



Final Results: North American Sprint CW September 2021

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(These are the final results and include the Top Ten scores from all categories and overlays. This is the complete results article. A summary article will be included in an upcoming issue of NCJ.)

(Version 1.1 – 11 October 2021 – corrects references to N2NL so that Dave’s score is noted as High Power, and recognizes K7SV as the second-place Low Power entry. A list of Guest Operators is also added before the table of Line Scores – Ed.)

September CW Sprint was the usual spirited event with familiar heavyweights doing well, but with a sprinkling of newcomers. These new operators are so important to the growth and continuance of what is the most difficult yet most exciting short-term radiosport event for many of us. Recognizing these new calls, their scores are listed in a special table below – welcome!

157 operators posted claimed scores to 3830 and there were 162 logs submitted for log checking. The western part of the US and Canada (west of the Mississippi at least) made up 95 logs (59%) while the Eastern half (including the Caribbean) comprised 67 or 41%, or roughly a 3:2 West-to-East weight.

Activity always is heavy in the 6th call area, (including KH6) and led again with 32 submissions, followed by the 7th call area (including KL7) with 23. East of the Big River, the 4th call area led with 24 players. The 9th area had only five logs submitted, possibly reflecting the W9 DXCC convention that weekend. Last year in September, there were 14 W9 logs containing 1848 QSOs, so 728 QSOs went missing this time and made Wisconsin a lot rarer than usual!

Top Ten Scores

All High Power (HP) scores were led by Steve, N2IC who edged Kirk, K4RO by 1.5% in second place. Note the relatively high number of band changes (with the exception of N6MJ) indicating heavy SO2R interleaving skills on two different bands at any time. In third place is Axel, KI6RRN, operating as NO6T from WA6TQT, who rapidly is becoming a solid top-ten presence. (You can see why NO6T was loud on the WA6TQT QRZ.com web page!) Tree, N6TR made fourth place as he completes rebuilding his station outside Portland, OR. All of these scores were over 18K points. High cotton indeed!

Figure 1 - Top Ten High Power									
Call Sign	Score	QSOs	Mults	Band Changes	QSOs Lost	00Z	01Z	02Z	03Z
N2IC	18,921	357	53	172	2	104	90	85	78
K4RO	18,645	339	55	119	2	96	85	84	74
NO6T	18,232	344	53	166	6	107	86	83	68
N6TR	18,073	341	53	24	2	97	87	84	73
N2NT	17,982	333	54	134	1	106	80	86	61
K5GN	17,820	324	55	101	2	88	79	82	75
N4OGW	17,550	325	54	133	0	89	85	83	68
N6MJ	17,331	327	53	2	3	93	70	76	88
W9RE	17,212	331	52	140	3	101	74	80	76
N6TV	17,160	330	52	75	5	104	79	74	73

For those using a single radio or who are not "into" multiple-band interleaving methods, it's possible to be drop-dead excellent in the Sprints with the "golden-oldie" method of starting on 20 meters, dropping to 40 when the rate decreases, and finishing up on 80. Dan, N6MJ took the top spot and Dave, N2NL operating from his Coast Guard posting in Alabama, was close behind. Both exceeded 17K points! Figure 2 indicates the impressive Top Ten scores for this group with a maximum of 12 band changes.

Figure 2 - Top Ten High Power – Max 12 Band Changes									
Call Sign	Score	QSOs	Mults	Band Changes	QSOs Lost	00Z	01Z	02Z	03Z
N6MJ	17,331	327	53	2	3	93	70	76	88
N2NL	17,034	334	51	2	2	99	84	65	86
K3LR	16,445	299	55	6	6	81	75	74	69
K4BAI	15,810	310	51	2	3	75	84	83	68
W2RQ	15,496	298	52	4	6	86	84	75	53
N5RZ	15,300	300	51	2	9	92	74	63	71
W4EF	15,045	295	51	2	2	77	75	70	73
K1DG	14,900	298	50	2	6	87	81	76	54
K4XU	14,850	297	50	2	10	83	77	70	67
N6ZFO	14,820	285	52	4	9	79	76	73	57

The 100 W Low Power (LP) crowd impressed as always, skillfully negotiating among the tall trees, with Randy, KØEU edging Lar, K7SV. Both scores broke 14K – wow! Figure 3 presents the LP Top Ten and Figure 4 shows the LP leaders with 12 or fewer band changes.

Figure 3 - Top Ten Low Power									
Call Sign	Score	QSOs	Mults	Band Changes	QSOs Lost	00Z	01Z	02Z	03Z
KØEU	14,628	276	53	47	6	78	64	66	68
K7SV	14,300	286	50	5	5	68	78	78	62
NAØN	13,008	271	48	70	0	81	60	72	58
W8WTS	13,000	260	50	102	4	83	59	62	56

WQ5L	12,838	262	49	2	3	68	69	64	61
K1HT	12,642	258	49	3	4	71	56	66	65
W1NN	12,455	265	47	40	4	75	62	71	57
NØAT	12,336	257	48	8	5	69	65	62	61
AG9A	11,592	252	46	6	2	57	79	53	63
KE3X	10,857	231	47	6	4	77	51	54	49

Figure 4 - Top Ten Low Power – Max 12 Band Changes									
Call Sign	Score	QSOs	Mults	Band Changes	QSOs Lost	00Z	01Z	02Z	03Z
K7SV	14,300	286	50	5	5	68	78	78	62
WQ5L	12,838	262	49	2	3	68	69	64	61
K1HT	12,642	258	49	3	4	71	56	66	65
NØAT	12,336	257	48	8	5	69	65	62	61
AG9A	11,592	252	46	6	2	57	79	53	63
KE3X	10,857	231	47	6	4	77	51	54	49
K3UA	10,620	236	45	2	14	66	59	59	52
KG5U	10,575	225	47	4	5	58	62	53	52
K1GU	10,534	229	46	2	1	57	60	50	62
N8NA	10,434	222	47	7	7	49	58	57	58

There were fewer QRPers, as these are the bravest and most skillful, taking on the strong signals with just 5 watts. DanWA (that's Dan, K7SS up in Washington state) led the pack with a remarkable nearly 10k followed by Dave, N6AN operating from a rugged mountain location honoring the memory of Dave, W6AQ. See, I told you these QRPers are a strange breed! (See this article's concluding sidebar for more about Dave's operation.)

Figure 5 – Top Five QRP									
Call Sign	Score	QSOs	Mults	Band Changes	QSOs Lost	00Z	01Z	02Z	03Z
K7SS	9,800	200	49	5	1	63	43	60	34
W6AQ	5,628	134	42	4	0	48	25	32	29
NN7SS	2,848	89	32	2	4	0	0	44	45
W4ER	2,175	75	29	2	4	16	31	28	0
WC7S	432	27	16	3	4	4	2	11	10



Figure 6 – A Sprint regular from Day One, Danny K7SS frequently enters (and leads) the QRP category from his Seattle station. (Photo courtesy of Dan Eskenazi, K7SS)



Figure 7 - David, N6AN can't operate effectively from his apartment, so he chooses to operate from mountain peaks, activating a SOTA counter at the same time. (Photo courtesy David Hodge, N6AN)

Special Achievements

Those who navigate any contest with perfect copying are a wondrous group, indeed. In the fast and furious world of the Sprint, they are even "wondrous-er!" Figure 8 lists nine who pulled it off this time. Note that W6AQ (op. N6AN), managed to do it while logging by hand on a mountain top lying on rugged rocks and nursing his QRP setup! This guy is even more wondrous-er!

Figure 8 - Golden Logs (over 100 contacts)	
Call Sign	QSOs
N4OGW	325
NAØN	271
N5UM	252
W8FN	222
K9NW	145
W6AQ	134
AD4EB	102
KM7W	33
NN1N	25

Figure 9 shows the Top Ten number of QSOs and Figure 10 the Top Ten Multiplier totals. N2IC was the QSO champ (as well as overall champ) and several (K3LR, K4RO, and K5GN) all racked up an impressive 55 different mults. 55 multipliers is the all-time record, reached in a few previous contests and three times in September 2021. Well done all! It was nice to see more activity from more states and provinces, reflecting encouragement from Sprint fans as well as an email promotion effort from contest manager, NØAX.

Figure 9 - Top Ten QSO Totals	
Call Sign	QSOs
N2IC	357
NO6T	344
N5KO	343
N6TR	341
K4RO	339
N2NL	334
N2NT	333
W9RE	331
N6TV	330
N9RV	328

Figure 10 - Top Ten Multipliers	
Call Sign	QSOs
K3LR	55
K4RO	55
K5GN	55
N2NT	54
N4OGW	54
KØEU	53
K5PI	53
K5ZD	53
N2IC	53
N4AF	53

Finally, the amazing agility and skill of advanced SO2R operation occurs when an operator can interleave signals coming and going on two bands, or even on two segments of one band, while not losing rhythm and pace, Figure 11 lists the number of band changes in this Sprint. N2IC has clearly mastered this skill along with NO6T, NO3M, and K5PI. All had more than 150 band changes to lead a pack of outstanding operators.

Figure 11 - Top Ten Number of Band Changes	
Call Sign	QSOs
N2IC	172
NO6T	166
NO3M	153
K5PI	152
W9RE	140
N2NT	134
N4OGW	133
N4AF	124

N5KO	123
N9RV	122

Figure 12 graphs the QSOs made during each ten-minute segment for the three bands: 20, 40, and 80 meters. Twenty meters is the main band at the start, of course, while 40 meters peaks at about 0200 and 80 meters peaks at 0310 UTC.

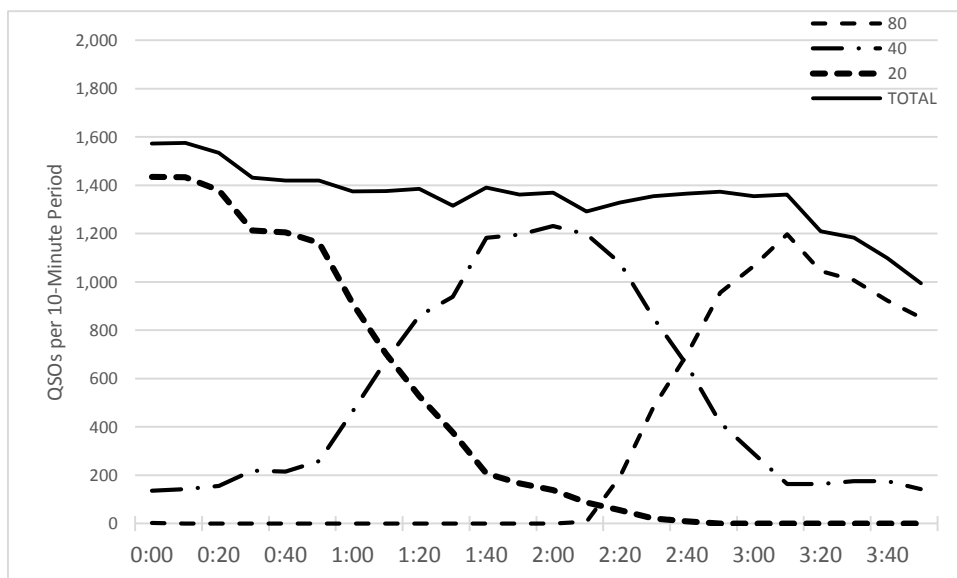


Figure 12: QSO totals by Band by Ten-Minute Segments

Note that there are QSOs made on 40 meters at the very beginning of the Sprint, even while 20 is clearly the dominant band. In fact, there are contacts made on 40 meters during the entire contest! On the other hand, the fall-off of 80 meter rate in the last hour was noted by many as they "simply ran out of people to work." That fall-off is reflected by the downward trend of the Total QSOs curve in the final 30 to 40 minutes. As noted above, a lot of W9 stations were inactive, putting a bit of a damper on low-band activity in the east.

Compared with the September CW Sprint one year earlier, there was more activity and more band openings on 20 meters this year and the cross-over from 20 to 40 meters occurred thirty minutes later! Likewise, this resulted in a later crossover from 40 to 80 meters: 0240 UTC this year compared with 0220 in the Sep 2020 running. Still, many complained of not having anyone new to work in the last half hour on 80 meters. Along with encouraging participation, any ideas of how to help keep activity strong on the low bands is welcome. Perhaps you could simply remind your club members who can't make a full effort that the last hour is often great fun for a new call sign!

How about some new records? It's great to see quite a few highlighted scores in the overall record listing (available at ncjweb.com). The only all-time record set was for working 55 multipliers as noted earlier although the Highest Team Score record for five members got a bit of a scare. Elsewhere, we had quite a crop: KE3X (DC, LP), N3QE (MD, HP), N2NL (AL, HP),

KH6CJJ (KH6, LP), KL7SB (KL7, HP), WJ9B (ID, HP), NØAX (MO, HP), VE5MX (SK, HP), VE9AA (NB, HP), and PJ4NA (PJ4, HP) all raised the standard. Note that there are quite a few out-of-the-way records with no entry at all! The oldest W/VE records still standing are VE2ZP (QC, HP - 1988), KN5H (DE, HP - 1989) and KT3Y (VA, HP - 1989). Outside the US and Canada, there are a pair of 1985 records by 4U1UN (op. W2TO, HP) and W6OAT/VP9 (HP). Will these be retired any time soon? It's always fun to see your call in (high) lights!

Finally, and certainly not least, there were logs submitted from ten call signs "new" to the Sprint - at least not in the list of logs since 2011. Their scores are listed in Figure 13, the table of New Sprint Call Signs. Some of their calls are familiar from the Thursday night NS NCCC Mini-Sprints, which are weekly, only 30 minutes long and a terrific way to get used to the Sprint format. Others are heard in the Wednesday CWops CWT one-hour contests and a few calls are new to most of us. Other new calls posted in 3830scores.com after the contest but did not submit a log. Whether your score was large or small, all are welcome - please come back and be regulars!

Figure 13 – New Sprint Call Signs in Sep 2021	
Call Sign	Score
AC5XK	16
AL1G	336
K1MD	2,278
K5JR	240
KF6NCX	88
KN6BAZ	9
KR2AA	7,965
KVØI	4,720
NØGN	42
VE9CB	1.827



One of those newcomers to Sprint, AL1G, Corliss, shown above in Figure 14, is a long-time resident of Anchorage where she is employed by the planning department of the city. In addition, she is a percussionist in the Anchorage Civic Orchestra. If this isn't enough to occupy an obviously inquiring mind, she also is a music composer and filmmaker. And on top of all that, Corliss is the proud mom of Chris, KL9A, who is well known as a radiosport superstar. (Photo courtesy of Corliss Kimmel, AL1G)

The Closing Bell

As the dust settles, we should be pleased with good scores and lots of active states, provinces, and countries. As the solar cycle progresses, 20 meters will certainly take a more prominent role, encouraging more of the Caribbean DX stations to join the fun. (Thanks to PJ4NA for adding spice to the mix this time, establishing a record for Bonaire!)

Please make a note that the February 2022 CW Sprint will start at 2300 UTC, as it did this year. Hopefully twenty meters will again be open longer for everyone, especially if we have a quieter geomagnetic field than in Feb 2021.

And a big thank you to the Boring Radio Club's CW Sprint team of log checking, editing, and publication to get these results out promptly. Everyone has to work together to make this happen. See you next time and CQ NA!

W6AQ – Peak Sprint Performance – by David Hodge, N6AN

Dave Bell, W6AQ, loved ham radio and was dedicated to sharing that love with his friends, on the air and through his films celebrating the hobby. I met Dave in the 1970s through Mark, N5OT, for whom Dave was both Elmer and father figure. Mark was a driving force in preserving Dave's call sign. I am honored to use W6AQ, especially in QRP activities, to remember Dave.

Being the recipient of Dave's KX3 piqued my interest in QRP and SOTA activities. (Summits On The Air - www.sota.org.uk) Flint Peak (SOTA W6/CT-225) is across the Arroyo Seco (think of the Rose Bowl) from Pasadena where I live in an antenna-unfriendly, HOA-controlled apartment. The drive to the trailhead is under 10 minutes and the hike to the summit under 15. This would be a great way to remember Dave, using his radio and call from Flint Peak to enter the September 2021 North American CW Sprint in the SO QRP category.

The KX3 provided 5 watts output and all exchanges were hand sent. I logged on a 5" x 7" clip board with an AME Porta Paddle-II mounted on the lower right corner. My 20 meter antenna was a half-square made from a single length of CAT5 twisted-pair. It was supported at 20' between a 30' Spiderbeam pole lashed to a sign post and a BnM BW6 collapsing fiberglass pole tied to a bush. My 40/80 antenna was a 100' doublet fed with CAT5 twisted-pair. It was supported at 28' between the Spiderbeam pole and a fence. The KX3 easily tunes these antennas to a match. I didn't bring a chair or stool so I was seated on a gardening knee-saver pad on a plastic tarp spread over the ground.



Why CAT5 twisted pair feedlines? A single pair weighs very little, has an impedance of about 100 Ω , has lower loss (I believe) than computer ribbon cable or speaker wire which is often used for portable doublet feed lines. The only heavy item is a double binding post to BNC male adapter. I use the square or rectangular plastic bread bag closures as center insulators and corners for the half-square.



Both antennas were oriented for broadside coverage at roughly 60 degrees. At this beam heading there is a drop off of 800 feet over 2 miles, then the San Gabriel Mountains rise to 9650' over the next 26 miles.

The higher SFI and the half-square made for a much improved 20 meter result. The majority of my QSOs were on 20 meters and I had many "duplexes". (Working a station, then being called by another station for two back-to-back QSOs on one frequency.) I managed 67 QSOs from AK to VI, HI to NH. 40 was definitely

more challenging to be heard, but provided a number of East Coast stations and I logged 45 QSOs. On 80 my best QSOs were with VE5MX for a new multiplier and N2NL for greatest distance. While I could hear many 1s, 2s, 3s and 4s, I stuck to the louder close-in stations so they didn't have to work so hard.

My hands were constantly trying to stay on top of the pace between writing and sending. When it got dark, juggling a hand light after my headlamp died added to the challenge. I

was pretty wrung out at the end; my butt and back were sore from sitting on the ground, my sending hand was starting to complain, and my brain was fatigued from ten hours on the peak (SOTA from 19 to 23Z). But it was a treat to watch the sunset and see the city below me spring to illuminated life. After a 40-minute tear down and 15-minute walk off the summit I was home around 10 PM. I was often wishing I could send faster than 29 wpm with the portable paddle.

It is always a thrill and pleasure to participate in the Sprint. Congratulations to the high scorers and smooth, speedy operators. Thanks for your patience and good ears.



SEPTEMBER 2021 - CW SPRINT FINAL SCORES

* Low Power, ** QRP

Guest Operators: AC5XK (AC5XK @AC5XK); K5TR (K5OT); KM7W (KL9A); KP2M (KT3Y); N6TTV (N6TVN); NK4O (NK4O @NK4O); NN7SS (K6UFO); NO6T (KI6RRN @WA6TQT); PJ4NA (KA1R); VA6RCN (VE3RCN); W6AQ (N6AN); W6YX (N7MH); WH7T (WH7W)

<i>Call</i>	<i>Name</i>	<i>QTH</i>	<i>20</i>	<i>40</i>	<i>80</i>	<i>QSO</i>	<i>Mult</i>	<i>Score</i>	<i>Band Changes</i>
K5ZD	RANDY	MA	106	131	85	322	53	17,066	54
K1DG	DOUG	NH	93	105	100	298	50	14,900	2
K1AR	JOHN	NH	98	109	88	295	49	14,455	3
K1HT	*DAVE	MA	86	112	60	258	49	12,642	3
K8CN	*MIKE	NH	42	86	56	184	42	7,728	19
AJ1DM	*JOHN	RI	38	40	0	78	32	2,496	1
K1MD	*RICH	RI	4	47	16	67	34	2,278	2
N2NT	ANDY	NJ	111	130	92	333	54	17,982	134
W2RQ	BILL	NJ	86	110	102	298	52	15,496	4
KR2AA	ERIC	NY	60	78	39	177	45	7,965	2
N2NC	JOHN	NJ	66	84	8	158	46	7,268	2
AC5XK	**DON	NY	4	0	0	4	4	16	0
K3LR	TIM	PA	99	114	86	299	55	16,445	6
NO3M	TY	PA	92	128	93	313	52	16,276	153
N3QE	TIM	MD	97	117	84	298	51	15,198	26
KE3X	*KEN	DC	78	84	69	231	47	10,857	6
K3UA	*PHIL	PA	48	93	95	236	45	10,620	2
N8NA	*ED	DE	55	107	60	222	47	10,434	7
N3SD	*GREG	PA	45	70	65	180	43	7,740	2
N4ZR	PETE	MD	46	83	26	155	41	6,355	2
WA3AAN	GRANT	PA	47	61	18	126	38	4,788	2
NJ3K	*BRUCE	PA	0	37	0	37	21	777	0
K4RO	KIRK	TN	108	134	97	339	55	18,645	119
N2NL	DAVE	AL	118	121	95	334	51	17,034	2
N4AF	AL	NC	108	127	76	311	53	16,483	124
K4BAI	JOHN	GA	93	119	98	310	51	15,810	2
K7SV	*LAR	VA	91	111	84	286	50	14,300	5
KØEJ	MARK	TN	83	112	85	280	50	14,000	10
K4ZW	KEN	VA	88	105	87	280	49	13,720	89
N4OX	JAY	FL	92	84	77	253	50	12,650	2
KU8E	JEFF	GA	68	105	81	254	48	12,192	54
N4DW	DAVE	TN	81	80	84	245	46	11,270	4
W8FN	RANDY	NC	61	90	71	222	49	10,878	5
K1GU	*NED	TN	71	80	78	229	46	10,534	2

K4OAQ	FRITZ	VA	63	88	80	231	44	10,164	2
NA4J	JIM	NC	25	100	83	208	46	9,568	2
K4FN	*DAN	KY	48	95	73	216	44	9,504	3
N4YDU	NATE	NC	51	75	74	200	45	9,000	2
N4OO	*BRIAN	GA	53	81	61	195	44	8,580	8
NK4O	*AJ	FL	78	79	7	164	45	7,380	4
AD4EB	JIM	TN	65	37	0	102	37	3,774	2
W4ER	**JOHN	AL	36	39	0	75	29	2,175	2
N4CWZ	*DAVE	NC	4	48	0	52	30	1,560	3
N4NTO	*TRIPP	NC	0	0	29	29	18	522	0
K5JR	MIKE	GA	6	14	0	20	12	240	1
N2IC	STEVE	NM	120	139	98	357	53	18,921	172
K5GN	DAVE	TX	124	117	83	324	55	17,820	101
N4OGW	TOR	MS	102	128	95	325	54	17,550	133
N3BB	JIM	TX	114	115	75	304	52	15,808	96
K5PI	ROB	TX	109	110	71	290	53	15,370	152
N5RZ	GATOR	TX	113	101	86	300	51	15,300	2
K5TR	GEO	TX	99	116	80	295	50	14,750	2
KZ5D	ART	LA	104	105	82	291	50	14,550	88
N5OT	MARK	OK	81	110	75	266	50	13,300	2
WQ5L	*RAY	MS	99	109	54	262	49	12,838	2
K5WA	BOB	TX	82	108	82	272	47	12,784	13
N5TJ	JEFF	TX	98	99	58	255	49	12,495	4
N5UM	AL	OK	85	94	73	252	46	11,592	2
KG5U	*DALE	TX	52	100	73	225	47	10,575	4
KØNM	NIZ	TX	33	39	28	100	34	3,400	2
N9NM	*BARB	TX	21	39	11	71	31	2,201	7
K5GQ	*MARK	TX	19	26	12	57	28	1,596	6
NO6T	AL	CA	118	133	93	344	53	18,232	166
N6MJ	DAN	CA	120	124	83	327	53	17,331	2
N6TV	BOB	CA	117	122	91	330	52	17,160	75
N5KO	TREY	CA	128	126	89	343	50	17,150	123
N5ZO	MARKO	CA	116	119	84	319	51	16,269	108
W6YX	MIKE	CA	126	103	76	305	53	16,165	62
WD6T	DAVE	CA	101	113	90	304	53	16,112	78
W4EF	MIKE	CA	105	104	86	295	51	15,045	2
N6ZFO	BILL	CA	88	107	90	285	52	14,820	4
AE6Y	ANDY	CA	111	104	62	277	50	13,850	46
AJ6V	ED	CA	111	95	65	271	50	13,550	2
K6ZH	JIM	CA	89	94	65	248	52	12,896	6
K9YC	JIM	CA	101	85	71	257	50	12,850	2
WØYK	ED	CA	92	103	0	195	50	9,750	3
AC6T	STEVE	CA	66	88	67	221	44	9,724	4
K6KM	ROB	CA	65	43	45	153	42	6,426	8

W9KKN	BILL	CA	52	65	31	148	43	6,364	30
W6AQ	**DAVE	CA	67	45	22	134	42	5,628	4
K6MM	JOHN	CA	73	44	0	117	38	4,446	1
N6AA	DICK	CA	0	39	70	109	36	3,924	2
KH6CJJ	*KENT	HI	64	32	0	96	35	3,360	1
N6XI	RICK	CA	85	0	0	85	39	3,315	0
WA6URY	DAN	CA	36	36	27	99	33	3,267	3
WQ6X	*RON	CA	47	25	15	87	34	2,958	2
K6LRN	DICK	CA	71	0	0	71	37	2,627	0
K6NV	BOB	CA	13	44	18	75	30	2,250	10
K6MI	JOHN	CA	37	3	0	40	23	920	1
WH7T	*MARK	HI	28	7	0	35	23	805	1
N6TTV	*CARL	CA	29	0	0	29	22	638	0
KF6NCX	LARRY	CA	3	5	3	11	8	88	2
KN6BAZ	*ALEX	CA	3	0	0	3	3	9	0
N6TR	TREE	OR	125	121	95	341	53	18,073	24
N9RV	PAT	MT	118	125	85	328	51	16,728	122
K4XU	DICK	OR	101	113	83	297	50	14,850	2
WJ9B	WILL	ID	86	101	94	281	50	14,050	14
K2RD	IRA	NV	95	91	46	232	50	11,600	2
K7QA	TOM	MT	76	94	71	241	48	11,568	2
NG7M	MAX	UT	87	106	53	246	45	11,070	2
KL7SB	STEVE	AK	114	88	18	220	50	11,000	2
AA7V	STEVE	AZ	86	91	41	218	50	10,900	4
WS7L	CARL	OR	90	90	53	233	44	10,252	3
K7SS	**DAN	WA	84	93	23	200	49	9,800	5
W9CF	*KEVIN	AZ	68	86	45	199	46	9,154	2
W7ZRC	*ROD	ID	80	76	0	156	40	6,240	1
K6NR	DANA	AZ	52	62	18	132	40	5,280	2
KJ9C	MEL	MT	28	51	45	124	39	4,836	2
W7OM	*ROD	WA	27	72	18	117	40	4,680	2
N7DX	*TONY	WA	45	52	25	122	34	4,148	2
NN7SS	**BURT	WA	23	58	8	89	32	2,848	2
N7WY	*BOB	WY	0	38	0	38	26	988	0
KM7W	*CHRIS	MT	33	0	0	33	21	693	0
WC7S	**DALE	WY	4	21	2	27	16	432	3
AL1G	CAT	AK	21	0	0	21	16	336	0
N9NA	JOHN	AZ	0	4	0	4	4	16	0
KW8N	BOB	OH	87	119	83	289	52	15,028	30
NA8V	GREG	MI	85	114	90	289	51	14,739	46
K8MR	JIM	OH	91	106	94	291	48	13,968	6
W8WTS	*JIM	OH	70	105	85	260	50	13,000	102
W1NN	*HAL	OH	90	88	87	265	47	12,455	40
K9NW	*MIKE	OH	10	135	0	145	49	7,105	8

NF8M	*FRANK	MI	0	26	44	70	35	2,450	1
WB2RPW	*GARY	OH	22	16	2	40	22	880	2
W8UA	*JAVAN	OH	15	0	0	15	11	165	0
W9RE	MIKE	IN	104	130	97	331	52	17,212	140
K9BGL	KARL	IL	81	109	76	266	50	13,300	18
WI9WI	JIM	WI	80	90	80	250	49	12,250	2
AG9A	*MARK	IL	70	107	75	252	46	11,592	6
NN1N	*DAVE	IL	0	25	0	25	17	425	0
NØAX	WARD	MO	111	110	95	316	52	16,432	49
KØEU	*KEN	CO	98	103	75	276	53	14,628	47
KØRF	CHUCK	CO	95	106	78	279	49	13,671	86
NAØN	*PAT	MN	84	101	86	271	48	13,008	70
NØAT	*RON	MN	85	97	75	257	48	12,336	8
WØUA	GEO	CO	78	102	74	254	46	11,684	2
NØTA	JOHN	CO	64	103	73	240	45	10,800	2
WØBH	BOB	KS	56	75	73	204	47	9,588	6
WØETT	KEN	CO	68	81	55	204	46	9,384	3
WØCO	*BRAD	CO	44	99	48	191	44	8,404	2
NØAC	*BILL	IA	47	79	47	173	43	7,439	5
KØTG	*JOHN	MN	32	78	40	150	43	6,450	2
WØAAE	*BOB	MN	50	92	18	160	40	6,400	46
KKØU	*JIM	MO	32	81	42	155	41	6,355	2
KVØI	*BILL	NE	19	69	30	118	40	4,720	3
KTØA	GARY	SD	29	55	14	98	37	3,626	5
K7BG	*FDNY	SD	54	14	0	68	34	2,312	2
N9HDE	*SCOTT	IA	0	55	14	69	31	2,139	1
KØUK	*BILL	CO	21	8	0	29	17	493	5
NØGN	*PAUL	NE	0	6	1	7	6	42	1
VE5MX	TODD	SK	80	115	93	288	51	14,688	50
KP2M	PHIL	KP2	116	113	57	286	51	14,586	4
VE9AA	MIKE	NB	100	90	74	264	51	13,464	47
NP2X	ED	KP2	113	94	51	258	49	12,642	61
VE3YT	VIC	ON	63	110	77	250	49	12,250	26
VE7JH	*GABOR	BC	70	65	0	135	39	5,265	1
PJ4NA	MATT	PJ4	66	30	31	127	38	4,826	5
VA6RCN	*KEVIN	AB	23	31	9	63	30	1,890	8
VE9CB	DAVE	NB	29	0	34	63	29	1,827	1
VE2HEW	*TONY	QC	15	13	0	28	17	476	1

TEAM SCORES

NCCC Team #1	
N6TV	17,160
N5KO	17,150
W6YX	16,165
WD6T	16,112
AE6Y	13,850
	80,437
SCCC #1	
NO6T	18,232
N6MJ	17,331
N5ZO	16,269
K6ZH	12,896
AC6T	9,724
	74,452
CODE GUYS	
N2NT	17,982
K3LR	16,445
KW8N	15,028
NP2X	12,642
K3UA	10,620
	72,717
SESC #1	
N4OGW	17,550
N2NL	17,034
K4BAI	15,810
N4OX	12,650
N4OO	8,580
	71,624

5. GOOD GUYS (K5TR, NA8V, K8MR, W8WTS, K9NW)	63,562
6. LATX Peeps (N3BB, K5PI, KZ5D, K5WA, N9NM)	60,713
7. NCCC Team #2 (N6ZFO, AJ6V, K9YC, K6KM, W9KKN)	54,010
8. SMC Blitz (W9RE, NØAX, WI9WI, KKØU)	52,249
9. AOCC wysiwyg (N2IC, NG7M, AA7V, W9CF)	50,045
10. SESC #2 (WQ5L, KU8E, W8FN, NK4O)	43,288
11. TCG: Team of Four (K4RO, KØEJ, K1GU)	43,179
12. GM Mesa Verde NP (KØEU, WØUA, WØETT, KH6CJJ)	39,056
13. Last Best Mults (N9RV, K7QA, KJ9C, KM7W)	33,825
14. TDXS (K5GN, KG5U, KØNM, K5GQ)	33,391
15. Oregon Sprinters (N6TR, K4XU)	32,923
16. SCCC #2 (W4EF, W6AQ, N6AA, WQ6X)	27,555
17. TEAM HIRAM (W1NN, N3SD)	20,195
18. NCCC Team #3 (K6MM, N6XI, NN7SS, K6LRN, K6NV)	15,486

19. The MCC Boys (VE9AA, VE9CB)	15,291
20. GM Yellowstone NP (KTØA, N7WY, KØUK, WC7S)	5,539
21. NCCC Team #4 (N6TTV, KF6NCX)	726