multiplier counts were: 353/164 on 6 meters and 139/72 on 2 meters for a final score of 144,904.

There was some competition in the U.S Multi-Operator efforts with the team at K5QE leading the scores in the category. Within 20% of Team Marshall’s final score were the scores from teams at N4SVC and W8ZN. Final Scores, QSO, and Multipliers counts by band for these three competitors are summarized in the table below.

Team	Final Score	6m Qs	6m Mults	2m Qs	2m Mults
K5QE	113,096	343	151	100	60
N4SVC	99,182	379	171	59	31
W8ZN	92,070	278	114	146	51

The U.S. winner of the SOSB6 category was Dan, K1TO. Dan kept himself very busy on the 50-MHz band with 420 QSOs and 168 Multipliers for a final score of 70,362. Dan did have some competition in the category from a fellow Floridian: Larry, N6AR. Larry almost matched Dan's multiplier count with 166 but had 35 fewer QSOs (385) for a final score of 62,748.

The SOSB2 category also found some notable efforts in the U.S. this

year. Paul, AA4ZZ, who had hosted the W4VHF Multi-Operator effort in 2021, focused his North Carolina station on the 144-MHz frequencies for 133 QSOs and 53 Multipliers, yielding a final score of 14,098. Stan, KA1ZE, piloted his W3XTT remote station in FN01 to find a few more multipliers than Paul did (57) but fell shy of Paul's QSO total with 110 for a final score of 12,426.

Jim, KO9A, continued his streak of being the top U.S. scorer in the Single-Operator, All-Band QRP category, now for a fourth straight year. Jim's 2022 score was a bit lower than last year's, with final QSO/Multiplier counts of 171/76 on 6 meters, and 58/29 on 2 meters for a final score of 29,820.

An excellent roving adventure was reported by Christopher, NV4B, resulting in a score of 52,752 to achieve the top score among this year's 27 U.S. Rover category entrants with a trek through six grids in Alabama, Mississippi, and Tennessee. Christopher logged 222 QSOs on 6 meters and 47 on 2 meters with multiplier

counts of 131 and 47 on the two bands, respectively.

In the U.S. Hilltopper category, Pete, K9PW, has rePETEd as the top scorer for the third year in a row. Pete's efforts resulted in a final score of 7,638 more than doubling his score from 2021. He logged 111 QSOs (88 on 50 MHz and 23 on 144 MHz) and contacted 47 different grid locators on 50 MHz and 10 on 144 MHz.

Among 32 U.S. clubs from which three or more logs were received in 2022, congratulations to the Potomac Valley Radio Club for the top club score of 357,237 from 38 submitted logs. Two very strong Multi-Operator efforts by teams at W8ZN and W3SO really boosted the club's total and Don, N3MK, was the top Single-Operator contributor.

DX

The 335 logs received from outside the U.S. for this year's contest was only half of last year's DX log count. The breakdown by continent is shown in the table below:

Continent	Logs	# of different DXCC Countries
Africa	1	1
Asia	95	12
Europe	100	29
Oceania	23	1
South America	45	4
North America (other than U.S.)	71	6 (other than U.S.)
Total	335	53

TOP SCORES WORLD

All Band	JJ1WWL .....3,520
EA8DBM .....94,612	YC3AHD .....48
I1JTQ .....13,176	PY2TDB .....16
IC8TEM .....9,040	
SF6F .....7,497	QRP
E74SL .....7,260	VA2VT .....6,405
	XE2YWB .....4,160
6 Meters	SV3AUW .....4,104
ISØBSR .....28,495	M5W .....2,420
XE2JS .....27,816	SP9SDF .....1,980
SX2I .....24,592	
6D5C .....18,768	Rover
SV1NZX .....12,282	JG3DHN/R .....3,036
	BG5BAA/R .....1,512
2 Meters	VA3OGG/R .....924
S56P .....22,620	VA7OTC/R .....735
YO5LD .....7,000	VE3WVA/R .....440
YO2LSP .....4,758	
IZ7UMS .....4,672	Multi-Op
YO2LLZ .....4,536	IR9K .....82,256
	4O6BLM .....75,543
Hilltopper	HG6Z .....58,548
E7ØAA .....4,068	OK1RDO .....31,230
XM3A .....3,710	4X2M .....22,230

USA

All Band	K3GD .....551
ACØRA .....144,904	AA6XA .....108
K2DRH .....101,920	K7ATN .....39
W5PR .....50,370	
N3MK .....49,368	QRP
K9KLD .....47,995	KO9A .....29,820
	WAØMN .....3,735
6 Meters	W5UHQ .....1,215
K1TO .....70,392	K4CF .....1,060
N6AR .....62,748	K3TW .....396
W5LO .....34,846	
K5PI .....31,354	Rover
N5RZ .....30,888	NV4B/R .....52,752
	KG9OV/R .....39,064
2 Meters	AA5PR/R .....21,090
AA4ZZ .....14,098	N6GP/R .....16,470
W3XTT .....12,426	N2SLN/R .....10,428
KD8ZEI .....3,196	
WA3EOQ .....1,452	Multi-Op
WE7L .....988	K5QE .....113,096
	N4SVC .....99,182
Hilltopper	W8ZN .....92,070
K9PW .....7,638	W3SO .....62,181
KEØMHJ .....551	W3RFC .....16,936



A "QTH selfie" by Ricardo, PY2QB, who operated from Lavrinhas Ranch in GG77, approximately 150 kilometers northeast of Sao Paulo, Brazil. (Credit: Ricardo Benedito, PY2QB)



View toward the horizon from PY2QB's operating location. (Credit: Ricardo Benedito, PY2QB)

CLUB COMPETITION

(Minimum of 3 entries required for listing)

UNITED STATES

Club Name	# Entries	Score
Potomac Valley Radio Club	38	357,237
Society Of Midwest Contesters	20	267,226
Florida Contest Group	12	183,841
Dfw Contest Group	6	142,584
Mt Airy VHF Radio Club	9	131,929
Yankee Clipper Contest Club	17	115,360
Florida Weak Signal Society	4	97,950
Arizona Outlaws Contest Club	16	94,139
Texas DX Society	6	90,413
Central Texas DX and Contest Club	4	82,462
Southern California Contest Club	16	54,642
North East Weak Signal Group	6	52,876
Pacific Northwest VHF Society	20	45,868
Rochester VHF Group	5	43,808
Northern California Contest Club	8	34,822
Carolina DX Association	4	28,234
New Mexico VHF Society	4	26,672
Arizona VHF Society	3	22,475
South East Contest Club	4	19,073
Frankford Radio Club	5	17,180
Northern Lights Radio Society	9	16,292
South Jersey DX Association	4	11,258
Grand Mesa Contesters of Colorado	6	5,904

Willamette Valley DX Club	3	4,816
Metro DX Club	3	4,805
North Coast Contesters	3	4,368
Central Ohio Operators Klub	3	3,585
Portage County Amateur Radio Service	6	2,024
Kentucky Contest Group	4	1,368
Minnesota Wireless Assn	6	1,240
Hudson Valley Contesters and DXers	4	745
Tennessee Contest Group	3	144

DX

Club Name	# Entries	Score
Italian Contest Club	3	45,889
Club De Radio Experimentadores De Occidente	3	20,852
QSO Banat Timisoara	4	19,744
Contest Club Ontario	10	19,556
Manitoulin Amateur Radio Club	12	7,830
Rhein Ruhr DX Association	3	7,202
Contest Group du Quebec	4	6,810
Cabreuva DX	9	697
Radiofarol DX Group	12	665
Orari Lokal Kediri	10	408
Lu Contest Group	4	91
Rio DX Group	3	36

The drop in “DX” log submissions in 2022 was fairly consistent for all continents, except for non-U.S. parts of North America. Operators from Canada submitted 53 logs this year, claiming the top spot for logs submitted from countries outside the U.S. The log count from Brazil was second overall by country, leading the South American contingent. Significant log counts from Japan (31) and China (25) brought the total count from Asia to 95, only five behind the total count of logs from Europe. The country leaders for Europe’s 100 logs were Italy (15), Romania (13), and Germany (11). The ongoing conflict in eastern Europe appears to have had a significant impact on European participation. Indonesia was the only country in Oceania from which logs were received in 2022, with 23 logs, and the single log from Africa was from the Canary Islands.

Among the World/DX participants, the ranking of the top two categories matched that of U.S. log submitters with Single Operator, Single Band, 6 meters (SOSB6) winning the category popularity contest with 106 logs, followed by Single Operator, All Band with 85. The Single Operator, Single Band, 2 meters (SOSB2) was next in World popularity with 59 entries received. Fourth in world popularity was Single Operator, All Band, QRP, with 47 logs. There were 26 Multi-Operator, 8 Rover, and 6 Hilltopper submissions, which rounded out the category choices among DX stations.

The top score of any entry from outside the U.S. was from EA8DBM in the Canary Islands (IL18) in the Single Operator,

All Band category. The 6-meter conditions appear to have been very favorable for Aleksandr to record 358 QSOs and 195 Multipliers on the band, plus another 41 QSOs and 23 Multipliers on 144 MHz for a final score of 94,612.

Grid JM67 in Italy was the place to be to win the Multi-Operator category. A crew of nine operators at IR9K amassed a final score of 82,256 with QSO / Multiplier totals of 311/158 on 6 meters and 58/25 on 2 meters. A final score of 75,543 from the Multi-Operator team at 4O6BLM in Montenegro (JN92) is also notable, less than 10% behind IR9K’s score.

Once again, Bostjan, S56P, was the DX leader in the SOSB2 category from his station in Slovenia (JN76) with a final score of 22,620 from 195 contacts among 58 different Grid Locators.

Propagation was likely quite different in Sardinia (JN40) and Mexico (DL68), but just 679 points (less than 3%) separates the final scores of Marco, ISØBSR, and Julian, XE2JS, among DX entrants in the SOSB6 category. Julian’s QSO total was 235 (26 more than Marco) but Marco’s 139 multipliers (17 more than Julian) gave Marco the top score of 28,495.

Canadian operator Nicolas, VA2VT, achieved the world group’s top score in the Single-Operator, All-Band, QRP category, with 98 total QSOs and 61 Multipliers for a final score of 6,405. Nicolas operated from grid locator FN45 in the province of Quebec, the same spot where he had operated as VE2NCG (his prior callsign) and claimed the top score in the Hilltopper category in 2021.

ROVERS & GRIDS OPERATED

AA5PR/R	.....DM74 DM75 DM76 DM86
ABØYM/R	.....DM78 DM79 DM89 DN70
AC1JR/R	.....FN31 FN32 FN41 FN42
AG6RS/R	.....DM03 DM04 DM05
BG5BAA/R	.....OL99 OM90 PL09 PM00
JG3DHN/R	.....PM95 PM96 PM97 QM06 QM07
KØBAK/R	.....FN10 FN20
KØDAS/R	.....EN30 EN31 EN32 EN40 EN41 EN42
K6LMN/R	.....DM03 DM04
K9JK/R	.....EN50 EN51 EN52 EN60 EN61 EN62
KA7RRA/R	.....CN87 CN88 CN97 CN98
KD6EFQ/R	.....DM12 DM13
KD6HOF/R	.....CM88 CM98 CM99
KD8RTT/R	.....EM28 EM29 EM38 EM39
KE4WMF/R	.....FM07 FM16 FM17 FM18 FM26
KF2MR/R	.....FN03 FN13
KG9OV/R	.....EM59 EM68 EM69 EN50 EN51 EN60 EN61
KI5FIQ/R	.....EM11 EM21 EM22
N2SLN/R	.....FN12 FN21 FN22 FN23
N6GP/R	.....DM03 DM04 DM13 DM14
N6LB/R	.....CN88 CN98
N6UTC/R	.....DM03 DM04 DM05
N9GH/R	.....EN51 EN52 EN53 EN61
NV4B/R	.....EM43 EM44 EM54 EM55 EM64 EM65
VA3OGG/R	.....EN86 EN96
VA7OTC/R	.....CN88 CN89
VE2GT/R	.....FN35 FN36
VE3LDE/R	.....EN86 EN95 EN96
VE3WVA/R	.....EN85 EN95 EN96
WØETT/R	.....DN62 DN70 DN71 DN72
W3DHJ/R	.....DM77 DM78 DM87 DM88
W9YOY/R	.....EN51 EN61
WB2SIH/R	.....FN32 FN33
WD9EXD/R	.....EN54 EN55 EN56 EN57 EN66
YD3AXD	.....OI51

QSO & GRID LEADERS

6-Meter QSOs	2-Meter QSOs
K1TO.....420	S56P.....195
N6AR.....385	HG6Z.....189
N4SVC.....379	HS1AN.....181
EA8DBM.....358	E24ZPX.....181
ACØRA.....353	HSØEDP.....164
K5QE.....343	OK1RDO.....152
IR9K.....311	W8ZN.....146
W5PR.....301	ACØRA.....139
K2DRH.....300	AA4ZZ.....133
WA2FGK.....287	HS1AB.....124
W8ZN.....278	W3SO.....121
W5LO.....264	E27IHO.....121
K5PI.....261	JF1RYU.....120
WA4GPM.....253	E24QND.....120
XE2JS.....235	K2DRH.....115
N5RZ.....235	

6-Meter Grids	2-Meter Grids
EA8DBM.....195	ACØRA.....72
N4SVC.....171	K2DRH.....65
IR9K.....169	KG9OV/R.....63
K1TO.....168	HG6Z.....62
N6AR.....166	K5QE.....60
ACØRA.....164	OK1RDO.....59
K5QE.....151	S56P.....58
ISØBSR.....139	AA4ZZ.....57
W5PR.....136	AA4ZZ.....53
W5LO.....133	W3SO.....52
N5RZ.....132	W8ZN.....51
K2DRH.....131	4O6BLM.....50
NV4B/R.....131	N2NT.....44
WA4GPM.....123	YO2LSP.....39
KC4PX.....123	N2JMH.....38



PY2QB's antenna farm — a 7-element LFA Yagi and an omni vertical. (Credit: Ricardo Benedito, PY2QB)

In the world Hilltopper category. Zoran, E7ØAA was the top scorer from grid JN93 in Bosnia-Herzegovina. He had 69 total QSOs (25 on 6 meters and 44 on 2 meters) and 36 multipliers (18 each on 6 and 2 meters) earning Zoran a category-leading score of 4,068.

The top non-U.S. score in the Rover category was achieved by Masaki, JG3DHN, who travelled through five grids in Japan. Masaki logged 28 QSOs and 16 grid locators on 50 MHz and 32 QSOs and 17 grid locators on 144 MHz for a final score of 3,036.

The lower count of logs from DX participants is reflected in the lower number of clubs represented. Twelve clubs met the minimum requirement of three log submissions with the Italian Contest Club claiming the top aggregate total of 45,889 points from three logs. Marco, ISØBSR, was the top individual contributor to the club's total score.

Digital Modes

Digital modes, largely FT-8 (but there are others), continue to be a factor in this and other radiosport events, both VHF and High Frequency (HF). When propagation conditions are marginal, the ability of a computer to detect and decode exchange information from a signal in the receiver passband that is below the "noise" and not decodable by the human operator is quite an advantage and most of the higher scoring participants avail themselves of that capability in their operating strategy.

For 2023, the rules will not see any substantial changes but there may be an option to specify whether contacts were all completed using "Digital" (FT-8 and other modes in the digital "family" where a computer decodes the call and exchange sent by the other station), all "Analog" (SSB / CW / FM, where the human operator decodes the call and exchange sent by the other station) or "Mixed" (where both "Digital" and "Analog" are used). The present seven category structure will remain and there will NOT be any sub-categories by these sub-modes.

I also received a report of a station that appeared to be operating as a robot using digital modes as some of the software packages for digital modes are capable of doing. The callsign of this station appears in a number of logs but the no log was submitted for the callsign. For 2022, no contacts were removed from any other logs but since I feel such activity is not in the spirit of the CQWW VHF contest, I may also address this in the rules for 2023 and take action in the log checking.

Apology From the Director

As I alluded in the opening paragraph of this article, despite having been director for this contest for four years, I still have a lot to learn and room to improve in fulfilling my duties as contest director. One significant area in need of my attention and improvement is the award plaques program, which have not been ordered / processed since past CQWW VHF

Contest Director Steve Bolia, N8BJQ, handled that for my first year as director in 2019. I did manage to collect the funds for plaques from the sponsors for 2020 and 2021, but I am delinquent in getting those plaques ordered and sent to the winners. For 2022, I have totally "dropped the ball" and that is why there is no listing of award plaques for 2022 in this article. I am working to get caught up for 2020 and 2021 and plaques for 2022 will follow (presuming that sponsors are still willing to continue their sponsorships despite MY poor performance). Going forward, I will be working to make the process for plaque

sponsorship and distribution to the winners more like the process that is in place for other events in the CQ World Wide family of contests under the umbrella of the World Wide Radio Operators Foundation, Inc. <<https://tinyurl.com/4p9dr6kd>>. Net, net, I will do better in 2023.

What Else Will 2023 Bring?

The 2023 CQWW VHF Contest will be held on July 15th and 16th, the earliest dates that the third full weekend of July can fall. This weekend is also the closest to the summer solstice where the summer Sporadic-E season typically

peaks and hopefully where participants can finally experience some enhanced propagation from Cycle 25?

Repeating the constant plea of past directors, if you operate, please send in a log. Any size log is greatly appreciated. If you need help, please ask. More logs make cross-checking the other logs more accurate.

Don't forget to check out the CQWW VHF Contest 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 us know.

Number/letter groups after call letters denote the following: Class (A = all band, 6 = 6 meters, 2 = 2 meters, Q = QRP, H = 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 certificate winners. Score in *italics* are disqualified.

2022 VHF RESULTS

NORTH AMERICA

UNITED STATES

WZ1V	A	38,448	220	118	CT	FN31
N8FA	A	20,904	207	78	CT	FN31
N1JEZ	A	19,834	170	64	VT	FN44
K1KA	A	19,884	168	84	NH	FN42
NE1B	A	14,880	160	80	NH	FN42
AF1T	A	9,570	131	58	NH	FN43
N1SV	A	9,078	78	39	MA	FN42
N1JD	A	2,405	61	37	ME	FN44
N1PRW	A	1,856	58	29	MA	FN42
W1UED	A	1,725	44	23	CT	FN31
K1ZK	A	858	26	22	VT	FN44
K5ZD	A	850	50	17	MA	FN42
W1MD	A	836	35	22	RI	FN41
WA1LBK	A	702	29	18	MA	FN41
WB2VVQ	A	475	22	19	MA	FN32
N1SFE	A	420	26	14	CT	FN31
NE1F	A	352	22	16	NH	FN33
NF1O	A	312	24	13	NH	FN33
K2KA	A	310	22	10	MA	FN42
N2HX	A	20,448	217	96	MA	FN32
W1RM	A	6,272	113	56	CT	FN31
K1AR	A	5,175	116	45	NH	FN42
K1BW	A	2,074	61	34	MA	FN32
KE1R	A	1,988	74	28	CT	FN31
K1BZ	A	1,715	51	35	ME	FN54
K1TR	A	1,530	52	30	NH	FN42
K1EP	A	1,127	49	23	MA	FN42
W1MI	A	6,292	33	24	MA	FN32
K1K1	A	6,580	29	20	CT	FN32
A41NK	A	6,532	40	14	MA	FN42
N1CEO	A	6,490	36	14	MA	FN42
W1AKI	A	6,490	38	14	NH	FN42
W1IG	A	6,364	26	14	CT	FN31
N1WRK	A	6,285	19	15	MA	FN41
K1ZZ	A	6,180	15	12	CT	FN31
K1SX	A	6,132	12	11	MA	FN41
WK1O	A	6,126	15	9	MA	FN42
AF1R	A	6,114	20	6	MA	FN42
W2CS	A	6,63	9	9	MA	FN41
N1ADX	A	6,49	7	7	MA	FN42
N1BHQ	A	6,25	5	5	CT	FN31
N1SOH	M	7,038	128	46	MA	FN42
Ops: N1SOH W1FM						
N2JMH	A	35,090	217	121	NY	FN12
N2NT	A	33,363	231	99	NJ	FN20
Ops: N2NC						
WW2Y	A	27,560	214	106	NY	FN24
W9XKI	A	24,480	189	102	NY	FN12
K2ENE	A	3,268	69	43	NY	FN13
K2RET	A	3,038	68	31	NJ	FN29
W2SL	A	2,496	62	32	NY	FN30
N2SJO	A	2,352	63	28	NJ	FN29
K2OEQ	A	2,310	51	35	NY	FN13
WT2J	A	646	32	19	NY	FN30
WA3AFS	A	540	32	18	NY	FN32
W2RME	A	378	20	14	NY	FN22
Op: W2BDN						
N2RC	A	352	21	16	NY	FN21
W2ZS	A	156	13	12	NY	FN23
N2NKX	A	126	12	9	NY	FN22
N3ZY	A	14,596	171	89	NY	FN22
KZZI	A	7,860	133	60	NJ	FN29
K2ZME	A	6,370	100	65	NY	FN02
KD2JGE	A	6,437	89	51	NJ	FN29
W3SW	A	6,270	76	40	NY	FN22
W2FDJ	A	925	40	25	NJ	FN29
K2ZR	A	637	24	17	NY	FN03
N2OO	A	627	27	10	NJ	FN29
N2BEG	A	180	16	12	NY	FN12
N2JJ	A	610	14	9	NY	FN33
K2AMI	A	616	8	8	NJ	FN20
W1JW	A	610	12	9	NJ	FN29
K4RUM	A	617	7	7	NY	FN30

K1MUU	6	64	8	8	NY	FN32
K2AEY	6	64	10	8	NY	FN13
N2SO	6	20	5	4	NY	FN31
K2MN	6	16	4	4	NJ	FM29
N2SFS	6	12	4	3	NY	FN21
K3TC A 21,146 193 97 MD FM19						
K3ZO	A	10,184	142	67	MD	FM18
K3MD	A	7,296	104	64	PA	FM10
KR1ST	A	7,074	101	54	PA	FN21
NF3R	A	6,902	99	58	PA	FN20
N3MMQ	A	6,086	93	48	DE	FM29
K3SX	A	2,044	44	28	MD	FM19
KD3HN	A	1,344	48	28	PA	FM19
WB3GR	A	576	25	18	PA	FN10
N3GW	A	72	6	6	PA	FN01
WA3AAN	A	66	11	6	PA	FN20
K8TUJ	A	24	8	3	PA	EN91
A43S	A	4	2	2	MD	FM19
W2FGK	6	27,522	287	99	PA	FN21
Op: K2LNS						
K3ISH	6	10,001	137	73	PA	FN21
N1EK	6	5,668	112	52	MD	FM19
K3UA	6	3,588	80	46	PA	EN91
KB3ORR	6	825	34	25	PA	EN90
KB4BKV	6	405	28	15	MD	FM19
K3HX	6	270	19	15	PA	FN20
K3CU	6	204	17	12	PA	FN00
N3XL	6	144	16	9	MD	FM18
W3ZJ	6	90	10	9	DC	FM18
N3DUE	6	66	11	6	MD	FM19
K3KU	6	21	7	3	MD	FM19
N3QE	6	18	6	3	MD	FM19
KN1OLA	6	1	1	1	PA	FN00
W3XTT	2	12,426	110	57	PA	FN01
W3EQO	2	1,452	35	22	MD	FM09
K3HW	Q	272	18	16	PA	FN20
K3GD	H	551	21	19	PA	FN11
W3SO	M	621,321	324	141	PA	FN00
Ops: W3XOX W3IDT W3SF W3BXTX						
W3RFL	M	16,936	164	73	MD	FM19
Ops: W3RFC K3QO WA3OFF K3QO						
W3EKL	M	15,614	162	74	MD	FM19
Ops: W3EKL K3B3QC W3TK W1TRT K3TBD N9SG N3DPB						
N3MK	A	49,368	304	132	VA	FM27
W4AGPM	A	40,415	278	137	FL	EM80
K4AMA	A	37,380	232	140	SC	EM83
K1HTV	A	37,128	266	119	VA	FM18
K3DNE	A	25,920	196	120	SC	EM94
N4HB	A	20,858	176	94	VA	FM17
K5VIP	A	19,074	186	102	VA	FM16
WB2SNN	A	16,055	166	95	FL	EL96
K5EK	A	14,014	158	91	NC	FM03
WB4OMG	A	13,973	137	89	FL	EL98
N4OV	A	11,644	142	82	FL	EL96
W1BQ	A	11,100	147	75	FL	EL98
K4WMS	A	9,588	122	68	VA	FM17
AB4SF	A	7,752	121	57	VA	FM17
W3IP	A	5,456	106	44	VA	FM19
N4LAZ	A	5,415	73	57	NC	EM95
K04LJH	A	5,250	86	50	VA	FM18
NG4C	A	4,752	70	48	NC	FM16
K2PS	A	4,437	88	51	FL	EL98
K4MY	A	4,200	77	56	GA	EM74
K4EA	A	3,520	50	44	GA	EM74
K4BAI	A	3,486	84	42	GA	EM72
K4SO	A	3,034	57	41	VA	FM18
N2QT	A	2,867	63	47	VA	FM07
WA4LDU	A	2,501	52	41	SC	EM93
K4AKS	A	2,368	61	37	FL	EL88
K4FJW	A	2,100	45	35	VA	EM86
K4RW	A	2,091	51	41	SC	EM92
KM4QHI	A	1,947	51	33	GA	EM84
WA4DYD	A	1,870	53	34	GA	EM83
N3KN	A	1,776	48	37	VA	EM97
N3NW	A	1,749	55	33	VA	FM18
K04XX	A	1,600	47	32	FL	EL98
K7UWR	A	1,036	39	28	GA	EM92
K3NF	A	900	33	20	VA	FM18
W4IU	A	760	36	19	GA	EN74
N5SMQ	A	756	36	21	VA	FM08
KV4ZY	A	735	31	21	VA	FM08
K1DS	A	630	24	18	FL	FN20
KY4G	A	608	22	19	AL	EM84
N4SZF	A	551	31	19	NC	EM94
K4LLA	A	494	23	19	VA	FM07

K4BSK	A	384	21	16	VA	FM07
WX0EMT	A	228	16	12	TN	EM85
AE4WG	A	168	15	12	FL	EL99
AC2N	A	143	13	11	FL	EL89
KM4KMU	A	135	13	9	VA	FM16
W3GQ	A	104	12	8	NC	EM95
WF4R	A	104	13	8	VA	FM16
K4FTO	A	78	8	6	VA	FM18
W4ATL	A	50	6	5	GA	EM73
K4BHB	A	42	8	6	GA	EM73
W4EE	A	35	9	5	FL	EL98
W4AZ	A	4	2	2	TN	EM75
K1TO	6	70,392	420	168	FL	EL87
N6AR	6	62,748	385	166	FL	EL98
KC4PX	6	25,584	212	123	FL	EL98
N8KH	6	17,978	187	101	FL	EL98
K4WI	6	17,094	224	77	AL	EM82
KM4HI	6	15,778	168	98	FL	EL89
WD4CNO	6	13,024	153	88	FL	EL87
KU8E	6	11,899	168	73	GA	EM72
WN2E	6	10,703	155	77	FL	EM60
WW3A	6	6,666	102	66	FL	EL99
N5BO	6	6,318	117	64	FL	EM60
N4SX	6	6,111	98	63	NC	FM04
K2SG	6	5,490	92	61	FL	EL88
WB4EHG	6	5,073	94	57	FL	EL96
N4IDH	6	3,234	69	49	AL	EM71
KE4S	6	2,840	71	40	VA	FM19
KG4JPL	6	2,684	62	44	FL	EL88
KN4SM	6	2,337	57	41	VA	FM16
KN4PPD	6	2,014	55	38	FL	EL89
WC2F	6	2,014	53	38	FL	EM70
K4LDC	6	1,530	51	30	GA	EM74
K4YCR	6	1,512	56	28	VA	FM07
W4VIC	6	1,378	54	26	VA	FM16
WB4TDH	6	975	39	25	FL	EL92
K8LF	6	704	35	22	VA	FM17
W5MX	6	475	25	19	KY	EM77
KN4IWO	6	437	23	19	FL	EL79
W4UWC	6	375	27	15	KY	EM77
K4WV	6	320	20	16	KY	EM78
NV4C	6	315	22	15	GA	EM74
K4QE	6	270	18	15	NC	FM05
KS1G	6	216	21	12	VA	FM18
K8J	6	198	18	11	KY	EM78
N24N	6	198	18	11	NC	FM06
W9LN	6	169	14	13	AL	EM73
KM4SLW	6	168	14	12	GA	EM72
N4CF	6	168	15	12		

N6VHF	6	168	21	8	CA	DM13
N6VOH	6	126	19	7	CA	DM13
AJ6HT	6	56	9	7	CA	CM87
W6DMW	6	40	8	5	CA	CM97
N4DLA	6	28	7	4	CA	CM87
W6SX	6	1	1	4	CA	DM07
N6AN	Q	16	5	4	CA	DM04
A6AXA	H	108	11	6	CA	CM87
W0XR	A	20,907	208	101	AZ	DM22
N7IR	A	15,300	177	85	AZ	DM43
N7EPD	A	9,776	156	52	WA	CN87
AA7A	A	8,040	118	67	AZ	DM43
W7FI	A	7,426	140	47	WA	CN87
W7MEM	A	6,728	98	58	ID	DN17
W7EW	A	6,171	109	51	OR	CN84
KD7UO	A	1,968	67	24	WA	CN87
KX7L	A	1,536	59	24	WA	CN87
W7OJT	A	1,428	40	28	AZ	DM24
K7IU	A	1,387	61	19	WA	CN97
N7OOZ	A	1,024	42	16	WA	CN87
N7NEV	A	988	38	26	AZ	DM43
N7XU	A	988	40	26	OR	CN94
Op: K4XU						
K7LS	A	546	24	21	UT	DM41
KC7OY	A	496	24	16	OR	CN82
W7YAZ	A	396	23	18	UT	DM40
W07V	A	294	21	14	OR	CN92
N7RK	A	264	21	11	AZ	DM33
N6ZE7	A	210	22	7	WA	CN87
N7DB	A	162	19	6	OR	CN85
AF7GL	A	21	4	3	WA	CN96
W0RIC	6	16,471	182	91	AZ	DM33
KC7V	6	10,147	140	73	AZ	DM33
N7GP	6	9,432	131	72	AZ	DM42
N7RTT	6	7,700	115	70	UT	DM38
K7PT	6	7,434	132	59	AZ	DM43
K7CW	6	6,950	142	50	WA	CN87
AL1VE	6	6,655	96	65	OR	DN02
KA6BIM	6	3,534	94	38	OR	CN73
K9DR	6	3,105	70	45	WY	DN62
KY7M	6	3,060	68	45	AZ	DM33
N7NW	6	1,701	64	27	WA	CN87
WR7AY	6	1,620	56	30	WY	DN74
K7HP	6	1,134	56	21	AZ	DM33
WA8ZNC	6	1,056	48	22	WA	CN85
N07R	6	805	35	23	AZ	DM42
W7TZ	6	770	37	22	OR	CN83
K7II	6	703	39	19	WA	CN87
K7BHM	6	700	35	20	AZ	DM43
W7OXB	6	384	34	12	WA	CN87
WA8ZD	6	338	26	13	AZ	DM33
K7JQ	6	325	26	13	AZ	DM43
K9PY	6	300	21	15	OR	CN94
W7GES	6	242	22	11	AZ	DM33
KE6GFI	6	140	14	10	AZ	DM34
KB9LHT	6	48	14	4	AZ	DM33
W6XI	6	48	8	6	AZ	DM42
K7OP	6	20	6	4	MT	DN28
N9NA	6	6	3	2	AZ	DM33
K7ND	2	550	26	11	WA	CN87
N7NMC	Q	100	12	10	OR	CN73
KE7JUN	Q	72	8	9	NV	DN00
K7ATN	H	39	7	3	WA	CN85
KB8U	A	13,272	126	84	MI	EN71
W8MCD	A	7,920	119	60	MI	EN72
A8MA	A	1,196	41	26	OH	EN80
KE8QEP	A	476	24	17	OH	EN91
N8OE	A	390	28	13	OH	EN91
K8BF	A	96	12	8	OH	EN91
WB8WUA	A	48	8	8	OH	EN91
K9NW	6	11,297	146	79	OH	EM79
W3HKW	6	1,600	52	32	OH	EN80
AA85X	6	1,376	44	32	OH	EM79
A4AR	6	836	39	22	MI	EN64
K7DR	6	810	46	18	MI	EN82
WA8LRW	6	798	40	21	OH	EN91
N8WL	6	770	35	22	OH	EN80
N8PW	6	588	30	21	OH	EN90
KE8RJU	6	527	31	17	MI	EN62
W8KNO	6	240	21	15	OH	EN91
KB8ZR	6	234	21	13	OH	EM79
NSJED	6	180	19	10	OH	EN91
K8DP	6	150	15	10	MI	EN62
KD8VMM	6	70	11	7	OH	EN81
KT8X	6	56	8	7	MI	EN82
N4RA	6	28	7	4	WV	FM09
NS8O	6	15	5	5	OH	EM89
KD8ZEJ	2	3,196	50	34	OH	EN81
W5UHQ	Q	1,215	47	27	OH	EN80
K8ZT	Q	192	19	8	OH	EN91
K2DRH	A	101,920	415	196	IL	EN41
K9KLD	A	47,995	276	145	IL	EM58
N4SV	A	17,085	171	85	IN	EN61
W9XT	A	13,608	142	81	WI	EN53
NOAKC	A	8,680	97	70	WI	EN44
KA0WAS	A	8,460	110	60	IN	EN61
KT8O	A	6,318	92	54	IN	EN71
N2BJ	A	4,370	68	46	IL	EN61
K0PG	A	3,318	79	42	IL	EN51
K9MU	A	2,542	46	31	WI	EN44
W9DZ	A	2,211	61	33	IN	EN61
K0DJT	A	1,824	45	32	WI	EN63
W9FF	A	1,008	25	21	IL	EN40
W9DP	A	646	35	19	IL	EN40
WB9HFK	A	224	15	14	IL	EN50
N9JR	A	190	13	10	IL	EN62
K9OJ	A	140	11	10	IL	EN51
W0UC	A	130	10	10	WI	EN40
N9RB	6	15,661	177	91	IL	EN40
WB9LVO	6	2,400	67	40	IL	EM49
W9VTD	6	1,620	54	30	IL	EN52
NY1V	6	1,218	45	29	IN	EM69
N9DJ	6	736	33	23	IL	EN52
K9OM	6	704	32	21	WI	EN65
K9CW	6	546	27	21	IL	EN65
K9EEH	6	304	21	16	IL	EN51

WU9D	6	228	19	12	IL	EN61
WA9LEY	6	135	15	9	IL	EN61
W9TA	6	72	10	8	WI	EN63
W09B	6	35	7	5	WI	EN52
K04HMB	6	30	6	5	IL	EN61
K9SUL	6	6	3	3	IL	EN50
W9EWZ	2	352	17	11	WI	EN62
K06A	Q	28,220	229	105	IL	EN52
WB9AYW	Q	25	5	5	IL	EN51
K9PW	H	7,638	111	57	IL	EN51
AC0RA	A	144,904	492	236	IA	EN42
W0Q0	A	20,592	160	99	KS	EM19
W0JW	A	19,594	191	101	IA	EN31
K0VG	A	4,664	74	53	MN	EN27
K0AWU	A	3,192	55	42	MN	EN37
W0ZQ	A	2,856	58	34	MN	EN34
W0ZA	A	1,683	53	33	NE	EN00
AA0AW	A	1,350	39	27	MN	EN36
KA0PQW	A	1,334	41	23	MN	EN33
KE0IZE	A	1,104	35	24	IA	EN41
W0RT	A	1,075	39	25	KS	EM27
WBLYJ	A	819	38	21	CO	DN70
K06SC	A	589	26	19	MO	EM48
K00TW	A	475	21	19	MO	EM49
KE0KKD	A	356	20	14	IA	EN31
KB0KQI	A	186	12	9	CO	DM79
W6GMT	A	56	7	7	MN	EN37
WA0LIF	A	48	8	4	MN	EN35
W0ZF	A	27	5	3	MN	EN34
W0GBZG	6	4,060	77	58	NE	EN00
N0POH	6	2,698	71	38	CO	DM79
K8MMI	6	2,562	64	42	KS	EM28
W0DTM	6	1,575	48	35	MO	EM48
K0COVDY	6	989	44	23	CO	DM59
KF0M	6	900	38	25	KS	EM17
W0GN	6	546	27	21	IA	EN42
KA0OUV	6	384	24	16	MO	EM38
KB0NES	6	270	19	15	MN	EN34
K0BJ	6	210	17	14	KS	DM99
KNOV	6	120	13	10	MN	EN34
KS0AA	6	56	9	7	KS	EM28
K0KEX	6	30	6	6	MO	EM29
W0OREW	6	25	6	5	MO	EM37
NOJK	6	16	4	4	KS	EM28
AD0H	6	4	2	2	IA	EN32
WE7L	2	988	26	19	CO	DM79
AA0MZ	2	612	19	17	KS	EM29
N0HJZ	2	576	24	12	MN	EN34
K0QEI	2	340	18	10	MN	EN35
NOAT	2	100	10	5	MN	EN34
W00IXI	2	8	2	2	MO	EM29
W00MN	Q	3,735	71	45	MN	EN33
Op: N0UR						
W0KI	Q	204	16	12	CO	DM79
N0SUW	Q	84	14	4	MN	EN34
KE0MHJ	H	551	21	19	MO	EN30
Rover						
NV4BR/R	R	52,752	269	168	MS	6
K9OV/R	R	39,064	186	152	IL	7
AA5PR/R	R	21,090	188	111	NM	4
N6GP/R	R	16,470	162	90	CA	4
N2SLN/R	R	10,428	100	79	NY	4
WB9OY/R	R	7,018	98	58	IL	2
K9JK/R	R	6,360	81	60	IL	6
K0DAS/R	R	5,842	81	62	IA	6
AC1JR/R	R	4,462	86	46	MA	4
KDBRT/R	R	3,496	67	46	KS	4
KF2MR/R	R	2,960	51	40	NY	2
N6UTC/R	R	2,448	57	34	CA	3
K0BAK/R	R	1,652	37	28	PA	2
AG6RS/R	R	1,612	49	31	CA	3
W9EXD/RR	R	1,518	41	33	MI	5
KA7RRA/R	R	1,479	54	17	WA	4
N9GH/R	R	1,104	29	24	IL	4
K6LMN/R	R	990	35	18	CA	2
KE4WMF/RR	R	888	37	24	VA	5
WB2SH/R	R	756	32	21	NY	2
W3DHU/R	R	504	20	18	CO	4
KD6HOF/R	R	405	28	15	CA	3
AB0YM/R	R	234	16	13	CO	4
KD6EFO/R	R	228	20	12	CA	2
KI5FIQ/R	R	144	12	12	TX	3
W0ETT/R	R	90	11	9		

M1VFN	6	132	12	11	IO80
G0DDZ	6	1	1	1	JO02
M5W	Q	2,420	58	44	IO90
Op: M0ZHMJ					
M7SPS	Q	629	37	17	IO92
G1E	M	2,482	52	34	JO00
Op: 2E0JAW G0XKVF G0POI G0TJH G1FBH G1TPA G6RZA G8KBI M0CF0 M6HWM M7ABT					
FRANCE					
F4IVC	A	2,652	48	39	JN05
F5DE	A	220	12	10	JN05
TM7B	6	468	26	18	JN38
Op: DL7BC					
F0FEK	Q	224	14	8	JN19
GERMANY					
DH8DAO	A	6,136	78	52	JO41
DK20Y	6	160	16	10	JO44
DL1EAL	6	63	9	7	JO31
DK7XX	6	20	5	4	JO53
DF4WO	6	9	3	3	JO30
DG3AL	6	4	2	2	JN37
DL1DBR	2	598	23	13	JO41
DK7PA	Q	240	12	10	JO41
DJ3EI	Q	28	7	4	JO82
DL2TM	Q	16	4	4	JO52
DH5MM	Q	1	1	1	JO52
GREECE					
SX2I	6	24,592	216	116	KN10
Op: SV2JAO					
SV1NZX	6	12,282	139	89	KN17
SV2AEL	6	7,875	108	75	KN10
SV3AWG	6	63	9	7	KM08
SV3AUW	Q	4,104	76	54	KN17
HUNGARY					
HG6Z	M	58,548	287	123	JN97
Op: HA6VY HG6IA HG6WF					
IRELAND					
EI6JK	6	255	17	15	IO53
ITALY					
H1JTO	A	13,176	128	72	JN34
IC8TEM	A	9,040	96	80	JN70
IK7LWX	A	7,076	94	61	JN80
IW1CHX	A	308	16	14	JN35
IZ5EME	6	10,556	119	91	JN52
IV3KKW	6	4,218	74	57	JN66
IK7KMO	6	1,380	47	30	JN90
IT9CKA	6	182	14	13	JM88
IN8TWX	6	99	11	9	JN56
IK3SWB	6	49	7	7	JN66
IT9BLB	6	30	6	6	JM88
IZ7YMS	2	4,672	74	32	JN81
IZ5HQB	Q	832	32	26	JN53

IR9K	M	82,256	369	194	JM67
Op: IT9DSZ IT9KXK IT9IVU IT9JUE IT9BXR					
IT9PPG IT9ATF IT9WDC IT9YMM					
IQ1LA	M	286	16	11	JN44
Op: IU1LUC IZ1KGY					
LATVIA					
YL2QG	6	272	17	16	KO06
YL2LW	2	60	6	5	KO26
YL7X	M	12,231	118	81	KO07
Op: YL1ZF YL2LY					
LITHUANIA					
LY5W	6	1,610	46	35	KO15
LY1R	6	156	14	12	KO14
MONTENEGRO					
4O6BLM	M	75,543	336	169	JN92
Op: 4O5JD 4O6ZD 4O3BUP 4O6LEE 4O4GIG					
NETHERLANDS					
PA8KM	A	6,888	88	44	JO32
PA5WT	6	240	16	15	JO22
PE1OBL	2	32	4	4	JO21
POLAND					
SQ2EEQ	A	90	9	9	JO84
SP5UFK	6	28	7	4	KO02
SP2HHX	2	176	11	8	JO84
SQ1FYY	2	2	1	1	JO73
SP9SDF	Q	1,980	52	20	JN99
PORTUGAL					
CT1END	Q	48	8	6	IM58
ROMANIA					
YO5AVN	A	4,950	72	50	KN17
YO2NAA	6	3,450	76	46	KN05
YO9HP	6	288	18	16	KN35
YR2X	6	210	15	14	KN06
Op: YO2LEA					
YO3JW	6	99	11	9	KN35
YO6PUV/P	6	9	3	3	KN16
YO5LD	2	7,000	100	35	KN05
YO2LSP	2	4,758	61	39	KN05
YO2LLZ	2	4,536	81	28	KN05
YO2GL	2	1,054	32	17	KN05
YO9CWY	2	280	14	10	KN35
YO9CLG	2	64	8	4	KN35
YO8SSB	Q	225	16	15	KN27
SARDINIA					
IS0BSR	6	28,495	209	139	JM49
SCOTLAND					
GM5G	M	2,242	41	38	IO87
Op: 2M0SQL MM0HVW GM1TGY MM0GYX					
GM6PLQ					

SERBIA					
YU5R	6	306	18	17	KN04
Op: YT2AAA					
YT2TNT	6	4	2	2	KN04
SLOVAK REPUBLIC					
OM7ANT	2	2,730	65	21	JN98
SLOVENIA					
S58P	2	22,620	195	58	JN76
SPAIN					
E45IEA	6	621	27	23	IM97
E41HRR	2	3,080	55	28	IN83
EC4AA	Q	6	3	3	IN80
SWEDEN					
SF8F	A	7,497	87	63	JO67
SM5EPO	A	609	24	21	JP80
SM3PZG	6	208	16	13	JP93
SM7I	2	112	8	7	JO65
SWITZERLAND					
HB9BAS	6	702	29	26	JN37
OCEANIA					
INDONESIA					
YE3DFB	A	60	11	3	OI62
YC3BHC	A	6	3	1	OI62
YB2ECO	A	4	2	2	OI52
YB2MDU	6	1,488	48	31	OI53
Y03FTY	2	56	14	2	OI62
YD3AVN	2	44	11	2	OI52
YF3CXB	2	44	11	2	OI52
YD3RAN	2	36	10	2	OI62
YC3GEV	2	32	8	2	OI62
YC3RUL	2	28	7	2	OI62
Op: YD3RUL					
YD3DBG	2	24	6	2	OI62
YB3BAR	2	6	3	1	OI62
YB3BX	2	6	3	1	OI62
YB3GET	2	6	3	1	OI62
Op: YB3BAR					
YE3DKB	2	6	3	1	OI62
Op: YB3BAR					
YF3DBR	2	6	3	1	OI62
Op: YB3BAR					
YD3BFV	Q	52	13	2	OI52
YF3GDE	Q	48	13	2	OI62
YD3PFR	Q	16	10	1	OI62
YG3CMS	Q	10	5	1	OI62
YD3AHD	H	48	13	2	OI62
7E3E	M	44	12	2	OI62
Op: YF3CYT YF3CYU YF3CYS					
YC3GFN YC3NHV					
YD3AXD	R	28	8	2	1

SOUTH AMERICA					
ARGENTINA					
LU9DO	A	46	19	2	GF05
LU1BJW	A	22	7	2	GF05
LU2BN	A	12	4	2	GF05
LU2DX	6	11	11	1	GF05
BONAIRE					
PJ4MM	6	182	14	14	FK52
BRAZIL					
PY2AE	A	637	32	13	GG66
PV2Y	A	224	18	7	GG66
Op: YV6CR					
PY2WOT	A	182	17	7	GG76
PY2EU	A	100	12	5	GG76
PY3LX	A	88	12	4	GG40
PU2LFU	A	84	10	6	GG76
PY3TR	A	84	12	4	GF49
PU2USK	A	78	8	6	GG76
PU3DRM	A	63	11	3	GG40
PY4MMZ	A	60	6	6	GH80
PU2JAF	A	56	11	4	GG66
PUSYST	A	44	11	2	GG40
PU3DCC	A	24	6	2	GG40
PU1WRC	A	12	4	2	GG97
PY3DCC	6	4	3	2	GG49
PY2GTA	6	3	3	1	GG66
PY3MIP	2	170	17	5	GF49
PY2FSR	2	100	10	5	GG56
PU2OXB	2	64	8	4	GG56
PU3LMZ	2	48	12	2	GG40
PY3IE	2	48	12	2	GG40
PY3KT	2	48	12	2	GF49
PU3PIL	2	40	10	2	GF49
PU3SBL	2	36	9	2	GG40
PY5EK	2	32	4	4	GG48
PU3AFG	2	28	7	2	GG40
PY2EBD	2	24	6	3	GG87
PU3POE	2	24	6	2	GG40
PU1JSV	2	12	3	2	GG87
PY2QB	2	8	3	2	GG77
PU3RIN	2	8	2	2	GG30
PY3TL	2	8	2	2	GG30
PP5P	2	2	1	1	GG53
PY2MIA	2	2	1	1	GG66
PY2CER	Q	72	9	4	GG67
PY2AD	Q	52	7	4	GG67
PU3MLN	Q	32	10	2	GG40
PY2TDB	H	16	4	2	GG66
PV2B	M	115	13	5	GG66
Op: PY2MIG PY2ANY PU2VJ					
TRINIDAD & TOBAGO					
9Y4D	A	690	27	23	FK90
CHECK LOGS					
9A5ST, AE3T, E2500O, EA3AYQ, EA3CX, EW1CN, K8YC, KC1RET, KG4GEN, PU2MLO, PY2DN, UN7ECA, XE1HG, YO5OHO.					



Playing With Meteors

Exploring the Universe With Amateur Radio

By Eric Nichols KL7AJ

Wouldn't it be a blast to be a master of technology rather than to be at its mercy? Or better yet, to actually create the next new thing? While it's true that a lot of what we consider high-tech involves computer technology, an equal or greater part of the next new thing is going to involve wireless, also known as radio. In fact, our entire universe is connected by radio, and the entire universe is the radio amateur's sandbox.

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