

The CW Operators Club Newsletter

October 2020 — Issue 129





The 2020 CWO was one for the record books. Story page 9.

CWops "CWT" Every Wednesday

Start: 13Z, 19Z, 03Z (+1),1 hour each session Exchange: name/number (members)

name/SPC (non-members)

Avoid DX pileups!

Next slow speed CWT is November 11-12.

US Vanity Callsign web site:

http://cwomc.org

CWops "neighborhood": Look for CWops on 1.818, 3.528, 7.028, 10.118, 14.028, 18.078, 21.028, 24.908, 28.028, 50.098 "and up"

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President's Message

We can definitely tell that Fall is moving in as the daylight shortens and band conditions react accordingly. Solar Cycle 25 is reportedly beginning, and I haven't witnessed many of the previ-



ous Cycles with this much attention. Previous cycle changes usually found me paying more attention to my career and a real lack of awareness of the daily changes. Now, being retired,

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interest in Cycle 25 is heightened and I have time to see what I can hear as well as read reports by others. I can sense that better days are ahead and I'm looking forward to them. We have been training many new CW operators via the Academy and the graduates have a real treat ahead of them working DX easily, and in some cases around the clock. 10 m will be a lot of fun as the peak is approached. The weekly CWTs will be expanding and many of the new CWops members that have come aboard in Europe will now have a chance to work USA members more easily now. Hopefully the QSO rates will be high but more attention to band strategies will come into play.

Our Vice-President, Peter Butler, W1UU, had been developing our Ambassadors program with several new plans to initiate. He has been assisted with a dedicated committee and the results of this effort will be addressed in this newsletter. Thanks to all the members who have stepped up to take this program to the next level and promote what CWops is all about in the US as well as Europe. To those who have previously served CWops appreciates all your work and successes with the program. Anyone who enjoys the weekly CWTs and the annual CWO knows how much fun they can be. Couple that with the CWops CW Academy and the efforts to cultivate more CW operators, you can definitely say we have momentum in our mission.

The Annual CWO seems to have been enjoyed by many. Perhaps the event was enhanced by the Covid-19 pandemic restrictions which allowed more ops to participate. Once again, our CWops CWO event manager Bruce N1LN did an excellent job planning, developing and producing a fun event.

Also new is the K1USN Radio Club facilitating the CW operating event aimed at getting more of our CW Academy students and others to have a weekly activity. The K1USN group recognized a need facing new CW operators and have put together a plan to help CW activity increase and attract both students and regular members. This participation nurtures the folks who are not doing the weekly CWT sessions. We need this to grow and serve more new operators.

The month of October typically launches the major contests of the year. All that work you have been doing this summer on your stations, software and antennas can now be deployed into the major CQ and ARRL contests. Wish you well this season and we'll watch for your scores in the events.

Let CW ring out!

CW Forever!

73, Mac NN4K, President



From the Editor: Another Old Saw

In colloquial American English, and "old saw" is a commonly repeated saying intended to convey well-established, conventional wisdom. I resurrected one ham radio old saw in my February column: "Any wire in the air is better than no wire in the air." I've since had first-hand experience with another old saw.

Six meters is sometimes referred to as the "magic" band but the magic had always been lost on me. I had a multiband vertical that was designed to work on 6 m and, sure enough, my antenna analyzer said it was resonant there, but my results using it were dismal. If grid chasing was the measure of efficacy, I was not a player. In over 25 years of being licensed, I logged a grand total of seven 6 m QSOs, with exactly two grids confirmed. Lots of trying, little result.



So back in May, in the midst of the great pandemic, looking for a new challenge and a way to occupy my time, I bought a real, honest-to-goodness 6 m antenna. Nothing fancy, a three-element Yagi, and I was only able to install it at about 25 feet, using an old TV antenna rotator that had been on the shelf in my basement for nearly 15 years. Between the antenna, feedline, rotator cable and a few other odd parts, I had less than \$200 invested.

I finished in time for the June 6 m season and also in time for the ARRL's June VHF contest and, to put it simply, I found the magic. In just three months I logged nearly 600 QSOs and confirmed another 235 grids. I also added 16 countries to my DXCC Challenge totals. The difference was astounding.

Which leads me to this month's old saw: If you have limited funds to spend on station improvements, spend those funds not on radios, computers or other gadgets, spend that money on antennas.

73,

Tim K9WX Editor





News and Notes

Jerry Weisskohl AC4BT

<u>David, W4WKU</u>: I have a new callsign.

Old Call: KG0EW New Call: W4WKU

Nick, WB5BKL: CWops in the

TXQP

This year in the Texas QSO Party, as I worked stations, frequently a name would pop into my head (Van, Sam, Hank, Marv, Claude, Les and so on). I realized that I was recognizing the call from the weekly CWTs that I enjoy!

I wondered how many of my contacts were with CWops (I was in the CW-only, QRP category). Finding that number turned out to be much easier than I expected (see my occa-



sional blog at http://wb5bkl.blogspot.com for details). The result surprised me a little.

A little over 46% of my unique QSOs were with CWops.

My thanks to each of them for the contact with my modest station.

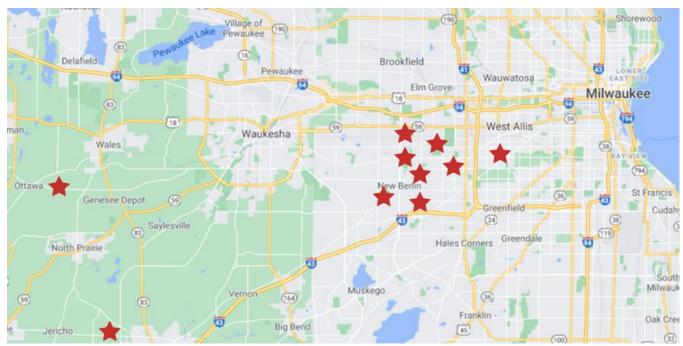
QRPers get a bit of a hoot out of running when they are the 'DX'.

Riki, K7NJ: Many thanks to Rick, EA4M and Art, K6XT for their contributions to the work of the Awards Committee for Advancing CW before stepping down. With great pleasure, we welcome new members Peter, W2CDO and Ted, W3TB.

MJ, **WO9B**: With the challenges we have faced this year, I can't say I am sorry to turn the pages of the calendar with the hope that "normal" is getting closer. October in Wisconsin arrives with a blaze of autumn colors, but also shortening days and cooler temperatures. It won't be much longer until winter gets started. This has been a different year, but then, as the saying goes, it is what you make of it.

I did not keep solid records, but sometime in late April I decided to use the 1900 CWT's to do portable park ops every week. Well, every week that offered decent weather. I had to get out of the house and since moving around Wisconsin went from being laissez faire to lockdown I start-

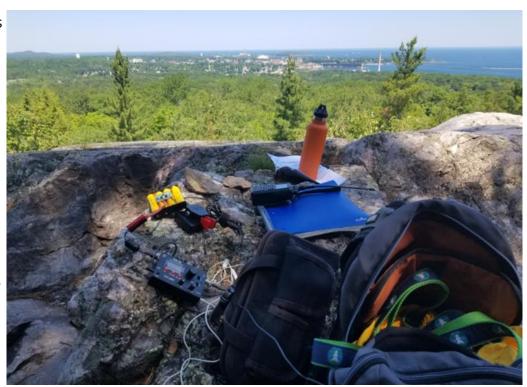




Map of Parks worked.

ed throwing the darts at the wealth of parks that litter the Milwaukee area. The goal was to do a different park each week. That didn't quite work out, but I did manage to check off 10 different venues.

As the weeks went by, I got really good at setting up the endfed and SW-3B QRP radio. It took less than 10 minutes to go from parking lot to on-the-air. Sticking with my minimalist concept, logging



Field Day 2020 - Marquette, Ml.

was performed strictly with pen and paper. A real pro would have figured out how to send with one hand while writing with the other. That particular talent eludes me for now, but I can now send while holding a pen in the same hand. That has to count for something.



The QRP CWT game can be a bit frustrating at times. Or perhaps it is just a lot of operating QRP. Whatever it is, the art of moving on from a really strong unworkable station is hard to do. With 20 and 40 being the hot bands at 1900, it was always a coin flip as to which one would be better. Of late 40 has been much more consistent, but then there are times when 20 shines.

I was fortunate to entice occasional ham friends to stop by. Social distancing and all being the rule, a crowd never developed but for an hour or so, it was great to hang out with friends in the park. The log entries suffered a bit on those occasions of course. but that is a small price to pay for some much needed ham camaraderie. Last week one buddy packed a couple of craft beers which was really a nice surprise.

If you are at all inclined toward portable ops, consider the 1900 CWT an opportunity. The incredibly small



SW-3B and Battery.



EndFed.

SW-3B matched with a 40 meter endfed and an equally small LiFePO4 battery make for an easy, light station that can literally be ready to go on a moments notice. I'm sure there are still two or three outings left before the outside season wraps up here. Keep a sharp ear out for my QRP signal.

Vic, 4X6GP: In these days of lockdown, I've kept busy with a few small projects.

I put up a very compromised antenna for 80m. But almost anything gets out when you put a kW into it, and I've worked quite a few new band-countries. My best DX so far is Mexico!



I built a regenerative receiver for the sake of nostalgia. I would have used tubes, but I left all my tube junk in the USA when I moved to Israel, so I had to use JFETs and other modern stuff instead. It works and is fun to try various modifications. I wish there was more SWBC to listen to.

Now I'm building a QRP Labs U3S WSPR transmitter kit. I intend to put it on 80 and 10m. I have also been experimenting with Geiger counters and other gadgets.

<u>Duncan, G3WZD:</u> I would not characterize myself as an avid collector of QSL cards, though it is always nice to receive them, and I am happy to send a card direct after a particularly enjoyable or notable QSO.

However, I am especially proud of these cards as, in each case, they represent the inaugural onair CW QSO for each of these CWA Basic students (Jorge CR7AWB and Torvald LB1FI were also in my Beginner class). These four guys are all now Intermediate students with Al K0AD and I hear they are doing great!



Last night was Session #7 for my latest Beginner class and I was delighted when Gerry PA2G announced that he had just made his first ever CW QSO, exchanging RST, name and QTH with a friend. I don't think I have previously had a Beginner student so quick out of the blocks to make



that first QSO. Another class member, Martin EI2HIB was listening for me during my weekly Giving Back session using G2CWO, but sadly condx were not right.

This, for me, is exactly what makes being an Advisor so worthwhile!

Craig, K9CT (CWops Treasurer): CWops sponsors plaques for the CQ WW CW Contest. This letter (right) was recently received, thanking us for our sponsorship.

Mel, KJ9C: I'm in Indiana for two months maintaining the remote station (and the rest of the property). I should be back in Montana for ski season right after CQWW CW.

Walt, KC8J: When I moved from Shaker Heights, OH to San Diego, CA I forgot my two-year old Bioenno LiFePO4 battery. My real estate agent sent it to me. UPS managed to ship the battery to San Diego, send it back to Shaker Heights and then ship it to San Diego again. It arrived at my house somewhat



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Tax ID: 27-1435449

Donor: CW Operators Club

Date of Receipt: September 24, 2020

Type of Contribution: Cash

Amount of Contribution: \$520.00 U.S.

Purpose: CQ WW Contest Plaque Sponsorship

Dear CW Operators Club:

On behalf of Worldwide Radio Operators Foundation, Inc., thank you for your generous donation as noted above.

WWROF is dedicated to improving the skills of amateur radio operators around the world, utilizing education, competition, advancement of technology and scientific research, promoting international friendship and goodwill, and preparing them to better serve society in times of communication need.

Donations are tax deductible under IRS 501 (c) (3) provisions. No goods or services were provided to you for this donation.

Sincerely,

Worldwide Radio Operators Foundation, Inc.

https://wwrof.org/

damaged. I contacted Kevin at Bioenno Power to ask about getting the battery repaired. He immediately sent a new battery to me so that I would not be without one. He said he would pick up the damaged battery the next time he was in San Diego so I did not have to worry about trying to send it to him. The only cost to me has been the \$15.00 shipping fee charged by Bioenno.

The damage was done by UPS and Kevin was under no obligation to do anything. I just wanted to point out that Kevin's customer service is really great.

By the way, UPS has not returned any of my telephone calls and they have not responded to my attempts to file a damage claim against them.

Sadly, we acknowledge that Don Benecchi, K1DC of Dothan, Alabama, USA, became a Silent Key on Monday September 14.



Results: 2020 CW Open

Bruce Meier, N1LN

The CW Open is now many weeks behind us and WOW what a fantastic CW Open we had. There were many new records set this year in every session. Here are a few of the "HIGH" points.

- In 2020 the CWOpen log submissions totaled 1141 (an 89% increase), up from 603 in 2019 and even up from the previous high of 721 submitted in 2018. This is the highest participation rate during my tenure as CW Open Manager, and perhaps the highest overall.
- The logs were submitted by 518 members, so no wonder the Multipliers also went way up this year.
- Even with questionable propagation the individual scores were also way up. In 2019 there were a total of 5 logs submitted with scores exceeding 100K points. This year there were 5 logs submitted exceeding 200K points and 64 logs submitted exceeding 100K points. A special "great job" to the low power entries that submitted 5 of the >100K logs. I hope every participant had as much fun with this year's CW Open as I did.

The CW Open is always held on the first weekend of September. This year the CW Open Session 1 started on September 5 at 0000Z. Session 2 started at 1200Z and Session 3 started at 2000Z. This flexible session schedule and format allows participants to operate in all sessions or any combination of sessions. The old rule requiring a 100 QSO minimum to qualify for a trophy or plaque, eliminated last year, was still eliminated this year in an attempt to encourage additional ITU Region 3 participation. I am thrilled to report that Region 3 participated in all three sessions! The winners of the trophies are selected by ITU region based on session high scores and combined scores. The plaques are also ITU region-based and awarded by session for high scores in each power level; High, Low, QRP. The specific winners of the trophies and plaques can be found below for each session.

We would like to once again recognize and thank ICOM America for providing the beautiful trophies and plaques to the CW Open winners. The CW Operators Club really appreciates ICOM's continuing support of our premier operating event. Please be sure to visit the ICOM web site.



So, let's take a look at the 2020 session results and begin planning and strategizing for the upcoming 2021 CW Open starting on September 4, 2020 at 0000Z.

Session 1 - 0000Z to 0400Z

Session 1 results are based on 350 logs received, up 74% from last year and I am thrilled to report that all 3 ITU Regions submitted logs. The QSO totals increased by an amazing 78% and the multipliers were up by 94%. These significant increases resulted in an overall increase in points of 123% and points per log increased by 28%. Session 1 had two submissions that exceeded 200K points and 23 exceeding 100K, 3 of which were low power entries.



Here are the details for Session 1. Plaque and Trophy winners are highlighted in YELLOW.

Call	Name	QSOs	Mults	Score	Power	Call	Name	QSOs	Mults	Score	Power
AA3B	BUD	590	366	215,940	HIGH	N2RC	MIKE	247	207	51,129	HIGH
K3WW	CHAS	570	361	205,770	HIGH	K4QPL	JIM	257	197	50,629	HIGH
N5ZO	MARK	524	338	177,112	HIGH	HA5JI	GYURI	264	191	50,424	HIGH
N4AF	HOWIE	474	333	157,842	HIGH	G3TXF	NIGEL	247	195	48,165	HIGH
K7RL	MITCH	475	309	146,775	HIGH	N4FP	WAYNE	260	182	47,320	HIGH
K0RF	CHUCK	470	309	145,230	HIGH	N3AM	JOHN	250	185	46,250	HIGH
N2NT	ANDY	458	314	143,812	HIGH	N1RM	RICK	238	194	46,172	HIGH
N3RD	DAVE	456	296	134,976	HIGH	K3UL	BOB	256	178	45,568	HIGH
N3QE	TIM	424	311	131,864	HIGH	W2CDO	PETER	236	193	45,548	HIGH
LZ5R	MILEN	414	292	120,888	HIGH	K4AFE	JOHN	237	192	45,504	HIGH
W2GD	JOHN	431	275	118,525	HIGH	WT2P	CJ	235	187	43,945	HIGH
N1LN	BRUCE	413	278	114,814	HIGH	NW3Y	CHICK	234	186	43,524	HIGH
K4BAI	JOHN	402	285	114,570	HIGH	K9MA	SCOTT	230	188	43,240	HIGH
K3WJV	BILL	418	273	114,114	HIGH	AC6ZM	JUAN	222	193	42,846	HIGH
NA8V	GREG	418	269	112,442	HIGH	VE3KP	KEN	242	177	42,834	HIGH
AE6Y	ANDY	397	272	107,984	HIGH	K2AV	GUY	233	181	42,173	HIGH
W5TM	ED	387	277	107,199	HIGH	WA3AAN	GRANT	235	178	41,830	HIGH
WT9U	JIM	409	262	107,158	HIGH	K9CT	CRAIG	214	194	41,516	HIGH
W8FJ	JOHN	419	254	106,426	HIGH	K3PP	GLENN	241	172	41,452	HIGH
N3RS	SIG	388	274	106,312	HIGH	W2XL	BOB	208	188	39,104	HIGH
K5TR	GEO	386	270	104,220	HIGH	KV0I	BILL	211	182	38,402	HIGH
K5KG	GEO	378	273	103,194	HIGH	K8PK	PETER	206	181	37,286	HIGH
K2TW	TOM	371	268	99,428	HIGH	VA7DX	NEIL	203	174	35,322	HIGH
WD6T	DAVE	365	271	98,915	HIGH	WS1L	CHUCK	203	167	33,901	HIGH
N4BP	BOB	346	281	97,226	HIGH	N1SNB	JEFF	199	165	32,835	HIGH
W1VE	GERRY	345	277	95,565	HIGH	WN7S	DICK	192	167	32,064	HIGH
AB0S	TIM	359	264	94,776	HIGH	N5KO	TREY	209	151	31,559	HIGH
HA3NU	LACY	336	276	92,736	HIGH	N6RK	RICK	172	163	28,036	HIGH
KU8E	JEFF	352	258	90,816	HIGH	K4OV	ROB	182	154	28,028	HIGH
W5MX	TOM	339	262	88,818	HIGH	K1RX	MARK	175	159	27,825	HIGH
W8FN	RANDY	344	257	88,408	HIGH	K3SV	BILL	178	155	27,590	HIGH
K4RUM	MIKE	348	253	88,044	HIGH	N5RZ	GATOR	179 165	154	27,566	HIGH
K7QA	TOM	353	248	87,544	HIGH	W0AAE	BOB	165 104	165 124	27,225	HIGH
NOTA	JOHN	353	244	86,132	HIGH	LY7M	AL CLAUDE	194	134	25,996	HIGH
N5EE K0ZR	KEN JEFF	334 321	255 261	85,170 83,781	HIGH HIGH	VE2FK K1RV	PI	169 168	148 145	25,012 24,360	HIGH HIGH
W0UO	JIM	307	269	82,583	HIGH	K7UT	DARRYL	184	132	24,288	HIGH
K6NR	DANA	333	247	82,251	HIGH	K3SW	SW	176	134	23,584	HIGH
AB0TX	MIKE	327	238	77,826	HIGH	N4YDU	NATE	168	135	22,680	HIGH
N4IQ	BILL	310	247	76,570	HIGH	WA6URY	DAN	167	131	21,877	HIGH
KE2D	BOB	312	247	76,440	HIGH	K8MR	JIM	156	136	21,216	HIGH
K4QS	CHUCK	315	242	76,230	HIGH	GW2CWO	STEW	162	128	20,736	HIGH
W4WF	CHRIS	303	251	76,230	HIGH	M2G	JOHN	160	128	20,730	HIGH
N4DW	DAVE	311	240	74,640	HIGH	K2RET	BOB	140	118	16,520	HIGH
N4CW	BERT	314	236	74,104	HIGH	N4KW	PETE	131	124	16,244	HIGH
WG3J	ERIC	304	243	73,872	HIGH	N5AW	MARV	135	120	16,200	HIGH
K3MD	JOHN	353	208	73,424	HIGH	KB3Z	MARK	125	125	15,625	HIGH
K3CT	JOHN	302	238	71,876	HIGH	W2XYZ	FRANK	138	112	15,456	HIGH
I2WIJ	BOB	296	239	70,744	HIGH	W2EG	RICH	129	119	15,351	HIGH
NA4J	JIM	295	231	68,145	HIGH	9A1AA	IVO	141	108	15,228	HIGH
N3JT	JIM	337	195	65,715	HIGH	KR4WI	MATT	132	114	15,048	HIGH
N5TOO	VAN	283	230	65,090	HIGH	LY2A	VYTAS	121	121	14,641	HIGH
W3FV	BARRY	308	210	64,680	HIGH	K2CJ	CARL	125	106	13,250	HIGH
DK9PY	ARMIN	276	234	64,584	HIGH	G4DRS	JOHN	123	102	12,546	HIGH
K3TEJ	JOHN	279	228	63,612	HIGH	K8BZ	STEVE	112	112	12,544	HIGH
VE3NNT	LES	278	226	62,828	HIGH	K5LY	LEE	120	102	12,240	HIGH
K1EBY	FRANK	279	215	59,985	HIGH	KE4S	DAVE	109	109	11,881	HIGH
N3AD	ALAN	289	207	59,823	HIGH	K2RD	IRA	111	107	11,877	HIGH
N2NC	JOHN	270	217	58,590	HIGH	K6MM	JOHN	111	106	11,766	HIGH
W2MKM	ED	275	213	58,575	HIGH	AB2E	DARRELL		102	11,322	HIGH
K8JQ	STEVE	273	214	58,422	HIGH	AF4T	DOUG	105	105	11,025	HIGH
K7TD	TERRY	275	212	58,300	HIGH	K2YR	CARL	108	101	10,908	HIGH
W6SX	HANK	273	209	57,057	HIGH	W3FIZ	PAT	111	97	10,767	HIGH
	RIKI	260	215	55,900	HIGH	K2SX	DENNIS	105	97	10,767	HIGH
K7N.I		200	210	55,500		112071			91	10,100	
K7NJ WA4PSC		270	202	54 540	HIGH	N4GU	MIKF	109	92	10.028	HIGH
K7NJ WA4PSC AD8J	HOWIE JOHN	270 289	202 184	54,540 53,176	HIGH HIGH	N4GU UR7GO	MIKE ALEX	109 104	92 95	10,028 9,880	HIGH HIGH



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Call	Name	QSOs	Mults	Score	Power	Call	Name	QSOs	Mults	Score	Power
OK1RR	MARTIN	109	90	9,810	HIGH	K0TC	RON	52	52	2,704	HIGH
W4XO	LEX	109	90	9,810	HIGH	HB9BJL	CHRIS	56	48	2,688	HIGH
W3BES	JIM	101	91	9,191	HIGH	VA2EBI	GEORGE	49	49	2,401	HIGH
AI4WW	DAN	95	95	9,025	HIGH	W4VIC	VIC	49	46	2,254	HIGH
PA3AAV	GERT	102	86	8,772	HIGH	AD0AB	JIM	47	47	2,209	HIGH
		92	92								
WB4HRL	ED			8,464	HIGH	AK1MD	ALEX	47	47	2,209	HIGH
F4VSM	RON	100	82	8,200	HIGH	W2TT	ROSS	47	47	2,209	HIGH
N3CW	ED	91	85	7,735	HIGH	K1MT	DAVID	46	46	2,116	HIGH
RK3ER	ALEX	95	78	7,410	HIGH	N0CVW	CHAS	46	44	2,024	HIGH
W5GN	BARRY	84	74	6,216	HIGH	SM0FPR	MATS	46	36	1,656	HIGH
VA2UR	GUY	75	73	5,475	HIGH	OH3BCX	ZABA	42	36	1,512	HIGH
RM2D	MATS	82	66	5,412	HIGH	VE3TW	STAN	32	32	1,024	HIGH
WA5LXS	DENNIS	77	70	5,390	HIGH	SD1A	ERIC	31	28	868	HIGH
N9NA	JOHN	72	66	4,752	HIGH	K5GA	BILL	25	25	625	HIGH
KA1IOR	GEOFF	68	67	4,556	HIGH	NS4X	BART	24	24	576	HIGH
										400	
K1TH	TOM	69	66	4,554	HIGH	K6ZP	ANDY	20	20		HIGH
K6KM	ROB	69	61	4,209	HIGH	R4BZ	ANDY	19	16	304	HIGH
K4MI	WILL	64	62	3,968	HIGH	W2DLT	VAN	17	17	289	HIGH
DL6KVA	AXEL	73	54	3,942	HIGH	VK2GR	ALLAN	17	17	289	HIGH
K1ESE	JOHN	62	62	3,844	HIGH	HA5NR	GABOR	12	11	132	HIGH
W7RN	TOM	64	57	3,648	HIGH	PY5AMF	MAR	11	11	121	HIGH
IK0YVV	MARCO	66	55	3,630	HIGH	E74X	VELJKO	10	9	90	HIGH
UY1HY	VAL	59	59	3,481	HIGH	KF6NCX	LARRY	9	9	81	HIGH
ZL1BBW	GAVIN	56	56	3,136	HIGH	RK3TD	SERG	8	8	64	HIGH
KC2LSD	CODY	58	54	3,132	HIGH	JN1THL	KEN	8	8	64	HIGH
KE4KY	TOM		55	3,025	HIGH	VK4CT			4		
		55				VK4C1	JOHN	4	4	16	HIGH
M2D	PHIL	61	49	2,989	HIGH						
Call	Name	QSOs	Mults	Score	Power	Call	Name	QSOs	Mults	Score	Power
N4ZZ	DON	416	287	119,392	LOW	K4FT	JOHN	168	130	21,840	LOW
K7SV	LAR	405	276	111,780	LOW	AF8A	GARY	164	129	21,156	LOW
IC/ OV											LOVV
W0UA	GEO	401	267	107,067	LOW	VE3GFN	MIKE	158	131	20,698	LOW
W0UA K0AV	GEO ALAN	401 353	267 253	107,067 89,309	LOW LOW	VE3GFN N3CKI	MIKE DAVE	158 161	131 127	20,698 20,447	LOW LOW
W0UA	GEO ALAN WILL	401 353 323	267 253 227	107,067 89,309 73,321	LOW	VE3GFN N3CKI KG3V	MIKE DAVE TOM	158	131	20,698	LOW
W0UA K0AV	GEO ALAN	401 353	267 253	107,067 89,309	LOW LOW	VE3GFN N3CKI	MIKE DAVE	158 161	131 127	20,698 20,447	LOW LOW
W0UA K0AV WJ9B	GEO ALAN WILL	401 353 323	267 253 227	107,067 89,309 73,321	LOW LOW LOW	VE3GFN N3CKI KG3V	MIKE DAVE TOM	158 161 155	131 127 130	20,698 20,447 20,150	LOW LOW LOW
W0UA K0AV WJ9B K4OAQ	GEO ALAN WILL FRITZ	401 353 323 294	267 253 227 234	107,067 89,309 73,321 68,796	LOW LOW LOW	VE3GFN N3CKI KG3V K0FX	MIKE DAVE TOM DON	158 161 155 143	131 127 130 122	20,698 20,447 20,150 17,446	LOW LOW LOW
W0UA K0AV WJ9B K4OAQ N4OO	GEO ALAN WILL FRITZ BRIAN	401 353 323 294 283	267 253 227 234 227 212	107,067 89,309 73,321 68,796 64,241	LOW LOW LOW LOW	VE3GFN N3CKI KG3V K0FX AD5XI	MIKE DAVE TOM DON IAIN	158 161 155 143 136	131 127 130 122 120 110	20,698 20,447 20,150 17,446 16,320	LOW LOW LOW LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL	GEO ALAN WILL FRITZ BRIAN JOHN KEN	401 353 323 294 283 298 287	267 253 227 234 227 212 220	107,067 89,309 73,321 68,796 64,241 63,176 63,140	LOW LOW LOW LOW LOW LOW	VE3GFN N3CKI KG3V K0FX AD5XI K5XU K9WX	MIKE DAVE TOM DON IAIN MIKE TIM	158 161 155 143 136 141 127	131 127 130 122 120 110	20,698 20,447 20,150 17,446 16,320 15,510 15,494	LOW LOW LOW LOW LOW LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL KE8G	GEO ALAN WILL FRITZ BRIAN JOHN KEN JIM	401 353 323 294 283 298 287 284	267 253 227 234 227 212 220 219	107,067 89,309 73,321 68,796 64,241 63,176 63,140 62,196	LOW LOW LOW LOW LOW LOW LOW	VE3GFN N3CKI KG3V K0FX AD5XI K5XU K9WX XE1IM	MIKE DAVE TOM DON IAIN MIKE TIM SAL	158 161 155 143 136 141 127 127	131 127 130 122 120 110 122 116	20,698 20,447 20,150 17,446 16,320 15,510 15,494 14,732	LOW LOW LOW LOW LOW LOW LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL KE8G W1NN	GEO ALAN WILL FRITZ BRIAN JOHN KEN JIM HAL	401 353 323 294 283 298 287 284 284	267 253 227 234 227 212 220 219 217	107,067 89,309 73,321 68,796 64,241 63,176 63,140 62,196 61,628	LOW LOW LOW LOW LOW LOW LOW LOW LOW	VE3GFN N3CKI KG3V K0FX AD5XI K5XU K9WX XE1IM W9RE	MIKE DAVE TOM DON IAIN MIKE TIM SAL MIKE	158 161 155 143 136 141 127 127 124	131 127 130 122 120 110 122 116 118	20,698 20,447 20,150 17,446 16,320 15,510 15,494 14,732 14,632	LOW LOW LOW LOW LOW LOW LOW LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL KE8G W1NN N8BJQ	GEO ALAN WILL FRITZ BRIAN JOHN KEN JIM HAL STEVE	401 353 323 294 283 298 287 284 284 302	267 253 227 234 227 212 220 219 217 198	107,067 89,309 73,321 68,796 64,241 63,176 63,140 62,196 61,628 59,796	LOW	VE3GFN N3CKI KG3V K0FX AD5XI K5XU K9WX XE1IM W9RE KB3AAY	MIKE DAVE TOM DON IAIN MIKE TIM SAL MIKE RON	158 161 155 143 136 141 127 127 124 134	131 127 130 122 120 110 122 116 118 106	20,698 20,447 20,150 17,446 16,320 15,510 15,494 14,732 14,632 14,204	LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL KE8G W1NN N8BJQ K4FN	GEO ALAN WILL FRITZ BRIAN JOHN KEN JIM HAL STEVE DAN	401 353 323 294 283 298 287 284 284 302 293	267 253 227 234 227 212 220 219 217 198 203	107,067 89,309 73,321 68,796 64,241 63,176 63,140 62,196 61,628 59,796 59,479	LOW	VE3GFN N3CKI KG3V K0FX AD5XI K5XU K9WX XE1IM W9RE KB3AAY K0INN	MIKE DAVE TOM DON IAIN MIKE TIM SAL MIKE RON TOM	158 161 155 143 136 141 127 127 124 134	131 127 130 122 120 110 122 116 118 106 105	20,698 20,447 20,150 17,446 16,320 15,510 15,494 14,732 14,632 14,204 14,070	LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL KE8G W1NN N8BJQ K4FN W3KB	GEO ALAN WILL FRITZ BRIAN JOHN KEN JIM HAL STEVE DAN KEITH	401 353 323 294 283 298 287 284 284 302 293 313	267 253 227 234 227 212 220 219 217 198 203 190	107,067 89,309 73,321 68,796 64,241 63,176 63,140 62,196 61,628 59,796 59,479 59,470	LOW	VE3GFN N3CKI KG3V K0FX AD5XI K5XU K9WX XE1IM W9RE KB3AAY K0INN N1VH	MIKE DAVE TOM DON IAIN MIKE TIM SAL MIKE RON TOM MARTY	158 161 155 143 136 141 127 127 124 134 134 123	131 127 130 122 120 110 122 116 118 106 105	20,698 20,447 20,150 17,446 16,320 15,510 15,494 14,732 14,632 14,204 14,070 13,161	LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL KE8G W1NN N8BJQ K4FN W3KB W6LAX	GEO ALAN WILL FRITZ BRIAN JOHN KEN JIM HAL STEVE DAN KEITH ROGER	401 353 323 294 283 298 287 284 284 302 293 313 276	267 253 227 234 227 212 220 219 217 198 203 190 209	107,067 89,309 73,321 68,796 64,241 63,176 63,140 62,196 61,628 59,796 59,479 59,470 57,684	LOW	VE3GFN N3CKI KG3V K0FX AD5XI K5XU K9WX XE1IM W9RE KB3AAY K0INN N1VH K6RB	MIKE DAVE TOM DON IAIN MIKE TIM SAL MIKE RON TOM MARTY ROB	158 161 155 143 136 141 127 127 124 134 134 123 130	131 127 130 122 120 110 122 116 118 106 105 107	20,698 20,447 20,150 17,446 16,320 15,510 15,494 14,732 14,632 14,204 14,070 13,161 13,000	LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL KE8G W1NN N8BJQ K4FN W3KB W6LAX NN5O	GEO ALAN WILL FRITZ BRIAN JOHN KEN JIM HAL STEVE DAN KEITH ROGER LARRY	401 353 323 294 283 298 287 284 284 302 293 313 276 267	267 253 227 234 227 212 220 219 217 198 203 190 209 210	107,067 89,309 73,321 68,796 64,241 63,176 63,140 62,196 61,628 59,796 59,479 57,684 56,070	LOW	VE3GFN N3CKI KG3V K0FX AD5XI K5XU K9WX XE1IM W9RE KB3AAY K0INN N1VH K6RB K0AD	MIKE DAVE TOM DON IAIN MIKE TIM SAL MIKE RON TOM MARTY ROB AL	158 161 155 143 136 141 127 127 124 134 134 123 130 118	131 127 130 122 120 110 122 116 118 106 105 107 100 108	20,698 20,447 20,150 17,446 16,320 15,510 15,494 14,732 14,632 14,204 14,070 13,161 13,000 12,744	LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL KE8G W1NN N8BJQ K4FN W3KB W6LAX NN5O VA3SB	GEO ALAN WILL FRITZ BRIAN JOHN KEN JIM HAL STEVE DAN KEITH ROGER LARRY SERGE	401 353 323 294 283 298 287 284 284 302 293 313 276 267 266	267 253 227 234 227 212 220 219 217 198 203 190 209 210 203	107,067 89,309 73,321 68,796 64,241 63,176 63,140 62,196 61,628 59,796 59,479 57,684 56,070 53,998	LOW	VE3GFN N3CKI KG3V K0FX AD5XI K5XU K9WX XE1IM W9RE KB3AAY K0INN N1VH K6RB K0AD K4TZ	MIKE DAVE TOM DON IAIN MIKE TIM SAL MIKE RON TOM MARTY ROB AL TOM	158 161 155 143 136 141 127 127 124 134 134 123 130 118 115	131 127 130 122 120 110 122 116 118 106 105 107 100 108	20,698 20,447 20,150 17,446 16,320 15,510 15,494 14,732 14,632 14,204 14,070 13,161 13,000 12,744 12,420	LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL KE8G W1NN N8BJQ K4FN W3KB W6LAX NN5O	GEO ALAN WILL FRITZ BRIAN JOHN KEN JIM HAL STEVE DAN KEITH ROGER LARRY	401 353 323 294 283 298 287 284 284 302 293 313 276 267	267 253 227 234 227 212 220 219 217 198 203 190 209 210	107,067 89,309 73,321 68,796 64,241 63,176 63,140 62,196 61,628 59,796 59,479 57,684 56,070	LOW	VE3GFN N3CKI KG3V K0FX AD5XI K5XU K9WX XE1IM W9RE KB3AAY K0INN N1VH K6RB K0AD	MIKE DAVE TOM DON IAIN MIKE TIM SAL MIKE RON TOM MARTY ROB AL	158 161 155 143 136 141 127 127 124 134 134 123 130 118	131 127 130 122 120 110 122 116 118 106 105 107 100 108	20,698 20,447 20,150 17,446 16,320 15,510 15,494 14,732 14,632 14,204 14,070 13,161 13,000 12,744	LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL KE8G W1NN N8BJQ K4FN W3KB W6LAX NN5O VA3SB	GEO ALAN WILL FRITZ BRIAN JOHN KEN JIM HAL STEVE DAN KEITH ROGER LARRY SERGE	401 353 323 294 283 298 287 284 284 302 293 313 276 267 266	267 253 227 234 227 212 220 219 217 198 203 190 209 210 203	107,067 89,309 73,321 68,796 64,241 63,176 63,140 62,196 61,628 59,796 59,479 57,684 56,070 53,998	LOW	VE3GFN N3CKI KG3V K0FX AD5XI K5XU K9WX XE1IM W9RE KB3AAY K0INN N1VH K6RB K0AD K4TZ	MIKE DAVE TOM DON IAIN MIKE TIM SAL MIKE RON TOM MARTY ROB AL TOM	158 161 155 143 136 141 127 127 124 134 134 123 130 118 115	131 127 130 122 120 110 122 116 118 106 105 107 100 108	20,698 20,447 20,150 17,446 16,320 15,510 15,494 14,732 14,632 14,204 14,070 13,161 13,000 12,744 12,420	LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL KE8G W1NN N8BJQ K4FN W3KB W6LAX NN5O VA3SB N2UU	GEO ALAN WILL FRITZ BRIAN JOHN KEN JIM HAL STEVE DAN KEITH ROGER LARRY SERGE BOB	401 353 323 294 283 298 287 284 284 302 293 313 276 267 266 287	267 253 227 234 227 212 220 219 217 198 203 190 209 210 203 186	107,067 89,309 73,321 68,796 64,241 63,176 63,140 62,196 61,628 59,796 59,479 57,684 56,070 53,998 53,382	LOW	VE3GFN N3CKI KG3V K0FX AD5XI K5XU K9WX XE1IM W9RE KB3AAY K0INN N1VH K6RB K0AD K4TZ KQ4R	MIKE DAVE TOM DON IAIN MIKE TIM SAL MIKE RON TOM MARTY ROB AL TOM ED	158 161 155 143 136 141 127 127 124 134 132 130 118 115	131 127 130 122 120 110 122 116 118 106 105 107 100 108 108	20,698 20,447 20,150 17,446 16,320 15,510 15,494 14,732 14,632 14,204 14,070 13,161 13,000 12,744 12,420 12,190	LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL KE8G W1NN N8BJQ K4FN W3KB W6LAX NN5O VA3SB N2UU K1VUT K5CI	GEO ALAN WILL FRITZ BRIAN JOHN KEN JIM HAL STEVE DAN KEITH ROGER LARRY SERGE BOB DAVE LEO	401 353 323 294 283 298 287 284 284 302 293 313 276 267 266 287 271 255	267 253 227 234 227 212 220 219 217 198 203 190 209 210 203 186 191 194	107,067 89,309 73,321 68,796 64,241 63,176 62,196 61,628 59,796 59,479 59,470 57,684 56,070 53,998 53,382 51,761 49,470	LOW	VE3GFN N3CKI KG3V K0FX AD5XI K5XU K9WX XE1IM W9RE KB3AAY K0INN N1VH K6RB K0AD K4TZ KQ4R NJ8J K2LE	MIKE DAVE TOM DON IAIN MIKE TIM SAL MIKE RON TOM MARTY ROB AL TOM ED BEN ANDY	158 161 155 143 136 141 127 127 124 134 133 130 118 115 115 120	131 127 130 122 120 110 122 116 118 106 105 107 100 108 108 106 98	20,698 20,447 20,150 17,446 16,320 15,510 15,494 14,732 14,632 14,204 14,070 13,161 13,000 12,744 12,420 12,190 11,760 11,742	LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL KE8G W1NN N8BJQ K4FN W3KB W6LAX NN5O VA3SB N2UU K1VUT K5CI K3JT	GEO ALAN WILL FRITZ BRIAN JOHN KEN JIM HAL STEVE DAN KEITH ROGER LARRY SERGE BOB DAVE LEO TERRY	401 353 323 294 283 298 287 284 302 293 313 276 267 266 287 271 255 243	267 253 227 234 227 212 220 219 217 198 203 190 209 210 203 186 191 194 193	107,067 89,309 73,321 68,796 64,241 63,176 63,140 62,196 61,628 59,796 59,479 57,684 56,070 53,998 53,382 51,761 49,470 46,899	LOW	VE3GFN N3CKI KG3V K0FX AD5XI K5XU K9WX XE1IM W9RE KB3AAY K0INN N1VH K6RB K0AD K4TZ KQ4R NJ8J K2LE N3AC	MIKE DAVE TOM DON IAIN MIKE TIM SAL MIKE RON TOM MARTY ROB AL TOM ED BEN ANDY DAVE	158 161 155 143 136 141 127 127 124 134 134 123 130 118 115 115 120 114 107	131 127 130 122 120 110 122 116 118 106 105 107 100 108 108 106 98 103 107	20,698 20,447 20,150 17,446 16,320 15,510 15,494 14,732 14,632 14,204 14,070 13,161 13,000 12,744 12,420 12,190 11,760 11,742 11,449	LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL KE8G W1NN N8BJQ K4FN W3KB W6LAX NN5O VA3SB N2UU K1VUT K5CI K3JT N3HEE	GEO ALAN WILL FRITZ BRIAN JOHN KEN JIM HAL STEVE DAN KEITH ROGER LARRY SERGE BOB DAVE LEO TERRY JOE	401 353 323 294 283 298 287 284 284 302 293 313 276 267 266 287 271 255 243 236	267 253 227 234 227 212 220 219 217 198 203 190 209 210 203 186 191 194 193 190	107,067 89,309 73,321 68,796 64,241 63,176 63,140 62,196 61,628 59,796 59,479 57,684 56,070 53,998 53,382 51,761 49,470 46,899 44,840	LOW	VE3GFN N3CKI KG3V K0FX AD5XI K5XU K9WX XE1IM W9RE KB3AAY K0INN N1VH K6RB K0AD K4TZ KQ4R NJ8J K2LE N3AC K8GT	MIKE DAVE TOM DON IAIN MIKE TIM SAL MIKE RON TOM MARTY ROB AL TOM ED BEN ANDY DAVE GERRY	158 161 155 143 136 141 127 127 124 134 133 130 118 115 115 120 114 107 120	131 127 130 122 120 110 122 116 118 106 105 107 100 108 108 106 98 103 107 95	20,698 20,447 20,150 17,446 16,320 15,510 15,494 14,732 14,632 14,204 14,070 13,161 13,000 12,744 12,420 12,190 11,760 11,742 11,449 11,400	LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL KE8G W1NN N8BJQ K4FN W3KB W6LAX NN5O VA3SB N2UU K1VUT K5CI K3JT N3HEE K0NM	GEO ALAN WILL FRITZ BRIAN JOHN KEN JIM HAL STEVE DAN KEITH ROGER LARRY SERGE BOB DAVE LEO TERRY JOE NIZ	401 353 323 294 283 298 287 284 284 302 293 313 276 267 266 287 271 255 243 236 233	267 253 227 234 227 212 220 219 217 198 203 190 209 210 203 186 191 194 193 190 191	107,067 89,309 73,321 68,796 64,241 63,176 61,628 59,796 59,479 57,684 56,070 53,998 53,382 51,761 49,470 46,899 44,840	LOW	VE3GFN N3CKI KG3V K0FX AD5XI K5XU K9WX XE1IM W9RE KB3AAY K0INN N1VH K6RB K0AD K4TZ KQ4R NJ8J K2LE N3AC K8GT NS2N	MIKE DAVE TOM DON IAIN MIKE TIM SAL MIKE RON TOM MARTY ROB AL TOM ED BEN ANDY DAVE GERRY PAUL	158 161 155 143 136 141 127 127 124 134 133 130 118 115 115 120 114 107 120 117	131 127 130 122 120 110 122 116 118 106 105 107 100 108 108 106 98 103 107 95 96	20,698 20,447 20,150 17,446 16,320 15,510 15,494 14,732 14,632 14,204 14,070 13,161 13,000 12,744 12,420 12,190 11,760 11,742 11,449 11,400 11,232	LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL KE8G W1NN N8BJQ K4FN W3KB W6LAX NN5O VA3SB N2UU K1VUT K5CI K3JT N3HEE KONM K8AJS	GEO ALAN WILL FRITZ BRIAN JOHN KEN JIM HAL STEVE DAN KEITH ROGER LARRY SERGE BOB DAVE LEO TERRY JOE NIZ JOHN	401 353 323 294 283 298 287 284 284 302 293 313 276 267 266 287 271 255 243 236 233 226	267 253 227 234 227 212 220 219 217 198 203 190 209 210 203 186 191 194 193 190 191 159	107,067 89,309 73,321 68,796 64,241 63,176 62,196 61,628 59,796 59,479 57,684 56,070 53,998 53,382 51,761 49,470 46,899 44,840 44,503 35,934	LOW	VE3GFN N3CKI KG3V K0FX AD5XI K5XU K9WX XE1IM W9RE KB3AAY K0INN N1VH K6RB K0AD K4TZ KQ4R NJ8J K2LE N3AC K8GT NS2N KA5M	MIKE DAVE TOM DON IAIN MIKE TIM SAL MIKE RON TOM MARTY ROB AL TOM ED BEN ANDY DAVE GERRY PAUL MARSH	158 161 155 143 136 141 127 127 124 134 133 130 118 115 120 114 107 120 117	131 127 130 122 120 110 122 116 118 106 105 107 100 108 108 106 98 103 107 95 96 103	20,698 20,447 20,150 17,446 16,320 15,510 15,494 14,732 14,632 14,204 14,070 13,161 13,000 12,744 12,420 12,190 11,760 11,742 11,449 11,400 11,232 11,227	LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL KE8G W1NN N8BJQ K4FN W3KB W6LAX NN5O VA3SB N2UU K1VUT K5CI K3JT N3HEE KONM K8AJS K0VBU	GEO ALAN WILL FRITZ BRIAN JOHN KEN JIM HAL STEVE DAN KEITH ROGER LARRY SERGE BOB DAVE LEO TERRY JOE NIZ JOHN BILL	401 353 323 294 283 298 287 284 284 302 293 313 276 267 266 287 271 255 243 236 233 226 212	267 253 227 234 227 212 220 219 217 198 203 190 209 210 203 186 191 194 193 190 191 159 164	107,067 89,309 73,321 68,796 64,241 63,176 63,140 62,196 59,479 59,470 57,684 56,070 53,998 53,382 51,761 49,470 46,899 44,840 44,503 35,934 34,768	LOW	VE3GFN N3CKI KG3V K0FX AD5XI K5XU K9WX XE1IM W9RE KB3AAY K0INN N1VH K6RB K0AD K4TZ KQ4R NJ8J K2LE N3AC K8GT NS2N KA5M KM4FO	MIKE DAVE TOM DON IAIN MIKE TIM SAL MIKE RON TOM MARTY ROB AL TOM ED BEN ANDY DAVE GERRY PAUL MARSH DWIGHT	158 161 155 143 136 141 127 127 124 134 133 130 118 115 120 114 107 120 117 109 120	131 127 130 122 120 110 122 116 118 106 105 107 100 108 108 106 98 103 107 95 96 103 93	20,698 20,447 20,150 17,446 16,320 15,510 15,494 14,732 14,632 14,204 14,070 13,161 13,000 12,744 12,420 12,190 11,760 11,742 11,449 11,400 11,232 11,227 11,160	LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL KE8G W1NN N8BJQ K4FN W3KB W6LAX NN5O VA3SB N2UU K1VUT K5CI K3JT N3HEE KONM K8AJS KOVBU N8LR	GEO ALAN WILL FRITZ BRIAN JOHN KEN JIM HAL STEVE DAN KEITH ROGER LARRY SERGE BOB DAVE LEO TERRY JOE NIZ JOHN BILL GARY	401 353 323 294 283 298 287 284 284 302 293 313 276 267 266 287 271 255 243 236 233 226 212 215	267 253 227 234 227 212 220 219 217 198 203 190 209 210 203 186 191 194 193 190 191 159 164 153	107,067 89,309 73,321 68,796 64,241 63,176 63,140 62,196 59,479 59,470 57,684 56,070 53,998 53,382 51,761 49,470 46,899 44,840 44,503 35,934 34,768 32,895	LOW	VE3GFN N3CKI KG3V K0FX AD5XI K5XU K9WX XE1IM W9RE KB3AAY K0INN N1VH K6RB K0AD K4TZ KQ4R NJ8J K2LE N3AC K8GT NS2N KA5M KM4FO WB9HFK	MIKE DAVE TOM DON IAIN MIKE TIM SAL MIKE RON TOM MARTY ROB AL TOM ED BEN ANDY DAVE GERRY PAUL MARSH DWIGHT MARK	158 161 155 143 136 141 127 127 124 134 133 130 118 115 120 114 107 120 117 109 120 105	131 127 130 122 120 110 122 116 118 106 105 107 100 108 108 103 107 95 96 103 93 105	20,698 20,447 20,150 17,446 16,320 15,510 15,494 14,732 14,632 14,204 14,070 13,161 13,000 12,744 12,420 12,190 11,760 11,742 11,449 11,449 11,400 11,232 11,227 11,160 11,025	LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL KE8G W1NN N8BJQ K4FN W3KB W6LAX NN5O VA3SB N2UU K1VUT K5CI K3JT N3HEE K0NM K8AJS K0VBU N8LR N1DC	GEO ALAN WILL FRITZ BRIAN JOHN KEN JIM HAL STEVE DAN KEITH ROGER LARRY SERGE BOB DAVE LEO TERRY JOE NIZ JOHN BILL	401 353 323 294 283 298 287 284 284 302 293 313 276 267 266 287 271 255 243 236 233 226 212	267 253 227 234 227 212 220 219 217 198 203 190 209 210 203 186 191 194 193 190 191 159 164	107,067 89,309 73,321 68,796 64,241 63,176 63,140 62,196 59,479 59,470 57,684 56,070 53,998 53,382 51,761 49,470 46,899 44,840 44,503 35,934 34,768	LOW	VE3GFN N3CKI KG3V K0FX AD5XI K5XU K9WX XE1IM W9RE KB3AAY K0INN N1VH K6RB K0AD K4TZ KQ4R NJ8J K2LE N3AC K8GT NS2N KA5M KM4FO	MIKE DAVE TOM DON IAIN MIKE TIM SAL MIKE RON TOM MARTY ROB AL TOM ED BEN ANDY DAVE GERRY PAUL MARSH DWIGHT	158 161 155 143 136 141 127 127 124 134 133 130 118 115 120 114 107 120 117 109 120	131 127 130 122 120 110 122 116 118 106 105 107 100 108 108 106 98 103 107 95 96 103 93	20,698 20,447 20,150 17,446 16,320 15,510 15,494 14,732 14,632 14,204 14,070 13,161 13,000 12,744 12,420 12,190 11,760 11,742 11,449 11,400 11,232 11,227 11,160	LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL KE8G W1NN N8BJQ K4FN W3KB W6LAX NN5O VA3SB N2UU K1VUT K5CI K3JT N3HEE KONM K8AJS KOVBU N8LR	GEO ALAN WILL FRITZ BRIAN JOHN KEN JIM HAL STEVE DAN KEITH ROGER LARRY SERGE BOB DAVE LEO TERRY JOE NIZ JOHN BILL GARY	401 353 323 294 283 298 287 284 284 302 293 313 276 267 266 287 271 255 243 236 233 226 212 215	267 253 227 234 227 212 220 219 217 198 203 190 209 210 203 186 191 194 193 190 191 159 164 153	107,067 89,309 73,321 68,796 64,241 63,176 63,140 62,196 59,479 59,470 57,684 56,070 53,998 53,382 51,761 49,470 46,899 44,840 44,503 35,934 34,768 32,895	LOW	VE3GFN N3CKI KG3V K0FX AD5XI K5XU K9WX XE1IM W9RE KB3AAY K0INN N1VH K6RB K0AD K4TZ KQ4R NJ8J K2LE N3AC K8GT NS2N KA5M KM4FO WB9HFK	MIKE DAVE TOM DON IAIN MIKE TIM SAL MIKE RON TOM MARTY ROB AL TOM ED BEN ANDY DAVE GERRY PAUL MARSH DWIGHT MARK	158 161 155 143 136 141 127 127 124 134 133 130 118 115 120 114 107 120 117 109 120 105	131 127 130 122 120 110 122 116 118 106 105 107 100 108 108 103 107 95 96 103 93 105	20,698 20,447 20,150 17,446 16,320 15,510 15,494 14,732 14,632 14,204 14,070 13,161 13,000 12,744 12,420 12,190 11,760 11,742 11,449 11,449 11,400 11,232 11,227 11,160 11,025	LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL KE8G W1NN N8BJQ K4FN W3KB W6LAX NN5O VA3SB N2UU K1VUT K5CI K3JT N3HEE K0NM K8AJS K0VBU N8LR N1DC	GEO ALAN WILL FRITZ BRIAN JOHN KEN JIM HAL STEVE DAN KEITH ROGER LARRY SERGE BOB DAVE LEO TERRY JOE NIZ JOHN BILL GARY RICK	401 353 323 294 283 298 287 284 284 302 293 313 276 267 266 287 271 255 243 236 233 226 212 215 212	267 253 227 234 227 212 220 219 217 198 203 190 209 210 203 186 191 194 193 190 191 159 164 153 155	107,067 89,309 73,321 68,796 64,241 63,176 63,140 62,196 59,479 59,470 57,684 56,070 53,998 53,382 51,761 49,470 46,899 44,840 44,503 35,934 32,895 32,860	LOW	VE3GFN N3CKI KG3V K0FX AD5XI K5XU K9WX XE1IM W9RE KB3AAY K0INN N1VH K6RB K0AD K4TZ KQ4R NJ8J K2LE N3AC K8GT NS2N KA5M KM4FO WB9HFK K9NW	MIKE DAVE TOM DON IAIN MIKE TIM SAL MIKE RON TOM MARTY ROB AL TOM ED BEN ANDY DAVE GERRY PAUL MARSH DWIGHT MARK MIKE	158 161 155 143 136 141 127 127 124 134 133 130 118 115 120 114 107 120 117 109 120 105 108	131 127 130 122 120 110 122 116 118 106 105 107 100 108 108 103 107 95 96 103 93 105 100	20,698 20,447 20,150 17,446 16,320 15,510 15,494 14,732 14,632 14,204 13,161 13,000 12,744 12,420 12,190 11,760 11,742 11,449 11,400 11,232 11,227 11,160 11,025 10,800	LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL KE8G W1NN N8BJQ K4FN W3KB W6LAX NN5O VA3SB N2UU K1VUT K5CI K3JT N3HEE KONM K8AJS KOVBU N8LR N1DC NWOM N7US	GEO ALAN WILL FRITZ BRIAN JOHN KEN JIM HAL STEVE DAN KEITH ROGER LARRY SERGE BOB DAVE LEO TERRY JOE NIZ JOHN BILL GARY RICK MITCH JIM	401 353 323 294 283 298 287 284 284 302 293 313 276 267 266 287 271 255 243 236 233 226 212 215 212 199 206	267 253 227 234 227 212 220 219 217 198 203 190 209 210 203 186 191 194 193 190 191 159 164 153 155 157 149	107,067 89,309 73,321 68,796 64,241 63,176 61,628 59,796 59,479 59,470 57,684 56,070 53,998 53,382 51,761 49,470 46,899 44,840 44,503 35,934 34,768 32,895 32,860 31,243 30,694	LOW	VE3GFN N3CKI KG3V K0FX AD5XI K5XU K9WX XE1IM W9RE KB3AAY K0INN N1VH K6RB K0AD K4TZ KQ4R NJ8J K2LE N3AC K8GT NS2N KA5M KM4FO WB9HFK K9NW NF8M W4THI	MIKE DAVE TOM DON IAIN MIKE TIM SAL MIKE RON TOM MARTY ROB AL TOM ED BEN ANDY DAVE GERRY PAUL MARSH DWIGHT MARK MIKE FRANK RICK	158 161 155 143 136 141 127 127 124 134 134 123 130 118 115 115 120 114 107 120 117 109 120 105 108	131 127 130 122 120 110 122 116 118 106 105 107 100 108 108 103 107 95 96 103 93 105 100 98 98	20,698 20,447 20,150 17,446 16,320 15,510 15,494 14,732 14,632 14,204 14,070 13,161 13,000 12,744 12,420 12,190 11,760 11,742 11,449 11,400 11,232 11,227 11,160 11,025 10,800 10,780 10,584	LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL KE8G W1NN N8BJQ K4FN W3KB W6LAX NN5O VA3SB N2UU K1VUT K5CI K3JT N3HEE K0NM K8AJS K0VBU N8LR N1DC NW0M N7US K1DJ	GEO ALAN WILL FRITZ BRIAN JOHN KEN JIM HAL STEVE DAN KEITH ROGER LARRY SERGE BOB DAVE LEO TERRY JOE NIZ JOHN BILL GARY RICK MITCH JIM RICH	401 353 323 294 283 298 287 284 284 302 293 313 276 267 266 287 271 255 243 236 233 226 212 215 212 199 206 205	267 253 227 234 227 212 220 219 217 198 203 190 209 210 203 186 191 194 193 190 191 159 164 153 155 157 149 148	107,067 89,309 73,321 68,796 64,241 63,176 63,140 62,196 61,628 59,796 59,479 59,470 57,684 56,070 53,998 53,382 51,761 49,470 46,899 44,840 44,503 35,934 34,768 32,895 32,895 32,860 31,243 30,694 30,340	LOW	VE3GFN N3CKI KG3V K0FX AD5XI K5XU K9WX XE1IM W9RE KB3AAY K0INN N1VH K6RB K0AD K4TZ KQ4R NJ8J K2LE N3AC K8GT NS2N KA5M KM4FO WB9HFK K9NW NF8M W4THI WE0P	MIKE DAVE TOM DON IAIN MIKE TIM SAL MIKE RON TOM MARTY ROB AL TOM ED BEN ANDY DAVE GERRY PAUL MARSH DWIGHT MARK MIKE FRANK RICK JOHN	158 161 155 143 136 141 127 127 124 134 134 133 130 118 115 115 120 114 107 120 117 109 120 105 108 110 108 105	131 127 130 122 120 110 122 116 118 106 105 107 100 108 108 103 107 95 96 103 93 105 100 98 98 99 99	20,698 20,447 20,150 17,446 16,320 15,510 15,494 14,732 14,632 14,204 14,070 13,161 13,000 12,744 12,420 12,190 11,760 11,742 11,449 11,400 11,232 11,227 11,160 11,025 10,800 10,780 10,584 10,185	LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL KE8G W1NN N8BJQ K4FN W3KB W6LAX NN5O VA3SB N2UU K1VUT K5CI K3JT N3HEE KONM K8AJS KOVBU N8LR N1DC NW0M N7US K1DJ K2ZR	GEO ALAN WILL FRITZ BRIAN JOHN KEN JIM HAL STEVE DAN KEITH ROGER LARRY SERGE BOB DAVE LEO TERRY JOE NIZ JOHN BILL GARY RICK MITCH JIM RICH DICK	401 353 323 294 283 298 287 284 284 302 293 313 276 267 266 287 271 255 243 236 233 226 212 215 212 199 206 205 187	267 253 227 234 227 212 220 219 217 198 203 190 209 210 203 186 191 194 193 190 191 159 164 153 155 157 149 148 157	107,067 89,309 73,321 68,796 64,241 63,176 63,140 62,196 59,479 59,470 57,684 56,070 53,998 53,382 51,761 49,470 44,840 44,503 35,934 32,895 32,860 31,243 30,694 30,340 29,359	LOW	VE3GFN N3CKI KG3V K0FX AD5XI K5XU K9WX XE1IM W9RE KB3AAY K0INN N1VH K6RB K0AD K4TZ KQ4R NJ8J K2LE N3AC K8GT NS2N KA5M KM4FO WB9HFK K9NW NF8M W4THI WE0P W2AAB	MIKE DAVE TOM DON IAIN MIKE TIM SAL MIKE RON TOM MARTY ROB AL TOM ED BEN ANDY DAVE GERRY PAUL MARSH DWIGHT MARK MIKE FRANK RICK JOHN FRED	158 161 155 143 136 141 127 127 124 134 134 123 130 118 115 120 114 107 120 117 109 120 105 108 110 108 105 104	131 127 130 122 120 110 122 116 118 106 105 107 100 108 108 103 107 95 96 103 93 105 100 98 99 99 99 99 99	20,698 20,447 20,150 17,446 16,320 15,510 15,494 14,732 14,632 14,204 14,070 13,161 13,000 12,744 12,420 12,190 11,760 11,742 11,449 11,400 11,232 11,227 11,160 11,025 10,800 10,780 10,584 10,185 10,088	LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL KE8G W1NN N8BJQ K4FN W3KB W6LAX NN5O VA3SB N2UU K1VUT K5CI K3JT N3HEE K0NM K8AJS K0VBU N8LR N1DC NW0M N7US K1DJ K2ZR W1WBB	GEO ALAN WILL FRITZ BRIAN JOHN KEN JIM HAL STEVE DAN KEITH ROGER LARRY SERGE BOB DAVE LEO TERRY JOE NIZ JOHN BILL GARY RICK MITCH JIM RICH DICK BILL	401 353 323 294 283 298 287 284 284 302 293 313 276 267 266 287 271 255 243 236 233 226 212 215 212 199 206 205 187 191	267 253 227 234 227 212 220 219 217 198 203 190 209 210 203 186 191 194 193 190 191 159 164 153 155 157 149 148 157 146	107,067 89,309 73,321 68,796 64,241 63,176 63,140 62,196 59,479 59,470 57,684 56,070 53,998 53,382 51,761 49,470 44,840 44,503 35,934 32,895 32,860 31,243 30,694 30,340 29,359 27,886	LOW	VE3GFN N3CKI KG3V K0FX AD5XI K5XU K9WX XE1IM W9RE KB3AAY K0INN N1VH K6RB K0AD K4TZ KQ4R NJ8J K2LE N3AC K8GT NS2N KA5M KM4FO WB9HFK K9NW NF8M W4THI WE0P W2AAB K4GM	MIKE DAVE TOM DON IAIN MIKE TIM SAL MIKE RON TOM MARTY ROB AL TOM ED BEN ANDY DAVE GERRY PAUL MARSH DWIGHT MARK MIKE FRANK RICK JOHN FRED GEO	158 161 155 143 136 141 127 127 124 134 134 133 130 118 115 120 114 107 120 117 109 120 105 108 110 108 105 104 104	131 127 130 122 120 110 122 116 118 106 105 107 100 108 108 103 107 95 96 103 93 105 100 98 98 97 97 96	20,698 20,447 20,150 17,446 16,320 15,510 15,494 14,732 14,632 14,204 14,070 13,161 13,000 12,744 12,420 12,190 11,760 11,742 11,449 11,400 11,232 11,227 11,160 11,025 10,800 10,780 10,780 10,780 10,788 10,088 9,984	LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL KE8G W1NN N8BJQ K4FN W3KB W6LAX NN5O VA3SB N2UU K1VUT K5CI K3JT N3HEE K0NM K8AJS K0VBU N8LR N1DC NW0M N7US K1DJ K2ZR W1WBB K3UA	GEO ALAN WILL FRITZ BRIAN JOHN KEN JIM HAL STEVE DAN KEITH ROGER LARRY SERGE BOB DAVE LEO TERRY JOE NIZ JOHN BILL GARY RICK MITCH JIM RICH DICK BILL PHIL	401 353 323 294 283 298 287 284 284 302 293 313 276 267 266 287 271 255 243 236 233 226 212 215 212 199 206 205 187 191 170	267 253 227 234 227 212 220 219 217 198 203 190 209 210 203 186 191 194 193 190 191 159 164 153 155 157 149 148 157 146 152	107,067 89,309 73,321 68,796 64,241 63,176 62,196 61,628 59,796 59,479 57,684 56,070 53,998 53,382 51,761 49,470 46,899 44,840 44,503 35,934 32,895 32,860 31,243 30,340 29,359 27,886 25,840	LOW	VE3GFN N3CKI KG3V K0FX AD5XI K5XU K9WX XE1IIM W9RE KB3AAY K0INN N1VH K6RB K0AD K4TZ KQ4R NJ8J K2LE N3AC K8GT NS2N KA5M KM4FO WB9HFK K9NW NF8M W4THI WE0P W2AAB K4GM W9NXM	MIKE DAVE TOM DON IAIN MIKE TIM SAL MIKE RON TOM MARTY ROB AL TOM ED BEN ANDY DAVE GERRY PAUL MARSH DWIGHT MARK MIKE FRANK RICK JOHN FRED GEO GUS	158 161 155 143 136 141 127 127 124 134 134 139 118 115 120 114 107 120 117 109 120 105 108 110 108 105 104 104 103	131 127 130 122 120 110 122 116 118 106 105 107 100 108 108 106 98 103 107 95 96 103 93 105 100 98 98 99 99 99 99	20,698 20,447 20,150 17,446 16,320 15,510 15,494 14,732 14,632 14,204 14,070 13,161 13,000 12,744 12,420 12,190 11,760 11,742 11,449 11,400 11,232 11,227 11,160 11,025 10,800 10,780 10,780 10,780 10,584 10,088 9,984 9,579	LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL KE8G W1NN N8BJQ K4FN W3KB W6LAX NN5O VA3SB N2UU K1VUT K5CI K3JT N3HEE K0NM K8AJS K0VBU N8LR N1DC NW0M N7US K1DJ K2ZR W1WBB K3UA N8KH	GEO ALAN WILL FRITZ BRIAN JOHN KEN JIM HAL STEVE DAN KEITH ROGER LARRY SERGE BOB DAVE LEO TERRY JOE NIZ JOHN BILL GARY RICK MITCH JIM RICH DICK BILL PHIL KEN	401 353 323 294 283 298 287 284 284 302 293 313 276 267 266 287 271 255 243 236 233 226 212 215 212 199 206 205 187 191 170 169	267 253 227 234 227 212 220 219 217 198 203 190 209 210 203 186 191 194 193 190 191 159 164 153 155 157 149 148 157 146 152 144	107,067 89,309 73,321 68,796 64,241 63,176 63,140 62,196 59,479 59,470 57,684 56,070 53,998 53,382 51,761 49,470 44,840 44,503 35,934 32,895 32,860 31,243 30,694 30,340 29,359 27,886 25,840 24,336	LOW	VE3GFN N3CKI KG3V K0FX AD5XI K5XU K9WX XE1IM W9RE KB3AAY K0INN N1VH K6RB K0AD K4TZ KQ4R NJ8J K2LE N3AC K8GT NS2N KA5M KM4FO WB9HFK K9NW NF8M W4THI WE0P W2AAB K4GM W9NXM W4SPR	MIKE DAVE TOM DON IAIN MIKE TIM SAL MIKE RON TOM MARTY ROB AL TOM ED BEN ANDY DAVE GERRY PAUL MARSH DWIGHT MARK MIKE FRANK RICK JOHN FRED GEO GUS SPRAY	158 161 155 143 136 141 127 127 124 134 134 123 130 118 115 120 114 107 120 117 109 120 105 108 110 108 105 104 104 103 105	131 127 130 122 120 110 122 116 118 106 105 107 100 108 108 103 107 95 96 103 93 105 100 98 98 97 97 96 93 87	20,698 20,447 20,150 17,446 16,320 15,510 15,494 14,732 14,632 14,204 14,070 13,161 13,000 12,744 12,420 12,190 11,760 11,742 11,449 11,400 11,232 11,227 11,160 11,025 10,800 10,780 10,780 10,780 10,584 10,185 10,088 9,984 9,579 9,135	LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL KE8G W1NN N8BJQ K4FN W3KB W6LAX NN5O VA3SB N2UU K1VUT K5CI K3JT N3HEE K0NM K8AJS K0VBU N8LR N1DC NW0M N7US K1DJ K2ZR W1WBB K3UA N8KH KR2AA	GEO ALAN WILL FRITZ BRIAN JOHN KEN JIM HAL STEVE DAN KEITH ROGER LARRY SERGE BOB DAVE LEO TERRY JOE NIZ JOHN BILL GARY RICK MITCH JIM RICH DICK BILL PHIL KEN ERIC	401 353 323 294 283 298 287 284 284 302 293 313 276 267 266 287 271 255 243 236 233 226 212 215 212 199 206 205 187 191 170 169 156	267 253 227 234 227 212 220 219 217 198 203 190 209 210 203 186 191 194 193 190 191 159 164 153 155 157 149 148 157 146 152 144 144	107,067 89,309 73,321 68,796 64,241 63,176 63,140 62,196 59,479 59,470 57,684 56,070 53,988 51,761 49,470 46,899 44,840 44,503 35,934 32,895 32,860 31,243 30,694 30,340 29,359 27,886 25,840 24,336 22,464	LOW	VE3GFN N3CKI KG3V KOFX AD5XI K5XU K9WX XE1IM W9RE KB3AAY K0INN N1VH K6RB K0AD K4TZ KQ4R NJ8J K2LE N3AC K8GT NS2N KA5M KM4FO WB9HFK K9NW NF8M W4THI WE0P W2AAB K4GM W9NXM W4SPR DF5EG	MIKE DAVE TOM DON IAIN MIKE TIM SAL MIKE RON TOM MARTY ROB AL TOM ED BEN ANDY DAVE GERRY PAUL MARSH DWIGHT MARK MIKE FRANK RICK JOHN FRED GEO GUS SPRAY JOE	158 161 155 143 136 141 127 127 124 134 134 133 130 118 115 120 114 107 120 117 109 120 105 108 110 108 105 108 110 108 105 104 104 103 105 104	131 127 130 122 120 110 122 116 118 106 105 107 100 108 108 103 107 95 96 103 93 105 100 98 99 99 97 97 97 96 93 87	20,698 20,447 20,150 17,446 16,320 15,510 15,494 14,732 14,632 14,204 14,070 13,161 13,000 12,744 12,420 11,760 11,742 11,449 11,400 11,232 11,227 11,160 11,025 10,800 10,780 10,584 10,185 10,088 9,984 9,579 9,135 8,600	LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL KE8G W1NN N8BJQ K4FN W3KB W6LAX NN5O VA3SB N2UU K1VUT K5CI K3JT N3HEE KONM K8AJS K0VBU N8LR N1DC NW0M N7US K1DJ K2ZR W1WBB K3UA N8KH KR2AA WT3K	GEO ALAN WILL FRITZ BRIAN JOHN KEN JIM HAL STEVE DAN KEITH ROGER LARRY SERGE BOB DAVE LEO TERRY JOE NIZ JOHN BILL GARY RICK MITCH JIM RICH DICK BILL PHIL KEN ERIC DARYL	401 353 323 294 283 298 287 284 284 302 293 313 276 267 266 287 271 255 243 236 233 226 212 215 212 199 206 205 187 191 170 169 156 160	267 253 227 234 227 212 220 219 217 198 203 190 209 210 203 186 191 194 193 190 191 159 164 153 155 157 149 148 157 146 152 144 144 138	107,067 89,309 73,321 68,796 64,241 63,176 61,628 59,796 59,479 59,470 57,684 56,070 53,382 51,761 49,470 46,899 44,840 44,503 35,934 32,895 32,860 31,243 30,694 30,340 29,359 27,886 25,840 24,336 22,464 22,080	LOW	VE3GFN N3CKI KG3V K0FX AD5XI K5XU K9WX XE1IM W9RE KB3AAY K0INN N1VH K6RB K0AD K4TZ KQ4R NJ8J K2LE N3AC K8GT NS2N KA5M KM4FO WB9HFK K9NW NF8M W4THI WE0P W2AAB K4GM W9NXM W4SPR DF5EG CO6RD	MIKE DAVE TOM DON IAIN MIKE TIM SAL MIKE RON TOM MARTY ROB AL TOM ED BEN ANDY DAVE GERRY PAUL MARSH DWIGHT MARK MIKE FRANK RICK JOHN FRED GEO GUS SPRAY JOE REY	158 161 155 143 136 141 127 127 124 134 134 133 130 118 115 120 114 107 120 117 109 120 105 108 110 108 105 104 104 103 105 104 107 92	131 127 130 122 120 110 122 116 118 106 105 107 100 108 108 103 107 95 96 103 93 105 100 98 99 97 97 97 96 93 87 96 93	20,698 20,447 20,150 17,446 16,320 15,510 15,494 14,732 14,632 14,204 14,070 13,161 13,000 12,744 12,420 11,760 11,742 11,449 11,400 11,232 11,227 11,160 11,025 10,800 10,780 10,584 10,185 10,088 9,984 9,579 9,135 8,600 8,464	LOW
WOUA KOAV WJ9B K4OAQ N4OO N8AA N4XL KE8G W1NN N8BJQ K4FN W3KB W6LAX NN5O VA3SB N2UU K1VUT K5CI K3JT N3HEE K0NM K8AJS K0VBU N8LR N1DC NW0M N7US K1DJ K2ZR W1WBB K3UA N8KH KR2AA	GEO ALAN WILL FRITZ BRIAN JOHN KEN JIM HAL STEVE DAN KEITH ROGER LARRY SERGE BOB DAVE LEO TERRY JOE NIZ JOHN BILL GARY RICK MITCH JIM RICH DICK BILL PHIL KEN ERIC	401 353 323 294 283 298 287 284 284 302 293 313 276 267 266 287 271 255 243 236 233 226 212 215 212 199 206 205 187 191 170 169 156	267 253 227 234 227 212 220 219 217 198 203 190 209 210 203 186 191 194 193 190 191 159 164 153 155 157 149 148 157 146 152 144 144	107,067 89,309 73,321 68,796 64,241 63,176 63,140 62,196 59,479 59,470 57,684 56,070 53,988 51,761 49,470 46,899 44,840 44,503 35,934 32,895 32,860 31,243 30,694 30,340 29,359 27,886 25,840 24,336 22,464	LOW	VE3GFN N3CKI KG3V KOFX AD5XI K5XU K9WX XE1IM W9RE KB3AAY K0INN N1VH K6RB K0AD K4TZ KQ4R NJ8J K2LE N3AC K8GT NS2N KA5M KM4FO WB9HFK K9NW NF8M W4THI WE0P W2AAB K4GM W9NXM W4SPR DF5EG	MIKE DAVE TOM DON IAIN MIKE TIM SAL MIKE RON TOM MARTY ROB AL TOM ED BEN ANDY DAVE GERRY PAUL MARSH DWIGHT MARK MIKE FRANK RICK JOHN FRED GEO GUS SPRAY JOE	158 161 155 143 136 141 127 127 124 134 134 133 130 118 115 120 114 107 120 117 109 120 105 108 110 108 105 108 110 108 105 104 104 103 105 104	131 127 130 122 120 110 122 116 118 106 105 107 100 108 108 103 107 95 96 103 93 105 100 98 99 99 97 97 97 96 93 87	20,698 20,447 20,150 17,446 16,320 15,510 15,494 14,732 14,632 14,204 14,070 13,161 13,000 12,744 12,420 11,760 11,742 11,449 11,400 11,232 11,227 11,160 11,025 10,800 10,780 10,584 10,185 10,088 9,984 9,579 9,135 8,600	LOW



Call	Name	QSOs	Mults	Score	Power	Call	Name	QSOs	Mults	Score	Powe
AC9EZ	JIM	96	86	8,256	LOW	SE5L	BEN	46	37	1,702	LOW
DL5DBY	TOM	99	83	8,217	LOW	N4DPM	RICH	41	41	1,681	LOW
K5GQ	MARK	96	82	7,872	LOW	UR2Y	VAL	49	33	1,617	LOW
W3US	RUSTY	89	85	7,565	LOW	VA3PM	PIERRE	40	40	1,600	LOW
AA9SN	SCOTT	91	80	7,280	LOW	NJ3K	BRUCE	39	39	1,521	LOW
WB8MIW	PAT	89	78	6,942	LOW	G3WRJ	DICK	43	35	1,505	LOW
KD2KW	KEN	95	73	6,935	LOW	KG5RXG	MIKE	38	35	1,330	LOW
M0RYB	PETER	92	75	6,900	LOW	RT5P	GENE	38	34	1,292	LOW
G3LDI	ROGER	100	68	6,800	LOW	SP2R	DAREK	38	31	1,178	LOW
K3PI	RUSS	78	78	6,084	LOW	K4BRU	JIM	34	34	1,156	LOW
KC8J	WALT	79	77	6,083	LOW	WA4IPU	BRUCE	34	34	1,156	LOW
LB6GG	HANS	83	65	5,395	LOW	NN1RR	ROCKY	34	32	1,088	LOW
NK4O	AJ	74	64	4,736	LOW	OH1SIC	GI	36	30	1,080	LOW
KC7V	MIKE	70	67	4,690	LOW	VE2NCG	NICK	31	31	961	LOW
NS9I	DWIGHT	70	67	4,690	LOW	NG7Z	PAUL	30	30	900	LOW
W0TG	BILL	66	66	4,356	LOW	OU2I	HEN	33	26	858	LOW
K8LBQ	BAIN	72	58	4,176	LOW	N2EIM	BOB	29	29	841	LOW
N5MF	MARK	66	57	3,762	LOW	SM0Y	LARS	29	28	812	LOW
WA9LEY	LEE	63	57	3,591	LOW	W7MTL	CRAIG	27	27	729	LOW
VE2AXO	ВОВ	59	59	3,481	LOW	K0VD	SAM	26	26	676	LOW
VE3TM	VLAD	59	57	3,363	LOW	PY4XX	CARLOS	25	25	625	LOW
N4CWZ	DAVE	61	55	3,355	LOW	SQ9S	ADAM	23	23	529	LOW
W1KM	GREG	58	57	3,306	LOW	K2NV	TONY	22	22	484	LOW
W8OV	DAVE	57	57	3,249	LOW	G4DYC	MIKE	26	16	416	LOW
KB4DE	BILL	56	54	3,024	LOW	N4MU	BILL	20	20	400	LOW
N5XE	CARL	51	51	2,601	LOW	AG4CC	KAREN	19	19	361	LOW
W8MET	MET	50	50	2,500	LOW	W9ILY	JOHN	18	18	324	LOW
Z32U	ZOKI	54	45	2,430	LOW	SM7CIL	ARNE	17	17	289	LOW
AE4Y	KENT	49	49	2,401	LOW	RV3VR	VIT	16	16	256	LOW
AB7MP	MARK	50	47	2,350	LOW	UA6GO	VLAD	16	16	256	LOW
K2MK	MIKE	48	48	2,304	LOW	DJ1OJ	HEIJO	15	14	210	LOW
KM4HI	JIM	48	48	2,304	LOW	UR5MM	RUDY	14	14	196	LOW
WT9Q	VIC	46	46	2,116	LOW	NA5W	SKIP	11	11	121	LOW
SM5IMO	DAN	50	41	2,050	LOW	K0JP	JACK	10	10	100	LOW
	BUD	45	45	2,030	LOW	W8EH	ERNIE	5	5	25	LOW
KC4WQ W1EQ	BOB	45 45	45 45	2,025	LOW	SJ6W	STEN	3	3	25 9	LOW
N5KB	MIKE	45 44	45 44	2,025 1,936	LOW	DL1NKB	BERND	3 1	3 1	1	LOW
K1LHO	MIKE	44 44	43	1,936	LOW	PLINND	PLKIND	1	1	ı	LOW
G3YLA	JIM	50	36	1,800	LOW						
GSTLA	JIIVI	30	30	1,800	LOW						
Call	Name	QSOs	Mults	Score	Power	Call	Name	QSOs	Mults	Score	Powe
N6MA	PAUL	166	123	20,418	QRP	UA6AK	VAL	39	39	1,521	QRP
W1UU	PETER	146	125	18,250	QRP	W6GMT	BROCK	39	38	1,482	QRP
	PAT	138	118	16,284	QRP	N3CI	DAVE	32	32	1,024	QRP
W3RGA			77	6,545	QRP	OK2NAJ	JIRI	31	31	961	QRP
W3RGA AG4EA	BILL	85	77	0,545	Q I VI	0.12.0			0.1	301	QIVI
	BILL NICK	85 58	55	3,190	QRP	KA3TTT	AUSTIN	3	3	9	QRP
AG4EA											
AG4EA WB5BKL	NICK	58	55	3,190	QRP	KA3TTT	AUSTIN	3	3	9	QRP

Session 1 Analysis:

For Region 1 High Power, Milen (LZ5R) came in first with final numbers of 414 QSOs, 292 Multipliers and a score of 120,888. Lacy (HA3NU) came in second with a score of 92,736. The Region 2 winner was Bud (AA3B) with an outstanding QSO count of 590, 366 Mults and a score of 215,940. Chas (K3MM) came in second place with a score of 205,770. For Region 3, Gavin (ZL1BBW) came in first with 56 QSOs, 56 Multipliers and a score of 3136. Alan (VK2GR) came in second with a score of 289. Moving on to Low Power, the Region 1 winner was Joe (DF5EG) with a QSO total of 100 and a mult total of 86 resulting in a score of 8,600. Tom (DL5EBY) placed a very close second



with a score of 8,217. For Region 2 Don (N4ZZ) finished first again this year with3 a QSO total of 416, mult total of 287 and a score of 119,392 points. Lar (K7SV) placed second again this year with a score of 111,780. The QRP class also turned in some outstanding scores this year with Region 1 Vitas (LY5G) working 45 QSOs and 36 Multipliers for a total of 1620. He just edged out Val (UA6AK) that turned in a score of 1521. Region 2 first place was won by Paul (N6MA) with an impressive 166 QSOs, 123 mults and a score of 20,418. Peter (W1UU) came in second with a score of 18,250.

Session 2 - 1200 to 1600Z

Session 2 results are based on 391 logs received, up 95% from last year, with submissions from all 3 ITU Regions. The QSO totals increased by an amazing 101% and the multipliers were up by 120%. These significant increases resulted in an overall increase in points of 151% and points per log increased by 28% as did Session 1. Session 2 had one submission that exceeded 200K points and 18 exceeding 100K, 1 of which was a low power entry.

Here are the details for Session 2. Plague and Trophy winners are highlighted in YELLOW.

Call	Name	QSOs	Mults	Score	Power	Call	Name	QSOs	Mults	Score	Power
AA3B	BUD	550	366	201,300	HIGH	N5TOO	VAN	292	222	64,824	HIGH
K3WW	CHAS	522	357	186,354	HIGH	G3TXF	NIGEL	274	235	64,390	HIGH
N4AF	HOWIE	482	328	158,096	HIGH	K1EBY	FRANK	292	218	63,656	HIGH
N5AW	MARV	461	322	148,442	HIGH	N3JT	JIM	290	209	60,610	HIGH
N5ZO	MARK	465	314	146,010	HIGH	W5MX	TOM	289	209	60,401	HIGH
N4BP	BOB	422	341	143,902	HIGH	W8FN	RANDY	277	215	59,555	HIGH
K0RF	CHUCK	436	321	139,956	HIGH	K3TEJ	JOHN	265	224	59,360	HIGH
NA8V	GREG	427	304	129,808	HIGH	DK9PY	ARMIN	258	229	59,082	HIGH
N1LN	BRUCE	425	304	129,200	HIGH	K8BZ	STEVE	260	221	57,460	HIGH
N3QE	TIM	420	305	128,100	HIGH	N4ZR	PETE	270	211	56,970	HIGH
K7RL	MITCH	425	297	126,225	HIGH	I2WIJ	BOB	270	209	56,430	HIGH
N3RD	DAVE	410	295	120,950	HIGH	IK0YVV	MARCO	248	227	56,296	HIGH
N3RS	SIG	392	308	120,736	HIGH	W3FV	BARRY	281	198	55,638	HIGH
W4WF	CHRIS	361	316	114,076	HIGH	K4RUM	MIKE	262	211	55,282	HIGH
N5RZ	GATOR	411	276	113,436	HIGH	K7QA	TOM	263	207	54,441	HIGH
K5TR	GEO	402	272	109,344	HIGH	VE7KW	KEITH	271	198	53,658	HIGH
LZ5R	MILEN	370	281	103,970	HIGH	AC6ZM	JUAN	245	216	52,920	HIGH
N5EE	KEN	370	276	102,120	HIGH	N4DW	DAVE	268	197	52,796	HIGH
W5TM	ED	359	284	101,956	HIGH	W1VE	GERRY	239	213	50,907	HIGH
VE3NNT	LES	360	273	98,280	HIGH	HA5JI	GYURI	238	212	50,456	HIGH
K3WJV	BILL	367	267	97,989	HIGH	N1RM	RICK	256	194	49,664	HIGH
K6AR	JIM	357	274	97,818	HIGH	WG3J	ERIC	239	204	48,756	HIGH
W2GD	JOHN	372	258	95,976	HIGH	K3PP	GLENN	244	198	48,312	HIGH
AB0S	TIM	354	271	95,934	HIGH	KV0I	BILL	240	201	48,240	HIGH
WT9U	JIM	341	271	92,411	HIGH	W2CDO	PETER	233	199	46,367	HIGH
W0UO	JIM	351	262	91,962	HIGH	N6RK	RICK	232	199	46,168	HIGH
K4BAI	JOHN	355	258	91,590	HIGH	W0VX	DAVE	243	187	45,441	HIGH
N3AD	ALAN	353	251	88,603	HIGH	K8MR	JIM	245	184	45,080	HIGH
KU8E	JEFF	350	250	87,500	HIGH	K8PK	PETER	228	190	43,320	HIGH
K2TW	TOM	352	245	86,240	HIGH	N4CW	BERT	208	207	43,056	HIGH
KE2D	BOB	331	247	81,757	HIGH	WS1L	CHUCK	227	186	42,222	HIGH
K0ZR	JEFF	317	257	81,469	HIGH	AB0TX	MIKE	220	191	42,020	HIGH
K5KG	GEO	343	231	79,233	HIGH	K7TD	TERRY	223	186	41,478	HIGH
NW3Y	CHICK	317	245	77,665	HIGH	N2NC	JOHN	212	189	40,068	HIGH
HA3NU	LACY	308	249	76,692	HIGH	K3SW	SW	225	177	39,825	HIGH
K3MD	JOHN	329	232	76,328	HIGH	K2AV	GUY	205	186	38,130	HIGH
VE3KI	RICH	304	249	75,696	HIGH	WA3AAN	GRANT	212	178	37,736	HIGH
NN5O	LARRY	307	227	69,689	HIGH	N4GU	MIKE	205	181	37,105	HIGH
WA4PSC	HOWIE	287	242	69,454	HIGH	K4OV	ROB	206	180	37,080	HIGH
N0TA	JOHN	306	220	67,320	HIGH	M2G	JOHN	210	171	35,910	HIGH
K4QPL	JIM	289	227	65,603	HIGH	WA1BXY	DON	194	181	35,114	HIGH
K3CT	JOHN	285	228	64,980	HIGH	K3UL	BOB	207	167	34,569	HIGH



Call	,	•	M::4-	C4	Da	0-11	Nar	000-	M14	Ca	Davis
Call K2SX	Name DENNIS	QSOs 194	Mults 168	Score 32,592	Power HIGH	Call SD1A	Name ERIC	QSOs 109	Mults 85	Score 9,265	Power HIGH
9A1AA	IVO	196	161	31,556	HIGH	G3XLG	RAY	102	86	8,772	HIGH
W0AAE	BOB	191	163	31,133	HIGH	K2CJ	CARL	95	90	8,550	HIGH
W6SX	HANK	179	173	30,967	HIGH	OK1RR	MARTIN	103	83	8,549	HIGH
WN7S N4FP	DICK WAYNE	194 185	152 154	29,488 28,490	HIGH HIGH	KV1E LZ1HW	JACK SPAS	93 100	85 78	7,905 7,800	HIGH HIGH
G4DRS	JOHN	169	167	28,223	HIGH	AF4T	DOUG	92	82	7,544	HIGH
DL6KVA	AXEL	185	150	27,750	HIGH	RK3TD	SERG	82	82	6,724	HIGH
GW2CWO	STEW	174	159	27,666	HIGH	AK1MD	ALEX	84	80	6,720	HIGH
K4QS	CHUCK	171	161	27,531	HIGH	WB4HRL	ED	84	78	6,552	HIGH
K4AFE	JOHN	181	145	26,245	HIGH	LY8A	TOM	79	79	6,241	HIGH
F4VSM W2XL	RON BOB	174 167	149 148	25,926 24,716	HIGH HIGH	K0TC PA0INA	RON FRANS	77 70	72 70	5,544 4,900	HIGH HIGH
K1RV	PI	170	140	23,800	HIGH	SM0FPR	MATS	74	60	4,440	HIGH
KC1KUG	BRAY	165	144	23,760	HIGH	K3IE	HUNTER	66	64	4,224	HIGH
PA3AAV	GERT	163	144	23,472	HIGH	W4PF	STEVE	67	62	4,154	HIGH
UY1HY	VAL	171	135	23,085	HIGH	N5KO	TREY	64	64	4,096	HIGH
UR7GO	ALEX	153	150	22,950	HIGH	9A5MX	SVEN	60	60	3,600	HIGH
NG7M K2RET	MAX BOB	154 165	146 136	22,484 22,440	HIGH HIGH	AI4WW K1ESE	DAN JOHN	60 60	60 60	3,600 3,600	HIGH HIGH
VE3KP	KEN	153	144	22,440	HIGH	G4IZZ	MIKE	66	53	3,498	HIGH
W2XYZ	FRANK	163	127	20,701	HIGH	VA2EBI	GEORGE	58	57	3,306	HIGH
EA5IUY	GARY	147	134	19,698	HIGH	NA4J	JIM	59	56	3,304	HIGH
W3BES	JIM	138	125	17,250	HIGH	K1TH	TOM	58	53	3,074	HIGH
RK3ER	ALEX	137	125	17,125	HIGH	KC2LSD	CODY	54	53	2,862	HIGH
W9ILY K6MM	JOHN JOHN	133 129	128 129	17,024 16,641	HIGH HIGH	HA5NR K1MT	GABOR DAVID	58 52	49 49	2,842 2,548	HIGH HIGH
K6NR	DANA	133	123	16,359	HIGH	KR4WI	MATT	52	49	2,348	HIGH
N4YDU	NATE	139	117	16,263	HIGH	EA3HSO	AL	49	49	2,401	HIGH
KC7V	MIKE	137	116	15,892	HIGH	N3JUY	RIDGE	49	48	2,352	HIGH
M2D	PHIL	140	111	15,540	HIGH	DL2OM	RON	43	43	1,849	HIGH
K5LY	LEE	135	109	14,715	HIGH	VA2UR	GUY	42	42	1,764	HIGH
W4XO W5GN	LEX BARRY	130 130	108 106	14,040 13,780	HIGH HIGH	G4HZV DL5JQ	BOB ERHARD	43 38	39 38	1,677 1,444	HIGH HIGH
LY2A	VYTAS	117	117	13,780	HIGH	LY7M	AL	37	37	1,369	HIGH
RM2D	MATS	129	106	13,674	HIGH	VE3TW	STAN	35	35	1,225	HIGH
N3CW	ED	132	102	13,464	HIGH	N2NT	ANDY	34	34	1,156	HIGH
K5YZW	ED	125	104	13,000	HIGH	AB2E	DARRELL	34	33	1,122	HIGH
EA1X	JUAN	114	114	12,996	HIGH	WA5LXS	DENNIS	32	30	960	HIGH
KE4S KB3Z	DAVE MARK	113 120	113 104	12,769 12,480	HIGH HIGH	E74X N9NA	VELJKO JOHN	29 26	29 26	841 676	HIGH HIGH
K7UT	DARRYL	117	105	12,400	HIGH	VK2BJ	BARRY	26	26	676	HIGH
AD0AB	JIM	121	100	12,100	HIGH	LB3RE	RAG	22	22	484	HIGH
K3SV	BILL	110	110	12,100	HIGH	K6ZP	ANDY	15	15	225	HIGH
VE2FK	CLAUDE	110	107	11,770	HIGH	KA1IOR	GEOFF	15	15	225	HIGH
OY1CT N3AM	CAEN JOHN	107 108	103 102	11,021 11,016	HIGH HIGH	JN1THL KJ9C	KEN MEL	13 11	13 10	169 110	HIGH HIGH
W3FIZ	PAT	108	102	10,800	HIGH	DL5YM	FRED	10	10	100	HIGH
K5GA	BILL	107	96	10,272	HIGH	K2YR	CARL	9	9	81	HIGH
N4KW	PETE	104	97	10,088	HIGH	K9CT	CRAIG	7	7	49	HIGH
HB9BJL	CHRIS	106	94	9,964	HIGH						
Call	Name	QSOs	Mults	Score	Power	Call	Name	QSOs	Mults	Score	Power
N4ZZ	DON	378	295	111,510	LOW	N8BJQ	STEVE	240	183	43,920	LOW
K7SV	LAR	348	261	90,828	LOW	K1DJ	RICH	231	186	42,966	LOW
K0AD K0AV	AL ALAN	321 299	226 224	72,546 66,976	LOW	N4OO K3JT	BRIAN TERRY	223	172 177	38,356 37,701	LOW LOW
W0UA	GEO	299 299	224 224	66,976	LOW LOW	K8AJS	JOHN	213 204	177 178	37,701 36,312	LOW
N8AA	JOHN	293	218	63,874	LOW	N2UU	BOB	221	161	35,581	LOW
K4FN	DAN	264	214	56,496	LOW	K2ZR	DICK	212	163	34,556	LOW
K4OAQ	FRITZ	266	196	52,136	LOW	VE3UTT	ART	187	172	32,164	LOW
K1VUT	DAVE	265	188	49,820	LOW	NM5M	ERIC	199	161	32,039	LOW
KE8G WJ9B	JIM WILL	240 248	198 191	47,520 47,368	LOW	N8KH K9NW	KEN	188 186	165 163	31,020 30,318	LOW
N4XL	KEN	230	191	47,368 45,770	LOW LOW	NWOM	MIKE MITCH	186 200	163 151	30,318 30,200	LOW LOW
W3KB	KEITH	250	183	45,750	LOW	N1DC	RICK	186	156	29,016	LOW
VA3SB	SERGE	229	198	45,342	LOW	KQ4R	ED	186	151	28,086	LOW



Call	Name	QSOs	Mults	Score	Power	Call	Name	QSOs	Mults	Score	Pow
KR2AA N8FYL	ERIC JOHN	167 176	145 136	24,215 23,936	LOW LOW	K0JP AA5AD	JACK JOE	65 63	59 60	3,835 3,780	LO\
VE3GFN	MIKE	164	145	23,780	LOW	N7WY	BOB	68	55	3,740	LO
K5XU	MIKE	172	129	22,188	LOW	N5XE	CARL	65	57	3,705	LO
K2MK	MIKE	172	129	22,100	LOW	W3US	RUSTY	62	57 58	3,705	LO
KB3AAY	RON	161	130	20,930	LOW	OK1TA	KAREL	64	56	3,584	LO\
				,							
KM4FO	DWIGHT	161 154	124	19,964	LOW	DM6EE	LUTZ VAL	60 50	59	3,540	LO/
LB6GG	HANS		129	19,866	LOW	UR2Y		59	59 50	3,481	LO/
NT3K	DARYL	153	128	19,584	LOW	NS2N	PAUL	58	56	3,248	LO
AF8A	GARY	153	115	17,595	LOW	N2EIM	BOB	58	55	3,190	LO
SP1D	ROBERT	145	119	17,255	LOW	K1LHO	MIKE	57	55	3,135	LO
KONM	NIZ	136	126	17,136	LOW	W8OV	DAVE	57	55	3,135	LO
W0TG	BILL	148	114	16,872	LOW	AA0O	PAT	58	54	3,132	LO
K4TZ	TOM	130	126	16,380	LOW	AE4AN	BRAD	59	53	3,127	LO
OU2I	HEN	137	119	16,303	LOW	SM7CIL	ARNE	62	50	3,100	LO
K5ME	BOB	138	110	15,180	LOW	K8GT	GERRY	56	54	3,024	LO
K3PI	RUSS	124	115	14,260	LOW	G3YLA	JIM	62	47	2,914	LO
√E3MGY	BRIAN	123	110	13,530	LOW	VA3PM	PIERRE	56	52	2,912	LO
N1VH	MARTY	133	98	13,034	LOW	KB4DE	BILL	57	51	2,907	LO
SA6G	LARS	122	106	12,932	LOW	W2AAB	FRED	53	53	2,809	LO
NS9I	DWIGHT	123	104	12,792	LOW	ND9M	JIM	52	52	2,704	LO
AE4Y	KENT	123	103	12,669	LOW	G3WRJ	DICK	55	46	2,530	LO
NJ3K	BRUCE	120	104	12,480	LOW	KC4WQ	BUD	50	50	2,500	LO
N3CKI	DAVE	117	104	12,400	LOW	AG4CC	KAREN	53	47	2,300	LO
SM5IMO	DAVE	123	100	12,402	LOW	SM0Y	LARS	53 53	46	2,491	LO
K2LE	ANDY	118	104	12,272	LOW	EA3FZT	FRANCIS	50	48	2,400	LO
AD5XI	IAIN	112	108	12,096	LOW	K4YJ	DWIGHT	52	46	2,392	LO
KA5M	MARSH	115	100	11,500	LOW	UA6GO	VLAD	47	47	2,209	LO
/E3TM	VLAD	112	101	11,312	LOW	PA3BFH	HERMAN	51	42	2,142	LO
DF5EG	JOE	110	99	10,890	LOW	N4HAI	TOM	45	45	2,025	LO
W1EQ	BOB	105	101	10,605	LOW	KB8GAE	RICH	46	44	2,024	LO
Z32U	ZOKI	110	95	10,450	LOW	HA9RC	ZOLI	50	39	1,950	LO
K3UA	PHIL	103	97	9,991	LOW	VA3DKL	DAVE	44	44	1,936	LO
W9NXM	GUS	106	89	9,434	LOW	W3TAS	TOM	45	43	1,935	LO
JY5VA	VIC	97	97	9,409	LOW	PA3DBS	PETER	44	43	1,892	LO
K3SEN	DALE	97	96	9,312	LOW	M1X	STEVE	47	39	1,833	LO
W8MET	MET	100	91	9,100	LOW	M0SEV	PAUL	44	41	1,804	LO
K4FT	JOHN	101	90	9,090	LOW	OH1SIC	GI	43	39	1,677	LO
M0RYB	PETER	105	86	9,030	LOW	PA0GRU	DICK	43	36	1,548	LO
HB9ARF	PHIL	107	84	8,988	LOW	KC8J	WALT	41	37	1,517	LO
NB8JAY	DAN	99	90	8,910	LOW	N4MU	BILL	39	37	1,443	LO
DL5DBY	TOM	101	86	8,686	LOW	K7AZT	PAUL	39	36	1,404	LO
K0FX	DON	95	89	8,455	LOW	OH6BA	OLLI	40	35	1,400	LO
G4PVM	PAUL	101	81	8,181	LOW	DL4XU	UWE	39	32	1,248	LO
/E2AXO	BOB	94	83	7,802	LOW	FG8NY	JEAN	35	35	1,225	LO
NK40	AJ	95	81	7,695	LOW	K8LBQ	BAIN	32	32	1,024	LO
NG2J	JIM	94	80	7,520	LOW	RT5P	GENE	32	30	960	LO
G3LDI	ROGER	98	76	7,448	LOW	SM7RYR	ROGER	32	30	960	LO
V2LCQ	ED	88	81	7,128	LOW	VE2NCG	NICK	30	30	900	LO
NF8M	FRANK	85	83	7,055	LOW	OH5ZA	ZABA	31	29	899	LO
N3HEE	JOE	84	76	6,384	LOW	DL9ZOG	JOHN	30	29	870	LO
SQ9S	ADAM	89	68	6,052	LOW	GM4OSS	STEVE	33	26	858	LO
AA9SN	SCOTT	81	74	5,994	LOW	KF3G	SAM	29	29	841	LO
DJ1OJ	HEIJO	80	71	5,680	LOW	PE1BQE	TON	29	29	841	LO
/E3EJ	JOHN	75		5,625	LOW	SM5DXR	CHRIS	29 29	29 29	841	LO
			75 71								
N4THI	RICK	78 70	71	5,538	LOW	KG5RXG	MIKE	28	27	756	LC
GM4WZG	BERN	78	67	5,226	LOW	AB7MP	MARK	30	24	720	LO
(3HW	BILL	73	70	5,110	LOW	PD7CJT	CHRIS	26	26	676	LO
VE0P	JOHN	72	70	5,040	LOW	KB4CG	JACK	27	25	675	LO
KM4HI	JIM	76	66	5,016	LOW	K5GQ	MARK	25	25	625	LO
KM4CH	JOHN	72	65	4,680	LOW	K4GM	GEO	26	24	624	LO
N8LR	GARY	69	67	4,623	LOW	N4NTO	TRIPP	25	24	600	LO
KD2KW	KEN	71	65	4,615	LOW	G3SQU	CHRIS	24	22	528	LO
SE5L	BEN	72	64	4,608	LOW	AJ1AJ	AJ	21	21	441	LO
SP2R	DAREK	77	58	4,466	LOW	K6RM	BARRY	19	19	361	LO
WT9Q	VIC	66	65	4,400	LOW	VE3LMS	GRANT	18	18	324	LO
KG3V	TOM	66	63	4,158	LOW	OK2GU	GUST	19	16	304	LO
NIKIVI	GREG ROB	70 64	58 62	4,060 3,968	LOW					289 256	LO'
W1KM	GREG	70	58	4,060	LOW	AA0AW DH2URF	DOUG RICH	17 16	17 16		



Call	Name	QSOs	Mults	Score	Power	Call	Name	QSOs	Mults	Score	Power
NE9A	MEL	16	16	256	LOW	DL1NKB	BERND	9	7	63	LOW
UT3UZ	ALEX	16	16	256	LOW	CO6RD	REY	7	7	49	LOW
RK3TT	DIMA	14	14	196	LOW	K7MSO	MIKE	7	7	49	LOW
PA7KY	JOS	14	13	182	LOW	SJ6W	STEN	7	7	49	LOW
PY2QT	JOAO	12	12	144	LOW	UX1HW	ART	7	7	49	LOW
WA9LEY	LEE	12	12	144	LOW	SQ5VCO	ADAM	6	6	36	LOW
M0NGN	NIGE	12	11	132	LOW	TM10GFT	ANDY	4	4	16	LOW
SP9BRP	JAN	11	11	121	LOW	SV1SFQ	GEO	3	3	9	LOW
EA5KO	ANDY	10	10	100	LOW	B0GUS	BURT	2	2	4	LOW
W8EH	ERNIE	10	10	100	LOW	JH4FUF	IKKAN	2	2	4	LOW
WA8YZB	JOHN	10	10	100	LOW	OH2BN	JARMO	1	1	1	LOW
DD7CW	ROCKY	10	9	90	LOW						

Call	Name	QSOs	Mults	Score	Power	Call	Name	QSOs	Mults	Score	Power
W1UU	PETER	148	120	17,760	QRP	N6TVN	CARL	45	42	1,890	QRP
AG4EA	BILL	99	88	8,712	QRP	OK2NAJ	JIRI	46	38	1,748	QRP
LY5G	VITAS	68	54	3,672	QRP	AA5W	JIM	43	39	1,677	QRP
KR4AE	ALAN	62	57	3,534	QRP	UA6AK	VAL	42	35	1,470	QRP
WB5BKL	NICK	58	53	3,074	QRP	PE2K	ADI	28	23	644	QRP
W7LG	MIKE	54	53	2,862	QRP	RW3AI	VAL	24	19	456	QRP
N3CI	DAVE	49	46	2,254	QRP	UA9CHL	VADIM	8	8	64	QRP
W6GMT	BROCK	47	41	1,927	QRP	W9SAU	DAN	1	1	1	QRP

Session 2 Analysis:

For Region 1 High Power, Milen (LZ5R) once again came in first with final numbers of 370 QSOs, 281 Multipliers and a score of 103,970. Lacy (HA3NU) again came in second with a score of 76,692. Bud (AA3B) finished in first place again for Region 2 with an outstanding QSO count of 550, 366 Mults and a score of 201,300. Chas (K3MM) came in second place once more with a score of 186,354. For Region 3, Barry (VK2BJ) came in first with 26 QSOs, 26 Multipliers and a score of 676. Moving on to Low Power, the Region 1 winner was Hans (LB6GG) with a QSO total of 154 and a mult total of 129 resulting in a score of 19,866. Robert (SP1D) placed second with a score of 17,255. For Region 2 Don (N4ZZ) once again claimed first place with a QSO total of 378, a mult total of 295 and a score of 111,510 points. Lar (K7SV) again placed second again this year with a score of 90,828. In Region 3 Ikkan (JH4FUF) finished first with 2 QSOs and 2 Mults scoring 4 points. Moving on to the QRP class, the Region 1 winner was Vitas (LY5G) working 68 QSOs and 54 Multipliers for a total score of 3672. Jiri (OK2NAJ) finished second with a score of 1748. Region 2 first place was won by Peter (W1UU) with an impressive 148 QSOs, 120 mults and a score of 17,760. Bill (AG4EA) came in second with a score of 8,712.

Session 3 - 2000Z to 0000Z

Session 3 results represent the most significant increases for 2020. These increases are based on a truly fantastic count of 400 logs received, up 99% from last year, and again with submissions from all 3 ITU Regions. The QSO totals increased by an amazing 112% and the multipliers were up by 131%. These significant increases resulted in an overall increase in points of 169% and points per log increased by 35%. Session 3 had two submissions that exceeded 200K points and 18 exceeding 100K, 1 of which was a low power entry.

Here are the details for Session 3. Plaque and Trophy winners are highlighted in YELLOW.



Call	Name	QSOs	Mults	Score	Power	Call	Name	QSOs	Mults	Score	Power
AA3B	BUD	544	393	213,792	HIGH	KE1B	RICH	238	228	54,264	HIGH
K3WW	CHAS	545	389	212,005	HIGH	K4QPL	JIM	255	211	53,805	HIGH
LZ5R	MILEN	506	340	172,040	HIGH	NN5O	LARRY	249	205	51,045	HIGH
N4AF	HOWIE	460	336	154,560	HIGH	N1RM	RICK	245	199	48,755	HIGH
N4BP	BOB	440	344	151,360	HIGH	9A1AA	IVO	253	185	46,805	HIGH
K0RF	CHUCK	440	335	147,400	HIGH	VE7KW	KEITH	217	212	46,004	HIGH
N5ZO	MARK	431	339	146,109	HIGH	K3SW	SW	239	192	45,888	HIGH
N5RZ	GATOR	440	323	142,120	HIGH	K8JQ	STEVE	234	187	43,758	HIGH
HA3NU	LACY	432	317	136,944	HIGH	GW2CWO	STEW	234	184	43,056	HIGH
N1LN	BRUCE	425	320	136,000	HIGH	N4YDU	NATE	226	185	41,810	HIGH
N3RD	DAVE	444	305	135,420	HIGH	G4DRS	JOHN	225	181	40,725	HIGH
HA5JI	GYURI	435	309	134,415	HIGH	WA3AAN	GRANT	225	180	40,500	HIGH
N3RS	SIG	415	314	130,310	HIGH	K5UV	MIKE	222	180	39,960	HIGH
K5TR	GEO	397	321	127,437	HIGH	N4DW	DAVE	212	175	37,100	HIGH
NA8V	GREG	392	294	115,248	HIGH	DF7TV	TOM	207	179	37,053	HIGH
N3QE K6AR	TIM JIM	383 372	298 304	114,134 113,088	HIGH HIGH	K8MR AC6ZM	JIM JUAN	198 185	170 175	33,660	HIGH HIGH
N5EE	KEN	367	303	111,201	HIGH	KV0I	BILL	191	175 167	32,375 31,897	HIGH
WT9U	JIM	378	288	108,864	HIGH	VA7DX	NEIL	177	177	31,329	HIGH
W4WF	CHRIS	358	304	108,832	HIGH	WS1L	CHUCK	190	161	30,590	HIGH
DK9PY	ARMIN	376	276	103,776	HIGH	PA3AAV	GERT	200	151	30,200	HIGH
I2WIJ	BOB	372	278	103,416	HIGH	K1RV	PI	187	160	29,920	HIGH
K5KG	GEO	354	292	103,368	HIGH	W2CDO	PETER	187	158	29,546	HIGH
K7RL	MITCH	349	288	100,512	HIGH	K4AFE	JOHN	185	157	29,045	HIGH
G3TXF	NIGEL	363	276	100,188	HIGH	W0VX	DAVE	191	150	28,650	HIGH
N3AD	ALAN	357	278	99,246	HIGH	WN7S	DICK	184	153	28,152	HIGH
W5TM	ED	346	283	97,918	HIGH	VE3KP	KEN	188	149	28,012	HIGH
K3WJV	BILL	362	264	95,568	HIGH	WT2P	CJ	176	159	27,984	HIGH
W1WEF	JACK	350	264	92,400	HIGH	W8FN	RANDY	167	163	27,221	HIGH
WD6T	DAVE	329	277	91,133	HIGH	KC7V	MIKE	172	148	25,456	HIGH
K2RD	IRA	331	272	90,032	HIGH	AD0AB	JIM	156	146	22,776	HIGH
K7TD	TERRY	316	275	86,900	HIGH	W2XYZ	FRANK	161	135	21,735	HIGH
N2MM	CAROL	325	266	86,450	HIGH	K2SX	DENNIS	153	142	21,726	HIGH
W2GD	JOHN	342	247	84,474	HIGH	N5AW	MARV	150	138	20,700	HIGH
VA2UR	GUY	317	266	84,322	HIGH	N3AM	JOHN	161	127	20,447	HIGH
AB0S	TIM	323	261	84,303	HIGH	N2RC	MIKE	152	133	20,216	HIGH
K4RUM	MIKE	329	253	83,237	HIGH	K4OV	ROB	140	135	18,900	HIGH
NG7M	MAX	310	262	81,220	HIGH	OZ3SM	STEVE	153	112	17,136	HIGH
K4BAI	JOHN	334	243	81,162	HIGH	W5GN	BARRY	145	116	16,820	HIGH
K1EBY	FRANK	306	262	80,172	HIGH	AB0TX	MIKE	133	124	16,492	HIGH
NW3Y	CHICK	316	252	79,632	HIGH	M2D	PHIL	154	106	16,324	HIGH
K0ZR	JEFF	318	250	79,500	HIGH	N3CW	ED	142	113	16,046	HIGH
KE2D	BOB	314	253	79,442	HIGH	KY7M	LEE	130	118	15,340	HIGH
K2TW	TOM	323	242	78,166	HIGH	W2XL	BOB	123	118	14,514	HIGH
DL3DXX	MAR	316	237	74,892	HIGH	OK1RR	MARTIN	138	104	14,352	HIGH
W3BES N0TA	JIM JOHN	302 307	247 239	74,594 73,373	HIGH HIGH	SF1Z N7US	JENS JIM	134 115	102 115	13,668 13,225	HIGH HIGH
N4CW	BERT	292	259	73,292	HIGH	AK1MD	ALEX	120	109	13,080	HIGH
KU8E	JEFF	307	230	70,610	HIGH	NA2U	FRED	126	103	12,978	HIGH
WOUO	JIM	294	239	70,010	HIGH	G3XLG	RAY	128	101	12,928	HIGH
K9CT	CRAIG	286	244	69,784	HIGH	W0AAE	BOB	120	107	12,840	HIGH
K6NR	DANA	292	238	69,496	HIGH	K2CJ	CARL	118	105	12,390	HIGH
K7QA	TOM	283	243	68,769	HIGH	N5UM	AL	111	111	12,321	HIGH
K3UL	ВОВ	295	233	68,735	HIGH	WG3J	ERIC	111	108	11,988	HIGH
W3FV	BARRY	291	228	66,348	HIGH	AI4WW	DAN	109	106	11,554	HIGH
N4ZR	PETE	307	210	64,470	HIGH	UY1HY	VAL	117	97	11,349	HIGH
K3MD	JOHN	299	213	63,687	HIGH	K3SV	BILL	107	105	11,235	HIGH
K5CI	LEO	279	228	63,612	HIGH	VE2FK	CLAUDE	118	94	11,092	HIGH
WA4PSC	HOWIE	273	228	62,244	HIGH	DL5JQ	ERHARD	117	93	10,881	HIGH
K0VXU	RUSS	270	229	61,830	HIGH	W6SX	HANK	106	102	10,812	HIGH
M2G	JOHN	286	214	61,204	HIGH	RM2D	MATS	128	83	10,624	HIGH
N6RK	RICK	258	237	61,146	HIGH	W4XO	LEX	106	98	10,388	HIGH
N3JT	JIM	276	221	60,996	HIGH	K8BZ	STEVE	102	100	10,200	HIGH
K3CT	JOHN	262	227	59,474	HIGH	W1TO	TOM	96	96	9,216	HIGH
F4VSM	RON	272	218	59,296	HIGH	WA1BXY	DON	95	95	9,025	HIGH
N2NC	JOHN	272	218	59,296	HIGH	KB3Z	MARK	98	92	9,016	HIGH
EA1X	JUAN	253	228	57,684	HIGH	EA5FID	JUAN	94	94	8,836	HIGH
N5TOO	VAN	258	217	55,986 55,440	HIGH	K3IE	HUNTER	97 03	91 03	8,827	HIGH
AE6Y	ANDY	252	220	55,440	HIGH	K6MM	JOHN	93	93	8,649	HIGH



Call	Name	QSOs	Mults	Score	Power	Call	Name	QSOs	Mults	Score	Power
PA0INA	FRANS	102	82	8,364	HIGH	EA4OR	IGNACIO	52	52	2,704	HIGH
DL4ME	RON	99	84	8,316	HIGH	PA5KT	HENK	49	43	2,107	HIGH
W5MX	TOM	92	90	8,280	HIGH	R4BZ	ANDY	46	43	1,978	HIGH
LY2A	VYTAS	90	90	8,100	HIGH	LA8HGA	JON	45	42	1,890	HIGH
W3FIZ	PAT	94	86	8,084	HIGH	WA5LHM	SCOTT	43	38	1,634	HIGH
AB2E	DARRELL	90	86	7,740	HIGH	K4QS	CHUCK	40	40	1,600	HIGH
W4VIC	VIC	90	81	7,290	HIGH	N4GU	MIKE	40	40	1,600	HIGH
K5LY	LEE	90	80	7,200	HIGH	LY7M	AL	39	39	1,521	HIGH
KC2LSD	CODY	90	78	7,020	HIGH	SD1A	ERIC	38	34	1,292	HIGH
K0TC	RON	87	80	6,960	HIGH	EA3HSO	AL	35	35	1,225	HIGH
K2AV	GUY	78	78	6,084	HIGH	KE4S	DAVE	35	35	1,225	HIGH
W9ILY	JOHN	77	73	5,621	HIGH	KJ9C	MEL	35	35	1,225	HIGH
KV1E	JACK	77				N0CVW	CHAS	35			
	GAVIN		68	5,236	HIGH			35	35	1,225	HIGH
ZL1BBW		71	71	5,041	HIGH	VK2GR	ALLAN		35	1,225	HIGH
N5VR	BILL	73	68	4,964	HIGH	E74X	VELJKO	36	34	1,224	HIGH
KA1IOR	GEOFF	70	70	4,900	HIGH	RK3TD	SERG	33	33	1,089	HIGH
K7UT	DARRYL	69	69	4,761	HIGH	W6KC	JIM	32	32	1,024	HIGH
K1TH	TOM	70	65	4,550	HIGH	W2DLT	VAN	33	31	1,023	HIGH
K6KM	ROB	71	64	4,544	HIGH	N5KO	TREY	32	31	992	HIGH
K1ESE	JOHN	65	63	4,095	HIGH	WA3GM	GREG	32	31	992	HIGH
KT4XN	TOM	65	62	4,030	HIGH	K1MT	DAVID	30	30	900	HIGH
WA5LXS	DENNIS	66	61	4,026	HIGH	WA6URY	DAN	30	30	900	HIGH
K3PP	GLENN	62	62	3,844	HIGH	VE3NNT	LES	30	29	870	HIGH
N2SO	CHAS	66	56	3,696	HIGH	VK2BJ	BARRY	23	23	529	HIGH
WB4HRL	ED	63	58	3,654	HIGH	SM7IUN	BJORN	22	22	484	HIGH
IK0YVV	MARCO	63	57	3,591	HIGH	K1SM	BILL	22	22	484	HIGH
KE4KY	TOM	58	58	3,364	HIGH	KF6NCX	LARRY	22	21	462	HIGH
WX8C	HARRY	59	56	3,304	HIGH	R7DA	ALEX	19	19	361	HIGH
SM0FPR		63	52			W4PF	STEVE				
	MATS			3,276	HIGH			17	17	289	HIGH
W8FJ	JOHN	57	52	2,964	HIGH	LB5GI	GERY	15	15	225	HIGH
LB3RE	RAG	58	51	2,958	HIGH	N2NT	ANDY	8	8	64	HIGH
NA4J	JIM	54	54	2,916	HIGH	PY5AMF	MAR	5	5	25	HIGH
HA5NR	GABOR	56	49	2,744	HIGH	JN1THL	KEN	2	2	4	HIGH
Call	Name	QS0s	Mults	Score	Power	KE8G	JIM	157	146	22,922	LOW
Call N4ZZ	DON	QSOs 373	Mults 299	Score 111,527	Power LOW	KE8G KG3V	JIM TOM	157 162	146 139	22,922 22,518	LOW LOW
N4ZZ	DON	373	299	111,527	LOW	KG3V	TOM	162	139	22,518	LOW
N4ZZ W0UA	DON GEO	373 342	299 272	111,527 93,024	LOW LOW	KG3V OU2I	TOM HEN	162 161	139 131	22,518 21,091	LOW LOW
N4ZZ W0UA K0AV	DON GEO ALAN	373 342 333	299 272 260	111,527 93,024 86,580	LOW LOW LOW	KG3V OU2I K3UA	TOM HEN PHIL	162 161 149	139 131 136	22,518 21,091 20,264	LOW LOW LOW
N4ZZ W0UA K0AV K0AD	DON GEO ALAN AL	373 342 333 309	299 272 260 246	111,527 93,024 86,580 76,014	LOW LOW LOW	KG3V OU2I K3UA DL5DBY	TOM HEN PHIL TOM	162 161 149 167	139 131 136 113	22,518 21,091 20,264 18,871	LOW LOW LOW
N4ZZ W0UA K0AV K0AD K7SV WJ9B	DON GEO ALAN AL LAR WILL	373 342 333 309 311 273	299 272 260 246 232 230	111,527 93,024 86,580 76,014 72,152 62,790	LOW LOW LOW LOW LOW	KG3V OU2I K3UA DL5DBY K5XU W0TG	TOM HEN PHIL TOM MIKE BILL	162 161 149 167 146 147	139 131 136 113 128 122	22,518 21,091 20,264 18,871 18,688 17,934	LOW LOW LOW LOW LOW
N4ZZ WOUA KOAV KOAD K7SV WJ9B N8AA	DON GEO ALAN AL LAR WILL JOHN	373 342 333 309 311 273 280	299 272 260 246 232 230 223	111,527 93,024 86,580 76,014 72,152 62,790 62,440	LOW LOW LOW LOW LOW LOW	KG3V OU2I K3UA DL5DBY K5XU W0TG NJ8J	TOM HEN PHIL TOM MIKE BILL BEN	162 161 149 167 146 147	139 131 136 113 128 122 121	22,518 21,091 20,264 18,871 18,688 17,934 17,787	LOW LOW LOW LOW LOW LOW
N4ZZ W0UA K0AV K0AD K7SV WJ9B N8AA K4OAQ	DON GEO ALAN AL LAR WILL JOHN FRITZ	373 342 333 309 311 273 280 263	299 272 260 246 232 230 223 216	111,527 93,024 86,580 76,014 72,152 62,790 62,440 56,808	LOW LOW LOW LOW LOW LOW LOW	KG3V OU2I K3UA DL5DBY K5XU W0TG NJ8J N1VH	TOM HEN PHIL TOM MIKE BILL BEN MARTY	162 161 149 167 146 147 147 143	139 131 136 113 128 122 121 123	22,518 21,091 20,264 18,871 18,688 17,934 17,787 17,589	LOW LOW LOW LOW LOW LOW LOW
N4ZZ W0UA K0AV K0AD K7SV WJ9B N8AA K4OAQ K1VUT	DON GEO ALAN AL LAR WILL JOHN FRITZ DAVE	373 342 333 309 311 273 280 263 262	299 272 260 246 232 230 223 216 216	111,527 93,024 86,580 76,014 72,152 62,790 62,440 56,808 56,592	LOW	KG3V OU2I K3UA DL5DBY K5XU W0TG NJ8J N1VH XE1IM	TOM HEN PHIL TOM MIKE BILL BEN MARTY SAL	162 161 149 167 146 147 147 143 129	139 131 136 113 128 122 121 123 129	22,518 21,091 20,264 18,871 18,688 17,934 17,787 17,589 16,641	LOW LOW LOW LOW LOW LOW LOW LOW
N4ZZ WOUA KOAV KOAD K7SV WJ9B N8AA K4OAQ K1VUT N8BJQ	DON GEO ALAN AL LAR WILL JOHN FRITZ DAVE STEVE	373 342 333 309 311 273 280 263 262 261	299 272 260 246 232 230 223 216 216 203	93,024 86,580 76,014 72,152 62,790 62,440 56,808 56,592 52,983	LOW	KG3V OU2I K3UA DL5DBY K5XU W0TG NJ8J N1VH XE1IM K3PI	TOM HEN PHIL TOM MIKE BILL BEN MARTY SAL RUSS	162 161 149 167 146 147 147 143 129 134	139 131 136 113 128 122 121 123 129 122	22,518 21,091 20,264 18,871 18,688 17,934 17,787 17,589 16,641 16,348	LOW LOW LOW LOW LOW LOW LOW LOW LOW
N4ZZ WOUA KOAV KOAD K7SV WJ9B N8AA K4OAQ K1VUT N8BJQ K4FN	DON GEO ALAN AL LAR WILL JOHN FRITZ DAVE STEVE DAN	373 342 333 309 311 273 280 263 262 261 260	299 272 260 246 232 230 223 216 216 203 202	93,024 86,580 76,014 72,152 62,790 62,440 56,808 56,592 52,983 52,520	LOW	KG3V OU2I K3UA DL5DBY K5XU W0TG NJ8J N1VH XE1IM K3PI WT3K	TOM HEN PHIL TOM MIKE BILL BEN MARTY SAL RUSS DARYL	162 161 149 167 146 147 147 143 129 134 131	139 131 136 113 128 122 121 123 129 122 124	22,518 21,091 20,264 18,871 18,688 17,934 17,787 17,589 16,641 16,348 16,244	LOW
N4ZZ WOUA KOAV KOAD K7SV WJ9B N8AA K4OAQ K1VUT N8BJQ K4FN W6LAX	DON GEO ALAN AL LAR WILL JOHN FRITZ DAVE STEVE DAN ROGER	373 342 333 309 311 273 280 263 262 261 260 241	299 272 260 246 232 230 223 216 216 203 202 215	93,024 86,580 76,014 72,152 62,790 62,440 56,808 56,592 52,983 52,520 51,815	LOW	KG3V OU2I K3UA DL5DBY K5XU W0TG NJ8J N1VH XE1IM K3PI WT3K DF5EG	TOM HEN PHIL TOM MIKE BILL BEN MARTY SAL RUSS DARYL JOE	162 161 149 167 146 147 147 143 129 134 131	139 131 136 113 128 122 121 123 129 122 124 117	22,518 21,091 20,264 18,871 18,688 17,934 17,787 17,589 16,641 16,348 16,244 16,029	LOW
N4ZZ W0UA K0AV K0AD K7SV WJ9B N8AA K4OAQ K1VUT N8BJQ K4FN W6LAX W3KB	DON GEO ALAN AL LAR WILL JOHN FRITZ DAVE STEVE DAN ROGER KEITH	373 342 333 309 311 273 280 263 262 261 260 241 268	299 272 260 246 232 230 223 216 216 203 202 215 193	93,024 86,580 76,014 72,152 62,790 62,440 56,808 56,592 52,983 52,520 51,815 51,724	LOW	KG3V OU2I K3UA DL5DBY K5XU W0TG NJ8J N1VH XE1IM K3PI WT3K DF5EG N3CKI	TOM HEN PHIL TOM MIKE BILL BEN MARTY SAL RUSS DARYL JOE DAVE	162 161 149 167 146 147 143 129 134 131 137 127	139 131 136 113 128 122 121 123 129 122 124 117 125	22,518 21,091 20,264 18,871 18,688 17,934 17,787 17,589 16,641 16,348 16,244 16,029 15,875	LOW
N4ZZ W0UA K0AV K0AD K7SV WJ9B N8AA K4OAQ K1VUT N8BJQ K4FN W6LAX W3KB K0VBU	DON GEO ALAN AL LAR WILL JOHN FRITZ DAVE STEVE DAN ROGER KEITH BILL	373 342 333 309 311 273 280 263 262 261 260 241 268 229	299 272 260 246 232 230 223 216 216 203 202 215 193 194	111,527 93,024 86,580 76,014 72,152 62,790 62,440 56,808 56,592 52,983 52,520 51,815 51,724 44,426	LOW	KG3V OU2I K3UA DL5DBY K5XU W0TG NJ8J N1VH XE1IM K3PI WT3K DF5EG N3CKI KM4FO	TOM HEN PHIL TOM MIKE BILL BEN MARTY SAL RUSS DARYL JOE DAVE DWIGHT	162 161 149 167 146 147 147 143 129 134 131 137 127 138	139 131 136 113 128 122 121 123 129 122 124 117 125 114	22,518 21,091 20,264 18,871 18,688 17,934 17,787 17,589 16,641 16,348 16,244 16,029 15,875 15,732	LOW
N4ZZ WOUA KOAV KOAD K7SV WJ9B N8AA K4OAQ K1VUT N8BJQ K4FN W6LAX W3KB K0VBU K1DJ	DON GEO ALAN AL LAR WILL JOHN FRITZ DAVE STEVE DAN ROGER KEITH BILL RICH	373 342 333 309 311 273 280 263 262 261 260 241 268 229 228	299 272 260 246 232 230 223 216 216 203 202 215 193 194 181	111,527 93,024 86,580 76,014 72,152 62,790 62,440 56,808 56,592 52,983 52,520 51,815 51,724 44,426 41,268	LOW	KG3V OU2I K3UA DL5DBY K5XU W0TG NJ8J N1VH XE1IM K3PI WT3K DF5EG N3CKI KM4FO NS9I	TOM HEN PHIL TOM MIKE BILL BEN MARTY SAL RUSS DARYL JOE DAVE DWIGHT DWIGHT	162 161 149 167 146 147 143 129 134 131 137 127 138 130	139 131 136 113 128 122 121 123 129 122 124 117 125 114 119	22,518 21,091 20,264 18,871 18,688 17,934 17,787 17,589 16,641 16,348 16,244 16,029 15,875 15,732 15,470	LOW
N4ZZ WOUA KOAV KOAD K7SV WJ9B N8AA K4OAQ K1VUT N8BJQ K4FN W6LAX W3KB K0VBU K1DJ SP1D	DON GEO ALAN AL LAR WILL JOHN FRITZ DAVE STEVE DAN ROGER KEITH BILL RICH ROBERT	373 342 333 309 311 273 280 263 262 261 260 241 268 229 228 234	299 272 260 246 232 230 223 216 216 203 202 215 193 194 181 176	111,527 93,024 86,580 76,014 72,152 62,790 62,440 56,808 56,592 52,983 52,520 51,815 51,724 44,426 41,268	LOW	KG3V OU2I K3UA DL5DBY K5XU W0TG NJ8J N1VH XE1IM K3PI WT3K DF5EG N3CKI KM4FO NS9I VE3GFN	TOM HEN PHIL TOM MIKE BILL BEN MARTY SAL RUSS DARYL JOE DAVE DWIGHT DWIGHT MIKE	162 161 149 167 146 147 143 129 134 131 137 127 138 130 131	139 131 136 113 128 122 121 123 129 122 124 117 125 114 119 115	22,518 21,091 20,264 18,871 18,688 17,934 17,787 17,589 16,641 16,348 16,244 16,029 15,875 15,732 15,470 15,065	LOW
N4ZZ WOUA KOAV KOAD K7SV WJ9B N8AA K4OAQ K1VUT N8BJQ K4FN W6LAX W3KB K0VBU K1DJ SP1D K0FX	DON GEO ALAN AL LAR WILL JOHN FRITZ DAVE STEVE DAN ROGER KEITH BILL RICH ROBERT DON	373 342 333 309 311 273 280 263 262 261 260 241 268 229 228 234 214	299 272 260 246 232 230 223 216 216 203 202 215 193 194 181 176 182	111,527 93,024 86,580 76,014 72,152 62,790 62,440 56,808 56,592 52,983 52,520 51,815 51,724 44,426 41,268 41,184 38,948	LOW	KG3V OU2I K3UA DL5DBY K5XU W0TG NJ8J N1VH XE1IM K3PI WT3K DF5EG N3CKI KM4FO NS9I VE3GFN K9WX	TOM HEN PHIL TOM MIKE BILL BEN MARTY SAL RUSS DARYL JOE DAVE DWIGHT DWIGHT MIKE TIM	162 161 149 167 146 147 147 143 129 134 131 137 127 138 130 131	139 131 136 113 128 122 121 123 129 122 124 117 125 114 119 115 113	22,518 21,091 20,264 18,871 18,688 17,934 17,787 17,589 16,641 16,348 16,244 16,029 15,875 15,732 15,470 15,065 14,577	LOW
N4ZZ WOUA KOAV KOAD K7SV WJ9B N8AA K4OAQ K1VUT N8BJQ K4FN WGLAX W3KB K0VBU K1DJ SP1D K0FX W1WBB	DON GEO ALAN AL LAR WILL JOHN FRITZ DAVE STEVE DAN ROGER KEITH BILL ROBERT DON BILL	373 342 333 309 311 273 280 263 262 261 260 241 268 229 228 234 214 214	299 272 260 246 232 230 223 216 216 203 202 215 193 194 181 176 182 178	111,527 93,024 86,580 76,014 72,152 62,790 62,440 56,808 56,592 52,983 52,520 51,815 51,724 44,426 41,268 41,184 38,948 38,948	LOW	KG3V OU2I K3UA DL5DBY K5XU W0TG NJ8J N1VH XE1IM K3PI WT3K DF5EG N3CKI KM4FO NS9I VE3GFN K9WX LB6GG	TOM HEN PHIL TOM MIKE BILL BEN MARTY SAL RUSS DARYL JOE DAVE DWIGHT DWIGHT MIKE TIM HANS	162 161 149 167 146 147 143 129 134 131 137 127 138 130 131 129 144	139 131 136 113 128 122 121 123 129 122 124 117 125 114 119 115 113 101	22,518 21,091 20,264 18,871 18,688 17,934 17,787 16,641 16,348 16,244 16,029 15,875 15,732 15,470 15,065 14,577 14,544	LOW
N4ZZ W0UA K0AV K0AD K7SV WJ9B N8AA K4OAQ K1VUT N8BJQ K4FN W6LAX W3KB K0VBU K1DJ SP1D K0FX W1WBB N4OO	DON GEO ALAN AL LAR WILL JOHN FRITZ DAVE STEVE DAN ROGER KEITH BILL RICH ROBERT DON BILL BRIAN	373 342 333 309 311 273 280 263 262 261 260 241 268 229 228 234 214 214	299 272 260 246 232 230 223 216 216 203 202 215 193 194 176 182 178 175	111,527 93,024 86,580 76,014 72,152 62,790 62,440 56,808 56,592 52,983 52,520 51,815 51,724 44,426 41,268 41,184 38,948 38,992 36,750	LOW	KG3V OU2I K3UA DL5DBY K5XU W0TG NJ8J N1VH XE1IM K3PI WT3K DF5EG N3CKI KM4FO NS9I VE3GFN K9WX LB6GG W8OV	TOM HEN PHIL TOM MIKE BILL BEN MARTY SAL RUSS DARYL JOE DAVE DWIGHT DWIGHT MIKE TIM HANS DAVE	162 161 149 167 146 147 147 143 129 134 131 137 127 138 130 131 129 144 126	139 131 136 113 128 122 121 123 129 122 124 117 125 114 119 115 113 101 115	22,518 21,091 20,264 18,871 18,688 17,934 17,787 17,589 16,641 16,348 16,244 16,029 15,875 15,732 15,470 15,065 14,577 14,544 14,490	LOW
N4ZZ WOUA KOAV KOAD K7SV WJ9B N8AA K4OAQ K1VUT N8BJQ K4FN W6LAX W3KB K0VBU K1DJ SP1D K0FX W1WBB N4OO VA3SB	DON GEO ALAN AL LAR WILL JOHN FRITZ DAVE STEVE DAN ROGER KEITH BILL RICH ROBERT DON BILL BRIAN SERGE	373 342 333 309 311 273 280 263 262 261 260 241 268 229 228 234 214 210 200	299 272 260 246 232 230 223 216 216 203 202 215 193 194 181 176 182 178 175 176	111,527 93,024 86,580 76,014 72,152 62,790 62,440 56,808 56,592 52,983 52,520 51,815 51,724 44,426 41,268 41,184 38,948 38,992 36,750 35,200	LOW	KG3V OU2I K3UA DL5DBY K5XU W0TG NJ8J N1VH XE1IM K3PI WT3K DF5EG N3CKI KM4FO NS9I VE3GFN K9WX LB6GG W8OV VE3TM	TOM HEN PHIL TOM MIKE BILL BEN MARTY SAL RUSS DARYL JOE DAVE DWIGHT DWIGHT MIKE TIM HANS DAVE VLAD	162 161 149 167 146 147 147 143 129 134 131 137 127 138 130 131 129 144 126 127	139 131 136 113 128 122 121 123 129 122 124 117 125 114 119 115 113 101 115 114	22,518 21,091 20,264 18,871 18,688 17,934 17,787 17,589 16,641 16,348 16,244 16,029 15,875 15,732 15,470 15,065 14,577 14,544 14,490 14,478	LOW
N4ZZ WOUA KOAV KOAD K7SV WJ9B N8AA K4OAQ K1VUT N8BJQ K4FN W6LAX W3KB K0VBU K1DJ SP1D K0FX W1WBB N4OO VA3SB N1DC	DON GEO ALAN AL LAR WILL JOHN FRITZ DAVE STEVE DAN ROGER KEITH BILL RICH ROBERT DON BILL BRIAN SERGE RICK	373 342 333 309 311 273 280 263 262 261 260 241 268 229 228 234 214 210 200 196	299 272 260 246 232 230 223 216 216 203 202 215 193 194 181 176 182 178 175 176 170	111,527 93,024 86,580 76,014 72,152 62,790 62,440 56,808 56,592 52,983 52,520 51,815 51,724 44,426 41,268 41,184 38,948 38,992 36,750 35,200 33,320	LOW	KG3V OU2I K3UA DL5DBY K5XU W0TG NJ8J N1VH XE1IM K3PI WT3K DF5EG N3CKI KM4FO NS9I VE3GFN K9WX LB6GG W8OV VE3TM NJ3K	TOM HEN PHIL TOM MIKE BILL BEN MARTY SAL RUSS DARYL JOE DAVE DWIGHT DWIGHT MIKE TIM HANS DAVE VLAD BRUCE	162 161 149 167 146 147 143 129 134 131 137 127 138 130 131 129 144 126 127 122	139 131 136 113 128 122 121 123 129 122 124 117 125 114 119 115 113 101 115	22,518 21,091 20,264 18,871 18,688 17,934 17,787 17,589 16,641 16,348 16,244 16,029 15,875 15,732 15,470 15,065 14,577 14,544 14,490	LOW
N4ZZ WOUA KOAV KOAD K7SV WJ9B N8AA K4OAQ K1VUT N8BJQ K4FN W6LAX W3KB K0VBU K1DJ SP1D K0FX W1WBB N4OO VA3SB	DON GEO ALAN AL LAR WILL JOHN FRITZ DAVE STEVE DAN ROGER KEITH BILL RICH ROBERT DON BILL BRIAN SERGE	373 342 333 309 311 273 280 263 262 261 260 241 268 229 228 234 214 210 200	299 272 260 246 232 230 223 216 216 203 202 215 193 194 181 176 182 178 175 176	111,527 93,024 86,580 76,014 72,152 62,790 62,440 56,808 56,592 52,983 52,520 51,815 51,724 44,426 41,268 41,184 38,948 38,992 36,750 35,200	LOW	KG3V OU2I K3UA DL5DBY K5XU W0TG NJ8J N1VH XE1IM K3PI WT3K DF5EG N3CKI KM4FO NS9I VE3GFN K9WX LB6GG W8OV VE3TM	TOM HEN PHIL TOM MIKE BILL BEN MARTY SAL RUSS DARYL JOE DAVE DWIGHT DWIGHT MIKE TIM HANS DAVE VLAD	162 161 149 167 146 147 147 143 129 134 131 137 127 138 130 131 129 144 126 127	139 131 136 113 128 122 121 123 129 122 124 117 125 114 119 115 113 101 115 114	22,518 21,091 20,264 18,871 18,688 17,934 17,787 17,589 16,641 16,348 16,244 16,029 15,875 15,732 15,470 15,065 14,577 14,544 14,490 14,478	LOW
N4ZZ WOUA KOAV KOAD K7SV WJ9B N8AA K4OAQ K1VUT N8BJQ K4FN W6LAX W3KB K0VBU K1DJ SP1D K0FX W1WBB N4OO VA3SB N1DC	DON GEO ALAN AL LAR WILL JOHN FRITZ DAVE STEVE DAN ROGER KEITH BILL RICH ROBERT DON BILL BRIAN SERGE RICK	373 342 333 309 311 273 280 263 262 261 260 241 268 229 228 234 214 210 200 196	299 272 260 246 232 230 223 216 216 203 202 215 193 194 181 176 182 178 175 176 170	111,527 93,024 86,580 76,014 72,152 62,790 62,440 56,808 56,592 52,983 52,520 51,815 51,724 44,426 41,268 41,184 38,948 38,992 36,750 35,200 33,320	LOW	KG3V OU2I K3UA DL5DBY K5XU W0TG NJ8J N1VH XE1IM K3PI WT3K DF5EG N3CKI KM4FO NS9I VE3GFN K9WX LB6GG W8OV VE3TM NJ3K	TOM HEN PHIL TOM MIKE BILL BEN MARTY SAL RUSS DARYL JOE DAVE DWIGHT DWIGHT MIKE TIM HANS DAVE VLAD BRUCE	162 161 149 167 146 147 143 129 134 131 137 127 138 130 131 129 144 126 127 122	139 131 136 113 128 122 121 123 129 122 124 117 125 114 119 115 113 101 115 114	22,518 21,091 20,264 18,871 18,688 17,934 17,787 17,589 16,641 16,348 16,244 16,029 15,875 15,732 15,470 15,065 14,577 14,544 14,490 14,478 14,274	LOW
N4ZZ WOUA KOAV KOAD K7SV WJ9B N8AA K4OAQ K1VUT N8BJQ K4FN W6LAX W3KB K0VBU K1DJ SP1D K0FX W1WBB N4OO VA3SB N1DC K0NM	DON GEO ALAN AL LAR WILL JOHN FRITZ DAVE STEVE DAN ROGER KEITH BILL RICH ROBERT DON BILL BRIAN SERGE RICK NIZ	373 342 333 309 311 273 280 263 262 261 260 241 268 229 228 234 214 210 200 196 185	299 272 260 246 232 230 223 216 216 203 202 215 193 194 181 176 182 178 175 176 170 178	111,527 93,024 86,580 76,014 72,152 62,790 62,440 56,808 56,592 52,983 52,520 51,815 51,724 44,426 41,268 41,268 41,184 38,948	LOW	KG3V OU2I K3UA DL5DBY K5XU W0TG NJ8J N1VH XE1IM K3PI WT3K DF5EG N3CKI KM4FO NS9I VE3GFN K9WX LB6GG W8OV VE3TM NJ3K Z32U	TOM HEN PHIL TOM MIKE BILL BEN MARTY SAL RUSS DARYL JOE DAVE DWIGHT DWIGHT MIKE TIM HANS DAVE VLAD BRUCE ZOKI	162 161 149 167 146 147 143 129 134 131 137 127 138 130 131 129 144 126 127 122 133	139 131 136 113 128 122 121 123 129 122 124 117 125 114 119 115 113 101 115 114 117 102	22,518 21,091 20,264 18,871 18,688 17,934 17,787 17,589 16,641 16,348 16,244 16,029 15,875 15,732 15,470 15,065 14,577 14,544 14,490 14,478 14,274 13,566	LOW
N4ZZ WOUA KOAV KOAD K7SV WJ9B N8AA K4OAQ K1VUT N8BJQ K4FN W6LAX W3KB K0VBU K1DJ SP1D K0FX W1WBB N4OO VA3SB N1DC KONM N8LR	DON GEO ALAN AL LAR WILL JOHN FRITZ DAVE STEVE DAN ROGER KEITH BILL RICH ROBERT DON BILL BRIAN SERGE RICK NIZ GARY	373 342 333 309 311 273 280 263 262 261 260 241 268 229 228 234 214 210 200 196 185 193	299 272 260 246 232 230 223 216 216 203 202 215 193 194 181 176 182 178 175 176 170 178 164	111,527 93,024 86,580 76,014 72,152 62,790 62,440 56,808 56,592 52,983 52,520 51,815 51,724 44,426 41,268 41,268 41,184 38,948 38,092 36,750 35,200 33,320 32,930 31,652	LOW	KG3V OU2I K3UA DL5DBY K5XU W0TG NJ8J N1VH XE1IM K3PI WT3K DF5EG N3CKI KM4FO NS9I VE3GFN K9WX LB6GG W8OV VE3TM NJ3K Z32U N5XE	TOM HEN PHIL TOM MIKE BILL BEN MARTY SAL RUSS DARYL JOE DAVE DWIGHT DWIGHT MIKE TIM HANS DAVE VLAD BRUCE ZOKI CARL	162 161 149 167 146 147 147 143 129 134 131 137 127 138 130 131 129 144 126 127 122 133 126	139 131 136 113 128 122 121 123 129 122 124 117 125 114 119 115 113 101 115 114 117 102 107	22,518 21,091 20,264 18,871 18,688 17,934 17,787 17,589 16,641 16,348 16,244 16,029 15,875 15,732 15,470 15,065 14,577 14,544 14,490 14,478 14,478 14,274 13,566 13,482	LOW
N4ZZ WOUA KOAV KOAD K7SV WJ9B N8AA K4OAQ K1VUT N8BJQ K4FN W6LAX W3KB K0VBU K1DJ SP1D K0FX W1WBB N4OO VA3SB N1DC KONM N8LR N0AX	DON GEO ALAN AL LAR WILL JOHN FRITZ DAVE STEVE DAN ROGER KEITH BILL RICH ROBERT DON BILL BRIAN SERGE RICK NIZ GARY WARD	373 342 333 309 311 273 280 263 262 261 260 241 268 229 228 234 214 214 210 200 196 185 193 199	299 272 260 246 232 230 223 216 216 203 202 215 193 194 181 176 182 178 175 176 170 178 164 159	111,527 93,024 86,580 76,014 72,152 62,790 62,440 56,808 56,592 52,983 52,520 51,815 51,724 44,426 41,268 41,184 38,948 38,092 36,750 35,200 33,320 31,652 31,641	LOW	KG3V OU2I K3UA DL5DBY K5XU W0TG NJ8J N1VH XE1IM K3PI WT3K DF5EG N3CKI KM4FO NS9I VE3GFN K9WX LB6GG W8OV VE3TM NJ3K Z32U N5XE KA5M	TOM HEN PHIL TOM MIKE BILL BEN MARTY SAL RUSS DARYL JOE DAVE DWIGHT DWIGHT MIKE TIM HANS DAVE VLAD BRUCE ZOKI CARL MARSH	162 161 149 167 146 147 147 143 129 134 131 137 127 138 130 131 129 144 126 127 122 133 126 122	139 131 136 113 128 122 121 123 129 122 124 117 125 114 119 115 113 101 115 114 117 102 107 110	22,518 21,091 20,264 18,871 18,688 17,934 17,787 17,589 16,641 16,348 16,244 16,029 15,875 15,732 15,470 15,065 14,577 14,544 14,490 14,478 14,274 13,566 13,482 13,420	LOW
N4ZZ WOUA KOAV KOAD K7SV WJ9B N8AA K4OAQ K1VUT N8BJQ K4FN W6LAX W3KB K0VBU K1DJ SP1D K0FX W1WBB N4OO VA3SB N1DC KONM N8LR N0AX K3JT	DON GEO ALAN AL LAR WILL JOHN FRITZ DAVE STEVE DAN ROGER KEITH BILL RICH ROBERT DON BILL BRIAN SERGE RICK NIZ GARY WARD TERRY	373 342 333 309 311 273 280 263 262 261 260 241 268 229 228 234 214 210 200 196 185 193 199 195 191	299 272 260 246 232 230 223 216 216 203 202 215 193 194 181 176 182 178 175 176 170 178 164 159 160 159	111,527 93,024 86,580 76,014 72,152 62,790 62,440 56,808 56,592 52,983 52,520 51,815 51,724 44,426 41,268 41,184 38,948 38,948 38,092 36,750 35,200 33,320 32,930 31,652 31,641 31,200 30,369	LOW	KG3V OU2I K3UA DL5DBY K5XU W0TG NJ8J N1VH XE1IM K3PI WT3K DF5EG N3CKI KM4FO NS9I VE3GFN K9WX LB6GG W8OV VE3TM NJ3K Z32U N5XE KA5M NS6W	TOM HEN PHIL TOM MIKE BILL BEN MARTY SAL RUSS DARYL JOE DAVE DWIGHT DWIGHT MIKE TIM HANS DAVE VLAD BRUCE ZOKI CARL MARSH SERGE	162 161 149 167 146 147 143 129 134 131 137 127 138 130 131 129 144 126 127 122 133 126 122 125	139 131 136 113 128 122 121 123 129 122 124 117 125 114 119 115 113 101 115 114 117 102 107 110 101 92	22,518 21,091 20,264 18,871 18,688 17,934 17,787 17,589 16,641 16,348 16,244 16,029 15,875 15,732 15,470 15,065 14,577 14,544 14,490 14,478 14,274 13,566 13,482 13,420 12,625 12,604	LOW
N4ZZ WOUA KOAV KOAD K7SV WJ9B N8AA K4OAQ K1VUT N8BJQ K4FN W6LAX W3KB K0VBU K1DJ SP1D K0FX W1WBB N4OO VA3SB N1DC K0NM N8LR NOAX K3JT K2ZR K8AJS	DON GEO ALAN AL LAR WILL JOHN FRITZ DAVE STEVE DAN ROGER KEITH BILL RICH ROBERT DON BILL BRIAN SERGE RICK NIZ GARY WARD TERRY DICK JOHN	373 342 333 309 311 273 280 263 262 261 260 241 268 229 228 234 214 210 200 196 185 193 199 195 191 182	299 272 260 246 232 230 223 216 216 203 202 215 193 194 181 176 182 178 175 176 170 178 164 159 160 159	111,527 93,024 86,580 76,014 72,152 62,790 62,440 56,808 56,592 52,983 52,520 51,815 51,724 44,426 41,268 41,184 38,948 38,092 36,750 35,200 33,320 32,930 31,652 31,641 31,200 30,369 30,212	LOW	KG3V OU2I K3UA DL5DBY K5XU W0TG NJ8J N1VH XE1IM K3PI WT3K DF5EG N3CKI KM4FO NS9I VE3GFN K9WX LB6GG W8OV VE3TM NJ3K Z32U N5XE KA5M NS6W G3LDI K5WQG	TOM HEN PHIL TOM MIKE BILL BEN MARTY SAL RUSS DARYL JOE DAVE DWIGHT DWIGHT MIKE TIM HANS DAVE VLAD BRUCE ZOKI CARL MARSH SERGE ROGER ED	162 161 149 167 146 147 143 129 134 131 137 127 138 130 131 129 144 126 127 122 133 126 122 125 137 112	139 131 136 113 128 122 121 123 129 122 124 117 125 114 119 115 113 101 115 114 117 102 107 110 101 92 112	22,518 21,091 20,264 18,871 18,688 17,934 17,787 17,589 16,641 16,348 16,244 16,029 15,875 15,732 15,470 15,065 14,577 14,544 14,490 14,478 14,274 13,566 13,482 13,420 12,625 12,604 12,544	LOW
N4ZZ WOUA KOAV KOAD K7SV WJ9B N8AA K4OAQ K1VUT N8BJQ K4FN W6LAX W3KB K0VBU K1DJ SP1D K0FX W1WBB N4OO VA3SB N1DC K0NM N8LR N0AX K3JT K2ZR K8AJS N2UU	DON GEO ALAN AL LAR WILL JOHN FRITZ DAVE STEVE DAN ROGER KEITH BILL RICH ROBERT DON BILL BRIAN SERGE RICK NIZ GARY WARD TERRY DICK JOHN BOB	373 342 333 309 311 273 280 263 262 261 260 241 268 229 228 234 214 210 200 196 185 193 199 195 191 182 187	299 272 260 246 232 230 223 216 216 203 202 215 193 194 181 176 182 178 175 176 170 178 164 159 160 159 166 153	111,527 93,024 86,580 76,014 72,152 62,790 62,440 56,808 56,592 52,983 52,520 51,815 51,724 44,426 41,268 41,184 38,948 38,092 36,750 35,200 33,320 32,930 31,652 31,641 31,200 30,369 30,212 28,611	LOW	KG3V OU2I K3UA DL5DBY K5XU W0TG NJ8J N1VH XE1IM K3PI WT3K DF5EG N3CKI KM4FO NS9I VE3GFN K9WX LB6GG W8OV VE3TM NJ3K Z32U N5XE KA5M NS6W G3LDI K5WQG NF8M	TOM HEN PHIL TOM MIKE BILL BEN MARTY SAL RUSS DARYL JOE DAVE DWIGHT DWIGHT MIKE TIM HANS DAVE VLAD BRUCE ZOKI CARL MARSH SERGE ROGER ED FRANK	162 161 149 167 146 147 143 129 134 131 137 127 138 130 131 129 144 126 127 122 133 126 122 125 137 112	139 131 136 113 128 122 121 123 129 122 124 117 125 114 119 115 113 101 115 114 117 102 107 110 101 92 112 106	22,518 21,091 20,264 18,871 18,688 17,934 17,787 17,589 16,641 16,348 16,244 16,029 15,875 15,732 15,470 15,065 14,577 14,544 14,490 14,478 14,274 13,566 13,482 13,420 12,625 12,604 12,544 11,554	LOW
N4ZZ WOUA KOAV KOAD K7SV WJ9B N8AA K4OAQ K1VUT N8BJQ K4FN W6LAX W3KB K0VBU K1DJ SP1D K0FX W1WBB N4OO VA3SB N1DC K0NM N8LR N0AX K3JT K2ZR K8AJS N2UU W1QK	DON GEO ALAN AL LAR WILL JOHN FRITZ DAVE STEVE DAN ROGER KEITH BILL RICH ROBERT DON BILL BRIAN SERGE RICK NIZ GARY WARD TERRY DICK JOHN BOB DAN	373 342 333 309 311 273 280 263 262 261 260 241 268 229 228 234 214 210 200 196 185 193 199 195 191 182 187 181	299 272 260 246 232 230 223 216 216 203 202 215 193 194 181 176 182 178 175 176 170 178 164 159 160 159 166 153 157	111,527 93,024 86,580 76,014 72,152 62,790 62,440 56,808 56,592 52,983 52,520 51,815 51,724 44,426 41,268 41,184 38,948 38,092 36,750 35,200 33,320 32,930 31,652 31,641 31,200 30,369 30,212 28,611 28,417	LOW	KG3V OU2I K3UA DL5DBY K5XU W0TG NJ8J N1VH XE1IM K3PI WT3K DF5EG N3CKI KM4FO NS9I VE3GFN K9WX LB6GG W8OV VE3TM NJ3K Z32U N5XE KA5M NS6W G3LDI K5WQG NF8M KD2KW	TOM HEN PHIL TOM MIKE BILL BEN MARTY SAL RUSS DARYL JOE DAVE DWIGHT DWIGHT MIKE TIM HANS DAVE VLAD BRUCE ZOKI CARL MARSH SERGE ROGER ED FRANK KEN	162 161 149 167 146 147 143 129 134 131 137 127 138 130 131 129 144 126 127 122 133 126 122 125 137 112 109 113	139 131 136 113 128 122 121 123 129 122 124 117 125 114 119 115 113 101 115 114 117 102 107 110 101 92 112 106 98	22,518 21,091 20,264 18,871 18,688 17,934 17,787 17,589 16,641 16,348 16,244 16,029 15,875 15,732 15,470 15,065 14,577 14,544 14,490 14,478 14,274 13,566 13,482 13,420 12,625 12,604 11,554 11,074	LOW
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VA3PM	W7GF	MIKE	55	53	2,915	LOW	K5IX	DAVE	15	14	210	LOW
K5GQ MARK 53 51 2,703 LOW IT90RA JO 12 12 144 LOW K6RB ROB 51 51 2,601 LOW KF3G SAM 12 12 144 LOW K4GM GEO 52 49 2,548 LOW WA9LEY LEE 12 12 144 LOW KB4DE BILL 50 48 2,400 LOW SM7RYR ROGER 11 11 121 LOW WZLCQ ED 51 47 2,397 LOW DL1NKB BERND 9 9 81 LOW K7AZT PAUL 49 46 2,254 LOW JH4FUF IKKAN 9 9 81 LOW KBBGAE RICH 47 45 2,115 LOW PA7KY JOS 6 6 36 LOW KOINN TOM 47 44 2,015 LOW<	SM7CIL	ARNE	56	50	2,800	LOW	NA5W	SKIP	15	13	195	LOW
K6RB ROB 51 51 2,601 LOW KF3G SAM 12 12 144 LOW K4GM GEO 52 49 2,548 LOW WA9LEY LEE 12 12 144 LOW KB4DE BILL 50 48 2,400 LOW SM7RYR ROGER 11 11 121 LOW WZLCQ ED 51 47 2,397 LOW DL1NKB BERND 9 9 81 LOW K7AZT PAUL 49 46 2,254 LOW JH4FUF IKKAN 9 9 81 LOW KBBGAE RICH 47 45 2,115 LOW RY3VR JOS 6 6 36 LOW KOINN TOM 47 44 2,068 LOW OE3GRJ JEFF 3 3 9 LOW KCHWQ BUD 44 44 2,025 LOW <td>VA3PM</td> <td>PIERRE</td> <td>56</td> <td>50</td> <td>2,800</td> <td>LOW</td> <td>EI6KW</td> <td>SLAV</td> <td>12</td> <td>12</td> <td>144</td> <td>LOW</td>	VA3PM	PIERRE	56	50	2,800	LOW	EI6KW	SLAV	12	12	144	LOW
K4GM GEO 52 49 2,548 LOW WA9LEY LEE 12 12 144 LOW KB4DE BILL 50 48 2,400 LOW SM7RYR ROGER 11 111 121 LOW W2LCQ ED 51 47 2,397 LOW DL1NKB BERND 9 9 81 LOW K7AZT PAUL 49 46 2,254 LOW JH4FUF IKKAN 9 9 81 LOW KB8GAE RICH 47 45 2,115 LOW PA7KY JOS 6 6 36 LOW MM5M ERIC 47 45 2,115 LOW RV3VR VIT 6 6 36 LOW KOINN TOM 47 44 2,068 LOW OB3GRJ JEFF 3 3 9 LOW KC4WQ BUD 44 44 1,936 LOW <td>K5GQ</td> <td>MARK</td> <td>53</td> <td>51</td> <td>2,703</td> <td>LOW</td> <td>IT9ORA</td> <td>JO</td> <td>12</td> <td>12</td> <td>144</td> <td>LOW</td>	K5GQ	MARK	53	51	2,703	LOW	IT9ORA	JO	12	12	144	LOW
KB4DE BILL 50 48 2,400 LOW SM7RYR ROGER 11 11 121 LOW WZLCQ ED 51 47 2,397 LOW DL1NKB BERND 9 9 81 LOW K7AZT PAUL 49 46 2,254 LOW JH4FUF IKKAN 9 9 81 LOW KB8GAE RICH 47 45 2,115 LOW PA7KY JOS 6 6 36 LOW NM5M ERIC 47 45 2,115 LOW RV3VR VIT 6 6 36 LOW K0INN TOM 47 44 2,068 LOW OE3GRJ JEFF 3 3 9 LOW K2MK MIKE 45 45 2,025 LOW JHJNJ HIRO 3 3 9 LOW KC4WQ BUD 44 44 1,936 LOW	K6RB	ROB	51	51	2,601	LOW	KF3G	SAM	12	12	144	LOW
W2LCQ ED 51 47 2,397 LOW DL1NKB BERND 9 9 81 LOW K7AZT PAUL 49 46 2,254 LOW JH4FUF IKKAN 9 9 81 LOW KB8GAE RICH 47 45 2,115 LOW PA7KY JOS 6 6 36 LOW KMMSM ERIC 47 45 2,115 LOW PA7KY JOS 6 6 36 LOW K0INN TOM 47 44 2,068 LOW OB3GRJ JEFF 3 3 9 LOW K2MK MIKE 45 45 2,025 LOW JH1JNJ HIRO 3 3 9 LOW KC4WQ BUD 44 44 1,935 LOW G3SQU CHRIS 2 2 4 LOW WA1FMM DAN 47 41 1,927 LOW	K4GM	GEO	52	49	2,548	LOW	WA9LEY	LEE	12	12	144	LOW
K7AZT PAUL 49 46 2,254 LOW JH4FUF IKKAN 9 9 81 LOW KB8GAE RICH 47 45 2,115 LOW PA7KY JOS 6 6 36 LOW NM5M ERIC 47 45 2,115 LOW RV3VR VIT 6 6 36 LOW KOINN TOM 47 44 2,068 LOW OB3GRJ JEFF 3 3 9 LOW K2MK MIKE 45 45 2,025 LOW JH1JNJ HIRO 3 3 9 LOW KC4WQ BUD 44 44 1,936 LOW G3SQU CHRIS 2 2 2 4 LOW NAMU BILL 45 43 1,935 LOW SJ6W STEN 2 2 4 LOW WA1FMM DAN 47 41 1,927 <t< td=""><td>KB4DE</td><td>BILL</td><td>50</td><td>48</td><td>2,400</td><td>LOW</td><td>SM7RYR</td><td>ROGER</td><td>11</td><td>11</td><td>121</td><td>LOW</td></t<>	KB4DE	BILL	50	48	2,400	LOW	SM7RYR	ROGER	11	11	121	LOW
KB8GAE RICH 47 45 2,115 LOW PA7KY JOS 6 6 36 LOW NM5M ERIC 47 45 2,115 LOW RV3VR VIT 6 6 36 LOW KOINN TOM 47 44 2,068 LOW OE3GRJ JEFF 3 3 9 LOW K2MK MIKE 45 45 2,025 LOW JH1JNJ HIRO 3 3 9 LOW KC4WQ BUD 44 44 1,936 LOW G3SQU CHRIS 2 2 4 LOW N4MU BILL 45 43 1,935 LOW SJ6W STEN 2 2 4 LOW WA1FMM DAN 47 41 1,927 LOW OH2BN JARMO 1 1 1 LOW W1UU PETER 155 130 20,150 QRP	W2LCQ	ED	51	47	2,397	LOW		BERND	9		81	
NM5M ERIC 47 45 2,115 LOW RV3VR VIT 6 6 6 36 LOW KOINN TOM 47 44 2,068 LOW OE3GRJ JEFF 3 3 3 9 LOW K2MK MIKE 45 45 2,025 LOW JH1JNJ HIRO 3 3 3 9 LOW KC4WQ BUD 44 44 1,936 LOW G3SQU CHRIS 2 2 2 4 LOW N4MU BILL 45 43 1,935 LOW SJ6W STEN 2 2 2 4 LOW LZ1ZJ SLAV 46 39 1,794 LOW K7MSO MIKE 1 1 1 LOW LZ1ZJ SLAV 46 39 1,794 LOW K7MSO MIKE 1 1 1 LOW LZ1ZJ SLAV LOW LZ1ZJ LOW LZ1ZJ LOW LZ1ZJ LOW LZ1ZJ SLAV LOW LZ1ZJ LOW LZ1Z												
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W1UU PETER 155 130 20,150 QRP WA7LNW JACK 49 44 2,156 QRP N4FP WAYNE 132 114 15,048 QRP UA6AK VAL 48 43 2,064 QRP AG4EA BILL 92 90 8,280 QRP W7LG MIKE 31 31 961 QRP LY5G VITAS 97 68 6,596 QRP KR4AE ALAN 23 23 529 QRP YL3FW SERGE 85 65 5,525 QRP RW3AI VAL 11 10 110 QRP N6TVN CARL 70 67 4,690 QRP KA3TTT AUSTIN 10 10 100 QRP OK2NAJ JIRI 70 51 3,570 QRP N3CI DAVE 9 9 81 QRP W6GMT BROCK 60 57 3,4	Call	Name	QSOs.	Mults	Score	Power	Call	Name	QSQs	Multe	Score	Power
N4FP WAYNE 132 114 15,048 QRP UA6AK VAL 48 43 2,064 QRP AG4EA BILL 92 90 8,280 QRP W7LG MIKE 31 31 961 QRP LY5G VITAS 97 68 6,596 QRP KR4AE ALAN 23 23 529 QRP YL3FW SERGE 85 65 5,525 QRP RW3AI VAL 11 10 110 QRP N6TVN CARL 70 67 4,690 QRP KA3TTT AUSTIN 10 10 100 QRP OK2NAJ JIRI 70 51 3,570 QRP N3CI DAVE 9 9 81 QRP W6GMT BROCK 60 57 3,420 QRP W9SAU DAN 1 1 1 1 QRP												
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OK2NAJ JIRI 70 51 3,570 QRP N3CI DAVE 9 9 81 QRP W6GMT BROCK 60 57 3,420 QRP W9SAU DAN 1 1 1 QRP												
W6GMT BROCK 60 57 3,420 QRP W9SAU DAN 1 1 1 QRP												
WB5BKL NICK 54 49 2,646 QRP	W6GMT		60		3,420		W9SAU	DAN	1	1	1	QRP
	WB5BKL	NICK	54	49	2,646	QRP						



Session 3 Analysis:

For Region 1 High Power, Milen (LZ5R) once again came in first with final numbers of 506 QSOs, 340 Multipliers and a score of 172,040. Lacy (HA3NU) again came in second with a score of 136,944. Bud (AA3B) finished in first place again for Region 2 with a QSO count of 544, 393 Mults and a score of 213,792. Chas (K3MM) came in second place once more with a score of 212,005. Chas had 1 additional QSO, but down 4 in mults. A race to the finish! For Region 3, Allan (VK2GR) came in first with 35 QSOs, 35 Multipliers and a score of 1225. Moving on to Low Power, the Region 1 winner was Robert (SP1D) with a QSO total of 234 and a mult total of 176 resulting in a score of 41,184. Hen (OU2I) placed second with a score of 21,091. For Region 2 Don (N4ZZ) once again claimed first place with a QSO total of 373, a mult total of 299 and a score of 111,527 points. Second place went to Geo (WOUA) with a score of 93,024. In Region 3 Ikkan (JH4FUF) once again finished in first place with 9 QSOs and 9 Mults scoring 81 points. Moving on to the QRP class, the Region 1 winner was once again Vitas (LY5G) working 97 QSOs and 68 Multipliers for a total score of 6,596. Serge (YL3FW) finished second with a score of 5525. Region 2 first place once again was won by Peter (W1UU) with another impressive showing with a QSO total of 155 QSOs, 130 mults and a score of 20,150. Wayne (N4FP) came in second with a score of 15,048.

Team Scores:

The 2020 CW Open also delivered in the Team Entry statistics. Putting together a team to participate in the CW Opens is always a fun way to increase participation and friendly intra and inter team competition. This year we had 24 teams register. The team sizes ranged from only 2 members up to the maximum allowed of 10 members. Regions 1 and 2 participated in the team category. Region 3 also submitted a team, but they were not able to activate. Maybe next year. As you would expect, the team scores were WAY UP with the 2020 first place team score exceeding the 2019 first place team by over 2 million points. Here are the detail scores and team finishes:

	Session 1	Session 2	Session 3	Total		Session 1	Session 2	Session 3	Total
1. FRC To	eam Proficie	ncy			2. Deep Di	xie CC Tea	m Phoenix		
AA3B	215,940	201,300	213,792	631,032	K7RL	146,775	126,225	100,512	373,512
K3WW	205,770	186,354	212,005	604,129	K0RF	145,230	139,956	147,400	432,586
N3RD	134,976	120,950	135,420	391,346	N5ZO	177,112	146,010	146,109	469,231
W2GD	118,525	95,976	84,474	298,975	N4BP	97,226	143,902	151,360	392,488
K3WJV	114,114	97,989	95,568	307,671	K7SV	111,780	90,828	72,152	274,760
N3RS	106,312	120,736	130,310	357,358	KU8E	90,816	87,500	70,610	248,926
K3MD	73,424	76,328	63,687	213,439	WT9U	107,158	92,411	108,864	308,433
N3AD	59,823	88,603	99,246	247,672	W0UA	107,067	66,976	93,024	267,067
K2TW	99,428	86,240	78,166	263,834	W0UO	82,583	91,962	70,266	244,811
NW3Y	43,524	77,665	79,632	200,821	W4WF	76,053	114,076	108,832	298,961
	4 474 000	1 152 141	1,192,300	3,516,277		1,141,800	1,099,846	1,069,129	3,310,775
	1,171,030	1,102,141	.,,	-,,					
3 Deen F			, ,	•,• • •,• ·	4 Rande (n The Pur			
	Dixie CC Tea	m Firebird	, ,	, ,		On The Rur		154 560	470 498
N5EE	Dixie CC Tea 85,170	m Firebird 102,120	111,201	298,491	N4AF	157,842	158,096	154,560 62 244	470,498 186 238
N5EE N8BJQ	Dixie CC Tea 85,170 59,796	m Firebird 102,120 43,920	111,201 52,983	298,491 156,699	N4AF WA4PSC	157,842 54,540	158,096 69,454	62,244	186,238
N5EE N8BJQ W5TM	Dixie CC Tea 85,170 59,796 107,199	m Firebird 102,120 43,920 101,956	111,201 52,983 97,918	298,491 156,699 307,073	N4AF WA4PSC N4CW	157,842 54,540 74,104	158,096 69,454 43,056	62,244 73,292	186,238 190,452
N5EE N8BJQ W5TM N8AA	Dixie CC Tea 85,170 59,796 107,199 63,176	m Firebird 102,120 43,920 101,956 63,874	111,201 52,983 97,918 62,440	298,491 156,699 307,073 189,490	N4AF WA4PSC N4CW N4KW	157,842 54,540 74,104 16,244	158,096 69,454 43,056 10,088	62,244 73,292 0	186,238 190,452 26,332
N5EE N8BJQ W5TM N8AA AB0S	85,170 59,796 107,199 63,176 94,776	m Firebird 102,120 43,920 101,956 63,874 95,934	111,201 52,983 97,918	298,491 156,699 307,073 189,490 275,013	N4AF WA4PSC N4CW N4KW K4QPL	157,842 54,540 74,104 16,244 50,629	158,096 69,454 43,056 10,088 65,603	62,244 73,292 0 53,805	186,238 190,452 26,332 170,037
N5EE N8BJQ W5TM N8AA AB0S N4XL	Dixie CC Tea 85,170 59,796 107,199 63,176 94,776 63,140	m Firebird 102,120 43,920 101,956 63,874 95,934 45,770	111,201 52,983 97,918 62,440 84,303 900	298,491 156,699 307,073 189,490 275,013 109,810	N4AF WA4PSC N4CW N4KW	157,842 54,540 74,104 16,244 50,629 42,173	158,096 69,454 43,056 10,088 65,603 38,130	62,244 73,292 0 53,805 6,084	186,238 190,452 26,332 170,037 86,387
3. Deep C N5EE N8BJQ W5TM N8AA AB0S N4XL K0AV W1VE	85,170 59,796 107,199 63,176 94,776	m Firebird 102,120 43,920 101,956 63,874 95,934	111,201 52,983 97,918 62,440 84,303	298,491 156,699 307,073 189,490 275,013	N4AF WA4PSC N4CW N4KW K4QPL K2AV	157,842 54,540 74,104 16,244 50,629	158,096 69,454 43,056 10,088 65,603	62,244 73,292 0 53,805	186,238 190,452 26,332 170,037
N5EE N8BJQ W5TM N8AA AB0S N4XL K0AV W1VE	Dixie CC Tea 85,170 59,796 107,199 63,176 94,776 63,140 89,309	m Firebird 102,120 43,920 101,956 63,874 95,934 45,770 66,976	111,201 52,983 97,918 62,440 84,303 900 86,580	298,491 156,699 307,073 189,490 275,013 109,810 242,865	N4AF WA4PSC N4CW N4KW K4QPL K2AV K4OV	157,842 54,540 74,104 16,244 50,629 42,173 28,028 10,028	158,096 69,454 43,056 10,088 65,603 38,130 37,080	62,244 73,292 0 53,805 6,084 18,900 1,600	186,238 190,452 26,332 170,037 86,387 84,008 48,733
N5EE N8BJQ W5TM N8AA AB0S N4XL K0AV	95,796 107,199 63,176 94,776 63,140 89,309 95,565	m Firebird 102,120 43,920 101,956 63,874 95,934 45,770 66,976 50,907	111,201 52,983 97,918 62,440 84,303 900 86,580 0	298,491 156,699 307,073 189,490 275,013 109,810 242,865 146,472	N4AF WA4PSC N4CW N4KW K4QPL K2AV K4OV N4GU	157,842 54,540 74,104 16,244 50,629 42,173 28,028	158,096 69,454 43,056 10,088 65,603 38,130 37,080 37,105	62,244 73,292 0 53,805 6,084 18,900	186,238 190,452 26,332 170,037 86,387 84,008



	Session 1 S		Session 3	Total	;	Session 1	Session 2	Session 3	
	ps Europh				6. Potomac	Valley Ra	idio Club		
LB6GG	5,395	19,866	14,544	39,805	N4ZR	0	56,970	64,470	
RM2D	5,412	13,674	10,624	29,710	W2CDO	45,548	46,367	29,546	
DK9PY	64,584	59,082	103,776	227,442	WJ9B	73,321	47,368	62,790	
K0YVV	3,630	56,296	3,591	63,517					
HA3NU	92,736	76,692	136,944	306,372	AD5XI	16,320	12,096	1,596	
					N1RM	46,172	49,664	48,755	•
DL6KVA	3,942	27,750	0	31,692	N3QE	131,864	128,100	114,134	;
9A1AA	15,228	31,556	46,805	93,589	N3FZ	0	0	0	
LZ5R	120,888	103,970	172,040	396,898	KG3V	20,150	4,158	22,518	
2WIJ	70,744	56,430	103,416	230,590	K0ZR	83,781	81,469	79,500	2
M2G	20,480	35,910	61,204	117 <u>,594</u>	K3JT	46,899	37,701	31,200	
	403,039	481,226	652,944	1,537,209	10001	464,055	463,893	454,509	1,3
	m Compete	-			8. Deep Dix	kie CC Tea	m Delta		
W3KB	59,470	45,750	51,724	156,944	NN5O	56,070	69,689	51,045	1
NG3J	73,872	48,756	11,988	134,616	K4OAQ	68,796	52,136	56,808	
KE2D	76,440	81,757	79,442	237,639	K7TD	58,300	41,478	86,900	1
K3UL	45,568	34,569	68,735	148,872	AB5OR	0,300	41,470	00,900	
(3PP	41,452	48,312	3,844	93,608					
N3FV	64,680	55,638	66,348	186,666	K4AFE	45,504	26,245	29,045	1
					AC6ZM	42,846	52,920	32,375	1
K3CT	71,876	64,980	59,474	196,330	WT2P	43,945	0	27,984	
WA3AAN	41,830	37,736	40,500	120,066	KE8G	62,196	47,520	22,922	1
N2LCQ	0	7,128	2,397	9,525	K5XU	15,510	22,188	18,688	
K3HW	0	5,110	7,735	12,84 <u>5</u>	N4DW	74,640	52,796	37,100	1
	475,188	429,736	392,187	1,297,111		467,807	364,972	362,867	1,1
9. DFWCG	Team Tejax	v.			40 1/41161	Dadia Clu	. L		
NM5M	0	32,039	2,115	34,154	10. K1USN				
WA5LXS		960	4,026		N1DC	32,860	29,016	33,320	
	5,390			10,376	K1VUT	51,761	49,820	56,592	1
V80V	3,249	3,135	14,490	20,874	WS1L	33,901	42,222	30,590	1
W0TG	4,356	16,872	17,934	39,162	N1VH	13,161	13,034	17,589	
K5GA	625	10,272	0	10,897	K1RV	24,360	23,800	29,920	
N5RZ	27,566	113,436	142,120	283,122	K1DJ	30,340	42,966	41,268	1
KG5RXG	1,330	756	0	2,086	K1TH	4,554	3,074	4,550	
K5TR	104,220	109,344	127,437	341,001					,
W0VX	0	45,441	28,650	74,091	K1EBY	59,985	63,656	80,172	2
KT5V	0	0	20,030	0		250,922	267,588	294,001	8
X15V	146,736	332,255	336,772	815,763					
1. FRC Te V2MKM	eam Efficier 58,575	1Cy 0	0	58,575	12. Team U			40.050	
N2NC	58,590	40,068	59,296	157,954	GW2CWO	20,736	27,666	43,056	
					G3WRJ	1,505	2,530	5,292	
N2MM	0	0	86,450	86,450	G3XLG	0	8,772	12,928	
N2RC	51,129	0	20,216	71,345	G3TXF	48,165	64,390	100,188	2
AB2E	11,322	1,122	7,740	20,184	G3LDI	6,800	7,448	12,604	
(2CJ	13,250	8,550	12,390	34,190	G4PVM	0	8,181	5,135	
C2LSD	3,132	2,862	7,020	13,014	G4DRS	12,546	28,223		
N2NT	143,812	1,156	64	145,032				40,725	
				23,553	G4NVR	0	0	0	
W2AAB	10,088	2,809	10,656	,	F4VSM	8,200	25,926	59,296	
N2UU	53,382	35,581	28,611	117,574	G3YLA	1,800	2,914	4,864	
	403,280	92,148	232,443	727,871		99,752	176,050	284,088	5
I3. FRC To	am Master	v			44 0400	WC -			
		-	2.064	100 300	14. GMCC	-			
N8FJ	106,426	0	2,964	109,390	N0TA	86,132	67,320	73,373	2
NY3B	0	0	0	0	WC7S	0	0	0	
N3FIZ	10,767	10,800	8,084	29,651	K0FX	17,446	8,455	38,948	
	63,612	59,360	0	122,972	K7QA	87,544	54,441	68,769	2
K3TEJ	9,191	17,250	74,594	101,035	KOSN		0		
	9.191	,			KOON	0	U	U	
W3BES		39 825	45 888	109 297		404 400	400 040	404 000	_
W3BES K3SW	23,584	39,825 12,480	45,888 9.016	109,297 37 121		191,122	130,216	181,090	5
W3BES K3SW KB3Z	23,584 15,625	12,480	9,016	37,121		191,122	130,216	181,090	5
K3TEJ W3BES K3SW KB3Z K2RET	23,584					191,122	130,216	181,090	,



	Session 1	Session 2	Session 3	Total		Session 1 S			Tota
15. KCG						n Valley Coı			
(4FN	59,479	56,496	52,520	168,495	K4RUM	88,044	55,282	83,237	226,56
KE4KY	3,025	0	3,364	6,389	W2XL	39,104	24,716	14,514	78,33
K4FT	21,840	9,090	0	30,930	W2EG	<u>15,351</u>	0	0	15,35
KM4FO	11,160	19,964	15,732	46,856		142,499	79,998	97,751	320,24
N5MX	88,818	60,401	8,280	157,499					
KR4WI	15,048	2,448	0	17,496					
W4PF	0	4,154	289	4,443					
K4AVX	0	0	0	0					
ND4Y	0	0	0	0					
KC4WQ	2,025	2,500	1,936	6,461					
	201,395	155,053	82,121	438,569					
17. DFWC	CG Rememb	er the Alan	10		18. EU-Cw	ops Eurock	ets		
K5RT	0	0	0	0	PA3AAV	8,772	23,472	30,200	62,44
KG5U	0	0	0	0	EA3HSO	0	2,401	1,225	3,62
WP3C	0	0	0	0	Z32U	2,430	10,450	13,566	26,44
K5TU	0	0	0	0	SP2R	1,178	4,466	10,043	15,68
K1DW	0	0	0	0	HB9BJL	2,688	9,964	0	12,65
K5ME	0	15,180	24,167	39,347	SF1Z	0	0	13,668	13,66
K5CI	49,470	0	63,612	113,082	DL5DBY	8,217	8,686	18,871	35,77
K5GQ	7,872	625	2,703	11,200	SM0FPR	1,656	4,440	3,276	9,37
K5YZW	0	13,000	2,: 00	13,000	OU2I	858	16,303	21,091	38,25
K0NM	44,503	17,136	32.930	94,569	SQ9S	529	6,052	7,626	14,20
1.01.111	101,845	45,941	123,412	271,198	3405	26,328	86,234	119,566	232,12
10 PHP	Youth + Eln	nore			20 Toam -	Have fun fr	om Whiek	, One	
AA4LS	0	0	0	0	NN1RR	1.088	0111 VV 1113K)	0	1,08
KC1KUG	0	23,760	0	23,760	WA1BXY	0 1,000	35,114	9,025	44,13
W0AAE	27,225	31,133	12,840	71,198	WAIBAI	1,088	35,114	9,025	45,22
K1RX	27,825	0	12,040	27,825		1,000	33,114	9,023	45,22
KIIX	55,050	54,893	12,840	122,783					
21. CW-01	ps global Sv	veden team	1		22. Metro	Mavhem			
SD1A	868	9,265	1,292	11,425	W9ILY	324	17,024	5,621	22,969
SM0Y	812	2,438	0	3,250	N9TK	0	0	0,021	22,50
SE5L	1,702	4,608	702	7,012	W9OA	0	0	0	
OH1SIC	1,080	1.677	4.731	7,488	K9PY	0	0	0	
0111010	4,462	17,988	6,725	29,175	Nor 1	324	17,024	5,621	22,96
23. LAAR	ıK				24 Deen F	Dixie CC Tea	m Cotton		
KD2KW	6,935	4,615	11,074	22,624	AA5W	0	1,677	0	1,67
NA5W	121	4,013	11,074	316	K7JOE	0	0	0	1,07
INYONA					WB0SND	0	0	0	
	7,056	4,615	11,269	22,940		0	0		
					NS8O	0	0	0	(
						0	1,677	0	1,67

Team Analysis:

The top six 2020 teams all finished with a higher score than the 2019 winning team. The first place team this year was the 10 member FRC Team Proficiency. The certainly proved they were "Proficient" by turning in a VERY impressive 3,516,277 point total. The Deep Dixie CC Team Phoenix placed second this year with a score of 3,310,775 points, only 6% behind Team Proficiency. Third place went to another Deep Dixie team – Team Firebird, with a score of 2,049,572. In this time of Social Distancing, what a great way for people to "get together"!



Trophies and Plaques:

Below is a listing of the 2020 Trophy and Plaque winners. As in the past, should the same individual qualify for more than one award, the awards will be grouped on one Trophy or Plaque.

Trophies: High Score, each session, each ITU Region

Milen Dimov, LZ5R

Combined Scores, ITU Region 1 Winner

1290 QSOs, 913 Multipliers 396898 points

Session 1, ITU Region 1, Winner

414 QSOs 292 Multipliers 120888 points

Session 2, ITU Region 1, Winner

370 QSOs, 281 Multipliers 103970 points

Session 3, ITU Region 1, Winner

506 QSOs, 340 Multipliers 172040 points

Bud Trench, AA3B

Combined Scores, ITU Region 2 Winner

1684 QSOs 1125 Multipliers 631032 points

Session 1, ITU Region 2, Winner

590 QSOs 366 Multipliers 215940 points

Session 2, ITU Region 2 High Power Winner

550 QSOs 366 Multipliers 201300 points

Session 3, ITU Region 2 High Power Winner

544 QSOs 393 Multipliers 213792 points

Gavin Williams, ZL1BBW

Session 1, ITU Region 3 High Power Winner

56 QSOs 56 Multipliers 3136 points

Barry Simpson, VK2BJ

Session 2, ITU Region 3 High Power Winner

26 QSOs 26 Multipliers 676 points

Alan Mason, VK2GR

Session 3, ITU Region 3 High Power Winner

35 QSOs 35 Multipliers 1225 points



Plaques: High Score, All power levels (HP, LP, QRP), each session, each ITU Region

High Power -

Milen Dimov, LZ5R

Session 1, ITU Region 1, Winner

414 QSOs 292 Multipliers 120888 points

Session 2, ITU Region 1, Winner

370 QSOs, 281 Multipliers 103970 points

Session 3, ITU Region 1, Winner

506 QSOs, 340 Multipliers 172040 points

Bud Trench, AA3B

Session 1, ITU Region 2, Winner

590 QSOs 366 Multipliers 215940 points

Session 2, ITU Region 2 High Power Winner

550 QSOs 366 Multipliers 201300 points

Session 3, ITU Region 2 High Power Winner

544 QSOs 393 Multipliers 213792 points

Gavin Williams, ZL1BBW

Session 1, ITU Region 3, High Power Winner

56 QSOs 56 Multipliers 3136 points

Barry Simpson, VK2BJ

Session 2, ITU Region 3, High Power Winner

26 QSOs 26 Multipliers 676 points

Allan Mason, VK2GR

Session 3, ITU Region 3, High Power Winner

35 QSOs 35 Multipliers 1225 points

Low Power -

Joe Rutjes, DF5EG

Session 1, ITU Region 1, Low Power Winner

100 QSOs 86 Multipliers 8600 points

Hans Ostnell, LB6GG

Session 2, ITU Region 1, Low Power Winner

154 QSOs 129 Multipliers 19866 points



Robert Helminiak, SP1D

Session 3, ITU Region 1, Low Power Winner

234 QSOs, 176 Multipliers 41184 points

Don Binkley, N4ZZ

Session 1, ITU Region 2, Low Power Winner

416 QSOs 287 Multipliers 119392 points

Session 2, ITU Region 2, Low Power Winner

378 QSOs 295 Multipliers 111510 points

Session 3, ITU Region 2, Low Power Winner

373 QSOs 299 Multipliers 111527 points

Ikkan Sakamoto, JH4FUF

Session 2, ITU Region 3, Low Power Winner

2 QSOs 2 Multipliers 4 points **Session 3, ITU Region 3, Low Power Winner**

9 QSOs 9 Multipliers 81 points

QRP -

Vitas Krasnickas, LY5G

Session 1, ITU Region 1, QRP Winner

45 QSOs 36 Multipliers 1620 points

Session 2, ITU Region 1, QRP Winner

68 QSOs 54 Multipliers 3672 points

Session 3, ITU Region 1, QRP Winner

97 QSOs 68 Multipliers 6596 points

Paul Gagnon, N6MA

Session 1, ITU Region 2, QRP Winner

166 QSOs 123 Multipliers 20418 points

Peter Butler, W1UU

Session 2, ITU Region 2, QRP Winner

148 QSOs 120 Multipliers 17760 points

Session 3, ITU Region 2, QRP Winner

155 QSOs 130 Multipliers 20150 points

In summary: Congratulations to the winners of trophies and plaques in the 2020 CW Open. Thanks to EVERYONE that participated in the contest sessions to make them both fun, exciting



and record setting. Thank you also to Rob, K6RB, for log processing and checking; and to Lar (K7SV), Bert (F6HKA), Roger (G3LDI) and Barry (VK2BJ) for their assistance in their respective regions to spread the word about the 2020 CW Open. Hopefully the propagation will improve for next year and that will give us the opportunity for another record breaking CW Open in 2021. Until then, I will see you on the bands and in the weekly CWTs.

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Bruce, N1LN,	CW Open	Manager
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Giving Back Update

Rob Brownstein K6RB

CWops' Giving Back (GB) program is meant to provide on-air QSO experience and practice for anyone who wants it. It was initially intended as a way for our CW Academy students to get some -air experience. We all know that when there is activity on the bands, these days, it's usually a DXpedition pileup or a contest. Today's CW aspirants have had little chance to work others who are skilled at CW, operate at moderate speed, and are committed to helping. That's the mission of Giving Back.

The GB volunteers get on the air at approximately 7 PM local time and seek out CQers, or call CQ, and engage in routine QSOs including some conversational tidbits. Here is the current schedule:

	Giving Back Operating Schedule 7 PM Local Time 40 m											
	UTC+3	UTC+2	UTC+1	UTC/ BST	UTC-1	EDT	CDT	MDT	PDT	UTC-10		
Mon				GM0EU L		AF8A	K8UDH	NS6W	N6HCN	KH6LC		
Tues		SV2BBK	PG4I	GW2CW		WE5P		K7NJ	K6RB			
Wed				G0HKC	DF7TV	N4TMM	K5XU	KU7Y				
Thurs		SV2BBK		G2CWO					WU6X	AH6KO		
Fri		SV2BBK				VE3FXX			K6RB			
						W2LCQ						
Sat						VE3FXX	N8LR					
Sun						W8UA			K6RB			



Those interested in working these folks and practicing should look for them at around 7 PM in each time zone. They will usually send a "CWA" just before signing after a CQ. This identifies them as GB volunteers and lets others know these people are there to help. Here are the results of July's GB efforts:

Stations Worked

AF8A: WI1B, K0ZK

AH6KO: KF7Q, K6EE, W7UDH, KB1FGC, W6BOC, N7MOB/KH6, K2HZO, KE5C, K7SS, W0OJ, W6BRY, WU6X,

CO2QU, W5HWU

DF7TV: DK8ND, DL1ROT, EA3BUU, G4SZE, KY9KYO, M5JPG, SV1HDE, YO7NSP **G2CWO**: PA8ZB, OH2BFZ, SP1NQU, IW2OGY, DJ1DD, MM7RNF, 4O3RB, DM5WGL **GM0EUL**: SA5LOW, UR4MDD, UN7AB, EA5JAB, DK3GP, OM3TBG, IU3KGO, OE8FBF

GW2CWO: UY5BQ, DK1CWM, SM6CWP, DL8RBR, OK1DN, OM3TGK, RW4PAM, R2SW, YU5T, EA1JCE, RC3KA, HB9DAX, JA7MBT, DF9ZV/P, RV6AVU, YO8DOH, IK2ZJR, RA3BY, DL2AWA, DL1NKS, HA7MG, LA0CX, DL2JES, HA5OKE, OM8VL, YU1ZH, IK5DVT, DK3GP, OK1VK, YO5ODT, OM3TGK, YO2KSD, LY2BBF, DJ5IZ, UA1ALY, UR5FA, UA3AHI, ON4CLF, GM4PVM, US7WA, UA1AJ, PA5GU, DL4AN, DL1VJL, OH5YU, DL8NAC, OK1YR, OH2BFZ, ON5IT, UR5EOA, OK1CAS, IW1DNE

K6RB: N8AI, K5TR, K8MP, WA7A, K0AF, K7CHM, WA6MOW, K5CM, W1AO, K0QLM, AC2K, NX6BC

K7NJ: KN4TFR, N4DIQ, KL7IUI/E, W4EDE, WP4IZQ, N5NF, KK4GFR, W5WTH, KY9I, KC8JR, WA4JYX, K9CJM, KB7TBC, KJ7OTZ, KM9YWT, W4DWS, KD6GBY, W3UY, NE4J, KT7IM, N3BEV, N5WA, WA0QZK, KE6JAC,

KN4RBN, WA4PKL, AC0IU, K0VW **K8UDH**: WA4QWN, KG5IEE, W9JJE

KH6LC: K7ULM, NM6IF, KH6FHI, W7VGZ, NU6F, WB6DJI, K5OGX, KE5C

N4TMM: KA9PQB, NR8M, K2HYD

N6HCN: N5CW, K5DX, KC1KUG, K8NY, WA6OUW

PG4I: IKODMS SM7R IZ5PQT OK2UKQ I3PZI IK6PRN R1KA EA7EM EA1ASG

SV2BBK: DL6FAX, DH-MAX, RV6FQ, UA3QVC, G4LHI, UY5QR, I8PXT, OM3CAZ, DL1AH, DL8MCG

VE3FXX: AA4TFR, KA5JRX, K1MLP, WB4AQL, AB5X, W0DQ, VE2MFD, KC1BMD

W80V: N3YWQ, K9ETC, K4NAX, WX9U, K3DY, WA2PCN, W0/E74ZH **WE5P**: KP4Q, W1GF, W6GMT, W2CW, K2HZO, N7KM, KF5WJ, N4SNI

Call For Nominations

Don Greenbaum, N1DG

It's election season again and the nominating committee is getting ready for the big event in November.

In 2020 we shall be electing a President and the Directors from Asia and South America. Mac, NN4K, has decided not to run for another term so that position is open. Nodir, EY8MM, has also decided to pass on running for re-election. We thank both for their time and dedication to making CWops such a great and vibrant club.



Stew GW0ETF has indicated an interest for the post of President and Ken, JN1THL, has also expressed interest in the Asia directorship.

The slate so far is:

President: Stew, GW0ETF
Directors: Ken, JN1THL
Matt, CE2LR

Per our by-laws, during the Month of October nominations are solicited. The nominating committee hereby solicits anyone interested in the post of President, or the Asia and South America 3 year directorships. Please send an email to me at dongreenbaum@gmail.com by October 31st if you are interested in nominating someone or yourself.

Don, N1DG

Chair nominating committee CWops member #2

Upgrading A Linear Loaded 40 Meter Shorty Beam

Tom McGinley, K7QA

Almost every ham desires a good antenna for 40 meters. A full sized fully spaced 40 meter beam is a large scale serious undertaking for most. But a 2 element shorty is more manageable and a huge improvement over a dipole or vertical. Adding one to my skyhook arsenal has been on my wish-list for a long time.

I found and purchased a used HyGain DIS-72/DIR-73 (photo, right) on QTH.com in Kansas last year. After a long journey using 3 different ham buddies to get it to Billings, MT without paying any freight costs, I drove to Billings from Missoula to pick it up from my good friend and fellow broadcast engineer Dick Jones, W7JDX.

After a few months, we got it up on a 40-foot crank -up tower on loan from my local club with a 10 foot mast extension. It worked OK for only a few



(Continued on next page)



hours during the 2019 SS and then, Murphy jumped in with a 10:1 SWR mismatch. We later pulled it down and cleaned up all the connections on the aluminum linear loading wires and stainless hardware which are prone to oxidizing and becoming intermittent.

Upon reinstallation, it worked OK for another 6 months or so until Murphy paid a return visit. I could only get it to behave normally under higher power levels over 400 watts or so. Anything lower saw the dreaded 10:1 SWR mismatch again. Eventually, even high power encountered the same problem. K7ABV, Eric another avid fellow MT contester and CWOps member, had mentioned to me he had the same exact problem with his DIS-72, being able to only use high power for a year or so until the antenna finally said no more.

I decided to start looking for a better design solution and found the M2 40 meter beam upgrade loading coil kits that include all the necessary modification hardware, priced at \$240 per element. M2 has adapted these coil substitutes for the failure prone linear loading wires for several 40 meter shorty beams. They have field tested their own M2 40M2L/3L as well as the KLM 40M2/M3 and the Hygain 402BA/403, but not the DIS-72 as of yet.

I'm an M2 fan so I contacted them for more information in mid-March, just in time for the Covid-19 lockdowns. Robert told me the plant was essentially closed and there were no coil kits available. He had no idea when they would start back up and make new stock. Waiting for the M2 and investing another \$500 into this antenna was not all that appealing.

Being a do-it-yourself antenna enthusiast, I decided winding my own coils and fabricating the needed extra hardware would be a fun project to rehab my DIS-72. Determining the element lengths and suitable inductors for the coils would be a job for EZNEC, so I enlisted my antenna project and contesting cohort KOSN to





(Continued on next page)



start modeling a reasonable solution. Tom and I pounded away with many possible solutions and finally decided to use 15 turns of 3/16 inch copper tubing at 3 inches diameter and 5 $\frac{1}{2}$ inches long. M2 uses 3/16 copper-clad aluminum wire to minimize weight which was not easily obtainable.

eBay had almost all the materials needed for the project. I bought 50 feet of 3/16 Cu tubing for \$35 and cut it into four exact 12 ½ feet equal lengths. Winding the coils on a coffee thermos cylinder by hand was fairly easy. I also decided to protect them with black heat shrink using 3:1 polyolefin 1/2 inch tubing which was easy to thread on the straight pieces of 3/16 Cu tubing. Another eBay find getting 50 feet for only \$25 (photos, page 29).

I attached #10 Cu lugs from Home Depot onto the coil ends which fit very tight and then soldered them. The coils are placed directly over the existing HyGain black insulators about half way out



on each half element for both the driven and the reflector. We made sure those insulators were not cracked or defective. I used 10/32 SS hardware to secure them to the existing tubing clamps. M2 provides plastic coil covers and support forms in their kit to provide optimum protection from weather elements but since heavy icing almost never occurs in this area, we decided to go with just the heat shrink tubing.

The completed coils (above) each measured about 7.8 μ H with an LCR meter, but we found after actual testing that the EZNEC model wanted about 6.3 μ H as an inductive trap load. That value made the antenna resonate at 7030 kHz with optimal gain and F/B figures within the constraints of the short element lengths. We think the coils may act more like compact helixes, which could probably be more accurately modeled in EZNEC. We decided to just get it in the air and fine tune



as needed.

We finished the tuning using a total driven element half-length of 273 inches and 287 inches for the reflector half element. The existing DIS-72 elements do not extend that far, so I added 24-inch long 5/8 inch OD extenders with 7/8 by 5 inch outside sleeves to lengthen the existing 5/8 inch tubing sections. DX Engineering supplied those @ \$9.

EZNEC predicted maximum forward gain of 9.5 dBi and F/B of 17 dB at 7030 kHz with the 22 ½ foot boom at a height of 50 feet above average ground. Getting a good 1.1:1 match to the 50 ohm current balun and LMR-400 line required moving the hairpin shorting bar in to about 38 inches.

The other upgrade (photo, below) in this modification includes the addition of support trusses for each element. The Cu tubing coils and longer elements are a bit heavier than the original DIS-72 linear loaded design that did not use trusses. The M2 kit specified truss supports which seemed highly advisable considering the extra weight and stress on the existing HyGain boom to element clamps.

We used 2-foot sections of one inch by 1/8 aluminum angle mounted on 3 x2 inch aluminum flat



(Continued on next page)



plates along with aluminum window shade corner support blocks all secured by SS 10/32 hardware. These are bolted on top of each boom to element clamp. 1/8 inch Mastrand-M rope from DX Engineering was used for the truss supports, connected at the top of each aluminum angle bar with ¼ inch aluminum turnbuckles back to each half element about 3 feet beyond the coil. One inch SS pipe clamps and single metal loops with a smooth surface are attached and provide a suitable end connection for the rope. They are easily adjusted to achieve proper tensioning for the elements. All this additional hardware totaled about \$50.

While M2 originally inspired this project, I also gleaned valuable info from ON4UN's *Low Band DXing*, fifth edition. John discusses the improvements and advantages gained using hand wound high-Q coils instead of linear loading wires on an 80 meter beam. Many hams have assumed coil loading on beams is an efficiency killer and that linear loading was preferred to reduce losses. John argues that the use of low loss very high Q coils actually outperforms linear loading and is more durable. He also advises the use of heat shrink tubing on the coils for proper protection.

M2 claims only a 0.3 dB loss in the coils. We modeled this beam using full length elements without loading at the same spacing in EZNEC and computed only 0.5 dB more forward gain and a few dB LESS F/B but with a flatter SWR curve. Clearly the tradeoff in size versus performance is worth the use of coil loading.

This modified 2 element 40 meter shorty appears to be much more stable and works better than the original design for me in all respects. SWR



Tom, KOSN and Dick W7XT provided valuable assistance.

is lower and broader and forward gain and F/B play higher. We've witnessed the antenna tolerate 50-60 mph wind gusts without problems but do not yet know how well the coils will perform and hold up over time, especially under winter conditions. Nonetheless, if you have a linear loaded beam and even if it is still working, I highly recommend you consider this modification.

I am indebted to the expertise of CWops members Tom, KOSN for his invaluable assistance as well Dick, W7XT getting the tower up and down to enable the relatively easy modifications and testing. My DIS-72 also included the 3rd element DIR-73K option kit to make it a 3 element shorty on a 35-½ foot boom. I have yet to muster the courage to add my coil mod and director element mostly because I will need to install a heavier tower to make that happen. I do have a HG-52SS in storage. Maybe some day



The Mississippi QSO Party

Mal Keown, W5XX

Unlike major contests, State QSO Parties come and go depending on sponsors and interest. There was a Mississippi QSO Party in the 60's which I participated in regularly from Tennessee as K4RIN, but the QSO Party eventually disappeared. In order to put Mississippi back on the map (as well as Arkansas and Louisiana), I organized the ARRL Delta Division QSO Party in the 70's with the help of Delta Division Director W4WHN. This worked well for several years, but as I developed many other obligations, I saw the need to give the QSO Party Chairmanship to someone else.



Mal, W5XX

Time passes. I was wandering around in the Flea Market at Dayton in 2002 when K5MAT from New Mexico approached me. After swapping some war stories, Bill said one of his major interests was collecting wallpaper from State QSO Parties. At this point he only needed two states to complete his wallpaper collection... you guessed it – Mississippi and Oklahoma. He suggested I organize a four-hour QSO Party so he could get a certificate. After some head scratching, I agreed. Thus, the first resurrected Mississippi QSO Party (MSQP) was held in February 2003 on a weekend when there was minimum competition from other QSO parties/contests.

The results were somewhat discouraging. There was plenty of interest from outside of the State from county hunters and wallpaper collectors, but many people, who promised to be on the air in Mississippi, never made it. Only 37 logs were received. Obviously, some spade work needed to be done if the Mississippi QSO Party was to continue.

In looking at the situation a few things were obvious. Mississippi was not exactly a contest-oriented State. Further, no one in the State extensively operated mobile or portable other than myself. On the other hand, Mississippi has many counties that have no active Hams which makes it very interesting from outside the State.

After discussing this problem area with other long time QSO Party Chairmen at Dayton, I contacted out of state mobile operators NO5W, K4ZGB, W3DYA, and W4SIG, who all agreed to conduct a mobile operation during the upcoming 2004 MSQP. Further, I contacted N5FG, who was President of the Magnolia DX Association, and he agreed to strong arm the membership to support the QSO Party. This worked reasonably well. There were enough stations on from Mississippi to



have a creditable QSO Party. One station from New York made 175 QSOs while chasing the mobiles, and 80 of the 82 Mississippi Counties were on the air.

Time passes. In-state interest in the MSQP seemed to wane. In another development, I was "drafted" to be the <u>ARRL Section Manager</u> to complete another ham's two-year term (I'm still at it). As a result, my circle of acquaintances grew rapidly, and I found out there were many potential contesters, who were hidden in their shacks.

I cornered many of them during Hamfests and picnics, and "extracted" a face to face commitment to support the next MSQP. This has worked well over past years. Then 2020 came to town with Covid-19. The Governor issued a "Shelter in Place Declaration" meaning for the MSQP, no mobiles or portables. This was a MSQP participation disaster in the making.

What to do? There is a direct correlation between members of DX associations and contest clubs and those willing to conduct a BIC contest operation. Using the rolls of the DX associations in the State and everyone listed in contest results for the past few years, I made a list of hard-core/medium-core potential contesters in the State. I started telephoning two weeks before the 2020 MSQP weekend in April. This developed into a lot of interesting conversations mostly about positive and negative views on contests, DX exploits, and a few fears of being on the business end of a contest pile up. I noted that we didn't want Mississippi to look bad during the 2020 MSQP. I found many appreciated the call and were pleased that someone took an interest in them.

After some 25 phone calls, endless publicity on the Mississippi Section Phone Net and the Magnolia Section Phone Net, and several bulletins on the Section Manager's Remailer, the big day finally arrived. Activity was great. The activity was probably in part attributable to the fact that most people were in a "Shelter in Place" mode, the State QSO Party Challenge was in progress, and three other QSO Parties were being conducted during the same weekend all of which attracted a lot of outside the state participation. As a result, over a hundred Mississippi Stations were on the air, 27 of whom made major BIC efforts. Many first time Mississippi participants found out to their delight that they could run and hold a frequency, and their pre-contest fears were for naught. As a result, we may have some new budding contesters, and a few of these people showed up during the next weekends in the Georgia and Florida QSO Parties.

Despite the catastrophic impact of Covid-19 there is at least one positive spin-off. The Mississippi QSO Party looks like solid in-state participation will be with us for a few more years.

So, what to do if you are in a state that is not contest oriented and has a lack of contest operators? Phone calls work, but if you call somebody out of the blue and want them to get on the air the next weekend to put Podunk County on the air, they may quickly turn you off. In that year before the QSO Party you can't hide in your shack waiting for the next contest. You must get out among the troops at Hamfests and picnics, check into section phone and CW nets, and go to club meetings to pound the flesh. This will pay off when you start calling people a week before your QSO Party because they know you.

Between campaigning for QSO party participation, professionally handling the log checking, and providing the results and certificates, sponsoring a successful year-round QSO party requires a year-round effort.



The G4UZN QSL Card Collection

Jim Talens, N3JT

I recently reconnected with Tony, G4UZN, a former CWops member, and learned of his incredible efforts at collecting and preserving historic QSL cards. As he puts it, "They are history. They are the history of radio operating. And often with a bit of politics thrown in, and geography." I will let him tell the story.

I started collecting "other people's "cards about twenty years ago, when I passed a stamp dealer's shop in London and saw a few cards in the window for sale for a very nominal price. There were about a dozen of them, all British ones, from the 1920's, I'd never seen early cards before, and it started my interest in the history of operating; not equipment or anything technical, but how the hobby had developed – who the ops were, where they were, what they were doing there, the history of operating from different places).

Over the years, intermittently, I have built up a very big collection, initially through old-timers I met at radio dinners, etc., and ops I knew

With the Compliments

of

2. U. V.

IN ACKNOWLEDGEMENT OF

AN EXCHANGE OF

SIGNALS

W. E. F. CORSHAM,

104, HARLESDEN GARDENS,
HARLESDEN, N.W. 10.

Data 1922.

Bill Corsham G2UV is credited with introducing the first QSL card in Europe, in 1922

from over the air, and later through my occasional advert in *Radcom* (no great mass of replies from that one).

The cards all get thrown away. Nobody wants them. I mostly rescue them from the tip.

Most of you will have heard of Danny Weil, Don Miller, Gus Browning, the Colvins. And of W6AM. There have been some good books written about them, still available from the ARRL. Those names are the key-words for operating and DXing. But of course that is the tip of the iceberg.

There are very few collectors of old QSL cards around, although some of these, or their national societies, have put up some very good web sites. The cards are fascinating, and the people, and the events. If you are as old as me you will remember the post-WW2 operations from the American (and other) Forces in Europe and the Pacific. And the co-existent British and French Colonies (remember when Ghana was called the Gold Coast?)



Now, you do need interaction with other people to enjoy a hobby.

I have a big website – <u>G4UZN QSL Collection</u> – which attracts a fair number of hits.

I have a long-standing connection with Wolf Harranth, the curator of the Dokufunk, the Vienna archive and QSL collection, and have helped with many of their projects. I recently did a very large research exercise on TI9 Cocos Island, It has just gone live, and there is a lot of it!!

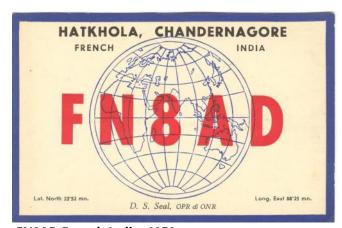
I help Alan 5B4AHJ with scans for Clublog whenever I can assist.

I send scans to Tom K8CX for Ham Gallery, the big American site, and F6AJA of the REF site.

And I run a group on <u>Groups.io – QSL Card Collectors group</u>. It has about 60 members including all the big guns of interest mentioned above.

I'm lucky, despite downsizing, to have the space to store the cards (pre-war and post-war about 15,000 or so). I do not keep common European, U.S.A. or Japan. No space and few have any interest.

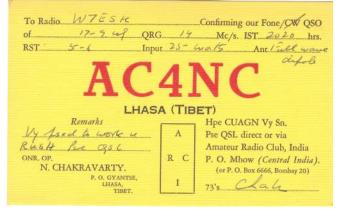
I am not planning a book or anything like that. I doubt if it would sell!!



FN8AD French India 1950



AA 2 1926, Buenos Aires

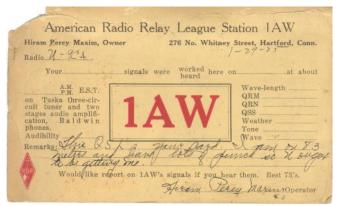


AC4NC Lhasa Tibet 1949



WNP Rawson-MacMillan Field Museum Expedition 1926

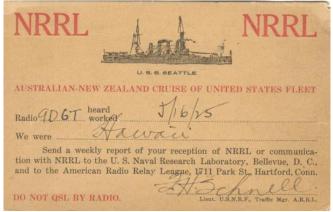




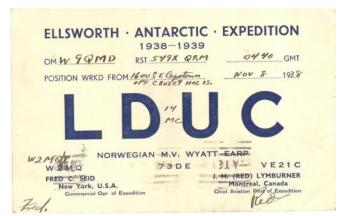
1AW Hiram Percy Maxim 1925



9ZN card is R.H. Matthews, joint founder of Zenith



F. H. SCHNELL 1MO 1925 Aboard U.S.S. Seattle at Hawaii



Ellsworth Antarctic Expedition 1938

CW Academy

Kate Hutton K6HTN Joe Fischer AA8TA Bob Carter WR7Q

Why do hundreds of students every year take a CW Academy class? Hopefully, it is to gain skills to make CW contacts on the air. Sometimes, getting a student to actually do that is harder than whatever assignments they had in their classes.

The Federal Communication Commission (FCC) in the United States used to offer a Novice license, and many other countries had something similar. This was relatively easy to obtain but



had many restrictions including being CW-only (but with some exceptions). This was many people's entry to amateur radio (in the U.S.) and they could be found in the "Novice" subband (around 7100 kHz) working other Novices, sending slowly and making a lot of mistakes. But it was OK since they all were just starting out and learning. Altruistic experienced operators would tune into that area and work the newcomers and help them build their skills. Eventually, the new hams would upgrade their licenses and feel confident enough to head into the lower frequencies to join contests, traffic handling, general conversations or whatever was there.

Many of the people who started out that way are members of our club and are advising in the CW Academy. Those concepts they experienced are long gone and many lament that there is no place for new CW operators to gather and feel "safe" with their just-starting skills. Much discussion about that has occurred and several experienced people felt motivated to actually do something about it. A few considerable efforts have been made to create hang-out areas where new CW operators can gather.

Rob, K6RB, created the Giving Back program which is discussed in every newsletter. This is not a contest and has no particular structure. Experienced CW ops call CQ and will work with anybody who answers. New operators who are learning are expected and no judgements about their abilities are made. A great way to break the ice and get some confidence that CW operating is not so hard.

A new effort is one offered by the K1USN club that is a simple contest-style exchange on Sunday evenings (North America time). The speeds are supposed to be kept to a maximum of 20 WPM and many experienced operators call at lower speeds than that. The exchange is simply enough, and fixed, so that a new CW operator should get the hang of it quickly.

Some other efforts have been made to coincide with the late Wednesday CWT session (0300, Thursday, UTC) where ops gather in the old "Novice" subband (7100 kHz) and limit their speeds. As with the K1USN event, this is designed with a simple exchange and the operators will match the speed of whoever calls. There are some other events that happen on other days and are promoted by an active Facebook group.

All of this shows that the mentoring spirit is alive and well and we have many advisors who are not formal CW Academy advisors. Anybody who hears a slower operator and slows down and helps them through a contact is doing a great service. Those of us who are advisors often hear an excited student tell the whole class about a few contacts they made in the previous few days. This goes a long way to motivate our students that what they are learning is fun and can actually be used.

73,

Kate K6HTN, Joe AA8TA, Bob WR7Q CW Academy Managers



CWops Tests

Rich Ferch, VE3KI

It's time for a reminder about the special slow-speed CWT sessions on November 11-12. This is the last set of under-20 wpm CWTs this year, to welcome the graduates from the latest round of CW Academy classes. Some of these folks may have been getting a taste of CWT action at the beginning of the 0300Z sessions using slower CW on frequencies just above 7100 kHz. Others have probably been getting the contesting bug from the K1USN slow-speed tests on Sunday evenings (0000-0100Z Mondays UTC. That should be a good source of new call signs for us to work in the CWTs.

As I am writing this, there has been some discussion on the CWops user group from people wanting to increase their QSO counts, hoping to reach various round-number thresholds such as 100 QSOs during a session. While not everyone is looking to the numbers as their primary objective, a numerical target (QSO count) is easy to measure and compare against over time.

The relevance to each operator of any particular numerical target depends on many factors, including, among others, location (proximity to a large pool of stations to work), station equipment (transmitter power and especially antennas – in a nutshell, how loud your signal is), propagation, operating strategy, and skill in executing that strategy. A QSO total that would be considered a flop by one person might seem beyond the reach of another. In my own case, a round number of 100 QSOs in a CWT falls squarely in the middle of my usual range.

If there is one strategy choice that for the most part separates my scores above 100 from those below, it is how much running (calling CQ) I do during the session. Once I find a frequency to CQ on, personally I hope for enough callers to keep my average QSO rate above 2 QSOs/minute. That is not very often a steady 2 QSOs every minute. More often it is something like 4 QSOs one minute, then no-one at all during the next minute. Anyway, if my average rate drops much below this, it's time to move on.

On the other hand, if I am not able to find and establish a run frequency and am forced to (or choose to) search & pounce instead of running, a total of 100 S&P QSOs in a CWT seems to be almost beyond my reach, even with the help of the automation features my logging program (N1MM+) offers.

Running demands more efficiency on the part of the operator than S&P. Computerization can play a big role here. Perhaps the biggest time-saver is having the computer send CW messages. Besides reducing the mental effort of sending a message using a bug or paddle to just a single keystroke per message, using computer-sent CW also speeds things up by avoiding errors and repeats. Machine-sent code may not have personality, but it's easier to copy and gets the job done more quickly. If QSO rate is what you are after, let the computer do the chore of sending your ritual exchanges.

Whether a strategy of running works out or not depends on other factors, of course. In particular, you need to be loud enough to attract callers and defend a frequency against intrusion by louder stations. Station improvements that make your signal louder pay off.

Other station automation helps too. Anything that makes the operator's job easier contributes to



efficiency, and in the long run to scores. I don't imagine those guys at the top of the scoreboard are making all those QSOs using straight keys, pencil and paper while operating on two bands at once – if they were, that would make their achievements even more amazing. Who's having more fun, the guy who is re-creating the thrill he felt starting out, or the guy who's feeling the rush of making four QSOs a minute for 60 minutes on end? Whatever floats your boat!

We do the CWTs because they're fun; let's all make sure they continue to be fun for everyone.

73,

Rich, VE3KI

New Members

Trung Nguyen W6TN

With great pleasure we welcome the following new members to CWops:

CWops	Call	Name
2688	W1GF*	Greg
2689	GM4WZG/GM4X	Bern
2690	NK4O*	AJ
2691	VA7DX	Neil
2692	WA6SVX*	Michael

CWops	Call	Name
2693	K9UCX*	Ken
2694	OZ1AAR	Villy
2695	K3ZA*	Tony
2696	VE7IO	Fred
2697	DJ4MX*	Sven

CWops	Call	Name
2698	US0YW/UR2Y	Val
2699	CT1ILT/CR6K*	Fil
2700	G4SMB	Michael
2701	K5UV*	Mike
2702	VE7JH*	Gabor

Current Nominees

As of October 8, 2020

Need Sponsors: W0CD, W0ECS, K8HU, W2DWL

Invitations Extended: YT5FD

For more details about nominees and up-to-date status, check the "Membership" then "Members only" page on the website: http://www.cwops.org. For information about joining CWops, check the "Membership" page on the website: http://www.cwops.org

Notes: If you have updated your personal info, e.g., new QTH, new callsign, or additional callsign, please send it to membership@cwops.org so I can add it to the roster. Vice versa, if your callsign becomes inactive I can remove it, too. Then the roster will be accurate and current for our usage.

73,

Trung W6TN, Membership Manager



^{*}Life Member

CWops Member Awards

Bill Gilliland W0TG

The Annual Competition Award (ACA) is based on the number of members worked each calendar year. You get one point per member worked, once per year. It resets to zero at the beginning of each year. The Cumulative Member Award (CMA) is based on how many members you've worked since January 3, 2010 on each band and continues to grow in perpetuity. <u>Use the new online tool to submit your data</u>. It's easy! (Watch the tutorial if you have not used the online tool before.)

This table is a composite of scores from the old system and the new. Anyone who submitted logs via the new web page will see those submitted scores here. Those who have not adopted the new process will see scores they reported via the old system. Anyone who see errors in their scores should report them to cwopscam@w0tg.com.

Members whose call signs are in **RED** have achieved a milestone: 100 DX entities, 40 WAE entities, 50 states (WAS).

Call	ACA	СМА
AA3B	1560	9968
K3WW	1422	7567
N5RZ	1342	4600
K3WJV	1286	5300
NA8V	1255	5752
W1RM	1248	6850
F6HKA	1172	6138
N8BJQ	1170	6490
WT9U	1136	4035
K4WW	1106	3083
K7QA	1094	3254
VE3KI	1083	5894
I2WIJ	1054	2260
K1VUT	1051	3344
N7US	1038	3987
W4PM	1038	2122
K3JT	1026	3588
KG9X	1026	3500
AC6ZM	996	1844
N4ZR	939	3122
K1ESE	924	4407
K8JQ	922	3829
K6NR	920	2151
DL6KVA	918	4193
K9WX	911	3307
AC3BU	904	2062
N1DC	898	3427

Call	DX
W1RM	208
F6HKA	191
DL6KVA	162
W4VQ	155
UR5MM	152
G4BUE	149
OH2BN	148
OK1RR	141
VE3KI	134
N8BJQ	126
K3WW	125
AA3B	125
K1ESE	120
9A1AA	119
W0VX	118
AC4CA	118
N5IR	116
N5PHT	113
W9ILY	111
EA8OM	111
K1SM	110
N1EN	109
4X6GP	106
VK7CW	105
N5RR	105
N2UU	104
K3WJV	104

Call	WAS
WT9U	50
WT2P	50
WA9LEY	50
WA4JUK	50
W9ILY	50
W7GF	50
W6KY	50
W4VQ	50
W1UU	50
W1RM	50
W0EJ	50
VK7CW	50
VE3KI	50
NU7Y	50
NA8V	50
NA6O	50
N8BJQ	50
N7US	50
N5RZ	50
N5RR	50
N5PHT	50
N5IR	50
N4ZR	50
N2UU	50
N2RC	50
N1EN	50
N1DC	50

Call	WAE
W1RM	59
UR5MM	58
DL6KVA	58
OH2BN	55
F6HKA	54
VE3KI	50
OK1RR	49
DJ1YFK	49
9A1AA	49
G4BUE	47
AA3B	47
N8BJQ	46
K3WW	46
G4HZV	46
PG4I	45
K3WJV	45
W4VQ	44
SM0HEV	44
NA8V	44
IK0YVV	44
W9ILY	43
K1ESE	43
I5EFO	43
4X6GP	43
N5RR	42
N2UU	42
M0RYB	42

Call	WAZ
UR5MM	39
W1RM	38
OK1RR	38
OH2BN	38
N8BJQ	38
F6HKA	38
AA3B	38
9A1AA	38
W4VQ	37
VE3KI	37
G4BUE	37
W0VX	36
N5PHT	36
K3WW	36
DL6KVA	36
AC4CA	36
N5RR	35
ON4CAS	34
N1EN	34
IK0YVV	34
4X6GP	34
W9ILY	33
VK7CW	33
NA8V	33
N5IR	33
K1ESE	33
K0VBU	33



Call	ACA	СМА	Call	DX	Call	WAS
W4WF	898	2355	W1UU	103	KY7M	50
NA4J	897	2035	NA8V	103	KU7Y	50
K1DW	896	3987	I5EFO	103	KE4S	50
KE8G	882	2648	N7US	101	K9WX	50
WA4JUK	876	2557	IK0YVV	101	K8JQ	50
K8AJS	869	3331	AE1T	101	K8AJS	50
K1DJ	868	3082	ON4CAS	99	K7QA	50
KO8SCA	859	1556	EA1WX	99	K6NR	50
WN7S	842	2281	K0VBU	98	K5IX	50
W0VX	833	4522	K8AJS	96	K5CM	50
N5PHT	829	4236	WA9LEY	95	K5AX	50
9A1AA	823	3260	WT9U	93	K4WW	50
W9ILY	822	4457	N5RZ	92	K4GM	50
KV8Q	810	1764	N4ZR	90	K3WW	50
KT5V	807	2384	K1DJ	90	K3WJV	50
N2UU	804	4378	K1DW	88	K3SEN	50
K2TW	789	2308	N2RC	87	K3JT	50
WT2P	786	3467	F6JOE	87	K2QB	50
K4TZ	754	1773	KY7M	86	K1ESE	50
WS1L	752	1343	KR3E	86	K1EBY	50
W6LAX	742	1248	DJ1YFK	86	K1DW	50
CO8NMN	735	1959	RM2D	85	K1DJ	50
NJ3K	729	1292	N7RD	85	K0VBU	50
N4FP	728	1351	K3JT	85	K0MP	50
NR3Z	721	1226	15IYJ	83	IK0YVV	50
W3WHK	700	2148	AD1C	83	I5EFO	50
VE3TM	698	1134	K4HQK	81	G4BUE	50
K0TC	672	2111	PG4I	80	F6JOE	50
VE3MV	671	2194	NA6O	80	F6HKA	50
W1UU	663	3227	K9WX	80	F5MNK	50
WA9LEY	644	2990	N1DC	79	EA8OM	50
KK0ECT	640	1275	K5AX	79	AE1T	50
DF7TV	636	913	DL8PG	79	AD1C	50
N5IR	613	3780	SM0HEV	77	AC4CA	50
K3SEN	603	2052	N1ZX	77	AB7MP	50
K4GM	600	2867	K4GM	77	AA8TA	50
W2NRA	599	1950	IT9VDQ	77	AA3B	50
IT9MUO	597	1924	WA4JUK	76	WN7S	49
K0VBU	595	4266	G3LDI	76	WB5BKL	49
K0MP	594	1709	WT2P	75	WA5LXS	49

Call	DX
W1UU	103
NA8V	103
I5EFO	103
N7US	101
IK0YVV	101
AE1T	101
ON4CAS	99
EA1WX	99
K0VBU	98
K8AJS	96
WA9LEY	95
WT9U	93
N5RZ	92
N4ZR	90
K1DJ	90
K1DW	88
N2RC	87
F6JOE	87
KY7M	86
KR3E	86
DJ1YFK	86
RM2D	85
N7RD	85
K3JT	85
I5IYJ	83
AD1C	83
K4HQK	81
PG4I	80
NA6O	80
K9WX	80
N1DC	79
K5AX	79
DL8PG	79
SM0HEV	77
N1ZX	77
K4GM	77
IT9VDQ	77
WA4JUK	76
G3LDI	76
WT2P	75

Call	WAS
KY7M	50
KU7Y	50
KE4S	50
K9WX	50
K8JQ	50
K8AJS	50
K7QA	50
K6NR	50
K5IX	50
K5CM	50
K5AX	50
K4WW	50
K4GM	50
K3WW	50
K3WJV	50
K3SEN	50
K3JT	50
K2QB	50
K1ESE	50
K1EBY	50
K1DW	50
K1DJ	50
K0VBU	50
K0MP	50
IK0YVV	50
I5EFO	50
G4BUE	50
F6JOE	50
F6HKA	50
F5MNK	50
EA8OM	50
AE1T	50
AD1C	50
AC4CA	50
AB7MP	50
AA8TA	50
AA3B	50
WN7S	49
WB5BKL	49
WA5LXS	10

Call	WAE
EA8OM	42
DL5DBY	42
AC4CA	42
N5IR	41
K1SM	41
HB9ARF	41
G3LDI	41
SM7IUN	40
RM2D	40
K8AJS	40
W0VX	39
N4ZR	39
N1EN	39
LA8OM	39
K1DJ	39
IT9MUO	39
I2WIJ	39
G4NVR	39
AE1T	39
MI0WWB	38
M0DHP	38
LB6GG	38
K3JT	38
IT9VDQ	38
DK1WI	38
DF7TV	38
SM5IMO	37
PA3BFH	37
OZ3SM	37
KR3E	37
K3MD	37
K1DW	37
G4ILW	37
F6JOE	37
W1UU	36
SQ9S	36
G4DRS	36
EA1WX	36
WA4JUK	35
PA3HEN	35

Call	WAZ
I5EFO	33
K1SM	32
I5IYJ	32
WA9LEY	31
RM2D	31
N7US	31
N5RZ	31
N2UU	31
W1UU	30
OK1RP	30
NA6O	30
N7RD	30
N2RC	30
KR3E	30
K8AJS	30
K3WJV	30
N4ZR	29
K3JT	29
IT9VDQ	29
WT9U	28
N5AW	28
KT5V	28
K1DW	28
DJ1YFK	28
K4GM	27
WT2P	26
N1ZX	26
KU7Y	26
K7QA	26
K5ZD	26
K5CM	26
K4HQK	26
K2QB	26
K1DJ	26
I2WIJ	26
WA4JUK	25
V31MA	25
LA8OM	25
KE8G	25
K9WX	25



Call	ACA	CMA
KB4DE	588	1127
LB6GG	582	1197
WA2USA	579	1129
WA5LXS	572	1366
KB8GAE	571	1314
AG4EA	567	1002
V80V	566	1517
KT4XN	566	1363
KE4S	558	2276
OZ3SM	557	1115
W0TG	556	1591
W8DN	554	1310
K5ZD	550	2306
AA8TA	534	1869
W2VM	528	1573
NN4K	522	2198
SM0HEV	521	1110
K6KM	520	896
KF8O	519	1001
KC8J	515	1038
W1EQ	514	897
W2CDO	501	706
N7RD	500	1437
M0RYB	494	1085
W4VQ	487	3075
N3FZ	486	1143
K2YR	461	702
K4AFE	456	1903
KC4WQ	454	694
W8FN	450	2055
HB9ARF	447	1736
SQ9S	445	847
K5QR	445	674
K1EBY	443	2370
W2XYZ	442	629
AA8R	438	965
W1AJT	438	562
OK1RR	437	2806
G4BUE	424	3816
NG1R	413	828

Call	DX
G4HZV	75
LA8OM	74
KE4S	74
HB9ARF	74
K2QB	73
IT9MUO	73
K7QA	72
I2WIJ	72
KE8G	71
K5ZD	71
DL5DBY	71
DK1WI	71
N5AW	70
K4WW	70
W2NRA	69
SM7IUN	69
N7WY	68
F5MNK	68
OZ3SM	67
N2WK	66
VE3MV	65
V31MA	65
OK1RP	65
M0RYB	65
KT5V	65
KG9X	65
K1EBY	65
G4NVR	65
W3WHK	64
SM5IMO	64
K3DMG	63
VA7ST	62
K1VUT	62
NA4J	61
K8JQ	61
K5CM	61
K3SEN	61
G4DRS	61
F5IYJ	61
DF7TV	61

Call	WAS
WA3GM	49
W4WF	49
W4PM	49
W4ER	49
W3WHK	49
W2NRA	49
W0VX	49
VE3MV	49
VA7ST	49
NN4K	49
NA4J	49
N7RD	49
N5AW	49
N2WK	49
N1ZX	49
KV8Q	49
KT5V	49
KM4FO	49
KK0ECT	49
KG9X	49
KE8G	49
KE4RG	49
K6RB	49
K6DGW	49
K4TZ	49
K4HR	49
K4AFE	49
K3MD	49
K2TW	49
K1VUT	49
K0TC	49
DL6KVA	49
AC6ZM	49
AC3BU	49
9A1AA	49
W8OV	48
W8FN	48
W8DN	48
W6LAX	48
W2VM	48

Call	WAE
ON4VT	35
ON4CAS	35
N7US	35
N5RZ	35
N1DC	35
K5ZD	35
K0VBU	35
IN3FHE	35
WT9U	34
SV2BBK	34
N5AW	34
K4HQK	34
K1VUT	34
IK0NOJ	34
G3WZD	34
EA5IUY	34
EA3FZT	34
DL4FDM	34
W4PM	33
W2NRA	33
K7QA	33
F5IYJ	33
DL4KG	33
SP1D	32
N2WK	32
N2RC	32
KY7M	32
K4GM	32
I5IYJ	32
F5MNK	32
EA4OR	32
DK3WW	32
CO8NMN	32
VK7CW	31
VE3MV	31
V31MA	31
OK1RP	31
N1ZX	31
KO8SCA	31
KE4S	31

Call	WAZ
IT9MUO	25
HB9ARF	25
DK1WI	25
SM0HEV	24
K4WW	24
DL4FDM	24
PG4I	23
NA4J	23
N1DC	23
K8JQ	23
K6NR	23
G4HZV	23
DF7TV	23
WE5P	22
N2WK	22
KO8SCA	22
KG9X	22
KE4S	22
K1EBY	22
G3LDI	22
W7GF	21
W4PM	21
SM7IUN	21
OZ3SM	21
K6DGW	21
K3SEN	21
G4DRS	21
W2NRA	20
W0TG	20
VA7ST	20
NN4K	20
JF2IWL	20
IN3FHE	20
F5IYJ	20
CO8NMN	20
AC3BU	20
AA8R	20
W4ER	19
W3WHK	19
VE3MV	19



Call	ACA	CMA
G3LDI	409	1681
SP1D	404	693
N4CWZ	403	611
KM4FO	401	1440
DJ1YFK	397	1887
G4NVR	388	1265
KJ4M	386	1176
K4EES	377	678
RM2D	375	1332
G4HZV	368	1269
N1RM	367	490
NU7Y	356	1450
SM7IUN	356	828
UR5MM	340	2920
PG4I	339	734
WA5PFJ	338	724
K8RJW	337	697
W6TN	331	958
G4DRS	324	955
VA7ST	322	2579
WE5P	322	917
NA6O	319	3352
W8XC	318	651
G3WZD	317	595
OH2BN	314	1311
AB7MP	313	1259
KE4RG	311	1142
DK3WW	311	491
EA5IUY	308	413
VE6JF	303	844
EA3FZT	301	461
KD2KW	294	413
AJ1DM	292	787
PA3BFH	286	477
W7GF	282	999
AA0O	282	375
W3RZ	278	478
4X6GP	274	1780
WT8P	267	510
WB5BKL	266	1285

0-11	DV
Call	DX
CO8NMN	61
W4PM	60
SQ9S	60
DL4FDM	60
ON4VT	59
KO8SCA	59
LB6GG	58
M0DHP	57
K4QS	57
W6KY	56
NN4K	56
K6RB	56
IN3FHE	56
WE5P	55
AC3BU	55
K2TW	52
IK0NOJ	52
G4ILW	52
AA8R	52
WN7S	51
KU7Y	51
K4AFE	51
K0TC	51
W2VM	50
W0TG	50
K4HR	50
W4WF	49
MI0WWB	48
W8DN	47
NR3Z	47
N3FZ	47
K6NR	47
DL4KG	47
SP1D	46
DK3WW	46
PA3BFH	45
KT4XN	45
G3WZD	45
G0MGM	45
W4ER	44

Call	WAS
W0TG	48
VE3TM	48
UR5MM	48
OK1RR	48
NJ3K	48
N7WY	48
KT4XN	48
KR3E	48
KO8SCA	48
KE6K	48
KC8J	48
KB8GAE	48
KB4DE	48
KA9BHD	48
K6KM	48
K5ZD	48
K4QS	48
K4HQK	48
K3DMG	48
K1SM	48
IT9VDQ	48
IT9MUO	48
I2WIJ	48
EA1WX	48
DL8PG	48
4X6GP	48
WT8P	47
WS1L	47
WA2USA	47
W8XC	47
W6TN	47
W2NO	47
VE10P	47
SM5IMO	47
ON4CAS	47
OH2BN	47
NR3Z	47
N4FP	47
LA8OM	47

Call	WAE
K5AX	31
K4WW	31
DL8PG	31
DD7CW	31
WA9LEY	30
W3WHK	30
NA6O	30
KG9X	30
KE8G	30
K1EBY	30
DL5JQ	30
PF5X	29
N7RD	29
N5PHT	29
K4QS	29
K2QB	29
G0ELZ	29
NN4K	28
K9WX	28
K3SEN	28
K2TW	28
AD1C	28
AC3BU	28
WT2P	27
W4WF	27
VA7ST	27
NA4J	27
MONGN	27
K8JQ	27
NR3Z	26
K3DMG	26
G0MGM	26
WN7S	25
VE3TM	25
PA0INA	25
NJ3K	25
G4LPP	25
W2VM	24
N1RM	24
K6RB	24

Call	WAZ
SQ9S	19
M0RYB	19
KB8GAE	19
K4HR	19
K0TC	19
G4NVR	19
WN7S	18
WB5BKL	18
WA3GM	18
W8FN	18
SP1D	18
ON4VT	18
NU7Y	18
M0DHP	18
LB6GG	18
KE6K	18
K6KM	18
K4AFE	18
K1VUT	18
IK0NOJ	18
DL4KG	18
W4WF	17
SM5IMO	17
KV8Q	17
KK0ECT	17
K2TW	17
K0MP	17
DK3WW	17
W8DN	16
W6TN	16
W2VM	16
VE3TM	16
NR3Z	16
N3FZ	16
KT4XN	16
DL5DBY	16
W8XC	15
W8OV	15
NJ3K	15
NG1R	15



Call	ACA	CMA
DL5JQ	266	381
N1EN	264	2444
DL5DBY	261	1123
N7SU	258	497
KE6K	244	946
PF5X	242	323
DD7CW	235	325
EA4OR	234	397
DL4KG	221	308
N7MU	219	536
MIOWWB	203	508
W6GMT	198	391
NF5KF	198	289
KI3F	197	308
KR4WI	197	255
PA3HEN	192	295
GD4EIP	184	199
M0DHP	181	515
K1IG	177	226
K9CPO	169	192
SV2BBK	166	351
AF4T	159	179
KA9BHD	157	755
KU7Y	154	1674
KG5VK	147	163
OK1RP	136	701
ON4VT	131	678
G4LPP	131	183
W8EH	130	149
M0NGN	117	138
AF3K	116	618
F5IYJ	108	683
EA1DP	104	131
DL1NKB	96	123
G0ELZ	94	206
K8MP	84	89
GW4MVA	82	95
DL8BH	81	115
PA0INA	68	86
SP2R	65	90

Call	DX
KB8GAE	44
EA3FZT	44
KV8Q	43
W8FN	42
SV2BBK	42
NJ3K	42
KK0ECT	42
WB5BKL	41
WA3GM	41
W8XC	41
PA3HEN	41
K3MD	41
PF5X	40
EA5IUY	40
DL5JQ	40
VE3TM	39
NG1R	39
DD7CW	39
WA5LXS	38
EA4OR	38
AA8TA	38
VO8W	37
N4FP	37
K6DGW	37
W0EJ	36
AC6ZM	36
W2NO	35
JF2IWL	35
MONGN	34
WS1L	33
KM4FO	33
KB4DE	33
G0ELZ	33
WA2USA	32
W7GF	32
VE10P	32
K5QR	32
AG4EA	31
NU7Y	29
KC8J	29

Call	WAS
KF8O	47
K4EES	47
I5IYJ	47
HB9ARF	47
DK1WI	47
CO8NMN	47
AG4EA	47
AA8R	47
WE5P	46
WA5PFJ	46
W1AJT	46
VE6JF	46
V31MA	46
RM2D	46
N7SU	46
N3FZ	46
N0PP	46
KC4WQ	46
K8RJW	46
K5QR	46
K2YR	46
JF2IWL	46
G3LDI	46
DL5DBY	46
AJ1DM	46
W2CDO	45
W1EQ	45
W0PHX	45
SM0HEV	45
OZ3SM	45
NG1R	45
N4CWZ	45
G4NVR	45
G4HZV	45
AF3K	45
AA0O	45
W3RZ	44
W2XYZ	44
PG4I	44

Call	WAE
DL1NKB	24
N4FP	23
N3FZ	23
K5QR	23
K5CM	23
EA1DP	23
AA8R	23
SP2R	22
NG1R	22
K6NR	22
DL8BH	22
AC6ZM	22
W8DN	21
KT5V	21
JF2IWL	21
GD4EIP	21
F5PBL	21
WA2USA	20
W2CDO	20
W0TG	20
K4HR	20
K4AFE	20
K0TC	20
WS1L	19
WE5P	19
KT4XN	19
GW4MVA	19
WB5BKL	18
WA3GM	18
W8XC	18
W6KY	18
W2NO	18
VE10P	18
KB8GAE	18
G4RCG	18
AG4EA	18
W8FN	17
W2XYZ	17
W1EQ	17
PA0VLD	17

Call	WAZ
N4FP	15
MI0WWB	15
KM4FO	15
KE4RG	15
KC8J	15
KB4DE	15
G4ILW	15
G3WZD	15
AJ1DM	15
AC6ZM	15
AB7MP	15
WA5LXS	14
WA2USA	14
W2NO	14
VE6JF	14
PF5X	14
N7MU	14
N0PP	14
KJ4M	14
K5QR	14
EA3FZT	14
AG4EA	14
AA8TA	14
W3RZ	13
SV2BBK	13
PA3BFH	13
KF8O	13
K4TZ	13
K4EES	13
WS1L	12
WA5PFJ	12
W6LAX	12
KA9BHD	12
K2YR	12
DD7CW	12
W2XYZ	11
W1EQ	11
W0PHX	11
M0NGN	11

(Continued on next page)

KC4WQ



ON4VT

44

Call	ACA	CMA	
G4ILW	59	693	
LA8OM	54	1370	
I5EFO	52	1447	
ON4CAS	39	1131	
OK4MM	37	40	
K4NE	29	77	
КМЗА	28	33	
VK7CW	20	1809	
PA0VLD	20	37	
DD5KG	17	18	
AC4CA	0	4479	
N5RR	0	4223	
K6RB	0	4032	
K5AX	0	3634	
N2RC	0	3271	
KY7M	0	3252	
AE1T	0	3206	
F6JOE	0	3002	
IK0YVV	0	2958	
K5CM	0	2866	
EA8OM	0	2758	
K1SM	0	2566	
N5AW	0	2510	
N2WK	0	2339	
N7WY	0	2303	
K4HQK	0	2193	
K6DGW	0	2122	
AD1C	0	2101	
W6KY	0	2088	
K4QS	0	2069	
K2QB	0	2023	
EA1WX	0	1961	
DL8PG	0	1789	
K3DMG	0	1773	
K3MD	0	1734	
K4HR	0	1698	
IT9VDQ	0	1618	
KR3E	0	1602	
V31MA	0	1520	
SM5IMO	0	1382	

Call	DX	Call	WAS
K4TZ	29	N7MU	44
AJ1DM	29	KD2KW	44
W6TN	28	G4DRS	44
KF8O	28	F5IYJ	44
KA9BHD	28	DF7TV	44
K6KM	28	SM7IUN	43
G4LPP	28	N5KW	43
EA1DP	28	N1RM	43
DL1NKB	28	KI3F	43
W3RZ	27	DJ1YFK	43
KE6K	27	W6GMT	42
KE4RG	27	N7ID	42
DL8BH	27	SQ9S	41
PA0INA	26	M0RYB	41
N1RM	26	LB6GG	41
N0PP	26	DL4FDM	41
K8RJW	26	NA1VT	40
K0MP	26	KR4WI	40
GD4EIP	26	SP1D	39
F5PBL	26	K1IG	39
WA5PFJ	24	IN3FHE	39
W2XYZ	24	G3WZD	39
W1EQ	24	W4MDV	38
K5IX	24	K9CPO	38
AB7MP	24	AF4T	38
W2CDO	23	W9KM	37
SP2R	23	NF5KF	37
K2YR	23	KB8PGW	37
W6LAX	22	IK0NOJ	37
NF5KF	22	DK3WW	36
G4RCG	22	OK1RP	35
K4EES	21	MI0WWB	35
GW4MVA	21	GD4EIP	35
KJ4M	20	G0MGM	35
AF3K	19	W8EH	34
W1AJT	18	M0DHP	34
VE6JF	18	PF5X	33
KI3F	18	KG5VK	33
KC4WQ	18	DL4KG	32
W0PHX	17	EA3FZT	31

Call	WAS
N7MU	44
KD2KW	44
G4DRS	44
F5IYJ	44
DF7TV	44
SM7IUN	43
N5KW	43
N1RM	43
KI3F	43
DJ1YFK	43
W6GMT	42
N7ID	42
SQ9S	41
M0RYB	41
LB6GG	41
DL4FDM	41
NA1VT	40
KR4WI	40
SP1D	39
K1IG	39
IN3FHE	39
G3WZD	39
W4MDV	38
K9CPO	38
AF4T	38
W9KM	37
NF5KF	37
KB8PGW	37
IK0NOJ	37
DK3WW	36
OK1RP	35
MI0WWB	35
GD4EIP	35
G0MGM	35
W8EH	34
M0DHP	34
PF5X	33
KG5VK	33
DL4KG	32
$\Gamma \Lambda \Omega \Gamma \overline{J} T$	24

Call	WAE
KV8Q	17
KB4DE	17
W4ER	16
K8RJW	16
W1AJT	15
KU7Y	15
KF8O	15
WA5PFJ	14
W8OV	14
AJ1DM	14
AA8TA	14
K2YR	13
K0MP	13
WA5LXS	12
KK0ECT	12
KI3F	12
KE4RG	12
KC8J	12
K6DGW	12
KM4FO	11
KA9BHD	11
K4TZ	11
W3RZ	10
W0EJ	10
NF5KF	10
NA1VT	10
N5KW	10
K9CPO	10
KJ4M	9
AF4T	9
W6TN	8
W6LAX	8
SM7CIL	8
N0PP	8
KD2KW	8
K6KM	8
K5IX	8
K1IG	8
KG5VK	7
K4EES	7

Call	WAZ
K8RJW	11
EA5IUY	11
EA4OR	11
AF3K	11
N7SU	10
KI3F	10
K1OJ	10
K1IG	10
GD4EIP	10
G0ELZ	10
DL8BH	10
DL5JQ	10
WT8P	9
W6GMT	9
W2CDO	9
PA3HEN	9
N7ID	9
N1RM	9
KG5VK	9
G4LPP	9
F5PBL	9
DL1NKB	9
WX5CW	8
W4MDV	8
W1AJT	8
NA1VT	8
KD2KW	8
G4RCG	8
EA1DP	8
AF4T	8
AA0O	8
SP2R	7
SM7CIL	7
OK4MM	7
N5KW	7
K9CPO	7
GW4MVA	7
PA0INA	6
N4CWZ	6
KR4WI	6



	•	343 p480				
Call	ACA	CMA	Call	DX	Call	WAS
N1ZX	0	1348	PA0VLD	17	G4ILW	30
N4ER	0	1311	N7MU	16	EA4OR	30
NA3GM	0	1230	K1IG	16	PA3BFH	29
5MNK	0	1111	NA1VT	14	K8MP	29
V2NO	0	961	N5KW	14	G4RCG	28
OK1WI	0	908	AF4T	14	K4NE	27
(5IX	0	892	K9CPO	13	EA5IUY	27
5IYJ	0	837	KD2KW	12	DL5JQ	27
N3FHE	0	769	AA0O	12	SV2BBK	23
/E10P	0	768	SM7CIL	11	DD7CW	23
W0EJ	0	754	KG5VK	11	AF9W	23
JF2IWL	0	674	K1OJ	11	G0ELZ	21
DL4FDM	0	646	WX5CW	10	WX5CW	20
15KW	0	639	W6GMT	10	PA3HEN	19
NOPP	0	550	OK4MM	10	G4LPP	19
30MGM	0	495	N7SU	10	MONGN	18
V0PHX	0	426	N7ID	9	KM3A	17
K0NOJ	0	366	WT8P	8	DL1NKB	14
N7ID	0	311	W4MDV	8	SM7CIL	13
NA1VT	0	306	N4CWZ	7	OK4MM	13
KB8PGW	0	284	KR4WI	6	GW4MVA	13
W9KM	0	236	KB8PGW	5	F5PBL	13
W4MDV	0	225	W9KM	4	EA1DP	13
F5PBL	0	134	DD5KG	4	DL8BH	11
G4RCG	0	131	W8EH	3	DD5KG	10
AF9W	0	59	K4NE	3	SP2R	3
WX5CW	0	49	KM3A	2	PA0INA	3
SM7CIL	0	35	K8MP	2	K1OJ	3
K1OJ	0	29	AF9W	2	PA0VLD	2

New to Member Awards?

<u>Use the new online tool to submit your data</u>. It's easy! (Watch the tutorial if you have not used the online tool before.)



QTX Report

Enjoying the Art of Conversational CW

Bruce Murdock K8UDH

I've received several comments recently from QTXers about Marathon QSOs, which are CW QSO of more than 60 minutes in length. Wow, more than an hour long!!! Now that's a real conversational QSO, Hi Hi.

When I first heard about these really long QSOs I had the impression that they would have to be extremely rare. But that's not really the case. They're unusual to be sure, but not extremely rare. In fact, several CWops ragchewers enjoy long QSOs and are working to earn the coveted Marathon QSO Award. Often times these folks have to search for other ragchewers who are willing to have a conversational hour-long CW QSO. That's what happened to me. In the QTX comment section below I reported that I had three such QSOs with N5IR, K5KV, and W2OZB. They asked me and we scheduled it. They were great fun. So now I'm hooked and I'm working on my own Marathon Award. It normally takes quite a while to garner the required 100 hour-long QSOs. We'll see how it goes.

Marathon QSOs are just one more way to enjoy CW. They're not for everyone and that's OK. CW is not for everyone and that's OK too. Whatever way we choose to use CW is also OK. It's all good.

Let's take a look at the comments and reports from our group of ragchewers.

Comments from QTX submissions

K6DGW: Post K1USN SST was the source of 2 of the 3 QTX.

WS1L: I enjoyed a couple of chats with K4EWG, particularly talking about restoring old radios. One of those was the longest of the month, at 43 minutes although AA4MC was close second at 42 minutes.

W9EBE: My longest QSO this month was with our very own CWops member #2020: Phil/W2OZB. We chewed the rag for 1 hour and 9 minutes. Thanks for the great QSO, OM! 73 to all my fellow September QTX & MQTX QSO ops. ~ ZUT~

AA5AD: Nice to chat with Gary N5PHT on 40 m again, longest contact was a 31 minute rag chew with Randy N1SP up in VT. Not much time to operate this month because of being deployed for disaster relief work in down in Louisiana, hope to bring up the total as the bands open up in October!

KCOVKN: Lowband condx are improving and had some really great ragchews this month.

W3PNM: Busy month with not much time on the radio. October looks more promis-



ing. Another granddaughter due 10/8!

G3WZD: Not a lot of activity this month; too many distractions! Hopefully, October will be better.. 73, Duncan

F5IYJ: At times where new restrictions are in place to limit COVID-19 spreading, staying at the station and rag chewing with friends on the air is a good option to stay healthy.

N8AI: Computer crash forced me to change from Aether Log to 73 Ham Log on my new 13" iPad Pro. Having trouble recovering old log from ADIF, but iPad is beautiful. Best QTX of the month was 59 minutes John WA8YWG from my home state of Ohio.

N6HCN: Fine QTX with Scott KC9YI, Mike WA6OUW, and Gary AB0BM. Dave, W3WKP in Reading, PA, was running his remote station near the Appalachian Trail, and Wilson KG5TRV had just finished brewing a batch of stout beer.

KB6NU: Sorry about the delay this month. I'm not sure what to credit for my higher score this month. Maybe guys were just feeling more talkative than usual.:)

AJ1DM: Condx haven't been great lately, but the rag-chews are still fun. 73

WA2USA: I had an interesting Q with an op who's entire station was homebrewed. His RX and TX and 2 el 40 meter Yagi 4 feet off the ground were all homebrewed. Yep, 4 ft off the ground. Not too shabby.

K8UDH: This month I enjoyed three Marathon QSOs over 60 minutes long with Bill N5IR, Benny K5KV, and Phil W2OZB. Great fun.

Awards and Medals for 2020

Medals for 2020 are awarded for three different levels in QTX:

Gold - 400 QTX QSOs

Silver Medal – 300 QTX QSOs

Bronze – 200 QTX QSOs

The Gold Medals earned through September 30th are Art (K8CIT) with 1136 QTX QSOs, Joe (KC0VKN) with 629 QSOs, and Bill (N5IR) with 593 QSOs. Gary (N5PHT) with 388 QSOs, Tom (DL5DBY) with 358 QSOs, Chris (N8AI) with 351 QSOs, and Chip (W9EBE) with 350 QSOs have qualified for Silver Medals. Our Bronze Medal earners are John (K1ESE) with 297 QSOs, Chuck (WS1L) with 250 QSOs, and Dan (KB6NU) with 210 QSOs.



QTX for September 2020

Call	QTX
K8CIT	131
N5IR	88
F5IYJ	57
KC0VKN	55
K1ESE	52
WS1I	36

Call	QTX
KB6NU	27
N8AI	27
K5YQF	25
W9EBE	22
K4AHO	15
N6HCN	13

Call	QTX
N5PHT	10
AJ1DM	9
K8UDH	9
KG5IEE	8
AA5AD	7
WA2USA	5

Call	QTX
K6DGW	3
W3PNM	2
W3WHK	2

MQTX for September 2020

Call	MQTX
SV2BBK	34
W9EBE	29
N8AI	26
K1ESE	16
KG5IEE	14

Call	матх
AA5AD	13
K8CIT	11
WS1L	10
K4AHO	7
K6DGW	3

Call	MQTX
N6HCN	3
W2USA	3
W3PNM	3
G3WZD	2
K5YQF	1

Call	MQTX
K8UDH	1
N5PHT	1
W3WHK	1

QTX for 2020

Call	QTX
K8CIT	1136
KC0VKN	629
N5IR	593
N5PHT	388
DL5DBY	358
N8AI	351
W9EBE	350
K1ESE	297
WS1L	250

Call	QTX
KB6NU	210
K5YQF	196
F5IYJ	160
N6HCN	140
K4AHO	133
K2KRG	111
AJ1DM	91
K8UDH	68
KG5IEE	51

Call	QTX
AG4EA	50
AA5AD	49
W3PNM	45
SV2BBK	25
W3WHK	24
WB6TOU	23
IK0IXI	22
EW6BS	15
WA2USA	9

Call	QTX
K6DGW	9
N5LB	9
W5LA	5
AB7MP	4
G3WZD	3
KU7Y	3
KR4TH	1

MQTX for 2020

Call	MQTX
DL5DBY	684
N8AI	464
W9EBE	269
SV2BBK	218
WS1L	168
K2KRG	134
N5PHT	123
K8CIT	107

Call	MQTX
AA5AD	106
K1ESE	100
KG5IEE	67
K4AHO	61
N6HCN	57
G3WZD	54
K5YQF	48
MI0WWB	47

Call	MQTX
W3PNM	29
K6DGW	26
K8UDH	23
AG4EA	22
AJ1DM	17
W3WHK	13
WB6TOU	11
AB7MP	9

Call	MQTX
KU7Y	5
W5LA	5
W2USA	3
N5LB	3
KR4TH	1



Stay healthy and have fun with CW.

73,

Bruce K8UDH, QTX Manager

My Story: New Member Biographies

Sven Lovric, DJ4MX

At first, I would like to thank Philipp (DK6SP) for nominating me, and that I got so many sponsors after only some hours. And as well big thanks to DL6KVA, WT9U, K1VUT, PA3AAV, WT8P and G3WZD for being my sponsors.

I was born in May 2002 and I'm now 18 years old. I have been almost my entire life in contact with amateur radio, because my father (DJ2MX) is also a ham. At first, I didn't really know what he was



doing all the time in front of the radio and I found it funny when he was doing CW, because I only heard that "strange" sounds.

In 2015 my dad requested a training-callsign (DN5MX) for the "training contest" by DARC, and he asked me if I would like to operate a bit and make my fist QSOs. I was a bit scared at first and didn't wanted to talk into the microphone, but after some practice it was really fun and I couldn't get enough of it. I operated with DN5MX mostly contests in SSB and RTTY, and in May 2017 I passed the exam for the novice class, and got my callsign DO4MX, some months later in September 2017 I upgraded to the "full" license and got my callsign DJ4MX.

Since then I operated almost only SSB und occasionally some RTTY in contests. But my dad always told me that I have to learn CW to have the most fun in amateur radio. So, I started to practice with LCWO in 2019 but after some weeks I had lost the motivation and stopped again, but my CW was good/bad enough to give "dj4mx" and "5nn tu" and so I made my first CW QSO´s. But during my free time in the lockdown I practiced a lot with LCWO and Morse Runner and im-



proved a lot. At the moment I really enjoy CW contesting, and especially the weekly CWTs.

Since March 2019 I also hold a Croatian Callsign, at first 9A5AAX and since March 2020 9A5MX. You will most likely hear me operating remote from the 9A1TT station in Contests. I'm also a member of the Bavarian Contest Club, and in the past, I was mostly QRV in Contests as DJ4MX in single op entries or as DP4X together with my dad in multi op entries, and from our club station DK0EE.

Apart from contesting I enjoy chasing DXCCs, activating and chasing SOTA summits and when we are on holiday in Croatia activating Islands for the IOTA and IOCA program.

I finished school in May this year and now I start to study electrical engineering at the Munich University of Applied Sciences in October this year. I hope I still have as much time for the radio in the next few years during my study as the last few months, and I get to operate the weekly CWTs in the future.

Thanks again and hope to cu on the bands, in or outside a contest.

Halvor J. Østtveit, LA1IO

Hello CWops members!

Thank you for letting me in to your exclusive club.

First of all I wish to thank my CW Academy advisor Keith, G0HKC and his co-advisor Kit, G0JPS for their fine and enjoying Academy lessons. And also the fellow students in the class. We had a great time in all the 16 Zoom-meetings!

My launch to the earth happened in 1951 and I got my license in 1970. CW has always been my favorite mode.

I am not so much into DX-chasing and contesting, I like more making real QSOs with leisure chatting. Nevertheless, I am the proud taker of the Worked All Continents Award!

Now in my retirement-days I find increasing CWspeed a fine way to keep Mr. Alzheimer away, and enjoy my time a lot making CW QSOs and train my brain for always better reading and sending. I use a lot of hours just listening. The CWA resources are



a tremendous asset for increasing proficiency. I use the Daily Morse Code «Scales» and Pangrams every day at a speed a little higher than my comfort speed, and I am getting slowly better



and better managing accuracy and high speed skills. As a famous Jazz musician said when asked what one should do to get so good: "Practice man, practice!"

I love my Begali keys; I mainly use a Begali Signature Edition. I also have a Begali Stradivarius, which is being used on Sundays and feast days.

The photo shows my radio shack as of September 2020.

In my professional life I retired in 2015 after 40 years from work as a church-organist and choir director.

My best 73s to all. Stay safe, practice and get on the air!

Filipe Lopes, CT1ILT, F4VPX, CR6K, CR5E

First of all I would like to thank my nomination to Mats Strandberg RM2D and also to the sponsors, in which a few minutes validated my nomination, Lada Prajsner, OK2PAY, Zoran Grozdanovski, Z32U and Jim Walter, WT9U.

CW has been in my guts since before I was an amateur radio (2002). I will share this story with you so you know how much I love CW.

When I was just a young boy, our family used to live in my grandmother's house, and the radio shack was located just outside the house in a small house which my father CT1CJJ transformed into a shack. Basically, my father did not want me to touch the radio stuff, especially his CW paddle, to focus on studies and kid's stuff, but unfortunately when you say NO to a child it tends to do the opposite! My father is left handed and I am right handed, and for him not to know I have touched the CW paddle (which is a Bencher) I learnt to send CW with the left hand, so every time he got home



from work he did not know I have been making CW QSOs with his callsign (luckily there was no CW skimmer at the time). I should have been around 13 or 14 years old. Unfortunately in Portugal at the time one could only take the Ham Radio exam at the age of 16, so my gift, for my birthday in 2002, was to go to ANACOM and pass my Ham Radio exam and CW was still obligatory and a few weeks later I got my call CT1ILT.

Since then I participate on every major contest from our contest station in Portugal as CR6K or CR5E, I was team leader of the very first Portuguese Team to participate in a WRTC (2014) and I have operated, mostly CW contests from K1LZ, 6Y1V, VP5X, TI5W.



Living and working now in France I operate on a daily basis via remote, but I am also very much into hiking and SOTA activations (my call in France F4VPX).

Fred Orsetti VE7IO

First thanks to Keith, VE7KW, for nominating me to CWops I am very grateful for his support. As well, my sincere thanks to those who sponsored my nomination making my membership a reality.

I was first licenced as VE7CJG in 1975 and operated for one year on CW only as was required in those days. In 1976 I wrote my advanced exam and passed which allowed me to use phone but I still found CW was my favorite mode. My first setup was a Viking Ranger transmitter a Hallicraft-



ers SX 115 receiver and a 20 m dipole. My first contact on CW was with WN7YGO, Chuck, a retired railroad telegrapher and his code was so good that, as a newly licenced ham, it gave me confidence. After a year or so I assembled a Heathkit HW 101 transceiver and thought this was the greatest improvement.

From 1976 to 1980 I mainly worked DX and participated in local traffic nets but then my responsibilities as manager in the newspapers changed resulting in my work days becoming much longer. I had to put ham radio to the side for a while. In 1990 I received my two letter call VE7IO and in 1994 I took early retirement allowing me to have much more free time. From 1994 to the present I have done several upgrades to my station as contesting became my main interest. My good friend Jim, VE7FO, and I teamed up to provide our local club with contest training causing me to seriously look at making the station more user friendly. In 1995 I made my first trip to Dayton and Contest University in the later years was my source for ideas and information to improve my station and operating skills. Thanks to Tim Duffy, K3LR, and the entire CU team I now feel the station is fun to use as an M/M small contest station. Not just the physical improvements but operating strategies as well.

The station now has two positions each with an Icom IC7610, amplifier and computer all networked together with a third station manager computer. I use an 8x2 Antenna Genius antenna switch to handle the two radios into two towers and two wire antennas. One tower has a 3 element SteppIR and the other a TH6 triband. I use a 250 ft OCF antenna for 160, 80 and 40 as well as an 80 meter dipole at 90 ft. The station is setup to operate remotely.

I am looking forward to participating as a CWops member and, again, thank you all who helped with my successful nomination.



Tony D'Alonzo, K3ZA

I want to thank you for welcoming me aboard. Also, thanks go out to those folks who sponsored me.

I've been in this hobby since the age of 13, back when it was so exciting to work someone from your basement shack to other parts of the country, let along the WORLD! Now, how exciting was that? Remember how exciting it was to work 2 weekends of SSB and CW contests with written logs and written dupe logs?? Thank god for the computers and this great software.

Was able to save money from a Philadelphia Evening Bulletin paper route. After 2 years, I accumulated enough to update my Heath AR3 receiver to a new Hallicrafters SX110, which I still have and works. The Globe Chief 90A with 4 crystals, got me on the air. There was no SWR meter, no big antennas, but TV 300 ohm twin lead which got us on the air. A Gotham 10 m conduit 3 element Yagi on my parent's chimney worked during that great 1959 solar cycle.



To cut this short, I took this hobby with me through high school, US Navy (Radioman 3 Class), schooling after the Navy and into married life and family raising. I always had a shack and enjoyed many of the modes of our hobby, my "Man Cave." The kids and the XYL had a place for me to go to when I was being less cooperative!

Today's gear: a new Kenwood TS890, TS-590SG, still have my great working FT1000mp. For the afterburner, I use an ALPHA 8410, which gets me into some of the battles. The radiators are a 42-year-old TH6dxx @ 65Ft, which has been rebuilt several times, wires in all sorts of configurations, a 4 element 6 m Yagi and variety of VHF/UHF antennas. I have gotten into C4FM/WiresX and DMR for time when you want a quiet QSO without QRM, QRN QSB and poor condx.

Looking forward to being a member of CWops. If it wasn't for knowing the code at a young age, I would never been a US Navy radioman. I enjoy CW, however, as I am now approaching 75 years, things don't work the same as in the past, like ears and fist.

Hope to CU all on the bands, during the various contests and don't forget to work me during the CW-mini's.

Mike Briggs G4SMB

First of all, I would like to thank Bud AA3B for nominating me for CWops membership and my sponsors, Roger G3LDI, Emil I5EFO and Carston OY1CT, I am very pleased and proud to have been accepted as a member of CWops and I will most certainly uphold the mission to pursue and project the art of CW.



I am married to my wife Pamela of some 41 years and still going strong, we have 3 children all doing well in life and their chosen professions.

My wife and I live in the market town of Driffield, East Yorkshire. Our house purchase was governed by 2 criterion: 1, it had to have at least 3 bedrooms (it does) and 2, the garden front to back had to be in excess of 102 feet long (which it does and the G5RV lives therein).

At the age of 16 I decided to join the army. Of course at the age of 16 I had to obtain my parent's permission and blessings for such an adventure so a burly army sergeant from the recruiting office came to visit to explain things to my parents; somewhat tricky because I hadn't actually told my parents of my future intentions!! Anyway, permission was granted by mum and dad and I was summoned back to the Leeds office for the sign up. I sat some psychometric tests, took the Oath of Allegiance and received the Queen's shilling.



The army recruiting system chose me to train as a radio operator, and that is how it all began. The trade training was over a 12-month period and I graduated at 20 wpm CW.

I served for some 26 years most of which was hands on radio operations and then through promotion and other appointments, transport and logistics.

At my 22-year service milestone, in 1988, I was commissioned to Captain - Royal Corps of Transport.

I served in Northern Ireland, Germany (call sign DA1EK), Cyprus (UN) Falkland Islands (post war - callsign VP8BAO) and Canada.

In October 1990 I was mobilised and sent to Al Jubail, Saudi Arabia for the build up to the mission to free Kuwait from its Iraqi aggressors - Desert Storm and served throughout the conflict returning home in March 1991.

In 1982 I was introduced to amateur radio by G4EJP (SK) an instructor in one of my radio training teams. I had moved to Perth, Scotland on a new appointment so I joined the Perth & District Amateur Radio Club and studied for the City and Guilds Amateur Radio Certificate; duly passed I



went to the Aberdeen Coast Guard Station and sat the A licence morse test at 12 wpm, passed that and G4SMB came in the post a week or so later and still going strong.

Now fully retired, my main radio interests are DX chasing and CW award chasing I also enjoy portable operations; and of course, nowadays, CWT sessions which are very enjoyable. Thank you.

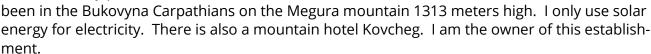
Chaly Valery, UR2Y/US0YW

Hello! Thanks for joining the club!

A little about myself. I have been in amateur radio since I was 15. This year I was 60 years old. First, a circle in the house of Young Technicians. Then SWL call UB5-082-143 work on collective radio stations UK5YAN Daily work and in competitions. In 1982 received the callsign UB5YDY after reforming the callsigns US0YW.

Contest callsigns UT7Y and currently UR2Y. I do not work for diploma programs, only in contests. Won a lot of tests 2016 2017 won IARU contexts SO 20 M SSB LOW POWER.

Since 1998, my position has



METYPA

I work all tests with low power without an amplifier for lack of powerful energy. Calling my wife US5YLY.

Thanks again for admitting to the club.

Kenneth Cary, K9UCX

First and foremost, I want to thank Dan Domondon WA6URY / 7J1ABD #1176 for being my sponsor who nominated me





For membership into CWops, and a special "Thank You" to Hal Offutt W1NN 785 for all his time including the kindness he extended to help me achieve membership into this extremely honorable organization.

Additionally, I would like to thank all others who took their time to sponsor and support me through the membership process.

My amazing journey in ham radio began in 1968 at the age of 12 when I obtained my Novice call WN9EHV and I then quickly fell in love with CW and continue to be CW only for the last 52-years.

At age 17 I enlisted in the United States Marine Corp and aced the CW exam. I was then made to retake the CW exam for which I again passed with 100% copy.

I was immediately placed into communications (CW), and I must say that it was a true pleasure and honor to work with CW daily in the USMC including teaching many Marines the fine art of high-speed CW.



After discharge and working around studies at college, university, marriage, children, and work commitments I proceeded to pass the General, Advanced and 20-WPM Extra Class exam and continue to hold the call K9UCX.

I work a ton of CW and I am on HF every day. 40 m, the bread and butter band, is always a lot of fun, and I really enjoy 30 m, both DX and Ragchewing alike. 20 m CW is a must, but a few sunspots would be appreciated!

I have easily worked over 100,000 CW QSO's with most in the format of Ragchewing, and of course I have worked my fair share of DX as DX clearly enjoys CW as it is a highly successful mode.

I am a member of the Fists CW Club #6873, SKCC #7002, QCWA #30138 and now the prestigious CWops #2693.

Lastly, I look forward to working many club members and participating in the weekly one-hour CWT sessions.

Andrew (A.J.) Stockton, NK4O

My story started early: my parents were both hams (now AA4RO & AG0K). When I was six, my parents shifted to sending each other CW while commuting so that my little ears would not know what was being discussed. So, by the time I was 8 years old in 1978, 5 WPM was in the bag and I had my Novice certificate, KA0EFG. Eventually, I would sit sidebar with my mom working November Sweepstakes, and learned how to pull high speed CW out of pileups. We were in Missouri at the time and always a needed multiplier! The next Novice Roundup, I operated and placed very high for the 0 area / Missouri section. My final step towards CW improvements was operating with the NOSS Field day crew. Wow, I was surrounded by really great operators.

BUT, sitting at the bottom end of the Novice band and missing out on all those operators down in the General portion drove me crazy. I had the 20 wpm certificate before even attempting to take the Gen-



eral theory. Of course, once I passed the General, it seemed like all the good DX stayed down in the Extra portion to have 'less' pile up noise. Of course, I had to buckle down and knock out the Advanced (which meant nothing for CW) and the illustrious EXTRA Class!

I have always worked CW with the exception of VOICE/QRP when commuting. Hurricane Andrew came in 92 and took everything away. Soon after we had kids, and life priorities consumed most of my time.



Recently, COVID put us all home bound, and in my down time I decided to search YouTube for high speed CW. Sure enough, I came across NG7M #1201 MAX, showing CWops operating. OH MY, hamming has come a LONG way with the cross pollination of computing and hamming, along with the incredible dashboards - I was ALL IN! Thanks for the hook MAX!

Appreciate all of you for letting me into the club, I have already started mentoring a non-ham, hoping to keep them on the brighter 'CW' side of things...

Villy Nielson, OZ1AAR

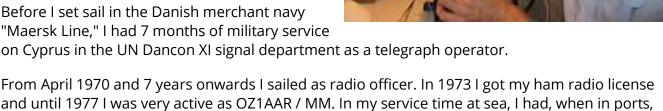
Now that I am a member, I think it is time to say thanks to OZ3SM, Stephan who introduced me to CWops world.

I was already from a very young age interested in radio engineering and communication.

By winding roads I came to the radio telegraph school on Fanø where I got my certificate as a radio operator at springtime 1970.

Before I set sail in the Danish merchant navy "Maersk Line," I had 7 months of military service

on Cyprus in the UN Dancon XI signal department as a telegraph operator.



often the opportunity to have eye ball QSO with hams met on the bands when at sea. I was transferred to the head office in Copenhagen in 1978 and started a new career and got

Unfortunately, there was no time for radio amateur activities before I retired some 11 years ago. Got the dust off my old Yaesu FT101B, put up a horizontal loop and started with the Morse key again.

A year later, I bought an Elecraft K3 as a kit. A radio that I am very happy to use and own.

My set up is currently as follows:

family with everything that goes with it.

- Elecraft K3, 100 watts.
- My main antenna is a 2 el. GEM quad on a 10 meter high pole mounted with 5 bands. 10 m, 12 m, 15 m, 17, and 20 m and the rotator at the bottom of the pole.
- And horizontal loop approx. 12 m above ground, as well as a 12 m high GP with radials which are tuned with an autotuner at the GP base. I also have an 18 meter high Spider



pole, which I set up for the CW contest when the 160 m band is on the play list.

In the summertime I occasionally put up Yagi antenna for 6m operations.

DX hunting is also of great interest to me and I become almost completely happy when I via LP get eg. ZL, VK or another Oceania station in the log

I love contesting and do not any longer care to much about the 599 report debate. To me the measure of my antennas, the station and not least my ears tells me more than any individual report ever could. However, outside of the contest weekends, chatting at a somewhat moderate speed is relaxing. So if you hear me on air, do not hesitate to give me a call and have a chat.

May we all stay safe.

