

Results, 18th ARRL International EME Competition

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Moonbounce operators ran into problems this year. First, neither of the weekends had good declination values for the Moon, especially for those in northern latitudes. This shortened the "window" (the time the moon was visible), as well as the amount of time the Moon was in a favorable position so that a large majority of hams could see it. It also hurt the efforts of some stations who worked on the higher bands. Then again, perennial winner Hannes, OE5JFL, thought the declinations had a silver lining—they allowed him more time to sleep, and kept activity higher.

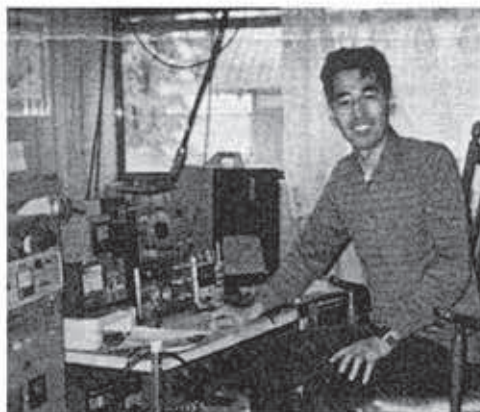
On top of that, massive (and, in some cases, even visible) auroras gave folks hosts of problems. This appears to be the first time it's happened in this contest, and we hope we won't have it again! What can be a boon to the normal VHFer can be the bane of an EME operator. As you'd suspect, those stations closer to the Arctic Circle (such as those in Alaska, Sweden, Finland and Norway) found the contest rough going. Leif, SM5BSZ, noted that the aurora gave him fits with polarization fading. He said, "The polarization was unstable, sometimes to the point that signals seemed 'unpolarized,' something I have never experienced before."

High winds and wintry weather gave other operators trouble, as antennas refused to stay in the same position they were pointed. The maxim "If your antenna didn't come down last winter, it wasn't big enough" applies to EME fans, too—the gusts in a number of locations made keeping those big arrays pointed at the Moon a bit trickier than normal. From JW9 to W5 to W0 to DL, it seemed like everyone must have kept one eye out the window to make sure things were still there. Of course, you could always use the Takao, JH3EAO, method of sending with one hand and manually moving the antenna to track the Moon with the other!

To top it all off, last year's EME version of the 500-pound gorilla, the VE3ONT group, was only able to operate one weekend this year. This made it a bit tougher for some



Magin, EA3UM, inspects the dish before mounting on top of the tower.



Kimio, JA9BOH, seems pretty happy with the 55 EME QSOs he was able to complete on 2 meters and 432 MHz.



Joe, NA3T, scratches his head in puzzlement as Mike, NV3Z, checks for Sun noise with the array on the ground.



The S56UUU crew did a little "portable" operating during the EME Competition on 10 GHz (l-r): Robert, S53WW; Marko, S56UUU; and S54WI.

folks, especially those with smaller stations, to complete that easy contact. Then again, they *were* able to complete 299 contacts in the time they had available. Did you hang in there long enough to be one of the lucky ones?

Moonbouncers are an indomitable group. Ask any EME veteran, and he'll probably give you a litany of things that have gone wrong through the years. The EME operators don't let things like that stop them, though. This year, another record number of folks made contacts via the Moon; the 239 entries we received represent another 10% increase over last year. This makes it the second consecutive year we've set a new record for entries in this event. Can it be that this contest is starting to catch the interest (or imagination) of more hams? Are we starting to see the advent of the totally "off-the-shelf" EME-capable station?

We had some other outstanding accomplishments worth mentioning. Paul, W4HHK (see March QST, pages 107-108), worked Takao, JH3EAO, on 2304 MHz, his best DX to date. A number of stations reported working WAC on 1296 MHz during the first weekend. When VE3ONT came on the second weekend, the rush to work them made for some pretty fierce pileups, with several ops remarking they had to fight through QRM for the first time during the EME contest. As more

of us get on EME, this may be something we all contend with a lot more often. This year's contest saw a surge of 10-GHz activity, with a phenomenal 33 EME QSOs made on this band. Who's going to be the first to step up and try it on 24 GHz?

Don't let problems like these deter you from trying this mode, either. Andy, HB9SUL, will tell you, quite rightly, "This contest is a great way to get started with EME." If you have the determination, we're sure the rest will come pretty quickly, and you'll be up nights listening for echoes in no time. Todd, KB6IGC, relates that he "worked three stations with a single Yagi the first weekend. I quickly got hooked by the EME bug and upgraded my antenna for the second half." Dale, AF1T, set up a tripod in his driveway, and completed nine contacts—why don't you give it a try? Plan out your station improvements now, so when the rules appear in September QST, you'll be ready. We'll listen for you then!

ECHOES

Moontime was 8 hours less than 1993, and activity on 70 cm was a little down. At least I broke 3 million points again. Activity was spread over the lower 35

kHz on all bands this year, rather than sticking all together within 20 kHz. As a result, the QRM was much less—really a big improvement (OE5JFL). An aurora really ruined the conditions for the US. Conditions were fair to good only on the night of November 26 (OH51Y). Problems with QRM and Faraday rotation resulted in poor signals and unstable conditions (SV1BTR). Conditions seemed down this year on 432, but I was very pleased with my performance on 2 meters with a single Yagi (W8TN). Lots of aurora on the October weekend seemed to affect all the bands, even 1296. The polarity really messed up on 2 meters, with very fast fading (VE6TA). I ran my small suburban station with the intention of giving out a few contest points, and wound up making 16 random QSOs on two bands, thanks to the great EME conditions I found on both weekends (WB2VVV). This was my first attempt at operating EME on three bands (JH3EAO). I made some improvements to my station and they paid off. What a surprise it was to work Japan on 2 meters. I also worked Europe on 432 with only 150 W! (KB2AYU). The second weekend had incredibly bad weather and rotten conditions (4X1IF). On 2 meters, even with a single Yagi, I enjoyed hearing all the activity (KA0RYT). The high A and K indices were tracking perfectly with good moon conditions (K6QXY). Murphy's Law really asserted itself this year, as loss of power and high winds the last day of the second weekend cost me several QSOs (W5UN). Conditions on both weekends were rather on the difficult side. Strong geomagnetic activity, especially the first weekend, made for a lot of one-way conditions (HB9CRQ). I've operated HF contests from the Arctic to the Antarctic, but there is something special about hearing signals from space (K7CA). The

moon kept jumping off the main antenna lobe! (K2GAL). I think I made WAS—"Worked All Sweden" (DL5MAE). Bad phasing lines the first weekend degraded the array approximately 5 dB. What a difference the correction made the second weekend! (AF9Y). We had a very bright aurora during the first weekend, making EME difficult. I sure enjoyed hearing so many signals when things were good, I had trouble sorting out call signs when three or more stations were answering my CQ at the same time (KL7FB). It was an exciting experience to hear the amount of activity that there was on the low end of the 2-meter band (W9QXP). Aurora, visible on both weekends, and a lot of wind and snow made this a challenge. I was QRT the second day, as I could not keep the four Yagis in position. I did work nine new countries (JX9VDA). I could have been on more, but I blew up the screen grid power supply of the PA the first night (PA0CIS). One should not cut three cords of wood the day before the contest! (WB0GGM). Imagine my chagrin when on my European window from 2330 Nov 16 to Nov 17, I heard nothing but my own echoes, and SM5MIX, whom I had already worked. Everyone finally appeared just before my moonset (VK2FLR). No visits from Murphy and reasonable conditions made it all the more fun (K4HWG). Conditions were not too bad for someone with a small station like me (9H1PA). The band sounded like 40 CW on the weekend! (AA0CP). I was so surprised by the strength of VE3ONT's signal on moonrise with the fixed elevation antenna that I got up early on Saturday morning, built a tripod, assembled and mounted the long-boom 2-meter antenna, tracked the moon visually and worked them! I was also able to hear a number of other stations consistently (WA8RJJF).

Scores

Each line score lists call sign, score, stations worked, multipliers, and band (A= 50 MHz, B = 144 MHz, C = 222 MHz, D = 432 MHz, 9 = 902 MHz, E = 1296 MHz, F = 2304 MHz, I = 10 GHz).

Single Operator, Multiband	JH3EAO	14,400	2	2	D	WB0GGM	39,100	23	17	B	JA2KRW	80,000	40	20	D	28	19	E		
OE5JFL	3,142,800	109	40	B	7	DL7AKA	39,000	26	15	B	ON4KNG	77,900	41	19	D	77	32	D		
		129	40	D	3	IW5CNS	37,400	22	17	B	G3SEK	77,400	43	18	D	373,100	79	32	D	
		53	28	E	3	N7BNJ	36,800	23	16	B	K2OS	45,900	27	17	D	12	9	E		
DL3BWW	915,200	83	40	B	8	KUBJ	36,800	23	16	B	ON5OF	40,800	24	17	D	199,800	13	13	D	
JA4BLC	648,900	60	24	D	3	PE1LCH	36,400	26	14	B	IK5WJD	28,600	22	13	D	37	20	E		
		31	21	D	8	NC7K	30,000	20	15	B	DF4PV	25,300	23	11	D	4	4	I		
		17	14	E	6	WB4WTC	29,400	21	14	B	SP5CJT	25,200	21	12	D	6	5	B		
VE1ZJ	465,600	2	2	F	1	G4HJP	28,600	22	13	B	S57QM	24,200	22	11	D	1	1	D		
		2	2	B	1	DL5BCU	24,200	22	11	B	YQ2IS	24,200	22	11	D					
		21	14	D	4	7K3LGC	20,400	17	12	B	G4ERG	20,000	20	10	D					
		5	4	E	4	DL2OM	20,400	17	12	B	DK3FB	18,700	17	11	D					
W7HAH	399,500	1	1	A	1	VK2FLR	19,200	16	12	B	K3LFO	17,600	16	11	D					
		55	29	B	6	SM1IUT	17,000	17	10	B	VK2DND	14,300	13	11	D	1,162,800	228	51	B	
		29	17	D	5	W45YDI	16,800	14	12	B	W8MQW	9,900	11	9	D	12,139,500	215	53	B	
		29	17	D	4	JE1BMJ	14,300	13	11	B	IS7DJ	9,900	11	9	D					
SM0PYP	384,000	4	4	B	4	K4HWG	14,000	14	10	B	JH4LJ	6,300	9	7	D	950,000	190	50	B	
		40	21	D	11	11ANP	14,000	14	10	B	AF1T	6,300	9	7	D					
		35	22	E	10	DF1IAZ	13,000	13	10	B	DL4MEA	4,800	8	6	D	1K3MAC (+ISYXQ)	645,000	150	43	B
JA2JRJ	340,200	1	1	F	10	9H1PA	12,000	12	10	B	WG3U2	4,200	7	6	D	F3VS (+F5JA)	495,600	118	42	B
		30	17	D	9	W1AUM	11,000	11	10	B	JR1RCH	3,000	6	5	D	IK1MTZ (+11JTO)	487,900	119	41	B
G3LTF	319,500	9	8	B	8	DJ3MY	10,800	12	9	B	J1NHNJ	3,000	6	5	D	SK7CA (SM7s GFV,NZB,SJR,SJV, THS,ops)	473,000	110	43	B
		26	18	D	8	DL3YEE	8,400	12	7	B	KL7HFO	2,800	7	4	D	9A5Y (9A3s LG,NM,ops)	248,500	71	35	B
		36	19	E	8	KB6IGC	7,200	9	8	B	JATUID	2,000	5	4	D	W1XE (+WBKEA)	94,300	41	23	B
UR5LX	257,400	5	5	B	8	JK1HIX	6,300	9	7	B	JJ3HP	900	3	3	D	K1FJMA (+KV6J)	3,500	7	5	B
		73	28	D	8	OZ1LO	5,400	9	6	B	JO3XME	900	3	3	D	9A10DD (9A2s KK,YY,BA6RLS, 9A7DUL,ops)	2,000	5	4	B
HA1YA	245,000	58	27	B	8	JA2HMO	4,800	8	6	B	JG3UVN	900	3	3	D	JA1YWX (JF3TBJ,G4DNN, 7L3KXK,ops)	100	1	1	B
		12	8	D	6	SK0UX (SM0LCB,op)	4,800	8	6	B	JA2ODV	900	3	3	D					
UT5EC	240,500	36	18	B	6	WA4MVI	4,800	8	6	B	JR9NWC	600	3	2	D					
		29	19	D	6	NOAKC	4,200	7	6	B	SM7THS	100	1	1	D					
DJ5MN	234,800	63	29	B	5	NI6G	3,500	7	5	B	W3TMZ	100	1	1	D					
		6	5	D	5	SM4HF1	3,500	7	5	B										
SS1ZO	216,000	34	19	B	5	W2RS	3,000	6	5	B										
		26	17	D	5	IW1CGB	2,500	5	5	B										
SM3AKW	207,200	10	8	B	4	KN5S	1,600	4	4	B										
		18	13	D	4	JH7SIA	1,200	4	3	B										
OHS1Y	185,600	49	25	B	3	VE3ASO	900	3	3	B										
		9	7	D	3	JH0BBE	900	3	3	B										
JA9BOH	181,500	40	22	B	3	YO5TE	900	3	3	B										
		15	11	D	3	KE7OI	600	3	2	B										
EA3DXU	168,300	31	18	B	3	NR6E	600	3	2	B										
		20	15	D	3	IK0IXI	600	3	2	B										
WDRAP	81,400	21	11	D	3	VE3EQG	600	3	2	B										
		16	11	E	3	NR3EQ	600	3	2	B										
FSHRY	74,800	6	5	B	3	JR7CHJ	400	2	2	B										
		28	17	D	3	WB6ITM	400	2	2	B										
WA4OFS	60,000	20	13	D	3	W3EP	400	2	2	B										
		10	7	E	3	SL4BP (SM4HF1,op)	400	2	2	B										
VE1ALQ	57,200	9	8	D	3	A4QCP	200	2	1	B										
		17	14	E	3	A1JK	200	2	1	B										
VK5MC	48,300	11	10	D	3	NB2AT	100	1	1	B										
		12	11	E	3	NB2AW	100	1	1	B										
SV1BTR	39,000	24	13	B	3	KA4ULJ	100	1	1	B										
		2	2	D	3	JH0MHE	100	1	1	B										
W7FN	39,000	2	1	A	3	W4BRJF	100	1	1	B										
		24	14	D	3	NBAXA	100	1	1	B										
W8TN	28,500	4	3	B	3															
		15	12	D	3															
K3EAV	25,200	6	4	D	3															
		15	8	E	3															
VE6TA	24,000	9	8	B	3															
		4	4	D	3															
		3	3	E	3															
WB2VVV	19,200	5	3	B	3															
		11	9	D	3															
K9BCT	18,000	12	9	B	3															
		3	3	D	3															
OZ5IQ	17,000	1	1	A	3															
		16	9	B	3															