# THE SIX AND TEN REPORT

# October 2004




**Editors. Martin Harrison G3USF and Steve Reed G0AEV**

# Analysis of 28 MHz reports from the UK

28 MHz reports and logs for October 2004 from G2AHU, G3HBR, G3IMW, G3USF, G3YBT, G4UPS, G0AEV, G0DVY, G0IHF and packet cluster reports. Compilation and commentary by G0AEV.

The first half of October provided snippets of interesting propagation: a few openings to North America, a few to Australia, and for the Europeans the occasional sporadic E opening. It looked like the sort of propagation one might expect in the month of October when solar activity was low in a year leading up to solar minimum. Then the sun produced a burst of activity. In 10 days solar flux lifted from a floor of around 90 units (zero sunspots on a few days) to 140 units, hovering in the 130-140 unit range for the last 10 days of the month. The effect on F2 propagation was marked: the band opened on a regular basis to North America to the west, and to Australia, the Far East, and even to Japan at times to the east. Independently, sporadic E (Es) appeared on every day in the period 21-26 October to supplement the more frequent but weaker backscatter signals from European countries. Amateur activity levels soared in the run-up to, and during, the CQWW SSB contest (29-30th October), which, for once, coincided with the best propagation of the season.

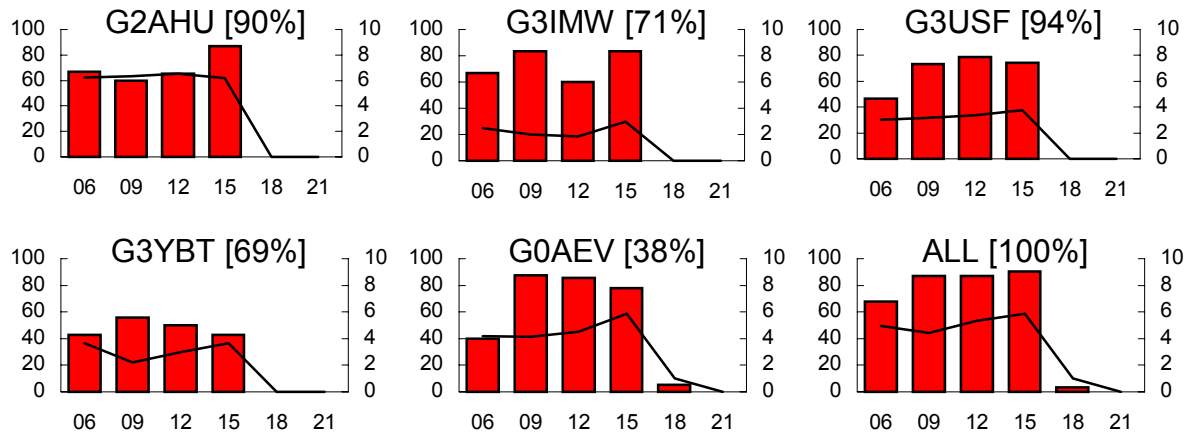
G3HBR contributed his perspective on 10m in October. Brian writes “the ‘bonus’ sun spots coinciding with the seasonal improvement in HF conditions certainly benefited ten with some good openings this month. K0HA was the first decent USA signal on 8th Oct. The enormous signal from VK6DXI in the Pacific contest on 9th (when he was the only DX audible) was the precursor to a number of openings to VK6 later in the month. Towards the end of the month there were several days with good signals on the transatlantic path. Let's hope it keeps up.”

## Beacon graphs legend

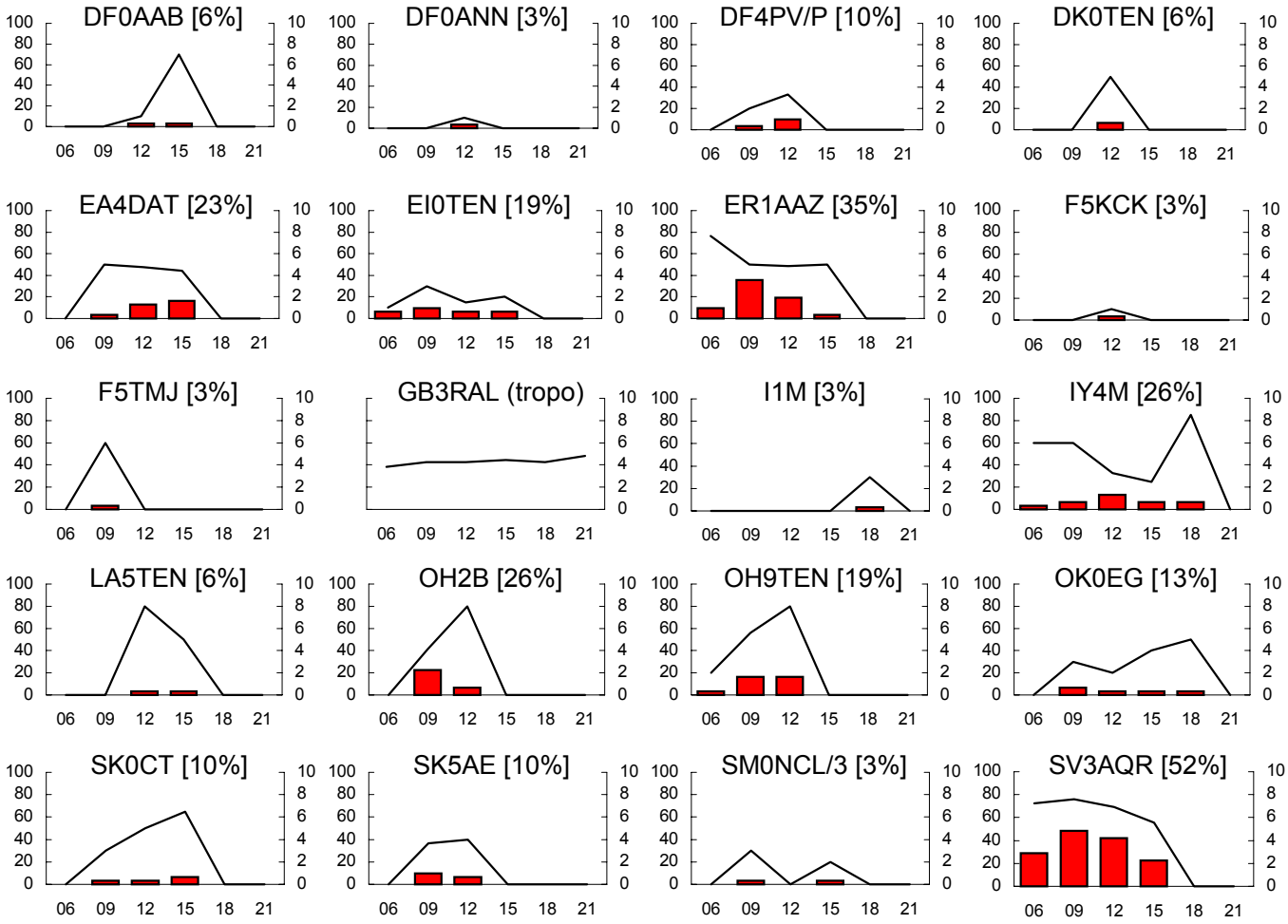
Legend for all beacon graphs in this section: - graph bars (left Y-axis): beacon reliability as the percentage of days a beacon was heard by any UK observer within each time band. Graph lines (right Y-axis): signal strength as the average of the daily maximum signal reported by any observer in each time 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.

## ZS6DN in October – 5 different views

Graphs of beacon activity are used as the primary means of illustrating 10m propagation in these pages. Below are graphs for ZS6DN in October for 5 individual listeners and for the combined picture of all (9) listeners. The “daily reliability” percentages in each graph depend on the number of days listened – for example G0AEV listened on fewest days - but the other graphed measures averages calculated only for the periods when monitoring took place. There is reasonable correlation between the individual listeners but the “all” graph, which is a combination of the total listening effort (comprising 243 reports) is the best estimation of the actual propagation that was available.



## European Propagation / Beacons




Propagation modes for European beacons.

Europeans beacons were heard by a variety of propagation modes in October. With the improvement in F2 conditions due to higher solar activity (in the latter part of the month) and to seasonal changes, both direct path and backscatter F-layer propagation made a significant contribution to the results graphed above. ER1AAZ, OH2B, OH9TEN and SV3AQR were heard entirely or mainly by direct F2, mainly in the last third of the month. There was reasonable F-layer backscatter from F5KCK and EI0TEN, on some of the German beacons, and at times from the Finnish beacons. GB3RAL was, as usual, heard via "tropo" at G0AEV.

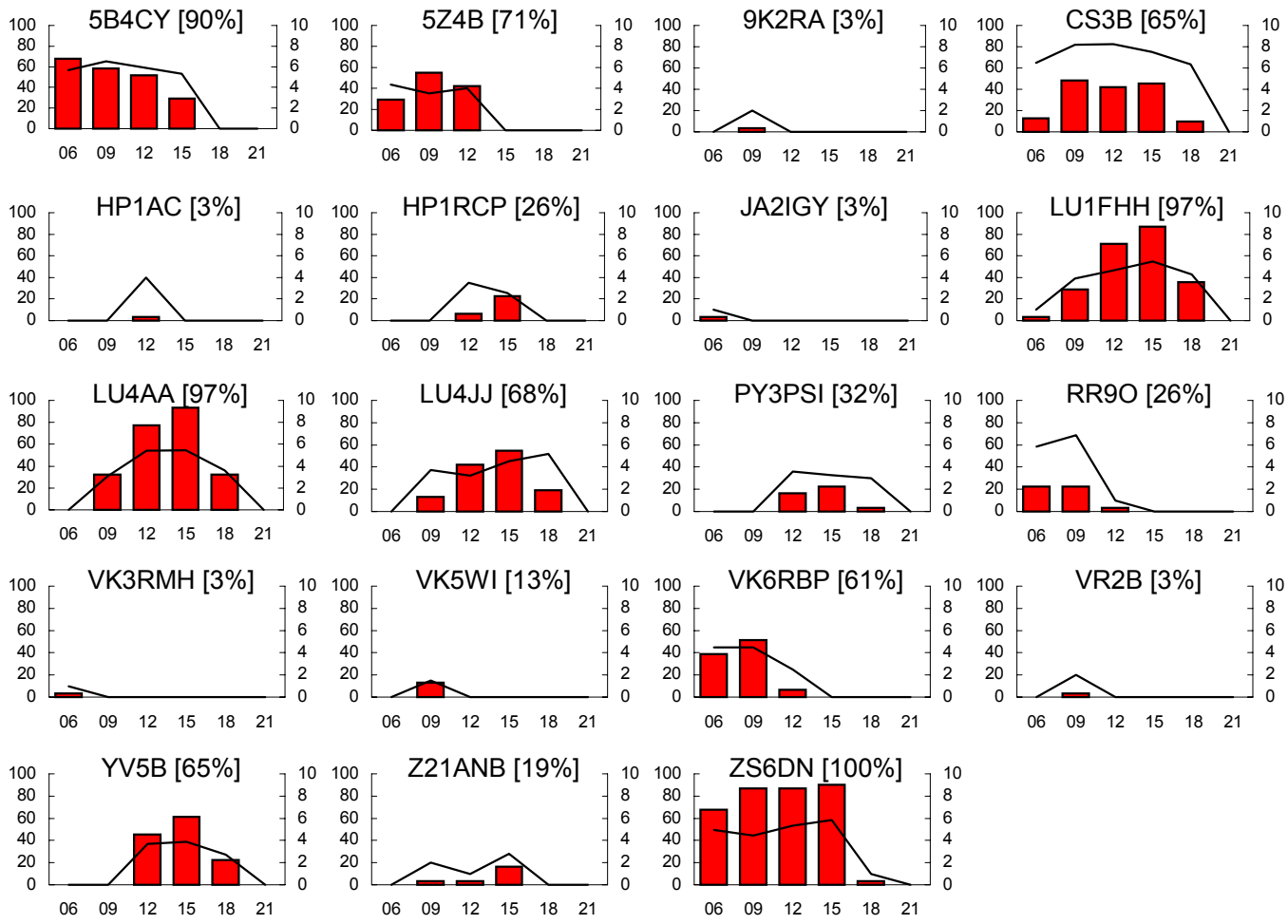
The remainder of the beacon results – especially those for EA4DAT, IY4M, OK0EG, and the SM beacons – are due to sporadic E. Sporadic E was present on 50% of days with most of the activity appearing on the 4th and in the period 21st-26th October. The Es openings were quite numerous, if rather limited in geographical and temporal extent, so it's a little surprising that so few of these events extended to 6m (as described in section 2 of this Report).

European Beacon Notes.

Nearly all of the active European beacons were heard during October. LA4TEN and DL0IGI were again QRT all month but I am glad to say that DL0IGI re-appeared in November. Although Germany is well served with beacons, DL0IGI is especially useful because it is one of few that runs high power with a good location and it can be heard at times and by modes when no other beacons are audible. GB3RAL experienced feeder problems and was off the air or operating with very low output for 10-12th and 15-20th October.

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

Beacon Graphs.




Suggested propagation modes.

This is more like it! Widespread F2 activity in the last 10 days of the month helped produced the best set of 10m results on F2 paths this year. Only ZS6DN was heard on every day (and was the only DX beacon heard on 5th), but 5B4CY, LU1FHH and LU4AA were reported on 90% or more of October days and several other beacons posted good returns. There was a modest showing from DX locations including JA, VR and VK. I am particularly glad to see that VK6RBP – a relatively easy path – is now showing the sort of results we expect from this part of the World after a last couple of years of poor showing. East-west paths opened up during the period of highest solar activity as shown by RR9O and by the US and Canadian beacons (described below). No long path propagation was noted.

Beacon Notes.

4X6TU is off-air for repairs. PY3PSI is believed to be irregular. ZS1J was QRT all month but has been heard again in November. Other beacons known to off include the long-time absent OA4B.

## 10m DX in October 2004

The following list of DX countries worked or heard in the UK comes from packet cluster spots (DX Summit: http://oh2aq.kolumbus.com/dxs/) with additional data from Six and Ten reporters, including the CQWW 10m contest log from G0AEV. There was a massive improvement in the number of DX (outside of Europe) countries heard/worked– 116 countries in October compared with 27 in September. Of the 116, 19 countries were only reported from CQWW contest activity.

DX in October: 3B8, 3B9, 3D2, 3V, 4K, 4L, 4S, 4X, 5B, 5N, 5R, 5V, 5X, 5Z, 6W, 7Q, 7X, 8P, 9J, 9K, 9L, 9M2, 9V, A4, A6, A7, A9, AP, BV, BY, C5, C6, C9, CE, CN, CO, CP, CT3, CX, D2, D4, DU, EA8, EA9, EK, ET, EX, EY, FG, FM, FP, FR, FS, FY, HC, HC8, HI, HL, HP, HR, HS, IH9, JA, JT, KH0, KP2, KP4, LU, OD, P4, PJ2, PY, S7, S9, ST, SU, TA, TG, TI, TJ, TR, TT, TX9, UA9/0, UK, UN, V2, V3, V4, V5, VE, VK, VK9X, VP2E, VP2V, VP5, VP8/h, VP8/o, VP9, VQ9, VR, VU, W, XE, XX9, YA, YB, YI, YN, YV, Z2, ZD7, ZD8, ZP, ZS, Antarctica

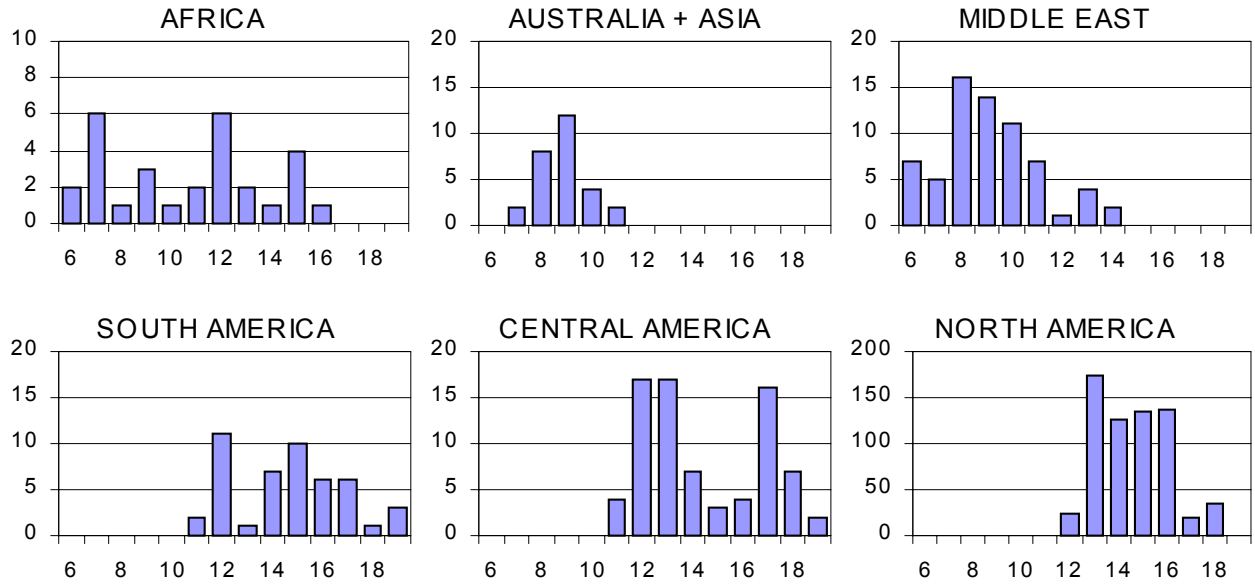
DX in September (for comparison): 3DA0, 4L, 4X, 5B, 5N, 5X, 7Q, 9J, 9K, 9L, 9U, CP, CX, D4, EA8, JY, LU, PJ2, PY, ST, SU, TT, UN, VU, W, Z2, ZS.

## 10m DX in CQWW Contest

I don't usually resort to publishing my contest logs, but propagation in the CQWW contest (29th and 30th October) was sufficiently good (and I worked enough stations in enough places) to make some propagation analysis worthwhile. I worked 131 countries, the DX component of these are listed here:

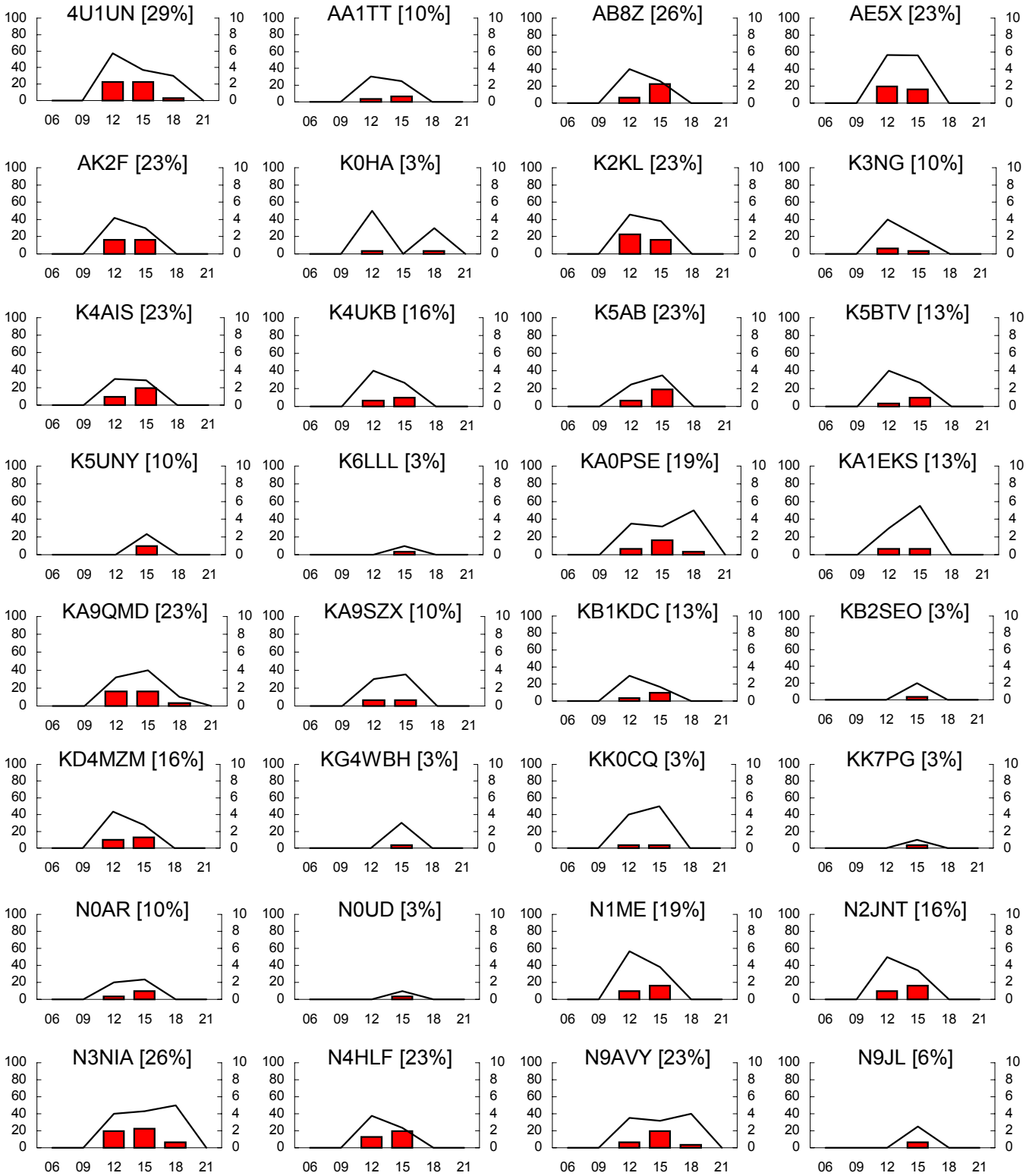
G0AEV's CQWW DX: 3B8, 3V, 4K, 4L, 4X, 5B, 5H, 5R, 6W, 8P, 9J, 9K, 9M2, 9V, 9Y, A6, BV, C5, C6, C9, CE, CN, CO, CP, CT3, CX, D4, DU, EA8, EA9, EK, EX, FG, FM, FP, FS, FY, HC, HC8, HI, HK, HP, HR, HS, IH9, JA, JT, KP2, KP4, LU, OA, P4, PJ2, PY, ST, SU, TA, TI, UA9/0, UK, UN, V2, V3, V4, V5, VE, VK. VK9X, VP2E, VP5, VP9, VR, VU, W, XE, XX9, YA, YB, YI, YN, YV, ZD8, ZP, ZS, Antarctica.

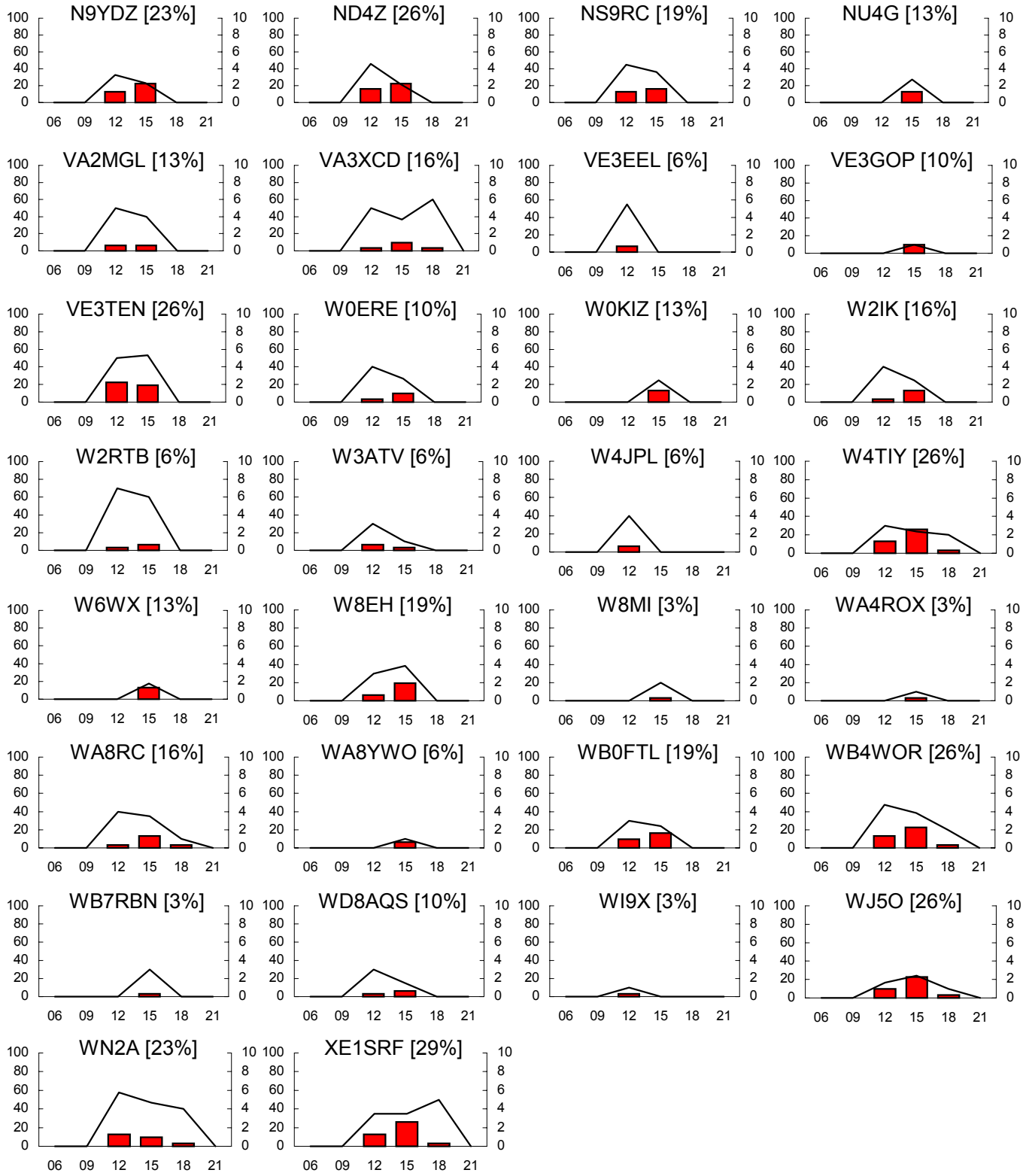
The following graphs are more instructive than a bald list of DX worked. Each graph shows the number of QSOs worked per hour (2 days combined data) for a specific geographical region. Propagation to Africa was present throughout the day, the irregular pattern of QSOs is due to the availability of new stations to work. Australia and Asia includes QSOs with the Indian sub-continent, SE Asia and the Far East. A single QSO with Japan was on a skewed (eastward) path and is included in this graph. The Midd;le East graph includes those distant parts of SE Europe worked via F2. South Americans were worked in the 11-19z period, North Americans 12-18z period. More interestingly, stations in Central America (Mexico through to Venezuela) peaked around noon and again in the 17z hour – this "bimodal" distribution I have noted on these paths many times previously.



## Propagation to North America

After months with no (or very little) transatlantic propagation to report, the last third of October brought a veritable flood of beacons, many of them new to UK listeners. At times there were so many different beacons audible that some observers became over-saturated and restricted their listening to a more selective and familiar sub-set of the signals available! A Total of 63 different beacons were heard by 6&10 reporters – and this was without the benefit of good propagation to the West Coast - this number being in part due to an increase in the number of active beacons. All the beacons were heard by normal F2 propagation. Note: AK2F and WN2A are the same beacon but with periodic change of callsign.






'New' beacons reported in the UK by 6&10 beacon monitors for the first time this month (with date first activated in brackets). See http://www.keele.ac.uk/depts/por/28.htm for a full listing of HF beacons

| | | | | |
|---|---|---|---|---|
| AA1TT | 28269 | 5w | NH | (10/04) |
| AE5X | 28267 | 4w | NY | (10/04) |
| K0HA | 28214 | 15w | NE | (05/04) temp |
| K3NG | 28291.5 | 0.15w | PA | (03/04) |
| K4UKB | 28276 | 10w | KY | (06/04) |
| K5UNY | 8238.5 | 4w | TX | (01/04) |
| KA9QMD | 28204.5 | 1w | WI | (06/04) |
| KB1KDC | 28234.5 | 1w | NH | (02/04) |
| KB2SEO | 28238 | 1w | GA | (05/04) |
| KK0CQ | 28279.5 | | ND | (10/04) temp |
| N9JL | 28201.5 | 10w | IL | (10/04) |
| ND4Z | 28293.5 | 3w | SC | (01/04) |
| NU4G | 28286 | | TN | (05/04) |
| W4JPL | 28263.5 | 4w | NC | (09/04 |
| W8EH | 28281 | 7.5w | OH | (03/04) |
| WB7RBN | 28277 | | WA | (07/04) |

# Analysis of 50 MHz reports from the UK

UK 50 MHz reports for October 2004 from G2ADR, G2AHU, G3HBR, G4UPS and via packet cluster spots. Compilation and commentary by G0AEV.

I described the 6m propagation experienced in Britain during September as “a big disappointment”. October was only marginally better. Some people found nothing to report, others were lucky enough to find one or more openings. There was a little sporadic E that appeared in dribs and drabs but with no obvious concentration in any form of “autumnal season”. Despite some relatively high solar activity at the end of the month only one DX opening was reported by UK stations (to TR – Gabon – on 30th October). However this was probably all that could have been expected. As Eric G2ADR said “flux 140, K1, but – the giant stirred, turned over, and went back to sleep”!

G3HBR thought six was virtually dead. The two stations that Brian worked were only picked up because of the band scope on the 756 - without that facility they would have been missed. Brian keeps the rig running on six all the time he is in the shack and finds the band scope very useful on six.

## 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.

| | CN (3%) | CT (3%) | EA (10%) | F (3%) | I Italy (13%) | OZ (3%) | SP (3%) | YU (3%) | |
|---|---|---|---|---|---|---|---|---|---|
| D | 31 | 4 | 4 24 26 | 4 | 4 5 11 25 | 11 | 23 | 5 | |
| 06 | | | | | | | | | |
| 09 | | | | | | 8 | 7 | | |
| 12 | 5 | 9 | 6 3 0 | | 7 | | | | |
| 15 | | | | 0 | 8 9 | | | | |
| 18 | | | | | 9 9 7 | | | 9 | |
| 21 | | | | | | | | | |

## Es Propagation Summary.

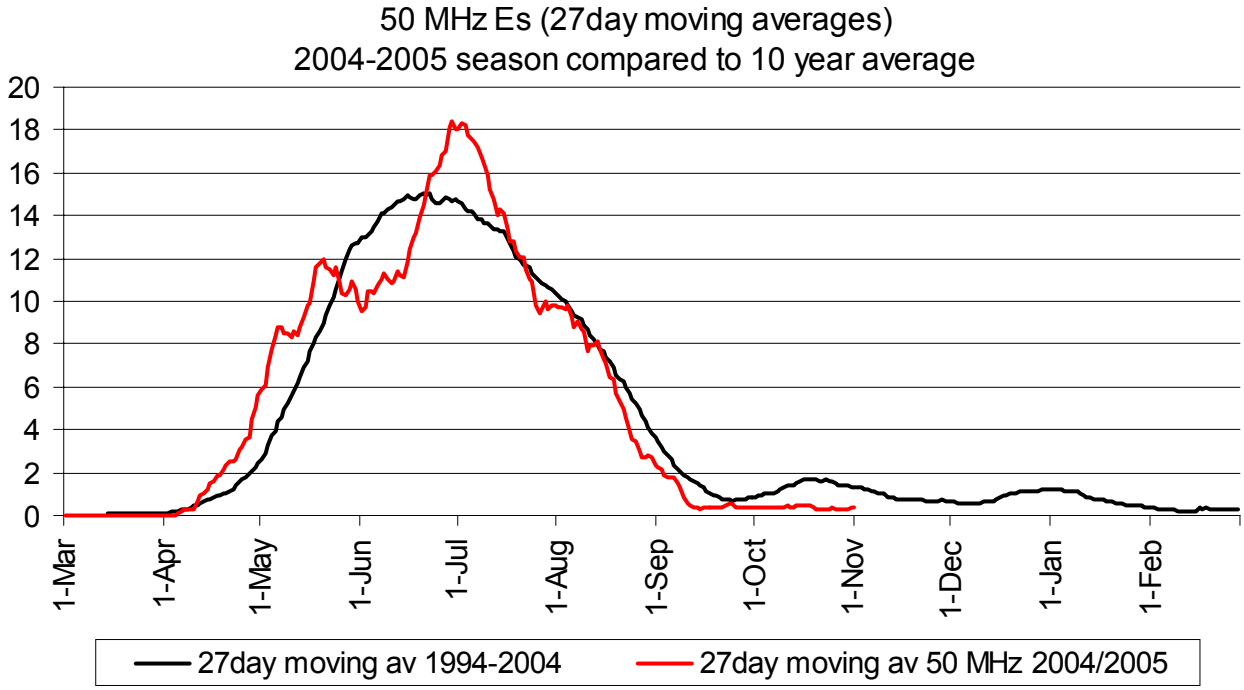
The table below displays total counts of country/areas heard/worked via sporadic E by UK amateurs. There is no pattern to be discerned from such sparse data, and certainly no indication of the small “autumn” activity peak that is often seen in mid to late October (and that seems to be present weakly in the 28 MHz data for October). However, there was 6m sporadic E in early November and this may eventually prove to be a somewhat belated autumnal Es peak.

Es Summary

| | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 06 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 09 | | | | | | | | | | | 1 | | | | | | | | | | | | 1 | | | | | | | | |
| 12 | | | | 2 | 1 | | | | | | | | | | | | | | | | | | | 1 | | 1 | | | | | 1 |
| 15 | | | | 1 | | | | | | | 1 | | | | | | | | | | | | | | 1 | | | | | | |
| 18 | | | | 1 | 2 | | | | | | | | | | | | | | | | | | | | 1 | | | | | | |
| 21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

The progress of the 2004 sporadic E season compared with mean activity over the preceding 10 years is shown in the graph below. This graph displays 27-day moving averages of the daily 6m country/area scores (as presented in the data table in Section 3 of these reports) with a 10-year average of the same measure. Details of the derivation of these data were presented in the May 2004 Report.

New data for October shows that the summer season ended in a rather "flat" tail quite unlike the average for the preceding 10 years. It is worth noting that the late October moving averages will be influenced by the data for early November when these are available. These may yet produce some structure in the 27-day average values at around the peak in the historical data, especially as there was more Es activity in early November than in October.




## Trans-Atlantic Es Statistics.

Readers with access to the Internet might like to take a look at the sporadic E web pages of Bob K1SIX at http://k1six.com/6M_Es.html. Bob presents several years worth of data from various (mainly N American) sources for trans-Atlantic sporadic E and makes interesting correlations between the times when propagation is most likely with the times of greatest solar illumination (i.e. noon at path mid-points). There is an alternative way to view the observed diurnal pattern of Transatlantic Es, which to combine the propagation probabilities of single hop Es, a method devised by G3NAQ.

## DX (F2 and TEP) Propagation

A single, but welcome, DX opening to TR was spotted by the following:

| | | |
|---|---|---|
| 30th | 1443 | G4IGO > TR 579 |
| | 1456 | G4PCI > TR0A 419 |
| | 1500 | G0CHE > TR0A 539 |
| | 1515 | G4IGO > TR0A "now down to 549" |

There were no contemporaneous Es openings to southern Europe, and the opening occurred near the monthly high in solar activity. F2 critical frequencies and background x-ray flux peaked 30th (at B4.8 units) on 30th. These were an improvement on levels seen in recent months but are still low compared to those at times of the more regular DX openings to Africa of a few years ago. The TR0A reports this month are probably due to single hop F2.

## Aurora

Aurora were reported on several days but all were of the weak "Scottish" type. On the 18th GM8LFB spotted JW7SIX via "weak aurora" followed auroral E on the same path an hour later. The geomagnetic indices at the time were very low which makes this a rather strange event – perhaps one of the "pseudo" aurora signals discussed here some years back?

| | | |
|---|---|---|
| 3rd | 1354 | GM8LFB (IO88) > 48.245 video 51a |
| | 1415 | GM8LFB > GB3LER "going auroral" |
| | 1853 | MM0CWJ > GB3LER 53a |
| 18th | 2002 | GM8LFB > JW7SIX "weak au in io88kk (*but geomagnetically very quiet*) |
| 20th | 1600 | GM8LFB-@ VIDEO 48.245 AU |
| | 2343 | MM0BSM GB3LER 55A IO86AD |
| 24th | 1822 | GM8LFB-@ GB3LER/B 52a into io88 |
| 29th | 2024 | MM0CWJ-@ GB3LER/B 42a ip90>io67 |

## Auroral E

18 2123 GM8LFB > JW9SIX/B 549 Auroral E
20 2011 GM8LFB > JW9SIX 529 Auroral E

## Tropospheric propagation

I couldn't find much in the way of tropospheric propagation in the logs this month. Even the contest of 17th produced little to inspire comment - G4FVP's spot of G0IFC being the best reported distance and included an appropriate comment on the poor conditions – conditions presumable fairly representative of the month as a whole.

| | | |
|---|---|---|
| 4th | 2105 | GM8LFB > GB3LER/B "tropo only" |
| 17th | 0935 | G4UPS > GD0EMG 59 (contest) |
| | 1146 | PA0GHB > GD0EMG 56 |
| | 1229 | G4FVP > G0IFC/P 430 km "not bad in poor conditions" |

## Meteor Scatter

Most of the following MS contacts/reports were via JT6M. There were many other JT5M reports but without indication of propagation mechanism (though MS is most likely for most of them).

| | | |
|---|---|---|
| 9th | 1824 | G0CHE > I5MXX JT6M via MS |
| 16th | 1217 | F6FHP > G0ORH/P "heard via weak "iono"(?) + MS" |
| 17th | 1116 | LB6YD (JO59) > G0IFC/P "bursts" |
| 18th | 0848 | OE5MPL > G3UYM JT6M QSO "8 sec.burst" |
| 23rd | 1107 | G0CHE > I5MXX "big burst" via JT6M |
| | 1452 | SP6MLK (JO80) > G0CHE JT6M – "many bursts!" |
| 24th | 0949 | G4IGO > I5MXX "many fb bursts" |
| | 1001 | G4IGO > S59F "many bursts" |
| 29th | 1616 | G4VCJ > F5PAU? "short bursts 31" |
| 30th | 1114 | G0CHE > IW5DHN JT6M MS QSO |
| | 1120 | G0CHE > SP6MLK JT6M MS |
| 31st | 0918 | G4IGO > IW2HUS "many small bursts". |
| | 0949 | G0CHE > IW2HUS JT6M QSO via MS |

# Solar and Geomagnetic Data for October 2004

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

| | | | |
|---|---|---|---|
| Sunspot numbers (SEC) | Mean 77.9 | Max 178 (24th) | Min 0 (10-11th) |
| Solar Flux (28 MHz) | Mean 105.0 | Max 140 (25th) | Min 87 (11th and 13th) |

Solar data for October 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 for each of several propagation modes and are 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, Aurora and Auroral E. F2 critical frequencies from Chilton in Oxfordshire. SIDC spots are from SIDC, and other solar data from the joint USAF/NOAA daily summaries or directly from SEC.

**Energetic Events.** Energetic solar events (M or X class) are listed below.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 20th | 1043-1056 | M2.6 | 30th | 0323-0337 | M3.3 Sf | | 1138-1150 | X1.2 Sf |
| 22nd | 0752-0816 | M2.1 1n | | 0608-0622 | M4.2 Sf | | 1618-1637 | M5.9 Sn |
| 24th | 2017-2035 | M2.3 1n | | 0909-0930 | M3.7 1n | 31st | 0204-0232 | M1.1 |
| | | | | | | | 0523-0539 | M2.3 Sf |

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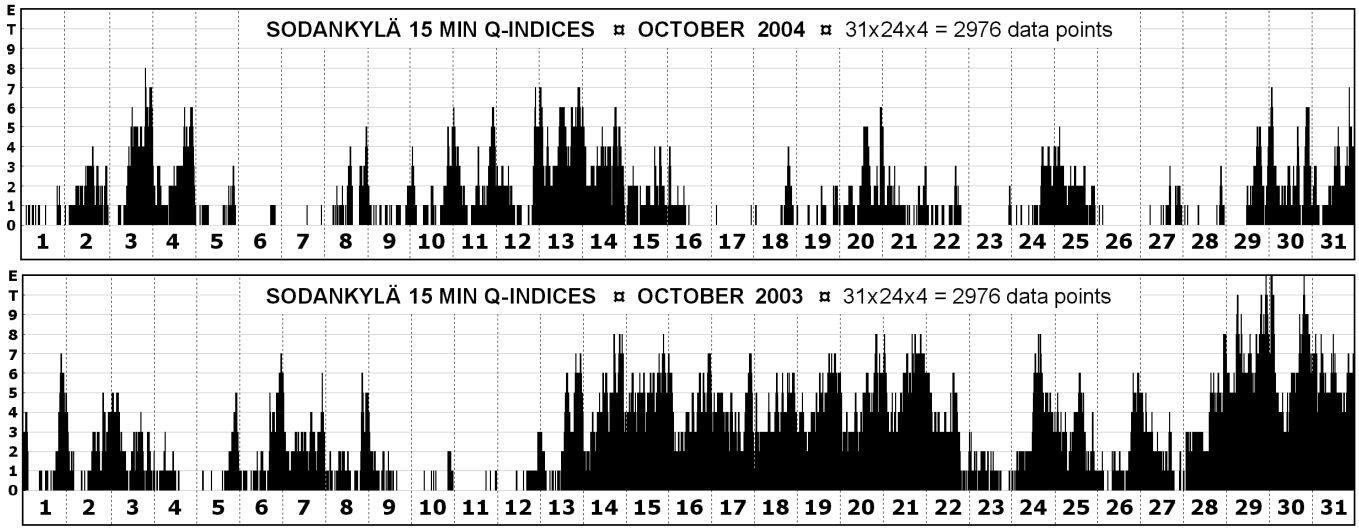
**Q-indices** from Sodankylä, Finland (Thanks to Vaïno, OH2LX)




October 2004 was a rather quiet month magnetically, as illustrated by the first Q-index graph above. There were a number of quiet days (7th, 17th and 26th - Vaino marks out the 17th as an exceptionally quiet day). Kp indices, as tabulated on the following page, reached 5 on only 2 days. Compare this with the state shown in the second Q-index graph during October 2003, which was an exceptionally active month with 37 M class and 7 X class flares (including one initially indicated at X17.2. There were 14 disturbed days when the UK K index or Kp was 5 or greater: on 3 of these Kp reached 9.

Geomagnetic data from Finnish observatories in October 2004:

Monthly averages for October:

Sodankylä: monthly Ak average = 13.4 (14.7 in Sept)
Nurmijärvi: monthly Ak average = 7.2 (8.1 in Sept)

Most disturbed October day:

Sodankylä: 17th, Ak = 55 (53 on Sept 14th)
Nurmijärvi: 17th, Ak = 23 (31 on Sept 14th)

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

## K-indices.

The following four tables present the 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 (yellow) shading indicates K = 5, darker grey shading K > 5. There were only 3 disturbed days in October when one or more of the UK K indices or the planetary Kp index was 5 or higher.

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 | 1 | 2 | 1 | 3 | 2 | 1 | 1 | 1 | 3 | 3 | 3 | 3 | 4 | 3 | 2 | 3 | 0 | 0 | 0 | 1 | 2 | 2 | 0 | 2 | 2 | 1 | 0 | 1 | 0 | 4 | 3 |
| 03 | 1 | 3 | 2 | 3 | 2 | 2 | 2 | 3 | 1 | 3 | 3 | 3 | 5 | 4 | 3 | 1 | 1 | 0 | 1 | 3 | 3 | 2 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 3 | 2 |
| 06 | 1 | 3 | 3 | 2 | 2 | 2 | 1 | 2 | 0 | 0 | 2 | 3 | 5 | 4 | 1 | 1 | 1 | 0 | 0 | 3 | 3 | 1 | 1 | 0 | 3 | 0 | 0 | 0 | 1 | 3 | 1 |
| 09 | 0 | 3 | 4 | 2 | 0 | 2 | 1 | 1 | 1 | 3 | 1 | 3 | 4 | 5 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 0 | 1 | 0 | 3 | 4 | 2 |
| 12 | 1 | 4 | 4 | 2 | 1 | 2 | 2 | 2 | 1 | 2 | 3 | 2 | 5 | 5 | 2 | 1 | 1 | 1 | 2 | 4 | 2 | 2 | 1 | 2 | 3 | 1 | 1 | 1 | 3 | 3 | 3 |
| 15 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 4 | 3 | 2 | 1 | 0 | 2 | 2 | 4 | 2 | 2 | 2 | 3 | 2 | 1 | 2 | 1 | 2 | 3 | 2 |
| 18 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 1 | 4 | 2 | 1 | 1 | 1 | 3 | 2 | 2 |
| 21 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 3 | 2 | 2 | 3 | 3 | 3 | 2 | 2 | 1 | 1 | 2 | 1 | 2 | 1 | 1 | 1 | 2 | 1 | 0 | 2 | 1 | 1 | 3 | 3 |
| Σ | 10 | 22 | 23 | 20 | 13 | 15 | 13 | 15 | 12 | 17 | 20 | 21 | 33 | 29 | 17 | 10 | 6 | 8 | 8 | 19 | 16 | 13 | 7 | 14 | 20 | 4 | 7 | 6 | 13 | 25 | 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 | 0 | 1 | 1 | 3 | 1 | 1 | 1 | 0 | 3 | 3 | 2 | 2 | 4 | 3 | 2 | 2 | 0 | 0 | 0 | 1 | 3 | 2 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 3 | 2 |
| 03 | 0 | 1 | 0 | 2 | 1 | 1 | 0 | 0 | 1 | 3 | 3 | 2 | 4 | 2 | 2 | 1 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 3 | 1 |
| 06 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 4 | 2 | 1 | 1 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 1 |
| 09 | 0 | 2 | 1 | 2 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 2 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 1 | 1 | 2 |
| 12 | 0 | 3 | 3 | 2 | 0 | 0 | 0 | 2 | 0 | 2 | 2 | 1 | 3 | 3 | 1 | 1 | 0 | 1 | 1 | 2 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 2 | 2 | 2 |
| 15 | 1 | 2 | 2 | 2 | 0 | 0 | 0 | 2 | 1 | 1 | 2 | 1 | 4 | 4 | 2 | 0 | 0 | 1 | 1 | 3 | 1 | 2 | 0 | 1 | 2 | 0 | 1 | 0 | 2 | 3 | 3 |
| 18 | 1 | 1 | 2 | 3 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 4 | 3 | 3 | 0 | 0 | 3 | 0 | 1 | 2 | 1 | 0 | 3 | 1 | 0 | 0 | 0 | 3 | 2 | 4 |
| 21 | 1 | 2 | 4 | 3 | 2 | 0 | 0 | 2 | 1 | 3 | 2 | 4 | 3 | 3 | 3 | 0 | 0 | 2 | 2 | 3 | 2 | 0 | 2 | 2 | 2 | 0 | 2 | 1 | 2 | 4 | 3 |
| Σ | 3 | 13 | 14 | 18 | 6 | 3 | 1 | 9 | 7 | 15 | 14 | 14 | 28 | 22 | 15 | 5 | 0 | 7 | 4 | 15 | 13 | 7 | 3 | 9 | 14 | 0 | 4 | 1 | 10 | 19 | 18 |

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 | 0 | 1 | 1 | 3 | 2 | 1 | 1 | 0 | 3 | 3 | 2 | 3 | 4 | 3 | 2 | 3 | 0 | 0 | 0 | 1 | 3 | 3 | 0 | 2 | 2 | 0 | 0 | 1 | 0 | 4 | 2 |
| 03 | 0 | 2 | 0 | 2 | 1 | 1 | 1 | 0 | 1 | 3 | 3 | 2 | 4 | 2 | 2 | 1 | 0 | 0 | 0 | 2 | 3 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 3 | 1 |
| 06 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 2 | 2 | 4 | 3 | 1 | 1 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 2 | 1 |
| 09 | 1 | 2 | 2 | 2 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 1 | 1 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 1 | 3 | 0 | 0 | 0 | 1 | 2 | 2 |
| 12 | 1 | 3 | 3 | 2 | 0 | 0 | 0 | 2 | 1 | 2 | 2 | 1 | 3 | 4 | 2 | 0 | 0 | 0 | 1 | 3 | 1 | 1 | 0 | 2 | 2 | 0 | 2 | 0 | 3 | 2 | 2 |
| 15 | 1 | 2 | 3 | 2 | 0 | 0 | 0 | 2 | 1 | 1 | 2 | 1 | 4 | 4 | 2 | 0 | 0 | 1 | 1 | 3 | 1 | 2 | 1 | 3 | 2 | 0 | 2 | 0 | 2 | 3 | 3 |
| 18 | 2 | 2 | 2 | 4 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 4 | 4 | 3 | 0 | 0 | 3 | 1 | 1 | 2 | 1 | 0 | 3 | 1 | 0 | 1 | 0 | 3 | 3 | 4 |
| 21 | 1 | 3 | 4 | 3 | 2 | 1 | 0 | 2 | 1 | 3 | 3 | 4 | 3 | 3 | 3 | 0 | 0 | 1 | 2 | 3 | 1 | 1 | 2 | 2 | 2 | 0 | 1 | 1 | 1 | 4 | 3 |
| Σ | 6 | 16 | 16 | 19 | 7 | 3 | 2 | 8 | 9 | 15 | 17 | 16 | 28 | 26 | 16 | 6 | 0 | 5 | 5 | 17 | 15 | 10 | 3 | 13 | 18 | 0 | 6 | 2 | 10 | 23 | 18 |

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 | 0 | 1 | 1 | 4 | 3 | 1 | 1 | 0 | 3 | 3 | 2 | 3 | 4 | 3 | 2 | 3 | 0 | 0 | 0 | 1 | 3 | 3 | 0 | 2 | 2 | 1 | 0 | 1 | 0 | 4 | 3 |
| 03 | 1 | 3 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 2 | 4 | 3 | 3 | 2 | 0 | 0 | 0 | 2 | 3 | 1 | 0 | 1 | 3 | 1 | 0 | 1 | 0 | 3 | 1 |
| 06 | 1 | 2 | 2 | 2 | 1 | 1 | 0 | 1 | 1 | 1 | 2 | 2 | 4 | 3 | 1 | 1 | 0 | 0 | 1 | 2 | 3 | 1 | 1 | 1 | 3 | 0 | 0 | 1 | 0 | 2 | 1 |
| 09 | 1 | 3 | 2 | 2 | 0 | 1 | 0 | 2 | 1 | 1 | 1 | 2 | 3 | 4 | 1 | 1 | 0 | 0 | 1 | 1 | 2 | 1 | 1 | 1 | 3 | 0 | 0 | 0 | 1 | 3 | 3 |
| 12 | 1 | 3 | 4 | 2 | 0 | 0 | 0 | 2 | 1 | 2 | 2 | 1 | 4 | 4 | 1 | 0 | 0 | 1 | 1 | 3 | 1 | 1 | 0 | 2 | 2 | 1 | 2 | 0 | 2 | 2 | 2 |
| 15 | 1 | 2 | 3 | 2 | 0 | 0 | 1 | 2 | 1 | 1 | 2 | 1 | 4 | 4 | 2 | 0 | 0 | 2 | 2 | 4 | 1 | 2 | 1 | 3 | 2 | 1 | 2 | 1 | 2 | 3 | 4 |
| 18 | 2 | 2 | 2 | 4 | 1 | 0 | 0 | 1 | 1 | 2 | 2 | 1 | 4 | 4 | 3 | 0 | 0 | 3 | 1 | 1 | 2 | 1 | 0 | 4 | 1 | 0 | 1 | 1 | 4 | 3 | 4 |
| 21 | 2 | 3 | 5 | 3 | 2 | 1 | 0 | 2 | 1 | 3 | 3 | 4 | 4 | 3 | 3 | 0 | 0 | 1 | 2 | 4 | 1 | 1 | 2 | 3 | 2 | 0 | 2 | 1 | 2 | 4 | 4 |
| Σ | 9 | 19 | 20 | 22 | 8 | 5 | 3 | 11 | 10 | 16 | 17 | 16 | 31 | 28 | 16 | 7 | 0 | 7 | 8 | 18 | 16 | 11 | 5 | 17 | 18 | 4 | 7 | 6 | 11 | 24 | 22 |

| October | 28 Areas | | -- 50 Areas -- | | | | 2800 | - Spots - | | Max | | | X-ray | Max foF2 | | Min foF2 | | -- Particle Fluences -- | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2004 | 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-Oct | 0 | 5 | 0 | 0 | 0 | 0 | 88 | 37 | 20 | 2 | 4 | 7 | A4.0 | 8.1 | 10 | 3.3 | 05 | 2.0E+07 | 6.6E+05 | 1.4E+04 |
| 02-Oct | 0 | 8 | 0 | 0 | 0 | 0 | 88 | 35 | 16 | 4 | 12 | 26 | A3.9 | 8.5 | 14 | 2.9 | 05 | 4.2E+06 | 3.1E+05 | 1.5E+04 |
| 03-Oct | 0 | 9 | 0 | 0 | 1 | 0 | 89 | 39 | 28 | 4 | 15 | 29 | A4.5 | 7.1 | 18 | 3.3 | 05 | 3.8E+06 | 8.6E+05 | 1.4E+04 |
| 04-Oct | 7 | 6 | 4 | 0 | 0 | 0 | 91 | 41 | 27 | 3 | 10 | 24 | A5.7 | 6.1 | 16 | 2.3 | 23 | 3.1E+06 | 1.5E+05 | 1.5E+04 |
| 05-Oct | 2 | 1 | 2 | 0 | 0 | 0 | 91 | 40 | 21 | 2 | 5 | 8 | A6.8 | 6.2 | 12 | 2.2 | 03 | 6.6E+06 | 1.5E+05 | 1.5E+04 |
| 06-Oct | 0 | 4 | 0 | 0 | 0 | 0 | 92 | 39 | 17 | 2 | 5 | 5 | A6.8 | 7.2 | 11 | 2.5 | 05 | 1.1E+07 | 1.0E+05 | 1.5E+04 |
| 07-Oct | 0 | 7 | 0 | 0 | 0 | 0 | 94 | 38 | 22 | 2 | 4 | 5 | A6.4 | 7.9 | 14 | 3.1 | 05 | 2.4E+07 | 1.4E+05 | 1.5E+04 |
| 08-Oct | 1 | 12 | 0 | 0 | 0 | 0 | 91 | 28 | 23 | 3 | 7 | 12 | B1.1 | 8.4 | 10 | 3.2 | 04 | 7.6E+06 | 2.3E+05 | 1.6E+04 |
| 09-Oct | 2 | 10 | 0 | 0 | 0 | 0 | 88 | 24 | 10 | 3 | 6 | 9 | B1.3 | 8.9 | 11 | 2.4 | 05 | 1.8E+06 | 4.0E+05 | 1.5E+04 |
| 10-Oct | 1 | 9 | 0 | 0 | 0 | 0 | 89 | 0 | 0 | 3 | 8 | 16 | B1.7 | 7.5 | 16 | 3.3 | 01 | 1.7E+06 | 2.9E+05 | 1.4E+04 |
| 11-Oct | 3 | 9 | 2 | 0 | 0 | 0 | 87 | 0 | 12 | 3 | 11 | 18 | A5.5 | 7.6 | 11 | 2.5 | 04 | 1.8E+06 | 4.5E+05 | 1.5E+04 |
| 12-Oct | 1 | 7 | 0 | 0 | 0 | 0 | 88 | 14 | 12 | 3 | 11 | 15 | A5.6 | 8.2 | 12 | 3.0 | 06 | 5.1E+06 | 3.2E+05 | 1.4E+04 |
| 13-Oct | 0 | 9 | 0 | 0 | 0 | 0 | 87 | 41 | 20 | 5 | 35 | 48 | A5.5 | 8.4 | 11 | 2.6 | 05 | 3.5E+06 | 5.2E+05 | 1.4E+04 |
| 14-Oct | 1 | 5 | 0 | 0 | 0 | 0 | 91 | 38 | 20 | 5 | 27 | 41 | A8.3 | 6.4 | 14 | 2.7 | 03 | 1.6E+08 | 2.1E+06 | 1.3E+04 |
| 15-Oct | 0 | 6 | 0 | 0 | 0 | 0 | 89 | 26 | 16 | 3 | 9 | 16 | A7.0 | 7.8 | 11 | 2.5 | 05 | 4.7E+08 | 6.2E+05 | 1.4E+04 |
| 16-Oct | 1 | 5 | 0 | 0 | 0 | 0 | 92 | 43 | 18 | 3 | 5 | 8 | A7.1 | 7.4 | 11 | 2.3 | 06 | 5.7E+08 | 5.9E+05 | 1.4E+04 |
| 17-Oct | 0 | 8 | 0 | 0 | 0 | 0 | 92 | 51 | 44 | 1 | 3 | 2 | A7.9 | 7.3 | 12 | 2.7 | 05 | 6.0E+08 | 7.9E+05 | 1.4E+04 |
| 18-Oct | 0 | 8 | 0 | 0 | 0 | 1 | 96 | 86 | 54 | 2 | 4 | 8 | B1.1 | 7.5 | 12 | 3.2 | 05 | 3.8E+08 | 9.8E+05 | 1.4E+04 |
| 19-Oct | 0 | 5 | 0 | 0 | 0 | 0 | 99 | 86 | 60 | 2 | 4 | 10 | B1.2 | 8.8 | 11 | 2.8 | 06 | 5.9E+07 | 8.1E+05 | 1.4E+04 |
| 20-Oct | 0 | 24 | 0 | 0 | 1 | 1 | 111 | 129 | 66 | 4 | 12 | 27 | B2.1 | 9.7 | 10 | 3.3 | 05 | 6.9E+06 | 2.7E+05 | 1.5E+04 |
| 21-Oct | 3 | 10 | 0 | 0 | 0 | 0 | 112 | 112 | 76 | 3 | 8 | 15 | B2.2 | 8.9 | 12 | 2.7 | 05 | 1.6E+06 | 1.3E+05 | 1.5E+04 |
| 22-Oct | 3 | 10 | 0 | 0 | 0 | 0 | 123 | 134 | 80 | 2 | 6 | 11 | B4.0 | 9.2 | 12 | 2.9 | 05 | 1.7E+06 | 1.1E+05 | 1.4E+04 |
| 23-Oct | 4 | 46 | 1 | 0 | 0 | 0 | 132 | 141 | 93 | 2 | 4 | 6 | B3.8 | 8.4 | 14 | 3.1 | 06 | 3.0E+06 | 2.2E+05 | 1.5E+04 |
| 24-Oct | 2 | 59 | 1 | 0 | 1 | 0 | 135 | 178 | 99 | 4 | 9 | 21 | B4.7 | 9.3 | 11 | 3.3 | 04 | 3.0E+06 | 3.2E+05 | 1.5E+04 |
| 25-Oct | 2 | 56 | 1 | 0 | 0 | 0 | 140 | 146 | 90 | 4 | 13 | 21 | B3.9 | 10.4 | 11 | 3.0 | 06 | 1.1E+06 | 1.6E+05 | 1.5E+04 |
| 26-Oct | 3 | 46 | 1 | 0 | 0 | 0 | 137 | 124 | 91 | 1 | 3 | 5 | B3.4 | 9.9 | 13 | 2.9 | 06 | 1.1E+06 | 1.3E+05 | 1.5E+04 |
| 27-Oct | 0 | 35 | 0 | 0 | 0 | 0 | 130 | 150 | 94 | 2 | 3 | 9 | B3.9 | 9.4 | 12 | 3.0 | 06 | 1.4E+06 | 1.6E+05 | 1.4E+04 |
| 28-Oct | 0 | 40 | 0 | 0 | 0 | 0 | 133 | 150 | 96 | 1 | 3 | 6 | B4.4 | 10.2 | 12 | 2.9 | 06 | 1.3E+06 | 1.4E+05 | 1.4E+04 |
| 29-Oct | 0 | 61 | 0 | 0 | 1 | 0 | 129 | 130 | 89 | 3 | 7 | 17 | B4.0 | 10.2 | 12 | 3.7 | 06 | 1.1E+06 | 1.8E+05 | 1.5E+04 |
| 30-Oct | 0 | 22 | 0 | 1 | 0 | 0 | 136 | 153 | 96 | 4 | 17 | 33 | B4.8 | 10.4 | 11 | 2.9 | 05 | 1.9E+06 | 9.9E+05 | 6.7E+04 |
| 31-Oct | 0 | 35 | 1 | 0 | 0 | 0 | 139 | 163 | 91 | 3 | 10 | 28 | B4.5 | 9.8 | 11 | 3.0 | 06 | 5.2E+06 | 1.7E+06 | 5.0E+04 |
| Sum | 36 | 577 | 13 | 1 | 4 | 2 | | | | | | | | | | | | | | |
| Average | 1.2 | 18.6 | 0.4 | 0.0 | 0.1 | 0.1 | 105.8 | 77.9 | 48.4 | 2.8 | 9.0 | 16.3 | B2.0 | 8.4 | 12 | 2.9 | 05 | 7.6E+07 | 4.8E+05 | 1.7E+04 |
| Maximum | 7 | 61 | 4 | 1 | 1 | 1 | 140 | 178 | 99 | 5 | 35 | 48 | B4.8 | 10 | 18 | 3.7 | 01 | 6.0E+08 | 2.1E+06 | 6.7E+04 |
| Minimum | 0 | 1 | 0 | 0 | 0 | 0 | 87 | 0 | 0 | 1 | 3 | 2 | A3.9 | 6.1 | 10 | 2.2 | 23 | 1.1E+06 | 1.0E+05 | 1.3E+04 |

# 50 MHz Outside Britain

Compilation and Commentary by G3USF

## Continental Europe

### Auroral-Related Modes

Twelve days on which auroral-related propagation was reported, but - apart from a solitary EI logging - all events were confined to Scandinavia. Scarcely surprising, given the relatively quiescent state of the geomagnetic field - the 13th and 14th were the only days when the Ap exceeded 20. Thanks as usual to our OH colleagues for letting us know about what little did occur. Note that, in the listing immediately below, 'AE' is the mode suggested by the reporter; a number of T9 reports within Scandinavia are almost certainly AE, given the context in which they occurred, and so are included here.

Oct 3 1330-1420 Au>OH5IY 1510-20 Au>OH5 1610-20 Au>OH5 2330-2400 Au>OH5

Oct 4 0000-40 Au>OH5

Oct 13 0150-022 AU>OH5 1240-1540 Au>OH5 1350>1500 AUFM>OH5 1430 49750>SM5(57a) 15-1600 OH5SIX>SM5(57a) OH4>SM5(59a) SM5>OZ(52a) OH3(KP21)>OZ(55a) 1630-40 AuFM>OH5 1943 JW9SIX>OH6(KP02 559 AE) 2130-2200 AuFM>OH5 2230-2300 Au>OH5 2310-30 AuFM>OH5

Oct 14 0500-10 Au>OH5 1120-30 AuFM>OH5 1210-40 Au>OH5 1540-50 AuFM>OH5 1955-2005 E2,E3,R1(LA,UA)>OH2(AE) 2015-23 E4(TF)>OH2(AE)

Oct 18 19-2000 JW7SIX>OH6(KP20)(mode?) JW7SIX>SM5(JO99 559) JW7SIX>LA(549) JW5SIX>LA(539) JW5SIX>SM0(539 AE) 2001 JW5SIX>SM5(559 JO99)

Oct 19 2126 JW7SIX>SM5(559 JO99)

Oct 20 1420-1540 Au>OH5 1440-1530 AuFM>OH5 2340-50 Au>OH5 2051-2 JW7SIX>SM0(539) JW9SIX>SM0(569 AE)

Oct 21 2027 JW5SIX>SM0(589 AE)

Oct 24 1800-30 Au>OH5

Oct 25 1550-1610 Au>OH5 1620-40 Au>OH5 1625 49750>SM0(52a) 1730-50 Au>OH5

Oct 29 1649 49750(UA)>SM0(56a) 1852 JW7SIX>SM3(599 AE) 1915 JW7SIX,JW9SIX>OH6(KP02 AE) 2108 JW9SIX>SM0

Oct 30 1651 JW7SIX>SM2(599 AE)

### Other Modes

As might have been to be expected, a better month than September but only a shadow of recent years. What long-haul propagation was reported was almost entirely the prerogative of southern countries. Eastwards beyond the Mediterranean there was a solitary report of a station in Iraq being worked from Greece (not SV1DH, for once!) on the 25th. Southern paths were more productive, due mainly, it would

seem, to afternoon- and evening-tep. There were only two days when southern African signals reached Europe but eleven when amateur signals were received from West Africa. However, 3C and/or 9L TV were noted by Costas, SV1DH, on 22 of the 28 days for which he had data. These were, of course, relatively high-power transmissions, but it seems possible that some opportunities went begging for lack of activity. All the recorded openings were into Mediterranean countries and the Iberian peninsula, at times reaching as far east as Greece, thanks to afternoon-tep

**Europe<>Africa**

| | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| South | | | | | | | | | | | | | | | | | | | | | | | | + | | | + | | | | |
| West | | | | | | | + | + | + | | | | | + | + | + | + | | | | + | | | + | | | | | | + | + |

**Europe<>Africa**

| **Southern Africa** | | **West Africa** | |
|---|---|---|---|
| ZS6 2 days | 24 (I,9H) 27(SV1) | TR 11 days | 7(IS) 8(SV,EA) 9(S5,I,9H) 14(I,SV) 15(SV) 16(EA) 17(SV) 21(I,SV) 24(I) 30(G,PA,S5) 31(F) |
| | | D4 3 days | 26(EA) 27(CT) 29(EA,9H) |
| | | 5U 2 days | 16(EA) 21(I,SV,9H) |

No openings were reported between Europe and North America. However, there were openings from CT and/or EA into the Caribbean on four days and from I9 on a single day. A couple of these involved side-scatter from the South Atlantic. Iberia was also the main beneficiary of openings to South America on 12 days; propagation occasionally extended to 9H and I9, but only the ZD8VHF beacon appears to have reached SV. (SV1DH credits evening-tep). ZD8I made an appearance on three days but was not as widely copied as the beacon.

**Europe<>Mainland South America and the Caribbean**

| | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sam | | | | | | | | | + | | | | | | + | + | | | | + | + | + | + | + | + | + | + | | + | | |
| Caribb | | | | | | | | | + | | | | | | | + | | | | | | | | | | | + | | | | |

Europe<>South America and Caribbean

| South America | | Caribbean | |
|---|---|---|---|
| CX 1 day | 27(EA) | FJ 1 day | 27(EA) |
| FY 1 day | 16(I9) | FM 3 days | 9(EA) 16(CT,EA,I9) |
| LU 3 days | 9(EA) 21(EA) 25(EA) | | 27(EA) |
| PY 10 days | 9(EA) 15(EA) 20(9A) 21(EA) 22(EA) 23(EA) 24(EA,9H) 26(CT,EA) 27(EA) 29(EA,9H) | 9Y/9Z 1 day | 16(EA) |
| PY0 1 day | 9(EA) | | |
| ZD8 9 days | 6(EA) 8(SV) 16(IS,SV) 21(SV,9H) 23(CT,EA) 24(9A,9H) 25(EA,I9,9H) 28(IS) 29(9H) | | |
| ZP 2 days | 22(EA,9H) 27(EA) | | |

As usual, callsigns are given in full only for DX or for beacons, where reception suggests the path was open for the most modestly equipped stations.

Oct 1 1432 9Ltv,3Ctv>SV1 20-2100 SM5>DLms) ZD8VHF>EA8EE 1650 EY1QKC>5B4AV 1741-3 7X>EA5

Oct 2 0523 OD>SQ2 1414 I7>I8 1551 3Ctv>EA7

Oct 3 0742 I5>I1 08-0900 I1>I5 10-1100 OZ>9A(jt) I5>OZ(jt) 1653 UI5>I1 17-1800 I4>I1 I1>I5 18-1900 LX>PA

Oct 4 1104 EA3VHF>I9 12-1300 CN8MC>I4 LX>PA I9>CT 13-1400 CT>EI 17-1800 UT5G>9A,I4 GB3LER>F 18-1900 HB9SIX>LZ1 SV1SIX>SP9,OE5,PA,HA1 GB3BUX>I0 LZ1>DL,I1 SV1>OE1 9H>SP9 19-2000 SV1SIX>SP9,DL 9H>SP9,OE5,OE1,DL(Es) I9>SP9 20-2100 SV1SIX>SP9,I1,I3 I0>I5 YU1>I1 I6>5B SM5>DL(ms)

Oct 5 1 6-1700 SP9>SM5 I9>EA7 18-1900 IQ4AD>DL I0JX>PA GM>IS0,I5 G>I1,I5 F>9A I3>F 19-2000 I0,I4,I6>F I5>I1 DL>SM5(ms)

Oct 6 1403 CT0SIX>I0 1635 IW3FZQ>I1 18-1900 HB9SIX>EA7 CT0SIX>I5 1933 I9>9H 22-2300 DL>SM5(ms) ZD8VHF>EA7KW

Oct 7 I9>EA7(sc Af) 17-1800 TR0A>IS0GQX SM5>SP6(jt) 9H>IS0 DL>SM5(ms)

Oct 8 1136-40 7W>EA3,DL 1332 HB9SIX>EA7 15-1600 TR0A>EA7 I9>EA7 1657 TR0A>EA7KW 1822 CT>EA7

Oct 9 0746 OZ>I0(jt) 1155 EH1DVY>I3 12-1300 CT>OE5 13-1400 TR0A>S57RR,IW0GXY,9H1TM EH4>HB 14-1500 SV1>S5 TR0A>IK5RLP I2>I5(bs) I0>S5 15-1600 I5>S5 1751 FM5JC>EA7KW(sc) 18-1900 CU3,EH4>EA7(sc) I2,G>I5 22-2300 LU3DCA,LU7FA>EH8 LU7FA,LU3DCA,PU1KGG,PU2WDX,PY1NB>EA7KW 23-2400 PY0FF>EA7KW

Oct 10 1317 9Ltv,3Ctv>SV1

Oct 11 16-1700 G>I5

Oct 12 1457 9Ltv,3Ctv>SV1 18-1900 OZ>SM5(jt) 19-2000 I0>SP6(jt) G>OZ

Oct 13 1425 SP3>SP6(jt) 2116 DL>SM5(ms)

Oct 14 1457 9Ltv,3Ctv>SV1 1645 TR0A>IS0GQX 1741 OD5SIX>SV1(Es) 2229 GB3LER>F

Oct 15 0756 OZ>SP6(jt) 1437 GD>SM5(jt) 1506 9Ltv>SV1

Oct 16 1217 G>F 15-1600 TR0A>EA7KW 16-1700 FM5JC>EA7KW(sc) FY7THF>IH9GPI ZB3,7X>EA7 I9>IS0 17-1800 S5>SV1 9Z4BM>EA7KW(sc) SV1SIX>SP6 SV5SIX>S5 1941 9Ltv,3Ctv>SV1(Eve-tep) 2028 ZD8VHF>IS0GQX 22-2300 PY1RO,ZZ2TGR>EH8BPX

Oct 17 0730 S5>I1 0858 I5>F 09-1000 S5>IS0 10-1100 S5>I3 I0>SP6 11-1200 LZ1>9H GD>PA 12-1300 14-1500 I4>OZ(ms) 9Ltv>SV1 1535 TR0A>SV1 16-1700 SV1>EA7(sc 180) 5U7JB>EH5AX I9,CU3>EA7 2017 DL>SM5(ms)

Oct 18 0829 OE5>SM5(jt) 17-1800 9A0BHH,I5MXX>S5 20-2100 GI>EI SM5>DL(ms) 21-2200 SP6>DL

Oct 19 07-0800 OE5>SP6(jt) HB>OE5(t) 1255 HG1BVA>SP6 1637 7X>EA5 1843 7X>EA7 1926 I4>I5 2041 SM5>DL(ms) 21-2200 DL>EI(ms)

Oct 20 07-0800 G>SP6(jt) SP6>OZ(jt) 1243 I5>I0,I4 1858 7X>EA5 19-2000 EH5>9H I5>I2,I0,I4 7X>EA5 21-2200 SM5>DL(ms) 7X>EA5

Oct 21 07-0800 F>SP6(ms) 08-0900 I2>SP6(jt) I0>F(ms) 09-1000 LZ1>OZ UT5G>I4 SV1SIX>SP1,SP2 10-1100 LZ2>I4 LZ1>F,I4 SV1SIX,I>DL 1258 9Ltv,3Ctv>SV1 15-1600 TR0A>SV1DH,IK7IMO 16-1700 9H>SV1(bs 225) I5>I0 7X>EA7(sc S) 5U7JB>SV1DH,IK7IMO,9H1TM,I2ZVU,IW0FFK,SV1EHP 1730 I5>I4 1956 ZD8VHF>SV1DH 20-2100 SP6>I3(jt) ZD8VHF>9H1YZ 21-2200 SM5>DL(ms) PY1RO>EA5AX LU7FA>EA7KW,EA7AH LW3DX>EA7KW 22-2300 PY1RO>EA7KW

Oct 22 05-0600 OH8>SM5(jt) SP6>SM5(jt) OH5RAC>SP6(ms) 0629 OH9SIX>OZ(mode?) 1042 UU5SIX>SV1 UR>SP3 1859 7X>EA5 2226 PY2BVF>EA7KW

Oct 23 0806 OZ>SP6(jt) I9>I0 0951 I3>SP6(jt) 1042 I5>SP6(jt) 11-1200 I5>SP6(jt) GB3MCB>SP2 I3>PA(jt) 1324 I0>SP6(jt) 1452 G>SP6(jt) 1531 ZL3NW>IW5DHN(eme) 1940 I2>S5 2011 I5MXX>S5 22-2300 ZD8I>EA7KW,CT1EAT

Oct 24 07-0800 SM7>I3(ms) 09-1000 I4>I1,I2 S5>I2 I5>SP6,PA(jt) UT5G>I0 10-1100 LZ1,LZ2>I5 YO4>I0 SV1SIX>DL,SP2,SP6,I3 SV8>SP6,I3 I8>LZ2 11-1200 YO9>I5(Es) UT5G,LZ1>IS0 SV8,LZ5>DL I9,9H>YO5 DL>PA SV1SIX>HB ZS6NK>5B4FL SP2>9H 12-1300 ZS6NK>IW5DHN I9>ER1 9H>YO5 SV1SIX>I5 ZS6WB>5B4FL 13-1400 TR8CA>IK0FTA ZS6NK>IW0FFK,9H1TM I0>I2(t) 14-1500 9Ltv,3Ctv>SV1 TR0CA>IK0FTA,IW1AZJ,IK4JQO 15-1600 I5>S5 18-1900 9Ltv,3Ctv,I9> SV1(E-tep) 1956 ZD8VHF>9H1YZ 21-2200 ZD8VHF>9A5ST SM5>DL(ms) 22-2300 CN>EA7

Oct 25 0842 9A0BHH>S5(t) 0934 F>PA 17-1800 I0>EI SV1ATV>YI9KT(?) GI>I0 G>I5 1813 UU5SIX>9A 20-2100 ZD8VHF,ZD8I>9H1YZ HB9SIX>ER1 21-2200 ZD8I>9H1TM,IT9RZR PY1RO>EA4SV ZZ2TGR,PY4OY,PY4LE,LU8EHQ>EA7KW SM5>DL(ms) 22-2300 ZD8I>EH5AGR,CN8LI PP5JD>EA7KW

Oct 26 1240 LZ1>OZ 13-1400 UT5G,LZ1JH >DL YO7,LZ1>OZ 14-1500 UT5G>DL YO7,LZ2CM,LZ1JH> OZ 15-1600 OZ>F(ms) I9>EA7(sc S) 17-1800 HB9SIX>DL OZ>PA(t),DL I5>I0 18-1900 DL>S5 OZ,I0>DL OZ>PA,OH8 OH0>I4 19-2000 OZ>DL OH7,OH6>SP6 I4>I2 OH0>PA(ms) I6>S5 20-2100 OH6>SP6(jt) 8S>S5 SM0>SP6(jt) I0>I4 OH0>DL OH6>OH8 OH7>SP6 SM7>S5 21-2200 OH3>PA CU3>EA8 PY2CDS>EA7 7X>EA5 22-2300 PY5IP,PT7VB>CT1FMX LU3HR,PY7GK> EA8BPX

Oct 27 13-1400 ZS6WB>SV1DH,5B4FL ZS6DN,ZS6TWB>SV1DH 1715 FJ5DX>EA7KW(sc S) 18-1900 9Y4AT,FM5JC>D44TD 1904 S5>9A 20-2100 EH8BPX>D44TD D44TD>EA5AGR 7X0AD> D44TD,EA5AD 21-2200 D44TD>CN8LI PY1RO>EA7KW,CN2R EH7>CN CT1FMX,CT1EHX,CT1APE>D44TD PP5JD,PP5DR,PY4OY,ZP5AA,PY2YW,PY2CDS>EA7KW SM5>DL(ms) PY4OY>CN8LI EH7>EH9 ZD8VHF>CN8LI 22-2300 PY2XB,ZP5PT,PY4HL,PY7GZ ,PP2SIX,PY7GK>EA7KW CX3AN,PP5JD,ZP5PT,ZP5CGL>EA8BPX

Oct 28 2122 ZD8VHF>IS0GQX

Oct 29 1856 I5>I0 1947 I5>I4 21-2200 PY1RO>EA7KW,9H1TM D44TD>EA7KW ZD8VHF>9H1TM 22-2300 PY2WDX>EA7KW ZD8VHF,PT2ZEG>CN8LI

Oct 30 1050 I5>SP6(jt) 11-1200 G>SP6(jt) 1456 TR0A>G4PCI,PA2V 15-1600 TR0A>G0CHE,G4IGO,S57RR,F5TND 1642 TR0A>9H1YZ 17-1800 OZ>DL TR0A>F6FHP 1815 7X>EA7(sc SAm) 20-2100 SP6>I0(jt) I0>SM5(jt)

Oct 31 0810 G>I0(jt) 09-1000 G>I2(jt) 11-1200 HB9SIX>DL CN8MC>I4 1505 TR0A>F6FHP 1815 I5MXX>S5

**50MHz PROPAGATION REPORT FOR OCTOBER 2004 BY SV1DH**

1. Data for 28 days, internet data for 29-31st.
2. Relatively good days on: 4,8,16,17,21,27
3. 48 MHz AF video (3C+9L) on: 2-4,6-19,21,24-27 (no data 29-31) (R=75%)
4. 55 MHz AF video (5N) on: NIL

| | | | |
|---|---|---|---|
| 5. | Opening | to ZS6 | on: 27 |
| 6. | " | to TR | on: 8,14,15,17,21 (A-TEP) |
| 7. | " | to ZD8 | on: 8,16,21 (E-TEP) |
| 8. | " | to 5U | on: 21 |
| 9. | " | to OD | on: 14 |
| 10. | " | to EH | on: 17(B) |
| 11. | " | to 9H | on: 21(B) |
| 12. | " | to I | on: 4,16,21,24 |
| 13. | " | to HB | on: 24 |
| 14. | " | to OE | on: 4 |
| 15. | " | to S5 | on: 4,16 |
| 16. | " | to DL | on: 4,21,24 |
| 17. | " | to PA | on: 4 |
| 18. | " | to HA | on: 4 |
| 19. | " | to SP | on: 4,16,21 |
| 20. | " | to UR | on: 22 |

21. Special events on:
    4 (1930 PY1 to EU 48Mhz video)
    6 (1930 FM to EU 48Mhz video scatter +2245 EH7 to ZD8/B)
    7 (1800 FM to EU 48Mhz video scatter)
    8 (0800 SV1 to VK2/B on 10m+1015-1030 foF2>10, max 10.2 Mhz / MUF=34Mhz at 1030+ 1630 SV1 to W on 10m)
    9 (1115-1215 foF2>10Mhz, max 10.4 / MUF=34Mhz at 1200+1200 MUF to HZ>43Mhz + 1830 EH7+9 to FM+FY scatter)
    10&11(SFI~90, SSN=0!)
    12 (1130 MUF to HZ>43Mhz)
    13 (0930-1215 foF2>10, max 11.2, MUF=37Mhz at 1100+1130 MUF to HZ>43Mhz)
    15 (1915 CN to PY1)
    16 1600 EH7+CN+CT to FM sc+IH9 to FY sc)
    17 (1800 CN to PY1)
    18 (1400 W on 10m)
    19 (2215 CN to PY1)
    20 (0915-1115 foF2>10, max 11.5, MUF=38Mhz at 1015+1052 M2.6 flare + 1815 CN to PY1+1845 9A to PY1+1900 7X to PY1)
    21 (0915-1100 foF2>10, max 10.5, MUF=36Mhz at 0945+1900 CN to PY1+2200 EH7 to PY+LU)
    22 (0811 M2.1 flare+1215 YB on 10m with echo over LP+1430 W5 on 10m+2115 9H to ZP+2200 EH7 to ZP+PY)

23 (0645-0730 foF2>10, max 10.5, MUF=37Mhz at 0715+ 10m wide open 06-17z up W0+2230 EH7 to PY1+ZD8)
24 (1000-1200 foF2>10, max 10.6, MUF=35Mhz at 1130+ 1200 5B to ZS6+1400 9H to ZS6+ 2028 M2.3 flare+2115 9H+EH7 to PY1+2315 JA to CEMuzak)
25 (SFI=135,SSN=178!+0600-0630+0815-1200 foF2>10, max 11.6, MUF=38 at 1000+2045 9H to ZD8)
26 (0700-0730 +0915-1145 foF2>10, max 11.5, MUF=39 at 1045+2200-2230 EH7 to PY)
27 (0915-1400 foF2>10,max 10.8, MUF=35 at 1015 +1715 EH7 to FM sc)
28 (0845-1045 foF2>10,max 11.4, MUF=38 at 1015+2115 IS0 to ZD8)
29 (1245-1400 foF2>10,max 11.0, MUF=37 at 1330+2130-2215 9H to PY1+D4+ZD8)
30 (14C+4M flares!+1000-1430 foF2>10,max 11.6, MUF=39 at 1315)
31 (5C+2M flares+ 0845-1315 foF2>10,max 11.5, MUF=38 at 1000)

22. DXCC entities heard/worked during Oct 2004 :16 on 3 cont
23. DXCC entities heard/worked on 21st Oct 2004 : 7 on 2 cont.

73 COSTAS

## The Americas

### Auroral-Related Propagation

Oct 4 0034 N8PUM,VE4ARM>W0

Oct 13 02-0300 W7(DN17)>W7(CN88 55a) 05-0600 VE8BY>W0(mode?) VE6EMU>W0(EN36) N0UD>W0(EN36)

Oct 30 0107 VE1(FN65)>W2(FN02 41a)

### Other Modes

A brighter months for some parts of the US, though not for the West or Canada, which fared as poorly as northern Europe. Openings to South America on twelve days went predominantly to W4, which is usual, and to W1, which was less usual, with occasional openings to the mid-West. Apart from the one day when FY was copied fairly widely openings favoured southern and eastern South America. 'Chilean' Muzak just below 50MHz was copied in the States on one or two days, but otherwise nothing was heard from the western edge of the continent (CE, OA, CP or even HK). (Incidentally, reports never seem to pin a location on any of the 'Chilean' broadcasts; does anyone know where they originate?).

**Caribbean and United States<>Mainland South America**

| | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Caribb | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| US | | | | | | | | | | + | + | | | | + | + | + | + | + | + | | + | + | | | | + | + | | | |

On a world scale, Caribbean stations fared better than anywhere with openings to South America on all days, continuing a sequence that began in the second half of September.

United States<>South America

| | |
|---|---|
| PY 7 days | 15(W1) 16(W4) 17(W1) 18(W4) 19(W1) 20(W4) 22(W4) |
| LU 6 days | 10(W4) 11(W1,W4) 18(W4) 22(W3) 23(W3) 28(W4) |
| ZP 4 days | 11(W1,W3,W9) 15(W1) 19(W1) 27(W4) |
| FY 1 day | 11(W2,W4,W8) |
| CX 1 day | 18(W4) |

Oct 1 0040 ZP5AA>FM5JC 0153 J69EN>FM5JC 02-0300 PY2SRB>FM5JC 9Y4AT,YV4AB,OA4B,V44KAI>PY5EW

Oct 2 0056 PY2PAI>FM5JC 1939 W7>W6 2058 W6>W6 2146 48.3(CE)>W4 2200 W4>W4 23-2400 J69EN,PY4LY,ZP5AA>FM5JC

Oct 3 00-0100 PU2OCZ,LW3EX>FM5JC 01-0200 PP5AR,ZZ2LEW>FM5JC 0738 5B4AV>W7GJ(eme) 1340 W8>W4 1404 W4>W8 20-2100 48.2(CE)>W4 22-2300 ZZ2YHF,PU2WDX,PY1RO>FM5JC 23-2400 PY2CDS>FM5JC PY2OCZ>FM1BY

Oct 4 00-0100 CX4CR,PY4LY,LW3EX,LU7YZ>FM5JC 01-0200 LU4DMA,PP5AR,PY5ZHP,LU8YD,49.2(CE),CE2/K4UNM>FM5JC 23-2400 ZD8VHF,PY4LY>FM5JC

Oct 5 00-0100 PY2DSC>FM5JC KP2BH>PY2DSC FM5JC>PY1NX,PU2OCZ 9Z4BM>PU2OCZ 23-2400 ZD8VHF,PP5AR,PY2EJ,PY3DU,PY3OG>FM5JC KP2BH,FM5JC>PP5JD

Oct 6 00-0100 ZP5AA,PP5JD,PY2SRB>FM5JC 1935 48250>FM5(skew) 22-2300 ZD8VHF>FM5JC 23-2400 W8>W4

Oct 7 00-0100 PP5AR,ZP5AA,LU9EHF,CX4CR,PY2SRB,J69EN,49.2(CE)>FM5JC FM5JC>PY5IP 01-0200 LU8MB>FM5JC FM5JC>PY5IP,PU2WDX 1408 ES6RQ>W1JJ(eme) 1742 48.2(CE)>W4 1807 48250>FM5(skew) 2157 ZD8VHF>FM5JC 2202 PY0FF>FM5JC 2333 PY2SFY>FM5JC

Oct 8 00-0100 PU2WDX,PY3DU,LU7WW,49.2(CE),CX4CR,LU8DCH>FM5JC FM5JC>PU2WDX,PY4OY 01-0200 PY2GR,ZP5AA,OA4B,CE2/K4UNM,HC3AP>FM5JC 2021 48250>FM5(skew) 2144 CT3BD>ZZ2TGR 22-2300 PY0FF,ZZ2GTR>FM5JC 23-2400 PU1KGG,PU2WDX,ZP5PT, LW4HBN,PY3DU,CX5CR>FM5JC CN2R>PU2WDX HI8ROX>PY2NQ,PU2WDX

Oct 9 00-0100 48.3(CE),LU1DMA,LU7WW,OA4B,CE2/K4UNM>FM5JC 0228 FM5JC>ZZ2TGR 19-2000 FJ5DX,PZ5RA,FY7THF>FM5JC FJ5DX>HK4SAN 20-2100 FY1FV,LU7WAW,49.2(CE), FG5FR>FM5JC 21-2200 3Ctv,ZD8VHF>FM5JC 22-2300 PY0FF,PY2SFTY>FM5JC FJ5DX>PY5IP,PU2WDX 23-2400 CX5BW,ZP5AA,LU9EHF,LU1DMA,PP2SIX,LU8DCH, PY5AQ,CX7BBW>FM5JC ZD8VHF,LU3DCA,LU1DMA>YV1DIG

Oct 10 00-0100 CX3AN>FM5JC 1730 W8>W5 2016 LU7WW>W4SO 21-2200 LU7WW>W4SO ZD8VHF,PY0FF>FM5JC 23-2400 PY1WX,LU9EE,LW3EWZ>FM5JC HK1XX>PU2WDX K0KP,W8>W3 HK1XX>PU2WDX

Oct 11 00-0100 FY5FL>HK1XX CE2/K4UNM>FM5JC,HK1XX,PU2WDX FY1FL,FY7THF,OA4B>FM5JC 01-0200 FM5JC>PY5IP CE4BJS,CE4WJK>FM5JC ZP6CW>W1RA CE4WJK>N3DB, K2MUB,PU2WDX LU3YC>PU2WDX C6AFP>W1RA FY7THF>K2MUB CA2VDQ>PU2WDX ZP6CW>K1VW 02-0300 FY7THF>N8CJK 02-0300 LU8MB>W1JJ ZP6CW>N3DB,HK1XX,YV1DIG

FY7THF>N8UUP,N4GN,YV1DIG 03-0400 ZP6CW>K3JT,K9RT K4AHO>W3 VE7>W7(sc) 13-1400 K0KP>VE6(Es) N8PUM>VE6 N0UD>VE6(ms) 22-2300 LU7WW>W4SO K5AB,W5RP>W0 23-2400 ZZ2TGR,49.2(CE),FJ5DX,PY3DU>FM5JC KP2BH>PU2WDX

Oct 12 00-0100 PY4WW,ZP5AA,LU4DMX>FM5JC FY7THF,ZD8VHF>HP3XUG FJ5DX>PY4OY 01-0200 PP1CZ>FM5JC 21-2200 ZD8VHF,PY0FF>FM5JC 22-2300 PY2DO>FM5JC 23-2400 CX2DQ,LU1DMA,CE4BJS,LU7YZ>FM5JC W3>W9

Oct 13 00-0100 WP4KJJ>PY5IP PP5AR,CX3AN>FM5JC HK3JRL>PU2WDX 01-0200 LU1FDQ,LU7FA>FM5JC LU7FA>YY5 21-2200 ZD8VHF>FM5JC FY7THF>HP3XUG

Oct 14 00-0100 LU7WW>FM5JC WP4KJJ>PY5EW 01-0200 P43L>ZZ2GTR,P2OCZ 9Y4AT>ZP6CW 2243 ZD8VHF>FM5JC 2324 FJ5DX>PU2WDX

Oct 15 00-0100 PY4LY>FM5JC PJ4/PA3CXN>PY1RO 0144 ZP6CW>FM5JC 1919 CN8MC>PY1RO 21-2200 ZD8VHF,PY0FF,49.2(CE)>FM5JC 22-2300 LU9EE,CX1DDO,PY2NQ,LU1DMA,LW6DC> FM5JC FJ5DX>PY2NQ 23-2400 FM5JC,9Y4AT,PY0FF,V44KAI,PP2SIX>PY5EW ZZ2TGR>W1JJ PY2XB>WA1T ZP6CW>FM5JC,W1JJ 9Y4AT>ZP6CW

Oct 16 00-0100 9Y4AT,YV4AB,YV4AB>PU2OCZ 01-0200 OA4B,V44KAI,TI2NA,48.2(CE)>PU2OCZ 02-0300 YV4FJK>PY5EW,PP1CZ,PU2OCZ P43L>PU2OCZ 1652 IG9/I2AND>FM5JC 0620 VE7>W7 17-1800 9Z4BM,CT1HZE>FM5JC 1837 3Ctv>FM5JC 1923 48.2(CE)>W4 2027 PJ2BVU>WP3YM 21-2200 W4SO>YV1DIG ZD8VHF,W4SO>FM5JC 22-2300 W4SO>PY1RO 6Y5IC>W4SO PY0FF,K4AHO>FM5JC 23-2400 VP9GE>FY3YM PY2DUN,PY1RO>FM5JC

Oct 17 0011 LU7YZ>FM5JC 0133 PY2MXV>FM5JC 0202 9Y4AT>PP1CZ 1050 7Q7SIX>KB2WTB(?) 16-1700 W8>W4(ms) W4>W4 1807 CN8MC>PY1RO 21-2200 PP1`>PP5 22-2300 VP5VAC,6Y5IC>W4 2358 PY2EJ>K4RX

Oct 18 LU7WW,CX3AN>K4CEB CX4CR,PY1RO>K4RX 9Y4AT>PP1CZ W8>W4 LW1DZ>N4NN K4RX>PP1CZ,PP5AR AC4TO>PP1CZ PY1RO,ZP6CW>K4RX K4QI>PY2XB 01-0200 ZP6CW>K4MQG HK1XX>PP1CZ 21-2200 LU7YD,LW2DDS,LU6DE>WP4NEG 22-2300 PY3DU>FM5JC LU6DE>WP4NIX FM5JC>PU2WDX PY5ZHP>FM5JC

Oct 19 00-0100 PJ2BVU>PU2WDX,PU2OCZ FG/FR1AN>FM5JC 01-0200 FM5JC,FG/FR1AN>PU2OCZ 9Y4AT>PP1CZ PY3BSG,FY1FL,PT7VB,PY3ZL>FM5JC 02-0300 ZP6CW>PR7AR PY0FF,PR7AR>FM5JC 22-2300 CN8MC,CT1HZE>PY1RO KP2BH>PP5AR 23-2400 ZP6CW>K1GUN,FM5JC PT7VB,PY7ZZ>FM5JC 6Y5IC>PY2NQ K4RX>PY1RO

Oct 20 00-0100 W4>W4(bs) PY2XB>K4RX ZP6CW>K4UTE LW3EX>FM5JC 01-0200 PY1USK,LU2DO,PY3BSG,CX4CR>FM5JC 0214 9Y4AT>PY1WX 1420 W3>W4 18-1900 CN8MC,9A5ST>PY1RO 48250>FM5JC(sc) 19-2000 7X0AD>PY1RO 2000 EH8BPX>FM5JC 22-2300 PY0FF>FM5JC 47.9(CE),TG9ANF>W4RX 23-2400 LU8EHQ,PY2SRB,PY2GN,LU5DWK,LU7YZ,LU5ATF>WP4NEG FJ5DX>PY5IP PY0FF>FM5JC

Oct 21 00-0100 TG9ANF>N5UXT FY7THF>HK2XX LW3EX>FM5JC 01-0200 PY2GR>FM5JC 02-0300 PY2RO,OA4B>FM5JC 1901 CN8MC>PY1RO 22-2300 PY0FF>WP4NEG,PY5EW,FM5JC,KP2BH,PY2NQ,PP5JD FJ5DX>PP5JD FY1FL>PY5IP CT3BD>PP5JD LW3EX>KP2BH 23-2400 LU8DIO>KP4JRS PY0FF>PY5IP KP2BH>PY2RO,LU7YZ WP4NEG>PU2WDX CX4CR>WP3YM CX2DQ>WP3YM,FM5JC LW2ETU,LU8DFN,CX2DQ,PU1KGG,PY2DUN,LW6DC,PY4LY,PY2DA,PP5AR>WP4NEG

Oct 22 00-0100 PY0FF>PU2WDX,PY4OY ZP5PT,FJ5DX>PP5JD KP2BH>PP5AR 0148 XQ3SIX>FM5JC 02-0300 LU6QI,LU3EAP>FM5JC 9Y4AT>PP1CZ PP1CZ>FM5JC 0329 W9>W0 20-2100

LU1DMA>N3DB W4>W8 21-2200 VP9GE>K4JAF LU8EHQ>N3DB ZD8VHF>FM5JC 22-2300 PY0FF,K4QI>FM5JC PY1RO,FM5JC>K4MQG LW3EX>K8WK C6ANU>K8WK,K4MQG 23-2400 VP5VAC>N3DB,W4TJ,K4PI VP5KE>W4DR,K4RX,N3DB PY4TNT>WP3YM K4AHO>W0

Oct 23 00-0100 VP5KE>W4SO W4>W5 01-0200 CX2DQ,PY2DUN>KP2BH 0210 K5AB>W4 1529 N3LL>W3 20-2100 W5,W7>W7 49.3(CE),LU7YS>N3DB CN8MC>PP1CZ 2155 CU3EQ>PY1RO 22-2300 CU3EQ>PP1CZ W3>W1 PY0FF>PP5JD,PP1CZ EH8EE>PP1CZ PY2>PR7 EH7KW>PP1CZ PR7>PP5,PU2 PY1RO>FM5JC LW3EX>PR7AR LU8YD>N3DB,LU7YZ FG1GW>PY1RO 23-2400 W2,W3>W2 PY4,PY2>PR7 W3>W1 W9>W8 ZZ2GTR,PU2UCZ,PY2BVF,LU3DCA,PY2XB>FG1GW W4>W8 HC1HC,HC3AP>FM5JC

Oct 24 00-0100 PY2,PY3>PY4 LU5DWK,CX4CR>PY4OY FY7THF,ZP5AA,PY1RO,PY4TNT>FM5JC G4PCI>W7GJ(eme) W2,W3,W4>W3 9Y4AT,ZP5AA,LU1DMA>PP1CZ 01-0200 W3,W8,VE3,W1,W4>W4 W4>W9,W2 W6>W6 W5>W2 W1>W5 W0>W0 02-0300 W4,W9>W4 C6AFP>KB9JCW W1,W2,W3,W4,W6,W7,W8>W5 W4>W0 9Y4AT>LU7YZ,PU2WDX FM5JC>PY2RO 0302 W3>W5 0346 FY7THF>YV1DIG 13-1400 W5>W3(ms) W4>W1 21-2200 9H1AW,CN8MC>PY1RO EH7KW>PP1CZ 22-2300 PT7>PP1 LU8EHQ>WP3YM EH8EE>PP1CZ,PU2OCZ FJ5DX>PU2OCZ,PY2YP 23-2400 FJ5DX>PP5JD NP3CW,FJ5DX,PY2SRB>LW6DC FM5JC>PU2OCZ LW1DZ,PY2RSB>FM5JC

Oct 25 00-0100 PU2PCZ,LU2DO,CX4BW>TI4DJ TI4DJ,TI2ALF,KP4FBA>PP1CZ PP2SIX,V44KAI>PY5 TI4DJ>PY4OY YV4AB>PY5EW 01-0200 HK4SAN>PP1CZ HR1RMB,KP4FBA>PU2OCZ ZS6NK>W7GJ(eme) 02-0300 PY4LY>FM5JC FY7THF>YV1DIG 21-2200 ZD8VHF>FM5JC EH5AX>ZZ2TGR 22-2300 CN8LI>PY2NQ ZZ2TGR>WP4NEG ZD8I>ZZ2TGR PY0FF,FJ5DX,9Y4AT>PP5JD PP5JD>FG1GW 23-2400 CO8LY>PP5JD,ZZ2GTR,PU2WDX LW3EX,PP5AR>WP4NIX HI8ROX>PU2WDX,ZZ2GTR,PP5JD 9Z4FZ>PP5JD,PU2WDX 9Z4BM>PP5JD PT7>PU2

Oct 26 00-0100 LU9HH>PU2WDX CX2DQ>PT7VB 01-0200 PT7>PU2 CO8LY>LW6DC,PP5JD,PU2OCZ FJ5DX>PP1CZ PY0FF>PY2,PP1 PT7>PP1 PP2SIX>PP1 VP9GE>N3DB P43L>PU2OCZ 9Z4FZ>PP5JD,PP1CZ 02-0300 9Z4FZ>PU2OCZ P43L>PU2WDX ZP6CW>PP1CZ.PY2RO PY4>PY2 03-0400 TI4DJ>PU2WDX WP3HV>PP5JD YY4GMJ>PU2WDX 21-2200 ZD8VHF>FM5JC PY0FF>PY5 22-2300 PT7,PY7>PY5 EH8BPX>PY5EW PY4ZN>WP4NEG ZZ2GTR>WP4NIX 23-2400 HP1AC>PY4OY LU2DO>WP4NEG WP4NEG,FJ5DX>LW6DC FJ5DX>PP5AR LU3HR>FM5JC

Oct 27 00-0100 PY6>PP5 CO8LY>LW6DC,LU7YZ,PP5AR,K4RX PY7GK,LU6HVW>FM5JC HK4CZE>PP5AR 01-0200 PY7>PP5 HC5T,PP5AR,LU6QI,LU9MBK>FM5JC 18-1900 48250(sc),D44TD,5T5SN>FM5JC 21-2200 EH8EE>PP5JD 22-2300 CN2R>PY5IP,PR7AR,PP5AR PP7>PP5 J75WX>PY4OY 8P9AR>PY1RO PY1>PR7 PY4NT>WP4NEG 23-2400 PY2YW,PY3BSG>WP4NEG ZP6CW>K4RX YY5LKD>PY5IP

Oct 28 00-0100 HK4CZE,FY1FL>PY5IP 0118 HK3GKI>PP5AR 21-2200 TR0A>FM5JC 22-2300 PY7GK>FM5JC CO2OJ>K9SM FJ5DX>PY2NQ LU3WW>W4SO PY0FF,9Y4AT,V44KAI>PP1CZ LU7WW,PP1CZ,PP5AR>WP4NEG WP4NEG>PP1CZ V44KAI>PY1RO 23-2400 FJ5DX>PY2BRZ

Oct 29 00-0100 FM5JC>PP1CZ,PU2WDX FJ5DX>PU2WDX PP1>PP5 PY3DU>FM5JC PY7>PY2 PR7>PP5 0336 FY7THF>YV1DIG 20-2100 3Ctv>FM5 21-2200 TR0A>FM5JC 9H1AW>PY1RO 2309-10 PY0FF,9Y4AT>PP5JD

Oct 30 00-0100 CE2/K4UNM>PU2OCZ CE3RR>ZZ2TGR 0138 LU9MBK>ZZ2TGR 0358 OA4B>YV1DIG 12-1300 W4>W5,W1 1410 W1>W4 1606 W3>W2 1748 W4>W1 2134 K4AHO>W5 22-2300 PY2RO>FM5JC FJ5DX>PU2OCZ PY8>PY2 23-2400 PY8>PU2,ZP W4>W5 PJ2BVU>PY2RO,PP5AR

Oct 31 13-1400 W5>W4,W5 14-1500 W4>W5 W1>W4(ms) 15-1600 C6AFP>N0JK K5AB,W1>W4 16-1700 W4>W0 W4>W5 20-2100 TR0A,3Ctv>FM5JC 21-2200 TR0A>FM5JC 22-2300 LU3YC>WP3YM LU8EHQ>FM5JC

## Asia/Pacific

### Japan

The most notable DX during the month was the TX9 dxpedition, worked from JA and DS, though this was not particularly striking in DX terms. Paths from JA to VK help up quite well, with openings reported on 22 days, with VK6 as usual featuring the most strongly. Note a significant proportion of days when only beacons were reported, suggesting actual activity remained low. HL appears to have had fewer openings to VK (and none to ZL). Reporting from VK and ZL remains minimal.

**JA<>VK/ZL**

| | 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 | | | | | | | | | | | | | | | | + | + | | | | | | | | | | | | | | |

**JA<>VK/ZL**

| | | |
|---|---|---|
| VK2 | 1 day | 18 |
| VK4 | 9 days | 7,12,16-18,25-26, 28-29 |
| VK6 | 19 days | 1-2, 4-5, 7-8, 10, 12 17-19, 22-23 26-31 |
| VK8 | 6 days | 5-7 16-18 |
| ZL2 | 1 day | 16 |
| ZL4 | 1 day | 17 |

**6m DX results in JA during October from JA1VOK**

| DATE | TIME(UTC) | STATIONS |
|---|---|---|
| 10/ 1 | 0400-0500 | C21SIX/b, V73SIX/B |
| | 1000-1100 | VK6JQ,6RSX/b |
| 2 | 0955-1030 | VK6JQ,6RSX/b (JA3-6) |
| 4 | 0550-0630 | VK6RSX/b (JA3-6) |
| | 0925-1000 | VK6RSX/b (JA3-6) |
| 5 | 0630-0700 | VK6RSX/b |
| | 0940-1400 | VK6JQ,6RSX/b,8MS |
| 6 | 0355-0600 | DU1EV/B, VK8RAS/b |
| 7 | 0305-0830 | 9M2TO/B, DU1EV/B, V73SIX/B, VK4,6RSX/b,8RAS/b |
| 8 | 0300-0600 | 9M2TO/B, C21SIX/b, DU1EV/B, VK6RSX/b |
| 10 | 1100-1110 | VK6JQ |
| 12 | 0300-0700 | 9M2TO/B, 9M6SMC/b, V73SIX/B, VK4RGG/b,6RPH/b, YB1MH |
| 13 | 0350-0430 | V73SIX/B |
| 14 | 0850-0910 | VR2SIX/b |

| | | |
|---|---|---|
| 15 | 0410-0430 | TX9 |
| | 0925-0940 | VR2SIX/b |
| 16 | 0200-0530 | C21SIX/b, FK8SIX/B, V73SIX/B, VK4,8RAS/b, ZL2TPY |
| 17 | 0250-0700 | DU1EV/B, FK8SIX/B, TX9, V73SIX/B, VK4,6RSX/b,VK8HF,8RAS/b, ZL4AAA |
| 18 | 0235-0800 | C21SIX/b, FK8SIX/B, TX9/b, V73SIX/B, VK2HO,VK4,6RSX/b,VK8RAS/b |
| 19 | 1225-1240 | VK6RSX/b |
| 22 | 0730-0750 | VK6RSX/b |
| | 1250-1310 | 9M6SMC/b, DU1EV/B |
| 23 | 0440-0700 | C21SIX/b, VK6RSX/b |
| | 1000-1030 | VK6RSX/b |
| 25 | 0350-0430 | C21SIX/b, FK8SIX/B, VK4ZQ,AHW,TZL,YRS,ABP/b,RGG/b |
| 26 | 0225-0400 | FK8SIX/B |
| | 0800-1300 | VK4WDM,6JQ,6RSX/b |
| 27 | 0740-1100 | VK6RSX/b |
| 28 | 0400-1200 | DU1EV/B, V73SIX/B, VK4BLK,4RGG/b,6RSX/b |
| 29 | 0250-0900 | DU1EV/B, FK/DJ8NK,FK8SIX/B, VK4,6RSX/b |
| | 1240-1330 | VK6RSX/b |
| 30 | 0630-0700 | VK6RSX/b |
| 31 | 0530-1130 | DU1EV/B, VK6JJ,6RO,6WD,6RBU/b,6RPH/b,6RSX/b |

## Elsewhere

Oct 5 1228 VK8MS>VR2

Oct 8 1223 DU1EV>KG6DX(tep)

Oct 17 0448 TX9>DS5KJR

Oct 22 0405 KH6>VK3

Oct 24 2314 47.9(CE)>JH7XRZ

Oct 26 1152-3 JA6YBR,VR2SIX>KG6DX(tep)(?)

# Beacon News and 28 MHz Worldwide

Compilation and Commentary by G3USF

## Beacon News

| | |
|---|---|
| 10115.0 | N2UHC now 100mw intermittent (N2UHC)(Nov.) |
| 21188.7 | RK6A/b heard by IZ8FOO - no further details (Nov.) |
| 28165 | FY1YV in Cacao (GJ34SN) reported here - no further details (K0HA)(Nov) |
| 28178 | NP4AE reportedly transmits only 8 seconds in each minute, sending ID in fsk (K0HA) |
| 28185 | I8EMG reported here - no further details (Nov) |
| 28190 | CX2DDP reported here from El Pinar, just outside Montevideo, running 10 watts to a vertical (ZS5S)(Nov.) |
| 28202.5 | ZS1J again active after being silent since late July (G3HBR)(Nov.) |
| 28205 | DL0IGI again active after many months silent (various Nov 18) |
| 28210 | K4DPC Wilmington NC FM14 new beacon runs 3 watts to an A99 24/7 (K0HA)(Nov.) |
| 50065 | FY1FV also reported here - no further information (various)(Nov.) |

+++ see also notes in G0AEV's 28MHz commentary

## 28 MHz Worldwide

Aided by a relatively benign level of geomagnetic activity for most of the month and better-than-expected solar flux figures over the last ten days, October results were as good as could reasonably be expected for this stage of the cycle. Improved propagation was particularly marked during those last ten days, when the Ap index was in single figures on seven of those days, the flux above 130 on eight - and major contests on the two weekends challenged operators to test the band's capabilities to the full.

Africa and South America were contacted from Europe every day, and North America was reported into Europe on all days except the 1st, 5th and 14th. (Since none of those days looked unpromising in terms of 'the figures' it is timely to recall that our results can only related to reported propagation; consequently they are if anything on the low side.) Asia could be worked from Europe on 27 days, with the first half of the month noticeably weaker than the second. So, too with Oceania (notably VK6)<>Europe, reported on 11 of the first 16 days but every day thereafter. Rising MUFs produced numerous F2 and F2 backscatter contacts within Europe, plus sporadic-E (there were notably good events during the evenings of the 4th and 5th), and auroral backscatter, adding up to intra-European working on every day except for the 14th, doubtless due to minor storming.

The pattern was broadly similar in North America. South America was worked every day and Africa on all but the 1st and 10th and Oceania on all but the 12th. There was propagation within North/Central America on all days. Asia, never the easiest of continents, and most readily affected by increased geomagnetic activity, was reported on 26 days. Asia, in turn, reported Oceania contacts on 22 days. The path between Japan and South America was known to have been open on at least 23 days, heavily concentrated into the JA morning period, though Western Asia was also able to work into South America during the evening. There were markedly fewer reports of propagation within Asia, surely due in some measure to a combination of low activity and/or low internet access in Asiatic Russia and the Indian sub-continent.

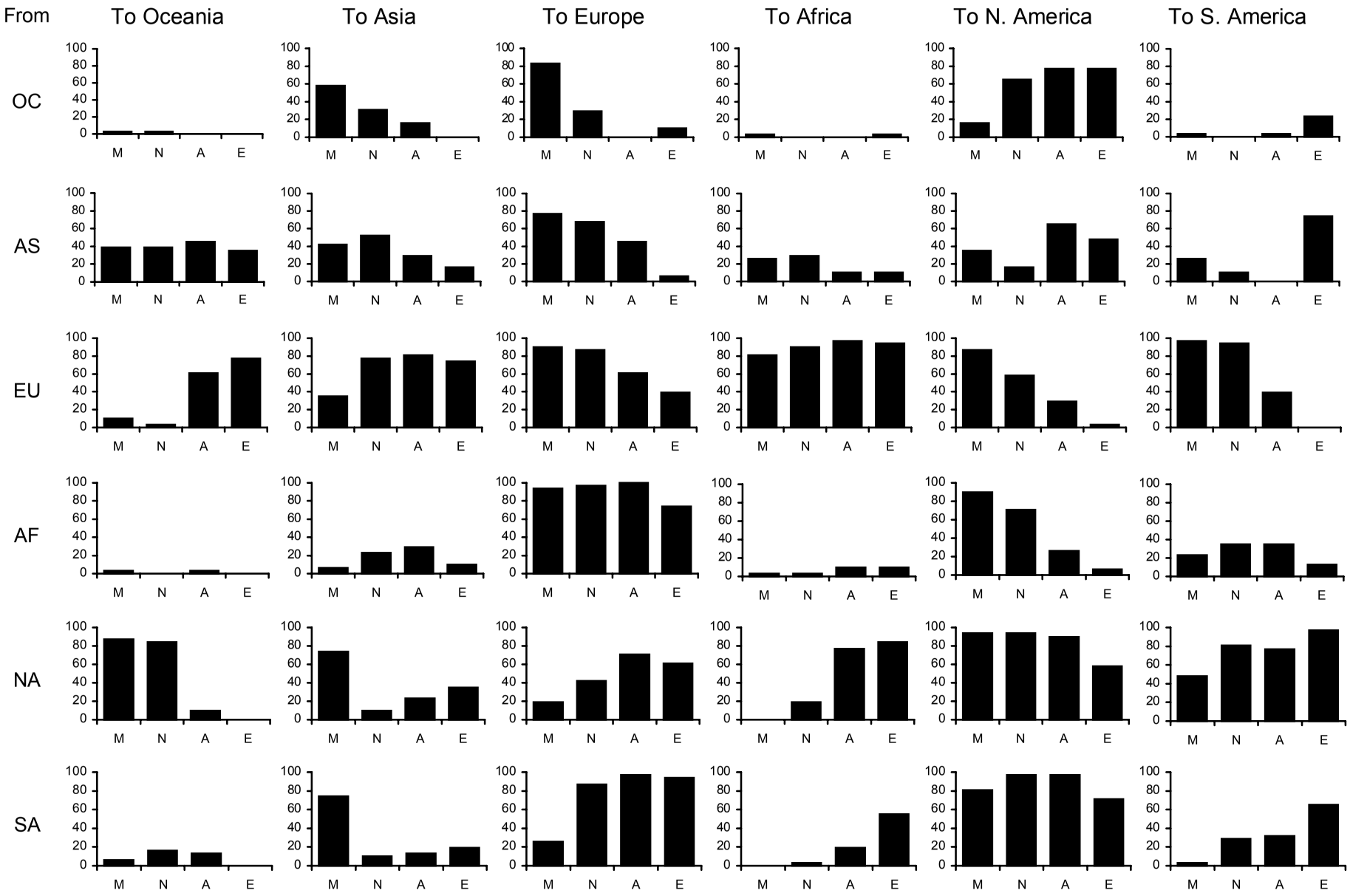
The month brought a substantial crop of better-than-routine reports. A number involved that most observant and active operator, K0HA. At 1646 on the 4th IK4GRO founding him at 1656 on a South American heading, and again at 1815 on the 8th PA5A also found him on a similar bearing. On the 9th, before the direct path to JA became fully established later in the month, Bill reported JA7BSV at 0020 and the JE7YNQ beacon at 2105, both on a WSW heading. On the 18th he reported OH9TEN at 2016-2037. (N8NR copied the same beacon at 2058). The SM0CNL/3 beacon followed at 2114 and SK0CT/B AT 2127. LA5LJA was worked at 2130. N8NR subsequently worked LA6FJA and OH2PM at 2204-2208, with K0HA copying the SK5AE beacon at 2215. On the 19th, K0HA again copied OH9TEN at 2034, followed by OH9TEN and SM0CNL/3 at 2107 on the 21st. On other evenings K0HA ran a temporary beacon when conditions appeared encouraging, but no doubt largely because few operators in northern Europe would have been expecting Ten to be open at such hours, there appears to have been little response. Later, K9QU reported OH9TEN at 2303UTC on the 25th, while KB8QCF heard the beacon at 2154 on the 26th, with 'polar flutter'. The path between the Scandinavians and K0HA is of course shorter than for UK operators but crosses the auroral zone, requiring two F2 hops. The midpoint of the first hop from Scandinavia, probably the second, too, would have been in darkness at the relevant times. There are similarities here between late openings between northern Scandinavia and western states on 50MHz two or three years back - but also substantial differences.

Another batch of contacts over similar paths but in quite different circumstances occurred between 2239 and 2302UTC on the 31st. OH1AB reported K7OX,K7RC, K0HA,KL2A/W7,K6IDX and W5LCC. The 3-hour Kp was 6 at the time…

Among other less-than-routine reports were JE1OHL<>TJ3FR at 2117 on the 8th and EA8BMG<>PY3SN at 2315 on the same day, reported as long path. Other long path reports include the JA2IGY beacon reported by DK1MAX at 1105 on the 26th, VU2DSI<>K0HA at 1355 on the 28th, and KH6WO copied by DK7KG at 1650 on the 18th. KH6/W7GMH was reported by OK1DXB at 1834 on the 26th with no indication of beam heading. Among 'early' reports OH2COS<>FP/VE7SV at 0706 on the 28th was notable, while PY3OT worked S52OT at 0644 on the 30th. W4ZV was into G3XTT's location at 1114 on the 26th, but by sidescatter. At the other end of the day KL2A reported D4B at 2255 and 2358 on the 26th.

(28 worldwide graphs on the following page)

## 28 MHz Worldwide - October 2004




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