

Radio Weather Summary for February 2010

February brought the most cheerful set of figures we have seen in a long time, encouraging hopes that cycle 24 was at last making an impression. However, we can never forget that our Sun is indeed a variable star and its various manifestations invariably produce jagged sawtooth graphs rather than more straight lines. Still, the Sun was spotted every day, with the provisional SSN (and all figures here are provisional) reaching 71 on the 8th and the daily flux figure in the 90s for seven consecutive days. The 90-day average, which stood at 77 on the 1st, was 80 on the 28th. The X-ray flux, so long recorded as A0, was up in the B range on seven days, averaging A6.0 over the month.

	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
SSN	16	11	11	11	22	30	51	71	65	55	64	38	37	28	27	28	49	17	23	19	17	14	33	40	30	26	26	13
SFlux	75	75	74	73	78	88	90	94	91	91	94	96	94	89	88	87	87	85	84	84	84	84	84	83	83	81	79	78
XFlux	A3	A3	A3	A2	A2	B1	B2	B2	B1	B1	B1	B1	B2	B1	A9	A7	A6	A5	A5	A5	A4	A5	A7	A6	A5	A3	A3	A2
	.1	.4	.2	.3	.8	.1	.2	.7	.0	.6	.6	.8	.1	.6	.6	.0	.5	.7	.1	.1	.1	.9	.6	.8	.9	.8	.2	.

Solar activity reached its highest level in several years, with a sunspot group that emerged on the 6th, giving rise to 31 C-class and 6 M-class flares, the largest of which was of magnitude M8.3/1N on the 12th. Associated with this was a coronal mass ejection that reached Earth on the 15th, bringing a southerly shift of ionization in a pre-storm HF enhancement, followed by a mild disturbance as Bz swung to minus 13 around 1730UTC. Auroral propagation was reported from mid-afternoon until midnight, for the most part at high latitudes. Bright visual aurora was also reported. That said, the Ap figure for the day was only 15. Figures for the three UK observatories given in the table below are the sum of 3-hour K readings for the day. There were no periods with a K of 5 or more, though there was a scattering of K4s, mostly on the 14th and 15th. The 15th was the only day when the Ap index reached double figures. Particle densities were in low single figures most of the month, though 16 per cubic centimetre was reported on the 11th. Bz also showed little variation apart from 16 recorded on the 16th. Solar wind speeds were mostly somewhat below average, with extremes of 276km/sec on the 14th and 597km/sec on the 3rd. Coronal hole effects were noted on the 18th and between the 25th and March 4th.

	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
Ler K	2	0	4	17	8	2	1	0	2	0	1	2	2	18	16	5	0	4	1	4	1	3	9	7	3	2	14	8
Esk K	1	1	5	18	9	3	1	1	5	3	2	4	3	20	18	7	2	7	1	8	4	6	11	11	5	5	17	8
Har K	6	2	8	20	12	3	4	3	5	3	4	6	4	22	19	7	2	10	2	11	6	9	12	13	10	7	19	13
Ap	6	9	9	2	3	4	3	3	3	3	5	6	3	4	14	9	4	4	3	1	1	4	2	3	2	2	2	2

50MHz

Propagation to and from Britain

Little is called for by way of commentary, The few lines that follow below in this section speak for themselves. Although the previous section has shown an encouraging blend of increasing solar flux figures and low geomagnetic activity, this did not bring better propagation to UK operators. By far the most interesting report would have been G4IGO's tentative spotting of S9SIX, but sadly that cannot be confirmed. The auroral report on the 6th is interesting because it occurred on so quiet a day; it chimes with results in the continental section. Reports on the 15th relate to a more sustained but weak disturbance during which aurora extended to both the continent and North America.

Contests gave rise to a substantial crop of tropo contacts those listed below were the only ones that may have been over greater than routine distances. There was a dearth of jt6m reports. Most if not all are assumed to involve meteor scatter. These also were unremarkable.

In short, a month in which activity was low and results at best routine.

Auroral

Feb. 6 1641 OY6BEC(IP62)>GM8LFB(IO88)(51a)

Feb. 15 1747 GB3LER>LA(JP50) 19-2000 GB3LER>LA(JP50) OY6BEC>MM0AMW(IO75)(53a)
GM4WMM>MM0AMW(au?) 2039 LA(JO59)>GM(IO75)(53a)

Sporadic-e

Feb. 21 0940 SR9FHA>G4FUF(Es)

Tropo

Feb. 10 1926 GB3LER>GM8LFB

Feb. 27 10-1100 GB75BRS>ON4DM(JO10)

MS/jt6m

Feb. 3 1355 S5

Feb. 6 0745 OE3 1119 OH6

Feb. 9 1013 S5 1655 OY6BEC

Feb. 11 2005 OH6

Feb 13 1419 9A(iono)

Feb 14 1258 CT(ms)

Feb. 23 20-2100 OZ(ms)

Uncertain

Feb. 11 1815 EA5/G3XGS>G3VYF

Feb. 3 1919 9A5CW>G4DEZ

Feb. 6 1603 OZ8ZS>G4DEZ strong

Feb. 26 1557 S9SIX>G4IGO "possible"

Continental Europe, Africa and the Middle East

Auroral-related Propagation

While aurora was reported from continental Europe on six days (an event on the 16th was reported only in North America), all the reports below – including auroral E – came from high latitudes and were of comparatively brief events.

Feb. 1 18-1900 SK3SIX>SM2(55a) SK3SIX>OH1(52a) 21-2200 OH9SIX>SM3(55a)

Feb. 3 1613 JW7SIX>OH1

Feb. 6 16-1700 OH3(KP20)>SM7(JO77) ES1(KO29)>SM7(JO77) OH3>SM2(57a)
ES1(KO29)>OH8(KP34)(59a) OH3(KP20)>OH8(KP34)(59a)

Feb. 13 20-2100 OH3>OH8(Kp23)(59a)

Feb. 15 17-1800 SK3SIX>LA(JP50) ES1(KO29)>LA(JP50) SM2>LA 19-2000 JW7SIX>LA(AE JP50) SK3SIX>LA(JP50) JW5SIX>OH6(AE 559) LA>LA LA>OH1(KP11)(59a) 20-2100 LA>OZ(JO45)(55a) JW5SIX>LA(JP50)(AE) JW7SIX>LA(JP50(Ae) SM3>OH1(KP11 57a) LA(JO59)>LA(JP50) OZ>LA(JP50) OZ(JO59)>LA(JO54)

Feb. 18 1604 49750>OH6(53a)

Other Modes

A thin month – but we have seen worse, with most reports of tropo or meteor scatter at expected ranges, and occasional brief sporadic-E openings. These may well have included the LZ-A6 reports on the 1st. It would have been nice to have had independent confirmation of the contact claimed between Armenia and South Africa on the 8th. What is clearer is that the 20th was indeed a good day – if you happened to live on the Iberian Peninsula, with TR, S9 and D44 all heard or worked from CT, EA or ZB. TR was also reported on the 21st and 22nd and 9Q was into 9A on the 28th. However, these openings

seemingly did not extend to SV1DH, who had another nearly blank month in an area of Europe of which we were so envious in earlier years. (Nevertheless, Costas' report is full of interesting detail.) A couple of reports relating to southern Africa, although not in themselves noteworthy, were welcome signs that activity does continue down there, perhaps more substantially than is evident from web postings.

Feb. 1 17-1800 CS5BCP,CS5BLA>DL CS5BCP>9A 18-1900 CS5BLA>DL,OE5 I3>9A CT>9A(Es),I5 aurora 20-2100 LZ1>A61MF LZ3>A61GN OK1RD>9A5CW(eme -23)

Feb. 2 12-1300 LX0SIX,ON0SIX>DL(tr) 2249 ZL3NW>S57RR(eme -22)

Feb. 4 16-1700 SV1SIX>I5 IT9>I8

Feb. 6 1022 OH9>OH8 16-1700 EA7>EA2 JY5CH>YO9 HB9SIX>DL(tr)

Feb. 7 0939 CS5BAL>ZB 10-1100 EA6>EA3 1305 HB9SIX>DL(tr)

Feb. 8 no reports

Feb. 9 1929 PA>F 2014 PA>OZ 2133 PA>F

Feb. 10 0640 OE3>DL 1520 IT9>I8

Feb. 11 1137 HB9SIX>DL(tr) 18-1900 SM6>SM6 OH0>OH1 OH8>PA(jt) OZ>SM4 SM5>SM5 OH3>YL2 CS5BALG>CT ES1,ES2>YL2 SK2>PA SM5>SM0 19-2000 ES2>YL2 S5>LA(ms) OZ>S5(iono/ms) OZ>OH6 EA1>I2 CT,EA8>I2 SM6>S5(iono) 20-2100 OH0>S5 S5>OZ SK2>PA(jt) OH7>OH8(tr) 21-2200 S5>I2 SM6>PA(jt)

Feb. 12 0735 A92GR>A71EM 09-1000 EA7>EB1(jt) 1058 I8>IT9 1433 IT9>I8 1515 HB9SIX>DL(tr) 19-2000 JW7SIX>LA

Feb. 13 17-1800 EA8>EA7 20-2100 JW5SIX>OH1

Feb. 14 0945 OE5>OK1 12-1300 HB9SIX>OE5(tr) 1319 IT9>DL

Feb. 15 1619 HB9SIX>DL(tr)

Feb. 16 1239 ArabTV>YT2

Feb. 17 20-2100 S5>LA(ms)

Feb. 19 15-1600 S55ZRS,9A0BVS>I3 16-1700 IQ0AH(tr),OE3XLB(tr),S55ZRS(tr)>I3

Feb. 20 0611 ZS6>ZS6 0940 EA7>EB1(ms) 13-1400 ON>EA7(jt) CT>ON(jt) 14-1500 TR0A>CT1FFU,IK5YJY,EA5EF 15-1600 TR0A>EA5/G3XGS,CT1FJC EA7AH S9SIX>CT1FFU D44TD>ZB3B,EA7DUD,EC7AMY,EA5/G3XGS 16-1700 EA6DX,CT1FJC,IS0GQX,CT1FFU,CT1DZY,EA3GI>D44TD EA7DUD,EC7AMY,CT1FFU,CT1FJC>TR8CA CS3BSM>EA5,IS0 17-1800

CS5BALG,CS5BLA>IS0 EA7>IT9 TR0A>CT1FFU HB>CT(jt) 18-1900
CU3URA>EA4,EA5

Feb. 21 10-1100 I1>I2 11-1200 YZ1>SV9(tr) 1526 TR0A>CT1FFU 1y7-1800
TR0A>EA7KW I0ICR>9A(tr) 19-2000 I0JX>9A(tr)

Feb. 22 0029 K7AQ>9A5CW(eme -24) 08-0900 EA7>EA1(jt) 1317 S9SIX>TR8CA 1714
TR0A>EA7

Feb. 23 1940 OZ>OH6(jt)

Feb. 24 14-1500 CU3URA>CT 18-1900 CN8MC>CU3

Feb. 25 02-0300 K6MYC>S57RR(eme -20)

Feb. 26 13-1400 EA7>I7 14-1500 HB9SIX>DL(tr)

Feb. 28 05-0600 ZS1,ZS2>ZS6 07-0800 EA5>EA2(ms) 08-0900 V51PJ>ZS6(ms) 10-
1100 DL>OK1 11-1200 HG1BVB>OK113-1400 TJtv>9A IT9>I8 S M7>SP1 14-1500
9H>I8 9Q1D>9A5CW 15-1600 EA8>EA4 S9SIX>TR8CA S5>DL

50MHz PROPAGATION REPORT FOR FEBRUARY 2010 BY SV1DH

1. Data for all days (28)
2. Relatively good days on: NIL
3. 48 MHz AF video (9L+3C) on: NIL
4. 55 MHz AF video (5N) on: NIL
5. Opening to I on: 4 (E)
6. Special events on:
 - Solar activity 6-16th, max values: SSN 71, SFI 96, Xray background B2.7, flares M8.3! class
 - 3(0900 VK4+ZL to 4X+1130 9M2 to 3B8+FR+5Z on 10m, F2)
 - 4(0915 VK4+9M2 to 4X+ZS6+1030 9M2 to Z2+1230 9M2 to Z2+ZS6 on 10m, F2)
 - 5(1100 9M2 to Z2+1145 9M2 to ZS6 on 10m, F2)
 - 6(5C+2M class flares, 1859 M2.9+2137 M1.3+0215 VK4 to W4+1115 9M2 to 3B8 on 10m, F2)
 - 7(5C+1M flares,0234 M6.4!)
 - 8(8C+4M flares, 0743 M4.0+1203 M1.1+1347 M2.0+2123 M1.0)
 - 9(3C flares+0930 9M2 to Z2+ZS6+1000 9M2 to 3B8+FR+1100 9M2 to 4X+Z2 on 10m, F2)
 - 10(3C flares+0815 9M2 to ZS6+5Z+3B8+0930 9M2 to FR+1015 9M2 to FR on 10m, F2)
 - 11(1C flare+1015 9M2 to Z2+3B8+1100 9M2 to Z2+EA8!+ZS6+1315 9M2 to 5Z+1545 VE1 to ZS6 on 10m, F2)
 - 12(3C+2M flares, 1126 M8.3!!+1808 M1.1 +1000 VR+ZL+9M to N.EU +1100 9M2 to Z2+1415 W1 to ZS6+1630 W6 to ZS1! on 10m, F2)

- 13(4C flares+0800 VK to N.EU+0930 9M2 to 4X+HZ+5Z+ZS6 on 10m, F2)
 14(1C flare+0745 9M6+JA! to UR+0815 VK to I+9M2 to 4X on 10m, F2+1330 f0F2=8MHZ, MUF=32MHZ over Athens)
 15(1C flare+0800 9M2 to 4X+9X+0900-1100 9M2 to N.EU on 10m, F2+1215 f0F2=8.3MHZ, MUF=28MHZ over Athens+1500 W4 to ZS6 on 10m, F2)
 16(0830 VK+9M6 to N.EU+9M2 to 4X+5Z+0915 9M6 to I+SV+2330 JA to PY LP!! on 10m, F2)
 17(0630 9M2 to 4X+0830 VK+9M2 to UR+IT+0945 9M2 to F+1030 9M2 to IT+SV3 on 10m, F2+f0F2=9!, MUF=33MHz over Athens+1530 9M2 to 5Z+5N on 10m, F2)
 18(0830-0930 VK+9M6 to I+9A+S5 +1045 9M2 to 9H+1145 9M2 to IT+1615 W to W.EU on 10m, F2)
 19(0600! KH2 to IT+0630 9M2+VK3 to IT+0700 9M2 to 4X+0845 KH2+BY to SV1+1045 VK+ZL to I+F+1130 ZL to IT on 10m, F2 +f0F2=8.5, MUF=31MHz over Athens)
 20(0700 9M2 to 4X+0730 9M2 to UR+0830 9M2 to SV3+0900 9M2 to S5+1500 W0 to ZS2! +1515 9M2 to Z2 on 10m, F2 +1445 TR to I5+CT+EA +S9 to CT on 6m, A-TEP)
 21(0515! JA to 4X+0715 9M2 to 4X on 10m, F2 +1530 TR to CT+1715 TR to EA on 6m, A-TEP)
 22(0830 9M2 to 4X+0900 VK+9M to EU on 10m, F2)
 23(0630 f0F2=8.3, MUF=34MHz over Athens+0730 VK6 to UA+0815 VK9 to G+UR+I +0830 9M2 to 4X+0900 9M2 to IT+5Z+1215 9M2 to 5Z+1530 VE3+W1 to ST+2245 JA to PY on 10m, F2)
 24(0830 VK2 to I+UR+0930 VK6 to DL+G on 10m, F2+1115 f0F2=8, MUF=30MHz over Athens)
 25(0630 VK2 to UR+0715 VK9X to G+UR+IT+EA +0800 VK9X to DL+OK+0900 9M2 to I +H4 to SV1+LZ+1045V VR to Z2 on 10m, F2)
 26(0715 VK9X to S5 +H4+VK8 to UR+UA +0915 9M2+YB+VK4 to I+PA on 10m, F2 +1045 f0F2=8.7, MUF=31MHz over Athens)
 27(0600 VK3+8 to UR+0645 VK4 to I+S5 on 10m, F2)
 28(0715 VR+VK4 to OH+0745 VK+9M to UR+YL +0830 9M6 to OE+S5 +1445 9M2 to 5Z+J2 on 10m, F2)
 Another 6m poor month, although 10m propagation improved considerably!
 No more 10m reports, since activity is now worldwide high.
 7. DXCC entities heard/worked during February 2010: 1 on 1 cont.
 8. DXCC entities heard/worked during 4th Feb 2010: 1 on 1 cont. 73 Costas

The Americas

Auroral-related Modes

Feb. 15 0038 N8PUM>VE2(FN07)(51a) 01-0200 W8(EN84)>VE2(FN07)(41a)
 VE4ARM>K9MU(EN44)(51a) K0KP>K9MU(EN44)(51a) 0351 VE6EMU>KE7V(51a) 0458
 N0UD>K7TNT(51a) 21-2200 N8PUM>VE2(FN07)(51a) VE2(FN07)>W8(53a)
 VE3(FN14)>VE2(FN07) 22-2300 VE2(FN25)>VE2(FN07)(55a) VA2KYT>VE2(FN07)(51a) 23-
 2400 W9(FN44)>VE2(FN07)(52a) VE4ARM>W9(EN44)(51a) K0KP>VE2(FN07)(51a)
 VE3UBL>VE2(FN07)(51a) K0KP>W9(EN44)(51a) W9(EN44)>W9(EN54)(52a)
 N8PUM>W9(EN44)(51a) WA1OJB>VE2(FN07)(51a) VE8BY>W9(EN44 519/Ae) VE3>VE3
 VA2ZFN>W8(EN84)(54a)

Feb. 16 00-0100 VE8BY>W8(EN84 569Ae) VE3>W9(EN44)(51a) K0KP>VE4(EO10)
 VE3(EN25)>VE2(FN07)(55a) W8>VE3(41a) W9(EN84)>VE2(FN07)(52a)
 W9(EN84)>W8(EN54)(52a) 22-2300 N8PUM>VE2(FN07)(41a-52a)
 W8(EN64)>VE2(FN07)(55a) 23-2400 VE8BY>VE2(FN07)(56 Ae) K0KP>W9(EN44)(51a)

Other Modes

As in Europe the northern hemisphere had a thin month. Activity levels were generally low across the United States and Canada. Propagation frequently favoured the southern states, with occasional openings to the Caribbean (Feb. 3, 5,7,18), extending as far as the West Coast on the 5th . The HC8GR beacon was reported from W7 on the 16th. There were several days, most notably the 2nd, and to a lesser extent Feb. 3,6,7,9,11 and 13, when sporadic-E was reported.

By contrast with these slender results South America and parts of the Caribbean had an absorbing, fruitful month. While it is difficult to read the results with complete certainty, contacts by tep appear to have been made on all days except the 6th. (There were numerous occasions when signals crossed the geomagnetic equator but would not count as tep. This compares with 15 such days in February 2009 and 17 in January 2010.

Trans-Equatorial Propagation February 2010

	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
Tep	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

Brazil was involved on all 26 days of those days, with openings to most of its states. (In some earlier months openings were more geographically focused.) The V44KAI beacon was an invaluable marker in the north without dominating the reports as it has done at times. The

Countries Worked by Tep

PY 26 days 1(V4) 2(V4) 3(V4) 4(V4,XE) 5(FY,V4,9Y) 7(V4) 8(KP4,YV,9Y) 9(KP4,V4,8P) 10(V4) 11(KP4,V4) 12(KP4) 13(KP4,TI,V4) 14(TI,V4,YV) 15(FM,TI,YV) 16(HK,KP2,KP4,P4,TI,YV,9Y) 17(HP,KP2,KP4,V4,YV,9Y) 18(HI,HK,KP4,TI,YV) 19(HK,KP2,KP4,V4,W4,YV,8P) 20(HK,P4,TI,V4,YV,9Y) 21(KP4,TI,YV,8P,9Y) 22(KP4,YV,9Y) 23(HK,KP2,KP4,V4,YV,8P,9Y) 24(KP4) 25(KP4,V4,YV) 26(HK,KP4,V4,YV,9Y) 27(HK,HP,TI,V4,YV) 28(V4)

CE 11 days 10(YV,9Y) 12(YV) 14(YV,9Y) 15(FM,HK,TI,V4,YV) 16(HP,P4,YV,9Y) 17(HP,TI,8P) 18(FM,HK,TI,YV,8P) 23(8R) 25(YV,8P) 26(YV) 27(HK,HP,YV)

CX 6 days 9(KP4) 16(KP4,P4) 17(KP4) 18(FG,YV) 19(8P) 27(HK,XE)

LU 16 days 10(YV) 11(V4,YV) 12(YV) 13(YV) 15(KP4,TI,YV) 16(P4,9Y) 17(P4,V4) 18(YV) 19(HI,8P) 20(9Y) 21(YV,9Y) 23(HK,KP4,YV) 24(YV) 25(V4,YV) 26(HK,KP4) 27(XE,YV)

majority of openings involved several countries, even if in radio terms they were frequently fairly close neighbours. However, there was only one report of probable tep from the States – W9DR/B heard in Brazil on the 19th. W4VC<>OA4TT on the 9th would not have involved tep – but an interesting contact nonetheless.

The ZD8VHF beacon was reported into Brazil (PT7 and PY8) on four days (18, 22, 25 and 26), the first time for some months it is known have been heard. A general feature of the month was the relatively high level of activity, including areas like Bolivia, which have previously heard little,

International Working in South America	
PY<>LU 17 days 6 7 8 12 14 15 16 17 18 21 22 23 24 25 26 27 28	LU<>CE 8 days 7 8 12 14 17 20 21 25
PY<>CE 11 days 6 16 17 18 19 20 21 22 23 25 27	LU<>CX 1 day 14
PY<>OA 6 days 9 15 18 19 22 23	OA<>YV 3 days 9 15 23
PY<>CP 5 days 25 26 27 28	OA<>LU 1 day 25
PY<>CX 4 days 6 15 18 23	OA<>8R 1 day 23
PY<>ZP 3 days 9 11 22	OA<>YV 1 day 26
PY<>HC8 4 days 15 18 19 21	OA<>CX 1 day 18
PY<>HC 1 day 18	OA<>FY 1 day 11
PY<>PY0 1 day 19	YV<>CP 1 day 23
	HK<>CP 1 day 25

while OA4TT for a time a lonely voice from Peru, was joined by a couple of colleagues. CE1/K7CA provided a signal from the north of immensely long Chile, more usually represented by southerly CE3s. Indeed, areas west of the Andes provided more signals this month than one can readily remember. As always such changes in activity levels must qualify judgments about propagation. The table above shows, in combination with the previous tep table, the extent to which openings criss-crossed the continent, steadily improving as the month progressed. In many instances the mode of propagation is unclear and was rarely suggested by the operators. It is possible that some belonged with the tep table above, while others could be attributable to late-summer sporadic-E.

Feb. 1 00-0100 (Es) W0>W8 W4,W5,W9,VE2,VE3,W8,W0(Es)>W4 C6AGN,C6ANM>W9,W8 C6AGN>W4 W2>W0 W5>VE2,W8 W5>W3,VE3 01-0200 W5,W8,W4>W4 W3,W9 C6AGN>W9 W8>W8 W7>W7 02-0300 W7>W7 03-0400 W4>W5 06-0700 OH6MIK>W7GJ(-16db) 11-1200 W3HH/4>VE1 12-1300 W4>W4,W1 W1>VE1 13-1400 W1>W8,VE1.W4(Es) VE1>W4,W8 W4PLB>VE3 K2ZD,W3CCX,VE2>W4 C6AFP>VE2,VE3 14-1500 W4>VE3,W1,VE2,W8,W2,W0 W3>VE3 W4,W0>W0 W2>VE2,W2 W1>W5 C6AGN>W1,W8 C6ANM>W3,W8 15-1600 C6AGN>VE3 W1,VE1,W2,W3,W0>W4 W1>VE1 16-1700 W4,W2>VE1 WA1OJB,W3CCX,K2ZD>W4 W4>W0 W4PLB>VE2 VE2,KL7XM/3,W3DOG,W8IF(Es)>W5 17-1800 W1>W4,W5,VE2 W4>VE1,VE2,W2,W3,VE3,W1 W5,W8,W9>W5 W2>VE3 18-1900 W9DR/4>VE1(Es) VE2>W4 22-2300 XE2HWP>XE1 23-2400 VE1SMU,W5>W4 W2>W0,W2

W5,W9DR/3,W0,W2,W8,W4>VE2 W1>W0,W9,W8 V44KAI>PP5XX,PU4CQQ,PY2REK
XE1>W5 VE9>W4,W0 VE1>W8 W5>XE1

Feb. 2 00-0100 Es VE2>W4,W2,W9,W5,W3,W0,W8 W0,VA2ZFN,W2,W8,W3>W0
V44KAI>PY2OC,PS8RF VE1>W2,W3,W8,W4,W9 W3>VE4(Es),W1,W0,VY2,VE1,W9
W1>W9,W8,W4,W0 W5,W7,XE2>XE1 VE3,VE4,W8,W9>W4 W2>W9 W5>W8 01-0200 Es
W3,W5,W7,XE2>XE1 W3>VE2,W8,W9 W4>W1,VE2,VE3,W2,W0 W1>W8,W0 VE2,W2,W3>W9
N0LL>W3 VE3>W5,W3 W2,W3,VE3,WA1OJB>W0 W2,W3,VE4>W8 VE2.W0>W5 W1,W5>XE2
02-0300 Es W9>W2,W1.W3,W0,W9,VE2 W1,XE2,VE2,W2,VE3UBL>W4 W1,VE3
W1,W2,W8,W3,W9>W0 W8>W2 ,W3,VE2 VE4VHF>W1 03-0400 Es W1>W0,W8
W3PIE,W1,VE2,W9,VE3WCC>W9 W3,W4>W0 VE2,VE3>W4 VE8BY>VE8 W7>W3 WZ8D>W1
VE2,VE3>W5 W6,W7>W7 WB0RMO>VE2 04-0500 Es W0,W4>VE2 W6,W0,W8>W6
XE2K,W5,W6,W7,W9>W7 05-0600 Es W7,W8,W9>W7 W6>W6.W7 W0>W0 12-1300 Es)
W8IF,W4,W0>W4 13-1400 C6AFP>W4 15-1600 W9DR/4>W4 1613 W0IJR>W5 17-1800
XE2>W5 W4PLB,C6AFP>VE3 VE1>W8 18-1900 (Es) (many) W8,VE3,W9,W2,WA3TTS,>VE1
W5>W7 KP4>W4 19-2000 (Es)(many) VE9,W8>W9 VE1>W8,W3,W9 20-2100 W4PLB>W4,VE1
23-2400 V44KAI>PU4CQQ

Feb. 3 00-0100 KP4,V44KAI>W4 V44KAI>PU2LBD W4CHA>W0 W5>W4,W5 01-0200
W7>W4,W5 W4,W5,W7,W8,W9,XE1>W5 W4,W5RP>W0 XE1,W6,W0>W8 W6,W7>W9
W3>W2 KP4>W2,W4,W5,W8 02-0300 Es XE2,W5>W7 W7,W9>W6 W4>W5,W9 K0EC,W9>W5
W0IJR,W3>W4 03-0400 K0EC,W4>W5 XE2HWP,W5,W6>W6 04-0500 W4,W9.W5>W5 06-
0700 W0>W6,W7 W4,KA7BGR,W9>W7 W6>W6 12-1300 W4>W4 14-1500
W4>W2(Es),W4,W3 W9>W5(ms) C6ANX>W4 C6AFP>W3 W4>W5 15-1600(Es)
C6ANX>W2,W8 C6AFP>W9 W5,XE2,W7>W4 W5>W5 16-1700 W5>W5 W7>W5(ms) W4>XE2
W0>W7(ms) 17-1800 XE2,W8,W5>W4 W5,W9,XE2>W5 W9,W4,C6AFP>W0 18-1900 W0>W1
K0EC>XE2 21-2200 V44KAI>W4 22-2300 W3DOG,VE3UBL,W2>W4 W3>W2,VE3,W9
W2>KP4 W9>W1 W0,C6ANX>W8 23-2400 (Es) C6ANX>VE3,W4,W5,W8 XE2,KP4,W8EH>W4
W4>W1,W3,W2 TI2NA>W4 W9DR/4,W9,W3,XE2>XE3 W2>W2 HR2DMR>W2,W3

Feb. 4 00-0100 (Es) W4>W4 TI2NA>W4 W4,W5>W5 1240 W4>ZF1EJ(ms) 1310 W4>W4 20-
2100 K2ZD>W4 21-2200 PU2OKE>XE3ISS W4CHA>W4 22-2300 Es WZ8D>W3
C6ANX>W3,W4,W8 HC8GR>XE3ARV W4>W2 W5>W4 TI5KP>TI7/N5BEK 23-2400
W6,W9DR/4,W7>W5 C6AFP>W3,W0 V44KAI>PY2LBD XE1GRR>W5(Es)
W4>W8,W0,W9,W3,W4 TI2NA>W7

Feb. 5 00-0100 Es W7,XE1,XE2,TI7/N5BEK,HR2DMR,YN2N>W5 TI5KD>W5
TI8II,HR2DMR>W7 XE2,KA7BGR,W4,W5,TI2NA,TI7/N5BEK>W7 W4>W9
9Y4D,V44KAI,FY7THF>PY5HOT W0,XE2>W0 XE1,YN2N>W0 XE2,HR2DMR>W6
01-0200 XE1>XE2,W8,W5,W7,W6,W0 XE2>W6,W9,W5 W4,TI7/N5BEK>W7 HR2DMR>W7
W6,W0,YN2N>W5 W7,W8>W9 02-0300 (Es) W5,W6,W7,W9,XE2>XE1 W7>W4,W9,XE2
W6>XE2 W4>W0 03-0400 XE1>W6 XE2>XE1 PU2>PY2 0427 TI2NA>W7 0525 W4CHA>W4
1050 W9>W9 12-1300 ZF1EJ>W4(ms) 14-1500 W4>W3(ms) W6>W7 1657 N0LL>W5(tr) 1933
LU5EGY>PY2REK 2059 W4>W8 21-2200 PU2>PY2 22-2300 TI2NA>W6 XE1>W5(Es)
TI7/N5BEK>W6,W7 XE2>W4 TI5XP,TI2NA>W7 23-2400 XE2,W0,W7>W5
XE1>W0,W4,W7,W5,XE2 V44KAI>PY2REK

Feb. 6 (Es) 00-0100 XE2>W5,W6,W7,XE1 XE1>W7,W8,W5 W5>W8,W6 01-0200 W5>W6,XE1
XE2,W7,W5,W6,W0>XE1 XE2>W7,W0,W6 02-0300 W7>W4,W5 03-0400 XE2K>XE1 05-0600
W7>W7 12-1300 W4>W4,KP4 13-1400 W8>W4(sc) W0>W7(ms) 17-1800
LU5EGY,LU7FTF,LU5FB,LU4SH,LU1FVE>PY2REK PP5JAK>LU1FVE 18-1900
LU5FB/b,LU7FTF/b,LU8EML/b,LU4HH/b,LU5EGY/b,LU7YS/b,CX2UA,PY2,LW2ETU,CE3AA,
LU1DMA>PY4AQA PP2>PP5 PY4>PY2(Es) 19-2000 VA2FZN>VE2

LU7JTW,CE4WJK>PY4AQA CX1DDO,LU5EGY/b>PY2UDA PP2RON>LU4DMX PR8ZIX>PV8
LU4DMX>PY2UDX LU7JTW>PY4AQA 20-2100 LU7JTW>PY2UDX
LU5EGY/b,LU7FTF/b>PP2RON LU4HH/b,LU5EGY/b>PY4AQA KP4>W4 21-2200 V44KAI>W4
C6ANX>KP4 2243 W4>KP4

Feb. 7 00-0100 V44KAI>W4,PY2REK 01-0200 KP4>W4 PU1>PY1 W4CHA>W4 12-1300
W4>W1 W4>ZF1EJ(ms) 13-1400 W4>W4(tr) W1,K2ZD,W3,VE2>W4 W1>VE3 W0>W0
W3>W5(Es) 14-1500 NL2XM>W5(Es) W4>W1,W2,W3,ZF1EJ W2>W3 W3APL>W5 W8>W8 15-
1600 KK4XO>W3(Es) KP4>W1,W2 W1>W4(Es) W4>W2 C6AGN>W8,W9 TI2NA>W4 16-1700
Es W4>W4,W3,W8,W0,C6AGN NOLL>W5,W6 C6AGN>W0 17-1800 W4,C6AGN,ZF1EJ>W4
LU7FTF>LU8MB,CA3SOC PY5AQ>LU1SHF 1905 W7>W0 20-2100 W3>W0(sc) W7>W4
W4>W8 23-2400 LU8EML,LU5EGY>CE6RC PP5XX>PU5AAD

Feb. 8 0144 YV5KG>PP5XX 0251 VE2>VE2 0313 XE1>XE1 0415 XE1>XE1 12-1300
W4>ZF1EJ(ms) 1357 W4>W5(ms) 14-1500 W7>W5(ms) LU5FB/b,LU4HH/b>PY4AQA 1630
NOLL>W5 1836 LU5EGY/b>LU8YD 19-2000 W4CHA,C6AFP>W4 20-2100 LU7FTF/b>CE6RC
21-2200 LU5FB/b>CE6RC 22-2300 W4>W1 23-2400 PY5HOT>WP4LUU KP4BJB>PU4CQQ
W2>W4 9Y4D>PY2REK

Feb. 9 00-0100 CX5DH,PY4KFBN>KP4BJB V44KAI>PY2REK PY4,PY1,PY2,PU4,PU2,
PU5>PS8 OA4TT>PY1ZV,PY2UDX,PU2PJA 8P6ER>PU2PJA PY5HOT>KP4BJB
PU7,PS7>PU4 PS7>PY2,PU2 PT7>PY1,PP2,PY4,PU4 W4>W8(Es),VE3 01-0200
ZP9SC>PS8RF PY5>PS8 TI2NA,V44KAI,YV4AB,W4VC>OA4TT 12-1300 W4>ZF1EJ(ms) 1543
W4>W8 16-1700 W8IF,W4>VE2

Feb. 10 00-0100 V44KAI>PU4CQQ W6>W5 01-0200 YV4AB>CE3RR XE2K,N6NB>W5
YV4DYJ,9Y4D>CE3RR YV4AB>LW3EWZ W4>ZF1EJ 22-2300 W7>W4,W5,W0
WB5LLI>W5(Es) W4,W5>W6 XE2K,W0MTK>W5 XE2>W0 K4TQR>XE3 23-2400 Es
PT9,9Z4BM,9Y4D,9Y4VU>PT7ZAP W6,W7,W0,W5>W5 W7,W6,W0>W0 K4TQR,N7LT>W7

Feb. 11 00-0100 Es W5,NOLL,TI2NA>W7 W5,W6,W0,XE2>W0 W7,W5>W4 W6>W9
V44KAI>PY2REK XE2K>W5 01-0200 Es W5,W6,W0,W7,W8,W9,XE2>W0
W5,W6,W7,W9,W0>W5 W4,W6,W7>W4 W9,W7,W6>W7 YV4AB>LW2EQS 02-0300 Es
W7>W5,W8,W9 W5,W6,W7,W8>W0 W5>W5(tr),W6 W7>W7 W4>W6,W7 FY7THF>OA4TT 03-
0400 Es W5>W6 W7>W8,W0,W5 VE3>VE3 W5>W5 04-0500 Es W8IF,W4>W4 C6AFP>W4 12-
1300 W4>ZF1EJ(ms),W0 2111 XE1GRR>XE1 2255 V44KAI>PS8RF 23-2400
PU4,PP5,ZP9SC>PS8 PT7>PY2,PU4,PY4 KP4EIT>PY2REK,PU4CQQ
V44KAI>PY2REK,LW3EX YV4AB>PY2REK,LW3EX

Feb. 12 00-0100 XE1>W5 W0>W7 01-0200 YV4AB>CE3SX 02-0300 W3>W8 03-0400
W4CHA,C6AFP>W4 1506 XE2K>XE1 1958 47.9-49.2(CE)>LW3EX 20-2100
CE3AA,CE3SX,CE4WJK,CE3RR>LW3EX LU5FB>CE6RC LU7FTF>CE3SX,CE6RC 21-2200
W1>W1 W4>W4 23-2400 PY7>PU4 PT7>PY2 PU7,PS7>PU4 XE1GRR>W5
PY1,PY2,PU4>PR7 LU7FTF>PR8ZX KP4EIT>PY2REK YV4AB>LU8EML,PY2REK

Feb. 13 00-0100 PR8ZIX>PY4 PY3AT>KP4EIT LU5EGY>YV1DIG W5>W4 TI2NA>PY4AQA
02-0300 W4>W4 XE1GRR>W5,W7(Es) 1232 W4>W4 1502 W0>W5 17-1800 W4>W5 18-1900
W9>W5(ms) 2131 V44KAI>PY2REK 23-2400 YV4AB>PY2REK V44KAI>PY4AQA

Feb. 14 00-0100 W0>W8,W4 W9,W7,W8,W4>W5 YV4AB>PY2MAJ V44KAI>PY2MAJ
K0EC,W7>W4 01-0200 Es W5RP>W8 YV4AB>CE3RR W0>W5,W4 W7>W5,W7,W0
W5>W4,W9 02-0300 Es W5>W0,W7 W7>W0,W4,W9,W5 W6>W4,W8.XE1,W0 W0>W4,XE2
V44KAI>PU2LBD 9Y4VU>CE1/K7CA XE1GRR>W7 03-0400 Es XE1,W5>W6,W7 XE2>W0.W5

W0>W7,W0 1159 LU5EGY>PY4AQA 12-1300 LU5FB 48.0-48.3(CE)>LW3EX
LU5EGY,LW3EX>CE6RC 13-1400 W4>W4 W0>W7(fsk441) W0>W4
LU7FTF,LU5EGY,LU5FB,LW3EX,LU9DTC>CE6RC W8>W0 CE4WJK>LW2DDS,LU6DLB
CE3AA>LW3EX 14-1500 CE4WJK,CX8DS>LU4DMX 19-2000 VP9>VP9 KP4>W1 2051
W8>W0 21-2200 W0>W0 W3>VE2(ms) 23-2400 V44KAI>PS8RF,PY5HOT PY2>PY2
PP5,PU4>PS8 PR8ZIX>PY5 YV4AB>PY5HOT TI2NA>PY4AQA,PY2REK

Feb. 15 00-0100 LU3HR>PS8RF PT9>PS8 V44KAI,YV5OK>LW3EX TI5XP>PY5HOT
PT7>PP5 YV4AB>PY2MAJ,CE3SX PU2,PT7>PY4 V44KAI,HK4SAN,FM1FV>CE3SX
OA4DKI>YV1DIG W3>W4 PT9,PU9>PU7 FM1FV>PY5HOT 01-0200
V44KAI>PU2LBD,PY5HOT PU4>PS7 PY3,FM1FV>PS8RF TI2ALF>CE3SX,LU6QI,PY5HOT
OA4DKI>PY5HOT PS8>PY2,PU2 YV4AB,TI2NA,TI5XP,FM1FV>PY5HOT
TI2NA,YV5DLN>CE3SX FM1FV>LU8MB,PY3ARZ LU1FVE>YV5ORN LU9HH,HC8GR>PS8RF
02-0300 LU7FTF>YV1DIG(tep) OA4DKI>PP5JAK LU6HFQ>PS8RF P43A,FM5AA>LU8MB
PU2,PU9>PS8 V44KAI>PP5JAK,PU2LBD 0339 V44KAI>PS8RF 0424 V44KAI>PS8RF 12-1300
W4>W4,W8 13-1400 W5>W7,W9 17-1800 W7>W7 20-2100 LU8DYO,LU5FB>PT9IR 22-2300
PU4>PY4 23-2400 V44KAI,YV4AB>PY4AQA V44KAI,YV4AB,KP4EIT,PR8ZIX,KP4SQ>LW3EX
W4>W5 PY5HOT,PT7ZAP,PU2LBO,PR8ZX,CX6DN>KP4EIT PR8ZIX>PY2 YV4AB>LW2EQS
PY2,PY5>PS8 LU7FTF,LW3EX,LW4DU,LU6QI,LU5FCI>PR8ZX XE3RCM>TI7/N5BEK
KP4EIT,YV4AB>PY2MAJ CX6DN>PR8ZX V44KAI>PY2MAJ YV4DYJ>LW3EX,PU2LBD
PT7>PP5,PY2 TI2NA>W4 PY2>PR8

Feb. 16 00-0100 PU4>PR8 9Y4VU,YV4DYJ,9Y4D,YV6BFE,LU3HS>PR8ZX PT9>PR7,PR8
PS8>PY1,PT7 9Y4VU>PY4AQA,PY2MAJ PY2>PR7 PU5TOL>KP4EIT PY2AJ>KP4EIT
HC8GR>KS7DX PT7>PY1,PY5 YV6BFE,KP4BJB,NP3CW,9Y4VU>PY5HOT
9Y4D>PY4AQA,PU2LBD,CE3SX CE4WJK>PU2BFG 8P6DV>CE3SX,LU3HS PU7,PY2>PU2
PU5>PU1 01-0200 PR8ZX>CE1/K>K7CA PT7,PY2>PU2 PW8>PY1 P43A,YV4AB,YV4BFE
>CE3SX PS8>PY3 LU4DMX>PS8RF P49MR>PP5JAK,PY2LED V44KAI,PR8ZIX, YV4AB,
YV7RCM,P49MR,HP1AVS,TI2NA,YV5DRN,TI5XP,NP2KW>PY5HOT
YV7RCM>PU5TOL,LU3HR,PY2LED,LU2LBD P49MR>LU4DMX,PS8RF,PR8ZX
YV6BFE>PY2LED 02-0300 YV5DRN>YV4 HP3TA>CE1/K7CA P49MR,HP1AVS>PY5HOT
9Y4VU,P49MR,HP1AVS>PY5HOT TI2NA,PS7DX,HP1AVS>CE3SX P49MR>PY1RY
HP1AVS,P49MR>PY2LBD PY2>PS8 HP1AVS>PY4AQA,LU8MB,LU1FVE
P49MR,FM1FV,YV4AB,YV5OK>CE3SX CE1/K7CA>YV1DIG 03-0400 YV5OK>CE3SX
LU5PCI,PY5HOT>FM1FV 05-0600 VE8NSD,VE8RT>W7 1550 YV5>YV7 2051 VE3>W9 2116
N8PUM>W9 aurora 23-2400 V44KAI>LW3EX PV8AZ,CX1DDO,CX5CR>KP4EIT
WP4WR>PY5AB

Feb. 17 00-0100 YV4DYJ>PY7XAF YV4AB,KP4EIT,V44KAI>PY5HOT
9Y4VU,NP2CW>PP5JAK KP4EIT>PY5AB YV4AB>PU4CQQ PY5>PP5
V44KAI,YV4AB>PP1CZ 9Y4VU>PY2AB,PY4AQA,PP2RON,PY7XAF,PU1SHF,PU4CQQ
YV4DYJ>PP1CZ,LU3EE,PP5JAK,PP2RON HP3TA>PY4AQA,PY5AB,PP5JAK PT9>PS8
YV4AB>PY5AJ P49MR>PY4AQA YV4DYJ>PS8RF 01-0200 P49MR>PY4AQA,PU4CQQ
YV4AB>CE3SX P49MR>LU1DMA,LU7HZ V44KAI>PS8RF HP1AVS>PY4AQA,LU7HZ
TI2NA,HP1AVS,8P6DV>CE3SX W2>VE3,VE2 19-2000 47.9-49.2(CE)>LW3EX 2158
LU8DCH>LW3EX 22-2300 CE3AA>LW3EX CX6DN,LU3EE>CE3SX 23-2400
V44KAI>PS8RF,PU2LBD,LW3EX,PT7TT PR8ZIX>CE3SX KP4EIT>LU2BDE KP4EIT>PU2LBD
YV4AB,PR8ZIX>LW3EX KP4EIT>CX7CO,PY5HOT PS7>PP2 PU2>PT7 LU5EGY>PS8RF
PP2RON>LW3EX PR8ZX>CE3SX PY4,PU5>PT7

Feb. 18 00-0100 PP2RON>LU3EE PY7>PP2 PR8ZX>CA3SOC,CX7CO PY4,PT9,PS8>PT7
PT7,PU7,PY7>PU2 ZD8VHF>PS8RF CE1/K7CA>PP2RON,PT7TT,PS8RF,PP2XX PS7>PY4
PR7,PS7,PY9,PP7>PT9 PU7>PP5 YV4DYJ>LU1DMA,LU3HS TI2NA>PY1RO

YV4AB>LU1DMA CX1DDO>PS8RF 8P6DV>CE3SX TI5XP>PY5HOT PU4>PR8 01-0200
PT9>PY4 PU9OSB>CE3SX CX1DDO>FG1PP ZD8VHF>PT7TT 01-0200 TI5XP>PT9PA
PY3>PS8 YV4AB,PY9MP,YV5OK,TI2NA>CE3SX ZD8VHF>PT7ZAP
YV5IAL>LU4EFC,LU4DMX,LU3EE,PY4EEP,PU2LBD LU3KCS>PU2LBD
OA4DKI>PY4AQA,PU2LBD CX4CR>PS8RF PU9OSB>LU7MCS,LU6FQO
CX1DDO,CX7CO,LU4DMX,LU1DMA,CE3SX,PU5MXT,PT9IR,LU3EE>YV6BFE PY9>PU2,PY4
W2>W4 PR8>PY3 PY1>PS8 CX4CR>OA4DKI TI2LF>CE3SX PU9>PY4 PT9IR>LU7HZ 02-
0300 PT9,PU5>PS8 TI5XP>PY5HOT,CE3SX PU9,PY9>PU2,PY4 YV5IAL>PY4EEP
LU7HCS>YV6BFE HC1MD,HC3DES,TI5KD,TI2LCO(tep)>CE3SX HK3DES>PY4AQA,PU2LBD
TI5KD>LU7HZ,LU6FQO,CE3AA TI2LCO,PY9MP>LU7HZ W5>W5
HK3DES,YV1DIG,FM5AA>CE1/K7CA HC8GR,HC1MD>PY4AQA 03-0400
HK3DES>LU3DDH,CA3SOC HC1MD>LU1FVE,CA3SOC W8>W4(Es),W4 13-1400 W4,W8IF
2023 E4>VE2 2107 48.3-49.2(CE)>LW3EX 23-2400
V44KAI>PU4CQQ,PY2REK,PY2MAJ,PS8RF YV4AB>LW3EX,PY2MAJ
PY9>PT7 PV8>PT9 PR8ZIX>PY2 PY2MAJ>KP4BJB,WP4JCF YV5OK>LW3EX PU2>PY2
YV5KG>PU2OKE,PT9PA,PR8ZX,PY5HSD,LU1DMA,PY2MAJ PR8ZIX>PU4 PY5HSD>KP4BJB
PY1ZV,PY2SRB>YV7BCM PP7,PU2>PV8 YV7>YV5 HI8LAM>PP5XX PU7>PU4

Feb. 19 00-0100 PV8AZ,PU8TEP>CA3SOC YV7RCM>PP5XX HI8LAM>LW3EX
8P6DV>CX5CR,PU2UJG,PU2OKE,LU7HZ,PP5XX PY9,PT9>PR7 W9DR/4/b>PS8RF
KP4BJB>PU4CQQ PY9MP,KP2/K3CT,PY2SRB,PP2RON,CE1/K7CA,PT9PA>PY0FF
HK3DES>PY2MAJ PS8>PT9,PY2,PU2 PV8>PY1 KP4EIT>PP5XX YV4AB>PP1CZ
PS8>PU2,PT9,PY5,PY4,PP2,PY2 PU8>PY4 V44KAI>PP1CZ KP2/K3CT>PY1RO,PP5XX
YV5OK,YV7RCM>PP1CZ YV5KG>PY1ZV,PP1CZ PR8>PY2 PY9>PY1,PU4,PP1 PU7>PU2
PY4SKY>HK3DES 01-0200 PY5AJ,PY2LUC>YV7RCM PU8TEP>CE3SX
OA4DKI>PY2REK,PT9PA PS7>PY5 YV5>YV7 PU5TOL>>YV7RCM 02-0300 TI2NA>PY5HOT
HC8GR>PY4AQA,PY5HOT HP3TA>PY5HOT V44KAI>PU2LBD YV4AB>CE3SX 23-2400
YV4AB>LW3EX

Feb. 20 00-0100 YV5>YV3,YV7 LU4EFC,PU5TOL>9Z4CT PU2LBD>HK3DES W5>W5
PY2>PY2 01-0200 W5HN>W4 PY9MP>CE4WJK W5>W4 W3>W3 W5RP>W5 PY9>PU2
TI2NA>PY1ZV TI5KD>PY4AQA PY9>PY4 V44KAI>PU2LBD 02-0300 YV4AB>PY4AQA
W5>W5,XE2 1244 W4>W4 14-1500 W0>W8(jt) W1,W5>W8 15-1600 W4>W8 16-1700
W4>W5 20-2100 CE3AA>LW3EX 48242(Eu)>PY1 V44KAI>PS8RF LU5EGY>CE6RC
48.3-49.2(CE)>LW3EX 23-2400 V44KAI>PY4AQA,PY2REK TI8AA/TI5>TI5XP

Feb. 21 00-0100 YV4AB>LW3EX WP4JCF,KP4EIT>PY4AQA PS8>PT9
WP4JCF>PT9PA 9Z4CT>PY2REK,LU1DMA,PY4AQA,PU2KSQ PU7,PS8>PY2
8P6DV>PY2SRB,PU2LBD YV5OK>PY4AQA V44KAI>PY2LBD 01-0200 PU7>PP2
PR8>PP5,PU2,PY6,PP2,PY5,PY2 PR8ZX>LU1DMA 9Z4CT>PT9PA
LU7FTF,CE4WJK>PR8ZX PY1>PY4 TI5XP>PY5HOT 02-0300 TI5KP>PU2LBD
PT9>PR8 LU5FCI>PR8ZX PY9>PY7 P49MR,YV5ZV>PR8ZX PR8>PU2
P49MR>PY1RY,PY4AQA,LU2MCA,PU4CQQ,PU2LBD TI2NA>PY4AQA
HC8GR>PY4AQA 12-1300 W4>W4 1352 W0>W8 19-2000 W8>W0 20-2100
CX2CC,PY3AT,LU9AEA,LU1DMA>CE4WJK CE3AA>LW3EX 22-2300 PU1>PY1 23-
2400 V44KAI>PS8RF,PY4AQA PS8>PT9

Feb. 22 00-0100 PU7>PP2 9Z4CT>PY4AQA,PY5HOT,PY5CG,PY2HT ZP5AA>PS8RF
PP2SIX>PS8 PR8ZIX,TI2NA,9Y4VU,V44KA,YV4AB,OA4TT,OA4CVQ, KP4RY,
KP4EIT>PY5HOT OA4TT>PY2REK,PY2AB W8GTX>W5 01-0200 W8,W9>W5 W0>W8
V44KAI>PY2HN YV4AB>LU1DMA YV5OK,P49MR>PY2REK 9Y4FV,YV5ZV>PY2SRB

W3>W2 02-0300 Es>W5,W8>W0 09-1000 W4>W4,W3 1334 W4>W5 1542 N0LL>W5(tr) 2259
V44KAI>PS8RF 23-2400 PY5,PY2,PU2,,PY1,PU4>PS8RF PR8ZIX>LW3EX PY2>PT7
PY7,PR7>PP2 PU4>PR7,PU7 PR8ZIX>CE3SX,PU4CQQ

Feb. 23 00-0100 PR8ZX>CE3SX CX2UA>PR8ZX PR7>PP5 LU4HH,PP5>PS8RF
KP2/K3CT>PY2HN,PP5XX,PY5HOT,PS8RF,PY2SEX,PY4EEP KP4BJB,WP4AZT>PY5HOT
WP4WR>PS8RF,PU4CQQ PY2,LU7FTF,CE3AI>PS8RF 8P6DV>PP5XX 01-0200
PR8>PY5,PU4 WP4WR>LU2LBD PU7MAN,YV5KG>CP6UA W4>W4 PU2>PS8
OA4TT>PP5XX,YV5ER,PY1ZV,LU3EE,YV5KG YV5IAL>PU2LBD TI2NA>OA4TT
YV5ZV>LU3EE YV5OK>LU5FMC 03-0400 YV4AB>LU7FQP 8R1DB>OA4TT,CE3SX
YV5KG>LU3EE HK3O>LU3EE,PY2LUC OA4TT>PY2SEX 1248 PR8ZX>CE3SX 13-1400
W4>W5(jt),W4 17-1800 VE3>VE3 22-2300 PP2SIX>PT7 23-2400 PY2,PU4,PT9>PT7
KP4RY,9Z4CT,V44KAI>PT9PA PR8SIX>LW3EX,PT9

Feb. 24 00-0100 PS8RF>PT9 PU2,PY2,PT9,PU4>PR8 PT8,PU7,PS7,PY2>PT9
WP4WR>PR8ZX PU4>PT7,PS7 01-0200 PT9PA>CP6UA 02-300 V44KAI>PT9PA 13-1400
W4>W0 14-1500 48.3-49.2(CE)>LW3EX 21-2200 PU2>PY23 22-2300 V44KAI>LW3RX 23-
2400 PR8ZIX,PS8RF>LW3EX YV4AB,YV5OK>LW3EX WP4WR>PT9PA
PY4EEP,PY2BW,PY5HOT>CP6UA

Feb. 25 00-0100 LU7FTF>PS8RF YV4AB>CE3RR CP6UA>PU2OKE,PY2SRB,HK3DES
PR8ZIX,YV4AB,V44KAI>PY2OC YV4AB>LU1DMA V44KAI>CE3SX WP4WR,OA4TT>PU2OKE
OA4TT>PY2MAJ HK3DES>PT9PA,PY2MAJ 01-0200 8P6DV,PY9MP>CE3SX(tep)
OA4TT>LU3EE PU7>PT9 02-0300 LU1FVE,PT9PA>YV5KG
HC3AP,OA4BTO,OA4DKI,TI5KD,OA4CVQ>PT9PA 03-0400 PR8ZIX>HC2FG
OA4BTO,OA4CVQ>PR2LUC HK3O,HC2FG>PT9PA 12-1300 W4>W9 131-1400 W3>W5(ms)
14-1500 W4CHA>W4 1559 48.3(CE)>LW3EX 17-1800 49.2(CE)>LW3EX 20-2100
LU7YS>LW3EX 21-2200 PR8ZIX>PT7 LU1MPK>CE3RR 22-2300 PY2>PU2 PP8>PT7,PS8
V44KAI>PS8RF PU4>PT7 23-2400 PU4>PS8 PR8ZIX>PU4,CE3SX(tep) KP4EIT>PY5HOT
PP2>PT7 ZD8VHF>PT7TT

Feb. 26 00-0100 9Y4D,YV5IAL>PU2UKE CE3SX>HK4BKB,KP4EIT,PY9MP
YV5IAL>PS8RF,PY5HOT,PU4CQQ ZD8VHF>PT7TT PU5>PP5 TI2NA>PY5HOT
CP6UA>PY5HOT,PY2MDJ 01-0200 YV6BFE,OA4TT,TI5XP,YV5IAL>PY5HOT OA4TT>PP5XX
HK3DES>LU6QI YV5IAL,9Y4VU>PP5XX V44KAI,9Y4D>PU2LBD OA4TT>YV1DIG
9Y4VU>PT9PA XE2,W5>W5 YV4AB>CE3SX CP6UA>PY2MAJ 22-2300 49.2(CE)>LW3EX 23-
2400 47.9(CE)>XE3ARV V44KAI>PS8RF PS8>PU4 NP3QT>LW3EX,PS8RF YV4AB>LW3EX

Feb. 27 00-0100 CA3MBH,LU7FTF>PR8ZX YV4AB>CE3SX 01-0200 PT9>PS8
YV5OK,TI2NA>CE3SX(tep) ZR2A>PT9PA,PR8ZX CX1DDO>HK3DES CE3AA>HK3O
LU1MPK>PR8ZX 02-0300 TI2NA,HK3DES,V44KAI,YV4AB>PY5HOT HP1AVS,TI5KD>PT9PA
HP1AVS>CE3SX,PY4AQA 04-0500 E51WL>W7GJ(eme -26) 12-1300 VE2>W8(jt) 13-1400
W4>W4 17-1800 W1>W9(ms) 22-2300 48.3(CE),LU7YS>XE3ARV V44KAI,PU4CQQ>PT7TT
XE3ARV>CX2AQ PU4>PT7 23-2400 XE3ARV>LW3EX,LU1DMA,LU8DIO LU7YS>PT7TT
PU7,PT7>PU4 VK7RAE>PT7TT(309) PR8>PU2 V44KAI>PY2LAD LU8DIO>XE1MEX
PS8RF,PR8ZIX>PY2 XE3ARV,PR8ZIX,YV4AB>LW3EX PS8RF>PU4,LW3EX
PU7MAN,PU2LBD>CP6UA

Feb. 28 00-0100 PY7LFB,PR7AR>CP6UA V44KAI>PY2REK 06-0700 K2ZD>W7GJ(eme -19)
13-1400 W4CHA>W4 W5>W0 15-1600 PY4>PU4 W0>W9 22-2300 ZD8VHF>PS8RF
V44KAI,ZD8VHF>PT7TT 23-2400 V44KAI>PS8RF PR7,PR8>PY2 PR8ZIX>LW3EX
PR8ZX>LW3EX,PT9 CP6UA>PR7AR PS8>PY4,PU2 W4>W3

Asia and the Pacific

Asia

For most of the month MUFs remained frustratingly below 50MHz, with 46 MHz VK/ZL tv received in Japan on 11 days but 50MHz contacts reported on only 3 – the 24th, 25th and 27th. . There was also an opening between Australia and Guam on the 27th. Tep appears the most likely mode in all cases. Apart from the openings to Australia this was a quiet month for Japan. Outside Japan, there were a few reports from Hong Kong and the Philippines, almost all within Asia, but none from South Korea.

Feb. 6 0525 BV2YA>DU7 VK8>DU7

Feb. 7 02-0300 BV2YA,VR2SIX>DU7 03-0400 JR6YAG>DU7,VR2

Feb. 8 05-0600 BV2YA,JR6YAG,VR2SIX>DU7

Feb. 9 0609 45240,45250,45260(ZL)>JA5

Feb 11 46170(VK)>JA5

Feb. 12 46172(VK)>JA5

Feb. 13 04-0500 46172(VK)>JA3 45240,45450,45260(ZL)>JA3

Feb. 14 46272(VK)>JA3 46170(VK)>JA5

Feb. 15 0501 JR6YAG>DU7 0538-0543 BV2YA,VR2SIX>DU7

Feb. 18 0321 46172(VK)>JA3

Feb. 19 0428 46172(VK)>JA3

Feb. 22 0359 46172(VK)>JA3 0901 VR2SIX>DU7

Feb. 23 0256 46172(VK)>JA3

Feb. 24 03-0400 46172(VK)>JA3 04-0500 VK4EK,VK4CP>JH7XRZ
VK4CP,VK4WIN,VK4DDC>JO3UGX VK4MA>JA3AVO VK4RGG/b>JG3LEB VK4CP>JE1RQP
05-0600 VK4MA>JO3UGX,JN1NDY VK4EK>JR2HCB VK2EGC>JH7XRZ
VK2(?)OT>JH1WHS VK4BKP>JM1TWR 06-0700 VK4MA>JH7XRZ

Feb. 25 12-1300 VK8MS>JG3LEB

Feb. 27 07-0800 46172(VK)>JG3LEE 10-1100 VK4ABW>JE2XBY VK4TL,VK4ABW>JO3DDD
JA6YBR>KG6DX 11-1200 JR6YAG,VR2SIX,BV2YA>KG6DX VK4ZFC>JE6AZU DU7>JA3,JA2
12-1300 VK8VF>KG6DX(tep) VR2SIX,VK4ABW>DU7/PA0HIP

Feb. 28 0438 46172(VK)>JA5

Oceania

The salient event of the month was a rare contact between South Africa and Australia on the 8th. There was also a brief opening between California and New Zealand on the 20th. Asian television was reported on the 2nd, 3rd, 5th, 15th, 17th, 18th, 19th, 20th, 21st, 22nd, 24th and 25th and from an unidentified Middle Eastern source on the 13th. These apart, several exotic callsigns appeared in logs – notably VK9WBM, FK8SIX, A35A and E51CG – but while these quicken the pulses of DX chasers they are unremarkable in propagation terms. The majority of reports related to contacts within Australia during the wane of their sporadic-E season; VK<>ZL openings were markedly fewer than in December/January.

Feb. 1 01-0200 VK3>VK4 04-0500 VK8RAS>ZL1 VK6>ZL1 VK4RTL,VK2>VK3 05-0600 VK8RAS>VK3 06-0700 VK8VF>VK3 VK6>ZL1

Feb. 2 0051 9M2tv>VK6 0340 49750(BY)>VK6 10-1100 49750(Russia)>VK6 49750(Middle East)>VK6 11-1200 48239.6>VK6 12-1300 VK8VF>VK6

Feb. 3 0451 R1tv>VK3 07-0800 VK8RAS,FK8SIX,VK4RGG>VK3 09-1000 VK6RPH>ZL2 VK6>ZL2 10-1100 VK6>VK3

Feb. 4 0424 VK9WBM,A35A>E51CG

Feb. 5 0152 VK5RBV>VK2 0844 49750(BY)>VK6

Feb. 6 0059 VK2>VK3 2158 A35A>VK4(Es)

Feb. 8 2352 ZR6ZRW(KF15)>VK5ASU(PF07)

Feb. 9 21-2200 VK4>VK3(Es) 2300 VK4>VK3(Es)

Feb. 10 2317 VK8RAS>VK3 VK5RBV>VK6

Feb. 11 0113-8 VK4,VK8RAS>VK3

Feb. 13 05-0600 VK8RAS>VK3 0819 R1tv(MidEast)>VK6

Feb. 15 0050 45240(ZL)>VK6 0817 KazakhTV>VK6

Feb. 16 2210 VK2AHV>ZL2 2357 VK5,VK4>VK3

Feb. 17 08-0900 BYtv,VK8RAS,MongoliaTV,UAtv,EY8tv 09-1000 VR2SIX>VK3

Feb. 18 05-0600 E2tv,R1tv>VK6

Feb. 19 0454 49750(BY)>VK6

Feb. 20 01-0200 ZL2DX>K6QXY 0744 UAtv>VK6

Feb. 21 0136 VK4RGG>FK8IA 02-0300 VK4RGG,VK4RTL>VK4,VK3 VK2RHV>VK3 0458 VK8RAS>VK3 0515 VK5>VK3 07-0800 49753.9(UA9),EX8tv,49750(BY)>VK3 48249.9>VK6 55250(DU1)>VK6 49749.9(EY8)>VK3 08-0900 JA6YBR>VK3OT 3E6AZU,JG3LEB,JA5FFJ,JA1RL>VK3OT UAtv>VK3 09-1000 JA6YBR>VK3OT VK8RAS>VK3 12-1300 JA6YBR,JA4FM(tep)>VK3OT

Feb. 22 02-0300 02-0300 48239.6(HS),55250(HS),482498(9M)>VK6 03-0400
49750(R1),55250(HS)>VK6 VK8RAS,49750(UA0)>VK3 06-0700 UA0TV,49753.9(UA9)>VK3
PA0HIP/DU7>VK3OT 49739.5(UA9)>VK6 07-0800 49739.2(EX)>VK3
49740(UA6),VK8RAS>VK3 49750>VK6 09-1000 VK8RAS>VK3

Feb. 23 01-0200 VK4RGG>ZL2

Feb. 24 03-0400 JA1RJU>VK3OT,VK4EK 49749.9(PN53)>VK3 04-0500
JH8ZND,JH7XRZ>VK3OT(tep) JR2HCB>VK3OT 05-0600 UA0tv>VK3

Feb. 25 03-0400 49749.9(UA0)>VK3 04-0500 UA0tv(PN53)>VK3(tep) 49750(BY)>VK3(a-tep)
11-1200 VR2SIX>KG6DX 12-1300 BYtv>VK8(e-tep) 13-1400 DU7>VK8RAS

Feb. 27 11-1200 DU7/PA0HIP>VK4TL

28MHz

28 MHz to and from the UK

At long last, the better figures posted in the first section of this Report were working through into improved propagation. Only modestly, to be sure, but this was the first month in longer than one cares to think when all continents were worked from the UK and the majority of the forty or so countries reported to have been worked were outside Europe. (The European countries in the list below were appear to have been by backscatter, with auroral-E and tropo (possibly) making a modest contribution.) The listing as usual notes only what was reported; there could well have been others that were not reported: A4, A6, A9, A7, C3, CT3, CX, EA8, EI, FM, FR, I, J5, KP4, LU, LY, OX, PA, PY, SV3, SV5, SV9, TL, UA, UA9, UR, V3,VE, VK, VK9(Christmas I), VP8, W, YI, Z2, ZS, 3B, 4L, 4X, 5B, 5Z, 6V, 6W, 9A, 9J, 9M

Although only a few beacons were reported, several of them only once, this was a larger

	C3OP	IZ8DXB	OH9TEN	SV3AQR	SV5TEN	5B4CY
UTC/Date	9	13	2 15	15 26	23	15 18 19 21 23 24 25
00-03			2(AuE)			
03-06						
06-09				5 1		3 2
09-12					9	3 5 + + 1
12-15						+ 5
15-18						
18-21	+	1				
21-24			6			

	CS3B	ZS6DN	3B8MS	4X6TU	5Z4B
UTC/Date	19	4 18 19 21 22 23 26	26	12 14 15 17 18 19 21 22 23 24 25 26 27 28	19
06-09				4 3 +	
09-12		+ 1 2 3 2		+ 5 5 3 + 3 5 6 5 4 4 4 5	2
12-15	2	+ 3 1	3	6 4 5 4 4	
15-18		+ 1		4	
18-21					
21-24					

crop than in February 2009. Reception of 5B4CY on seven days, albeit at modest strengths, was the most notable feature. (Numbers in the table above give the S reading reported; + is as usual used when the strength was not estimated.

It was good to find the 3B8MS beacon once more being heard in the UK, even though it was only once. Recalling its previous incarnation, UK operators should expect to hear it much more often as the cycle progresses. Already, this month, it was received in southern Europe on several days. Meanwhile, the Tel Aviv beacon was reported in the UK amateurs on 14 days.. As with CS3B and ZS6DN these UK reports were concentrated in the second half of the month.

28 MHz Propagation Outside Britain

Europe in general enjoyed improved results by comparison with 2009. In February 2009 there were no days when Europe<>Oceania contacts were reported. This year there were 21. Asia<>Europe improved from 3 days to 21, Africa<>Europe from 11 days to 24, Europe<>North America more modestly from 5 days to 8 and South America increasing from 4 days to 20. Similar gains occurred in the other continents. For the first time in

UTC Days with Reported Contacts Within or Between Continents						
	OC	AS	EU	AF	NA	SA
OC	26	28	21	2	21	15
AS	26	23	21	22	3	12
EU	21	21	27	24	8	20
AF	2	23	23	6	16	16
NA	21	3	8	16	28	25
SA	12	10	16	16	23	23

many months there were no intercontinental routes with nil returns in the summary table above.. What we do not of course know is to what extent these higher figures reflected improved propagation, and what should be credited to greater activity. Certainly the number of DX Summit spots submitted during the ARRL test on the weekend of the 21st was far greater than in 2009, in large measure because Ten was in better shape.

Some recent months have produced no contacts worthy of specific note. By contrast, this month produced several, including G3SWH<>VK9X/G6AY at 0210 on the 23rd, G3FWX<>VK6IA at 1025, also on the 23rd, NK9D working IK4GRO at 1502 on the 22nd, CU3EQ with PU6JAC at the late hour of 0054 on the 24th. All times UTC. VA3DX contacted ST2AR at 1556 on the 23rd and LW3EX worked 4X6LI at 1521, also on the 23rd. Another contact at a late hour was between KP4CAT and PU2LEP at 0255 again

on the 23rd. A measure of the improvement in propagation between North America and VK/ZL, on the 22nd ZL2IFB reported the following low-power beacons between 1832 and 2124: WJ5O, WY5B, VE4TEN, W5ZA, KK4HAM, K2XE, KG4GXS, KI4AED and W3HH. Many North American operators worked the TX4T expedition and there were also many contacts between the US and KH6. South Americans were able to work into Asia more regularly during their late evening, but North America<>remained more elusive. One of the few contacts reported was between KO6RC and BD4QI at 0020 on the 22nd (a good day generally) Many further illustrations of the better openings the month brought can be found in the detailed report from Costas, SV1DH, above.

Reliability of Propagation Within and Between Continents by Time Period												
	OC				AS				EU			
	M	N	A	E	M	N	A	E	M	N	A	E
	%				%				%			
OC	64	50	68	39	36	43	71	68	11	04	18	61
AS	79	57	50	14	54	64	68	32	36	61	54	39
EU	68	25	04	07	57	61	11	25	82	93	68	82
A F	04	04	00	00	43	57	25	25	25	68	54	50
NA	11	46	61	43	00	00	07	11	21	18	04	00
SA	04	11	43	00	18	07	04	21	18	50	25	04
	18	43	29	29	11	43	57	75	07	32	54	68
M= Up to 1130 LST N = 1130-1700 \ \ LST A = 1430-1700 LST E = after 1700LST												

As the table above shows, although it contains quite a few nil returns, the continent with a substantial amateur population are showing an improvement for most time periods.

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