THE SIX AND TEN REPORT

January 2004

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Analysis of 28 MHz reports from the UK

28 MHz reports and logs for January 2004 from G2AHU, G3IMW, G3USF, G4UPS, G0AEV, G0IHF, GM4WJA and packet cluster reports. Compilation and commentary by G0AEV.

Solar flux and sunspot counts were slightly lower on average in January than December, while geomagnetic indices were slightly higher. The net effect appears to have been poorer 10m band conditions, as expressed by our reporters and as indicated by counts of 10m beacons. Propagation on east-west paths is especially sensitive to ionospheric changes, which is why reception reliability of US and Canadian beacons provides such a useful guide to the quality of 10m propagation overall.

Compared to December (a month with no seasonal advantage or disadvantage with respect to January) around a third fewer N American beacons were reported. The daily reliability of QRO beacon 4U1UN dropped from around three-quarters of days in December to less than half of January days. In recent winters there has often been interesting late evening over-the-pole propagation from GM and Scandinavia. This winter GM4WJA reports no such propagation, although, for example, SM2CEW is reported to have had some good late night openings to North America and FO.

An overall trend towards weaker propagation with declining solar activity is, of course, to be expected but the observed differences between the results for December and January are perhaps somewhat exaggerated. December's results may have been biased by better reception coverage during the holiday period. However, there were fewer North American beacons heard in January than in any month in the current "DX Season", less even than in September 2003: this sort of difference is likely to represent real decline in the capacity of the ionosphere to propagate at 28 MHz.

Just as disappointing as the F2 situation was the relatively poor showing of sporadic E this month. This feature appeared in both the 10 and 6m data. And although there were plenty of bursts to be heard from 10m beacons during the Quadrantids shower, F2 and Es propagation is not yet rare enough to tempt 10m operators into trying meteor scatter!

Beacon graphs legend

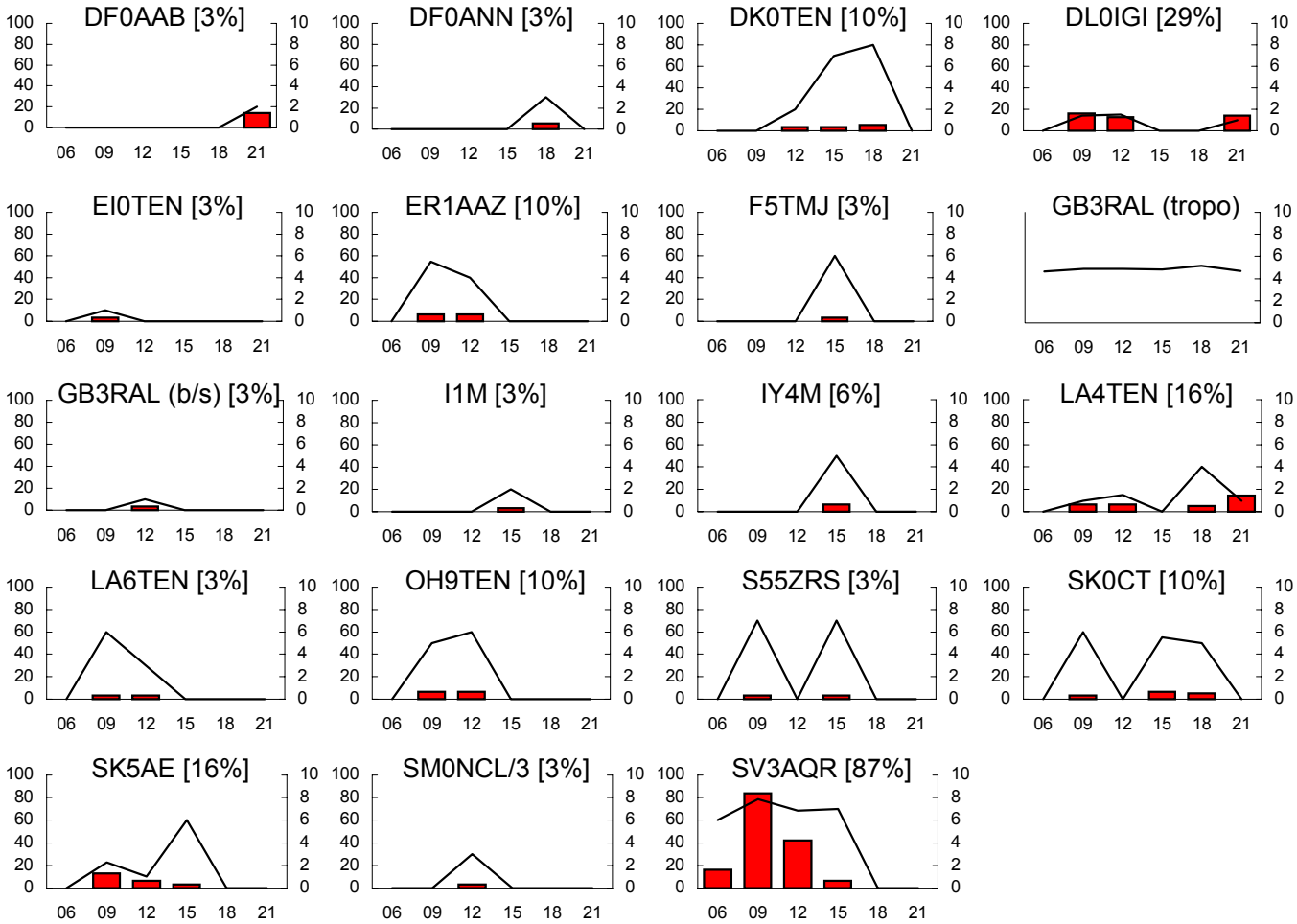
Legend for all beacon graphs in this section: - graph bars (left Y-axis): beacon reliability as the percentage of days a beacon was heard by any UK observer within each time band. Graph lines (right Y-axis): signal strength as the average of the daily maximum signal reported by any observer in each time band. Time band codes (X-axis): 6=0600-0900, 9=0900-1200, 12=1200-1500, etc. Callsigns are followed by daily reliability figures, the percentage of days per month when the beacon was reported.

European Propagation / Beacons

Propagation modes for European beacons.

Six and Ten reporters heard 19 different European 10m beacons in January, a small drop from the previous month. Sporadic E, relatively poor though it was, provided the means of reception for most of these beacons. F2 propagation was still in evidence – especially on the direct path to SV3AQR (reported on 87% of days). There was some direct single hop F-layer propagation to the east to ER1AAZ and on the northerly path to LA6TEN and OH9TEN, but openings were restricted to just a few days in the month. These circuits will not be available for much longer on current trends. F-backscatter was noticeably much weaker with the usually reliable (and QRO) beacons DL0IGI and LA4TEN only recording daily reliabilities of 29 and 16%, numbers which include sporadic E as well as backscatter. The late evening propagation shown for the 21z period in the graphs are mainly the result of meteor scatter in the Quadrantids shower. There were no aurora reports on 10m this month. GB3RAL was via tropo at G0AEV – the one backscatter report is graphed separately.

European Beacon Graphs.



European Beacon Notes.

The new Spanish beacon EA4DAT (28.263) started transmitting on 1st February – reports at hand to date (late February) suggest this beacon has yet to be heard in the UK. EA4DAT's 5w from IN80VB will be particularly useful during the summer Es season, especially as Iberia has been without beacon coverage since EA3JA went QRT. OH2B is still QRT but G3USF reports that a replacement for the stolen transmitter is in Finland and that a new (and hopefully more secure) site is being sought.

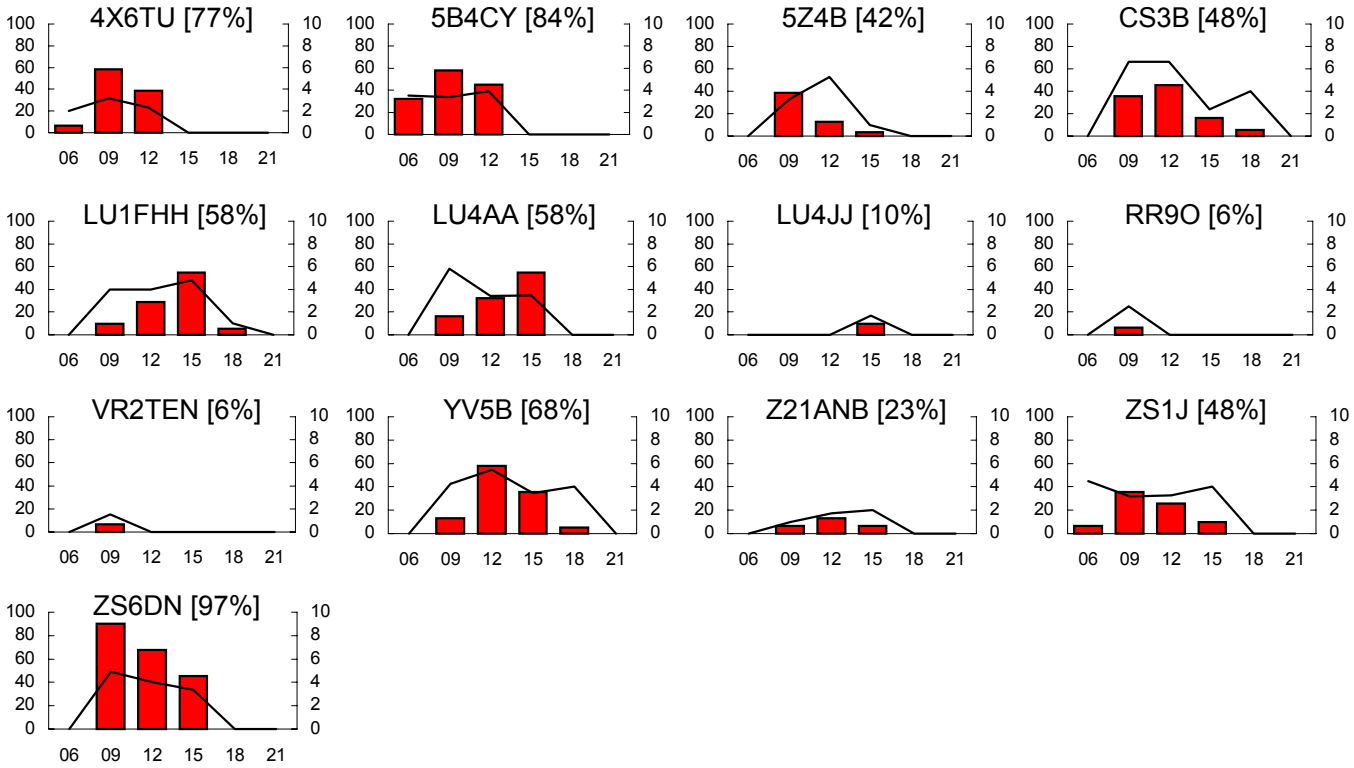
Propagation to Asia, Africa, Oceania, South and Central America

Suggested propagation modes. All the results shown by the graphs on the next page are due to normal F-layer propagation. Poorer propagation, mentioned previously, is again apparent. Only the very dependable southern Africa circuit retained excellent levels of reliability (ZS6DN reported on all January days bar one). DX circuits diverging from north-south showed reduced reliabilities – for example the 2 most reliable LU beacons (LU4AA and LU1FHH) were heard only a little over half of days. Single hop paths to 5B4 and 4X held up reasonably well. CS3B results were down because this beacon was off air at the end of the month.

Unfortunately the brief spell of improved winter propagation that provided reception reports last month of beacons in Australia, New Zealand and Japan did not materialise – more evidence of the poorer band conditions. In this context, 2 reports in January of VR2TEN looks rather good!

Beacon Notes. As noted above, CS3B went QRT during January – on, or shortly after, the 20th – but returned to service at the end of February.

World Beacon Graphs.



10m DX in January 2004

The following list of DX countries worked or heard in the UK data in January 2004 comes mainly from packet cluster spots (DX Summit: http://oh2aq.kolumbus.com/dxs/). Six and Ten reporters were not able to add much to the total.

DX in January: 5B, 5Z, 7Q, 7X, 9G, A4, A6, C5, C6, CE, CN, CO, CX, D4, EA8, HK, IH9, J4, KP4, LU, OD, PY, SU, TA, TG, TJ, UA9/0, UN, V3, VE, VK, VP5, VU, W, XE, YV, Z2, ZD7, ZF, ZS.

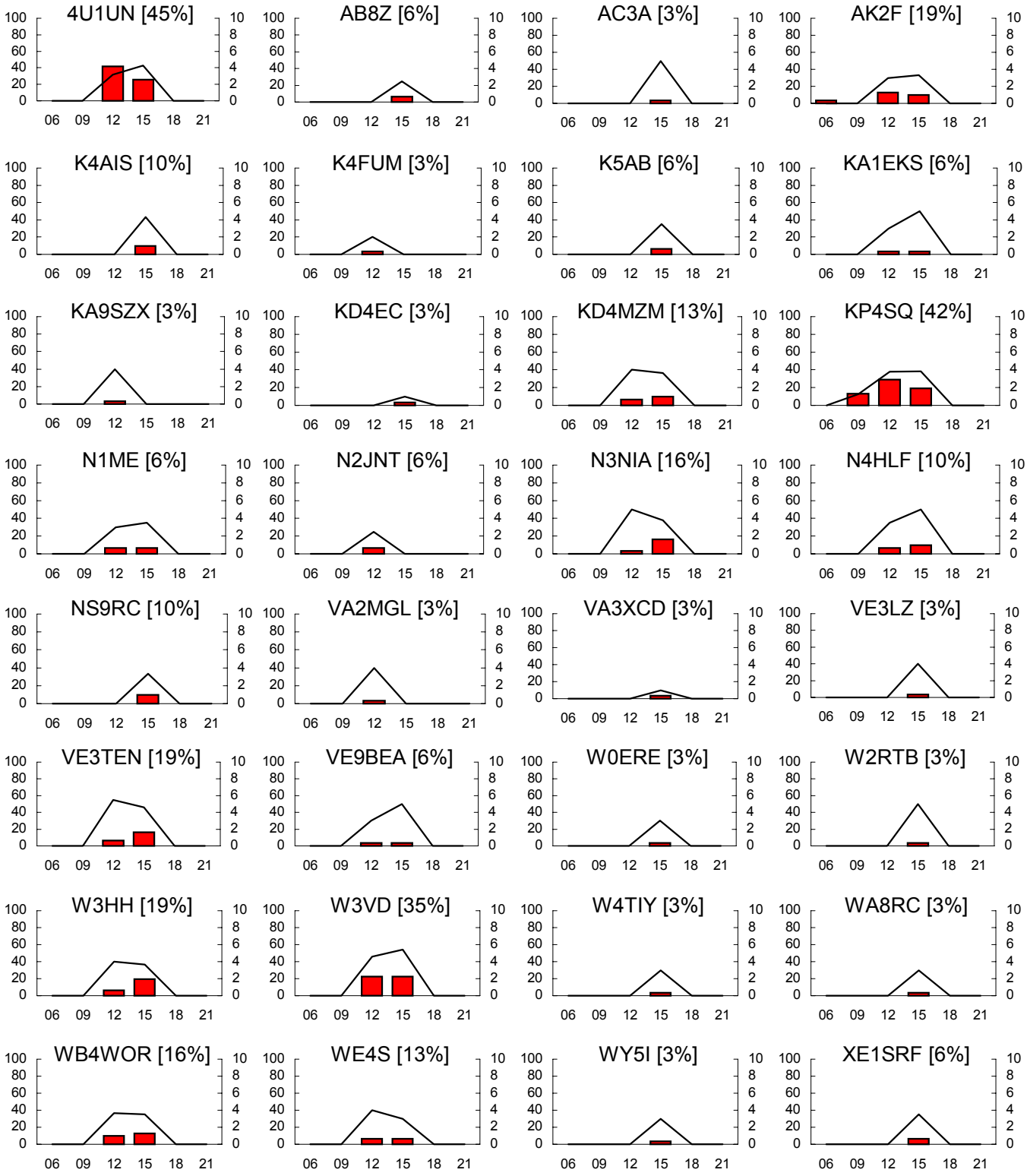
This list is a fair reflection of the availability of DX locations on 10m from the UK. The 10m propagation "envelope" extended from eastern Canada and USA, Central America and the Caribbean, most of South America except the far south, all of Africa, West Australia, India, Middle East and south-west Asiatic Russia. This still encompasses a significant area of the globe but unfortunately the reliability of propagation for much of this area was very low.

Propagation to North America

Suggested propagation modes. Propagation to North America, when present, was via normal F2. All openings were restricted to the 12 and 15z periods, a reflection of the length of the day.

There were 19 days with propagation recorded at some time or other, but on 8 of these only one or two beacons was heard - those most likely to be heard were 4U1UN (having the advantage of high power) and KP4SQ, which has the best geographical location. "Good" days when 10 or more beacons were reported were the 1st, 20th and 21st January. Nor so long ago a haul of 10 North American beacons in a day would have been considered a rather poor showing!

North American Beacon Graphs



Beacon Notes. Monitoring of USA and Canada from the UK is no longer much of a guide to the operating status of beacons: we can only report those beacons that are heard. The picture of beacon activity as seen from within the USA is quite different - many different North American beacons can still be heard on a regular basis. On the following page is a list of 74 different W and VE beacons reported in January 2004 by WJ5O – this provides a more reliable view of active North American beacons (and puts the UK view into proper perspective).

Subscribers to the HFbeacons mailing list (http://www.explore.force9.co.uk/beacons/hfbeacons.htm) will have read the regular postings by Bill WJ5O. Bill listens for 10m beacons at least once every day and reports what he has heard on the mailing list. You may also recognise the callsign from WJ5O/b.

Bill's QTH is Corpus Christi, Texas, an ideal location for monitoring North American beacons. It's in the south of the country so benefiting for the advantages of a more southerly latitude, and is within 1 F2-hop range of a significant proportion of the continent. Bill is fairly adept at hearing the closer beacons by backscatter, so there are not many W/VE beacons that he is not able to copy.

The following list of 74 beacons were heard and reported by WJ5O in January 2004. There was at least one report each day and two or three reports on a few days, however no attempt has been made to calculate a proper daily reliability. The number following each beacon is the number of times the beacon was reported and is representative of the beacon reliability. The main purpose of this tabulation, however, is to give an idea of the W/VE beacons currently QRV but out of range for UK listeners. A number of these are relatively new and have not been reported by UK stations. Bill's own beacon, WJ5O/b, is not listed – for obvious reasons - but is also QRV!

4U1UN	30	KF6MWA	13	NS9RC	2	W6PC	9
AB7RG	1	KG4WBH	2	VA2MGL	29	W6WX	21
AB8Z	8	KI4PJ	1	VA3XCD	9	W7HDD	6
AK2F	25	KK7PG	7	VE1CBZ	21	W8BEP	2
K4AIS	22	KP4SQ	25	VE3EEL	13	WA2NTK	1
K4FUM	2	N1ME	32	VE3GOP	11	WA6APQ	11
K5AB	34	N2JNT	27	VE3LZ	1	WA8RC	7
K5BTV	11	N2UHC	1	VE3TEN	29	WA8YWO	1
K5UNY	11	N3NIA	16	VE4ARM	14	WB4WOR	7
K6LLL	14	N4HLF	17	VE7MTY	19	WBOFTL	2
K7NWS	19	N5AQM	6	VE9AT	4	WE4S	6
KA1EKS	18	N7LT	16	VE9BEA	28	WØERE	12
KA7BGR	22	N7SCQ	1	W1NRA	2	WØKIZ	1
KA9SZX	2	N9AVY	3	W2IK	4	WY5I	2
KAØPSE	13	N9RET	2	W2RTB	5	XE1AKM	1
KB9DJA	1	NØAR	7	W3HH	9	XE1SRF	15
KC6WGN	3	NØUD	8	W3VD	18	XE3OAX	4
KD4EC	3	NP2SH	11	W4STT	1		
KD4MZM	4	NQ2RP	21	W6GY	3		

Analysis of 50 MHz reports from the UK

UK 50 MHz reports for January 2004 from G2ADR, G3HBR, G3IMW, G4UPS, GM4WJA and via packet cluster spots. Compilation and commentary by G0AEV.

For the second month running no 50 MHz DX openings of any sort were reported by UK stations. Inevitably this lack of F-layer propagation will soon become the norm, although we can continue to expect multi-hop sporadic E and Es + TEP to produce inter-continental openings at the right season. Ted G4UPS in his monthly log reports that during 2003 he worked/heard 78 different countries on 6m, which was rather poor compared with previous years. Ted expects (rightly!) that 2004 will be lower!

Inter-European propagation was also poor this month. Normally sporadic E provides welcome contact opportunities at this time of year but January 2004 turned out to be rather poor with only 3 six-metre openings of any note. Aurora were common but were all rather weak and most were only audible to stations in Scotland. Even GM stations found that the aurora were not strong enough for contacts with stations outside of the British Isles with the rare exception of a few Norwegians. The only predictable and certain chance of working European stations was during the Quadrantids meteor shower. More people took part in this shower than in the Geminids in December but the majority chose to use the JT6M mode. At other times JT6M proved that scatter from random meteors is actually a usefully reliable way of making contacts.

UK reporters again did a sterling job in listening for activity. They were not well rewarded. G2ADR apologised in his January log for a "pathetic offering" of reports on only 2 days despite maintaining a watch on every day. Eric will keep trying "to the bitter end"! Further south the picture from G4UPS was similar with the comment that "January wasn't a very inspiring start on 6m for 2004". Ted worked some meteor scatter on the 4th and found the sporadic E openings on the 6th and 17th. G3HBR had similar luck with a "maybe MS QSO" on 4th Jan and some Es on the 6th. Brian remarked that we often seem get some E propagation after the layer has had a good thrashing from meteors even if there wasn't much heard by MS as such! G3IMW also found the Es opening on the 6th, which brought in a swarm of Italians, and also caught the best of January's auroras on 23rd. Jeremy noted high noise levels on ten metres and copied the aurora warning transmission from the DK0WCY beacon (10.144 MHz) before finding GM and GI stations via aurora on six - quite good going for an IO80 QTH.

Sporadic E

Sporadic E results below are in tables grouped by country area and ordered alphabetically by country prefix. Percentages following the country name are the daily reliability values (the number of days when propagation was reported). The first row of each table, "D" is the day of the month, subsequent rows give the maximum signal strength reported from the UK in each of three hour time bands ("06" for the band 0600 - 0900, "09" for the band 0900 - 1200, etc.). A figure of "0" indicates that signal strength was not reported.

	9H (3%)	CN (3%)	CT (3%)	DL (3%)	EA(10%)	EA9 (3%)	I/IS Italy (13%)	LZ (3%)	YU (3%)
D	6	17	17	30	7 17 30	17	3 6 17 30	6	6
06									
09							5		
12							0		
15	5	9	9		9 9 5		9 6	5	9
18		5	9	5		0	9 5		9
21									

There are no trends to be had from such sparse data. The only thing to note is that, excluding 2 little reported and brief openings, Es was to be had on only 3 days (6th, 17th and 30th), which occurred one near the beginning, one in the middle and one near the end of the month. The 10m Es pattern was similar, although the event on 17th was not detected and the end-of-month openings were more extensive and present on several days.

Tropospheric propagation

December 2003 provided some quite good tropospheric propagation, but if the following list is representative, there was no "tropo" of any consequence in January.

4th	0534	G7RAU (IO90) > F6KHM (IN78) "heard 56 via tropo
18th	1259	F6KHM > G1HHO (IO90) 57/57

Meteor Scatter

The Quadrantids shower (3rd-4th January) did rather better for activity than December's Geminids. The following list of reports and spots indicates the meteor scatter activity by "traditional modes".

3rd	1340	F6KHM (IN78) > GB3LER "1 minute burst at S7"
	1657	F6KHM >GM beacons "good burst >35 seconds"
	2348	PA0O > GB beacons "many good reflections"
4th	0005	G3HBR > YU1EU 579 "?ms"
	0507	G4DBL > F6KHM "worked SSB random MS"
	0937	G4UPS > IK4JQO "peaks 55 m/s"
	1155	G4UPS > OZ3CR "55 m/s - fades out"
	1200	G2ADR reports French station at S4 *(possible ms?)*

There were very many JT6M spots in the DX cluster data for January – far exceeding in number those for any other mode. Assuming that the JT6M reports/spots in the period of the Quadrantids shower were all the result of meteor scatter propagation then may be possible to use this data to map times of best reflections. This approach is susceptible to significant problems because a significant percentage of JT6M spots are effectively CQ calls or otherwise not necessarily reports of actual contacts completed. With these provisos, the following table of numbers of JT6M spots per 3-hour period is a guide to MS activity and (perhaps) to the numbers of reflections.

3rd	09z	1	4th	00z	11
	12z	18		03z	3
	15z	4		06z	8
	18z	6		09z	9
	21z	4		12z	8
				15z	7

Aurora

Aurora were very numerous (thanks to John GM4WJA's vigilance in IO87), but only a couple of these provided national coverage – that of the 23rd was the best. No associated auroral E was reported.

1st	15z-18z		Aurora reported in late afternoon to early evening by GM4WJA
4th	15z	1715	MM0CWJ (IO67) > GB3LER 54A
	18z	1915-1924	2M0AVY > GB3LER 55A QSB; G7RAU > 49.739 video QTF 040
5th	15z-18z		GM4WJA reports aurora
6th	18z		Aurora in mid to late evening at GM4WJA
7th	15z-18z		Late afternoon to mid evening aurora (GM4WJA)
9th	06z	0608	G7RAU > 49.750/739 video "weak aurora" QTF 045
	15z-18z		GM4WJA reports late afternoon to mid evening aurora.
	18z	1908-1930	GM7PBB (IO68) > GB3LER 57A; MM0CWJ (IO67) > GB3BUX 54A
10th	15z-18z		GM4WJA reports aurora in late afternoon to mid evening. Ditto on the 11th.
12th	18z		Mid-evening aurora detected at GM4WJA
13th	15z-18z		GM4WJA has aurora in the late afternoon to mid evening
15th	15z	1717	GM7PBB > GB3LER 58A, GB3RMK 56A
	18z	2013	MM5AJW > GB3LER 55a. GM4WJA aurora all evening
16th	15z	1714	MM0CWJ > GB3LER 57A. Aurora continues into evening at GM4WJA
17th	18z	1843	GM7PBB > GB3LER 41A
18th	18z		Aurora in early to mid evening (GM4WJA)
19th	15z-18z		GM4WJA reports aurora in the late afternoon to mid evening

21st	18z	1947	MM0CWJ > GB3LER/B 54A
22nd	12z	1448-1500	G3NVO > GM6VXB (IO97), GM3UAG; G4PCI (IO91) > GB3RMK 52A, LA8AV (JO59) > GM6VXB 59A
	15z	1502	G4PCI> GM6VXB 51A
		1735	G4PCI> GB3RMK 53A
	18z	1801	MW1MFY (IO81) > GB3RMK 55A
23rd	15z	1615-1700	GB3RMK heard by LA6PV (54A), EI7IX (51A), G7RAU (53A, QTF 000)
		1700-1720	G3IMW (IO80) > several GM stations, GI0BFR 51A; MM0AMW > LA8AV
		1754	G4PCI > 2M0AVY 55A
	18z	1801	GW3MFY (IO81) > DL1EJA 55A
		1853	LB6YD (JO59) > GB3RMK 54A
		1925-1931	GW3MFY > GM3XOQ 57A; G4PCI > GM stations, GB3LER (54A)
		2015	G8VHI (IO92) > GB3RMK and GB3LER “still aurora” QTF 015
24th	18z		GM4WJA > aurora in early to mid evening.
25th	18z		Aurora in early evening (GM4WJA)
26th	18z		Aurora in mid evening (GM4WJA)
27th	00z	0112-0120	MM0BSM (IO86) > GB3LER 55A; G7RAU > 49MHz video QTF 040

N3DB - K0GU Aurora contact

In the Six and Ten Report for November we reported on a 2,497km (beeline distance) between LA1YCA and G4IFX. In the same issue, G3USF in his 50MHz Outside of Britain section, included reference to a contact "W3 (FM28) > W0 (DN70) 55a 1500miles" (~2513km), another aurora contact that seemingly exceeded the theoretical boundary fence limitations for aurora backscatter at E-layer heights (see chapter 4 of "Radio Auroras" by G2FKZ). The W3 end of the W3 > W0 contact was David Craig N3DB who kindly provided the following details (lightly edited by G0AEV):

"As background, the November 20 event was the third really good aurora I participated in during fall 2003. As you might expect, given my somewhat southerly latitude big aurora events are uncommon here, the cut-off line generally occurring along the FNx1 or FN1x line for "average" aurora events. The November 20th opening from FM28em resulted in 73 QSOs between 1702z and 0138z on Nov 21. Of these, one non-auroral QSO was with PY8EA (F2 or E layer enhancement) at 2101z and one on non-auroral backscatter QSO (QTF South America) with N5AW (EM00) at 2049z. All other contacts were worked with northerly beam headings and had aurora doppler on the received signals. Around the time of the ~2513 km QSO I logged:

K2MRK	2204	FN30	55a x 2	W9JUV	2220	EN62	57a x 2
VE1ZJ	2205	FN96	57a x 2	W9RPM	2222	EN43	56a him, 599 me
VE3CRU	2210	FN03	57a him, 58a me	K1EP	2225	FN42	57a him, 59a me
K0GU	2217	DN70	55a x 2				

"All of these QSOs were (as I prefer) via cw. As I remember it I was beaming approximately 300 degrees for the QSOs with Jay K0GU & the W9s. I checked with Jay and he told me his heading was 50-60 degrees (a "strange bent path"). Jay's signal had broad aurora doppler on it (akin to being on the wide mouth of a funnel, i.e. a wee bit more diffuse - like a weaker aurora). Of note is the report given to me by W9RPM ("599") but I assumed that he was excited by the aurora and that the report was just an error. Given that his signal was fully auroral I'd assume mine was as well. What I can say is that no auroral E was discernable by me here on any station during this part of the opening. In fact I did not log any auroral E QSOs at all. It is possible there was an auroral E connection somewhere, but if I were to hazard a guess between the theories of auroral forward scatter or aurora + auroral E, in this case I'd have to go with the former."

N3DB was using a single 7 ele yagi at 50 feet and 1.5kw (from the QTH of K3TKJ) and K0GU an array of 4 x M2 7 element antennas (perhaps 9 el) and 700 watts. Both stations were well equipped and the backscatter path predominantly east-west, meeting the conditions when the theoretical "boundary fence" is most likely to be exceeded. The mechanism is perhaps as David suggests, but equally the paths could have been extended at either or both ends of the backscatter circuit by tropospheric propagation.

Solar and Geomagnetic Data for July 2003

Data supplied by G0CAS (Sun Mag[1]) and from Internet sources. Compilation by G0AEV.

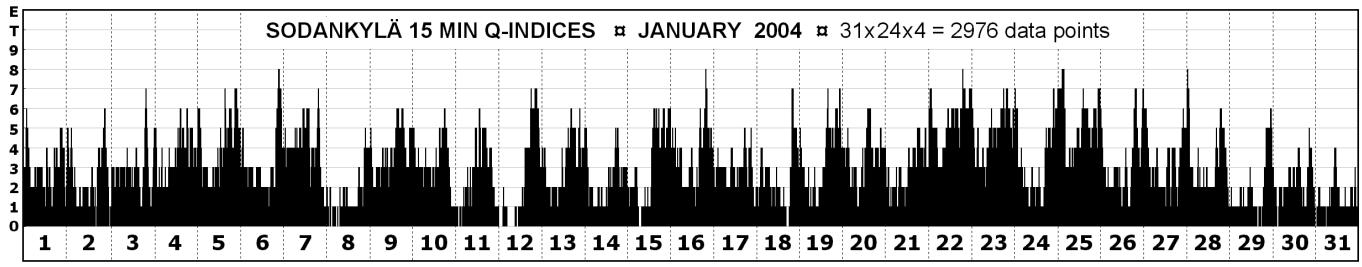
Sunspot numbers (SEC)	Mean 62.3	Max 118 (8th)	Min 0 (27-28th)
Solar Flux (28 MHz)	Mean 114.1	Max 135 (19th)	Min 87 (29th)

Solar data for January 2004 are presented in the table at the end of this section. Numbers in the 28 and 50 MHz columns of this table are the total daily "areas" worked/heard from the UK, a summary of the data presented in the first sections of this Report. On 28 MHz "areas" refer to the number of beacons reported via Es and F-layer, on 50 MHz the number of countries via Es, F-layer and Aurora. F2 critical frequencies are from Chilton in Oxfordshire, SIDC spots from SIDC, and other solar data from the joint USAF/NOAA daily summaries or directly from SEC.

Energetic Events (Flares of M and X class).

5th	0250-0520	M6.9
6th	0613-0636	M5.8
7th	0343-0421	M4.5 2N
	1014-1033	M8.3 SF
8th	0453-0521	M1.3 1N
9th	0113-0127	M1.1 2N
	0133-0154	M3.2
17th	1735-1759	M5.0
18th	0007-0021	M1.4 1N
19th	0525-0535	M1.0 SF
	1230-1246	M1.0
20th	0729-0747	M6.1 2N

Q-indices from Sodankylä, Finland (Thanks OH2LX)



Vaino OH2LX kindly provided his monthly resume of geomagnetic activity as seen in Finland. The Q-index was at least moderately elevated on all days. As Vaino described it, there were no exceptionally quiet days.

Finnish observatories in January 2004:

Sodankylä monthly Ak average = 35.0
Nurmijärvi monthly Ak average = 20.0

The most disturbed day:

Sodankylä: 22 Jan, Ak = 69
Nurmijärvi: 22 Jan, Ak = 51

Global and UK views on geomagnetic activity are given in the K-index tabulations on the following page

[1] Sun Mag: Sunspot and Magnetic data compiled by Neil Clarke G0CAS. Email neil@g0cas.demon.co.uk

K-indices.

There were 21 disturbed days in January when the UK K index or Kp was 5 or greater. The following four tables present the planetary Kp index (from SEC) and the Lerwick ("KL"), Eskdalemuir ("KE"), and Hartland ("KH") K-indices (from the British Geological Survey). Each table is set out with the day of the month in the top row followed by rows containing the K-values or each 3-hour period. The bottom row of each table is the sum of the K-values for the day. Pale shading indicates K = 5, darker grey shading indicates K > 5.

Planetary K (Kp)

Kp	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
00	3	3	2	3	4	3	3	2	2	3	2	2	3	3	2	4	3	2	3	3	2	5	4	4	5	3	3	5	1	2	2
03	4	2	3	3	3	3	4	1	3	5	2	2	3	3	3	4	2	4	2	3	2	5	5	2	5	1	4	4	2	3	1
06	5	2	5	4	3	4	5	1	5	5	3	1	3	2	2	3	3	4	3	3	4	6	4	2	5	4	2	4	2	3	3
09	5	2	5	4	3	3	5	3	4	4	4	2	2	3	2	5	4	3	4	2	3	7	5	4	4	3	3	3	4	5	5
12	5	3	4	4	4	3	5	3	3	3	4	3	4	3	4	4	3	3	4	4	4	7	5	3	4	4	3	3	4	4	3
15	4	4	4	4	4	3	5	3	4	3	4	3	4	3	4	4	3	3	4	4	3	4	5	3	4	4	3	3	3	3	1
18	3	3	4	4	4	3	4	2	3	4	4	3	4	2	4	5	3	4	3	3	3	5	5	3	3	4	3	3	2	3	2
21	3	3	3	3	4	5	3	3	3	2	2	3	3	2	3	4	3	4	3	3	2	4	3	3	3	3	3	2	2	3	1
Σ	32	22	30	29	29	27	34	18	27	29	25	19	26	21	24	33	24	27	26	25	23	43	36	24	33	26	24	27	20	26	18

Lerwick K (Shetlands)

KL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
00	3	3	2	2	3	3	2	1	2	3	1	0	3	3	2	4	3	2	2	3	2	4	4	4	5	4	4	5	1	2	1
03	2	2	2	3	2	2	3	0	2	3	0	1	2	1	2	2	2	2	2	3	2	3	3	2	5	1	2	2	1	2	1
06	2	1	2	2	2	2	3	0	4	3	1	0	1	1	0	2	2	2	1	2	2	3	3	1	3	1	2	2	1	2	1
09	2	2	2	2	2	1	3	1	2	2	2	0	1	1	1	3	2	2	2	2	2	4	3	2	3	2	1	2	2	3	2
12	3	2	2	2	3	1	4	1	3	3	3	1	3	2	3	3	2	2	2	3	2	5	3	1	3	2	3	2	2	3	2
15	3	2	2	4	5	1	3	0	4	4	4	2	4	2	3	4	3	1	4	4	2	4	7	2	4	2	3	2	1	2	1
18	4	4	5	4	4	2	4	1	4	3	2	4	3	2	4	5	4	5	3	2	4	5	6	3	5	4	1	4	2	4	1
21	4	3	3	2	4	6	2	3	2	1	2	4	4	2	3	4	4	4	3	3	2	4	4	4	4	3	3	3	2	4	2
Σ	24	21	23	25	30	24	31	15	32	32	26	24	34	28	33	43	39	38	38	42	39	54	56	43	57	45	46	50	41	52	42

Eskdalemuir K (southern Scotland)

KE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
00	3	3	2	3	3	3	3	1	3	3	1	1	3	3	2	4	3	2	2	3	2	4	4	4	4	4	3	6	1	2	1
03	3	3	3	3	3	2	4	0	3	3	1	1	2	2	2	3	2	2	2	3	2	4	3	2	5	1	2	3	1	2	1
06	3	1	3	3	3	3	4	1	4	4	2	0	1	1	0	2	2	2	2	2	3	3	3	2	3	1	2	2	2	2	2
09	3	2	3	3	2	2	3	1	2	3	3	0	2	2	1	4	3	3	2	2	2	6	3	3	3	3	2	2	1	4	4
12	4	3	3	3	4	1	3	2	3	4	4	2	4	2	4	3	2	2	3	3	3	5	4	2	3	2	3	2	2	3	2
15	4	3	3	4	5	2	4	1	4	4	5	2	4	2	4	5	3	1	4	4	2	4	5	3	4	2	4	3	1	3	1
18	4	4	5	4	4	3	4	2	4	4	3	4	3	2	4	4	4	5	3	3	4	5	5	3	4	4	2	4	2	4	1
21	4	3	4	2	5	6	3	3	2	2	3	4	4	3	4	4	4	4	4	3	2	3	4	4	3	3	4	3	3	4	1
Σ	29	24	29	29	34	28	35	19	34	37	33	26	36	31	36	45	40	39	41	43	41	56	54	47	54	46	49	53	42	54	44

Hartland K (SW England)

KH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
00	3	4	2	3	4	3	4	1	3	3	1	1	3	4	3	4	3	2	2	3	2	5	4	5	4	4	3	6	1	2	1
03	3	3	3	4	3	3	4	0	3	3	1	1	2	2	3	3	3	3	2	3	2	4	4	3	5	2	3	3	2	3	1
06	3	2	3	3	3	3	4	1	4	4	2	0	1	1	1	2	2	3	2	3	3	4	3	2	3	2	2	2	2	3	2
09	3	2	3	3	2	2	4	2	3	3	3	0	2	2	2	4	3	3	2	2	2	6	4	3	4	3	2	2	3	4	4
12	4	3	2	3	4	2	3	2	3	3	4	2	4	3	4	3	2	3	3	3	3	5	3	2	4	3	3	3	2	3	3
15	4	3	3	4	5	2	4	1	4	4	5	3	5	2	4	5	3	2	4	5	2	4	5	3	4	2	4	3	1	3	2
18	4	4	5	4	5	3	4	2	4	4	3	4	4	3	4	5	5	5	3	3	4	6	5	3	4	5	2	4	2	4	2
21	4	4	4	3	5	6	3	4	3	2	3	4	4	3	4	4	4	4	4	3	2	4	4	4	4	4	4	3	3	4	2
Σ	29	27	28	31	36	30	37	21	36	36	33	27	38	34	40	46	42	43	41	45	41	60	55	49	57	51	50	54	45	56	48

January	28 Areas		-- 50 Areas --				2800	- Spots -		Max			X-ray	Max foF2		Min foF2		-- Particle Fluences --		
2003	Es	F	Es	DX	A	AE	Flux	SEC	SIDC	Kp	Ap	Aa	b.gnd	MHz	Hour	MHz	Hour	2MEV Elec	1MEV Prot	10MEV Prot
01-Jan	0	32	0	0	0	0	116	47	32	5	27	47	B7.5	10.0	12	1.9	07	3.3E+07	1.5E+06	1.3E+04
02-Jan	0	15	0	0	0	0	117	51	40	4	13	34	B3.0	7.8	10	2.1	20	8.8E+07	8.9E+05	1.3E+04
03-Jan	0	9	1	0	0	0	116	65	45	5	26	38	B2.6	8.9	12	2.5	04	2.5E+07	1.3E+06	1.2E+04
04-Jan	0	15	0	0	1	0	119	80	46	4	24	40	B3.2	8.8	12	2.1	20	7.2E+07	2.3E+06	1.2E+04
05-Jan	0	13	0	0	0	0	123	80	44	4	22	49	C1.4	8.2	12	1.8	05	1.5E+08	2.2E+06	1.1E+04
06-Jan	3	5	4	0	0	0	117	78	39	5	20	38	B3.9	7.1	12	n.a.	n.a.	2.6E+08	1.8E+06	1.2E+04
07-Jan	1	2	1	0	0	0	119	93	50	5	32	51	B3.5	5.1	15	1.7	06	2.9E+08	6.8E+06	1.2E+04
08-Jan	0	5	0	0	0	0	120	118	53	3	9	14	B2.4	6.6	13	1.9	02	4.0E+08	3.3E+06	1.1E+04
09-Jan	0	5	0	0	2	0	118	88	38	5	21	38	B2.3	7.8	11	1.8	07	2.0E+08	2.1E+07	1.3E+04
10-Jan	0	5	0	0	0	0	119	66	36	5	24	40	B2.6	5.8	14	1.6	07	4.4E+07	3.4E+06	1.0E+04
11-Jan	0	8	0	0	0	0	119	53	32	4	17	31	B3.7	6.9	12	1.8	06	2.0E+08	3.6E+06	1.1E+04
12-Jan	0	7	0	0	0	0	118	77	27	3	10	20	B4.2	7.4	14	1.8	05	1.6E+08	7.8E+05	1.0E+04
13-Jan	0	5	0	0	0	0	118	53	35	4	18	40	B4.3	8.0	11	1.8	06	7.3E+07	1.8E+06	1.0E+04
14-Jan	0	8	0	0	0	0	121	58	34	3	12	24	B3.5	6.9	13	1.7	06	2.3E+07	4.7E+05	1.1E+04
15-Jan	0	14	0	0	1	0	119	57	43	4	16	36	B3.4	7.8	16	2.1	06	4.5E+07	1.4E+06	1.2E+04
16-Jan	0	12	0	0	1	0	120	68	50	5	26	48	B2.7	8.6	11	1.9	07	2.9E+07	1.2E+06	1.3E+04
17-Jan	0	11	5	0	1	0	123	56	49	4	14	34	B3.1	n.a.	n.a.	2.0	00	1.5E+08	1.9E+06	1.3E+04
18-Jan	0	18	0	0	0	0	120	72	40	4	18	33	B2.7	8.8	12	1.9	05	2.4E+08	1.1E+06	1.5E+04
19-Jan	0	14	0	0	0	0	135	87	54	4	17	32	B3.9	7.9	12	2.1	06	3.0E+08	3.1E+06	1.5E+04
20-Jan	0	27	0	0	0	0	129	94	61	4	16	35	B3.9	8.7	12	1.9	06	1.5E+08	2.0E+06	1.4E+04
21-Jan	0	18	0	0	1	0	130	104	61	4	12	30	B3.3	8.5	12	2.0	03	2.0E+08	1.0E+07	1.5E+04
22-Jan	0	11	0	0	2	0	122	76	49	7	62	102	B2.5	11.6	14	1.8	06	2.2E+07	2.5E+07	1.2E+04
23-Jan	0	18	0	0	4	0	115	62	42	5	38	66	B1.9	9.3	13	1.7	06	6.6E+07	2.7E+06	1.1E+04
24-Jan	0	9	0	0	0	0	108	47	34	4	15	31	B1.8	7.6	13	n.a.	n.a.	1.3E+08	1.1E+06	1.1E+04
25-Jan	0	7	0	0	0	0	102	48	16	5	33	53	B1.6	n.a.	n.a.	n.a.	n.a.	4.0E+07	6.6E+05	1.0E+04
26-Jan	0	7	0	0	0	0	98	38	13	4	17	36	B1.5	n.a.	n.a.	n.a.	n.a.	5.1E+07	6.1E+05	1.1E+04
27-Jan	0	8	0	0	1	0	94	0	0	4	16	29	B1.2	n.a.	n.a.	n.a.	n.a.	5.9E+07	8.3E+05	1.1E+04
28-Jan	1	5	0	0	0	0	89	0	8	5	19	38	A8.7	n.a.	n.a.	n.a.	n.a.	4.7E+07	9.7E+05	1.1E+04
29-Jan	2	4	0	0	0	0	87	25	16	4	10	19	A7.5	n.a.	n.a.	n.a.	n.a.	4.7E+07	6.6E+05	1.2E+04
30-Jan	2	8	3	0	0	0	93	42	27	5	17	36	B1.6	n.a.	n.a.	n.a.	n.a.	3.3E+07	6.6E+05	1.2E+04
31-Jan	6	12	0	0	0	0	94	49	38	5	12	19	B1.0	n.a.	n.a.	n.a.	n.a.	5.9E+07	2.4E+06	1.2E+04
Sum	15	337	14	0	14	0														
Average	0.5	10.9	0.5	0.0	0.5	0.0	114.1	62.3	37.2	4.4	20.4	38.1	B3.2	8.0	13	1.9	04	1.2E+08	3.5E+06	1.2E+04
Maximum	6	32	5	0	4	0	135	118	61	7	62	102	C1.4	11.6	16	2.5	07	4.0E+08	2.5E+07	1.5E+04
Minimum	0	2	0	0	0	0	87	0	0	3	9	14	A7.5	5.1	10	1.6	20	2.2E+07	4.7E+05	1.0E+04

50 MHz Outside Britain

Compilation and Commentary by G3USF

Europe

Auroral-Related Propagation

Auroral related propagation was reported on the Continent on 25 days but none of the events was widespread or protracted, even at high latitudes. Comparison with G0AEV's earlier listing shows that UK operators were involved on almost all these days plus the 18th and 21st, when there were no reports from the Continent. GM4WJA at times seems almost as quick to detect aurora as OH5IY's automatic monitoring system! The 23rd was the only day when an opening is known to have extended south of the Baltic/GM line to any substantial degree, and then only relatively briefly - though there were several days with isolated G reports that eluded our continental colleagues. Auroral-E was noted at high latitudes on several days. Thanks as usual to OH5IY and OH2LX for data without which this section would look decidedly thin.

Jan 1 0142 49750(St.Petersburg)>SM0(54a)

Jan 2 20-2100 JX7SIX>SM3(539) JX7SIX>OH2(559) JX7SIX>SM5(559) 49750(UA)>OZ SM5>SM3(mode?)

Jan 3 2335 OH9SIX>OZ(559 AE)

Jan 4 1357 49750>OH6(KP02 55a)

Jan 5 1620-40 Au>OH5IY 1620-30 AuFM>OH5IY 1700-10 Au>OH5 1750-1810 Au>OH5

Jan 6 2210-50 Au>OH5

Jan 7 1150-1230 Au>OH5 1240-1330 Au>OH5 1340-1530 Au>OH5

Jan 9 1620-1700 Au>OH5 1654 JW5SIX>SM2(559 AE) 1750-1820 Au>OH5 1830-1940 Au>OH5 19-2000 SM5>OZ(55a) LA>OZ(55a)

Jan 10 1519 49750>SM2 1550-1620 Au>OH5 1730-1850 Au>OH5 19-2000 49750>OH6(KP02 55a) 1910-2000 Au>OH5

Jan 11 1220-30 Au>OH5 1410-30 Au>OH5 1710-40 Au>OH5

Jan 12 17-1800 OH8>SM3(57a) OH2(KP41)>OH4(56a) OH8>OH4 1830-40 Au>OH5 19-2000 OH9SIX>SM2(57a, au all afternoon) LA>SM2(55a) 1900-10 Au>OH5

Jan 13 1543 OH9SIX>OH5(KP30 55a) 1650-1720 Au>OH5 1730-1910 Au>OH5 1950-2000 Au>OH5 2030-40 Au>OH5 2140-50 Au>OH5

Jan 14 1810-20 Au>OH5

Jan 15 1440-1720 Au>OH5 18-1900 OH6>SM5(55a) OH9(KP46)>OH5(55a) OH9SIX>SM2(57a) JW5RIA>SM2(mode?) OH6(KP20)>OH5(59a) OH3>OH6(mode?) 1810-30 Au>OH5

Jan 16 1128 49750>OH6(KP02) 1920-30 Au>OH5 2010-20 Au>OH5 2100-10 Au>OH5

Jan 17 1810-20 Au>OH5

Jan 19 14-1500 OH9SIX>OH5(KP30 55a) OH3(KP20)>SM5(JO99 55a) SM5(JO78)>OZ(57a) SM5(JO78)>LA(JO49 59a) 1600-1710 Au>OH5 1850-1910 Au>OH5

Jan 20 1400-1510 Au>OH5 1418 49750>OH6(KP02 55a) 15-1600 49750>OH5(55a) SM4(JP70)>LA(JO49 55a) SM5(JO99)>LA(JO49) 1520-50 Au>OH5 1600-30 Au>OH5

Jan 22 1110-1500 Au>OH5 1150-1330 AuFM>OH5 12-1300 49750>OH6(59a KP02) 49750>OZ 13-1400 62238>OH5(55a) ES0SIX>LA(JO49 53a) SP1(JO84)>LA(JO49 57a) SM5(JO99)>OZ(JO54 55a) OH2(KP20)>LA(JO49 55a) ES1(KO29)>LA(JO49 55a) 14-1500 GM>LA(JO59 59a) 15-1600 SM5>LA(JO59 59a) 1520-1710 Au>OH5 1850-1910 Au>OH5 19-2000 JX7SIX>SM2(579) 1920-30 Au>OH5 1950-2000 Au>OH5 2240-50 Au>OH5

Jan 23 0000-40 Au>OH5 0640-50 AuFM>OH5 0730-40 AuFM>OH5 1113 49750>OH6(KP02 55a) 1120-1210 Au>OH5 15-1600 LA>SM5(57a) 1510-1720 Au>OH5 16-1700 GB3RMK>LA(54a) LA(JO59)>LA(JP31) ES5>LA(57a) OZ>LA(JO59 59a) LA>SM6 SP1>LA(JO59 57a) ES0SIX>LA(53a) GB3RMK>EI(51a) SP2>LA(JO59 55a) 1630-1700 AuFM>OH5 17-1800 DL>LA(JO59 55a) OH3(KP20)>DL(JO31)(?) SP4(KO03)>LA(JO59) OZ(JO47)>DL(JO31)(?) OH6(KP20)>DL(JO31)(?) OH6>SM6 ES8(KO28)>LA(JO59)(?) 1740-50 Au>OH5 18-1900 OH6>OZ(?) LA>OZ(59a) 1820-1950 Au>OH5 1840-50 AuFM>OH5 19-2000 SM5>OZ(57a) LA>OZ(57a) LA>DL(55a) 1900-10 AuFM>OH5 2040-2100 Au>OH5 2225 DL>OZ(?)

Jan 24 0030-40 Au>OH5 0050-0130 Au>OH5 2140-50 Au>OH5 2210-30 Au>OH5

Jan 25 0020-30 Au>OH5 0220-30 Au>OH5 0240-0310 Au>OH5 0320-0410 Au>OH5 07-0800 OH9SIX>SM2(56a) 1420-1510 Au>OH5 1540-1740 Au>OH5 1800-40 Au>OH5 1800 TF3SIX>SM2(559 AE) OH9SIX>SM2(56a) OH6(KP20)>SM2(59a) LA(JO54)>OZ(55a) OH6>SM5(56a) 18-1900 SM3>LA(57a) GB3LER>EI(51a) 19-2000 OH6>SP4(KO03 55a) JW5SIX>SM3(539 AE) JX7SIX>SM2(599 AE) 20-2100 GB3LER>OZ(JO45 54a) JX7SIX>OH6(KP02 AE) 21-2200 TF3SIX>SM2(579 AE) GB3LER>F(IN96 52a) 22-2300 LA7SIX>LA(JO59 559) LA(JO99)>LA(JO49 59) LA>OZ(59) LA7SIX>OZ(55-99)

Jan 26 0020-30 Au>OH5 1935 OH9SIX>SM2(57a) 21-2200 49750>SM5(56a)

Jan 27 0000-20 Au>OH5 0030-50 Au>OH5 0100-20 Au>OH5 18-1900 OH8>OH5(59a) OH6>OH5(57a)

Jan 28 0050-90130 Au>OH5 0150-0210 Au>OH5

Other Modes

Six is never at its best in January. And in this particular January the average solar flux was only 114, compared with 144 in January 2003 and 226.8 in January 2002. On the 28th and 29th the sun was reported to be spotless. Even from Greece, more favoured than most, the MUFs reported by SV1DH mostly fell far short of 50MHz. His list is the shortest for some years (though, even so, he managed to add yet another 'entity' to his score - albeit one very close to home. Although Costas notes the return of 3C video in Greece, the month's only reports of DX amateur operation came from the other end of the Mediterranean: TR0A was received in EA6 or EA7 on the 14th, 16th and 30th, while ZD8VHF was copied there on the 18th and 23rd. It was also received in France on the 23rd.

Unlike Britain, some areas of continental Europe did see something of the textbook winter sub-peak in Es, though 'peak' somewhat exaggerates the modest showing. Contacts specifically credited to Es were reported on the 7th and 10th and, possibly the 30th. (As usual attribution of propagation mechanisms comes from the reporter. Also, as usual, beacon callsigns as well as DX are given in full.)

MS contacts were reported on the 3rd, 4th, 5th, 6th, 10th, 11th, 17th and 18th, with the 3rd and 4th particularly fruitful. There may well have been more lurking behind the 'JT6M' contacts, which tell us nothing about propagation. Along with G0AEV we can only surmise that, in many of these instances, meteor scatter should be credited.

Jan 1 1445 I5>I2

Jan 2 11-1200 1A0KM>I1,I2,SV1,9H 1430 I3>9H 1458 S5>PA 1638 IA0KM>I0

Jan 3 0820 SM6>F 0936 I4>I0 10-1100 OZ,S5>F I0,I5,I4>DL 9H>S5 UR5>LA SM5>OZ I3>I0 11-1200 ON>IS0 I4,OE5>F I4>OZ 12-1300 I4>DL(t),OE5 I3>9H PA>LA 13-1400 F>OZ G>I2 I4>DL(t) I0,S5,GB3LER>F I5>DL(ms) F>LA GD,F>LA 14-1500 I4>DL I0>HB(ms) 15-1600 I4>DL(t) 16-1700 I0,I2>I5(ms) G>SM(ms) GM>F(ms) 17-1800 OE5>DL LA>F GM>S5 S5>DL 18-1900 S5>PA,DL 19-2000 G>S5,SM5 20-2100 SM5>PA G>LA 21-2200 G>HB(es) I2>LA 22-2300 UR7>LA DL>SM5(ms) F>OZ(ms) 2348 GB3LER>PA(ms)

Jan 4 0456 G>DL 05-0600 F>DL 06-0700 GM>F HB>S5 07-0800 GB3MCB>F SM1>OE5(ms) OE5>S5 08-0900 I3>F(ms) SM7,SM0,OH3>LY I0>F OK1>S5 F>F(ms) 0948-54 I4,LA>F 10-1100 F>F(ms) SP3>SP6(ms) GM>F(ms) I0,F>DL SM7>I0 11-1200 F>F LX>PA GB3RMK,GB3LER,PA,G>F EA7>9A G>I4,OZ 12-1300 PA>I3,S5 F>PA(ms) GM,OE3,I5(ms)>F F>LA OPE3>HB 13-1400 LY>PA,F F>ON LA>F 14-1500 LA>SQ6 9H>S5 I0>DL(MS) GD>I5(iono/eme) GD>SP3 15-1600 GD>S5,I3,SP3,PA I3>9H EA7>9A 16-1700 I3>SM5(ms) I3>PA 17-1800 LX0SIX>F(t) 2211 F>SM6

Jan 5 1732 F>LA(ms) 18-1900 SV1SIX>I4 4N0SIX,UT5G>IS0 SV1SIX,9H1SIX>DL 1937-55 9H>I2 SV1SIX>9A 20-2100 I0JX,CN,EH7>F

Jan 6 OH1>OH6(bs) OE5>DL(ms) 1423 I1,I0>I5 16-1700 US5>OM5 I0>PA,EI,ON I8>PA F>I5 4N0SIX>F 17-1800 I8,I5>PA I9,I0>OZ I4,I6,I7(Es),I8>DL F>9A G>I8 IS0>OZ 18-1900 ON>I0 G>I8 SR9FHA>EA6 IS0>DL DL>I8 4N1ZNI,T9>F S5>EA3 1913 CN8MC>F

Jan 7 0149 GB3RMK>F 15-1600 GD>OK2 LA>DL 16-1700 GB3RMK, GB3MCB> EA6 (Es) 20-2100 LX0SIX>EA7 EA3VHF>9H 9H>F

Jan 8 12-1300 I5,GD>F 1740 SM6>F 1922 SV2>SV1 20-2100 S5>OM5

Jan 9 no reports

Jan 10 1034 OK1>OE5 1358 I1>I2 1454 LA>F(ms) 1550 OK1>LA(ms) 17-1800 LA>OE5(ms) 1851 SP6>F(Es)

Jan 11 1517 3Ctv>SV1 (first of season) 1717 S5>PA(ms) 2033 YU7>OZ

Jan 14 1625 TR0A>EA6

Jan 15 1756 LX0SIX>EA7

Jan 16 1535 3Ctv>SV1 1544 TR0A>9H

Jan 17 0728 OK1>OE5(t) OK1>F(ms) 1058 S5>I3 1657-8 EH7>I2 I3>EH3 17-1800 CN8MC,CT0SIX,IS0,EA5>F I2,OE5,HB,OE3,OK2>EH7 EH7>DL,I1 EH6>DL I1>EA5 EA5>OE5 I1>I8 18-1900 EH5>HB,OE5,DL CT>I5 G>CN CN>F CT>I4 19-2000 CT0SIX>F

Jan 18 07-0800 OE5>OM5 09-1000 OK1,I2>F F>S5 10-1100 SQ6,G>F I2>PA(ms) EH1>F(ms) 1553 OZ>I2 2124 ZD8VHF>EA7

Jan 19 1424 3Ctv>SV1 aurora

Jan 20 no reports

Jan 21 no reports

Jan 22 no reports

Jan 23 16-1700 ZD8VHF>EA6,F 17-1800 OK1>DL ZD8VHF>EA6 I9>I8 18-1900 CN>EA7

Jan 24 13-1625 3Ctv>SV1 22-2300 ZD8VHF>EA7

Jan 25 11-1200 ON>LA I3>I2

Jan 26 1319 3Ctv>SV1 1740 ON>F

Jan 27 1530 3Ctv>EA7 18-1900 LA>ON 19-2000 I8,I5>I0 I2>I4 OH6>OH5 I0>I1 S5>I0 20-2100 SK7>OZ OH0>DL I5>I0 I1>I2 LA>DL I0>IS0 I4>I2,I1 21-2200 IS0,I5>I1 I1,I4>I0 I0>IS0 I1>I2 PA>OZ I5>SP6 22-2300 SP6>I5 I0>IS0

Jan 28 no reports

Jan 29 0920 OK1>OH6 21-2200 UT5G>PA SM0>9A,SM5

Jan 30 1448 3Ctv>SV1 1602 G>OZ(Es?) 17-1800 I1,HB,9A>EI SM0>SM5 TR0A>EA7 GB3LER>EA6 18-1900 TR8CA>EA7 EI>I4(Es?),I5,I2,I1 GB3RMK>I1 2042 LA>SM5

Jan 31 10-1100 F>OE5 1347 F>S5 1615 I9>9H 17-1800 CT3>F I4>I2

50MHz PROPAGATION REPORT FOR JANUARY 2004 BY SV1DH

1. Data for all days (31)
2. Relatively good days on: 5
3. 48 MHz AF video (3C) on: 12,14,16,19,22,23,24,26,30 (R=29%)
4. 55 MHz AF video (5N) on: NIL
5. " to I on: 5(E)
6. " to DL on: 5(E)
7. " to 9A on: 5(E)
8. " to UR on: 13(E)
9. " to SV/A on: 8(T) 226th DXCC entity worked
10. Special events on:
    - 5 (0346 M6.8 flare)
    - 6 (0629 M5.8 flare)
    - 7 (0410 M4.5 +1027 M8.3 flares+0815-1000 foF2>10, max 11.5/ MUF=41Mhz at 0915+2315 ZL to W5,6)
    - 8 (0507 M1.3 flare)
    - 9 (0122 M1.1+0144 M3.2 flares+0800-0945 foF2>10, max 10.7/ MUF=38Mhz at 0915)
    - 17 (1750 M5.0 flare)
    - 18 (0017 M1.4 flare+1330 W on 10m)
    - 19 (0532 M1.0+1240 M1.0 flares)
    - 20 (0745 M6.1 flare+1300 W on 10m)
    - 21 (0945-1030 foF2>10, max 10.5/MUF=36 at 1000)
    - 22 (0700-0730+1130-1400 foF2>10, max 11.6/MUF=39Mhz at 1315)
    - 23 (1030-1130 foF2>10,max 10.7/MUF=36 Mhz at 1100+1630 F+EH6 to ZD8)
    - 25 (0930-1145 foF2>10, max 11.1/MUF=37Mhz at 1100)
    - 26 (0900-1000 foF2>10, max 11.0/MUF=40Mhz at 0930)
    - 27 (1000-1100 foF2>10, max 11.3/MUF=40Mhz at 1030)
    - 28 (SSN=0!, Xbgn=A6, min)
    - 29 (SSN=0)
11. DXCC entities heard/worked during January 2004 : 5 on 1 cont
12. DXCC entities heard/worked on 5th January 2004 : 3 on 1 cont.

73 COSTAS

The Americas

Auroral-Related Propagation

An unremarkable list. While the average Ap for the month was an above average 20.4, the 22nd was the only day reaching minor storm level and for most of the month aurora could not have come sufficiently southward for US operators. Still, it is a little surprising that there was only one report on the 22nd. K0KP/b merits a mention. Well located and running a useful amount of power into a high-quality antenna system it is proving an important indicator of when the aurora becomes accessible from the north-central states. The lower-powered N8PUM is also useful, but the north-east lacks as consistent an early-warning beacon.

Jan 3 0503 VE8BY>VE6(519a)

Jan 6 0353 VE8BY>VE6(529a)

Jan 7 0258 VE8BY>VE6(579a)

Jan 10 0350-7 VE4(EO26)>VE6(DO33 53a) VE8BY>VE6(DO33 534a) 0426-34 K9MU>W0 W0>W0 0758 W8>W0(mode?)

Jan 15 23-2400 K0KP>W9(part au) W8(EN84)>W9(EN44 54a)

Jan 16 0348 W0(EN36)>W9(EN44 55a)

Jan 22 0505 W0(DN76)>W0(EN37)

Jan 24 00-0100 K0KP>W9(EN44 54a) W0(EN08)>W9(EN44 54a) VE4ARM>W9(EN44 52a) 01-0200 N8PUM>W9(EN44 52a) W8(EN84)>W9(EN44 57a)

Jan 25 03-0400 W0(EN08)>W0(DN76) VE4(EN19)>W9(EN43) 04-0500 W9>W0(mode?) W9(EN44)>W9(EN52) 2357 W8(EN84)>W9(EN44 53a)

Jan 26 0002 W9(EN44)>W8

Jan 27 01-0200 W8>W8

Jan 30 1144 K0KP>W8(52a)

Other Modes

For once, January produced a more substantial crop of reports from the Americas than from Europe. That is not to say DX was prolific, but DX there was, with KH6 reported from W5 and W6 on the 1st and ZL worked from W5 and W6 on the 7th.

PY and LU were worked from W4 on the 7th. Those were the only contacts between North and South America reported via the DX Summit during the month. However, Dave, N3DB (FM18, Maryland) reports that during the ARRL DX contest on the 24th he worked LU and PY and heard a CX3 during an hour-long opening 2333-0030z. (Some of his contacts should doubtless strictly be assigned to the 25th.) This was clearly a geographically restricted opening, as Dave believes that only one other North American (WA2BPE or K2ZD?) got in on this event. He attributes these and other contacts with sub-equatorial South America to tep+Es. Incidentally, a couple of months back, the listing referred to N3DB/4. Dave assures me that, although, FM18 lies partly in W3 and partly in W4, he has never operated from the 4th district. Apologies, especially as his status as a '3' at times serves as a marker of how far north openings have extended.

Although North American reports make almost no reference to Es, from reading the full range of reports on the DX cluster, it looks reasonably clear that the seasonal sub-peak was more marked there than in Europe. (Where the cluster reports a bunch of (say) W4>W1 loggings, the detailed listings below would show W4>W1 only once in any one-hour time-slot.) , Contacts with XE, VP9 or C6A, which are scattered through the detailed listings, also appear in many instances to have involved Es.

References to 'JT6M', which liberally spatter European postings, remain notably sparse in North America. Whether this is because it is not so widely used or because it is not considered worthy of mention is unclear.

Jan 1 00-0100 W0>W5 W3>W3 W5>W9,W4,W5 N0UD>VE6 W4>W4 01-0200 W4CHA>W5 K0KP>W1 W0>W2,VE2 W5>W5 W8>W4 02-0300 W0>W0,W3,W2,W1,W8 K6MIO/KH6>KB6NAN,KG6I,K0GU,K5AM,K6YK K9MU>VE6 VE6>W0 03-0400 W4>W0 WR9L>W0 KH6/K6MIO>KB6NAN 0643 K0KP>VE6 15-1600 W4>W4 16-1700 XE1>W5 1828 K0KP>VE6 21-2200 W8>W4 2220 K0KP>W1 2244 W9>W0(sc) 2338 V31MD>W4

Jan 2 00-0100 W4,W5>W5 01-0200 W4>W5 01-0200 ZF1DC>W4 W5>W4 1808 XE1>W5 2226 W8>W1

Jan 3 17-1800 W4>W4 W0>W0 W2>W9 18-1900 VE5>W0(ms) W9>W4(ms) W7>W0 19-2000 W4>W4 W8>W4(ms) VE4>W0(ms) W9>W3(sc) N8PUM>VE9 20-2100 W1>W8(ms) W3>W9(ms) W5>W8(ms) 21-2200 W3>W5,W8 VE4>W0 W0>VE3(sc) W0>W3(ms) 22-2300 W3>VE3(sc) 22-2300 ZLtv>W4 K0KP,VE4,N8PUM>VE6

Jan 4 0008 K0KP>VE6 02-0300 W8>W8 K0KP,VE8BY>VE6 0451 VE4>VE6 1617 W3>W0(ms) 17-1800 VE2>W9 18-1900 K0KP>VE6 20-2100 W8>W0(ms) W8>W1 2236 NLL>VE6 2336 W4>W3

Jan 5 0253 V44NK>W3 0348 W6>W0 18-1900 K0KP>VE6 W9>W1

Jan 6 2358 W8>W8

Jan 7 0000 W2>W11614 W4>W3 23-2400 ZL2TPY>N6XQ ZL2TPY>AE5B YV1DIG>NW5E/4,W4SO,N4RFN

Jan 8 00-0100 XE2>W5,W4 W4>W102-0300 VE4>W9 0409 VE4>W0 2031 W4>W0 23-2400 YV4DDK,FJ5DX,PJ2BVU>PY4

Jan 9 01-0200 PT7>PP5 W1,VE2>W4 02-0300 W4>W3,W1 W2>W9 03-0400 W3>W1 14-1500 C6A/N3IQ>W2,W3,W4,W1 C6AFP>W2 W4>W1 15-1600 VP9DUB>W4 K2ZD>W4 C6ANM>W1 W4>W1 16-1700 C6AGN>W1,W2,W4 KL7GLK/3>W4 1748-50 W8>W4 W4>W5 18-1900 W4>W5,W0 19-2000 W5,W0>W4 20-2100 W4,W3>W4 W4>W5 21-2200 W7>W5 W8>W0 2216 W9,K0UO>W4 23-2400 XE2>W4 9Y4AT>PY4

Jan 10 00-0100 XE1KK>W4 W4>W1 ZLtv,XE2>W4 1345 VP9DUB>W4 1638 W0>W0(sc) 1944 K5AB>WE0(Es) 20-2100 W5HN,XE2ED>W0 21-2200 W0>W0,W5 W0MTK>W4 W5>W4,W9 KA0CDN>W4 VE5>W5 22-2300 W5,W8>W9 2359 W8>W8

Jan 11 01-0200 W8>W8 W5,W7>W0 W7>W5 02-0300 WA7X>W5 W0MTK>W0 03-0400 VE4,WR9L>W0 VE4VHF>W5 W0>W8 1934 K0KP>VE6(ms) 2047 K0KP>VE6 23-2400 W0>W3 W5>W8 W5>VE2

Jan 12 00-0100 K0KP,W9>W4 W0>W3 W9,W0>W3 01-0200 W9,W0>W3 W3>W0(Es) W0>W4 02-0300 W5>W5 W8,KD4HLG>W0 14-1500 K5AB,W0>W4 1522-32 W4CHA,W9>W0 16-1700 W4>W0

Jan 13 1550 JM1SZY>W7GJ(eme) 2342 FJ5DX>ZZ2TGR

Jan 14 1447 W4>VE1 1508 VE1>W4

Jan 15 0036 W7>W5 01-0200 W5SIX,W7>W5 XE1KK>W0 16-1700 W3>W0 W0>W9(ms)

Jan 16 0100 W4>W3 1614 W9>W3(t/sc)

Jan 17 00-0100 W0>W0(Es) 0513 W7>W5 0606 W5VAS>W0(Es!) 1543 W5>W5 16-1700 W8>W8 W5>W5 1852 W0>W0(t/sc) 2252 VE6>W0 2330-50 W5>W4(t) W5>W0(2xEs)

Jan 18 00-0100 W5>W5 W3>W0(2xEs) W0>W9 W4,K8UK>W0 02-0300 W0MTK>W9 K0EC>W9 N0LL>W3 W0>W0(Es),W8 03-0400 W0,N8PUM>W0 1902 K0KP>W5 22-2300 EH8JF,CN8MC>PY1 23-2400 W4>VE3 W5,W0>W4 W4,W5VAS>W1 ZLtv>W4

Jan 19 00-0100 W3>W4 TI2NA,V44,YV4AB,9Y4AT>PY1 N7LT>W5 N0LL>W7 W6>W0(Es) 01-0200 N0LL>W7 W4>W5 W0,W5>W6 WA7X,W0MTK>W5 02-0300 W5,W0>W6 W6>W7 XE2ED>W0 03-0400 W5,XE2,W6,VE7>W6 04-0500 W7,XE2ED>W7 XE2>W6 05-0600 W7,W6>W6 23-2400 W8>W8 VP9DUB>W3 W2>W4 W4>W9 W3,W4>W0

Jan 20 00-0100 W4>W9 W8,VE3>W4 W0>W8,W9,W4 VP9GE>W0 KE4SIX>W1 W5,W4>W2 W4>W9 W5>W3 W4>VE3 01-0200 W9,W3>W5 W5>W1,W2,W3 W8>W4,W5,W9 KE4SIX,KD4HLG>W0 W4>W3,W4 W0>W6 02-0300 W5>W8,W9 W0>W4 F6FHP>W1JJ(eme) 22-2300 KV2AA>W4 PY2PR,PY4OY>KP4

Jan 21 00-0100 LU8DO>KP4 K4RX,P43L>PY4OY PY4TNT>K4RX K4RX,PJ2BVU,WP3NK>LU2NI 0302 W4>W1 1821 W5>W5 2347 PY4TNT>KP4

Jan 22 00-0100 W4>W9 PJ2BVU>PY4 01-0200 FY1FL>PT2,PY4 PV8>PT2 0203 FY7THF>PT2 2305 W9JN>W8

Jan 23 0258 W7>W6 03-0400 W5,W7>W6 W2>W3(sc) 0402 W7>W6,W5 0746 XE2HWB>W0(Es) 1458 K0KP>W1 18-1900 VP9GE>W3

Jan 24 00-0100 ZLtv>W4 16-1700 W4CHA>W9 17-1800 W5>W9,W4 19-2000 W1,W2,W3,W0>W1 W2,W9>W9 W3>W3 VP9GE>W2 W3>W0 W5>W5 20-2100 W3>W0 W1,W3>W1 W3>W8 VE1>W4 W5>W5 W9>W9 21-2200 W3>W3,W4 W2,W5>W0 W1>W4 W8>W8 W3,W4,W1,W9>VE1 VP9GE>W2 W3>W9 W4>VE9 W7>W0 22-2300 W4>VE1,VE9,W4 VP9GE>W8,W2,W3 W8>W8,VE1 W2>W3,W4 W8,W9>W0 W1>W1 23-2400 W1,W4>W1 VP9GE>W4 W8>W9 PY1DGV,PY2TVI,PY1YB,LU1FA,LU8DIO,CX3>N3DB

Jan 25 00-0100 W2>W0 W4>W4 W5>W5 W1,W3,KP2>W3 03-0400 W5>W5 W4>W8 11-1200 W3>W1 (mode of some of following uncertain) 14-1500 W1,W3>W1 W5>W4 W3>W9(sc) 15-1600 W1,W3>W1 W4>W4 W1>W9 W3>W4 16-1700 W3,W4>W4 W9>W8 W3>W3 W0>W5 17-1800 W1>W4,W1 W2>W2 18-1900 W4>W8,W9 W0>W5 W2>W4 19-2000 W4>W4 W9>W9 20-2100 W8,W9>W2 W5>W8 21-2200 W4>W4 K6LMN/C6A>W5 22-2300 W4>W5,W4 K6LMN/C6A>W5 23-2400 FG5DX>PY2 W1>W1

Jan 26 00-0100 W4>W5 PJ7/K2GSJ>PU2 01-0200 W5>W4 XE1,XE2>W5 02-0300 W4>W4 W3>W3 XE3>W4 XE2>W5 W9>W4 19-2000 W6>W4 2247 K6LMN/C6A>W5 23-2400 LU>PU2

Jan 27 01-0200 W5,W0,W7>W5 XE2>W0 02-0300 W6>W5 W7,XE2ED>W0 03-0400 W6,XE2,W7>W5 W6>W7 0400 W5>XE2 17-1800 W0>W6 W7>W0 KA0CDN>W7 1856 W4>W0 21-2200 V31MD,47.9(CE),ZLtv>W4 22-2300 TG9AJP>W4 XE2>W5 W4>W0 VP9DUB>W6 W5>W4 23-2400 V31MD,TI5KD>W0 TI2ALF>W0,W5 W0>W5 W4>W0,W5 W9>W5,W8

Jan 28 00-0100 W0,W4>W5 TG9NX>W5 01-0200 TG9NX>W0 TG9AJR,HR1RBM>W4 0214 XE1>W5 23-2400 49.3(CE)>W4 W0>W3,W4 W5>W1 ZLtv>W4 TI2NA>W0

Jan 29 00-0100 W5VAS,N0LL,K0UO,K0ETC>W3 TI2NA>W9 FJ5DX>PU2 W0>W6 W4,W5,W0>W0 PT7>PY4 PJ2BVU,PT7>PP5 W4>W5 01-0200 TI2ALF>W0 FJ5DX>PT7 W0>W4 W4,W5,W8,W7,W6>W5 02-0300 W0>W4 XE2>W5 W5>W5 1515 W3>W4 16-1700 W4>W0 K4AHO>W3 17-1800 W4>W3 C6AFP>W4 1838 W4>W3(Es) 21-2200 W9>W4 22-2300 W5VAS>W3 23-2400 K4AHO,W4CHA>W0 W4>W5 W4>W1

Jan 30 00-0100 XE1>W5 C6AFP>W1 01-0200 W4>W2,W8 17-1800 W4>W3 19-2000 W4>W3 W9JN>W9 2250 W5>W4

Jan 31 00-0100 W8,W2,W4>W5 W0>W4 1450 KE4SIX>W1 15-1600 VE3,W4,W1>W4 W8,KD4HLG>W1 16-1700 W8>W4 W7>W7 1829 W3>W4

Asia/Pacific

Japan

JA1VOK's report shows continuing propagation across the equator on most days, though results on the VK path were well down on the previous year, dropping from 17 days (2002 6, 2001 20) to 8. The call areas reported were VK3 (21,22), VK4 (9,12,13,21,22,25,26,28), VK6(28) and VK8(1,22). The 6 days on which ZL was reported were down on 2003's 10 days but an improvement on 2002 (1) and 2001 (2). There is no obvious explanation of this rather erratic pattern of results. For both paths, the flux for the days they were open were very close to the monthly average of 114. The geomagnetic figures for the ZL days was also very close to the average Ap of 20.4, though the VK average of 24.7 - swollen by the Ap of 62 on the 22nd - was substantially above. The proportion of reports that refer to beacons suggests low levels of activity not only in VK and ZL but, less surprisingly, in C21, FK and V7.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
VK	+											+	+								+	+			+	+		+			
ZL		+	+	+					+																+			+			

It was scarcely surprising that there were no JA reports from outside the Asia-Pacific region, but KH6 and VR6 do not feature either.

6m DX results in JA during January 2004 from JA1VOK

DATE	TIME(UTC)	STATIONS
1/ 1	0600-0700	9M2TO/b, V73SIX/b, VK8RAS/b
2	0000-0100	C21SIX/b, V73SIX/B
	0625-0730	9M2TO/B, YC1MH, ZL3NW,3TY
3	0500-0800	9M2TO/B, FK8SIX/B, YC1MH, ZL1VHF/b,3NW,3TIC,3SIX/b
4	0152-0200	HL1LTC
	0505-0530	FK8SIX/B, VK4GO,4JSR,4RGG/b,ZL1VHF/b,2TPY,3SIX/b
9	0250-0300	ZL1VHF/b
	0320-0530	DU1EV/B, VK4BLK,4RGG/b
11	0335-0400	FK8SIX/B, V73SIX/B
	0430-0440	C21SIX/b (JA7)
12	0150-0230	C21SIX/b, V73SIX/B (JA7)
	0500-0530	VK4RGG/b
13	0450-0500	VK4RGG/b
	0649-0740	DS1CCU,HL1LTC
20	0215-0220	C21SIX/b (JA7)
21	0425-0520	VK3XQ,3BQS, ZL1VHF/b
22	0500-0640	DU1EV/B, V73SIX/B, VK3SY,3SIX,4PU,4RGG/b
	1338-1350	VK8MS
	2235-2325	DU1EV/B, V73SIX/B
24	0640-0700	V73SIX/B
25	0520-0630	FK8HA,8SIX/B, V73SIX/B, VK4RGG/b, ZL3NW,3SIX/b
26	0530-0645	VK4RTL/b
28	0000-0010	ZL3SIX/b
	1030-1100	VK4ABP/b,4RTL/b,6RSX/b
30	0830-0900	DU1EV/B
31	0830-1030	DU1/GM4COK,DU1EV/B,N7ET/DU7

Elsewhere

Summer in the southern hemisphere and, apart from paths to JA and HL, reports appear mainly to relate to seasonal sporadic-E. There are also a couple of reports of winter Es from the northern hemisphere.

Jan 1 0156 VK8RAS,VK4ABP>VK3 04-0500 49750>VK3 22-2300 ZL3SIX>VK3 2335 VK4>ZL2 01-0200 FK8HA>VK3 VK2>ZL2 04-0500 VK2>ZL3 0416 FK8SIX>VK3

Jan 2 2135 ZL1VHF>VK3

Jan 3 21-2200 VK4RGG(Es),VK2,VK3>VK3

Jan 4 0043 FK8HA>VK5 01-0200 FK8HA>VK5 ZL1VHF>VK3

Jan 7 22-2300 VK2>ZL3 23-2400 VK4RGG,VK2RHV,VK8,ZL2>VK3 VK8>ZL3 W5/b>ZL3JT

Jan 8 00-0100 BorneoTV,ZL3,VK7(Es),VK6RBU,VK6RSX,ZL3SIX>VK3 01-0200 VK6>ZL3 0227 48240(EU)>VK3 0259 VK8RAS>VK3

Jan 9 0659 JE7YNQ>HL1(Es) 2350 VK2>ZL3

Jan 13 0657 JE7YNQ>HL1(Es) 0715 JG1ZGW>HL1

Jan 17 0148 VK4>VK2

Jan 21 0201 VK4RGG>VK5 05-0600 JE7YNQ>VK3,VK5

Jan 22 0125-6 VK6RBU,VK6RPH>VK5 05-0600 49750,JE7YNQ,JA1,JA2>VK3 06-0700 JA2,JA6YBR,JR0YEE,JG1ZGW>VK3 JA2>VK4

Jan 23 0118 VK4RGG>VK5

Jan 27 1152 VK4>VK1

Beacon News and 28 MHz Worldwide

Compilation and Commentary by G3USF

Beacon News

1810	RN6BN	new beacon in KN95LC (RW3XX)
3600.000	ZL1MT	|
3602.000	ZL3FJ	| These 'precision beacons' for propagation research purposes have no fixed
3610.000	VK2BLR	| schedule but most operation is at weekends (ZL1BPU)
3840.000	ZL1BPU	|
21145.2	IQ3RO/b	reported here. No further details (IW3HXI)
28217	AB7RG	Cottonwood AZ (DM44AQ) runs 5 watts to AR10 Vertical at 50ft.
28234.5	KB1KDC	Lancaster NH (FN44FL); 4 watts to horiz. Dipole N-S 0400-2300UTC
28241	VA3SBB	runs 5 watts to vertical from South Gillies (EN58)
28260.0	W5RTX	Rockwall TX new beacon running 5 watts to 1/2 Vertical. May QSY. (W5RTX)
28260.9	N7LF	Corbett OR (CN85VI) new beacon (N4SO)
28263.3	EA4DAT	Cuenca (IN80VB) is a 'provisional' operation running 5 watts to 5/8 vertical. (EA4DAT)
50022.5	FR5SIX	plans to reactivate from a fresh site. Timescale not known (F5HTJ)
50030	5T5SN	Nouakchott (IK28AC) with 30 watts to GP irregular operation (5T5SN/PA1SIX)
50035	OA4B	Lima (FH17) operational with 13 watts to vertical omni 24/7 (N6XQ)
50061	K9MU	running 7 watts to dipole oriented N-S at 40 ft from EN44, change of frequency (K9MU)

28 MHz Worldwide

A year ago these notes commented that 'the chill that struck 50MHz had yet to reach 28MHz'. One would not venture so upbeat a remark this January, with the solar flux much lower and levels of geomagnetic activity markedly higher. So some intercontinental paths were well down. Thus reports of evening propagation from South America to Oceania, the most favoured period of the day, were down from 12 days to only 3. In January 2003 Asia worked into North America on 29 days; this year it was 9 days, all during the morning period in Asia. Similar comparisons could be made for several other circuits. There were almost no reports of propagation between Asia and Africa or even South America and Africa (not quite the same as saying there was no propagation, of course.)

But the picture was not entirely bleak. While there were no reports of Europe<>Oceania during Europe's evening, openings were reported during Europe's morning on twelve days though, as was to be expected, they mainly reached central and southern Europe, with western and northern Europe much less favoured; VK6RBP, which had a 22 per cent daily reliability into the UK alone in January 2003, does not feature at all this year. However, Europe reported Asia every day except the 29th, while the easier Africa path was open every day. Contacts with South America were rather sparse during the first half of the month but occurred daily from the 15th onwards. More difficult paths to North/Central America were not quite as consistent but occurred on no fewer than 24 day, though frequently only for short periods and to restricted areas at both ends. Propagation within Europe, mostly by full F2 reflection, with limited (back)scatter and occasional sporadic-E, was reported on every day except the 8th.

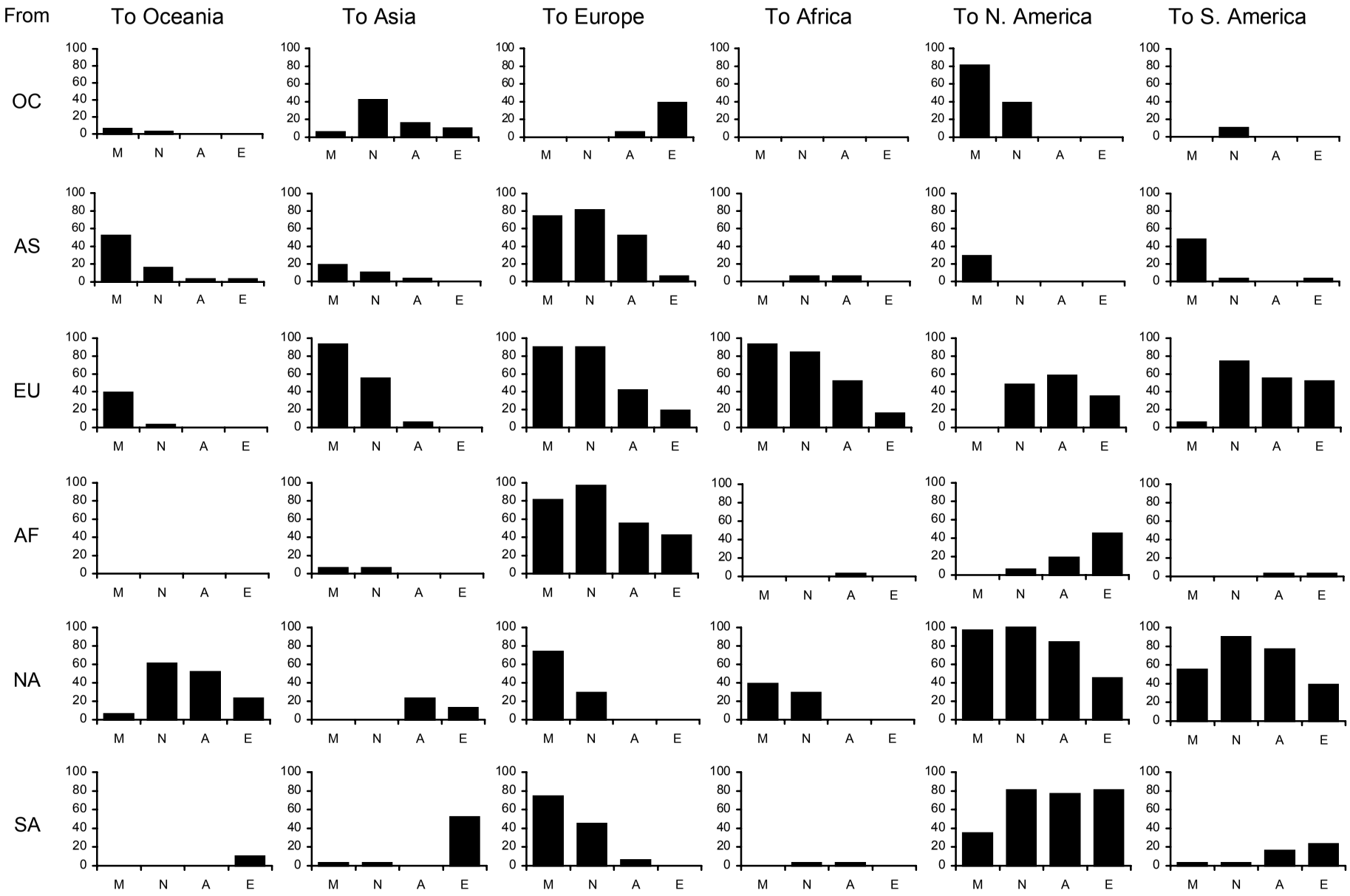
Contacts within North/Central America and with South America were reported on all days. North/Central America had propagation to Oceania on 25 days. However, the more difficult path to Asia remained poor, while Africa was reported on a rather disappointing 17 days.

Activity levels were frequently disappointing, though stimulated at times by the FO/OH6KN expedition and operation by ZK1CG and T20RE, as well as by a major contest. So, notwithstanding generally unexciting conditions, there was a good sprinkling of reports worthy of at least a passing mention. These include late trans-Atlantic propagation: OH6MMC<>W4ABW at 2146 on the 1st, followed by OH6QU receiving 'good copy' of the XE1SRF beacon on a transpolar path at 2200. On the 7th G4IFB worked PY2NB at 2204 - a darkness path all the way. On the 9th there was another late opening between Scandinavia and the US with SM2CEW, who makes a specialty of this sort of thing, working AG4MS at 2042, followed by KA4SSH at 2049. Again, the reflection points must have been in darkness. On the 12th, a day when no trans-Atlantic signals had been reported earlier, even from southern Europe, SM2CEW reported W3VD/b at 1858, W4HYD(1933) and K4AIS/b(2029). Reception of two quite low-power beacons strongly suggests more contacts could have been made had operators been on the band and alert. SM2CEW was also heard by RA1OZ at 1945. On the 16th SM2CEW copied N1ME/b at 1711, and on the 17th he reported K9NS at 2113 and FO/OH6KN auroral at 2137. K0HA heard him calling FO/OH6KN at 2145. At 2216 SM3GSK reported K0HA as the only station he could hear. The K0 was reported by a PY3 599 at 2117. An intriguing evening, to say the least.

Continuing the late trans-Atlantic thread, on the 19th after copying the DF0AAB beacon at 2116, SM2CEW went on to report W3VD/b at 2118, K4JZ at 2130 and K0FPL in Kansas at 2140. On the 23rde SM3JLA had W3VD auroral at 1847 followed by WA8RC/b at 1853, with K4AIS/b and K3USY (Florida) at 1854. It seems worth setting down these reports 'for the record', both because they are in themselves outside what we would expect and because they may in time contribute to a better understanding of the path between Scandinavia and North America. Winter evening contacts between northern Europe and the US have been noted for several years now on either Six or Ten. However, a year or so back, the areas affected at the American end were well to the west and north of what he have here, though on the European side the call areas are broadly similar. It would be nice to know more; failing that, further reports are always welcome.

(28 MHz worldwide graphs on following page)

28 MHz Worldwide - January 2004



Time bands: M=Morning, N=Noon, A=Afternoon, E=Evening - used for the "To" continent