

THE SIX AND TEN REPORT

**June
2006**

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Analysis of 28 MHz reports from the UK

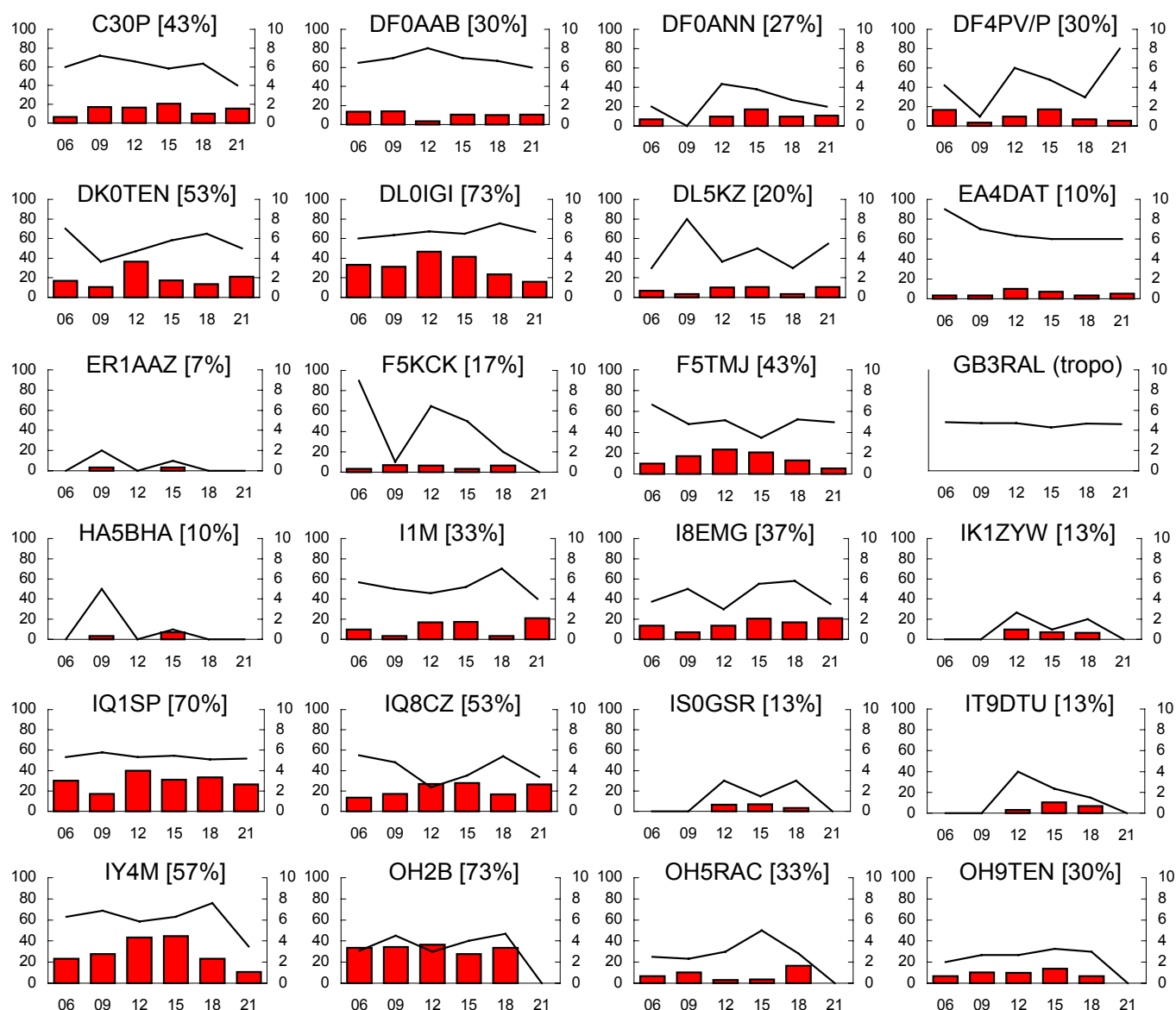
28 MHz reports and logs for June 2005 from G2AHU, G3HBR, G3IMW, G3USF, G3YBT, G4JCC, G4TMV, G4UPS, G0AEV, G0IHF and packet cluster reports. Compilation and commentary by G0AEV.

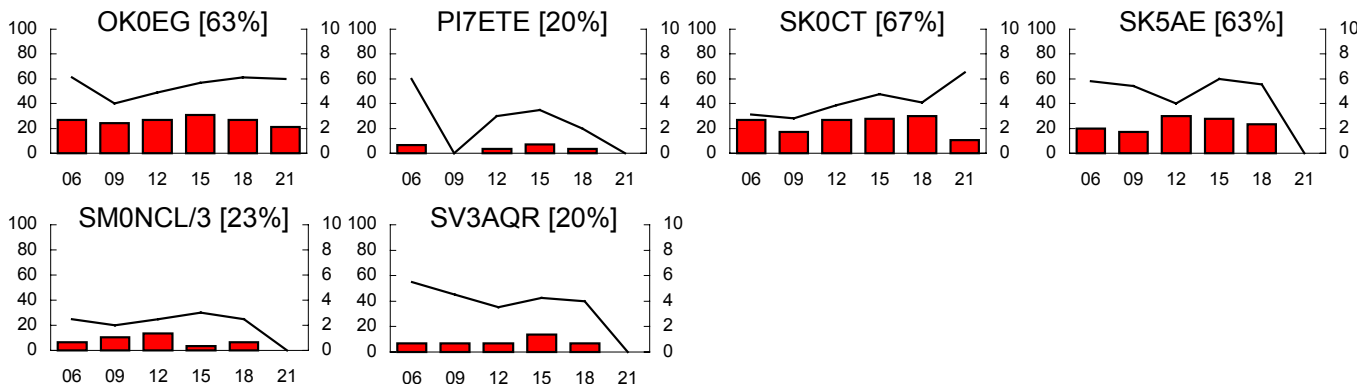
Beacon graphs legend

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.

In the March 2005 Report I produced graphs of the 20m NCDXF beacons produced from the monitoring results of Ray G2AHU. We are going to try and make this a regular feature – at least for the period when 10m propagation is poor. If you listen to the 14MHz beacons please send us your results in the usual format.

European Propagation / Beacons





Propagation modes for European beacons.

All the European beacons reported above were heard by sporadic E, with the exception of GB3RAL heard via tropospheric propagation at G0AEV. PI7ETE was mostly via short-skip Es as heard by stations in southwest and central England. No European beacons were reported by aurora, by meteor scatter or by F-layer propagation. Es backscatter was available but backscatter signals are often weak and tend to be detected only at the better equipped stations. The contribution of Es backscatter in the beacon graphs is therefore small and in every case is swamped by the results of direct path Es.

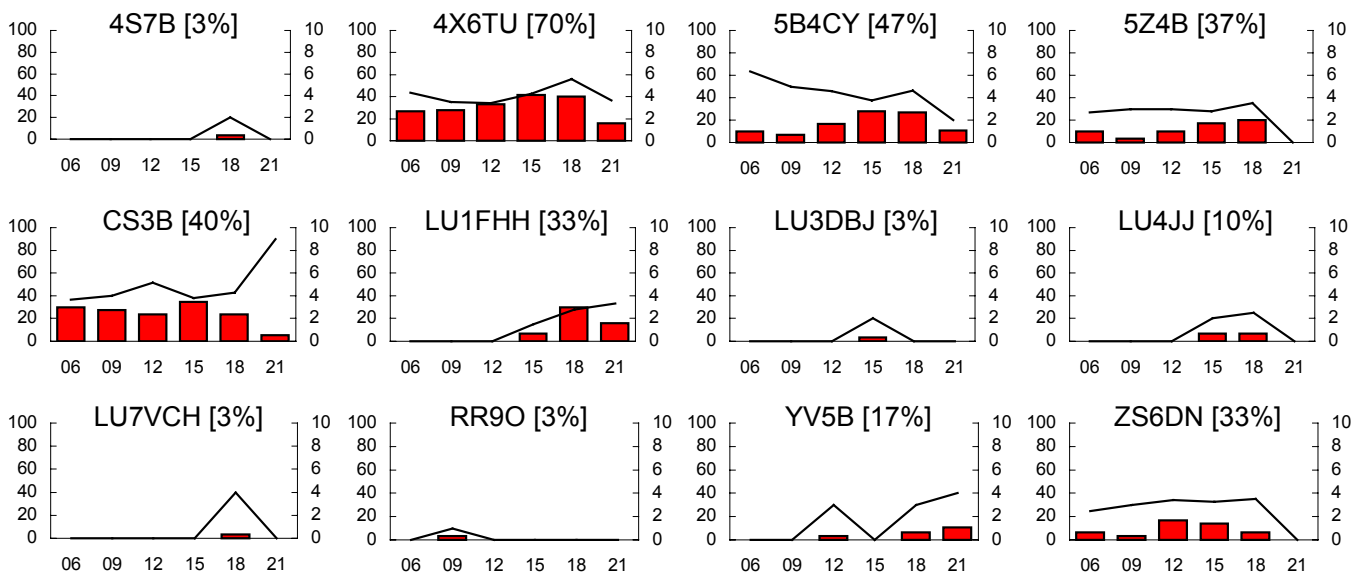
European Beacon Notes.

As might be expected at the height of the sporadic E season, all of the active European beacons were heard with the exception of DA5MMB (“out of band” and significantly under-reported as a consequence) and I0X, the QRSS QRP beacon, that has not yet been reported in Britain.

New beacon C30P started transmitting (on 28.256) in the second week of June with a distinctive keying, and the beacons EA4DAT and I1M were re-activated at about the same time – the latter with a noticeably improved signal. On the debit side, EI0TEN appears to have gone off-air and there is no sign of the apparently re-activated YO2X. GB3RAL suffered a short outage between 19 and 21 June.

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

Beacon Graphs.



Suggested propagation modes.

June beacon monitoring results indicate a further reduction in the efficiency of F2 propagation. Mid summer is normally the poorest time of the year for F-layer DX, but the current low solar activity in the lead up to solar minimum only serves to reduce performance further. Even at solar maximum 10m propagation via F2 in June is largely restricted to North-South paths. This was clearly the case this month with the best beacon performers being 5Z4B and ZS6DN, but even these paths only delivered daily reliabilities of 1 day in 3.

In general multi-hop sporadic E provided better results: the openings to Russia (and to North America) are entirely by this mechanism. On other circuits it is difficult to separate Es and F components. For example, 4X4TU, 5B4CY and CS3B could be available by either double hop Es or single hop F2. Sporadic E, and openings to Africa and South America may have a sporadic E or F2 first hop. It is possible gauge the contribution attributable to Es by referring to path reliabilities at 6m, and by comparing 10m reliabilities at different stages of the solar cycle. These studies suggest that most of the 10m propagation reported to 4X4TU, 5B4CY and CS3B in June 2005 was via sporadic E. The (single) report of 4S7B is surprising – perhaps this was mixed Es-F2?

Beacon Notes.

There were no repeats of the May reception of 5T5SN (on 28.190) so it seems likely that the original activity was of a test or experimental nature. The isolated reports of OA4B have dried up – I am not convinced that there have been anything other than occasional tests from this beacon, perhaps from some temporary location. Well placed beacon listeners in North America are not hearing this beacon. LU4AA is clearly still QRT. Other NCDXF beacons within range of the UK on 10m are all active.

Two new beacons in Argentina were heard in June: LU7VCH in FF60 (28.191) and LU3DBJ in GF05 (28.192). Past experience shows that LU beacons can have short lives and it appears that LU7VCH may be of this ephemeral type. LU3DBJ appears to be more persistent – it has been heard in July on a new frequency of 28.167.

10m DX in June 2005

The following list of DX countries worked or heard in the UK comes from packet cluster Spots (DX Summit: <http://oh2aq.kolumbus.com/dxs/>) and from the logs of Six and Ten reporters. The small number of DX countries in June is due to lack of F2 propagation (most of the reported Dx was worked by sporadic E). Undoubtedly, more countries could have been worked but 10m gets relatively little attention close to the solar minimum, and at this time of year strong single hop Es signals predominate.

DX in June: 4X, 5B, 7X, 9G, CN, CY9, EA8, EA9, KP2, LU, PY, TT, TZ, W, XT.

DX in May for comparison: 4L, 4X, 5B, 5T, 5U, 6W, 7X, 8P, 9G, 9Y, CE, CN, CT3, CX, D4, E2, EA8, EA9, HP, HZ, J7, KP2, LU, P4, PY, PZ, TA, TI, TZ, UN, V2, VU, XT, YV, ZC, ZS.

Propagation to North America

No beacons in North America were reported in June – quite disappointing as in most years there are half a dozen or more multi-hop openings “across the pond” in the mid-summer months when beacons are heard. The lack of reports reflects an absence of propagation of this type. On six metres, where monitoring is more active, VEs were reported on 4 days in June but no W’s were heard at all. Multi-hop propagation was more prevalent to the Caribbean occurring in 2 periods: 10-12 and 25-30th June. On 10m there was at least one opening to W3 as indicated by the G <> W3 spots for 10th June in the 21z period – but no one heard any beacons. Caribbean DX was also worked on 28 MHz but to a significantly lesser extent than on six

Analysis of 50 MHz reports from the UK

UK 50 MHz reports for June 2005 from G2ADR, G2AHU, G3HBR, G3IMW, G3USF, G4UPS, GM4WJA, G0AEV and via packet cluster spots. Compilation and commentary by G0AEV.

As one hopes to see at mid-summer, Sporadic E was generally good during June 2005 - though conditions were sometimes patchy and poor as is commonly the case even in the best spells of Es propagation. The best days for sporadic E were the 10th 11th and 12th when over 30 different country/areas were heard or worked by British stations on each day – almost as good, but not quite, as the excellent openings of 29th and 30th May. Other modes of propagation took a back seat for most of the month but there was some good tropo for the RSGB 50 MHz Trophy contest and a good aurora on 12th (during which GM4WJA made an aurora - probably aurora plus auroral E - contact with VE5UF).

All our reporters found plenty to work after months of listening to lots of white noise. “Pressing on pays off” says Eric G2ADR. “Better than the previous month” according to Ted G4UPS.

Brian G3HBR writes “the month started with some hopeful signs but the UKSMG contest more or less killed the band off. Such Es as there was (*during the contest*) seemed to have been extremely localised, almost to a pinpoint on the map. When I worked an SP, no none else seemed to hear him. I heard a nearby station work a couple of Ukrainian stations and they were completely inaudible to me. I worked two Italian stations and one of the big contest stations near me couldn't believe he couldn't hear them. (*G0AEV agrees – sporadic E during the contest certainly lived up to its “sporadic” name!*). Even tropo was poor and I only contacted the odd ON and PA plus one GW. A bit galling to hear the OD5 beacon come thudding in a couple of hours after the end!”

G3HBR caught a few minutes of the opening to the Caribbean on the 12th and was pleased to raise FG5FR for a new one. On 15th Brian found FP/N6RA calling CQ and worked him straight away. The FP stayed in for about half an hour with a good signal often calling CQ - it was fairly obviously another localised opening “favouring me for a change”.

Sporadic E

Sporadic E results tabulated below 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.

	4X Israel (13%)	5B/ZC Cyprus (20%)	5T Mauritania (17%)	7X Algeria (10%)	9Y Trinidad (7%)
D	10 11 26 27	1 4 5 9 10 26	17 19 27 29 30	2 3 10	11 29
06	6				
09	1 9 5	7 9		0	
12			5 9		
15	0	9 0 9 5	7	9	
18	0		5 9 9	9	5 3
21					0

	9H Malta (50%)	A4 (7%)	A6 (3%)	CN Morocco (continued...)
D	1 2 3 4 5 7 8 9 10 11 14 17 19 27 29	1 30	1	2 3 4 7 8 9 10 11 12
00				2
06	4			9 2 3 9
09				0 5 5 9 9
12	0 0	9		0 1 6 3 7
15	9 5 0 0 0 0 0	9 0	5 0	8 9 5 9 9
18	9 0	0 8 0 5	0	5 0 0 0 9
21	5			5 5

(... continued) CN Morocco (67%)

CT Portugal (57%)

D	15 16 17 18 19 25 26 27 28 29 30	2 3 4 5 8 9 10 11 12 15 17 19 26 27 28 29 30
06	2	0
09	7	4
12	0 9 0 9 9 9 4	9 9 9
15	0 9 3 5 9 5	9 9 9 9 0 6
18	4 7 8 6 9 5 5	0 9 0 0 9 9 9 9 7
21	5 0	6 3 9 9 9 6 9 2 9 9

	CT3 Madeira (20%)	CU Azores (53%)	CY9SS (7%)
D	5 10 11 12 27 29	4 5 7 8 9 10 11 12 14 16 17 24 26 27 28 29	16 29
06		3 3	
09	0	9 2	5
12	9 0 5	9 8	0
15	9 9 0	9 2 9 7 7	
18	7 0	6 5 0 6 7 9 9 3	1
21		4	6

	DL Germany (43%)	EA8 Canary Is (10%)	EA9 Ceuta and Melilla (23%)
D	1 3 10 11 12 15 16 19 25 26 27 28 30	8 25 27	3 5 7 9 10 11 19
06	9		7
09	0 9 9		
12	9 0 4 9 7	0	0 6
15	9 9 9		0 0 9 0
18	9 9 7 9 0	0 7 9	9
21	0		

	EA Spain (63%)	EI (7%)	FG (3%)	FM (10%)
D	1 2 3 8 9 10 11 12 14 15 17 18 19 25 26 27 28 29 30	15 30	12	10 11 12
03	7			
06	9 9 9 9 9	9		
09	9 9 9 9 9 0 9 9			
12	9 7 9 7 9 9 9 9		9	9
15	9 9 0 9 0 7 9 7 0 9			
18	9 9 9 9 9 5 9 9 9 2 8	9		5 1
21	9 6 5 9			5 0

	F France (37%)	FP (3%)	FS (7%)	FY (3%)	G<>GM/G Inter-UK (23%)
D	1 3 4 10 11 12 16 19 25 29 30	16	12 27	29	3 10 12 15 16 19 30
06	9 9 9 9 9 9				9 0
09	9 0 9 9 9				8 9
12	5 9 6 0 0 0 0	9	9		9 9
15	0 9 9 0		1		0 5
18	9 9 9 9			3	9
21	9			4	5 9

	HA [rx] (13%)	HB Switzerland (27%)	HI (3%)	J3 Grenada (13%)	J6 St. Lucia (20%)
D	1 11 12 18	1 2 3 10 11 12 19 30	12	27 28 29 30	25 26 27 28 29 30
03	9				
06	9	0			
09		0 0 0			
12	0	9 0	9		
15		7 9 2		9 3	3
18	0 9	0 7		5 3 9	7 3 5 5 7
21				5	7

I/IS/IT Italy (77%)																													JW Svalbard (7%)	
D	1	2	3	4	5	7	8	9	10	11	12	16	17	18	19	22	24	25	26	27	28	29	30	15	20					
00										4																				
03		9																		7			9							
06	9	9	7							9	9	0		9				9					9							
09	6	9	9				9		9	9	4	0		6	0		0		0	5			9							
12	0			1	9				9	9			9		9		9			9	0		9							
15	9	9	9	9	9	0	7	9	7	9	9		9	8	9	9				9	9	9	7							
18	9	0		9			9	9	9	8		0	9									9	0							
21										4		7											2							

JX Jan Mayen (30%)							KP2 (3%)		KP4 (10%)			LA Norway (30%)						LX (3%)											
D	4	6	10	11	12	20	21	26	27	12																			1
06																													
09	9				9	0	9					6														9	9		
12	5						7		9	5		9															7		
15									7			3																	
18	3				9									0														5	
21		5	7	5	6	9		5																			3		

LY Lithuania (17%)					LZ Bulgaria (20%)					OD Lebanon (17%)					OE Austria (33%)												
D	1	4	10	15	20	1	3	5	9	11	18	5	9	11	19	27	1	8	10	12	14	16	19	20	24	29	
03									5	9				6													
06									5	9				6													
09	9	0		5		9										9		5		9			3		0	9	7
12	0	9				7		0			8			7		0											
15	9		9	7			0	0	8	0	6		9														
18	9		6			3		0	0										0		0					0	
21	3																										

OH Finland (47%)													OK/OM Czech/Slovak Republics (40%)													
D	1	4	10	11	12	15	19	21	22	23	24	25	27	30	1	2	3	10	11	12	18	19	23	24	26	30
06									0		0															9
09	0	8			7		9	5	9		0	0	0								0		9	5	6	9
12	0	9						0							9	5										
15	9		9	0		9							5		6	0	9			0	0	9				
18	9				9					9					9			9	0							
21																										

ON (10%)			OY Faeroe (13%)				OZ Denmark (27%)							PA (10%)			PZ (7%)		SV9 (3%)		
D	1	16	19	1	12	15	16	1	4	10	11	12	16	19	30	1	12	15	10	11	17
03					9										5						
06					9																
09	9		0	6							9		6			9					
12	9				9			9							9		5				
15									0	9	9				0						
18		0				9		7					9		7	9		9		5	
21		9				9												5			

SM Sweden (37%)											SP Poland (60%)																		
D	1	4	10	11	12	15	16	19	23	24	27	1	3	4	10	11	12	15	16	18	19	20	23	24	25	26	27	29	30
03												5													9				
06	3									9		5				7	9				0			0		0	9		0
09				9			9		0	9		7		9			9				9	9	7	0		9			
12	9	9												9									3						
15	9		9	0		7						5	5		6	9	9	5			0							9	
18	0		9	0		7			3			9			9					9	9							9	
21							9																						

	SV Greece (33%)	TF Iceland (37%)	TK (3%)	TT Chad (7%)
D	1 2 8 9 11 17 19 28 29 30	4 6 12 13 15 16 20 21 22 24 30	30	29 30
03				
06		7		
09	9	3 9 5	9	4
12				5
15	6 6 9 5 9	9		1
18	6 2 7 0 3	9		
21		9 7 3		

	UA (3%)	UR Ukraine (53%)	VE (10%)	VE8 (7%)	YL (10%)
D	3	1 2 4 5 10 11 14 15 16 17 18 19 21 23 24 26	11 16 24	1 12	1 10 24
00				3	
06		9 5 0			5
09		9 0 3	4	3	
12		0 9 0 0	9 1		
15	7	9 0 3	2		0 9
18		9 9 0 0			
21					

	YU Romania (37%)	YU/9A/S5/T9/Z3 Ex-Yugoslavia (63%)
D	1 8 9 11 14 18 19 23 24 26 30	1 2 3 4 5 9 10 11 12 13 14 17 18 19 23 24 26 29 30
03		9 0
06	9 3	9 7 0 9
09	9 0 6 0	9 7 3 9 0
12		9 0 9 9 9
15	9 9 9 5	9 9 9 0 9 9 9 6
18	0 0 4	9 0 9 5 5 9 9
21		7 0 9 5

	ZA (10%)	ZB Gibraltar (43%)	ES Estonia (13%) – [out-of-sequence]
D	9 11 19	2 3 5 8 10 11 15 17 19 25 27 28 29	4 10 19 26
03			
06		9	
09		0	6 9 3
12	9 9	0 9	
15	9 7 0	9 9 7 0 0	0
18	0	5 0 8 0 9 0	
21		0	

Single hop sporadic E performed much as expected with all parts of Europe being workable with ease. Es backscatter signals were strong at times (see next page) and provided contact possibilities with our closest neighbours in Europe and to other parts of Britain difficult to hear by “tropo”. Multi-hop Es also provided good results – 2 hops to Cyprus, for example, being reported on 20% of days.

There were excellent openings into the Caribbean in the period 10-12th June and again in the last week of the month, but UK stations experienced poor conditions to mainland North America. No US stations were worked at all (according to the available data) and Canadians only on 4 days via Es - far fewer openings than usually seen in June. 10m beacon monitoring also failed to record any sporadic E propagation between Britain and North America, although there was a G to W3 10m contact on 10th. G3USF’s compilation (section 4) shows that southern Europeans worked US stations on 6m on 11 days in June, so perhaps the UK was just unlucky.

Sporadic E backscatter

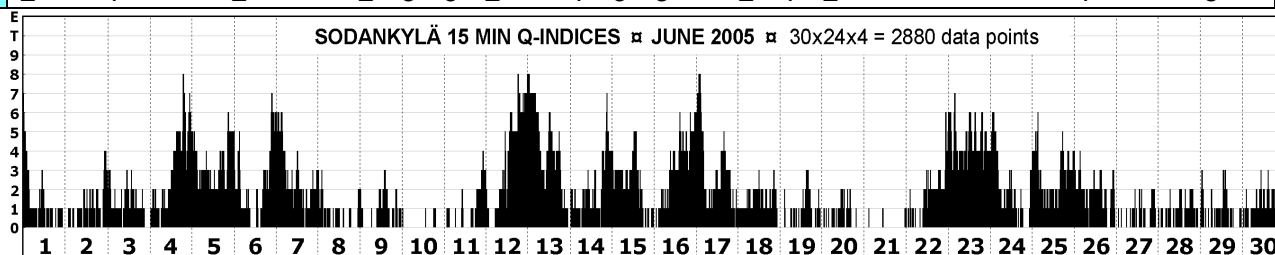
1 st	09z	0953	G3IBI (IO90) > ON4AAM (IO90) 57 b/s
	18z	1806-1918	EI7BMB > G4DEZ 55; EI5FK > GI6ATZ 53 b/s
10 th	09z	0934-0956	G4FUF (JO01) > DL8PM (JO30) QTF 180, GM4ODA/P (IP80) 55 QTF 180
12 th	12z	1232	G3IMW > ON4IQ b/s; ON4IQ > GD0TEP/P b/s
		1312	G4FVP > ON4IQ 559 backscatter; G3IMW > PC5C b/s
15 th	12z	1305	G4OBK (IO94) > GM4ODA/P 56 "solid scatter"
15 th	18z	2053-	G8LHT (IO93) > PE1BTX 57 via B/S QTF 330
	21z	2115	G0TSM > G4DEZ "scatter" QTF 300

Es Propagation Summary

The table below displays total counts of country/areas heard/worked via sporadic E by UK amateurs, a summary of the detailed tables presented above. 3-hourly periods in which 20 or more country/areas were heard or worked are shaded grey, and shaded yellow (or a pale grey if you read this in monochrome!) for 10-19 country/areas.

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
00	1									1	1																			
03	4	2							1		1	1						1	2					1		1			4	
06	6	5	3	1	1			2	3	6	7	10		1		4	3	4			2		5	2	2	1	1		13	
09	15	3	1	8				1	1	9	7	19	2	1	1	2	3	19	5	5	1	2	8	2	11	4			8	
12	16	1	5	12	6			1	5	1	7	10	15		2	2	1	2	10	1	3		5	1	2	10	6	4	5	
15	15	10	15	4	8			3	3	8	20	20	5		1	4	1	3	6	10		1	2	2		1	8	6	10	6
18	12	2	8	5	2			2	5	9	16	17	1	1	5	14	6	11	6	3		3		5	2	8	2	15		
21	2		1			2			2	8	5	2		1	3	8		2	1	2						1			8	

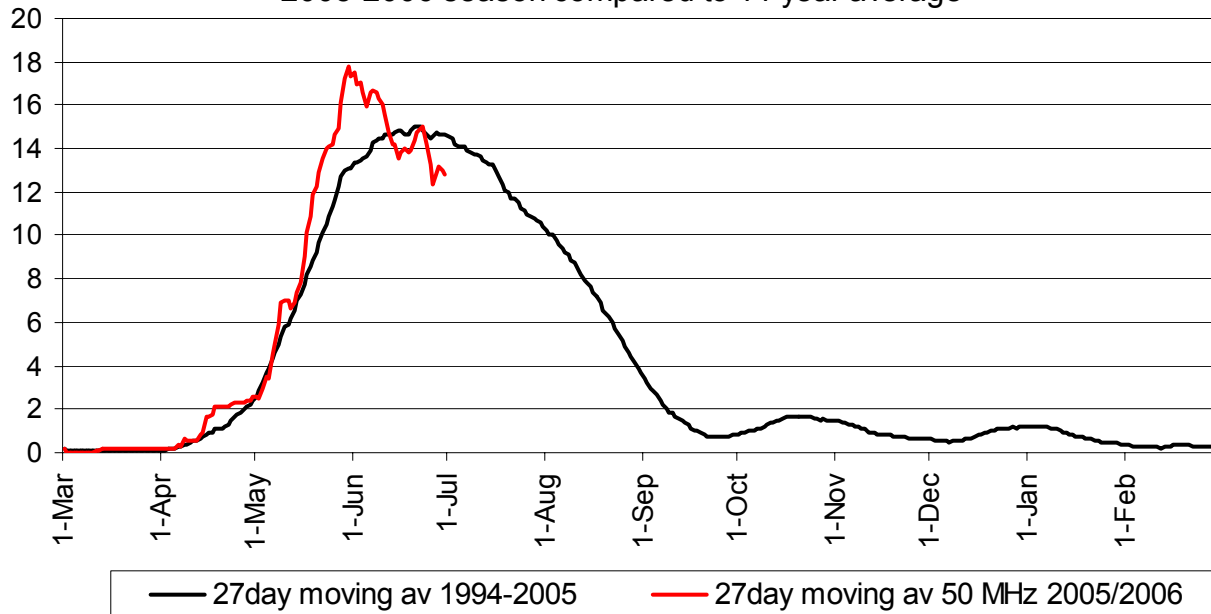


The periodic nature of sporadic E is clearly demonstrated in the summary Es table. Good periods for Es (as seen in Britain) were 1st-3rd (a continuation of the strong Es propagation seen on 28th-31st May), 9th-12th, 15th-19th, and 26th-30th. These good periods have an apparent periodicity of between 7 and 11 days. There is a possible correlation of good and bad Es with geomagnetic activity, as can be seen by comparing the summary tabulation with the Finnish Q-indices graph – the periods of poorer generally Es coincide with the more disturbed times. Comparison with 3 hourly K-indices for UK observatories (see section 3 of this Report) shows that the fairly abrupt termination of the 2nd of the “good periods” in the 15z period of 12th June occurred as these indices jumped to K=6. These data tend to confirm the general picture that high geomagnetic activity is detrimental to sporadic E – but, as we know, this is not always the case!

The graph on the following page displays 27-day moving averages of the daily 6m country/area scores (as calculated in the 6&10 Reports), against a 10-year average of the same measure. See the May 2004 Six and Ten Report for a detailed discussion of the use of 27 day moving averages in this graph.

Good Es in late May and early June are depicted as a peak in the 27-day average on the graph. Conditions were relatively poorer over the rest of the month, although for the most part these conditions were not far off the 11-year average. The line for the second half of June is provisional as it will be modified when July data are added and included in the moving average.

50 MHz Es (27day moving averages)
2005-2006 season compared to 11 year average



DX Propagation

The only (trans-equatorial) DX reported this month was of 9Q0AR. Like the openings to this location seen last month, Es linking to F-layer propagation (which was probably true TEP) is the most likely propagation mode. Multi-hop sporadic E – not included in this section – provided a far a more profitable propagation mode for making DX contacts

3rd 1916 G0JHC > 9Q0AR 559

Meteor Scatter

Meteor scatter QSOs were much reduced in number in June, almost certainly the direct result of the presence of easy-to-work sporadic E rather than an absence of meteors! Total JT6M activity was also down, presumably for the same reason. Some JT6M QSOs were completed via sporadic E, which may seem strange when non-digital modes would be more effective but of course some people will be using Es to work new mode-countries. In the following analysis JT6M contacts identified as made by tropo or by Es are excluded – these QSOs are reported in their respective mode sections.

Table of MS QSOs (mainly via JT6M) in June 2005 by hour

<u>Hour</u>	<u>QSOs</u>	<u>Countries</u>	<u>Hour</u>	<u>QSOs</u>	<u>Countries</u>
05Z	4	I, S5	15z	2	I
06z	3	9A, I, OZ	16z	2	I, PA
07z	4	DL, I, OK, YU	17z	0	
08z	3	DL, I, PA	18z	0	
09z	2	G<>GM, HB	19z	2	PA, SP
10z	2	DL, OE	20z	3	F, SP
11z	1	HB	21z	2	DL, G<>GI
12z	3	DL, G<>GM	22z	1	PA
13z	0		23z	1	DL
14z	1	G<>GM			

Table of MS QSOs (mostly via JT6M) in June by day. Weekend days are highlighted

Date	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
MS QSOs	0	1	0	3	3	0	1	0	1	0	1	1	2	0	6	0	1	5	9	0	0	1	0	0	0	0	0	0	0	0
All JT6M	4	6	2	7	11	0	6	3	2	2	4	5	6	1	1	0	1	0	1	0	1	1	1	1	0	0	3	1	3	0

MS QSOs = all QSOs where MS mode indicated or inferred: mainly digital modes but some traditional
 All JT6M = all JT6M QSOs/reception reports less those explicitly identified as tropo or Es

Tropospheric propagation

Contests again provided an incentive to work medium to long distances via “tropo”. This month I have reported all QSOs where the calculated or estimated distance between the participating stations exceeded 400 Km, or where the spot/report explicitly mentions particularly good tropo conditions. I have indicated the path distance in the reports where this figure is known. The best reported tropo DX this month - by traditional modes (SSB, CW) - was just over 590 Km.

- 4th 12z 1251 GM8OEG (IO81)> GW7FBD/P (IO86) “ much qsb”
1437 G0AEV > ON4PS/P 53 >400 Km
- 5th 06z 0859 G0AEV > ON4IQ 59 >400 Km
- 18th 12z 1201 PA7MM (JO22) > GW6YB/P (IO81) 58 >500 Km
1413 G7RAU (IO90) > PA6M (JO21) 59 436 Km
1430 G0AEV (IO81) > GM2T (IO85) 57 487 Km; G4PCI (IO91) > GM2T 59
15z 1531 G0AEV > GM3HAM/P 55 478 Km
1553 DL3YEE (JO42) M0F 54; 1558 G8IZY (IO91) > GM2T 550 Km
1603 G8VHB (IO93) > F6IFR (JN09) 461 Km
1611 DL3YEE (JO42) > M0BAA/P (JO01) 55 “nice tropo” 534 Km
1647 ON7CL (JO02) > GW6YB/P (IO81) 55 562 Km
- 18z 2035 G4Ezt (IO92) > GM2T 411 Km
- 19th 03z 0557 G7RAU > GI3Z (IO74) 512 Km, MD6V (IO74) 442 Km
06z 0616 G7RAU > GM2T 576 Km
0648 G7RAU > DL1EJA (JO31) 57 540 Km; 0654 G7RAU > PA6V (JO22) 57 435 Km
0700 G8IZY (IO91) > DL1EJA 456 Km
0725 G0AEV > OO6LL/P 55 482 Km, > ON7BJ 53 442 Km, 0740 > EI5FK 53 444 Km
- 09z 1013 DL3YEE > M0BAA/P 56 tropo 534 Km, and 1045 > G5B (IO92) 51 591 Km
1124 DG5YIL (JO32) > G4DHF (IO92) “good tropo”
- 12z 1307 EI5FK (IO51) > G5B 584 Km
- 21st 06z 0857 F6KHM (IN78) > GB3MCB/B “high tropo” 9+ (also on 2m)
09z 1036 G3JHM (IO92) > F6KHM 53/4 “good tropo”
- 23rd 06 0647 G3JHM > EI5FK 539 “good tropo” 525 Km
0800 G2AHU > GB3MCB S8
09z 0908 G3JHM (IO91)> GB3MCB/B 599 “excellent tropo”
18z 2033 G8BCG > EI5FK 599 tropo

Aurora

The Aurora on the 12th was much the best auroral event on offer this month. As G3IMW noted, the 12th provided another example of Es apparently giving way to aurora. Jeremy was hearing Caribbean stations up to about 1400z, then at about 1820 he worked G4DEZ via aurora and heard a few others auroral. In fact the aurora started a little earlier further north, pretty much at the onset of magnetic storming (K at 6) which brought the period of several days of excellent sporadic E to quite an abrupt end.

The pattern of openings on 12th was:

1730-1930. First principal aurora backscatter phase

1930-2220. Occasional inter-G contacts by aurora with auroral E to Scandinavia at around 2030

2220-0030. Second principal aurora backscatter phase.

The gap in auroral activity between 1930-2220 represents the Harang discontinuity and during this period auroral E to the east (Scandinavia) was available. Auroral E to the west (to TF and VE8) didn't appear until between 2200 and 2315 when the second aurora backscatter phase was in progress in Western Europe but at a time when the Harang discontinuity was west of us. This was the situation at 22.49 when John GM4WJA worked VE5UF in DO61 and exchanged 44a and 55a reports. I believe that this very interesting contact was by auroral E (along a path similar to those open to TF and VE8) with an onward link to VE5 by aurora backscatter. UK amateurs were working aurora backscatter with stations in Europe west in the 2nd phase – but the VE5 was accessing his first phase of auroral activity. The link to Scotland was possible because the Harang discontinuity and its associated auroral E were placed in an appropriate “west-Atlantic” position. At least, that's my theory!

4 th	18z	1951	MM0CWJ > GB3LER 52A
12 th	15z	1736	GI6ATZ (IO74) > GM8AZS (IO87)
		1753-1754	OZ1DJJ > G4DEZ (JO03) 55A; OZ2M > G4DEZ 53A QTF 350
	18z	1804-1817	MM0CEZ (IO75) > G4DEZ 55A; OH5ZA (KP41) > G4DEZ 55A
		1832	G3IMW > G4DEZ 55A QTF 020, G4IGO 53A QTF 030, GB3MCB QTF 000
		1839	MM0BSM (IO86) > G4DEZ 53A
		1900-1917	G <> G; G4UPS > DF9OX 44A; PA4PA > G4DCJ, G4DEZ
		1934	G4IFX (IO91) > DF9OX (JO53) 57A
		2024-2045	Few G <> G only
	21z	2117	MM5AJW > GB3LER 55A
		2226-2230	G7RAU (IO90) > MM0AMW (IO75) 59A, GM4ISM (IO85) 57A both QTF 330
		2230-2300	G <> GM; G4FVP > DF9OX 55A QTF 350; SP2IQW (JO94) > GI6ATZ QTF 315; LA4LN (JP50) > GI6ATZ 59A; PA4PA > MM0AMW
		2249	GM4WJA (IO88) > VE5UF (DO61) 44A
		2300-2304	MW0USK > GM4WJA (IO88); DL1EAP (JO31) > G4DEZ 52A QTF 350
		2315-2315	DL1EAP > GM7PBB (IO68) 55A QTF 020; G4FVP > MM0AMW QTF 300
		2321-2327	MM0BSM (IO75) > MM0AMW 55A, G4DEZ
13 th	00z	0050	MM0BSM > GB3LER 52A
		0228	G4KCT (IO93) > GB3LER 52A
23 rd	06z	0703	MM0AMW > GB3LER 52A, OY6SMC 53A, LA video signals auroral.
	18z	2049	MM0AMW > GB3LER 53A QTF 330.

Auroral E

12 th	18z	2021-2023	GI6ATZ (IO74) > OH1SIX 559; G0FYD (IO83) > OH3JR
	21z	2208	MM0AMW > TF8GX
		2249	GM4WJA > VE5UF (<i>mixed mode aurora plus auroral E?</i>)
		2252	G3SED (IO90) > TF8GX S9; G4IGO > TF8GX 52-59
		2313	GI6ATZ (IO74) > VE8BY 529 (<i>presumably auroral E</i>)

EME

25 th	0615	K7BV > G8BCG/P “WSJT best –23 dB”
27 th	0045	G4IGO > ZS6NK “- 27 dB best.”

Solar and Geomagnetic Data for June 2005

Data supplied by G0CAS (Sun Mag¹) and from Internet sources. Compilation by G0AEV.

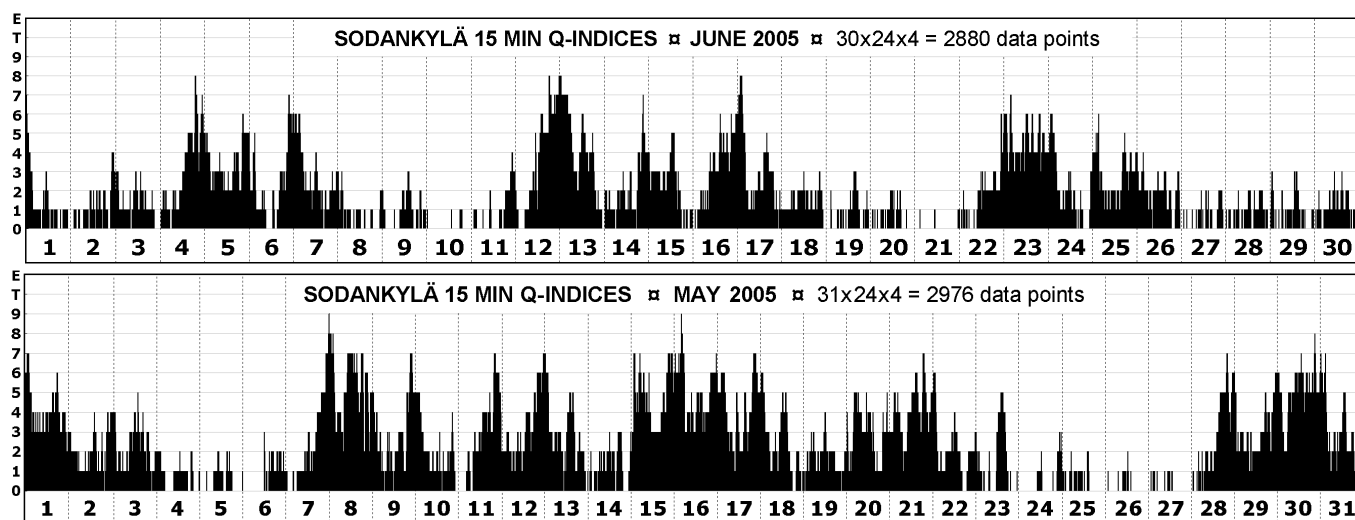
Sunspot numbers (SEC)	Mean 59.8	Max 103 (10 th)	Min 0 (26 th)
Solar Flux (28 MHz)	Mean 93.7	Max 116 (8-9 th)	Min 77 (4, 25 and 27 th)

Solar data for June 2005 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 are 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.

There were 13 M class X-ray solar events on 9 days in May but no M or X class X-ray solar events in June (and none of C class either).

Q-indices

 from Sodankylä, Finland (Thanks to OH2LX)


Q-indices for June (top) with data from the previous month (below)

Geomagnetic data from the Finnish observatories for June are:

Monthly averages

Sodankylä: monthly Ak average = 18.1 (26.8 in Apr)
 Nurmijärvi: monthly Ak average = 12.7 (20.4 in Apr)

Most disturbed June days:

Sodankylä: 23rd, Ak = 56 (Apr 8th Ak = 136)
 Nurmijärvi: 12th, Ak = 72 (Apr 8th Ak = 119)

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) when K > 5. There were 10 June days when Kp or the UK K-indices reached 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
00	3	2	2	2	4	3	4	2	1	2	2	2	5	2	3	1	4	1	2	1	1	2	4	4	3	3	1	1	2	1
03	3	2	3	1	3	3	5	2	1	1	1	2	6	2	5	2	4	2	1	1	0	2	4	5	3	3	0	1	1	1
06	1	2	3	3	5	3	4	1	0	1	1	4	4	2	5	2	3	3	2	1	0	1	7	3	1	2	0	1	1	1
09	2	2	2	2	3	1	2	2	2	1	1	4	4	2	3	6	2	1	2	2	0	2	5	3	2	2	1	1	2	2
12	1	1	2	3	2	1	3	1	2	1	1	4	4	2	4	5	2	2	2	1	1	1	5	3	2	2	2	2	2	2
15	2	2	2	4	3	2	2	2	2	1	2	5	3	2	3	4	3	2	2	2	1	1	4	1	3	2	2	2	2	3
18	2	2	2	5	3	3	3	1	2	1	2	5	3	4	3	4	3	2	2	1	2	2	4	1	2	2	2	2	2	2
21	1	3	2	4	3	4	3	1	1	2	3	6	2	3	2	3	2	1	2	1	1	3	3	2	3	1	1	2	2	3
Σ	15	16	18	24	26	20	26	12	11	10	13	32	31	19	28	27	23	14	15	10	6	14	36	22	19	17	9	12	14	15

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
00	3	2	2	2	3	3	2	2	1	0	1	1	6	1	2	0	4	1	1	1	0	1	3	3	3	2	0	0	2	1
03	2	2	1	1	3	3	3	1	0	0	0	2	5	1	3	1	4	2	1	0	0	0	4	3	2	2	0	1	0	1
06	1	0	1	1	2	1	2	0	0	0	0	2	4	1	3	2	1	1	0	0	0	0	5	1	1	1	0	0	1	1
09	2	1	1	1	2	0	2	0	1	0	1	3	2	1	-	3	1	1	0	1	0	1	4	2	1	2	0	0	1	1
12	1	1	2	3	2	1	3	1	2	0	1	4	3	2	-	5	3	2	2	1	0	2	5	2	1	2	2	1	2	1
15	1	2	2	4	2	2	2	0	1	1	2	5	2	0	2	4	2	2	2	2	0	1	3	1	4	1	1	1	2	2
18	1	2	1	5	3	1	1	0	1	1	2	7	2	3	2	3	3	1	1	0	0	1	4	1	2	1	2	1	1	2
21	0	2	0	3	3	3	2	0	1	1	2	8	0	2	0	3	1	1	1	0	0	3	2	1	3	1	1	1	0	1
Σ	11	12	10	20	20	14	17	4	7	3	9	32	24	11	-	21	19	11	8	5	0	9	30	14	17	12	6	5	9	10

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
00	3	2	2	2	3	3	3	3	1	1	1	1	5	1	3	1	4	1	1	1	0	1	3	3	3	2	0	1	2	1
03	2	2	1	1	3	3	3	1	0	0	1	2	4	1	3	1	3	2	1	0	0	0	4	3	3	2	0	1	1	1
06	1	0	1	1	3	2	3	1	0	0	1	3	3	1	4	2	1	2	1	1	0	0	5	1	1	1	0	1	1	1
09	2	1	2	1	3	0	2	0	1	0	1	4	2	1	2	4	1	2	0	1	0	2	4	3	2	2	0	0	1	1
12	1	2	2	4	3	1	3	1	2	1	1	4	4	2	3	5	3	2	2	1	0	2	5	3	2	2	2	2	2	2
15	2	2	2	4	3	2	3	1	1	1	2	6	3	1	3	5	3	2	3	2	1	2	4	1	4	2	1	2	2	3
18	1	2	2	5	4	2	2	1	1	1	2	6	2	4	3	3	3	2	1	1	1	2	4	1	3	2	2	2	1	2
21	1	3	0	4	3	3	2	1	1	1	3	6	1	2	1	3	1	1	2	0	0	3	3	2	3	1	1	1	0	1
Σ	13	14	12	22	25	16	21	9	7	5	12	32	24	13	22	24	19	14	11	7	2	12	32	17	21	14	6	10	10	12

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
00	4	2	2	2	3	3	2	2	1	1	1	2	5	2	3	1	4	1	1	1	0	2	3	3	3	2	1	1	1	1
03	2	2	1	1	3	3	3	1	1	0	1	2	5	1	4	1	3	2	1	1	0	1	4	3	3	3	0	1	1	1
06	1	1	1	1	3	2	3	1	0	0	1	4	4	1	4	3	1	2	1	1	1	0	6	2	1	1	0	1	2	1
09	2	0	2	1	2	0	2	0	2	0	1	4	2	1	2	4	1	1	1	1	0	2	4	3	2	2	1	0	0	1
12	1	1	2	3	3	1	3	1	2	0	1	4	4	2	3	5	2	1	2	1	0	2	5	3	1	2	1	2	2	2
15	1	2	2	4	3	2	3	1	1	1	2	6	3	2	4	5	3	2	3	2	0	2	4	1	4	2	2	1	2	3
18	1	2	2	5	3	2	2	1	1	1	2	6	3	4	3	4	3	2	1	1	1	1	4	1	2	2	2	2	1	2
21	1	3	1	4	3	3	2	1	1	1	2	6	1	3	1	3	1	1	1	0	1	3	3	2	3	1	1	1	1	2
Σ	13	13	13	21	23	16	20	8	9	4	11	34	27	16	24	26	18	12	11	8	3	13	33	18	19	15	8	9	10	13

June 2005	28 Areas			-- 50 Areas --			2800		- Spots -			Max		X-ray		Min foF2		-- Particle Fluences --			
	Es	F	Es	F	Es	DX	A	AE	Flux	SEC	SIDC	Kp	Ap	Aa	b.gnd	MHz	Hour	2MEV Elec	1MEV Prot	10MEV Prot	
01-Jun	27	3	28	0	0	0	0	0	94	95	53	3	8	13	B1.7	n.a	3.0	03	1.2E+08	3.8E+05	1.4E+04
02-Jun	19	1	12	0	0	0	0	0	93	69	40	3	7	11	B1.8	6.9	3.9	03	2.9E+08	5.8E+05	1.5E+04
03-Jun	27	5	18	0	0	0	0	0	95	55	33	3	8	10	B2.0	n.a	3.5	04	1.6E+08	5.0E+05	1.4E+04
04-Jun	11	2	18	0	0	0	0	0	97	74	49	5	18	30	B1.7	7.8	3.8	03	8.4E+07	7.9E+05	1.5E+04
05-Jun	9	1	13	0	0	0	0	0	105	77	62	5	20	29	B2.7	6.0	3.4	03	3.2E+07	7.8E+05	1.7E+04
06-Jun	1	0	2	0	0	0	0	0	106	89	64	4	13	15	B1.9	6.6	3.1	03	2.5E+08	1.3E+06	1.8E+04
07-Jun	5	1	5	0	0	0	0	0	109	94	73	5	18	26	B1.6	5.7	3.6	04	5.5E+07	1.5E+06	1.9E+04
08-Jun	10	1	11	0	0	0	0	0	116	100	68	2	6	7	B2.2	n.a	4.0	02	9.5E+07	6.5E+05	1.5E+04
09-Jun	11	0	14	0	0	0	0	0	116	99	67	2	5	8	B2.2	7.6	21	n.a	1.3E+08	6.2E+05	1.5E+04
10-Jun	19	3	31	0	0	0	0	0	114	103	70	2	5	5	B2.4	7.0	5.0	03	1.0E+08	5.0E+05	1.6E+04
11-Jun	25	4	31	0	0	0	0	0	108	85	55	3	6	8	B1.5	7.1	21	4.5	6.9E+07	6.9E+05	1.5E+04
12-Jun	27	2	31	0	0	0	0	0	103	85	52	6	35	70	B1.6	8.3	10	4.1	9.9E+06	1.3E+06	1.5E+04
13-Jun	3	0	3	0	0	0	0	0	92	73	31	6	33	49	B1.3	5.2	2.3	03	2.8E+08	1.8E+06	1.4E+04
14-Jun	4	0	8	0	0	0	0	0	94	44	33	4	10	15	B1.4	6.4	22	3.1	6.4E+08	1.0E+06	1.5E+04
15-Jun	12	0	16	0	0	0	0	0	95	64	40	5	21	33	B1.3	5.8	22	3.2	4.5E+07	2.7E+06	1.5E+04
16-Jun	16	3	16	0	0	0	0	0	98	67	43	6	26	45	B1.8	8.4	13	4.2	3.2E+07	1.1E+06	1.8E+05
17-Jun	7	2	12	0	0	0	0	0	91	59	48	4	14	21	B2.3	5.6	21	2.5	8.0E+07	6.7E+06	1.9E+06
18-Jun	2	1	11	0	0	0	0	0	90	50	32	3	7	10	B1.5	n.a	n.a	n.a	1.4E+08	1.2E+06	1.0E+05
19-Jun	26	1	27	0	0	0	0	0	87	43	29	2	7	9	B1.0	5.7	20	3.7	2.6E+08	7.7E+05	2.8E+04
20-Jun	4	0	6	0	0	0	0	0	86	47	31	2	5	6	A8.8	6.6	21	3.7	3.9E+08	8.2E+05	1.7E+04
21-Jun	6	0	5	0	0	0	0	0	83	53	34	2	4	3	A7.8	5.9	21	3.9	4.8E+08	1.5E+06	1.5E+04
22-Jun	2	2	3	0	0	0	0	0	80	39	27	3	7	12	A6.1	n.a	n.a	n.a	2.4E+08	1.8E+06	1.5E+04
23-Jun	7	0	7	0	0	0	0	0	78	19	11	7	48	66	A5.3	5.5	09	3.7	1.1E+06	4.5E+05	1.5E+04
24-Jun	8	0	8	0	0	0	0	0	77	14	13	5	17	18	A3.4	5.1	20	2.6	7.7E+06	9.2E+05	1.5E+04
25-Jun	10	1	10	0	0	0	0	0	77	12	12	3	11	22	A2.7	5.8	19	3.5	1.1E+07	3.8E+05	1.4E+04
26-Jun	9	1	16	0	0	0	0	0	79	0	0	3	8	14	A4.8	5.3	17	3.3	9.7E+07	1.3E+06	1.4E+04
27-Jun	14	0	21	0	0	0	0	0	77	11	13	2	4	7	A8.0	5.8	21	3.5	2.3E+08	1.9E+06	1.5E+04
28-Jun	7	0	10	0	0	0	0	0	80	20	9	2	5	8	A5.7	5.8	19	3.9	2.3E+08	1.8E+06	1.4E+04
29-Jun	17	3	20	0	0	0	0	0	88	57	28	2	6	8	A8.6	6.4	20	3.4	1.8E+08	1.6E+06	1.6E+04
30-Jun	21	1	23	0	0	0	0	0	103	96	67	3	8	11	B1.5	7.2	20	3.7	9.1E+07	1.5E+06	1.5E+04
Sum	366	38	436	0	0	0	0	0	93.7	59.8	39.6	3.6	13.0	39.6	B1.4	6.4	19	3.6	1.6E+08	1.3E+06	8.7E+04
Average	12.2	1.3	14.5	0.0	0.0	0.0	0.0	0.0	93.7	59.8	39.6	3.6	13.0	39.6	B1.4	6.4	19	3.6	1.6E+08	1.3E+06	8.7E+04
Maximum	27	5	31	0	0	0	0	0	116	103	73	7	48	73	B2.7	8.4	22	5.0	6.4E+08	6.7E+06	1.9E+06
Minimum	1	0	2	0	0	0	0	0	77	0	0	2	4	0	A2.7	5.1	09	2.3	1.1E+06	3.8E+05	1.4E+04

50 MHz Outside Britain

Compilation and Commentary by G3USF

Continental Europe, Africa and the Middle East

Auroral-Related Propagation

A quiet month in which the highlights were the reception of the VE8 beacon in Northern Ireland and the VE5>>GM QSO, on which G0AEV has already commented in some detail. I see no reason to challenge G0AEV's suggested explanation of the propagation modes involved, though confirmation remains sadly elusive. There were no such excitements in continental Europe, where there were few reports, with the 12th the only day when the aurora reached south of Scandinavia - and only briefly at that. A few of the entries below that have T9 reports or are queried may have been attributable to normal Es at very high latitudes rather than auroral-E. The evidence is necessarily inconclusive.

June 4 19-2000 JW5SIX>OH1(539 mode?) JW5SIX>SM0(mode?) OH9SIX>OH1(51a) JW9SIX>LA(JO58 559 mode?) JW5SIX>OH3(599mode?) OH9SIX>OH3(KP11 52a) JW9SIX>LA(JO49 559 mode?) 20-2100 OH9SIX>LA(JO58 mode?) JX7SIX>LA(JO58) JX7SIX>LA(519 mode?) TF3SIX>LA(JP99 519 mode?)

June 12 17-1800 G>OZ(55a 350) 18-1900 G>LA(56a) G>SP2(51a) DL>DL(55a JO31) PA(JO21)>LX(53a) DL>PA(579a) 19-2000 DL(JO53)>DL(JO31 55a) G>PA DL>PA DL>DL(JO41 55a) DL>PA PA>EI(51a) 22-2300 TF>EI(51) GI(IO74)>SP2(JO94 315) GM>PA VE5UF(DO51)>GM4WJA(IO88 44a) 23-2400 G(JO03)>DL(JO31 52a 350) VE8BY>GI6ATZ(IO74 529) GM(IO68)>DL(JO31 55a 020)

June 13 0557 OH9SIX>OH3(KP11 55a)

June 16 1754 OH9SIX>OH6(55a)

June 23 0821 VideoAu>OH5(150)

Other Modes

No two seasons are quite the same, and this year was no exception. As usual in June the prevailing mode in Europe. As the table on the next page shows, sporadic-E was reported on every day and at most times of day. It was patchy only in the early hours (when activity as well as propagation was likely to be lowest. (Obviously, no single location may have enjoyed openings during all these time-periods and for no less obvious reasons 'early' openings were more likely to be in eastern Europe and 'late' ones on the whole tended to be further west, but there were numerous exceptions.) Without Es it would be a quiet summer indeed, with only the occasional tropo opening reported and the valiant efforts of JT6M operators making the most of MS. (There was probably more good tropo than was documented; some operators credit tropo without any indication of whether it extended beyond normal range.) Daily volumes of activity were high. Multihop Es was very evident - considerably more frequent than operators indicated, but clear enough from the distances involved (F-layer being discountable).

This was clearly the case with most, if not all, contacts between western Europe and the Middle East and, for almost all Europe working further into Asia -particularly those on two days with Japan, and with openings to EX,EY,UK and UN. It is worth noting how many openings reached Scandinavia (OH,ES,SM,LY - but not, apparently, LA), which usually comes off relatively poorly with DX openings. Setting aside YK, which really belongs with the easier 4Xs and ODs, Europe was able to work the Arabian Gulf or beyond on fourteen days. However, apart from the JA openings this was less than in May. Trans-Atlantic reports can also be credited to multihop Es, while Es was a probable factor in all reports involving Africa or South America.

Reported Occurrence of Es in Europe

UTC	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
00-03	+									+																				
03-06	+	+	+		+	+		+				+		+	+	+			+		+	+			+		+	+		+
06-09	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
09-12	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
12-15	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
15-18	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
18-21	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
21-24	+	+		+	+	+	+	+	+	+	+		+		+	+		+	+	+						+	+	+	+	+

Taking Europe as a whole, stations outside Europe (omitting the Near East and North Africa) worked every day but two (for no obvious reason) the 4th and 22nd. Costas, SV1DH, found June a relatively lean month that ended well (54 'entities' in four continents). But, looking at both the number of contacts in the detailed listing and the volume of DX listed. My own feeling from the western edge of Europe is that, although some of the best propagation came late in the month, the month as a whole was about as good as 50MHz gets around solar minimum.

The more consistent activity level around the Arabian Gulf this year led to good multihop openings as far west as EI and as far north as Scandinavia - which also had openings into Central Asia (EX and EY). In addition to a substantial opening to Japan on the 19th there were lesser openings on the 17th and 30th, plus 5B/ZC4 on the 13th, 14th and 24th.

Europe<>Asia		
A4	6 days	1(DL,EI,G,OZ,PA,SP,SV1) 5(DL,I,SV1,9A) 6(I9) 14(I,IS0,OH,PA,SM,SP,SV1,9H) 24(ES,LA,OH,SM) 30(G)
A6	7 days	1(DL,OZ,SP) 5(DL,ES,I,I9,LY,SP,SV5,9A) 7(I9,SV1,9H) 14(DL,I,LZ,OH,PA,SM,SP,SV1,SV8) 15(I) 19(EA,F,I,OH)
A7	3 days	5(ES) 14(I,OZ,SV1,9H) 19(F,I,I9)
EX	7 days	3(I) 13(OH,SM) 14(OH) 15(I) 18(OH) 19(OH) 20(S5)
EY	4 days	5(UR) 15(I) 18(OH,9A) 21(I,S5,9A)
JA	3 days	17(UR) 19(ES,OH,ON,SV1,SV8,UR,YO,9A) 30(9H)
UK	1 day	18(ES)
UN	3 days	15(I) 17(OH) 20(S5)
YK	1 day	6(I)

Europe<>Africa

D4	1 day	18(CT)
TT	2 days	29(F,G) 30(DL,G,OE,OK,ON,PA,SP,9A,9H)
TZ	1 day	23(CT,I,9A)
5T	14 days	2(DL,9A) 3(DL) 9(DL) 12(EA) 17(CT,EI,G) 18(I) 19(G,ON,PA) 20(DL) 21(EI) 24(S5) 27(DL,G,ON,PA) 28(9H) 29(EA,G) 30(G,OK)
9Q	3 days	3(F,G,SP,9H) 6(I,I9,LZ,9A,9H) 28(DL,OE,OK,S5)

There were no reports of contacts between Europe and southern Africa but thanks mainly to the efforts of 5T5SN, west Africa was worked on fifteen days, with a sizeable fraction of the openings extending up into northern Europe. There were three days with openings further south to 9Q0AR, either by tep or tep+Es.

For those who look to June for some good multi-hop openings to W and VE this June was something of a disappointment. Although some sort of trans-Atlantic working was in fact reported on 25 days, most events were relatively brief and localised. While there were openings of a sort from northern Europe on eight days, these were all from the UK, apart from a solitary PA contact, and there was only one LZ contact from central or Eastern Europe. Iberia had openings on 9 days, Mediterranean countries on 4 (though not extending as far east as SV), and northern Europe on 6 days.

Europe<>North America

CY9	5 days	9(CT) 11(9A) 16(G,PA) 27(CT,EA) 29(F,LZ)
FP	1 days	12(EA) 16(CT,EA,G)
VE1	3 days	12(CT) 16(EA,G,I9,9H) 23(EA)
VE8	2 days	1(G) 12(G)
VO1	5 days	11(G) 16(F,G) 23(EA) 24(G) 29(F,G)
W1	2 days	16(EA) 23(EA)
W4	6 days	5(F,I,9H) 7(CT,EA) 12(CT,EA) 23(EA) 25(EA) 26(CT,EA,9H)
W9	1 day	16(EA)
W0	1 day	19(EA)

The focus of trans-Atlantic propagation, presumably all courtesy of multihop Es, was much more toward the Caribbean than to the US/VE - the contacts with W4 are probably better seen as part of this Caribbean orientation than in conjunction with openings to the north-east US and VE/VO/VY/CP/CY. Contacts with 8R, PZ, HK, YV and FY are probably also better seen in conjunction with the Caribbean openings rather than in a South American context. There were in fact only two days when stations substantially further south, in PY, were reported. Propagation did not, however, extend as far as Central America - as in May. Although European openings to the Caribbean were reported in late May, they were scarce in early June and were most frequent and extensive in the last week - coinciding, of course, with the summer solstice. Mediterranean countries had openings on eleven days, the Iberian Peninsula on thirteen and northern Europe on nine.

Europe<>South America and the Caribbean

CO	3 days	12(EA) 15(CT) 25(EA,9H)
C6	1 day	15(CT)
FG	2 days	11(DL,EA,F) 12(F,G,PA)
FJ	5 days	11(DL,F,9A) 12(F,G,ON,PA) 21(F) 26(CT,9H) 27(F,G,I,S5,SV1,YU)
FM	10 days	9(S5) 11(CT,DL,F,G,I,OK,PA,YU,9A) 12(DL,EA,OK,OZ,PA) 18(EA) 20(CT,9H) 22(EA) 23(EA) 26(EA,9H) 28(DL,F,G,I9,ON,S5,9A) 29(DL,EA,F,OE,ON,SV1,9A)
FS	2 days	12(G) 27(G)
HI	1 day	12(G)
J3	5 days	25(EA,I,I9,IS0,9H) 26 (EA,ON,S5) 27 (CT,F,G,I) 28(DL,EA,F,G,I,I9,ON,PA, SP,SV1,YO,9A,9H) 29(DL,G,I,OK,ON,PA,SV1) 30(F,G,I,IS0,LZ,OK,SP,SV1,YO)
J6	7 days	23(EA) 25(G,IS0,9H) 26(CT,EA,G,I9,9H) 27(EA,F,I,S5) 28(G,ON) 29(DL,EA,F,G,I,ON,PA,9H) 30(F,G,LZ,YO)
KP2	2 days	11(DL,F,OE,PA) 29(F)
KP4	10 days	10(DL,EA,G,I,ON) 11(DL,F,G,I,9A) 12(DL,F,G,I,OE) 12(DL,F,G,PA) 18(I9) 21(EA,F) 26(EA1) 27(EA,G) 28(G,ON) 29(DL,EA,EA6,I,I9,SV1,9H)
V3	3 days	26(CT,EA,I,I9) 27(F,I) 29(DL,I,ON)
VP5	1 day	11(CT,EA,I)
9Y	5 days 1	0(DL) 11(CT,DL,G,PA,SP) 12(DL,F,PA) 28(F) 29(DL,G)

FY	2 days	18(CT,EA,S5) 29(G)
HK	1 day	5(F)
PY	3 days	1(I,SP) 6(I) 8(I)
PZ	3 days	3(DL) 10(EI,G,OZ) 11(DL,EI,ON,OZ)
YV	1 day	5(F)
8R	1 day	29(DL,F)

Europe<>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
Med									+	+	+							+		+					+	+	+	+	+	+
Iberia										+	+	+			+			+		+		+	+		+	+	+	+	+	
North										+	+	+													+	+	+	+	+	+

As usual beacon callsigns are given in full below as an indicator paths open even with modest power.

June 1 0048 LZ2CC,LZ2CM,LZ1JH>PA 01-0200 LZ2CC>DL 05-0600 GB3IOJ>SP6
GB3BAA,GB3BUX,GW>HA1 5B>9H G>OE3 SR5SIX>EA5 06-0700
GB3LER,YU1,LZ2CC,9A0BHH>F GB3MCB,F>SP6 I9>DL,OZ EA6>HA1,SP6,DL,OZ IS0>DL
F>OE3,YO7 I8EMG>PA OD>5B 07-0800 OH5RAC,F,OH3>HA1 F,I0,I9>OZ I0,9A,YZ1>F
OK1,I3>EB1 OE7>9A G>I0 IS0>DL,SP6 F>OE5 EH3,F,EH1>DL 08-0900 UR,F>9A
UR,I8,EH1,EH3,I0JX>DL LZ1,UU5SIX,UT5G,Z3>SP6 LA>HA4 IS0>OZ GB3MCB>I8 F>HB 09-
1000 OZ>OE3 OD5SIX,OM3>OZ IS0>SP2 CU3URA,EH6,Z3,SV9,UU5SIX,SV5>DL F>ON,9A
G,LA,SM6>9A GB3BUX>EI(t) F,EH2>PA G>OH6 LA,SM7>OE3 UR>I1 F>EI G>I0 10-1100
SM3>9A,DL G>I1,I0 DL>F OZ,LA>SP6 F>ON SP8,OD5SIX,EH6,ZC4,T9,SM3,SM5,LZ2CC,OH9
>DL OH6>HB EH2,YL2,OH8>PA UR>I1,DL,I8 PA>OH6 I0>EI LZ1>OE3 ES1>HB GB3LER,EI>F
OE7>OZ SM4>9A 11-1200 LY0SIX,SM4,LZ2CC,YT1,OH1,T9,OD5SIX, CU3URA,
SV8,OM3,LA>DL EI>YO7 GB3LER,OZ6VHF>OE5 S55ZRS,OD5SIX>PA LA>OE3,9A GU>9A
SP8>SP6 I8>EI OH1>ON G>F(short) GW>HB PI7SIX,GB3IOJ>OZ 12-1300 SP7,OK2 >I1
OK2.,OH5,SM0GU,SM5>DL GU>ON,PA CU3URA,SM6,SM0>PA OK2>I1 OH3>DL,HB
GB3MCB>DL DL>I7,I5,LZ2 SM6,LA>ON 13-1400 G>9A SR5SIX,UU5SIX,9A,ES2,I0,T9,
GB3MCB,OM7>DL SM7>I7 PA>9A SM4>I0 9A>SM0 SP8>ON OZ>I3 OD>OH5 UR>PA LA>I8
Z3>SM5 14-1500 F,EH6>SQ6 OZ>S5 LA,SM7>I8 OZ>EA1 T7>OH2 OD,UR>DL
A45XR>PE1MZS,DF9OX,OZ1DJJ, G1IOV,SP5SS 15-1600 G,GM>I5 OZ,OH2>LZ2
YL1,SM4,LA>9A UR>SM0 GM>HB EI,LY>DL A45XR>DJ6TK OH3>I8 A61Q>OZ1DJJ,
OZ1DPR,SP8NCJ,SP2BDR,DJ6TK UR>OZ YU7>LA UR>SP2 A45XR>EI7BMB OH3>I3 16-1700
ES1>9A LA>9A,I1,4X A45XR>G4ASR OE6>EA1 SM0>OH7 I9>OH2 G,SM6>F UR>DL,SQ6,PA
SP8,YO3,OH3,RN6>DL SM0,LY>PA DL>SP3 G,I9>SQ6 17-1800 RU6>9A LA,YL2,OZ,SM7,SM3
>DL SM5>CT,SV1 SP8>LA ZC4>YO7 SM4>YU7 LX>S5 YO6>SM5 CN8MC>IS0 UR>ON,9A,EA4
LY>I1,ON 18-1900 LY,SO5>PA G>EI I0>SP4 SM5,SM4,OH7>9A SM1>I1 UR,LY,SP5,SP8>DL
S5>LA SP8,DL>EA1 SP4>EI OH1>I4 LY>CN,F,I1 HB>CN LA,DL>9H LA,OH1>F PY1RO>IK5MEN
A45XR>DF9OX OH2>LZ2CN>OH2 19-2000 OY6SMC,9A,LY,UR, SP8,YZ,SP3,GM,EH2>DL
SQ5>CT UR>PA,LZ2,OZ SM7>I2 YL2,F,ES6,LY,HB>CN GI>EI TA2>I7 EI>I8 YO2,YU1>RX3
DL>F(t) 20-2100 DL>CN OH3,ES2,F>RX3 LY>9A CT>DL OH3>YO9 SV1SIX>I5 UR>LA,OH2,DL
OD>9H LZ2,I9>4X 21-2200 OZ6VHF>I1 4X,OD>I9 22-2300 OK1>IS0

June 2 04-0500 OH9SIX>RX3 OH5RAC>SP6 05-0600 9A0BHH>EA4 LY0SIX>PA EH4>I1 06-0700
EH4>OZ,I1 I8EMG,SV1SIX,EH6,EH5,EH4>DL OH3,OH5RAC>SP6 SP3>I8 CT0SIX,CN8MC>LX
EH7>OH6,LX EH6,EH3>SP6 SV1SIX>OE3 SM3>HA4 EH6>LX UT5G>I1 07-0800 EH1>I1
UU5SIX,YO3KWJ,LZ2CC,OE3XLB,OD5SIX,EA3>SP6 IS0,CN8MC>LX EH3>I9,9A,I3 CN8MC>EI
YO3KWJ,I9>DL UR,F>I8 Z3>SP2 I2>OZ I2>OZ SP1>YO7 EH1>I0 08-0900 EH3>I8 IT9X>I1
OH9SIX>SV5 CT0SIX>I0 UR>OZ,OH6,SV5 HB>LX(jt) OH5RAC>LZ2 T7>I5,EA5
9A0BHH,SQ9>OH6 CT>I5 OH1>DL G>I1 09-1000 ES4>OZ EH4>I2,I8 EH7,F>EB1 OH9>SP7,OZ
OH1,OH2, SM7,SM6>SP6 DL,SP2,SP6>OH6 EH4>I1 LY0SIX>PA OH5,ES0, OH1,ES5>DL
OH2,OH9>OZ 10-1100 LZ2,OH2>OZ EH2,EH3,OH1SIX,OZ>SP6 SK0,OH7,SM4,EH3, LZ2CC>DL
CN>I OH7>PA,EA5 CT0SIX,G>IS0 CT>I0 CN>I1,I0 OZ,DL>OH6 I9>EA5 LA,UR,OH7>9A CT>I9
11-1200 LZ2CC,UR>DL 12-1300 YO3KWJ>9A UR>OH5 LZ2CC>DL 14-1500 PI7SIX,OE3XLB>9H
15-1600 OM3>9H CT0SIX>I9,DL I7,LZ2CC,I6>F SV1SIX>F,I0 ON,G>I7 GB3BAA>EA5 I9>OZ,DL
CN8MC>DL I9>I8(t) GW>OM5 F,G>I8 IT9X,IS0>PA G>I5 GW>I3 ZB>I9 16-1700
I9,I8,EH7,CN8MC,IS0, 7X,SV1SIX>DL GB3LER>I1 SR5SIX,LZ1JH,YU6>F GU,EH4>I8 F>I0
SV3>I9 7X>OZ I9>EI 17-1800 YU1,EH8,ZB,9H,EH6,EH4>DL 5T5DUB>DK2EA ZB>EI I9,EH6>OZ
EH6>I3 EH8>EA1 9H,I9>PA,F YT1>EA5 18-1900 CT>I6 7X>DL,CT,SV1 9H>4X,LZ2
5T5DUB>DF8NS CU3URA>EA7 I9,CN,EH8,EH6>DL 5T5SN>DL7ARM,9A2ZH,9A4K
EH8>9A,PA,EA1 I9>F 19-2000 CU3URA>F EH8>EH5,9A 5T5SN>DK3RA I9>PA,LX,ON
UT5G>OH3 20-2100 CU3URA,CN8MC>I0 2243 9H>OZ

June 3 0404 OH1SIX>SP7 05-0600 LZ2>4X 5B>I0 I0JX>EB1 SV3>I1 06-0700 SV3>I1,SP2 OD5SIX>I0
I0>EB1 SV1SIX>I0 EH6>PA I9>YO7 07-0800 I9>ON,I1,YO7,PA,9A 5B4CY,SV1SIX,LZ1JH>SP6

IK5ZUL>EB1 Z3>9A YO5,I2>I9 GB3MCB,LZ2CC,SV1SIX>IS0 UT5G>I4 A61AH>5B 08-0900
I9,I0JX>EA1,I4,ON,I1,HA9 9H>I4 SV1SIX>F 5T5DUB>DF8NS CN8MC>I0,ON 09-1000
OH9SIX>ON I9>ON,EB1 EH7>ON UT5G>S5 I9>I3 UR>5B 10-1100 I5>OZ I9>EB1 9H>5B LZ2>I1
CT3>EH1,F OH1>LZ2 11-1200 SV1SIX>I3 UT5G>PA SM3>5B LZ1JH>SP8 12-1300 YO7>5B
UR>PA,5B,DL ES1>9A RU6>LZ2 OH1,YO,9A>OH3 9A>PA RX3>9H,LZ2 13-1400 UR>PA,I9,SV1
5B>I9 UU5SIX>SP6,9A 14-1500 EH7>ON EH5,9A0BHH,I1,PA>EI OY6SMC,CT>DL CT>F 15-
1600 GB3MCB,GW,GM,I9,9H>DL GB3BAA>SP6 CN8MC,CT0SIX,ZB,EH9>PA F>EH5 EH1,G>9A
LZ2>SM0 GM>I3 SP3>I8 16-1700 G,GD,EI,ZB,EH9,UR,OH3>DL OK1>5B F,GW>EH5
I9>I3,PA,DL G,GW>RX3 HB,UR,I1,DL,OE9,ES4,I2>I8 EI>I4 IS0,EH3>9A G>LA 17-1800 EH3>LA
SP7,EA1,F>I8 CT3>EA5 S5,OY,GM>F EH9,CN>I9 EH9>PA SV>RX3 F,S5>9A OH3>OH2
EH3>9A,PA,HA1 UR>I1 OH1>OH3 SV5>YU7 S5>I3 UT5G>OZ UR>9A PA>CN 18-1900
CN>9H,HB,I0,I5 F>EI YU1>OH2 PA>CN 7X>I2 EH7>I1,PA YO8>I9 LY>9A
SV1SIX,SV4,OD5SIX>DL T9>S5 EH7>9H UR,SP7>I9 19-2000 IQ4AD,IZ1EPM>EI UT5G,T9>PA
LY>I1 9Q0AR>G0JHC,9H1XT,F6FHP CN8MC>F GB3LER>F I0>OH2 OZ>DL 20-2100 CN8MC>EI
G,9H>CN 9A>S5 G>9H OZ>LX PZ5RA>DG1CMZ

June 4 07-0800 YO8>YO7 UU5SIX>9A UT5G>I1,DL 08-0900 YO3KWJ>I2 G>F(jt) I5>I4
OH9SIX,LA7SIX,OH1SIX,OH8,LZ1JH>DL OH1,OH5RAC>PA DL>OH6 09-1000 YO7,LY,ES5>PA
OH9SIX,LY>SP5 LA7SIX,OH9SIX>OZ OH6,OH3,UU5SIX,OH1>DL GB3LER,LA,JX7SIX>LY
OH8>LA S5>I4 10-1100 GB3MCB>CN UA3>SP2 OK1>9A EH8>EA5 UR>OZ 11-1200 JX7SIX>EI
UR>OH6,DL SM0>LZ2,DL EH8>CT OH1,SM4,OH3>DL CU3URA>CN UT5G>LA,PA 12-1300
LA>9A DL,I1>SM0 EH9>CN G,TF3SIX,UR,S5>PA UR>SP2,DL,OH3 S5>LA G,GM>OH3 UA3>DL
YO7>OH3,OZ UT5G,SM7>OZ 13-1400 G,UR>9A GB3BUX>I0 GI>OH3 YO2,OM3>LA G>ON
GB3MCB>CN PA,SR5SIX>F SM0>9A SP5>DL 14-1500 OE6>OH3 SP5,G>ON YU1>OZ,LA
SM5,SM4>9A G>PA,SM0 DL>PA 15-1600 G>OZ,PA 16-1700 G>I2,PA 5B,OD5SIX,9H>I9 17-1800
OD5SIX>9A IS0>PA,I5 5B>I8,9A 9H,5B,OD>I9 DL>PA G,5B>I8 18-1900 OD>5B S5>9A GW>I9
OH9>ES6 GB3MCB>CN G>PA aurora 20-2100 S5>OZ 21-2200 I0JX>CN

June 5 0346 G>DL 05-0600 G>DL 9H>YO7 UR>Z3 06-0700 9H,I9,UR,LZ9>5B 5B,OD5SIX,UU5SIX>9A
4X4SIX>SV1 A61AH>9A5ST OH9SIX>LA UR>SV2 07-0800 5B>9A G>LY,LA,LX UR>SV1,I6
OD5SIX>SV1 UU5SIX>9A OZ>LX I0>YO7 08-0900 9H>PA UR,5B,YU1>9A J4>SV8,I9 G>DL
9H>UR OE5>DL A45XR>9A7DX UR>I1,I4,I8 SM0>LX A61Q>DL6AMI,9A4K,SV5BYR,LY2BAW,I
W9GXW UU5SIX>LY F>OZ SV8>SV3 09-1000 UR>9A,I4,I1,I2 5B>SV1,9A A45XR>DL9USA,
9A4K,SV1DH,I7CSB UU5SIX>DL I3>I4 I9>IS0 HB>LX 4X>I7 5B>OE6 G>ON,PA 10-1100
LZ9,G,DL,5B>PA UR>PA,OZ,I4,DL,9A,OE3 UU5SIX,UT5G>SP6 YO7>DL LZ9>OZ ER1>OE3 11-
1200 ER>9A,OZ,PA,DL UR>LX,SP6,PA,DL,9A,I2 LZ5,YU1>OH2 CU3URA>EA7
LZ1,YO3KWJ,YO9>OZ YO8,YO3KWJ>PA ES6,LY>9A UT5G>DL YT2>LA 12-1300 5B>EA3
UR>PA,DL ER1>OZ YU1>OH6,SM7 I0>OH3 YT3>EI,OH3,SM0 LY>DL,F ER1>SM0 UR>DL
EM2>UR OH5RAC>I0 SP8>DL(short) 13-1400 UR>OZ,PA,DL,EH3 SV1SIX>SP9 YT2>SM0 14-
1500 UR,ER3,LZ2>SM0 SV1SIX,I8,CT3>F TA2>I5 Z3>I4 UR,SV1SIX>DL 15-1600 FX4SIX>IS0
OH7>DL I9>OH7,OK1 9H>9A A61AH>IK4JQO I9,9H>EA5 EH5>I0 I0JX>EA1 9H>DL,9A Z3>I3
J4>IS0 S5>9A 16-1700 9H>I3 CU2>EA7 W4SO>I0WTD,EA7RM,9H1TX I9>9A,I3 IT9X>I5
S5>SP6(+ms) I6>EA1 IS0>EA7 I9>I5,OE8 A61AH>ES6RQ L:A>PA(jt) A71EM>ES6RQ
A61Q>LY2BAW CU3URA>EA1 17-1800 CT,7X,CT3>EI I9>I0 A61Q>SP6MLK UR>9A OH7>I3 18-
1900 CT3>CN A45XR>9A1R S5>I3,I1 CT3>EA7 CT0SIX>EI UU5SIX>9A 19-2000 CT3>EH5
JX7SIX>LA SV1SIX>LY JW9SIX>SM0,LA SP8>5B JW7SIX>SM5 9H>I9 20-2100 JX7SIX>SM3
UR>ASV1 JW9SIX>SM0 HK4SAN>F6HRP 21-2200 HK4SAN>F6HRP YV4DDK>F6HRP
UU5SIX>9H W4SO,YV4DYJ>F6HRP CU3URA>EI 22-2300 UT5G,YO3KWJ>I7

June 6 05-0600 OD5SIX,5B4CY>9A SR9FHA>SP7 06-0700 5B4CY>I7 08-0900 UU5SIX>OH5 09-1000
SV1SIX>I5 4X>I9 10-1100 5B4CY>OE6 1339 GB3LER>F 15-1600 OD5SIX,5B4CY>I9 16-1700
YK1AO>IK4IDF A45XR>IW9CER,5B4FL 17-1800 A45XR>IW9CER I8EMG>EA5 PY1RO>I0WTD
18-1900 ZB>I9 9Q0AR>IW9GUR,9H1TX,I7CSB,LZ1ZP 20-2100 9Q0AR>9A5ST OH9>OH7(jt) 21-
2200 OH9>OH6(jt) OH9>OZ(jt) OH9>SM0(jt) 22-2300 TF3SIX,JX7SIX>EI JX7SIX>SP2

- June 7 05-0600 OH9>SM6(jt),DL(jt),OZ(jt) 06-0700 ES6>SP3,SP6 OH9>ES6,DL,OH5,SM5(jt) OH5RAC>SP6 07-0800 OH9>DL,SM5(jt) 08-0900 OH9>I5(jt) OE5>I0 1057 SR5SIX>I0 1255 GB3LER>F 13-1400 GB3LER>PA 14-1500 UU5SIX,5B4CY>I9 UR>SV8 9H>I9 15-1600 I9>DL OD5SIX>SV,9A A61Q>SV1DH,9H1BT 16-1700 UR>SV1 OD5SIX>SP9 I9>IS0,4X A61Q>IW9CER,9A2OM I5>I0(jt) SV1,9H>4X EH9>PA TA2,4X>I0 UR>DL 17-1800 CN8MC,ZB>PA 4X>Z3 4X,OD5SIX>SV1 EH9>ON 18-1900 JX7SIX>OH3,OH2 TF3SIX>OH3 19-2000 JX7SIX>OH2,LA CU3URA>EA1,EA4 9H>I1 4X>YO7 GB3IOJ>CN TF3SIX>OH3 20-2100 JW5SIX,JW9SIX>OH3 21-2200 JW9SIX>OH5 GI>PA(jt) 23-2400 GB3LER>F
- June 8 05-0600 OH9>OH7(jt) UR>9H SP9>YO7 OH9>DL 06-0700 OH9>OZ,SP2,OH5 I9>SP9 OD5SIX>SV1,SP9 UU5SIX>I0,YO7 OH9>ES6,SM0 SV9>OE3,SP9 SV1SIX>OE5 07-0800 YO7>I0,I2 SV1SIX>I2 LZ2CC,UT5G,4X>I0 I9,I8,LZ2CC>YO7 SV3>HA9,OE5 SV9>I4,DL I9>SP2,OE5 I9>HA9 OY6SMC,UT5G,GB3LER,9H1SIX>OE5 Z3>SP2 LZ1JH,LZ2CC>OZ I8EMG,5B4CY>SP9 UU5SIX>OE3 SV1SIX,LZ2CC>I0 08-0900 SV3>F,PA,DL SV1SIX>DL,PA IT9X>SP6 I9>PA 9H>DL,PA LZ2CM>F ON>D>(bs) 09-1000 I9>DL,I2,9A UU5SIX>I0 9H,I9>PA IT9X>DL,SP9 SV5SIX>SP9 UT5G>I0 I4,SV9>YO7 9H>SP6 ZC4>I4 10-1100 SV1>SP9 GB3MCB,UT5G>I0 4U1ITU>F 11-1200 CN8MC>I0 SV1SIX>OE3 EA3VHF,LZ1>9H 9A>I4 9H>4U1ITU I4>9A EH7>I4 LZ2>YO7 12-1300 S55ZRS,HB9SIX>EA7 13-1400 CN8MC>PA,I5 LZ2>DL GB3MXB>EA7 ZB>I0 14-1500 CN,CT0SIX>I5 HB9SIX>DL(t) CN8MC>F SV1SIX>OE6,DL SV5SIX,I9>S5 16-1700 SV9>DL,S5 OD5SIX>I1,S5 4X>I2 I4,I3>I9 I9,I0JX>PA PP5AR>IW8RSB I0>I2(bs) SV1SIX>F,IS0,OE5 SV1>I5 UR>DL,SP9 I2>I0 UU5SIX>SP2 5B4CY,I8EMG,IT9X>F SV1>9A 17-1800 SV9,I2,EH3,SV1,SV8,9H,I9>9A 9H1SIX>DL,OH5 TA2,SV3>I5 I9>OE8,OE3,OE5,DL,I2,I3,S5 SV8>SP9 IT9X>I5 4X>I2 CT3>I8,SV1 CU3URA>EA4,I0 I9>OK1,I4 LZ1>I7 I8EMG>DL SV8>I5,I2,9A,F UU5SIX> DL I0>F I3>I9 SV1SIX>OE3 I8>I2 18-1900 I1,I2,I3,9A,ON>I9 4X>I1 I8EMG,I0>ON EH6>I8,OK1 S5>SV1 SV1,IS0,I9>OE3 OK2,IS0>SP9 DL,LZ1,HB>I9 I0JX,EH8>EA1 EH6,9H,CN>DL IS0>SP9 I0JX>UR EH7>HA5 EH8>DL,I2 G>9H EH1>9A 19-2000 9H,EH8>DL 9H>PA,ON HB>I9 ZB>I0,I5,F,9H,OE5,I9 I5>EA1 EH4>S5 EH8>EA7,I5 20-2100 EH8>OE5 CN>9H ZB>9H,I7 CT3>EA8 4X>5B UT5G>I1 21-2200 EH8>I7
- June 9 0653 CN8MC>F 07-0800 CN8MC>PA,I0 CN>EA2 ZB>F,DL LZ1JH>I0 08-0900 YO3KWJ,I0>SM7 EH8>OE5 CN>F,EA1 5T5DUB>DK1MAX CN8MC>DL YU1,LZ1JH,UT5G>DL ZB>OE5 09-1000 I9>DL,PA G>9A EH5>I9 UT5G,UU5SIX>SP6 11-1200 OH8>OZ,SP2 9H>F EA1VHF,5B,EH3>I0 5B>EA1 CN8MC>SV1 12-1300 9H>YO7 EA3VHF>SV1 OD5SIX>I0,EA7 I9>HA1 SV1SIX>I0,EA7 I1,I2,I4,HB,YO4>I9 CT3>SV2,I0,I5 OH8>SP6 CU3URA>EA7 13-1700 OH8>OH7,I4,OZ SV9>I2,9A I1,ON,HB>I9 I9>I0,YU7,PA CN>I0 4X>I5,F OD5SIX>F,SV1 I0>EA4 LZ2>I8 I6,YO3KWJ>EA7 14-1500 OD5SIX>F,SV1 UR>I0 SV1SIX>DL,OE3 SV5SIX>DL SV1>SP6 LZ1,YO3KWJ>I5 OM3>EA3 I9>DL LZ1>I9 OH8>OZ 15-1600 OM3,OD5SIX,4XX,LZ2CC,SV1>DL YO9,Z3>I5 OH8,I9>OZ SV1SIX>OM3 SV1>SP6 9A>SV1 SV9>9A,OE3 YU2EO>F OE3>SP6 YO7>9A 16-1700 UU5SIX,I8EMG>DL SV1,I0,LZ1,IS0>PA SV8,LZ1JH,I1,F>9A LZ2>F IS0>OM5 I0JX,SP3>EA4 OD5SIX>S5,PA LZ2>SV1 I9>EA5 LZ2,YO3KWJ>OH3 YU7>EA1 17-1800 S5,IS0,S5,I9>EA4 S5,I9,7X>EA1 OZ>I0 OH5>OH3 TA2,9A1CAL>F LZ2>I2 SV3>I5 TA2>OE3,I3 9H,7X>PA YO3,EH5,OH0,7X,YL2,I9>DL GW>9A YO4>9H I9>OE3 EH3>OK1 LA>I0 I9>OE1 18-1900 7X>PA,DL CU3URA>I9 G>I8 ZB>I4 SO5>I2 OH0>OH3,I5 OH8>EA4 I0>EA1 OD5SIX>PA SM7>I4 EH6,CU3>I9 G>SP5,SQ9 CN8MC>I5 SK6>I8 IZ1EPM>EI EH1,EH5,CT>DL LA,EH2>OZ 19-2000 EH9>I8,DL LA>EA1 I0,G,9H,DL>EA4 ZB,CU3URA,EH9,CT,CN>DL EH9,EH1>PA CT>9A ZB,9H>F I6,LA,G,OZ,DL,PA,EH1>EA1 SP6>9A,OH8 CU3>S5 ZB>I0,F LZ3,EH3>CN LX,EH9>I0 20-2100 LA>OZ I9,CT>F ZB>I0,DL,F,9H,SV1 I9>EA5 CN,EH1,EH9>PA EH9>I4 F,OZ,G>CN EH5>9H SV1>EH9,I5 SV1SIX>I1 OH6>SP6 I0>I5 21-2200 I2>CN
- June 10 0024 CN8MC>EI 06-0700 CN8MC,CT0SIX>PA G>OH8 07-0800 LZ1JH,UT5G,EH9>F SP2>OH8 CT0SIX>DL ZB,CN8MC>PA 08-0900 ZB,CN8MC>F EH9,DL>EI CN>DL OZ>OH8 IZ1EPM,HB9SIX>EI EH1>OE5 EH9>PA I9>DL,PA 09-1000 F>YO7 ZB,EH7,I9,CN8MC,9H,CT,GM >DL CT>HB,OE5 I9>OE5 CN8MC>EI 10-1100 I9,CT,7X>DL EH5>I8 OK1,DL,OE5>OH8 OH8>SP3

CT0SIX>EI,F CT>I2 GM>PA CT3>9A 7X>OE5 11-1200 CT>9A CN8MC>OE5 DL>OH8
OH9SIX,ZB,CT>DL CN>IS0 I8EMG,CT0SIX,I7>F CS0>PA,ON,I3 ES2>OH8 CU3URA>I0 12-1300
CS0>I9,F EH1>SP6,SP9 EH9,CN8MC>PA CU3URA>EA7,I2,DL EH9>DL CU2>I9,DL,I5
T7,GB3MCB,PI7SIX>CN I0JX>EA1 CU2,DL>EA4 13-1400 CU3>SP6,DL ,PA,I3 I2,I4,DL>EA1
DL>EA4,F GB3LER>F OK1>SP9 EH1>ON EH5,EH2>DL CS0RCL>DL,I5 GM>PA 4X>9H 14-1500
UR>PA EH1>SP6 WP4U>DK1MAX KP4TB>DK1MAX,EA7KW CU3URA>I0,DL 4X>9H EH6>EH1
SM0>LZ1 EH2>OZ 9Y4AT>DK2EA OM3>HA5 15-1600 PA,G>EA4 CS0>DL CN8MC>PA GW>4X
4X>OM5,OM2,LZ2 GB3MCB,I9>DL KP4TB>I4LCK,G7RAU EH1,G>EH5 I4>OH2 OK1>IS0
SV1>ER1 SV5>OM3 16-1700 EH5,CN>I5 CT0SIX,YU1>PA YU1>UR CU3URA>DL I7,I8>PA
4X>S5 GB3LER,OY6SMC>DL PI7SIX,DL,PA,OZ,ON,G>EB1 YU7>5B LA,OH3>9A 17-1800
ES1>OK1 ON,PA>EA4 5B>LA SM0,SM5,4X,EA6>9A OY,F>DL SP7,FX4SIX,UR>PA SQ9>OZ
CS0>9H 4X>EA7 LA>I2,F GU>F(short) SM3>HB,OK1 CS0>I4,DL OZ>SP5,DL SP2>F LA>HB
SM7>I4 ZB>4X UR>RX3 ON>SP3 CT>OH2 18-1900 PA>EA4 GM>YU7,SP6,I1,DL,9A
OH3,GU,LX>DL SM6>I2 CS0>9H,OH2 SM6>HB LA>I3,I1 I3>OZ SP8>ON F,SP4>PA G>SP6,SP3
I4>LA 19-2000 CS0>PA,LA GB3BUX>SP9 GM>EA3,OE5 LZ3,OE3XLB>4X DL>LX OD5SIX>S5
G,GM>CN CU3URA>DL,S5 OH3>I4 GM>F GW>I1 EA5>PA CT>SM6 CT0SIX>DL EI>I1,OE5
G>DL F>OH2 20-2100 GM>CN EH1>SM6,PA CU3URA>PA ZB>EA7 GB3LER>F CT0SIX>SM6
JW9SIX>OH1 G,GW>CN CS0>PA CU3URA>EI 21-2200 G>CN PZ5RA>G3SED,G0FYD,
OZ3K,EI3IO,G3IBI,G4IGO EH8>F PA>CT 22-2300 JW9SIX>EA4 OY6SMC>LA SR5SIX>I4 23-
2400 JX7SIX>OH3

June 11 06-0700 I5>EH7 CS0,EH7,CN8MC,ZB,GB3MCB,GB3LER>9A GB3BAA,CS0>I0 I0JX>EA1 07-
0800 ON,PA>CN CT0SIX,4X,LA,OZ7IGY>9A OZ,SP5>F(jt) SP8>I3 I9>OZ CS0>I2,DL,CN
EH7>HB G>SP6 LZ2CC,OH8,IT9X>PA YO7,EH3,9A>DL I9>F EH7>OH3 08-0900
SR9FHA,SR5SIX>F I7>4X,DL,PA OD5SIX>PA,UR CT,PA>CN GB3BAA>SP9 S5>EA1,EA5
CS0>I2 YU1EO,YO3KWJ,9H,4X,SV1SIX,YU7, CN8MC,YO2,I9,I0>DL 4X>UR OH8>OZ
LZ2,LZ1JH,CN>I9 4N1ZNI,LZ1,ZB>PA 9H>EA2 GB3BUX>I0 09-1000 CT0SIX,CN,GW>EI LZ2>I9
9H1SIX,F>OE5 CS0>9A,I4,PA I0>SP3,SP9 I9>SP3 CU3URA>DL,PA I9,CS0,I0,I5,EH6>DL
JX7SIX>PA I19,3,LZ1JH,OY6SMC,4N1ZNI>F 10-1100 CT0SIX,ZA,Z3,HV5>DL JX7SIX>PA
HV5>SP6, I9>F Z3>ON IS0>SP9,ON DL>EA2 CN>CT,I1,DL EH1>HB CS0>SP5,9A I0>IS0(jt) 11-
1200 4X>I1 VO1ZA>G4PCI,G4IGO I0>PA FX4SIX>EA7 EH9>I9,9H I0,I8>DL G>EH5 SP5,I7>4X
EH6>SP9 F>I4 S5>EA1 CU3>I1 G,DL,PA>I8 CT>I4 12-1300 G,ON,UR>I8
HB9SIX,EA6,IZ1EPM,I0,CU3URA,TA2>DL I0>PA ON>I0 S5>F CT0SIX>IS0 UR>YO7,I4,I3,SP9
CN8MC>SP2 I5,EH8>EB1 UU5SIX>SP9 SV9>SV1 TA2>SP5 CN>S5 13-1400 CU3URA>I0,EA4
UR>CN F,I1>I9 PA>I8 EH5>I3 IZ1EPM>EI CS0>PA SM5>SM0(jt) 14-1500 CS0>CN YL2>YO7
CT3,PA,I4>F F,DL>I8 UT5G,CT3>DL CT0SIX>S5 15-1600 I5>F EH3,SV2,Z3,I9,F,EH6,
SV8,I7,I8>DL SV2>I3 OK1>I9 G>I5,EA4 F,LZ1>I8 YU7,OM3,YU1>F I9>OZ ZB>EI CT>I5 EI>YU7
I4>EA4 CT3>5B 16-1700 OE6,ZA,I0,9A,SV8,I9,I7>DL VP5/N4VHF>IK5EKV,I0WTD,EH5AX,
CN8LI,CT1EEB,CT1CJJ SV1>F I0,9A>DL ZA>I2,I0 SQ9>I9 I2>OH3 DL>EA4 ON>I7 SM7>I4,OK1
9A>I2 PA>HB SP5>F SV3>I4 17-1800 I2>T9 SP9>ON LA,I0,OZ7IGY,UT5G>OK1 UR>PA,DL
KP4EIT>EA7KW VP5/N4VHF>EA7KW LA>I3 9Y4AT>CT1CBI,SQ9ACH,DL3DXX TA2>YU7
YO,GB3BAA>DL CT0SIX>EI PZ5RA>OZ1DJJ,DL3DXX I8>F SP4>DL 18-1900
LA,GM,I8,YO,G,UR>DL I9>S5 G>EA4 9Y4AT>DK1MAX,DL8PM KP4TB>DK1MAX ES4>I8 UR>LX
YO>F LA>9H CY9SS>9A6R KP4EIT>DK1MAX,DL7QY EH6>HA7 LX>SM0 FJ5DX>DK1MAX
LY>ON 19-2000 YO3KWJ,GB3LER,SP2>DL SP4>PA G>HA4 SV8>ES1 FJ5DX>DL3DXX, F5JNX
I2>4X KP4TB>DL3DXX PZ5RA>DK1MAX,EI3IO,DL7QY,GW3SMV FM5JC>DL3DXX,
DK1MAX,IW1AZJ,F5TND GM>HA ZA>I1CU3>DL FG5FR>DK2PH 9Y4AT>DK1MAX,
DL7QY,F5JNX KP4EIT>IW1FGZ F>I8 GW,I1>4X LY>9A GB3LER>F G>EA4 20-2100
PZ5RA>ON5PU FM5JC>F6HRP,DF9TF,DL3DXX,OK1FM,F4DXX, DK2EA,9A8A,I7CSB,PA2V
FM5AD>DL3DXX FJ5DX>DK1MAX,9A8A G>EA2 CU3URA,S5,9H>9A CN,EH1>DL GI>SV8
GB3MCB>EA7OC 9Y4AT>PA2V,G4IGO ZB>PA EH1>OZ I0JX>EI FG5FR>EA7KW 21-2200
FG5FR>DK1MAX KP4TB>F6FHP FM5JC>F6HRP,DK2EA,MU0FAL KP4EIT>F9IE
FM1BY>CT1EEB,DL7QY FG5FR>F5TND,DL8PM CU3URA>PA 22-2300

KP4EIT>F5TND,DL8PM,G3SED,9A4K VP5/N4VHF>CT1EEB,IK0FTA G,EI>I0 FM5JC>9A4K FM5WD>9A4K,DL8PM,F5HRY CN>I0 23-2400 CU3URA>I0 VP5/N4VHF>EA8BPX,CT3DL

June 12 05-0600 SP5>EI 06-0700 SR9FHA>EI OY6SMC>F GM>I2 GB3LER>F F>LA 06-0700 GB3MCB>SP7 GB3LER>F 07-0800 LX0SIX,HB9SIX,F,9A1CAL>EI F>PA,OZ CU3URA>DL 08-0900 LA>I1 OY6SMC>F I4,CN8MC>I0 F>OH3,OZ JX7SIX, GB3LER> DL EA3>EA1 PA>SM5 CN8MC>I5 09-1000 JW7SIX>PA CN>I9,9H SV1SIX>I1 PA>SM5 F>OZ EH3AVQ>5T5SN OD5SIX>I0 OY6SMC>DL,I1,EI GB3LER>DL,F GM>I3(jt) LA>F EI>OE5,SP9,SP6 TF3SIX>EI OY>I4,SP9 10-1100 OY,LA>F VE8BY>G4FUF(Es) EH2>SP6 GM>OE5 EI>I8.OM5 LA>F F>EA7 C3>CT,OM5,IS0,I8, OM3,EI FX4SIX>I8 CU3URA,GI,CS0>DL G>SP9 EH5>9A 11-1200 CU3URA>PA C3>9A,T9,CT CS0>I8 EH4,OD5SIX>9A JX7SIX,TF3SIX,OY6SMC>EA7 CU2>PA KP4EIT>DK1MAX,F6FHP,F5HRY,IW1FGZ,M0BJL,I4CVC,OE5MPL,IW2HUS,G4IGO FM5JC>PA4PA,DK5WL,OK1DDO 12-1300 FM5JC>EA7KW,G0JHC,OZ4VV,MM5AJW,DK2EA FJ5DX>G4IGO,PC5C,ON6ZK,F8OP,F5HRY FG5FR>PA2M,F5HRY,G7KHF,G0CHE KP3A>G4IGO,M0BJL,DL8PM KP2A>DK1MAX,PA2M,DL7QY,F6FHP 9Y4AT>DL1YD,F5TND,PA4PA KP4EIT>G3HTA,DL8PM CT3>PA WP4NIX>G4FUF CU3>DL 13-1400 FJ5DX>GW7SMV,G0TSM,ON7CL KP2A>DL8PM,PA5DD,OE5MPL KP4EIT>F6FHP,G8IZY,PE1BTX,DK2EA,G4IGO FG5FR>G8BCG,PA7N,PC5C,G4IGO,G0GMS PA>EI K1TOL>EA7RM G>LA FM5JC>G8BCG,PA5DD,PA3EWP DL>ON CU3>CT F>EI ON>DL 14-1500 NP3CW>G8BCG,PC5C,PC1T HI3TEJ>G4IGO,G8BCG,DL1EAP KP4EIT>PC1T,GW7SMV,M0BCG,G3IBI FJ5DX>G4PCI,G4OBK,G4FVP,M0CTP KP3A>PA2V,M0BCG KP4YI>G4FUF I6>9A CU5>CT CO8DM>EA4SV 15-1600 CO8DM>EA7KW SVSIX>I0,I5 VE1YX>CT1AXS,CT1EPC W4SQ>CT1EPC EI>PA YO9,YO3KWJ>9H YU1>I9 FP/N6RA>EA7KW SV8>I1 EI>SP2 16-1700 9A1CAL,OZ6VHF,HB9SIX>EI TA2>9H EI>OH3,DL SV1SIX>I1,DL GM>I5 GW>DL YU1EO>I9 UR>YO7,4X 17-1800 SV1SIX>I1,9A 4X>I1 ZC4>4X aurora 18-1900 EH6>I9

June 13 0653 F>OZ(ms) F>LX(jt) 08-0900 UN8GC,A71EM>5B4FL 5B4FL>A61Q UK9AA>5B4FL G>OZ(jt) JM1DTF>5B4FL(wk) HB>OZ(jt) 09-1000 G>HB(t,ms) I0>9A UN8GC>5B4FL OE5,OZ>F JN1JFC>5B4FL F>OZ 1149 GB3LER>S5 1655 SV1SIX>IS0 1729 YO8>OH5 18-1900 SR9FHA,SR5SIX>OH5 UT5G>OH3,OH6 OH5RAC>SP6 OH1>OH3 EX8MLT>OH5LK,SM0TSC 19-2000 UR>9A JW5SIX,JX7SIX>OH5 JW9SIX,JW5SIX>SM0 GB3LER>LA 20-2100 JX7SIX,TF3SIX,JW9SIX>OH3 OY6SMC>LA 21-2200 YO3KWJ>4X

June 14 05-0600 A61Q>LZ2HM 06-0700 A61Q>I7CSB,IK0NOJ,SP3RNZ,OH2RF OH3,OH7>OH5 UN8GC>5B4FL 07-0800 SV1EHP>A61Q A45XR>5B4FL,SP3RNZ,OH2RF YO7>5B UN8GC>5B4FL A61Q>IW0GPN,SP2BDR,SV1EHP,DF0SAX,DL2DXA,SL0ZG,SM5CEU,OH3JR,I2AND/IG9 LZ2>OH2 UR>DL,OH5 5B>LZ2 OH3>OH5 UU5SIX>SP6 08-0900 OD5SIX>5B,I0 A51Q>PF7M,SM6CMU,PA2V,PA3DOL A45XR>OH2RF,SM5LE,PA2V UT5G>5B UR>OH2,OZ 09-1000 5B,OH3,UR>OH2 OH3>OH5,HA1 UU5SIX>HA1 5B4CY>OH5 UR>SM5 SV1SIX>I5,I0 10-1100 UR>SM0,I0,OZ,OH3 OH9SIX>SP2 OE3XLB,YU1EO>OH5 OD5SIX>I4,I0,OH3 5B4CY>I4 4N1ZNI>I0(short) SV1SIX>DL 11-1200 LZ2CC,SV1>I8 OH5RAC>SP6 9H>YO7.SV2 SV8>DL 9A0BHH>OH5 12-1300 LZ2>I5 I9>YO7,SP9 SV1SIX>HA1,I8 YO8>I9 SP8>I7 A45XR>I8LPR,9H1XT,IS0GQX, IW9HHH IS0>I4 SV1>I0 4X>SV1 YO3KWJ,UT5G,YU1EO,YO8>9A 9H>SP9 LZ2,SV1>DL LZ2,S5>HB S5>LZ5 YT1>9H F>SV1 ZA>I0 I9>HA1 13-1400 ZC4>9H I9>SP9 SV1SIX>F JA3EA>5B4FL OD5SIX,5B4CY,4X4SIX,A4tv,EPtv>SV1 OH3>OH2 A71EM>5B4FL,IK0FTA,IK5YJY,IT9TJH,9H1XT,OZ1BNN A45XR>SV1DH A61Q>SV8CS I4>SV8 YO8,LZ2>I5 4N1ZNI,SV4>DL I9>OE3,SP2 9H>SP9 3A>LZ2,SV8 CT>EA8 14-1500 I9>SP9 A71EM>IW1AZJ EH6>YO7 4X4SIX>I7 15-1600 UT5G,UU5SIX>OZ 16-1700 UR>DL YU1EO>OH5 OH5RAC>SP6 4N1ZNI>OH5 UR>DL,OH5 LZ2>PA UT5G,UU5SIX>I0,HA1 LY0SIX>I4 SV1SIX>PA UT5G>SP6 UR>PA,SP9,OH2,I8 LZ2>F Z3>PA 17-1800 Z3>OH2,DL I0,I8>OH5 5B4CY>SP9 UR>I8,DL,OH1,OZ,F,PA,ON I9>DL I9>I4,SP7 SV1SIX>IS0 SV1>DL YO8>PA 18-1900 I8>SP7,SM0 UR>ON,DL EX8MLT>OH2RF SV1SIX>DL OH5>OH3 SV2>SP6 SM6,LA>I8 LZ1>PA SV1>EB5 9H,SP9>I9 I7>OZ LZ2CC>F OH1>OH3 I9>F 19-2000 SM5>SM0 G,CN>I7 I7>PA

June 15 0003 GB3LER>F 0235 GB3LER>F 05-0600 YO4>9A 06-0700 F>SP6(jt) 07-0800 OD5SIX,YO7>OH5 SV1SIX>SP2 OH5>YO7 UT5G>DL,I1 UR>I1 A61Q>5B4FL 4X>OH5 OD5SIX>9A 08-0900 A61Q>IW1FZ 4X>9A SV1SIX>OE5,I5 UU5SIX,YO7>SM0 UR>OH5,DL 09-1000 UR>OH5,OE3,DL,I0,9A,PA Z3>SM0 LZ2>PA YO7>DL SV1SIX>I0 LY0SIX>9A SM5>YO7 10-1100 LY0SIX>I0 LZ2CC>I9,SP2 UU5SIX>9A UR>I0,HB,ON,PA,I8,I1 DL>LZ3 SV8,LZ2>DL SV1SIX>SP6 11-1200 UR>ON YO3KWJ>PA UT5G>PA,S5 I4>SP5 YO4>DL LY0SIX>I8 UU5SIX>S5 OH2>I0 Z3>SP2 12-1300 YU1>OH7,S5 GM,UT5G,YO3KWJ,YU1>PA OH7>9A YO8>I5 OE6,I9>S5 9H,I4>OH5 OH5>I5,I0 OM3>SP9 GM>DL(ms) GM>EI S55ZRS>OH3 13-1400 YO3KWJ>DL GM>PA ZC4,UT5G>DL I9,SV1SIX>SP6,I0 EY8MM>IW1AZJ OH3>OH5 C6AIE>CT1CBI CO8LY>CT1CBI UR>I4,DL OH8>OH5 GM>PA 14-1500 GM>DL SV1SIX>IS0 15-1600 JW9SIX,OH8SIX>OZ OH5RAC>SP6 16-1700 JW9SIX>OZ CU3URA>EA7 ES6>LA,OH5 OH9SIX,OH1SIX>SP6 LY>LA OH6,OH7>OH5 CN8MC>IS0 LA>SM0,OZ,DL JX7SIX>OH2 JW9SIX>DL 17-1800 JX7SIX>ES1,DL CN8MC>I9 LA>SP6,DL,PA,SM6,SP2 UT5G,OH1>PA OH5,GM>OH2 G>SM0 ES4>EI ZA,LA7SIX>DL LY0SIX>9A,HA1 OH9SIX>I0,F,PA OH8>SM7 OH5>LA GB3LER,I0>SP7 JW9SIX>OZ 18-1900 JX7SIX>LY,SP2,DL,LA UU5SIX>DL LY,OH9SIX>PA YU1,YU7>I1 I0JX>SM0 UT5G>EI G>OH6,CN GB3LER>OH1 OY6SMC>OH6,SM0 I8>OH5 SM7>I8 LZ2,LZ1JH>F CN8MC>DL 19-2000 UN8QX>IK2GSO YT1>F UR>PA,I1,CN,DL I0JX>SM7 G,GW,EH5>CN CT,GM>EI G>LA LZ2>DL,F JX7SIX>PA,LX OY6SMC>PA,DL SV1SIX>DL CN8MC,LA>EI GM>SM0,PA,DL YU7>OH2 IT9X>DL 20-2100 CT,TF3SIX>DL JW5SIX,JX7SIX,ZB, OY,GB3LER>EI GM>CN,F CT,TF>PA CN8MC>IS0 OY6SMC,JX7SIX>F OY>CT TF3SIX>F,PA 21-2200 JX7SIX>EI TF3SIX>EI,F CU3URA>I5 2229 UU5SIX>G

June 16 04-0500 UT5G,UU5SIX>SP2 05-0600 UT5G,UU5SIX>SP7 IZ1EPM>OH5 06-0700 UR>I9 F>SP6(jt) SP6>LX(jt) 07-0800 YO3KWJ>OH5,OE5 UT7UV>I0 OH5RAC,LZ2CC,UU5SIX>SP6 OH5>OH3 UR>DL,OH2,I9 UT5G>SP2 SV1SIX>SP9 08-0900 5B>I9,I0,9H SV1SIX,GB3BUX,LZ2CC,LZ1JH>OE5 UT5G>OE3 SV5SIX>SP6 OD5SIX>I0 5B4FL>A61Q UK8OM>5B4FL 09-1000 I9>SP6,F CY9SS>PA2V(ms) VO1ZA>F6FHP 10-1100 CT0SIX>I0 OK1>DL 11-1200 CN8MC>I2 CY9SS>G3ZSS 12-1300 CY9SS>GB7CGL VO1ZA>G8BCG VE1ZZ>EA7RM JX7SIX>OH5 IS0,9H>F FP/N6RA>EA7RM,G4AJC,G3KMA WA1JAS>EA7KW OH5>OH3 CT>I0 9H>EA7 EH8>I5 CU3URA>I9 13-1400 FP/N6RA>G4FUF,CT1EPC ZC4,LZ2>DL CT>I9 I9>EA7,EA5 ZB,CN8MC>F LZ2>PA ZC4>I8,F YO3KWJ,LZ2CC>DL CN8MC,CU3URA>I0 K9HMB>EA7KW IS0>EA7 14-1500 EH7>9A CT0SIX,CN8MC,EH7>IS0 CN>I5,F,9A 4Z7>HA5 15-1600 CN8MC>F OD5SIX,CU3URA>I9 16-1700 LY0SIX>I0 UT5G>DL Z3>OZ OH5RAC>OH2 IK5ZUL>EA5 17-1800 CN>IS0 18-1900 CN>I5,I8,F,I9 KP4TB,KP4EIT >CT3DL 1928 CN>EA1 20-2100 CN>IS0,EA3 G>OZ(jt) GB3LER>DL,I1 OY6SMC>DL,I1 GM>ON,SP7 DL>EI JX7SIX>OH3 21-2200 GM>ON,I4 I4,SM7,HB9SIX>EI EI>OZ,DL OY6SMC>LA,F GB3LER>LA,F JW9SIX,JW5SIX>OH1 GM>DL GB3RMK>I1 JX7SIX>OH2 TF3SIX>OH3 22-2300 JX0SIX>SM0

June 17 07-0800 OD5SIX>9A 0851 OD5SIX>HA5 09-1000 UU5SIX>OH5 CU3URA>EI 1057 LY0SIX>ON 11-1200 OH1>OH3 9A>S5 12-1300 SV1SIX>DL 13-1400 OH1>OH3 I9>ON,PA,EI 9H1SIX>DL CT0SIXC>DL F>I8 OD5SIX>S5 14-1500 F,HB,OK1>I8 SV1SIX>I0,I2 IT9X,I8>DL I9>PA,OE6 EH6>HA5,S5,HA1,S5,OE6 CN8MC>S5 I7>ON CN>UR A61Q>5B4FL EH6>S5 15-1600 CN8MC>EI,F EH6>EH7,SP7 YU1>F SV1SIX>IS0 I9>I2 16-1700 I9>I1 CT1HZE>5T5SN CT>EI I8EMG>F 9H,YO7>I2 17-1800 9H>I9,F I9>I2,DL EH1>I5 SV1SIX>I0 GB3MCB>EA5 IT9X>F,EA5 CT0SIX,I9>PA CN8MC,IK5ZUL,9A0BHH>EB1 UN8GC>OH3XR I8>PA S5>I4 18-1900 5T5SN>G0CHE,G4PCI,EI5FK,G7RAU,CT1GFK,MM0AMW S5>9H EH6>YO7,9A 9H>PA I7,I2>I5 19-2000 G>I0,9A GM,I0>EI F>9A,SV2 F>S5 I8EMG>DL 20-2100 F>YU7 CT0SIX>PA

June 18 06-0700 YO2,YO4,DL>YO7 I0JX>SP7 SR5SIX>EA3 LZ1JH,4N1ZNI,YT1>ON 07-0800 G>I8 F>YO7 I7>PA LZ1JH,4N1ZNI,YO4>F I7>PA LZ1JH,YU7,YO4>I1 I1>HB OK1>EA7 9A>S5 IS0>G 08-0900 EH3,EH5>HA5 I7,I8>F GB3BAA>IS0 OE3XLB,PI7SIX>IS0 I0>ON,F OM3>EA7 EH5>I3 F>9A OK1>EH5 09-1000 GB3BAA>IS0 F>ON,IS0 EH5>9A,I1,DL EI>OE5 CT0SIX>DL

LX0SIX,PI7SIX>CN 10-1100 CN8MC>DL CN>ON,PA,9A 5T5DUB>I4EAT I1>EA1 EH7>9A,ON,F ZB2>I4 11-1200 EH7>I8,9A I8>5BI1>YO4 12-1300 GW>PA S5>ON IZ1EPM>CN 13-1400 UT5G>HB S5>I5 OH9SIX>SP5 14-1500 UR>OH1 G>EI I1>I0 GW,G>PA PA,GW>ON OH9SIX>SQ2 OH8>SP6 9A>F GD>CN,ON I4>EH7 CT3>I0 15-1600 I9>PA,EA1 S5>OM5,9A G>F,PA GM>PA TA7>DL UR>OK1 F>ON PA>I9,ON CT>IS0 GD>I7 ZB2>I4,I9 I2,I4,F>EH7 I4,I5>EH5 G>SM7 YO7>F UK8OM>ES1CW CT3>I0 16-1700 CN8MC,G,EH5,EH7,ZB2,SP5>F G>DL(t) S5>9A UR>OH2,PA,LX I1,CT3>F,9A,IS0,I2 GW>PA 9H,I9>EA1 YR4,ZB2>DL SP8>LX GW,YR8>ON YO2>9A 17-1800 UR>PA,DL OK2,ZB2,9A,EO6>DL SP8>F KP4EIT>IW9CER SP5,LA>F CT>I4 YO3,SO8>PA EH5>LX YR4>ON GM>9A I0>SM7 DL,CT3,9H>EH5 D44TD>CT1EPC CU3URA>EA7 I0>SM7 I9,S5,YO5>EA4 18-1900 GM,G,GW>HA6 9H,CT3>EA4 EH5,YO9>ON LZ1>SP6 I7,I0>EA5 EY8MM>OH2RF,9A5ST EO6>I0 EH5>PA CT3>SP2,EA5 UR>LX 19-2000 PA>OZ G>SP6 EH7>F,I1 EH5,CN>F LX>ON FY1FL>CT1EPC,S57RR,EA7KW JX7SIX>OH3 G>PA FJ5DX,FY1FL>CN 20-2100 JW9SIX>OH1 F,GD>PA GW,PA>SP6 I1>S5 21-2200 G>PA,S5 PA>OZ GW>LX TA7>S5 G>EI 22-2300 GW,G,GI>EI GW,GM>S5 23-2400 PA>S5 GM>DL(t,MS)

June 19 0441 OH1>UR 05-0600 G>S5(ms) GD,G,GW>I4 YQ4>SP5 UR>OH2 GW>PA GI,SM>S5 06-0700 G>I4,9A S5>SM7 GD>ON ES4>OH2 EH5>EH7 JA7WSZ>YO7VS EX8MLT>OH2 CN8MC>I0 I7>S5 IS0>EH7 07-0800 9H>CT PA,9H>LX UR>OH2,I4,DL LX>DL EH3,F>EH7 G,F>PA UR>9A,I2,I1 OH1>OH2 GD>DL,PA JA1BVI>YO7VS F,ZB2>HB S5,I4>9A SO8>9H GD>CN 08-0900 CN>I8 JH6EMI>9A4K I9,F,GW,PA>CN UR>I2,I8,DL,OK2,OK1 EH7,GI,OK2>EI F>LX YU1>RX3 SV1SIX>EA5 TA7>OK1 I2>I3 ON>PA HB>CN 09-1000 JA5AIE>OH2RF UR>DL,F,I9 GW,F,GB3MCB,GB3BAA, I8>EA7 SM5,PA>CN OH9,YO2,9H,G>DL S5,GM,GI,I4>9A G>OH1 EO6>OK1 JA5AUC>ON4GG 9A>LA OH3>I1,PA CT>I8 GD>I3 10-1100 HB9SIX,SP9>EI G,LA7SIX,9H,GM>DL SV1>EA7,CT GM,GI,GD,OE5>9A I9>ON LZ2>EA5 GB3LER>F G>OH2 I9>PA I2>EA7 11-1200 G,GM>ON GD>OK1 GM>PA,ON,SP2 LA>CN GW>SP5,DL PA,UR,GI>DL UR>PA GM>F,EA1 G>EA1 GM>EA7 PA>EI 12-1300 LA7SIX>LY G>EA7 UR>SM7,LA,SP6,OH6,OK1 GD>EA1,I0 G,GI>F,EI 9H,PA>I9 GM,GW>CN F,PA,EH1>9A CT0SIX>PA F>HB 13-1400 TA7>OK1 I9,CT>DL G>I8 GW>PA GSV1SIX,D>F CT>9A I2>I1 PI7SIX>CN GD>PA,DL,I9 14-1500 EH5>I3,DL EH6>PA GI>CN SV8>I3,DL I9,EH1DVY,HB,F>9A CN8MC,I0,EH6>DL SV3>I4 SV1SIX,GB3MCB>F Z3>I1,F I9>SP9 EH1>HA5 15-1600 GW>SV1 SV3,CT CT,I7 CU3URA>I5 16-1700 5T5SN>GW1MFY,PA3EWP,G3ZSS CT>F F>EA4 EH5,EH4,EH7,CT>DL S5>EA1 SV3,SV8>I1 I8>PA EH1>OE5 CN8MC,G,EH1>I5 DL,F>I8 F>CN 17-1800 F>I0 EH6,OH3,ES2>DL CT,I9>ON I9,9H>PA,CN OH3>I5 SM3>YU7 EH3,OH3,OH4>9A CT>OE5 EH3>I3 9H>HA5 SM3>RU3 SCV1SIX,F>I0 UR>ES6 A61Q>F6FHP,OH3XR,IZ1EPM,EA3AKY ER3>OH3 A71EM>I0JX,I0KNQ,IK0FTA,F6FHP,IW9HEX SM4>OM5 EH9>PA I0>SV1 PI7SIX>EA5 A45XR>5B4FL 18-1900 5T5SN>M1SMH,G0JJL,G3SED SV9>I0 GB3MCB>EA7 EH7>PA 5B>9A 9H,EH1DVY>S5 CN,EH7>PA YO4>SM3 CU3URA>EA3 CN8MC>DL ER3>SM0 19-2000 GB3BAA,CU3URA,G3SED, G7SVF,ON4AXU>5T5SN JX7SIX>SM0 S5>9A I3>OH3 2029 DL>SM7 2141 I>OE1

June 20 0651 F>I3 07-0800 OH7>OH3 OD5SIX>9A 08-0900 SM7,SP3>RX3 09-1000 UU5SIX,OD5SIX>OH3 SV1>RX3 UR,OD5SIX>OH3 OH3>SP3 YO7>PA 10-1100 GB3LER>OE5 UR>SP9 GB3BAA>SP2 5B4CY,OD5SIX>I9 YO3KWJ>PA 11-1200 LZ2>OZ SV5SIX>I9 SV1SIX>I0 12-1300 SV8>OE3,I4 TF3SIX>SV1 UR>I0,OH5 I9>SP9 13-1400 LZ2CC,4N1ZNI>I5 I9>SQ2,OE3 UR,SV1SIX>HB YO3KWJ,LZ2>I5 SP9>I8 LZ2>I1 YT1>I5 SP5>I9 IQ4AD>YO7 DL>PA 14-1500 JX7SIX>PA TF3SIX,LZ2CC>EI 15-1600 I9>EA8 OD5SIX>I9 CN8MC>I9 16-1700 EH8>YU7 4X>YO7 UT5G>DL IT9X>HB 17-1800 UR>I0,I4 EH8,EH9>I9 EH8>EA5,IS0,9H,I0,EA7,I9 UT5G>S5 UN8GC>S5 YO4>I4 EX8MLE>S57RR 4X>OZ,9A 4N1ZNI,YU1EO>SM7 YO3KWJ>PA 18-1900 9A>OZ YO4>DL,I4,PA,I8 FM5JC>9H1XT UR>9A 4X>SP2 SV1SIX,IT9X>SP6 EH8>EA5,I5 Z3>OM3,S5 OD5SIX>SV1 T9>SP2 LZ4,YO7>I8 Z3>9A 19-2000 SV5SIX,Z3>S5 EH8>CN,9H CN>I9,YO7 I8>YO7 EH8>EA4 SV1SIX>9A Z3>I2 CU3URA,CT0SIX,CT1FFU,CT3KU,CN8MC>5T5SN SV1SIX>I1 OD5SIX>I5 EH8,CN8MC>SV1 21-2200 5T5SN>DL1EL JX7SIX>OZ,DL 22-2300 9H>EA8 JX7SIX>EI W3UR>CT3DL

June 21 05-0600 YO7>UR I0>9H 07-0800 UT5G>OE6 UR>I0 YO3KWJ>I0 08-0900 GB3MCB>F 09-1000 PA>UR OY6SMC>OH1 UT5G,UU5SIX>SV1 JX7SIX>OZ 10-1100 9H>I9 JW5SIX>OH5 LA>EI OD5SIX>I4 JX7SIX,JW7SIX>PA 11-1200 JX7SIX>DL OD5SIX>HA5 LA,I8>F OY6SMC>OZ 12-1300 OH1SIX>EI OY6SMC>DL OH6>EI,F ES2,SM5>EI LA>F G>OH6 13-1400 5T5DUB>EI5FK CU3URA>EI 14-1500 TF3SIX>EI EI>F 15-1600 9H>YO7 SV1>OE3 LZ1JH>I0 SV1SIX>DL,SP9 SV5SIX>DL 16-1700 SV1>3 OD5SIX>9A YO3KWJ>I0 YO4>I1,I3 ES0>I0 SV1SIX,SV8,LZ1>DL 17-1800 EY8MM>I4EAT,S57RR FJ5DX>F5PAU UT5G>9A EH1DVY>I5 9H>YU7 KP4EIT>F5PAU CU3URA>I0 18-1900 9H>YO7 S5>9A I9>SV1 W2CNS>9A4K(eme)

June 22 05-0600 OD5SIX>SV1,HA5,9A 5B4CY>SV1,HA5 UR>SV8 06-0700 OD5SIX>HA1 4X>9A OH9SIX>DL OH3>DL,SP6 OH5RAC>SP6 07-0800 I5>LA 5B>SV1,9A 08-0900 JX7SIX>EI YU1>9A OH9SIX,LA7SIX>SP2 4X4SIX>SV1 GB3LER>OH5 09-1000 GM>OH5 OH9SIX>PA,SP6 JX7SIX>EI OH8>OZ LA7SIX>OZ,SP6,DL JW5SIX>ES1 LA>SP2,PA OY6SMC>OH5 10-1100 OH9SIX>LA GB3LER>OH5 11-1200 GB3LER>OH7 LA>ES1 OD5SIX>YO7 12-1300 ZC4>YO5 13-1400 CN>9H OD5SIX>I0 4X>YO7,9A,YO4 I9>DL,YO7,I3,SP9 15-1600 4X,I9>9A SV1SIX>I5 I9,I8EMG,I0>EA4 EH6>I8 EH8>I0 16-1700 OD5SIX,IS0,EH8,ZB2>9A I9>DL,OK2,I2,F EH7,I0>I5 CU2>EA8,9A ZA>I1 I0,I9>DL EH7>I3 17-1800 I5>I0 CN8MC,EH8,EH7>S5 I7>I0 EH8>S5,YO7 I0,EH1,EH6>9A EH1DVY>9A,I0 EH8,I0,IS0>ON I7,I0JX,IK5ZUL>EA1 18-1900 IS0>I0 EH1DVY>9A EH8>9H 19-2000 EH8>9A S55ZRS,EH8,I2>CN CN>EA4 20-2100 9H>CN EH8>I0,S5

June 23 08-0900 aurora UU5SIX>OH6 UR>OH5,SM6 RU4>SP9 PA>SP2 09-1000 4X,OH1>YO7 PI7SIX>SP2 GB3LER>OK1 SP4>PA GM>SP9 YU1>OH5 I4>LA PA>YO5 I3,I4>OZ 11-1200 SV1SIX>I4 OD5SIX>SP 13-1400 CU3URA,CU2>EA7 14-1500 CT0SIX,CU3URA,CU2>I9 CU2>EA1 EH8>F 15-1600 I9,CU3URA,IT9X>EA4 CN8MC>I5 EH1>9H 16-1700 I9>EA1 EH8>I4,I9 LZ2CC>9H UU5SIX>SP2,SP5 17-1800 UU5SIX>SM7,DL,SP9 UR>SM0,SP7 EH8>I9 YO3KWJ>SM0 TZ9A>I5ZJK,CT1EPC, 9H1TX 18-1900 UR>DL,OZ,SP9,PA,ON TZ9A>9H1GPI,IW8RSB FM5JC>EA7KW CU2>CT UT5G>PA SM0>EI J68AS>EA7KW ES0>DL YO3>SM0 YO4>SP2 19-2000 UR>ON,PA,DL G>EI PA>ON 5T5SN>CN LZ1>OZ 20-2100 ES0>DL,9A I4>SM0

June 24 06-0700 UU5SIX,UT5G>OZ SV1SIX,IT9X>EA3 YO3KWJ>OH2 OH1,ES2>YO7 LZ1JH,YO3KWJ>OK1UT5G>SP6 OH5RAC>I0 07-0800 YO5>SM0 OH5>I0,I5 UR>DL,9A,PA OH1>I0 ES6>I8 SR9FHA,OD5SIX,UU5SIX>OZ CN8MC>I0 LA>9A OH8,OH1SIX,OH9SIX>SP6 SM0>OE3 ES0>I5,I4 OE5,I5,I4,I3>SM0 08-0900 SM7,ES6,OH4,OH6>OE3 SM0>I5 I0>SM0 OH1>SP6 OH5RAC>I0,OE3,9A OH2>I0 LZ2CC>LA UR>PA,OZ ES0,OH5>DL OH8>I4 YU7,OD5SIX>OZ UT5G>DL,SM0 OH0>YO7 YL2>9A,PA,DL 09-1000 GB3LER>OK1 DL,I5>OH1 OH1>I7 LZ2>SM0 Z3,OD5SIX,ES0>DL SP5,YL2>I3 UR>DL,OZ OD5SIX>PA OZ>I8 YO7>PA YL2>EA3 OH3,OH2,YL2>I0 ES1,ES0,5B4CY>DL ES0>I8 G>OH1 SP2>OH6 OH3>SP6 10-1100 OH2,LA,PA,OZ>I8 YL2>EA3 SP9>OH6 UR,T9,YO3KWJ,ES0,YO6,LZ2,I8EMG>DL SP2>OE3 9A>SM7 LA>9A I0>OZ FX4SIX>SP9 11-1200 SM7>I8,SV1 OZ,SP2,PA>I8 G>OE3 I6,I9,I7>PA I5>SM7 I0>OZ SP2>SP6 T9,ES0,OH1>DL OH2,LA>9A SV1SIX>DL EH3>S5 12-1300 4N1ZNI>F I3,9A,T9>EA1 I8>DL,PA OH3>SP6 G>I8 13-1400 I7,I0JX>EA1 HV5>F,EA1,S5 EH7,G>9A EA1>I8 ES0>DL I9>PA EH6>S5 VO1ZA>MW1MFY EH6>SP9 14-1500 I0JX>EA3 I9>EA1 9A0BHH,I5MXX,S55ZRS, IK5ZUL,I0>EA5 EH1DVY>I9 CN8MC>S5 15-1600 A45XR>OH7RJ,OH3UW,ES1CW 5T5SN>S57RR 16-1700 A45XR>OH3TM,SM0BSO, OH1LEU,LA6PV,IW8RSB 17-1800 UR>S5 A45XR>SM0BSO,ES1CW UR>LA,I4 ES0>I0 YO2>YO7 EH1DVY>DL UT5G>SM0 18-1900 DL>I0 19-2000 9H>I9

June 25 05-0600 UR>SV8 UN8GC>5B4FL LY0SIX>F,EI UU5SIX>9H I0JX>LA UT5G>SP2 06-0700 UK8OM>5B4FL UR>9H,9A UU5SIX,UT5G>OH1 OH5RAC>OK1 LY0SIX>EI 07-0800 GB3LER>I4,DL UR>SM0,LA,SP6,9A,9H 08-0900 UR>LA ,SP6 09-1000 ES0>DL GB3LER>F,OH1 OH9SIX>PA OH9,SM2,OH5>DL PA>LX UR>OH6,SM3 OD5SIX>I4 5B4CY>I4 10-1100 ES0>SP6

CN8MC>I0 11-1200 ES0>DL(ms) CU3URA>EA7 SV1>9H EH8>EH5,I0 EH1>EH8 SV1>I0 YT1>9H
CN>I5 CN8MC>I0 12-1300 ZC4>F,I7 I9>9A CU3URA>CN ZA>I5 I8>SP9 ZA>I5 CT3>EA7 13-1400
9H>9A CU3>CN I9>OE3 SV1SIX,SV8>HB CU2>9H CO8DM,HI3TEJ>EA7KW CN>I9 14-1500
SV9>YO4 OD5SIX>9A W4SQ>EA7KW 5B>I0,I5,9A,SP6 I0,I1>I5 9H>EA4 15-1600 OD5SIX,I4>9A
17-1800 SV3>EA7 UT5G>I0 SV1SIX>DL 5B4CY,OD5SIX>SP9 UR>I8,I7 EH7>I7 CT3>I0,EA3,I7
I9>EA4 18-1900 S55ZRS>CN CT0SIX>S5,PA EH8>PA CT>EA3,DL T7,UT5G>EA7
I5,9H,EH8,PA,CU3URA>EA4 CN8MC>IS0,PA EH8>I0 EH7>F,IS0,EA3,S5,PA I5>ON ZB2>EA3
F>CN 19-2000 EH1>HB EH1DVY>PA CN>IS0,S5 LX>CN J68AS>9H1XT,G3SED,IS0GQX,
G7RAU,CN8LI EH8>ON J3/K5AND>EA7KW,IW9CER,IS0GQX,I4LCK HB>EA4 20-2100
EH3>EH8 J68AS>EA3AKY 21-2200 J3/K5AND>EA7KW

June 26 06-0700 UR>9H,OH1,DL,SP9 4X,SQ9>5B 5B>DL 07-0800 5B,UR>SV1 5B,OD5SIX,YU1>9A
UN8GC>5B4FL UT5G>OZ UR>OH7,SV5,LX OZ6VHF,YO3KWJ>LA YU1>RK3 08-0900
OD5SIX,UU5SIX>SP9 YO3,LZ2>LA YO9,9A,PA>SP9 ER3>PA UR>I6,SP9,OE3,
9A,PA,DL,RK3,SV1,ON,OH8,SM0 I3,I4>I6 IS0>EA7 I0,I3>9A I0>ON 09-1000 YO7>OH1
UR>PA,LA,OH1,9A UT5G,YO3,PA>DL SP9>ON YO3>SP6 LY>HB YO3KWJ>DL,PA OK2,LZ2>PA
SV1SIX,CN8MC>EA3 S5>UR,SP9 TA2>SP9,I8 SM7>9A 9A>PA I4>LA 4X>YO7 10-1100
9A,ZC4,4X,I0,UR>PA I4>SM0 G>I8 I3>I6 ZC4>9A,OE3,S5 CU3URA>EA7 ER3,UR>9A YO4>OE3
LZ2>OK2,DL,OE3 YO7>DL OZ>EA3.I8 SV1SIX>DL SV8>SV3 ER3>I2 YO3>LA 11-1200
ZC4,SV5>SP9 UU5SIX,UT5G>HA7 LZ1>PA UR,SP8>SV3 CU3URA,CU2,GB3BAA>EA7 9A>YU7
SV3>LZ2 OE5>OK1 ZA>SP9,DL UR>9A,ON SV5>HA5 I5MXX,OD5SIX>HA7 LZ2,SV1,ES0,
I7,9A,HB0>DL OD>9H ZC4>LZ2 SV1>PA 12-1300 SV1SIX>DL OM3>HA7 KP4EIT>EA7KW
HB0>YO7 J3/K5AND>ON4AOI UU5SIX>OM5,DL OD>YO8 13-1400 SV1SIX>I0 9H>F ZC4>9A,I4
I6>I0 LZ1JH>PA V31IV>EA7KW,EA3AKY 14-1500 C31>EA1 J68AS>5B4FL,CT1CBI 9H>9A,OE3
SV1>I8,I5 T7>SV8 15-1600 SV9>I5 J68AS>I0JX UU5SIX>S5 I8,9H,I9>9A SV1>EA3
5T5SN>EA8EE CN>ON HB9SIX,ES0>DL EH8>EA4 LZ1,IS0>EA7 LZ1>IS0 SV1SIX,CU3URA>IS0
16-1700 ES0>DL OH5RAC,DL>RX3 OD5SIX>9A CN>I5 9H>EA4 UR>9H 17-1800 FX4SIX>CN
UR>9H 9H>EA4 OD5SIX>OH1 18-1900 J68AS>G8BCG,CT1GFK,EA4SV GB3MCB>DL CN>EA3
J3/K5AND>EA7RM,S57RR FJ5DX>CT1EPC 19-2000 V31IV>EA7KW FJ5DX>IW9CER
J68AS>G8BCG,9H1XT,IW9CER I9>EA5 FM5JC>9H1XT,EA3AKY LY>SP2 PA>LY
J3/K5AND>EA3AKY 20-2100 ES0>SM0(t) 21-2200 ES0>SM5

June 27 0045 ZS6NK>G4IGO(eme) 0445-6 GB3BAA,GB3MCB>I0 0651 CT0SIX>EA8 08-0900
OD5SIX,5B4CY>HA5 GB3LER>SP3 G>I5(jt) SP2>SP6 09-1000 LX0SIX,PI7SIX, OH1>DL
GB3BAA>I5 10-1100 I8>DL,PA SM3,OH9SIX>PA OH3>DL,PA 11-1200 CN8MC>I5 4X>ON
OD5SIX>SV1,DL 5B4CY>SV1 LZ2CC>DL 4X4SIX>9A 4N1ZNI>5B OH9SIX>DL 12-1300
OH7,OH8,LA7SIX,GB3LER>DL G>I0 CT>OE5,PA 13-1400 EH1DVY>I0 CT>I2
CN8MC,5T5DUB,CN,EH5,EH7>DL 5T5SN>DL8PM,G0CHE, PE1HWO EH1DVY,CT0SIX>I5
I0JX,I8EMG,IK5ZUL>ON F,G>EH5 CN>I4,PA 14-1500 5T5SN>DL8PM,ON4AOI SV1SIX>DL
GB3MCB>I0 CU3URA,CN>I9 CT0SIX>PA CN>S5 PI7SIX>IS0 15-1600 EH6,PA>DL
4X4SIX>RV6YY CN8MC>IS0 I1>EA1 GB3MCB>I0 CY9SS>EA7KW V31IV>IK0FTA
CU3URA>SV1(3xEs) SV1>EA5 16-1700 EH1>I5 CU3URA>I0 EH5,EH6,EH1DVY,ZB2,EH8>DL
EH5,EH6>PA I9>I3,S5 EH8>F CN8MC>SV1 17-1800 FJ5DX>F5PAU,G0CHE,IW0HEX,
IW1AZJ,YU7EF,SV1DH EH1>I0,EA8 EH1DVY>SP6,OE5 EH8>DL,9A,OE5
EH5,CT3,EH3,EH8>9A CT3>SV1,DL,F,PA CU3URA>DL CN8MC,GB3MCB,GB3BAA>IS0 18-1900
PI7SIX>IS0 EH8>OE5,F,PA EH5>SP6 EH6>DL,PA,9A EH1DVY>SP6 CU3URA>S5 CT3>DL
EH3>EH8 J68AS>S57RR 19-2000 WH1>EH8 EH6>DL,ON EH1DVY>9A CU3URA>F
J3/K5AND>G8BCG CN>I3 J68AS>IZ5EKV,I0WTD,F6FHP,G8BCG,EA3AKY, I4LCK,IK4DRY 20-
2100 J3/K5AND>F6HRP CT0SIX>9A J68AS>MW1MFY,G8BCG, IK5RLP,G7RAU,CT1ILT,I0WTD
CU3>S9 KP4EIT>EA5FX WP4U>MW1MFY,CT3DL 21-2200 J68AS>I0WTD,IK1RLI,IK1YWB,
EA3AKY V31IV>F8DBF KP4EIT>EA7RM,EA7KW J3/K4AND>EA7KW

June 28 05-0600 UR>9H 06-0700 SV1SIX>UR,OK2 07-0800 OD5SIX>UR I0JX>EB1 08-0900
SV1SIX>SP9,9A,OE3 CT0SIX>I0 CN8MC,SV5SIX,EH1DVY,EH7>9A EH1DVY>I0 09-1000

HB,IT9X,S55ZRS>EA5 CN8MC>DL,F SV1SIX>S5,I1,SP6 CT0SIX>I0 OH9SIX>PA 10-1100 SV1SIX>SP9 I9>I0,YO7 CU3URA>I9 11-1200 CN8MC>9A SV8,LZ2CC>I4 12-1300 OZ>PA EI>EA5 EH7>ON 13-1400 ON>PA I9>ON,PA,HB,EA2,SP6 SV1SIX,I9>DL 5T5SN>9H1TX J3/K5AND>I4EAT LZ1>I4,SP9 14-1500 SV1SIX>DL,PA IS0,IT9X>DL YU1>EA7 EH7>OM3,I5,DL I9,LZ1,IS0>PA EH6>I5,OE6,SP6 J3/K5AND>F8OP YO3KWJ>9A 15-1600 UU5SIX>9A J3/K5AND>IK2GSO,IW9CER,MU0FAL,S57A,EA4EOZ,9A6R,9A1CCY,9A5ST,DL7QY,DK1MAX UT5G>I5 EH1DVY>OE6 EH6>EI,SP9 LX0SIX>I0 KP4EIT>ON4GG CT0SIX>EI FM5JC>F8OP,S57RR,DL7QY YU1>EA4 F>ON I3,4N1>EA4 I8>OZ F>I0 16-1700 I0JX>OZ FM5JC>DK1MAX,F6HRP,9A7V,9A4K,ON4GG J3/K5AND>DJ6MB,F5JNX, IK0FTA,F6HRP,F4TTR,F5TND,DL9NDC,9H1TX GM>EA4 CU3URA>DL I6>PA 9A>OH2 EH5,CT>EI 17-1800 J3/K5AND>F6HRP,EA7RU,ON4GG,DL8PM,G3SED, F5CWU,G0CHE,ON5PU,G8BCG,IW9CER,G7RAU,DH6JL,I8LPR,PA0JMV EH8>I0 9Y4AT>F6HRP SV1>DL G>ON FM5JC>IW9CER UR,I7>DL 18-1900 UR,EH7,EH5,YU1>EA8 UR>9A,I3 EH8,SV1>9A 5B>OE3 PI7SIX>IS0 J3/K5AND>DL9USA,ON4AOI,DK2EA, SP6GWB,EA7KW J68AS>G3IBI,G8BCG Z3>DL EH8>I3 19-2000 G>OZ J3/K5AND>I4LCK,CN8LI,S57RR,9A8A,G8BCG SV4,I3,Z3>9A OZ>PA 3A>I4,I0 G>EI,OZ,PA I9>9A 20-2100 Z3>I1,DL I3,5B>9A F>SC1 I3>I8 IT9X>I2 J3/K5AND>YO7LXU IQ4AD,IZ1EPM>YO7 I9>DL I7>I2,DL 9Q0AR>DK1MAX,OK1FFD 9H>9A 21-2200 9Q0AR>DL9USA,OE5MPL I7>PA,I3 9H>OE5

June 29 05-0600 LY>LA(ms) 06-0700 GM>F(jt) G>F(jt) 07-0800 OZ>F(jt) 08-0900 LA>OH3(jt) SM5>OZ(t,jt) 09-1000 CN8MC>F,9A CU3URA>I0 1016 CU3URA>I0 1126 CN8MC>I5 12-1300 CN8MC>F UU5SIX>OH5 13-1400 CN8MC>PA,9A EH7>PA,I5 I0>F CN>I0 14-1500 EH7>OZ,9A,I5,SV3 CN>DL,9A CU3URA>DL,I5 CN,CT>SV1 CT>PA EH6>8H CN8MC>S5 CT3,CN8MC>I0 I8,SV1>EA7 15-1600 CU3URA>DL EH6,CT3,CT,EH5>9A EH1DVY>EI TT8M>F5TND,G4IGO CN8MC>SP6,DL EH1DVY>F,SP6 CT3,EH7>9A EH5>OE6 EH7>SP5 CT3>PA EH6,SV1>EA7 16-1700 4N1ZNI>OH5 ZB2>F,I9,DL EH5>EI EH7,EH5,YO8,UR>DL I5,SV8,9A,CU3URA>PA GD>I4 LY,I9,GB3BAA>9A G>I8 IS0>LA EH1DVY>EI UR>EA7,I3 KP4TB>EA7KW,9H1TX,IW9CER 17-1800 CT>SP6,SP9 YO8,EH1DVY,I8,CU2,CU3URA>DL IT9X>F YO8>SM0 IS0>OM3,LX EH6>DL,OM5 EH5>I8,OH3 UT5G>SM0,DL G,ES2>EA7 YU7,YO8>OH6 GB3BAA>I5,YO7 UR,CT3>PA V31IV>DL9USA OH2>EA5 J68AS,5T5SN>MW1MFY KP4TB>9H1TX 18-1900 J68AS>F8OP,IK5MEN,YU7EF,9H1TX,IK1RLI,PA3ECU,DJ3TF YU7>SM1 IT9X>F 5T5SN>M0BJL,EA7RU CU2>DL KP4TB>EA6AZ,IK0FTA HB9SIX>EI G>I0 CT3>EA6 UR,CU2>DL CT3>ON,PA J3/K5AND>IZ6EKY,IK1RLI,MW1MFY, PA3ECU,ON5PU UT5G>OZ FM5JC>EA7KW F>EI 19-2000 J68AS>F5JNX,EA6NB, PA7MM,EA5FX,DF4PL,DL8PM F>EI J3/K5AND>G8BCG, DG5YIL,ON4AOI,G7RAU, ON6ZK,DK5WL,DF4PL,PA2V FM5JC>EA7KW, F5TND,DK1MAX,9A4K, YL>I2 WP4NIX>CT3DL KP4EIT>CT3DL,DK1MAX CT>EI G>EA1 ON,GB3BAA>9A UT5G>SM7 VO1ZA>G8BCG FY7THF>G3IBI,G3SED EH1DVY>SP6 CY9SS>F6FHP 20-2100 VO1ZA>F6FHP J68AS>G8BCG,IK4DRY,G3WOS,DL9USA, M0BCG, ON5PU,PA4PA,G1IOV,ON4GG 9Y4AT>DK1MAX,G4PCI FY7THF>G8BCG,G3IBI UR>I2,DL I0>I5 CN>CT3 JY>9H J3/K5AND>CT3DL,SV1FJA,9H1TX,EA7RM, GI4SJK, IK0FTA,EA5FX, CN8LI,DK5WL,OK1FFD 21-2200 OD5SIX>9A VO1ZA>F5TND J68AS>OZ2KW CN>ON FM5JC>F6HRP G>9A J68AS>G0FYD,ON4GG,G3IBI,EI5FK J3/K5AND>DL7QY 9Y4AT>MU0FAL NP2/W9UI>F6BKI, CT3IA TA2>9H F>9A FY7THF>G4IGO 22-2300 8R1RPN>DL8YHR,F6GEX J3/K5AND>F5TND, G3SED DL>EA4 J68AS>DL7QY,G8BCG,F5TND I0>ON SV1SIX>5B FY7THF>G3IBI

June 30 05-0600 LY0SIX>I1 OD5SIX>I4,9A UT5G,LZ1JH,YO3KWJ>9A G>I4 SV1SIX>OK2 06-0700 YO7>I4 G>OK2 OD5SIX>HA1 I0JX>OZ SV1SIX>8A,SP9,DL SV3>HA5 SV5SIX>9A GB3IOJ,GB3MCB,F>DL F>SP9 SV8>YO2 Z3>OK2,SP9 IQ4AD>OZ 07-0800 I7,I9>SP9 Z3,SV3,UT5G>DL I8>SP9 SV8>LX,DL SV1SIX,I8EMG>SP6 I9>9A GB3MCB>OZ 08-0900 I9>LZ3 SV1SIX>OZ,S5 CU3URA>I5 GB3BAA,GB3IOJ>OM3 I8EMG,CU3URA>I5 EI,OD5SIX,GB3LER>I0 I9>HB SV1>HA5 PI7SIX>EB1 GB3BAA>EB1,9A SV5SIX,GI>9A GB3LER>F 9H>DL EI>PA 09-1000 G>PA EI,IZ1EPM>9A ON,SP9,GM>EB1 EA1DVY,OZ,UR>DL EH2>SP9 GB3BAA,F>I5 EH6>YO7 TT8M>PA2M,9A5ST,9H1TX 10-1100 TT8M>DL7QY,DJ5MN, OK1ADM,

5B4FL,SP6GZZ,G4IGO,ON4GG G>I5 GM>EB1 I9>OZ,OE1 IT9X>S5 IZ1EPM,HB9SIX>OH5
 OD5SIX>9A 9H>DL,OE5 11-1200 TT8M>PA2M,DL7CM, SP9,OE5 I0JX>OE5,PA SV1SIX>PA
 I9>OE3 OH9SIX>OE5 12-1300 GB3BAA>I8 I9>OZ,DL,OE3 CU3URA>EA7 OM3>I9
TT8M>DK1MAX,IW7EBA,ON5PU CT3FT>F,9A SV4>DL 13-1400 I8>I3 G>I8 SV1SIX>SP6
 EH1DVY>DL OD5SIX>YO7 TT8M>PA2V J3/K5AND>LZ1AG I9>OM3,9A TT8M>9A5ST SV3>DL
 I8>I0 5T5SN>OK1FM,G0CHE I6>EA7 I8EMG,Z3>PA 14-1500 5T5SN>9A5MT
J3/K5AND>DL7QY,DJ4PI,DL3AT I8>HA5 G>I8 UR>I8,SV3 IS0>9A TT8M>I4LCK,
 PA4PA,PA2M,DL0RW,IZ5EME,DK2EA J68AS>DL7QY,DK2EA,DJ4PI A45XR>MU0FAL SV2>DL
 UR>I7 J3/K5AND>DK1MAX 15-1600 LZ1>UR TT8M>DJ9KM,PA2DB,PA2V A45XR>G4IGO
 Z3>OE3 J68AS>YO7VS,F5CWU,G4IFX OH9>DL OH8>OZ,PA J3/K5AND>SP4MPB,IK0FTA,
 YU7EF,F6HRP 16-1700 J68AS>F6HRP,LZ2HM,YU7EF J3/K5AND>LZ2HM, YO7LXT,IS0GQX,
 IZ5EME,IZ5EKV,G4IGO UR>F UT5G>S5 IS0>OE5,SQ6 UR>9A,EA5 17-1800 J3/K5AND>YU7EF
 18-1900 LX>I8 19-2000 UT5G>I2 20-2100 JW5SIX>LA 22-2300 JX7SIX>LA 2230
 J3/K5AND>CN8LI

50MHz PROPAGATION REPORT FOR JUNE 2005 BY SV1DH

1. Data for all days (30).
2. Relatively good days on: 1,5,8,11(+),14,19(+),25(+),27,28(+),29(+)
3. 48 MHz AF video (9L+3C) on: 4 (A-TEP) (R=3%)
4. 55 MHz AF video (5N) on: NIL
5. " EH8 on: 20,22,29 (2E)
6. " CT3 on: 8,11,25,27,29(+) (2E)
7. " CN on: 2,6,9,18,20,25,27,29,30(1030) (2E)
8. " 7X on: 11,27
9. " JA on: 19(0915-0930 NEs)
10. " A4 on: 1,5,14(2E)
11. " A6 on: 7,14(2E)
12. " A7 on: 14
13. " JY on: 7,14,27
14. " 4X on: 5,7,8,10,14,21,26,27
15. " OD on: 1,5,7-11,14,15,20,21,26,27
16. " 5B on: 1,7,14,20,21,26,27
17. " ZC4 on: 26
18. " KP4 on: 29 (1830)
19. " J3 on: 28(1715-1845),29(2000),30(1600)
20. " J6 on: 29(1900-2000)
21. " CU on: 11,27,29(3E)
22. " CT on: 11,19,25,27,29(2E)
23. " EH on: 2,8-11,14,19,24,25,26,27,29,30
24. " EH6 on: 8,22,25,27,29
25. " IS on: 1,3,8,11,13-15,17,20,22,25-30
26. " 9H on: 1,9,19,25,26
27. " I on: 1-6,8,9,11,12,14,15,17,19-23,25,27-30
28. " T7 on: 26
29. " F on: 2,3,5,8,11,14,15,17,19,28,29
30. " 3A on: 14,28
31. " HB on: 11,17,19,25,30
32. " HB0 on: 20
33. " OE on: 2,5,8,9,11,14-16,19,28,30
34. " G on: 8,11,19,29,30
35. " GW on: 1(2E)
36. " PA on: 4,8,9,11,14,15,19,20,28,30

- 37. " ON on: 9,11,14,17,26
- 38. " LX on: 25
- 39. " OZ on: 1,26,30
- 40. " DL on: 1-5,8,9,11,12,14,15,19,20,21,24,25,27,30
- 41. " SP on: 1,2,3,5,8,9,11,12,14-16,18,20,21,26,28,30
- 42. " OK on: 3,20,28,30
- 43. " OM on: 5,8,9,15,21,28,30
- 44. " HA on: 14,30
- 45. " LY on: 1,5,15,19,26
- 46. " YL on: 19
- 47. " ES on: 25
- 48. " OH on: 1,3,14(2E)
- 49. " SM on: 18,26
- 50. " S5 on: 4,8,11,14,19,26,28,30
- 51. " 9A on: 1,8,12,20,26,28,30
- 52. " T9 on: 8
- 53. " YU on: 19,20,26
- 54. " UA on: 3,20
- 55. " UR on: 1,3,5,6,7,9,10,11,14,15,19-22,25,26,28,29,30
- 56. " ER on: 10,19,26,30
- 57. " YO on: 3,5,9,26
- 58. " LZ on: 26

59. Special events on:

- 1 0243 M1.7 flare+0600 JA3 to M.East 48Mhz video+ 1615-1620 SV1 to OH1 on 144Mhz Es 1845 SP to PY1)
- 3 (1915 G to 9Q Es+TEP + I to EX + 2000 SP to 9Q)
- 5 (0945 UR to EY + 1645 9H+I0 to W4 + 1800 CN to W1)
- 6 (1800 I0 to PY1 + 2000 S.EU to 9Q)
- 8 (1800-1815 SV1 to F on 144 Mhz)
- 9 (1645 CT to CY9 +1745 FM to CT video)
- 10 (1400 DL to KP4+1500 DL to 9Y + ON to KP4)
- 11 (0445 JA3 to ME video+ 1145 SV1 to I1 on 144Mhz+1800-2200 N.EU to many Caribbean, strong!)
- 12 (1130-1500 N.EU to CAR.)
- 13 (0145! JA3 to ME video+ 0830 5B to A6+A7+UN+JA +0930 5B to JA+1845 OH to EX late)
- 14 (0430 EX to BY +0700 5B to UN +1045-1230 UN to JA! +1300 5B to JA)
- 15 (0815 JA3 to ME video +1300 I to EX +1400 UN to JA + 1915 F to EX late)
- 16 (0830 5B to A6+UK + 0930 W1 to EU video +1000 F to VO1/B +1230 9H to VE1)
- 17 (1000 UN to JA+1315 S2 to JA +1730 OH to UN)
- 18 (1530 ES to UK+1700 IT to KP4+1900 EH7 to FM +2015 CN to FM+FJ+FY)
- 19 (0600 UR to JA+0700 OH to EX +0830 OH to JA+ 0915 SV to JA+ ON to JA +1600 EH3 to W0!)
- 20 (1730 S5 to UN+EX +9H to FM)
- 21 (1645 EH7 to KP4+ 1700 I+9A to EY)
- 22 (0700 JA to ME video+2245 EH7 to FM)
- 23 (0600 W1 to LA video AuE+ 1330 EH7 to VE1+ 1730 I to TZ+ 1745 EH7 to W1 + 1830 EH7 to FM)
- 24 (1530 OH to A4)
- 25 (0515 5B to UN +0615 5B to UK+ 1315 9H to CO +1930 9H to J3+J6!)
- 26 (0715 5B to UN+ 0845 JA to ME video+ SV1,3 to UA6 on 144Mhz+ 1230 EH7 to KP4+ 1345 CT+EH7 to W4+V3 + 1415 5B to J6+ 1500 9H to W4 +1800 CT to FJ + G to J6 + 1900 9H to FJ + EH7 to V3 + IT to J6 + 2000 EH7 to J3)
- 27 (1430 CT to CY9 + 1545 EH7 to CY9 + I0 to V3 + 1600-1730 F+I+S5 to FJ + 1900-2130 I+S5 to J6 in-out)
- 28 (1500 F to J3+FM + S5+DL to J3 + 1530 ON+G to KP4+FM + 1615 5B+I to FM + 1715-1845 SV1 to J3 weak + 1800 LZ to CY9 +1845 5B to CY9 + 2045 S5 to 9Q Es+TEP)

29 (1015 I0 to CU/B + 1745 DL to V3 + 1800 G to FY + I to J6 + 1845 I2 to V3+ 1930 ON to V3)
30 (0545 UN to JA+0545-0615 9H to JA + 1000 TT/B to MED+N.EU + 1315 LZ to J3 +
1415 OK to J3 + 1445 G to A4 + LZ+OK to J6)

60. DXCC entities heard/worked during June 2005 : 54 on 4 cont

61. DXCC entities heard/worked on 29th June 2005 : 15 on 3 cont.

73 COSTAS

The Americas

Auroral-Related Propagation

Classifying North American results remains as difficult as ever, due to the frequency with which operators fail to indicate whether contacts occurring during auroral events are attributable to auroral propagation. (Some of the same operators, although clearly operating 'out of area' give no indication of the district in which they are operating /p, or to provide a locator. It is not clear what value they imagine their 'spots' may have. Or maybe they believe that they are sufficiently well known for location details to be superfluous.

It is interesting to see that, although the June 12 aurora produced contacts on both sides of the Atlantic, the event was considerably more fruitful for the North Americans, although it occurred mainly during the European evening but within the US/VE working day. It also reached considerably further south than in Europe.

June 4 19-2000 K0KP>W9(EN44 53a) VE4ARM>W9(EN44 53a)

June 12 18-1900 VE3>W1 19-2000 VE3(FN15)>W1(FN32) W1(FN31)>W8 W8(EN54)>W9(EN82 59a) VE3(FN25)>VE1(FN74 mode?) FP/N6RA>W3(mode?) VE3(FN03)>W8(EN82 mode?) 20-2100 W3(FN00)>W8(EN82 59a) CY9SS>W1 W0(EN36)>W9(EN61 55a) W9>W9(52a) CY9SS>W1 W1(FN44)>W8(EN82 59a) W8(EN82)>W2 VE3(FN25)>W2 21-2200 VE3(FN04)>W2 W2>W9 VE3(FN25)>W2 W0(EN35)>W8(EN82 59a) FP/N6RA>W1(59a) W8>W9(EN75) W8(EN80)>W8(EN82 mode?) W3(FN10)>W8(EN82 mode?) W0(EN26)>W9(EN61 mode?) W2(FN32)>W0(EN10) VE3(FN04)>W9(58a) K0KP>W9 W1(FN43)>W9 W0(EN41)>W9(EN61 mode?) W2(FN02)>W1(mode?) 22-2300 W8(FM08)>VE3(FN03) W9(EM76)>W1(55a) W9(EN41)>W2 W1(FN42)>W1(FN44) W3(FN00)>W1 W8>W4 W3(FN11)>W1 W2(FN43)>W1 W3(FM29)>W1 W3(FM28)>W9(EN82 59a) W8(EM58)>W9(EN70) W0(EN42)>W9(EN61) W0(EN10)>W9(EM58) 23-2400 W9(EN50)>W2(FM29) W1>VE9 W9(EM58)>W9(EN61) W4(EM85)>W3 W4(FM06)>W2(FM29) W4>W9 W0(EN10)>W0 W4(EM67)>W9(EN62) W4(EM78)>W9(EN61) W4(EM87)>W8(EN82 mode?) W7(DN27)>W0 W9(EN70)>W9(EN62 mode?) W8(EN82)>W9(EN62 mode?) W8(EM95)>W4 W4(FM04)>W3(mode?) W8(EM79)>W9(EN62 mode?)

June 13 00-0100 N0UD>W0 W8(EN82)>W9(EN62 mode?) W4(FM08)>W1 W3(FM28)>W1(mode?) VE7>W7(mode?) W3(FN10)>W8(EN82 mode?)

June 17 0210 VE5(DN59)>W7(CN88 55a)

June 23 0558 VE7(CO83)>W7(CN88 58a) 0712 K0KP>W7(CN88 AE) 0940 K0KP>W1(FN42 539a) 10-1100 VE2(FO40)>W1(FN42 539a)

Other Modes

US - and to a much lesser degree - VE operators had frequent openings into the Caribbean and (unlike the Europeans) Central America. Many of these contacts were seen as 'DX', compared with routine inter-W working, and for that reason they are underlined in the text. However, many were unremarkable in propagation terms, arising from single-hop Es, especially for the W4s, but for stations further afield at least two hops must have been involved. Some openings, doubtless attributable to multihop Es, extended to the northern fringe of South America, notably on the 5th, when W1, W2, W3, W4 and W8 reported HK and W3 and W4 also reported YV. There were openings on the 18th between FY and W1 and W7, and between PZ and W1, W4 and W0 on the 25th and W4 and W5 on the 26th. YV was contacted from W4 on the 27th. In all, a rather slender crop for June.

More notable openings involved 5T5, which was into W4 on the 5th and 18th and W1, W3, W4, W5, W9 and W0 in a fine opening on the 20th. 5T5SN was also reported in Martinique on the 18th. KL7 openings were reported on the 1st (W7), 22nd (W6) and 27th (W7) and there were contacts with KH6 from W6 and W0 on the 4th and W0 again on the 15th. The ever-vigilant K0HA reported JA6VU on the 29th but the opening between JA and W7 and VE7 on the 27th, covered in JA1VOK's report, went 'unspotted' by US and Canadian operators. However, a multihop opening between VR2XMT and W4 was noted on the same evening (PST).

As far as is known all contacts mentioned above and in the detailed listings have been assigned to the operator's current call area. Where this could not be ascertained some have been omitted. The detailed listings below undoubtedly include many double or triple hops within North America but, except where signaled by the operator these have not been flagged.

One apparent disappointment was the CY9SS expedition, of which very little was heard in Europe, which is not surprising, but which was also not much reported from the US and Canada either. K2MUB seems to have logged them frequently but signals did not often penetrate deep into the continent.

June 1 00-0100 W7>W8,W9,W7 W6>W2,W9 V31LZ>KY5R,KJ4P,K4KJZ CO2OJ>N5UXT W7>W0,W5 W0>W5,W7 W9>W9 ZF1EJ>K8WK W1>W5 KG4WW(Guantanamo)>W5 VE3>W4 01-0200 ZF1EJ>N4HL,K4KWK.N5UXT W0>W7 V31RA>N4LGY,AG4TO W0MTK,W7,W6>W9 WB0RMO,N0LL,KA0CVDN,K0ETC,W3,K0KP,W8,VE5>W7 W0>W5 W6>W8 XE1>W0 02-0300 VE3,W9,W0,W7,W8>W7 XE2>W8 W7,VE7>W5 W6>W9,W3 W8>W8 03-0400 VE7,W0>W0 W7>W8,W7,W0,W4 W9>W5,W7 XE2>W5 W6>W7 04-0500 W6>W7,W9 VE4VHF,VE4ARM,W5,W7>W7 W7,W9,W0>W9 NL7Z>W7 05-0600 W0>W7 K5AB,VE7>W7 06-0700 KL7NO>W7 0852 VE6EMU>W7 12-1300 W4CHA>W1 W5>W4 K4AHO>W8 W3>W5 13-1400 W4>W9 K0UO,W4>W5 14-1500 W5>W0 N3LL>W3 WB0RMO>W7 W5>W3,W9 ,W4 15-1600 W0>W7 W7>W9 K0ETC>W3 VE6>W6 VE3,W8>W5 16-1700 W0>W4 W7,W9>W9 VE6>W0 48239,48250,49739>W2 17-1800 W9>W3 W0>W7 VE6>W0 18-1900 W0>W7 1945 W7>W6 20-2100 VE4ARM>W7 23-2400 VE6>W7

June 2 0249 WB0RMO>W3 0325 W0>W3 0441 K0KP>W3 0546 WB5LLI>W9 1100 VA2MGL>W2 14-1500 W4>W9,W3 W4CHA>W4 15-1600 W8>W9 W3>W3 19-2000 K5AB>W3 KS5V,XE2OR>W4 2243 XE2OR>W4 2333 W3>W3

June 3 0358 W3DOG>W5 04-0500 W3DOG>W3 W7>W5 13-1400 W1>W4 W4>W3 14-1500 W4>W9,W5 18-1900 N0LL,W8,W4>W5 W4,W5>W3 W0>W4 1951 W5>W9 20-2100 W5,W9>W9 21-2200 W4>W9

June 4 0132 W9>W9 06-0700 W9>W8 W0>W4 20-2100 W0,KD6QAI/KH6>KB6NAN 21-2200 KD6QAI/KH6>KB6NAN,K0YW,NK6R KH6IAA>K0YW HK3SAN,YV4AB>FM5JC 9Y4AT>K4RX,KP2L PP5AR>YV4FJO 22-2300 FJ5DX>FM5JC HK4SAN>WP4NIX

June 5 00-0100 W6>W4 W0>W9 W7>W4(2xEs) W0>W5 01-0200 W6>W3,W8
W0,W4,W7,XE1,W8,W5>W7 W9>W6,W1 K0UO>W4 W2>W1VE8BY>W8 W5>W9 W5RP>W3,W4
02-0300 W5>W4,W5,W7 VE6,WB0RMO,N0LL>W7 W9>W5 03-0400 W3>W4 1107 48250>FM5JC
12-1300 48250>W4 5T5SN>K4CIA PJ5NA>N4CC FG5FR>K1SG W4>W9 W5>FM5JC
V44KAJ>K4RX 13-1400 FG5FR>KM0A,KG9Z,K8LEE,N2WB,K5AB,WZ8D KP4>W0,W4
PJ5NA>N2WB,K4RX C6AFP>K8LEE PJ2BVU>K1SG 9Y4AT>AK3E W4>W4 W8,W4>W5
4U1UN>W3 14-1500 4U1UN>W4,W1 K5CFM,4U1UN>FM5JC W4>W1 9Y4AT>K0HA W4>W3
W8,W5>W5 W9>W9 FM5JC>AA5WH,AJ9C N2WQ>KP3T VE3>W2 K5AB>W9 N3LL>W3 15-1600
4U1UN>W5 KP2BH>N2WB HI8ROX>NV8V,N2WB,N8OC,K0HA 9Y4AT>K4MQG FM5JC>N3OC
KP4>W9,W0 W4SO>FG1GW W2,W8>W5 W9RM>FM5JC N3DB>YV1DIG 16-1700,W4>W7
W9>W5 CO8DM>K0HA,K4CIA NP3CW>W0PB 9Y4AT>AJ9C,N5UXT KP4>W0 FM1BY>K9HMB
XE2>W8,W4 FG5FR>K9CS,,KM1E HI8ROX>N0JK FM5JC>K9HMB,KE4OYS 6Y5IC>K0YW 17-
1800 FM5JC>AA5AU,HP23AT,N3DB,NJ2F/4,K0ZT,W0LD,K0RI W3>W5 9Y4AT>HP2AT,K0HA
CO8DM>AA5AU W5>KP4 HI3TEJ>N2WB W4,W5>W2 4U1UN>W2,W3 W5>W9 FM5AD>AB3AH
6Y5IC>K0HA FG1GW>W3UR W4>W3 HI8ROX>K0HA W4>KP3 J69EN>K4RX 18-1900 W4>W3
PJ2BVU>W2YR,N4DB YV4AB>N3DB W4>W0,W9,W1 9Y4AT>AK3E 48242(EU)>W7
K4AHO>W3 VE3>W4 W5,W3>W3 W1>W1 HK4SAN>W1JJ N1DL,K4EPS,J69EN>HI3TEJ W2>W2
6Y5IC>K1TTT 19-2000 W0>W9 HK4SAN>K4RX,N3DB,N2RD,W3MEL W0>W0 PJ2BVU>K2ZD
KP4EIT,YV5IAL,N3DB,K1GUN,HI8ROX>HP2AT HK6PIJ>HP2AT,FM5JC,N3DB W5>W9,4
K6FV>VE6 W7>W4,W9 9Y4AT>VE1ZZ 20-2100 HK6PIJ>K8WK,N3DB W7>VE6 W0>W9
K0EC,W3>W3 W8,W4>W1 C6AFP>WZ8D XE3PNH>FM5JC,W5 W8>W3,VE3 YV4DYJ>N4BAA
HP3XUG,VE2PEP>HP2AT W0>W9,W0 J69EN>WP3YM,K1MS FM5JC>AA6YQ/1 4U1UN>W3,W5
W7>W9 KL7GLK/3>W0 21-2200 W2>W4 W4,W3>W3 W9>W7,W4 HI3TEJ>AK3E,K3TW
PJ5NA>FM5JC VP9GE>K0HA(2xEs),KA2AEV,K3HX FM5JC>AK3E PJ2>FG 22-2300
YV4DDK>K3OO FM5JC>K3OO,W3LPL,WA4JQS HK4SAN>WZ1V,N3DB W4>W4,W3
PJ2BVU>AA6YQ/1,W4SO W5,48242(CT)>W4 YV5IAL>K4QI XE1>W5 W2>W8

June 6 00-0100 W4>W1,W3,W7 FM5JC>AI9L W0FY,N9NS>FM5JC W5>W4 W5RP>W7 W8>W3,W5 ,W4
W9>W5 KP2BH>W9 W5>W6 KS5V>W5 01-0200 W8,W0>W3 W5>W5,W4,W7 W6>W4
W4>W1,W7 W8>W5 W5RP,W5HN>W9 02-0300 XE1>W9,W5 W4,W0>W5 W5>W7,W6
W0,W2>W3 XE2,W5>W4 W4,W9>W7 03-0400 W0>W7 K5AB,W9,W0>W7 10-1100 KP4>W4
KP3A>W4 11-1200 KP4>W4 KP3A>W1 12-1300 CO8LY>W3UR,N4NN,K4BI KP4>>W3
PJ5NA>K4MQG,W5UN,N4NN,N5UXT,AA5AU 13-1400 CO8LY>KT4U,VE2QRA,N4EKG 14-1500
CO8LY>KI4IH,K1MS,N8VHF, K1DAT,W4DUP,KB4TCU,K0HA KP4>W2,W4 9Y4AT>K2MUB 15-
1600 CO8LY>K2MUB PJ5NA>K0HA,N3DB W7>W3 KP4>W0 16-1700 VE4>W5 KP4>
W0,W4,W8,W3 W7>W7,W5 17-1800 W7,W5>W7 W0>W4 W4,VE5>W5 18-1900 ZF1EJ>KN4F
CO8LY>N4NN,N4JVP W0,W7>W7 W5>W6 19-2000 CO8LY>K4CIA,K4QI W6,XE2,W0>W7
XE2,W6>W6 W7>W5 20-2100 XE2,W5,W6>W7 W4>W3 22-2300 FM5JC>K4RX 23-2400
XE1>W3,W5

June 7 00-0100 W4>W1 W3>W4 01-0200 W5,W6,W7>W7 W0,W6>W6 02-0300 W0>W7
W6,XE2ED,VE7,XE1>W7 VE2,VE1>W4 XE2>W6 03-0400 VE1>W4 CT1FJC>WO4DX(0256) 03-
0499 EH7RM,EH5RM,CT1FJO,CT1EAT>WO4DX(0310-7) W7>W6 VE3>W4 XE2ED,W6>W7
V31KG,XE1,CO8LY>WO4DX 1344 W1>W1 7 04-0500 VP9KK>WO4DX 1647 N0LL>W7 1738
N0LL,VE7>W7 18-1900 W0>W7 W5RP,K5AB>W6 KP4>W1 19-2000 W0>W7 VE5>W6 20-2100
W4,W0>W7 W0>W0 21-2200 K0ETC>W7

June 8 0140 W5>W5 02-0300 W6>W7,W0 03-0400 VE1>W4 1331 W2>VE1 1410 W3>VY2 1623 W6>W6
1927 W1>W1 2034 VE3>W0 2249 48242,48250>FM5JC 2358 W1>W1

June 9 01-0200 W4>W3,W5,W9,W4 W3>W3 02-0300 W4>W3,W8 VE1>W4 W3DOG>W3 C6AFP>W8GF
03-0400 W7,W6>W5 W5>W4 14-1500 K5AB,KS5V>W3 15-1600 K5AB>W6 1659 W7>W7 17-
1800 KA0CDN>W7 NM7D>W5 48242>FM 1850 S57RR>FM5JC 1957 W5>W7 20-2100
W5,W0>W7 W6>W5 48250(EU)>FM21-2200 KA0CDN,K0UO>W7 2346 W1>VE9

June 10 00-0100 CY9SS>VE1 01-0200 K5AB>W4 1148 CY9SS>VE1 12-1300 W8>W4 W5>W9 13-1400 C6AIE>K8LEE VP5/N4VHF>W3JO 14-1500 CY9SS>W4,VE1 VP5/N4VHF>KG4QMI 16-1700 W0>W9 W1>W1 1955 VA2MGL>W2 20-2100 PA4PA,G3SED,G4RGK,DK2PH,ON4AXU,DK1MAX,ON7GB,DL6AMI,PA2DB,G3SVD,F8OP>FM5JC 21-2200 M0BJL,G3WZT,DL8PM>FM5JC,W7>W5 PZ5RA>YY5PER 22-2300 W4>W3 XE2ED>W0 23-2400 N0LL,W5>W6

June 11 00-0100 W6>W5 K0UO>W6 01-0200 W6>W0 W7>W5,W0,W7 W5>W6 02-0300 VE2>W2 W5,W6,XE2ED,W4>W7 W5,W6>W4 VE7>W6 N3LL,W8>W5 W5RP,WB0RMO>W3 03-0400 W6>W4,W7 W8,N0LL,K0ETC>W3 W8,W5>W4 W0,WA7X>W6 04-0500 W5>W7 W7,W6>W6 1015 48250>W2 13-1400 W8>W3 14-1500 W8>W3 CY9SS>VE1 15-1600 W8>W3 XE2>W7 16-1700 49739(EU),DLtv>W0 W7>W6 48250(EA)>W4 W5>W7 17-1800 W5,W9>W6 49740(I,HA,OE)>FM FY7THF>FM 18-1900 W3>W3 W4>W4 W1>W1 W3>W8 CY9SS>VE1,W2 W5>W5 DF9OX>FM5JC 19-2000 W5>W5 W3>W3,W4 CT3FT,IW1AZJ>FM5JC W8>W8 20-2100 W9>W9 VP5/N4VHF>KD5M W3>W8 W4>W5 CY9SS>W1 YU1EU>FM5JC W1>W1 21-2200 CY9SS>W1 W1>W1 W9>W9 F9IE,FY1FL>FM5JC 22-2300 VP5/N4VHF>KD5M F6GEX>FM5JC W5,W6,W1>W7 W9>W9 W0>W5 W3,W1>W1 VE6>W6 W5,W7>W5 23-2400 W5,W0,VE7,W6,W2 >W5 W1>W2 VP5/N4VHF>N1DL,N2NRD W5>W9,W4 W1,W3,W5,W0>W9 W4>W4 W5>W8

June 12 00-0100 W0,W9,W8,W7,XE2>W5 W0>W4 VE6,VE7>W6 W9>W4,W9 W7>W7,W4 VP5/N4VHF>KD4BMQ 01-0200 W7>W5,W0 W5>W5,W2 W8,W7,W9>W9 W5,W4>W6 W8,W5>W2 W0,W7>W4 W6>W9 VE5>W6 W1>W1,W3 W4>W3 W0>W5 02-0300 W1,W6>W4 W0,VE6>W6 W9>W9 W5>W5,W4 VE7,W7>W7 W6,W7>W5 W3>W3 W8>W8 W7>W6,W9 03-0400 W5>W4,W7,W5,W6,W9 W7>W6 W1,W3>W1 W0,VE6,W7>W6 VE7,W3>W7 04-0500 W7>W7 W6>W4 W1>W8 VE7,W6>W6 W3>W0 0509 W3>W0 06-0700 W2,W3>W0 W0>W8 0710 W2>W0 0833 48250>K2MUB(wk) 10-1100 W3>W1 W9>W9 11-1200 W1,W2>W1 W3>W3 12-1300 W3>W5 W4>W3 W8,W1>W1 13-1400 MW1MFY,G3KMA,OZ2LD,G8BCG,G3WZT>FM5JC W7>W0 W3,W4>W3 W2>W4 W3>W7 14-1500 W3,W2>W7 G4IGO>HI3TEJ CY9SS>VE1 W2>W1 W8>W3,W9 W4>W4 W9>W9 W1>W4 W3>W3 CT1HZE>W4SO 15-1600 W7>W6 VE3>W0 CU5AM>W4SO,N4KK W8>W9,W0 EH7KW>W4SO W9>W3 KP4>W4 W8>W8 16-1700 W9>W9 W7>W7,W0 W4>W4 17-1800 W1>W1 FJ>FM W8,W9>W9 W8>W8 W1,W2>W1 C6AIE>W4SO 18-1900 C6AIE>K8LEE W0>W7 W4>W0 W2>W0 W8>W9 W1>W1 19-2000 W2,W3>W1 aurora FP/N6RA>VE1,W1 W7,W6>W6 W2,W3,W5,VE3>W1 W4>W4 propagation mode uncertain during aurora FP/N6RA>W2 W4>W0 20-2100 W9>W9 W3>W4 W8,W1,W2,W3>W1 W8>W3 FY7THF>FM5JC FP/N6RA,CY9SS>W1 W7>W6 W0>W0 21-2200 W1,W9,W8>W9 W6>W6 2257 FM>FJ 23-2400 modes uncertain W8>W4 W9>W4 W4>W3

June 13 00-0100 modes uncertain during aurora W2>W8 W9>W6,W8,W9 W5,W0>W5 01-0200 W4>VE3 W7,W0>W7 VE5>VE4 02-0300 W6>W6 W4>W8 10-1100 CY9SS>W2 11-1200 CY9SS>VY2,W2 13-1400 CY9SS>W1 1540 KP4>W4 16-1700 KP4>W4 1935 CY9SS>VE1 21-2200 KA7BGR,VE7>W6 22-2300 W6>W7 W2>W4 23-2400 W0,W6>W7 CY9AA>W1(ms)

June 14 00-0100 W5>W6 VE8BY>VE1 K6FV>W7 W2>W8 01-0200 XE1KK,W6,VE7>W7 W2>W8 W7>W0 W4>W4 W9,XE1>W7 CX7OC>K8BSG 02-0300 W0,XE2>W7 K5AB,XE2>W6 1038 CY9SS>W2 11-1200 CY9SS>VY2,W2 13-1400 CY9SS>W2 15-1600 CY9SS>VY2,VE1 16-1700 VE4SPT,VE7>W0 17-1800 VE7>W0 W0>W7 18-1900 VE5,VE4ARM >W7 20-2100 CY9SS>W2 VE6ARC>W0 21-2200 W6>W6 22-2300 CY9SS>VY2,W2 VE5>W7

June 15 0044 W4>W5 02-0300 VO1>W1 FP/N6RA>W3 03-0400 FP/N6RA>W2,W3 0507 W1>VE4 10-1100 CY9SS>W2,W1,VY2 1134 VY9SS>W2 12-1300 48250>W2 W3VD>W5 13-1400 CO8LY>K4DJ,N3DB C6AIE>K4PI, 14-1500 C6AIE>N5UXT,K4BI,W3UR,N4LI CO8LY>K4BI,W2OO/4 CY9SS>W2,W8 6Y5/KB4CRT>K4QI,N4VA,W4RVZ W5RP>W3 15-1600 XE1>W0,W5 XE3RCM>W5,W4 6Y5/KB4CRT>K5AB,N3DB W7,W5>W0 XE2>W4 C6AIE>AE5B,K5AB TI8TBT>K4DJ 16-1700 XE2>W0 6Y5/KB4CRT>K4BI K5AB,KS5V>W0 C6AIE>N0RQ 17-1800 6Y5/KB4CRT>K5SWW KP4,XE2>W5 1756 W9>W4 18-1900 XE1>W0,W9

W9,W5>W5 19-2000 W4>W4 6Y5/KB4CRT>K4BI 21-2200 W7,KA0CDN,W4,XE1>W7 XE1>W5
TI8CBT,CO8DM>FM5JC FY1FL>TI8CBT 22-2300 W6,W5,W4,W9,W0>W7 W5,XE2>W0
XE1>W6,W0 PJ2BVU>TI8CBT W6,NOLL>W3 XE1>W5 W5,W6>W4 VE1>W0(bs) 23-2400
W6>W3,W4 W0,VE1>W7 KH6IAA>K0HA,KM0A VE7,W0>W5 KD6QAI/KH6>K0HA XE2>W0
FM5JC,KP4TB>HP2AT VE1>W8 CY9SS>VY2 KP4TB,FM5JC>HK1XX CY9SS,W7,W9,W6
W1,W2,W4>W7 FJ>FG XE2>W6 W9,W7,W6>VE1 FY1FL>FM5JC W1>W9

June 16 00-0100 NOLL,KA0CDN,W9>W7 W7>VE6 W6,W0>VE1 XE2,VE9BEA>W9 CY9SS>W8,W9
W1>W2 XE1>W0,W7 VE7>W5 XE2>W5,W0 01-0200 W7>W0 W4,W5,W0>W7 CY9SS>W2
W5>W9,W5 W7>W8 WR9L>W7 XE2>W9 W0>W4 VE7>W5 02-0300 W7>W9,W5,W0
W0>W5,W4,W9 W5>W4 VE7,W0>W5 W4,XE1>W7 VE5,VE6>W0 W8>W9 03-0400
W1,W2,VE3,W8>W0 C6AIE>N5BO W0>W9,W3 NOLL>W4 W5>W9 K0KP,KA0CDN,K0GUV,
E4VHF>W5 04-0500 W0,W7,W5>W9 XE2>W7 W5>W4 W0>W3 0902 CY9SS>W2 10-1100
CY9SS>VY2 VE8BY>VE1,W1 TF3SIX>W2 11-1200 CY9SS>W2,W8 12-1300 W2>W3
EH7RM,9H1AW,CT1HZE, IG9/I2ADN>VE1ZZ EH7KW>K9HMB 13-1400 G3KMA>VE1ZZ W0>W5
W3,CY9SS,FP/N6RA>VE1 14-1500 EH7KW>K9HMB CY9SS>W9,W3,W4 W0,W5>W7 W1>W0
15-1600 W0>W1,W5 FP/N6RA>VE1 XE2>W3 K0KP>VE1 CY9SS>VY2 W0>W8 16-1700
W7,VE4>W9 VE8BY>VE1 CY9SS>VY2 17-1800 CY9SS>VE1 18-1900 CY9SS>W2 NOLL>W6 20-
2100 CY9SS>W1 2127 N0UD>W7 22-2300 CY9SS>W1(sc),W3 23-2400 CY9SS>W8,W1

June 17 00-0100 W0,W5,WB0RMO>W7 K5AB>W0 KS5V>W5 01-0200 W5,K0KP,VE4VHF, W9>W7
W0>W0 K0ETC,NOLL>W5 W6,W4TQR>W0 0447 W4>W4 09-1000 CY9SS>W2 0958
CY9SS>VE1 10-1100 CY9SS>VY2,W3 12-1300 WR9L>W9 VP5/K7LAY>K2PLF,N3DB,W1JJ 13-
1400 VP5/K7LAY>K1DAT C6AIE>KC9CTV,N8JX, AJ9C,W4RVZ W6>W9 14-1500 C6AIE>N8SDQ
W7>W0 KD4ODI,W5HN>W3 W5>W4 15-1600 C6AIE>N9TH,N3DB,N5OK KP2A>N3DB KS5V>W5
16-1700 VP5/K7LAY> N3DB,N4BAA,N4HL VP5JM>W3UR C6AFP>KY5R 17-1800 W4>W3 20-
2100 CY9SS>W2 C6AIE>K3HX W4>W3 W5>W2,W6 21-2200 W4,W5,KP4,W8,KZ2D,
W3DOG,N3LL>W3 VE3,W2>W5 C6AIE>K3HX,KB9JCW CY9SS>W2,W9 KP4>W4
CO8DM>N3DB NP3CW>N3DB 22-2300 W2>W8 W4>W2,W3 HI8ROX,HI3TEJ>W3UR 23-2400
VE8BY>VE1 K0KP,W3>W3 W4>W4 W5>W5 CY9SS>W5,W4 W9JN,W0>W4 W9>W9

June 18 00-0100 W0,W1,W8>W4 W4,W5>W3 CY9SS>W4 W9>W0 W3DOG,W8>W5 W3>W7
C6AIE>K3HX,K8SMC 01-0200 W8,W4,W7,W6,W5,K2ZD>W3 W7,KS5V,W5RP,KQ4E>W0
W8>W4 CY9SS>VE3,W2 NOLL>W6 W6>W4 FP/N6RA>W3 02-0300 W3>W6
KA0CDN,W4,W5,W6,W7,W3>W7 CY9SS>W8 W8,K0KP>W5 W0,W6,W5>W9 W4>W4,W6
FP/N6RA>W9 W1,WB0RMO>W4 W0>W3 03-0400 W7,W3,W5,W4>W7 W6,W7,W0>W9
W6,W5,W1>W4 W0>W5 VE7>W6 04-0500 W7>W7 W3>W3 0502 W6>W6 0910 CY9SS>W2 11-
1200 CY9SS>W2 48250>W2 5T5SN>K4RX 12-1300 5T5SN>K4MM CO8DM>N3DB W3>W0
W0>W8 VP5/K7LAY>W3JO,K3DD W1>W3 13-1400 VP5/K7LAY>K3DD,K3RA,AK3E,K2WE
VE3>W5 W4,W2>W3 C6AIE>K8KS,K7SV,K3RA C6AFP>AK3E W0>VE5 W4>W4
W7,W0,VE3>W7 5T5SN>K4UTE 14-1500 KA0CDN>W7 VE5>W6 15-1600 W5>W4,W3 W0>W7
C6AIE>AJ9C W7,W4>W7 W9>W5,W4 W7>W9 W0>W4 16-1700 W7>W6,W9 K0KP>W3
W4>W4,W1,W9 17-1800 W7>W7,W9,W3 W9>W0 18-1900 VE6EMU,VE7FG,N7LT,W0>W7
W8>W9 19-2000 CY9SS>W2,VE1 5T5DUB>FM5JC W7>W7 W2>W1 20-2100 W0>W7 W7>W8
VE5>W9 VE6>W0 21-2200 VE7>W6 KP4>W1 VE4ARM,VE2,VE3,VE5>W7
FY1FL>K1ZZ,N1DG,WA1NYV,N3DB W1>W4 W8>W8 22-2300 VE5>W7 W3,VE9,W8>W0
W4>W1,W2 W1>W8 FP/N6RA>W3 VE3>W5,W9 VE2,W8>W4 9Y4AT>K1MS W5>W1 CY9SS>W9
23-2400 W4>W4,W8 W5>W2 VE3>W5,W4 W3,VE2>W4 VE4SPT>W9 W0,W8,W5>W3
W9,W0>W2 W1>W8 VE6>W7 W7>W5

June 19 00-0100 W9>W9,W4,W3 W0,W2>W4,W3 VE7FG,W2,W0>W7 CY9SS,VE8BY>W0
W0,W8,VE5>W3 VE2>W0 VE4VHF>W4 W8>W1 M0BCG>W7GJ(eme) W0>W8 01-0200
W1,VE2,VE6>W4 W0>W1,W8,W2,W0 VE3,VE4SPT,VE6>W0 W9>W2 W9,VE6,VE3>W3
W1,W2>W9 02-0300 W9>W1 VE3,W1>W3 VE4VHF>W0 W9>W2 W0>W4 VE5,W9,W1>W9

W7>W3,W8 03-0400 W1>W8 WR9L>W1 12-1300 W1>W9 CY9SS>W2 FP/N6RA>W2,W1
K8UK>VE9 W1>W4 13-1400 CY9SS>W8 VE4SPT>W0 W3>W3 49739(EU)>W0 W1>W7,W4
W0>W1 VE9>W9 FP/N6RA>W1 14-1500 CY9SS>W2 VE9,VA2MGL>W9 FP/N6RA>W1
VE4VHF>W2 VE3>W715-1600 VE4ARM,VE4VHF,VE5,VE6,K0KP,VE7>W2 W7>W1,W2
VE4>VE3 VE7FG>W0 VE2,W0>W9 16-1700 W8>W8 W9,VE3>W1 1919 CY9SS>W2 2250
C6AIE>K4RX W4>W0 23-2400 K6FV,WA6LIE>W0 W9>W0

June 20 00-0100 W8>W0 VE7>W7 01-0200 W5,W7>W7 K0ETC>W5 W0>W6 02-0300 W7>W7 K5AB>W0
04-0500 ZL3NW>K1SG(eme) VE8>W7 0920 CY9SS>W2 12-1300 W5>W1 13-1400 W5>W4
C6AIE>W2YR,W3MEL,AK3E,NE1B 14-1500 W5>W4,W3 WR9L>W3 W9,FP/N6RA>W1 15-1600
K0KP,K9MU,KD4HLG>W3 W9>W4 W0>W7,W3 W5>W2,W3 W0>W5 KF4ODI>W3 16-1700
W8,W5>W2 W3>W5 VE3>W4 W7>W9 W9>W3 17-1800 K0ETCV>W3 CY9SS>W2,W4,W3
W0>W3 9H1AW>FM5JC VE3>W5 1843 48250,48260>FM 20-2100 W7,W5>W3 21-2200
W8,WR9L,W5HN>W3 VE4VHF,VE3,VE2>W4 W7,W4,W6,W0>W9 5T5SN>N9IW,K0HA,W0SF,
W1RA,K5CM W0>W3 22-2300 CY9SS>W9,W4 NOLL,VE3>W4 W1>W8,W9,W3 VE3UBL>W2
VE2>W3 5T5SN>W5UN,W3YY,K4QI W0>W0,W3 W7>W1 VE1>W8 W0,W5>W9 K0ETC>VE5
CU3EQ>FM5JC W9>W2 23-2400 5T5SN>N3DB,K0HA VE1SMU,W0>W0 VE1,VE2,W1,W2>W9
W7,VE3,VE2,W3>W3 VE4VHF>VE3 VE5>W8 W0>W4 W7>VE3,W2,W3,VE2,W4 VE4>W1

June 21 00-0100 W2,W0,W1,W7,W5>W9 W3,W0,W7>W3 VE5,W9>W1 VE2>W6 W7,W0>W4 W5>W0,W7
W0,W7>W7 W2>W2 VE4>W3,W8 01-0200 W1>W0 VE4VHF>W8 W5,W7,W0,W8,W4,W2>W7
W7>W2,W1 K0KP>W7 WA7X>W5 W8>W6 02-0300 W0>W0,W5 W6>W8 WB0RMO>W6
NOLL,W9>W7 03-0400 W5,W7>W7 W4>W5 0951 CY9SS>W2 1154 CY9SS>W3 12-1300
C6AFP>AK3E,W3UR W4>W3 C6AIE>N8JX,W3UR,K2MUB,N2AU 1345 K0KP>VE1 15-1600
K0ETC>W0 CO8LY>AK3E,N4PGW,KD4VRZ,K4QI K2ZD>W3 17-1800 FJ>FM
C6AIE>KN4F,W4RJ WB5LLI>W3 W3DOG>W5,W4 W8>W5 19-2000 W9>W5 20-2100
CY9SS>W2 W7>W0 22-2300 W3>W5 C6AIE>K9DX W5>W2 PZ5RA>K0HA K0HA>FM5JC
W4>W3,23-2400,W5,W9>W4 C6AIE>WZ1V,K0HA,W9RM W5>W3 C6AFP>K0HA K4AHO>W0
W4CHA>W9 K5AB,W8>W5 W4>W2

June 22 00-0100 W1>W4 W4>W2,W3,W5,W9W8>W0 W0>W3 C6AIE>KI9A,N0FW NOLL>W3 W5>W2,W3
W8>W4,W2,W9 WB0RMO>W5 01-0200 W5>W9,W3,W2 W8>W2,W3,W9,W5,W6,W7
TG9AFX>K0HA W9>W4 W8,W9>W5 W5>VE2 VE7>W6 W4>W1 02-0300 W5>W2,VE3,W3
W4>VE3 W5>W3,W2 W9,VE6>W5 W7>W9 W4>W0 03-0400 W7>W7,W5 W5>W3,W9
W0,W8>W5 W0,W4,W8>W7 KL7NO>KG6I VE7.W7>W6 W0,W9>W4 04-0500 W3>W7,W3
N0UD>W5 VE7>W6 0833 CY9SS>W2 10-1100 W4>W1 CY9SS>W1,W2 11-1200 CY9SS>W4
W9>W9 12-1300 C6AIE>KC9CTV,K8LEE 13-1400 K8UK>W3 C6AIE>K0FF W5RP,K5AB>W3 15-
1600 XE2>W4 16-1700 VE5,W7,W0,VE7FG,NOLL>W7 W0>W5 2108 W7>W7

June 23 00-0100 W6,XE2ED>W7 01-0200 K4KWK,W5RP,KS5V,XE2>W4 02-0300 XE2>W9 W6,W7>W7
W4,W9VW,K5AB>W4 W5>W5 0317 KS5V>W8 aurora 1155 CY9SS>W2 13-1400 CY9SS>VE1
EH7RM>VO1AU_1446_CY9SS>W1_1752_EH7KW>K4MM_23-2400_W4>W3 C6AFP>W3UR

June 24 0348 K5AB>W4 0854 CY9SS>W2 1152 CY9SS>W1 12-1300 CO8LY>K8LEE 14-1500
WB0RMO>W7,W3 15-1600 K5AB>W8 W4>W5 K0UO,KA0CDN>W7 16-1700 WA7X,W0MTK>W7
17-1800 CY9SS>VO1 18-1900 W3>W2 19-2000 48242>W2 W6>W7 20-2100
V31IV>W5ZN,K4BI,KA5BSE 21-2200 V31IV>N5KW,W4ET,K4UTE, W5KFX,K4MQG
J3.K5AND>FM 22-2300 V31IV>K0HA 23-2400 FY1FL>YY5PER

June 25 00-0100 W5RP>W7 XE2,W6,W4,W5>W4 01-0200 W5>W4 XE2ED>W0 W2>W3 XE1,W6>W5 02-
0300 XE2,W5>W6 XE1>W5,W0 0355-6 W5>W6 04-0500 W7>W7 0615 G8BCG>K7BV/1(eme)
0941 CY9SS>W2 1038 CY9SS>W2 1124 W3CCX>W4 1257 J3/K5AND>K4MQG 13-1400 W3>W3
J3/K5AND>FM CY9SS>VE1 W7>W7 14-1500 W1>W1 V31IV>K5YY W3>W3
VE9AA,VE1YX>FM5JC W0MTK>W6 KS5V>W9 15-1600 V31IV>K5UR,N0JK XE2>W4,W8

J68AS>KJ9I W4SO>FM5JC W4>KP4 XE3>W5 W0MTK>W9 W5>W4 W9,W5>W5 17-1800
J68AS>FM5JC,FJ5DX W6>W6 20-2100 FY7THF,FJ5DX>FM5JC W9>W9 21-2200 W6>W6
J3/K5AND>W4SO, W1JR,WB4IUY,W1RA FM5JC>WB4IUY W1>W1 VE3JJ>FM5JC
J68AS>KM0A,K0HA W9>W9 22-2300 J68AS>W4SO,HI3TEJ,K3OO,W9RM,AJ9C,K4MQG,K8LEE,
K0HA,W8GEX,VE3SUB,KI9A FM5JC>K0HA,N9US,W4MQG,AJ9C,N9IW,W1RA,KI9A
J3/K5AND>K3OO,K0HA,AJ9C,K4MM W9>W9,VE3 W2,W5>W5 KP2>KP4 W2,W5>VE3
WA0KBZ,N5JEH>FM5JC PZ5RA>K0HA,VE3NE 23-2400 PZ5RA>KM0A,W4SO,
YY5PER,K4CIA,K7BV/1 FM5JC>K0HA,K9APW,AJ9C,AA4SC J68AS>W4TJ,K7BV/1,
N4BH,K0HA,WA1NYV,W3UR,N3DB J3/K5AND>K4CIA,W4SO,K9APW,K7BV/1,K9MU,
VE3SUB,N3DB,K0FF,K0HA HK4JRL>N3DB W4>W7

June 26 00-0100 J3/K5AND>W3UR W5,W3>W4 W3,W4,W9>W9 W0>W5,W4 01-0200
TI8CBT>N3DB,K0HA,N4NN W1>W1 W6>W6 W0,W5>W4 W9,W5,W4>W9 02-0300
W4,W9,W5,W7,W0>W4 W5>W0 XE1>W603-0400 W1,W2>W1 W5>W7 W9>W9 W6>W6 W4>W4
0558 W0>W9 0608 W9>W9 1033 CY9SS>W2 1150 W8>W4 12-1300 CY9SS>W2 J68AS>WA1T
13-1400 W4>W4,W1 J68AS>K1TTT,W5KI 48242(CT)>W4 J3/K5AND>VE1ZZ,K4UTE W0>W9
9H1AW>W4SO W1>W1 K1R>FM5JC CT1HZE>K4MM 15-1600 HI3TEJ>AG2A,KD4JRX,
KI4IH,X,K2PLF W6,W7>W7 W9>W9 J3/K5AND>N4VA,N3DB 16-1700 W9>W7 9Y4AT>N3DB
WP3>W4,YV4 W1>W1 XE2>W0 PZ5RA>W4LK XE1>W7 W0,W4,W9,W6>W9 CO8LY>K4CIA
J68AS>K4RX,KD5M VE7>W6 J3/K5AND>K4RX 17-1800 W8>W3 FM5JC>K4RX
J68AS>N4CC,K4QI,K4RX.KB4ET,W4RCC,KI4HIX,KR7O,N4BH CO8LY>KI4HIX XE1>W7,W0
J3/K5AND>K4JAF,KB4ET VE7,WA7X>W6 18-1900 WP3>W4 W7,XE1,XE2>W7 HI3TEJ>K4CIA
V31IV>KD5FEX 19-2000 EUtv>J3 W6,W7,XE1>W7 VE7>W6 KD4NMI>W4 HI3TEJ>W3UR,N3DB
20-2100 CU3EQ>FM5JC PJ2BVU>K4CIA FM5JC>W4SO W7,W6>W7 HI3TEJ>KE2N
V31IV>N4NN CY9SS>W2 J3/K5AND>K4CIA,N4TL,N4BAA VE7>W6 21-2200 W7>W7
J69EN>W3UR,N4BAA HI3TEJ>N3DB ,K4MWB CO8LY>AK3E VE7>W6 W4>W4 22-2300
J69AZ>K4CIA,N4BAA J68AS>K4CIA HI3TEJ>N4BAA TI8TBT>K4RX CO8LY>K2PLF
J3/K5AND>NM4O,K2PLF VE7,W7>W7 YY5FRD>W4RCC 9Y4AT>N3DB W4RCC>TG9ANF
FM1BY>W8GG YS2ECB>W4RCC FM5JC>N4BAA 23-2400 J68AS>N4BAA,N4TL,W1JJ
W3,W8>W3 FM5JC>N4XD,N4TL C6AFP>WZ8D

June 27 00-0100 9Y4AT>W3TC 02-0300 W0MTK,WA7X,KL7NO>N7DB,KR7O 03-0400
KA0CDN,W5,W6,W7>W7 KA7BGR>W0 KL7NO>K7XC 04-0500 WA7X,W5>W7 VE7>W6,W7
KL7NO>K7XC,W0RLI/7 1123 KD4NMI>W4 1054 CY9SS>VY2 1251 W4>W4 1351 CY9SS>W2
1452-8 CY9SS>VE1 V31IV>AE5B 15-1600 V31IV>K4RX,W3UR,K4DJ,K4BI VR2XMT>N4BH(!?)
16-1700 48242>W4 1958 W7>W6 20-2100 CY9SS>W1 21-2200 CY9SS>VY2 22-2300
EH8BPX>FM5JC,WP4NIX

June 28 00-0100 KF4ODI,K0ETC>W3 W4>W4 02-0300 XE1,XE2>W5 1044 CY9SS>VY2 1153
CY9SS>W2 1257 NOLL>W5 13-1400 V31IV>AB5K,K5AB 14-1500 W7>W5 15-1600 W7>W6
F5TND,F6KHM>FM5JC 16-1700 YU1FW,YO5BIM,5B4FL,F1NNI>FM5JC 17-1800
CU2AF>FM5JC 1957 WA7X>VE7 20-2100 VE7FG>W7 21-2200 W4>W8 VE5>W0,W7 22-2300
W4,W7,VE7FG>W0 W1>W1 W8>W6,W7 VE4VHF>W7 W0>W9,W8 23-2400 W4,W6,W7>W9
W5>W4 NOLL,W4,W9,W5,VE7FG>W7 C6AFP>K0HA

June 29 00-0100 W5>W7,W9 W7,W9JN,W4,W0>W4 VE4,W4,VE7,W9,W7>W7 VE3>W5 XE2>W5,W0,W3
W9>W8 01-0200 VE5,XE1,W7>W7 W5,W7>W9 XE1,W3,W7>W5 VE7>W8 W0>VE3 VE4,W4>W4
W5>W6 W6>W4 02-0300 VE3,W3>W7(2x) W4,W5>W4 VE6>W0 W0>W9,W7,W5
W4,W8,W2,W7>W7 W6>W2,W9 W4,XE1,VE3>W0 W0>W2 W7>W5 JA6VU>K0HA 03-0400
W0,W4>W4 W9,W4,W8,VE3,VE5>W7 NOLL>W1 W0>W8,W5,W9 W7>W3 VE4>W5 WR9L>W6
04-0500 KA0CDN>W7 W6>W9 W7>W8 W9>W0 09-1000 CY9SS>W2 10-1100 CY9SS>VY2 1150
CY9SS>W2 1251 CY9SS>VY2 13-1400 W4>W1 1431 W1>W9 15-1600 K5AB>W7 1649
EH8BPX>VO1AU 1848 V31IV>NW5E/4 19-2000 OE8SWQ>FM5JC 1955 CT3MD>FM5JC 20-
2100 CN8LI>FM5JC CY9SS>VY2 21-2200 ON4GG>FM5JC

June 30 0441 W7>W5 09-1000 CY9SS>W2 1324 J3/K5AND>K1DAT 14-1500 J3/K5AND>K2UU W4>VE3
 15-1600 J3/K5AND>W1JJ C6AFP>W3UR W4>W5 W6>W7 EAIV>W4 16-1700 W5>W7
 J3/K5AND>K4QI W4>W5 W5>W4 17-1800 W9>W4,W5 W0>W5 K5AB>W9 18-1900
 VE3,W6,W5,W4>W4 W4,W9,W8>W1 19-2000 KE4SIX>W3 W3>W9 W2>W4 W4>W8,W1,W2,W9
 W8>W9 20-2100 CT3BD,CT3IA>FM5JC W0>W1 22-2300 CU8AO>FM5JC W0,VE3>W4
 VE3>W8,VE3,W0,W7 23-2400 VE3>W0 W4>W3 W5>W4 C6AFP>WZ8D W4>W3

Asia/Pacific

Japan

JA1VOK notes the openings to the West Coast of North America and Europe, which have already been discussed. However, Es was the dominant mode, with most contacts at one- or two-hop range. For the first month in some time there were no openings to VK or ZL.

6m DX results in JA during June

DATE	TIME(UTC)	STATIONS
6/ 1	0736-0740	IT9RZR (JA8)
	0820-1000	BA4R/7, HL4XM
2	0050-0600	BX3/DJ3KR, V73SIX/B
	0840-0900	DS4EQI
	1120-1130	BD4XA
	2313-0900	9M6/G3OOK, BD5HAM, BV9AA, DU1EV/B, VR2SIX/b
3	2330-0200	BV50CRA, DS5JQK, JD1BKW/JD1
4	0740-0930	BD4SUG, T88AG
	2254-1200	BD4SI,4SUG, BN0F,BV50CRA,BV9AA, VR2SIX/b
5	0740-0830	T88AG
6	0100-0900	BD4XA, DU1EV/B, HL, KG6DX, T88AG, VR2SIX/b, V73SIX/B
7	0015-1130	BV9AA, DU1EV/B, HL, VR2SIX/b
8	0100-0900	DU1EV/B, VR2SIX/b
9	2330-0600	BD4SI,4XA, VR2SIX/b
10	0800-0820	DU1EV/B
11	0030-0330	BD4SI,4XA, HL
	1208-1210	BD4SUG
12	0130-0800	BD4SI,4XA,7OH, BN0F,BV50CRA,BW2/JA7FYF, KH0/JA1HOD, KH0/JJ1CDY, KH0/JA3MVI, KG6DX, V73SIX/B, VR2s
13	0130-1200	BD2LH,4XA,4SUG,9BA, BV9AA, HL, VR2BG,SIX/b
	0840-0930	5B4FL, UN8GC
	2350-1300	BD7OH, DS4EOI, DU1EV/B, VR2SIX/b
14	1040-1420	UK9AA, UN8GC
	1320-1340	ZC4LI
15	0100-0630	BD7OH, DS4EOI,HL3EQG, VR2SIX/b
	1331-1340	BD9AA
	1400-1410	UN8GC (JA8)
	2340-0200	BD5HAM,9BA, BN0F, VR2SIX/b
16	0830-0930	VR2SIX/b
	1330-1400	BV4CT,9AA/7
17	0100-1000	N7ET/DU7,DU1EV/B, HL, KG6DX, VR2SIX/b
	1000-1030	UN7QX (JA4-6)
	1130-1330	BV9AA, S21AM

18	0330-0400	VR2SIX/b
	0748-0800	EY8MM
	1310-1320	EY8MM
19	0030-0700	BW3/JD1BKQ,BX2AB, KG6DX, VR2SIX/b
	0615-0930	9A2DS, LY2BAW, OH2BC,2RF, ON4IQ, UR5QU,UT7QF, SV8CS
	2329-1200	BD4XA, BV9AA,BW2/JA7FYF, HL, VR2SIX/b
21	0000-0030	VR2SIX/b
	1135-1140	6K0DHP
22	0318-0900	BD4XA, HL
23	0025-0300	BD4XA, DU1EV/B, HL50HYF, VR2SIX/b
	2252-1230	BD4SI,4XA, BW2/JA7FYF, DU1EV/B, VR2SIX/b
24	1255-1300	ZC4LI (JA2)
	1500-1510	BV9AA
25	0130-1000	BV9AA,BW2/JA7FYF,BW3/JD1BKQ, HL, JD1BKQ/JD1, KG6DX, VR2
26	0000-0900	BN0F,BU2AJ,BV50CRA,BW2/JA7FYF, HL, KG6DX, VR2XMT,SIX/b
27	0330-0500	HL, KE7V,K7WIA, VE7XF,7BBG,7DUB
	2310-0400	9M2TO/B, VR2SIX/b
28	0400-0600	HL
29	0059-0300	HL
30	0430-0500	BD9BA
	0530-0610	9H1XT, UN8GC (JA2-6)

Elsewhere

June 4 0029 JG1ZGW>HL1 0615 A61Q>EY8MM

June 5 00-0100 BN0F,BV50CRA>HL1 01-0200 JA6YBR,7J6CCU>HL1 HL50HYF>DS4 03-0400 JH8ZND,HL50HYF>HL1 0838 JA7>DS5

June 7 10-1100 JE7YNQ,JA1ZYK>HL1

June 10 00-0100 JE7YNQ,JH8ZND>HL1 0106 JA7>HL1

June 11 00-0100 JA1ZYW>HL1 02-0300 DS4,JA2IGY>HL1 0511 JA0>DS4

June 12 04-0500 BD7OH>DS4 JA2,BG4>BD7OH BD4SI>VR2 05-0600 JA0,JA6>DS1

June 13 0013 JA2IGY,JE7YNQ>HL1 0455 JA1ZYK>HL1

June 14 00-0100 JA1ZYK>HL1 01-0200 DS4>JA1 BD3>BD7 JE7YNQ>DS4 1306 UN8GC>HL3IUA

June 15 03-0400 JA8,JA0>BD7OH 0507 VK4>VK3 BYtv(49750,760)>VK3 1203 48250.1>JA3(280)

June 17 0613 JA>A71EM

June 18 0801 JA3FYC>EY8MM 0807 JA6>BD7OH 0933 BV9AA>DS4

June 19 00-0100 BV9AA>DS4 JR6YAA/6>VR2XMT 0623 EX8MLT>S21AM

June 20 0634 JA2IGY>KG6DX

June 25 1105 JA8>BD7OH

June 26 0013 JA3>KG6DX 0535JA7>DS4 0738 48240,48260(EU)>KG6DX

June 27 0856 VR2ZXK>BD7OH

Beacon News and 28 MHz Worldwide

Compilation and Commentary by G3USF

Beacon News

- 7045 PY2WAP reported operating here with 1 watt to dipole from GG66VV (DL8AAM Aug.)
28227.5 IW3FZQ new beacon with 5 watts to Inv.Vee from Rovigo (JN55VB) (IW3FZQ Aug.)
email iw3fzq (at) libero.it
- 50011 TG9SO new beacon with 45 watts to a J-Pole in EK44 (K7BV/1 Aug.)
- 50060 HA8BS in KN06OP operated during August under special 30-day permit (HA8MV Aug.)

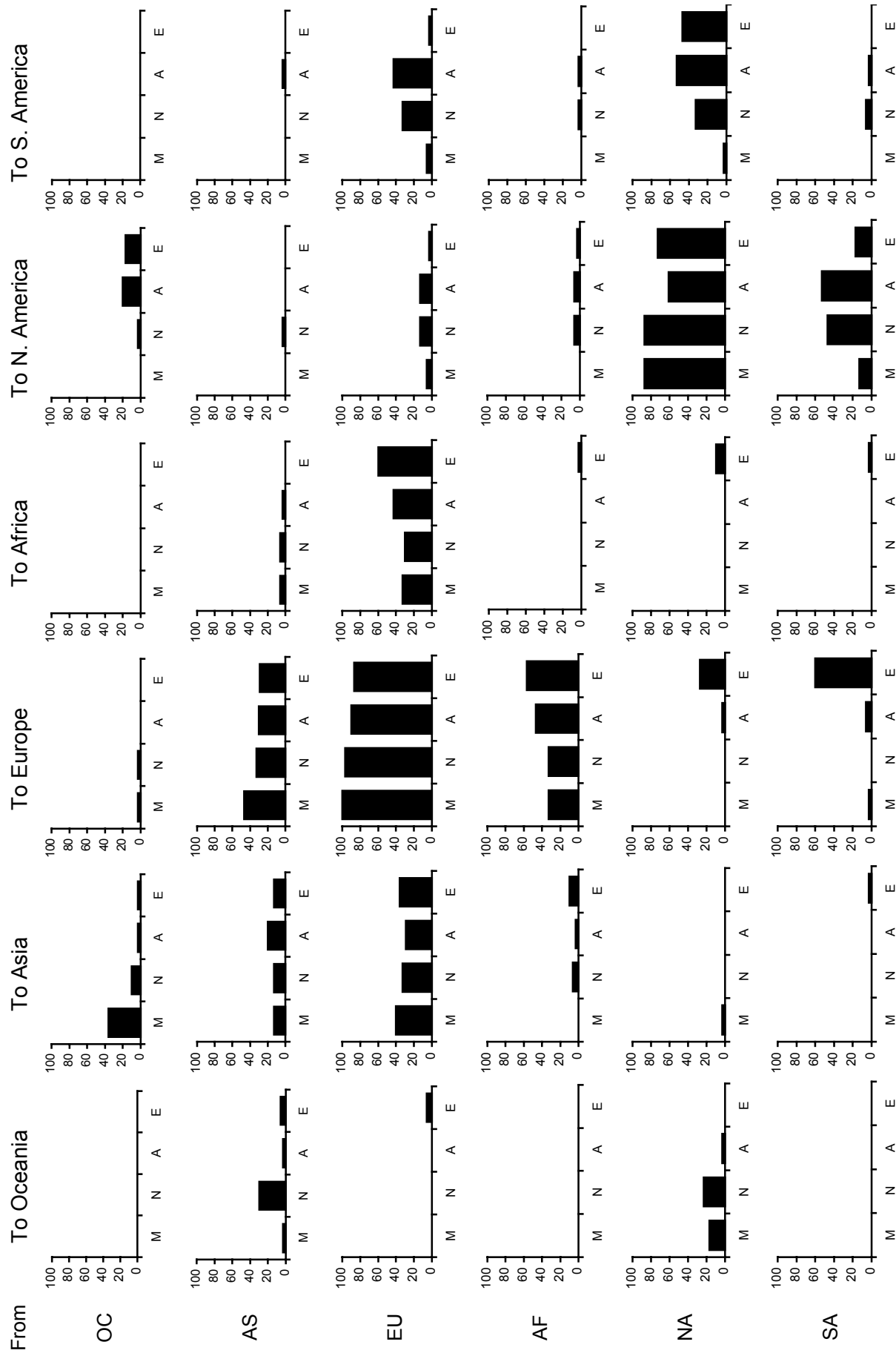
28 MHz Worldwide

Propagation in the northern hemisphere was unsurprisingly dominated by sporadic-E. Reported propagation within Europe was almost wholly by this means, occurring every day and at most times of the day. The same was broadly true in North America, though there were more periods of the day when no contacts were reported, though this may have been because contacts within the US were felt not to be worth reporting. (One must emphasize again that since this section is based on operators' reports there is an inevitable tendency for the results to understate reality.) By this stage of the cycle one would hardly expect any of the intercontinental routes to be highly reliable during the summer months. Europe is known to have contacted Asia on 21 days, with a particularly good opening between JA and eastern Europe during the European morning of the 19th in the course of the AA contest. This occurred at almost the same time as the JA-EU opening on 50MHz. Europe<->Africa was reported on 20 days (there was a barren spell from the 19th to the 24th, inclusive), and EU<->South America on 18 days, almost entirely in the evening.

The only relatively reliable intercontinental path for North America was South America, known to have been open on 22 days. By contrast, Africa was reported on only three days, Oceania on 9 and Asia, never an easy path at best, on a single day - the 26th, when NL7Z - scarcely a typical North American - heard the JE7YNQ beacon at 2210. The Transatlantic path was relatively poor, with reports on 8 days, almost all during the European evening and predominantly involving the Caribbean. Thus OZ3BEN worked WP4EJH at 2102 on the 3rd, F5RRS worked KP4FKN at 1826 on the 9th and 2001 on the 10th. The 10th was one of the better days, with W3RJ reporting CT1FMS, ZB2FK and IZ5CML between 2132 and 2238. Also 9A9A worked KI4EXO and KB3KAQ between 2313 and 2322. At 2333 K7SV (location uncertain) worked F5TDK at 2333. In addition, WP4BL<->DL7JA was reported at 1925 on the 11th, OH1XX heard N1DL at 2303 on the 12th, while there was good propagation between Mediterranean countries and KP2 during the UT evening of the 25th, the afternoon on the 26th and evening of the 28th. The Caribbean openings were in line with what was happening on 50MHz but were less substantial in either extent or duration. Multiple-hop Es is the presumed mode of propagation.

Among other reports worth noting were UA4RC receiving DL0IGI at 0010 on the 6th and SP9DID hearing OH9TEN at 0014. DL8AAN copied the I8EMG beacon at 0032 on the 12th. Doubtless there could have been more such reports had not most operators switched off for the night. Such things are to be expected in June. Finally, I3VJW reported LU9EIE at the remarkably early hour of 0952 on the 26th; ZL2BSJ reported reception of the DL0IGI beacon at 0731 on the 4th, while DL0WH worked VK6JQ at 1057 on the 15th, showing that alert operators may catch openings even at unpromising seasons.

28 MHz Worldwide - June 2005



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