

WØRGU, multiop, Minnesota.

Mountaintops and microwaves. Megahertz and memories. These are the things of which the ARRL June VHF QSO Party is made.

The 1979 contest, held June 9 and 10, was no exception in those respects. The June bash saw monster montaintop multiop stations, the "mini Field Day style" out-to-have-a-goodtime group efforts, the serious home-station competitors as well as the ops who fired up on fm to "help the contesters out," lasermicrowave contacts and a-m QSOs on 6 and 2 meters. Whatever you want in vhf-uhf operating, this contest probably had it.

The comparison boxes, score listings and soapbox comments contained in this report document what really went down during the contest much better than a couple of paragraphs that paraphrase those statistics could. So, it'll suffice if we say that the total number of logs received was up to 520 (from 464 in 1978), there were several dandy singleoperator efforts as well as four multiop scores over the 200-k point mark, and enough new division records were set for us to safely assume that the 1979 June VHF QSO Party was an unquestionable success.

We'll devote the rest of our editorial space to various comments on and discussions of problems that were encountered during the contest. As always, we welcome your comments, praise (hi!), ideas and criticisms. We look forward to hearing from you!

Mountaintopping as always is a popular pastime during the summer contests. A number of problems other than equipment failure occasionally come up.

During the June contest, at least one mountaintop was descended upon by two groups, both claiming to have permission from the authorities. The result? The group that arrived last made the first one dismantle antennas and look for another site. Unsportsmanlike conduct? You be the judge.

The mountaintop kilowatts are always berated for poor signal quality or working people who weren't really there. Those that put together everything for a big effort once or twice a year have it even harder as those who think they own the band suddenly find it hard not to be king. The mountaintop stations do have to be careful to ensure their signal quality is as good as possible — after all, they will be the loudest thing around in most cases. The unusually strong signal will often tear apart the front end of nearby receivers. It's much easier to blame the mountaintopper than to blame your own equipment for what appear to be spurious signals up and down the band.

On the other hand, the once-a-year mountaintopper had better be familiar with his equipment in case there is a problem. Operating courtesy can solve many of the

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Rick, KA1BFK, tries his hand at a little 2-meter action for the K1CZ multiop effort from the backwoods of Maine.



We think that Gloria, WA7YAX, is trying to tell us something about vhf contesting from Idaho. Note the open novel next to the SB-110A.

Division Leaders

Single Op	Division	Multiop
WB4NXY/2	Atlantic	W3CCX/3
N9SS	Central	WB8HUC/9
KØVXM	Dakota	WØSD
WB4JGG	Delta	WB4LHD/5
WA8TTS	Great Lakes	W8DJY
WB2WIK	Hudson	WA2SNA
WBØZXU	Midwest	WØOHU
K1FO	New England	W1FC
WA7RTA/7	Northwestern	N7NW/7
K6KLY	Pacific	N6AMG
K4WO	Roanoke	W4BFB
WBØTTW	Rocky Mountain	NØKV
WD4IYS	Southeastern	W4VO
N6VI	Southwestern	W6XJ
WA5HNK	West Gulf	K5CM
VE1ASJ	Canadian	VE2KV
	DX	XE2BC





WD4MBK talkin' it up on 6 from W4ATC/4, VA.

Top Ten				
Single Operato	r .	Multioperator		
Call	Score	Call	Score	
K1FO	68,634	W1FC	236,856	
WB2WIK	49,876	W3CCX/3	215,750	
K4WO		W2SZ/1	208,241	
(WA4GPM, op)	49,595	W3BBS	200,954	
K1ZZ	45,900	WA2SNA	112,908	
W1JR	42,579	W1XM	91,485	
WA2FGK		WØOHU	68,796	
(K2LNS, op)	39,280	N2SB/2	61,596	
WB4NXY/2	38,320	K5CM	60,610	
WA8TTS	38,064	WB2CAM	57,889	
K1PXE	37,920			
WA1TZV	35.642			





Numero uno in the multioperator category, W1FC, the Barnstormer ARC. The people (well most of 'em, anyway) and their antenna system.

Although K4WO was operated as a singleoperator station by WA4GPM this time, this surplus fire-watch tower, which took nine months to disassemble and reconstruct at 'WO will see duty in the future as the antenna support for multioperator vhf contest groups.

hassles but nothing is more infuriating to lowlanders than the mountaintopper who says "thanks for the signal report; it must be your receiver. CQ contest..."

The mechanics of the contest presented some problems of their own for more than a few of the participants who submitted entries. We'll list a few of the "No-Nos" that can be seen

96 QST+

here from the log-checker's seat.

1) Time. The rules say that operating time can total *no more* than 28 out of the allotted 35 hours. Yet some folks, especially the multis who run a station on each band, tend to be a little sloppy in their time-keeping. A word to the wise: Adding a "few minutes here and there" past the allotted time to the 28 hours allowed for the contest period comes under the heading of "rubber clocking" and *may* present grounds for disqualification of the entry in question.

2) Exchanges. Complete exchanges (in this case, the name of the ARRL Section) must be acknowledged and recorded in your entry for *each and every* QSO claimed for contest credit. Enough on this.

3) Duplicate QSOs. A station may be worked *only* once per band, regardless of mode. Check your log during the contest period and especially after the contest for duplicate QSOs. Dupes found during our logchecking process are bad news. Large reductions in total score and possible disqualification can result from dupes left in your entry.

The bottom line after all this ranting is, read the contest rules. Follow those rules to the letter. And spend the time to check your entry for completeness and accuracy. It'll be worth the trouble in the long run.

This year seems to be the one in which the use of uhf bands has bloomed, especially for the multioperator stations. The 432-MHz band was loaded with signals: K2RIW reported in

All Time Division Leaders

Single Operat	or			Multioperato	r	
Call	Score	Year	Division	Call	Score	Year
WA2DPU	43,351	78	Atlantic	W3CCX/3	215,750	79
K9HDE	33.572	77	Central	W9NWE	48,195	78
WAOCSL	21.808	77	Dakota	WØOHU/Ø	60,164	77
WB4JGG	17.458	79	Delta	W4BFB/4	74,404	78
WA8TTS	38.064	79	Great Lakes	K8111	90,522	78
WB2WIK	49.876	79	Hudson	WA2SNA	112,908	79
WAØMRH	20.435	77	Midwest	WOHU	68,796	79
K1MNS	75.537	78	New England	WIFC	236,856	79
K7GWE	20,515	74	Northwestern	W7LYE/7	35,776	77
N6NB	69,184	77	Pacific	WA6JUD/6	81,213	76
K4WO	49.757	79	Roanoke	W4BFB	57,013	79
WAOTVZ	22,935	77	Rocky Mountain	WB5AXC/5	23,424	76
W4GJO	32,292	62	Southeastern	W4VO	28,450	78
K6YNB	60.342	76	Southwestern	W6AMT	105,080	76
WA5HNK	34,151	77	West Gulf	K5CM	60,610	79
VE2DFO	24.012	78	Canadian	VE3ONT	82,188	74
W2BN/C6A	18,700	77	DX	XE2BC	23,961	78

Area Leaders

Multioperator

manuep						
	W1FC	W4BFB	W6XJ	N7NW	WØOHU	
50	453/45	272/45	178/40	150/27	400/57	
144	794/25	435/15	219/12	145/8	274/16	
220	59/17	31/4	57/5	42/2	10/7	
432	102/23	17/7	39/7	23/3	31/11	
1296	19/9	-	6/6	4/2	-	
2.3	7/5					
3.4	5/5					
5.7	5/5					
10	9/5					
Single C	perator			•		
	K1FO	K4WO	WA5HNK	WA7RTA	N9SS	
50	132/27	161/40	338/49	74/26	273/53	
144	321/22	362/20	65/9	53/7	125/14	
220	38/15	-	1/1	7/2	1/1	
432	85/21	69/15	27/5	8/2	17/8	
1296	13/8		2/1		-	



N4VC, AL, teamed up with WD4DGF to join the ranks of multioperator stations in Tennessee in the June VHF QSO Party past.



The W8GK/8 ops ready the 10-GHz gear for their 56-mile QSO with WA4PGI. This QSO was the happy ending to a tale of woe that included losing the 432 equipment to lightning.

The emphasis is on different bands in different parts of the country. Compare your results to those listed above (QSOs/multipliers) to see how you can become a giant killer.

with 140 QSOs and 23 sections for NLI, while K8WW found 94 QSOs and 22 sections from OH.

Moving up one notch to 1296 were 45 stations, 22 of them multiops. Activity was concentrated in the East/Northeast but 15 stations west of the Mississippi completed at least one OSO. Even in the sparsely populated (microwave-style) West, K6ZMW squeezed out 9 QSOs in six sections, with a 220-mile QSO to N6CA/7 the prize catch. The frequencies above 1296 were almost the exclusive territory of the multioperator groups. The distinction between the biggest multiop groups was almost completely due to the microwave contacts and multipliers. Nine groups were successful on 10 GHz. Credit for the longest QSOs goes to W1FC - WA1KPS (70 mi), W8GK -WA4PGI (56 mi), W3BBS - K3RYL/2 (35 mi) and W6OAL - K6MEP (22 mi).

With the emphasis shifting toward the higher frequencies, the top single-operator stations may have to get into the act in the near future. What limits are there for microwave contacts? Many seem to think that line-of-sight conditions are necessary, but that isn't so. Work by G3RPE, reported in *Break-In*, April 1979 (New Zealand), indicates the following:

"The basic conditions for scatter communications at amateur level in the centimeter band are: 2 kHz of passband in the receiver, and 180-cm paraboloid reflectors at both ends. Then the standard combinations become:

	Power		
Band	Output	ERP	Distance
1.3 GHz	40 W	16 kW	600 km (360 mi)
2.3 GHz	30 W	30 kW	500 km (300 mi)
5.7 GHz	2 W	10 kW	400 km (240 mi)
10 GHz	1 W	16 kW	400 km (240 mi)

The limit here is transmitter stability; the higher the frequency, the more stability becomes important. Aiming two-dish antennas is difficult, but add to that a signal that is changing in frequency, and the problem can be insurmountable.

Because some groups have microwave capabilities and other do not, some friction has developed. What is the ethical way to make microwave contacts during a contest? A multiop station might wait years for another 5.7-GHz station to show up nearby. So why not prearrange some contacts? Build transceivers for 2.3 through 10 GHz and have a friend visit an adjacent mountaintop. The rules do limit the use of a transmitter to one call sign only so five people using the same equipment can't be worked for contest credit.

Is it ethical to use one antenna for several stations while switching transmitters? It is within the present rules but maybe the rule needs to be strengthened to, say once a station (tx, rx, antenna) is used to contact one or more other stations during the contest it cannot be used under another call sign.

As always, the areas with the smaller sections (East-Northeast) will have the scoring advantage. With the acceptance of the latitudelongitude grid system in the uhf contest, maybe the vhf contests should undergo the same metamorphosis.

One of the ultimate goals is to encourage the use of the microwave bands. Members of the multioperator station should be allowed to make these microwave DXpeditions. Once enough microwave equipment is in use, multiop groups may even begin to talk to each other, heaven forbid! One of the problems in log checking is that we seldom receive logs from these satellite groups to confirm both ends of the QSO.

The Barnstormer ARC (W1FC/1) maximized the microwaves in the June contest, but not without a lot of sweat and planning. Their 2.3-, 3.4- and 5.7-GHz stations consisted of 1150-MHz, 500-mW crystal-controlled sources

Multiplier Lea	ders										
50 MHz				144 MHz							
Call	Multipliers	Call	Multipliers	Call	Multipliers	Call	Multipliers				
WA1LUJ*	34	N6AMG*	20	K1FO	22	W7LUX	5	N6AMG*	5	W8DJY*	2
W1XM*	33	W6OAL*	21	K1ZZ	22	WA7JTM*	5	W6CN	5	W8VP*	7
K1TOL	41	K6MEP*	18	K1PXE	21	N7AKB*	6	W6NXB	5	K3LNZ/8*	7
W1FC*	45	K6KLY	17	WB1ALW	22	WA7RTA/7	7	K6BPC*	5		-
WA1MAG*	37	W6XJ*	40	W1FC*	25	K7KOT	5	WB6ESQ*	5	K9XY	3
W2SZ/1*	44	WB6LBR	18	W2SZ/1*	23	N7NW/7*	8	W6OAL*	6		-
WA1RWU*	39	W6YKM/6	26	WA1RWU*	22	MANTTO	10	K6MEP*	6	WOHU	7
			00	MOVY	22	VVAOIIS	19	WB6FTW/6	5	KØILM*	2
	32	WA7JIM*	16		22	WR8PAT*	17	W6XJ*	5	WØSD*	3
WB2WIK	31	WATESI	29	WB2CUT	24	W8D.IY*	16	W6YKM/6*	8		•
WA2FGN2	32	N74KB*	35	WA2SNA*	23	W8VP*	21		2		9
WRANXY/2	36	WA7RTA/7	26	K2GE*	23	WB2DNE/8	16	KTHSA	2	VESEQN	2
W2HRW	33	N7DB/7*	30	WB2CAM*	22	K3LNZ/8*	20	N7DB/7*	2	V LIAI	2
N2SB/2*	38	N7NW/7*	27	K2NE*	22	W8GK/8*	21	K7AUO*	2	XE2BC*	5
K2NE*	37	WA7KYM	30	K2LWR	25	WB2DIN/8*	20	WB7UUP	2	ALLOO	0
K2BWR*	32	WB7UJY	16	W2AV	24			N7NW/7*	2		
K2OEQ*	32					N9SS	14				
N2JY*	32	WB8BGY	38	W3CCX/3*	25	W9IP	18				
WA2IKO*	32	WA8TTS	41	W3BBS*	24	GW3NJY/		432 MHz			
		K8AT	33	WB3CZC*	24	W9	14	Call	Multiplier	sCall	Multipliers
W3CCX/3*	45	W8DJY*	37	WA3CPH/3	•24	WB9NTL	16	K450	04		0
W3BBS*	45	W8VP*	40		17	W3EP/9	19	K1FU	21	W61KM/6*	6
WB3CZG*	36	WB2DNE/8	39		17	WA9MCJ	14		10		2
W3ILG*	35	K3LNZ/8*	38		20	WB8HUC/9	13		20		2
W3XO	35	W8GK/8*	35	WAASBC	17	W9LIU*	12		10		2
WB3LST	37	W055	52	W31Y/4	18	WRAZYII	13	W1XM*	19	W7TYR	2
WOOLDD	32	WOIP	16	WA4HHP	20	WOOHU	16	WA1TZV*	16	W7.IXU	2
W3GNB/3*	37	GW3NJY/	40	WA4KXV	18	WØRWH	14	W1FC*	23	N7DB/7*	2
WA3CPH/3*	36	W9	31	K4QIF	22	K4ZLE/Ø	12	W2SZ/1*	23	K7AUO*	2
		K9RO	47	WD4GXN	19	KØTLM*	11			K7KOT	3
WA4CQG	35	W9ZX*	37			AIØL*	12	K2CBA*	21	W7YOZ	2
W4VO*	39	W9NFE	28	WB4LHD/5	11	WØSD*	12	K2RIW	23	N7WW/7*	3
K4WO	40	WA9PKL	27	N5DL*	15			W2VC	20		
W4WHK	35	WB8HUC/9	*35		10	VE1ASJ	21	WA2SNA*	20	WA8TTS	18
WA4KKY*	39.	WA9KGQ	27	KECM*	12	VEIUI	16	K2GE*	18	KOAI	12
W4BFB*	45	WB9OPD	39	K51.70	14		15	K2BWR*	17	VVB8PA1	10
	44	WA9LZM	28	ROLLO	14	VESEN	17	KISYA	16		14
	40		27	N6AMG*	11	VESAEA/S*	17	W3CCX/3*	22	W8D IY*	12
	37		21 A7	K6BPC*	10			W3BBS*	22	W8FAC	13
WB4JGG	35	WBØZXU	42	WB6ESQ*	9	XE2BC*	10	WB3CZG*	15	K3LNZ/8*	11
N4CD	41	WBOTEM	38	K6MEP*	11			W3IP	18	,	
		WOOHU*	57	W6XN	9					N9SS	8
WB4LHD/5*	48	NØLL	46	W6XJ*	12			WA4IPI	10	GW3NJY/	
N5DL*	44	WØXG	31	W6YKM/6*	9	•		WD4EKA/4*	10	W9	8
WA5FDF*	41	KØTLM*	47					K4WO	15	K9RO	5
WA5UUD	42	WAØCSL	31	220 MHz				N4CD	10	K9MBX	7
WA5YOU*	37	KØVXM	43	Call	Multipliers	Call	Multipliers	WA4SBC	16	MB90B0	6
WB5LUA	37	WBØYQS	32	K1EO	15	MOOOVIC	10	WD4GYN	15	WADIEM	0
WDSFXM	43	wwpsD≁	53	K177	11	W3CCX/3*	18	KAOIE	17	VVASSEIN	9
WBSECB	30	VELASI		K1PXF	16	W2CNS/3*	21	N4GII	.,	WBØZXU	6
K5CM*	66	VE2KV*	34	W1JR	11	W3GNR/3*	10	WB4LHD/5	6	WOOHU*	11
WASHNK	49	VE3CKU	29	W1XM*	13	100111/0	10	N5DL*	5	WØRT*	4
K5LZO	46	VE3AEA/3	24 18	W1FC*	17	W4VO*	3	WA5FDF*	6	KØCJ	4
			10	W2SZ/1*	19	WA4IPI	3	WB5LUA	6	KØTĽM∗	5
		XE2BC*	17			W4CQ*	3	K5CM*	9	KØALL*	4
		XE2IL*	23	K2CBA*	12	N4SM*	4	WA5HNK	5	KØVXM	5
		VP2VDL*	17	WA2FGK/2	11	W4PAR/4*	3		_	WØSD*	6
				WA2SNA*	15	W4GG/4*	3	N6AMG*	5.		
				W2EIF	11	W4BFB*	4	N6VI	5	VE1UI	11
		,	,	WB2CAM*	12	K4LHB	9	KOBPU*	6		0
				K2VCO	12	NOLEVV/4	5	W60AL *	6		12
				12100	12	WAA10*	3	W6XN	5	VE3BON	11
						WD4FVP+	3	W6X.J*	7	VE3FN	10
							-			VE6SW	1
* Indicates m	ultioperato	r station				K5CM*	2				
										XF2BC*	4

with PLL. The output was multiplied by two, three and five using varactor multipliers (300 mW at 2.3 GHz, 200 mW at 3.4 GHz and 100 mW at 5.7 GHz) and fed to the antenna through a stripline 20-dB coupler and directional ferrite circulator. The coupler samples a small amount of transmitter power which acts as the local oscillator. This is applied to one input of a ring mixer. The main transmitter source is offset by 4 MHz from the mobile units. After multiplication this becomes 8 MHz at 2.3, 12 MHz at 3.4 and 20 MHz at 5.7 GHz. Since the transmitter source is the receiver local oscillator, this frequency difference is the i-f frequency. The 10-GHz setup consisted of Gunnplexer transceivers separated in frequency used as the i-f strip. Thanks to K1KA for the W1FC microwave station information.

Soapbox

When I got to Norfolk, VA, with my vhf gear for departure via military transport, I found that I was 102 pounds over my baggage allowance for the flight to KG4-land. Wore out one knee of my suit pants with my pleading. I must be convincing since I was able to get on the C-141. Left the entire station that was donated by SMIRK there and KG4AN is now on 6 meters for good . . . conditions were not the best . . . had 360 QSOs on 6 before the contest and only 89

during the contest . . . (W2BN). 6-meter conditions were good to the south but poor to the West Coast (VE2KV). The miniature livestock (bugs) that kept us company did not in the least detract from our enjoyment of our tremendous station location (3000 feet high atop a mountain in southwestern PA). . . Mother Nature put on a fine water show, creating a lake in the middle of our camp on the first day and she chased us off the mountain on Sunday evening with another water show and a heavenly electrical display, just as the 6-meter band had opened for the first time that day . . All told, we worked 33 states and Canada, not too bad for our first contest — we shall return. 73 de "The Bug Mountain Boys" (WA3CPH/3). A typical springtime coastal tropo opening created excellent band conditions from VE1-land to North Carolina on Saturday night, Sunday morning and Sunday evening . . . I would like to note in particular that activity was spread out niccly on 2 meters as a result of the 144.2 calling frequency (K1PXE). A meteor sked with W1FC on 50 MHz produced a QSO in just a few minutes. This mode should be used more often, particularly during the hours when activity is normally low . . .220 MHz has real potential, but we need more activity. The real benefits of this band will be realized when the activity increases . . . the 2-meter EME array worked well on terrestrial paths and made up for the otherwise poor conditions on this band (WØVB/WØRGU). Wow!! What a tropo opening on 1296 on Sunday night. I can't wait until 1 get more than 20 microwatts to that dish . . . Even with such a poor setup, 1 was able to work four stations in three sections, including W2SZ/1 150 miles away. That comes out to about 7,500,000 miles per watt!!! (WA1TZV). We operated from a high point here in flat South Jersey. Our ground elevation was 180 feet above sea level, which is about as high as you can get





Feast your eyes on the rolling communications center of K6LEW/4, VA. What you sees on the outside ain't necessarily what you sees on the inside.

in SNJ... The duct that ran up the coast on Sunday night was fantastic. We didn't even know if the 1296 gear worked until this test, and wow, does it ever. That band had to be the most fun. Our antenna relay failed, so antenna switching on 1296 was done by N2SB and WB2NPE while WB2RVX manned the key. We looked like three drunk clones of Marconi, listening for New England on 1296! We wish all our competition gud luck in September and we will be in there going strong (hopefully). Projects to improve our sigs on 432 and.6 meters are now underway. This section (SNJ) is becoming very competitive and we love it. *K2NE, Look Out!!* (N2SB/WB2NPE/WB2RVX and N3RG).

Feedback

In reference to the 1978 ARRL June VHF QSO Party (see page 89 of November 1978 QS7), W2BN/KL7, listed as a single-operator station, should have been listed as the multioperator station certificate winner for Alaska.

Scores are listed in order, single-operator stations first within each section. From left to right: call, score, number of QSOs, number of multipliers, bands operated (A-50 MHz, B-144 MHz, C-220 MHz, D-430 MHz, E-1215 MHz, F-2.3 GHz, G-3.4 GHz, H-5.7 GHz, I-10 GHz).

	Rhode Island	WB2CUT 6424-292-22-B	WA2ZKD(+W2HYI)	K3ZJ 1584- 88-18-AB
0.3.A.	WA1PBR 19,026-242-63-ABCD	WB2WIH 4352-107-32-ABCD W2VC 4340- 70-28-DE	7831-163-41-ABCD AF2K(+WA2s CBT CBU DHB)	W3HQX 1394- 82-17-B WA3YKI 1200- 75-16-AB
1	K1COW/1 5502-131-42-ABCDE	W2AD 3876-180-19-BCD WB2NCE 2025-135-15-B	4640-157-29-ABCD	K3RJ 594-54-11-B WB3UUT 361-19-19-B
•	WA1CSO 4040-202-20-B	WB2CHE 2014-106-19-B	REC,WB2TGU,oprs)	W3TFA 288- 26- 9-ABCD
Connecticut	WA4MMP/1 2475- 75-33-AB W1UHE 1560- 52-15-D	WA2KKZ 798- 35-21-BD	2000-117-24-48	KA3ALC 238- 34- 7-B
K1FO 68,634-589-93-ABCDE	KA1AZT 169- 13-13-B N1DM 114- 19- 6-B	WB2BJH 624-78-8-B	3	W3PGA (K3s CBX FRX PHH ROJ
K1ZZ 45,900-513-75-ABCD K1PXE 37,920-347-79-ABCDE	Vermont	WA2ZRT 272- 34- 8-B		HZJ LAW TUN, WB3s AXP BIT,
WB1ALW 19,440-348-45-BCD WA1UQC 17,543-318-53-ABD	WIAIM 11,700-173-60-ABCD	WA2SNA(K2s BJG LPG,KA2EPL, KB2EW.N2AAZ.W2s IHM LVT	Delaware	oprs) 19,376-332-56-ABCD K3IVO(W3FG,WA3s TID YBY,
KIEM 15,456-336-46-AB WA1ZNT 9984-256-39-AB	K1LPS 11,385-163-55-ABCD K1GYT 2200- 88-25-AB	MJA,WÁ2s HLE JSW JUO UPK, WB2s ARS JCP JUO LHG QEA.	K3SXA 25,992-305-72-ABCD	WB3s EKH ICL LCH,oprs) 16,066-265-58-ABCD
W9KDR/1 8946-173-42-ABD WB1CW7 6920-134-43-ABD	WB1BZR 216- 24- 9-B WA1MAG(+KA1CXD.WA1s JEX NBU	WD2AAI,oprs)	W3CGV 180- 15- 9-ABD	W3EAX(N1QG,N2AVC,WA3s WHE YMH YTP ZXH,WB3IEJ,
KIKI 6169-199-31-A WA1CVN 3520-110-32-AB	UYU,WB1s ADH HIH) 19.380-310-60-ABCD	K2GE(K2s FD KFE,N2AYM,W2TIN,	K3HVG/3(+W3BNN)	oprs) 14,418-225-54-ABCD
W1FAJ 3198-96-26-BCD	WITKZ/I(KIS OGF TK UR,	NXK PLU SNN UYX, K9ZBV, oprs)	6160-176-35-AB	Western Pennsylvania
W1BYX 2040- 76-24-ABCD	ZLQ,WB1s BUM ELJ,WB2SBW,	WB2TSY(+WA2UNN,WB2RVO)	Eastern Pennsylvania	WB3CBB 5292-147-36-AB W3CSA 3690-123-30-AB
KA1BU 1638- 91-18-B	oprs) 17,787-352-49-ABDEF	1200-100-12-B	N3DG 6842-289-22-ABC	W3KWH(WA3FYJ,opr) 2052- 76-27-AB
WA2PIV/1 1050- 75-14-B			N3ET 2926-154-19-B	W3KJM 220- 20-11-A W2CNS/3(+W2LOG-K25 L DU L ZE
WAILOU 560- 34-16-ABC	Western Massachusetts	Southern New Jersey	WB3KNU 2438-106-23-AB	OS,WA2S VCM YRL ZQN,WB2S
WAILUJ(KIS GNW VSC ZKR,	W1JP 3591-189-19-B	WB4NXY/2	K3IUV 825- 27-15-ABCDE	W3GNR/3(+W3s DQF IJT,K3s PS
40,320-546-70-ABCDI	KIJX 2660-133-20-B	38,320-408-80-ABCD W2EIF 29,638-300-73-ABCDE	WA3EYD 400-20-20-AB WA3KFT 154-22-7-AB	JBV, WB3s DDA DVR, KA3s AWL
WA1GTP(+K1VYU) 13,600-239-50-ABD	WA1UOL 1416- 59-24-AB	WA2KOK 24,486-321-64-ABCD W3CXU/2 18,915-188-65-ABCDE	K3KEL 49- 7- 7-B	WA3CPH/3(+KB2s AH EF,K3SPI,
Eastern Massachusetts	K9ES/1 1079- 84-13-B K1JG 99- 11- 9-B	WB2CUD 15,540-219-60-ABCD	W3CCX/3(AE3T,K3s BPP ELX IUV MWV QQ,N3s EG MW,W3s	WA3QKM,WB3HHS) 27.877-455-61-0.8C
W1JR 42,579-366-83-ABCDEF	W2SZ/1(K1s DH RQ XR,WA1s RKS UGE,WB1CBH,W2GN,N2FU,K2s	W2PAU 4662-122-37-ABC	HMU HQT IIT KKN,WA3s AXV JUF NFV NUF WAS YUE,	27,077-455-01-486
WB1FUB 10,395-231-45-AB	MM TR UF,WA2s FKS SPL,WB2s BXP CFP GFP GSW PKO.	AB2Y 3507-167-21-AB W2HRW 3185- 65-49-AB	WB3CDE,WA1YHO,K2EVW, WA2DPU,WB2SZK.oprs)	4
W1GXT 9791-172-43-BCDE K1DAT 8775-225-39-AB	WA8USA, oprs) 208,241-1426-121-ABCDEI	WB2QIU 3182- 86-37-AB WB2YEH 1300- 62-20-ABC	215,750-1381-125	
K1GVM 7918-191-37-ABD WB1FKF 6984-173-36-ABD	WA1RWU(+AC1T,K1BW,KA1APR, '	W2ORA 990- 66-15-B N2SB/2(+WB2s NPE RVX.N3RG)	W3BBS(AE3E,K3s AI FMF II IJ	Alabama
WA5IOD/1 5632-152-32-ABCD K1TR 4437-153-29-AB	56,416-614-86-ABCD	61,596-602-87-ABCDÉ	CAT,KB3DF,N3AAX,W3s GPY	WA4CQG 10,752-175-56-ABD WA4NPL 6929-169-41-AB
N1AIS 3819-201-19-B N1HB 3040-152-20-B	WBIAKT) 7881-213-37-AB	57,889-711-73-ABCD	OWP PFX VA,WA3s BRW UGP VVG VYI,WB3s ACE ADS AMY	WA4EWA 2058- 42-42-ABD W4XP 902- 37-22-ABD
WA1AYS 2780-137-20-ABD W1CRI 2592-65-26-ABD		WB3DCT,KA2BOP) 51 034-589-79-ABCD	BYP EFH ESS EUP FVJ HTK JTT,WB2IJT,oprs)	KA4AOK(+KA4CFZ) 3597-109-33-AB
WB1FOD 676- 52-13-AB	2	K2BWR(+K2ZRJ)	200,954-1192-131	Georgia
WIAYG 120- 8- 5-E		WA2DKB(+WB2s JGQ VWW)	WB3CZG(+K35 MKZ SAE,KA3AJH,	WB4MBN 216- 24- 9-AB
WA2EYC,WA4TTG,oprs)	Eastern New York	N2ASU(+WB2WRP)	IWZ) 50,475-629-75-ABD	W4LNG 160-20-8-B W4WTA 60-12-5-B
N1AME(+WB1CAL)	W2YX 19,698-402-49-AB WA2TEO 14,550-274-50-ABC	7334-193-38-AB	oprs) 16,744-316-52-ABC	AK4T 34-17-2-B
1504- 94-16-B	K2GSF 1836-108-17-B WA2ANZ 714- 46-14-BC	Western New York	12,614-238-53-AB	WB4s AEG REX YWK,WD4JLI,
Maine	K2DNR 216-12-9-B WB2GTP 45-15-3-B	WA2BPE 20,601-304-63-ABCD	WB3FXJ(+WB3GZE) 5200-260-20-B	oprs) 22,143-347-62-ABD WB4NMA(+WD411S)
WIYTW 2684- 61-22-CD	AB2J(+AB2I,W2s AWX KBH PVS,	K2LWR 8550-342-25-B	W3LP(W3s GFN JUZ,WA3CUQ, oprs) 5049-153-33-AB	16,416-282-54-ABD N4SJ(+WB4s NNW NPA,WD4s
RCY TFJ,N2FB,WA2s NKL YBA)	56,520-695-72-ABCDE	W2WGL 3705-65-19-B	WB3FFW(+KA3BLP) 3720-248-15-B	DXD PSF) 588- 98- 6-B
K1CZ(+K1TMJ,KA1BFK)	FPF OUS,WB2BYP)	K2QR 2835-135-21-B	WB3JYO(+W3ICC,WA3s FEH ZPA.WB3KRW)	WAAIDI 7830-321-30 BCD
1764- 42-42-AB	AF,500427-52-ADCDL	WA3EFE/2 1105- 65-17-A	3234-129-22-ABC W3EEK(+VE3HOH.W3JLQ.	K4UKI 924- 84-11-B
New Hampshire	K2RIW 6440-140-23-D	WA2SZY 310- 31-10-B	WB3DEJ) 1940-97-20-B W3CWF(+KA3CAZ.WA3PHL)	WD4EKA/4(+W4VBH,WA4s CBX
WA1TZV 35,642-415-71-ABCDE WB1CJT 13,156-227-52-ABD	K20VS 5400-150-36-AB	K2OEQ(+WA2s JKF KGM YRG,	686- 49-14-B	10,850-205-50-ABD
AC1J 8064-162-42-ABCD W1EJ 6162- 98-39-ABDE	WA2EUS 2156-81-22-BD	30,317-391-71-ABCD		North Carolina
WA1NPZ 3132-116-27-AB W1.ISM 1581- 93-17-B	W2NK 344- 43- 8-A	WA2ZJF(K2s RKW JJI IJ,WA2s RQC MYU,WB2s FBP NFB KCG MYZ,	Maryland - D.C.	K4WO(WA4GPM,opr)
WAIGDR 720- 48-15-AB W1NH 2- 1- 1-C	Northern New Jersey	KA2AZS,oprs) 20,886-316-59-ABCDE	W3XO 24;684-335-68-ABD K3HCE 23.058-322-63-ABD	K4GMP 7896-188-42-AB
WIFC(+AF1T, AB1A, N1s AAP ALO BC, K1s KA KEC PEK POO !!	WB2WIK 49,876-631-74-ABD	WB2RRK(+WA2s IVD YFB,WB2YIK) 17,760-271-60-ABCD	WB3LSY 16,856-301-56-AB WA3DMF 12,320-205-55-ABCD	WB4HFL 1560- 65-24-AB
GW RX VR FWE WHS WIS CF KXL	39,280-436-80-ABCD	WB2UEE(WB2s BGI EFB KLD, oprs) 17,472-241-64-ABCD	W4NVW/3 4794-140-34-ABC	WA4GBE 960- 44-20-ABD
LLB,WA1s ZSF ZTC ZPA MZC NPN	WA2CWA 12,558-322-39-AB	N2JY(+WB2KIW) 15,370-252-53-ABCD	W3JPT 3510-131-26-ABD	NAAJF 308-28-11-AB
236,300-1549-139	WB2QOQ 10,716-230-38-ABC	WA2IKO(+K2FU,WA2TPU,	KIGSR/3 2983-157-19-B	W422 92-23-4-B W4CQ(Multiop)
-ABCDEF GHI	WB21FH /32/-1/2-39-4(BD	WEEZPGU) 12,003-201-39-ABCD	WAJEWL 2940-140-21-8	12,804-371-32-ABCD

From September 1979 QST © ARRL

.99

September 1979



K3RYL does 1296, W3BBS-style from eastern Pennsylvania.

Northern Florida

South Carolina

Southern Florida

Tennessee

Virginia

The station equipment and antennas of WB2WIK, used to establish the number-two single-op score in this June QSO Party.

N4SM(+KA4F ZN, KB4BT, WD4MCH) 12,690-257.45-A BCD N4AMR/4(-R4E2, WA4s JT (QZQ) 9867-299-33-AB W4PAR/4(W4s LYV UIJ UKZ WAU OTI, K45 HGK SWN, N45 BOE ARF, WA4s HAZ EPV KFF JVD PZT, WB4s EMG HCD HCM LSJ VMC, WD4s KUAS Dopt) GET, WA4A BD, MTF OLF GET, WA4A BD, MTF OLF WD5FXX 336-28-12-A WB4LHD/5(KA4ADV,WA4NVM, WB45 CHZ OVT,NWELWD4GXI, oprs) 17,160-253-65-ABD N5DL(+WD55 CAN CAP CLR, KA9DTF,N9AC(,WD9EAG) 11,466-176-63-ABD WA5FDF(+K5ETU/WB5JAR) 9006-150-57-ABD-Louisiana KB5LE 62 WA5UUD 60 WB5LBT 33 N5JM 1 WA5YOU(+K5 WZA) 56 W4GG/4(N4JB,W4s ACY AKU MR, WB4UJH) 3408-126-24-ABC WB4BS2 6468-139-44-ABD W40DW 4644-119-36-ABD W4WHK 3745-107-35-A K4AWS 2368-73-23-A WB5MAC/4 2526-73-23-AB WA4KKY(+WA4CCH,WB4S GHA V5K) 8228-187-44-AB Mississippi W5XX 1: WB5QCB(+WA New Mexico W5FF 2 WB5AOX 1 K5MAT W5IXR Northern Texas WB5LUA 14, WD5FZM 13, WB5KTC 12, WA5VJB 11, WD5HDM 5 WB5FCR 3 K5DHU 2 Okiahoma K5CM(+K5SW Southern Texa WA5HNK 30, K5LZO 29, K5EI 3 WA5IYX 3 N5AF 2 WD4IYS 13,200-273-48-ABD K1FJM/4 12,006-259-46-ABD WD4MGB 7440-186-40-A WB4BND 2952-82-36-AB K4GFG 640-40-16-B WB4KGY 640-40-16-B WB4KGY 40-20-2-B K4GFG WA4HEF 640- 40-10-B WB4KGY 40- 20- 2-B WD4LWL(Multiop) 4810-130-37-A 6 East Bay N6AMG(+N61 WB6BJO,WD6 27 Tennessee WB4JGG 17,458-280-58-ABD W4FLW 328-69-12-B W4FLW 321-21-11-AB W4FLW 212-21-11-AB W4FZG(+WA4KJ; WD4KWV) W4SGI(+K4WS,W4LQE,WA4IRG) B4524;45:43-53-6ABCDE N8D5;4(+K42ES,WA2KJ, WB8K5Q) 7812-214-36-ABD N4VC/4(+WD40GF) 1164-97-12-B Los Angeles NGVI 3 WGCN 11 NGYB WGNXB WGBBDQ K5ZMW WGPFE K6ZMW W6PFE K6BPC(WA6H K7WH,oprs) Orange WEHK 2 WEESQ(+WE QIA SSO) 8 Santa Barbara WAGOYS 1 WGOAL(+AGG WB6IMM,WB9 17, KGMEP(K6s EL WA6s DJS FPX oprs) 22 Santa Clara Va K6KLY 3 W6XN 3 WB6JNN WA6EKJ K4FTO/6 K6SLQ(K6MO AJ6T W6DWJ San Diego WB6FTW/6 2 N6CW 1 W6XJ(+K6s H MN NR,WA61 42 KG4BN(W2BN,KG4s EP HC;oprs) 1869- 89-21-A San Francisco WB9LOZ/6 K6RFT 784- 28-28-A 684- 37-18-ABD 480- 48-10-B San Joaquin \ WB6LBR 1300- 50-26-AB

036- 28-12-A 44ADV,WA4NVM, 7 NWE,WD4GXI, 160-253-65-ABD CAN CAP CLR,	K6YK 405- 27-15-A W6DPD 374- 31-11-ABC W6TLY 315- 45- 7-B AE6W/6 200- 25- 8-B W6TO(WA6SBM,WB6s INM ITM
CI,WD9EAG) 166-176-63-ABD ETU,WB5JAR) 006-150-57-ABD	2210- 91-17-ABCD Sacramento Valley
240-164-40-AB 090-145-42-A 344- 85-38-ABD	W65X 24-12-2-C W6YKM/6(+K6UZK,WA6EZM, W86K8Z) 21,879-366-51-ABCDE
BMG,WB5s NIF 512-119-46-ABD	7 Arizona
254- 57-22-AB 4AUX) 49- 7- 7-A	W7LUX 231- 28- 7-BD WA7JTM(+WA7s JTL LYI,WB7V) 6728-218-29-ABCD
139- 68-31-ABC	Idaho
750- 70-25-AB 420- 53- 7-ABC 108- 15- 6-ABC	WA7FSI// 1044- 58-18-AB WA7YAX 260- 20-13-AB
•	W7KNT 490- 35-14-A
364-222-57-ABCDE 950-292-45-ABD 833-276-41-ABDI	WA7PDC 50- 10- 5-AB N7ALX(+WA7KHO) 34- 34- 1-B
295-243-45-ABC 845-158-35-ABD	Nevada
861- 99-39-A 232- 72-31-AB	K7NV 2044- 73-28-A N7AKB(+K7ICW) 3854- 94-41-AB
N5s CG KW)	Oregon
610-613-95-ABCDE	WA7RTA/7 5495-142-35-ABCD K7HSJ 1404- 85-12-ABCDE
8 225-433-65-ABCDE	W7TYR 1040- 65-13-ABCDE W7JXU 871- 61-13-ABD
512-479-62-ABCD 937-127-31-AB	WA7RQS 62-31-2-B N7DB/7(+WA1GFM,WA7ECY,
724-133-28-A 00- 25- 8-A	K7AUO(W7UDM,WB7FHF,oprs) 1248- 77-13-ABCD
	Utah
	WA7ADK(+WB7QVZ) 96- 24- 4-B
3,WA6VEF,	Washington
FGA,W1ARR) 388-586-41-ABCD	K7KOT 3696-143-22-ABCD W7YOZ 3040-139-19-ABCDI W7KFS 1246-89-14-AB W7KKE 770-65-11-ABD
196-163-17-ABCD	KB7AQ 592-74-8-AB WB7UUP 412-81-4-BC
616- 17- 4-BC 340- 34- 5-C	WA7BTG 399- 57- 7-A W71DZ 98- 14- 7-AB
255- 50- 3-ABC 162- 9- 6-E	N7NW/7(+K7s ND WTG,WA7NA 18,354-364-42-ABCD
63- 7- 7-BC XD.WB6YVP,	Wyoming
344-193-27-ABCD	WA7KYM 1024- 32-32-AB WB7UJY 832- 52-16-A
204- 83-19-ABCD SSN,WA6PMX,WB6s	Alaska WL7ACY 52-26-2-AB
510-225-00-48682	8
377-120- 9-BC	Michigan /
KMO)	MICHIGAN / WR8BGY 13,720-273-49-ABD
LQ VMN,N6MA,	AF8Z 5775-157-35-ABD WD8DSV 2574- 99-26-AB
296- 41-41-ABCDEI	WB8AAX 1254-114-11-B K8BGZ 828- 92- 9-B
lley	WA8ULG(+KA8CQM,WA8s MFL MGO QBG VXE,WB8s PGK WXS
654-115-29-ABD 014- 89-22-BCDE	WD8JOM,oprs) 5104-167-29-ABD
520- 65- 8-B	Ohio
239- 37- 7-80 (opr) 224- 30- 7-80	WA8TTS 38,064-445-78-ABD K8AT 26,400-372-66-ABD
36- 9- 2-D 36- 12- 3-B	WB8PAT 11,300-202-50-ABD K8WW 4136-94-22-D K8DIO 3818-144-23-BD W98VSU 3612-86-11-B
420- 96-20-ABC	K8DW 2970-101-27-ABD
184- 74-16-AB AA JYO,KD6R.N6s	W8LCY 814- 74-11-B WD8MSF 625- 25-25-AB
GY,WB6IMV) 490-499-70-ABCDE	WD8QME 400-100- 4-B K8MR 75- 15- 5-B
	W8DJY (+W8ULC, WA8s WQC W) WB8s EEX NFJ.WD8s DZN KVR
1440-156- 9-BC 108- 18- 6-B	40.937-577-67-ABCD W8VP(W5UA,K8AL,KA8s DGCC
/alley	LOE ERB ONY TRK TSI YCZ,
1300- 50-26-AB	39,970-559-70-ABCD

405- 27-15-A 374- 31-11-ABC 315- 45- 7-B 200- 25- 8-B BM,WB6s INM ITM -17-ABCD 8-18-AB 5-14-А 0- 5-Ав 4- 1-В 3-28-A 4-41-AB 2-35-ABCD 5-12-ABCDE 5-13-ABCDE 1-13-ABD 1- 2-B WA7ECY, 9-37-ABCD 7FHF,oprs) 7-13-ABCD) 4- 4-в 3-22-ABCD 9-19-ABCDE 9-14-AB 19-14-AB 19-14-AB 19-14-AB 11- 4-BC 17- 7-A 4- 7-AB TG,WA7NAN) 4-42-ABCDE 2-32-AB 2-16-A 6- 2-AB 73-49-ABD 57-35-ABD 99-26-AB 44-11-B 22- 9-B 1,WA8s MFL 3s PGK WXS, 7-29-ABD 45-78-ABD 72-66-ABD 72-66-ABD 72-60-ABD 94-22-D 44-23-BD 86-11-7 86-11-7 86-11-7 86-11-7 80-1-8 7-411-8 25-25-AB 74-11-8 25-25-AB 25-25-AB 20-4-8 15-5-8 AB 25-25-AB 20-4-8 15-5-8 AB 20-4-8 15-5-8 AB 20-4-8 AB 20-4 AB 20-4-8 AB 20-4 AB 2

9 Illinois WA WB WA WA WA WB NB ٥ Iowa Kansas

WD8RZG(+WD8s IQJ RUW) 1800- 90-20-A WD8QMP(+KA8EHA) 161- 41- 4-B West Virginia

1-17-ABCD WBI Unguna WB2DNE/8 15,565-283-55-AB 15,565-283-55-AB 2-2-C W8UT 4520- 91-40-ABD W84EC 4920- 91-40-ABD 2-2-C W8UT 4520- 91-40-ABD W84EX,WA1L (A0,0073) W85,708-A3,708-ABCD) W85,708-A3,708-ABCD) W86K/8(K8(K8(K8),W84D,WA80KG, W886 GDV 2LV,WD85 BCV JYM JYN OZT.00715) 23,484-410-57-AB W852DIN/8(+N811,KA8CPI, W852DIN/8(+N811,K

N9SS W91P	33,060-416-76-ABCD 26,624-416-64-AB
GW3NJY/	N9
	25,122-437-53-ABD
K9RO	24,320-365-64-ABDE
K9SM	3090-103-30-A B
KOMBX	2432-134-16-BD
WROSNR	2193- 80-17-BDE
WBOORI	1980-112-15-BD
WBJGBO	1005 60 15 08
W91V1	1032- 03-12-WD
AE9F	693-99-7-B
WA9AHZ	620- 31-20-A
W9IFA	338- 25-13-ABD
W9ABA	165- 33- 5-B
107771414	
W92A(+W	
	9120-190-48-AB
WD9GGY	(+WD9BHK)
	234- 39- 6-B

Indiana	
WB9NTL	7667-183-41-ABCD
W9NFE	6588-183-36-AB
WA9PKL	5724-159-36-AB
K9KB	5673-183-31-AB
KISLQ	4495-155-29-ABD
W3EP/9	3667-193-19-B
WA9MCJ	1568-112-14-B
KA9ASH	1425- 72-19-ABCD
K9DZS	1026- 57-18-AB
WD9EME	540- 54-10-B
W9CGI	494- 38-13-AB
WB9FNR	294- 42- 7-B
N9RC	261- 29- 9-B
WB8HUC/9)WB8s GEU GEW
GEX GEY,	VD8MQG,oprs)
	18.096-377-48-AB

W9LTU(+WB9s DAG OAG SEE) 3321-123-27-AB Wisconsin 5662-145-38-A BD

AJRGU	3002-143-007100
B9OPD	4719-121-39-A
9XY	2945- 87-31-ABCD
A9LZM	2790- 93-30-AB
A9JFM	2214-102-18-BD
A9CUH	1332- 66-18-ABD
B9ROE	666- 37-18-AB
9TD	441- 49- 9-B
B9PDK	26- 26- 1-B

Colorado	
WBOTTW	7744-242-32-AB
WOK.IY	3625-119-29-ABCD
WBOWEC	3025-113-25-ABCD
WBOVGC	2240-112-20-AB
WODYB	930- 62-15-A
NØBO	132- 42- 3-BD
NØKV(+K4	AJQ,AAØL,KØYXC,
KAOCHA,	IØS BZ DV WØS MBZ
YNE,WD00	SNM)
	17,435-308-55-ABCD
WB9IKJ(+V	VOZL,WBOS NOX OPV
	5600-175-32-AB

K01PH(+AA0R,AC0Y,KAUDEH, K00CY,WD0s DJU HQA) 5040-171-28-ABCD

WRGZXU 18.117-279-61-ABD WBGTEM 10,927-218-49-ABD WGOHU(+K7YB,AE9M,K9s AKS CHZ,W9UD,WB9QPI) 68,796-715-91-ABCD

NØLL 11,752-223-WØQOA 315- 35- 9-B WØRT(+KØOBY) 2573- 77-31-ABD

Minnesota W9XG 7137-183-39-AB K9CJ 2064-79-24-ABD W9UC 816-51-16-AB W9FEC 72-18-4-B W9RGU(+K9s GX 52-KA9CRO, KB9AA,W9 VB,WA9 5 GWY ULE, WB9MBD,W09HEB) 20,916-317-63-ABCD Missouri

Missouri WDØGFU 2268-84-27-AB WØRWH 2212-158-14-B WØRWH 2215-75-29-AB WØRWH 215-75-29-AB WØRWG 449-22-2-AB WØRWC 400-40-12-A WØRVC 266-38-7-AB WØRC 266-38-7-AB WØRC 266-38-7-AB MØRC 266-38-7-AB MØRC

Nebraska WBØYSG 588- 43-12-BD WØNRI/Ø(+WØLJF,WBØGCC) 1950- 78-25-A

North Dakota

WA9CSL 5735-185-31-A W9R1B(+WB9UOR) 3605-103-35-AB K9ALL(+AJ9K,WA9s ZOK ZNJ, WB9s JLP MLU) 2346- 62-34-ABD

South Dakota

KOVXM 15,232-262-56-ABD WB9VQS 9020-20144-ABD WB9ULX/9 128-15-8-ABD W95ULX/9 128-15-8-ABD W95U+AAØF.KØsAG HF QC, KB9ES.NØATT WA9UFS, WD9HOJ,WA2VEY 33,670-433-74-ABCD

VE

Aaritime -	Newfoundland
/E1ASJ	17,380-316-55-AB
/E1UT	5967-185-27-BD
/E1BNN	1975- 79-25-AB
/E1SJ	756- 33-17-BD
/E1BCZ	184- 46- 4-AB

VE2BBK 4329-79-39-ABD VE2KV(+VE2s FMF FMI FRJ FSM NW YU,VE3BTZ) 26,664-365-66-ABCDE

Ontario VE3BQN(VE3CRU,opr)

	12,348-223-49-ABCD
/E3FN	4092-111-31-BD
/E3CKU	3432-143-24-A
/E3GCE	2016-126- 8-B
/E3CRA	264- 22-12-A
E3HAB	90- 18- 5-B
/E3AEA/3	VE3s FDP HCI IQZ
RW,oprs)	9143-211-41-ABD
/E3ESE(+'	VE6BKS)
	1722-123-14-В

Alberta

VE6SW 78- 12- 6-ABD

British Columbia

VE7XF 792- 63-12-ABC VE7ASM/7(VE7s ALJ AOU ASI BBB BN,oprs) 724- 88- 8-AB

DX

Mexico XE2BC (Multiop) 13,728-248-39-ABCDE XE2II (+K5HVC,W5XW,WA5NAD) 2461-107-23-A

British Virgin Islands VP2VDL(WB2RLK,AI4R,oprs) 1003- 59-17-A

Check Logs W1WHL,WA1MUG,K4EJQ,K7ICW, WA2AFE,W2CC,KP6BC/2,WA6ZKC

100 OST-

West Indies

5

Arkansas

W5SEP WA2QVI/5 WB5NBC