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BUREAU INTERNATIONAL DES POIDS ET MESURES
ORGANISATION INTERGOUVERNEMENTALE DE LA CONVENTION DU METRE
PAVILLON DE BRETEUIL F-92312 SEVRES CEDEX TEL. +33 1 45 07 70 70 FAX. +33 1 45 34 20 21 tai@bipm.org

1 - Coordinated Universal Time UTC and its local realizations UTC(k). Computed values of [*UTC-UTC*(*k*)] and uncertainties valid for the period of this Circular. From 2006 January 1, 0h UTC, *TAI-UTC* = 33 s.

Date 2008 0h UTC	APR 28	MAY 3	MAY 8	MAY 13	MAY 18	MAY 23	MAY 28	Uncertainty/ns			Notes
MJD	54584	54589	54594	54599	54604	54609	54614	u_A	u_B	u	
Laboratory *k*	[*UTC-UTC*(*k*)]/ns										
AOS (Borowiec)	7.9	10.2	12.0	13.5	14.9	15.0	16.3	0.6	5.1	5.1	
APL (Laurel)	11.4	12.2	23.7	13.4	9.9	5.2	-7.6	1.5	5.0	5.3	
AUS (Sydney)	128.2	143.8	146.6	147.1	143.8	151.2	155.2	1.5	5.1	5.3	(1)
BEV (Wien)	9.6	3.7	11.8	19.1	21.4	21.9	20.1	1.5	5.1	5.3	
BIM (Sofiya)	-6352.2	-6371.2	-6376.7	-6395.7	-6412.3	-6417.1	-6440.6	2.0	7.1	7.4	
BIRM (Beijing)	-5122.8	-5183.9	-5221.4	-5261.8	-5291.0	-5326.5	-5364.2	2.0	20.0	20.1	
BY (Minsk)	97.6	125.5	157.7	156.9	175.7	181.6	210.1	7.0	20.0	21.2	
CAO (Cagliari)	-1893.3	-1902.0	-1927.0	-1955.1	-1975.4	-1987.2	-2007.8	1.5	7.1	7.2	
CH (Bern)	-14.7	-17.4	-20.0	-22.4	-20.6	-22.1	-20.9	0.6	1.4	1.5	
CNM (Queretaro)	5.5	14.1	17.9	24.6	32.0	33.8	29.0	2.5	5.1	5.6	
CNMP (Panama)	219.8	227.1	225.7	213.9	214.5	229.4	224.5	3.0	5.1	5.9	
DLR (Oberpfaffenhofen)	6.1	5.7	8.1	1.2	-0.9	-2.2	-4.7	0.7	5.1	5.1	
DTAG (Frankfurt/M)	124.7	125.2	129.0	116.0	112.8	105.2	97.6	4.0	10.0	10.8	
EIM (Thessaloniki)	-0.8	-	-	-	-	-	-	3.0	20.0	20.3	
HKO (Hong Kong)	7.0	0.5	1.1	1.4	-4.3	-0.5	-5.2	2.5	5.1	5.7	
IFAG (Wettzell)	-274.8	-264.1	-257.8	-253.7	-247.4	-244.4	-237.6	0.7	5.1	5.1	
IGMA (Buenos Aires)	-	-	-	-	-	-	-	-	-	-	
INPL (Jerusalem)	-	-	-	-	-	-	-	-	-	-	
IT (Torino)	20.6	23.2	24.8	25.2	25.0	25.1	27.0	0.5	1.4	1.5	
JATC (Lintong)	4.9	16.2	18.5	19.4	14.4	11.7	9.3	1.4	4.8	5.0	
JV (Kjeller)	8002.3	8107.8	8244.6	8409.2	8464.1	8578.1	8677.6	5.0	20.0	20.6	
KIM (Serpong-Tangerang)	-153.3	-129.8	-123.8	-138.0	-130.1	-166.4	-207.3	3.0	20.0	20.3	
KRIS (Daejeon)	-2.5	18.3	6.2	-13.2	-3.9	-140.6	-52.6	0.7	5.0	5.1	
LDS (Leeds)	-	-	-	-	-	-	-	-	-	-	
LT (Vilnius)	276.3	291.8	300.9	325.2	356.4	381.1	392.4	1.5	5.1	5.3	
LV (Riga)	1492.7	1518.4	1545.6	1564.0	1583.3	1600.6	1621.4	2.0	7.1	7.4	
MIKE (Espoo)	-113.2	-111.0	-105.9	-108.7	-100.0	-103.1	-100.8	5.0	19.9	20.5	
MKEH (Budapest)	-4564.1	-4757.6	-4965.0	-5172.1	-5378.0	-5577.3	-5777.5	2.5	20.0	20.2	
MSL (Lower Hutt)	-89.1	-104.3	-104.8	-118.4	-135.1	-161.6	-181.2	1.0	20.0	20.0	
NAO (Mizusawa)	45.6	49.0	44.6	36.4	35.2	21.0	9.6	3.0	19.8	20.0	

Date 2008 0h UTC	APR 28	MAY 3	MAY 8	MAY 13	MAY 18	MAY 23	MAY 28	Uncertainty/ns			Notes
MJD	54584	54589	54594	54599	54604	54609	54614	u_A	u_B	u	
Laboratory *k*				[*UTC*-*UTC*(*k*)]/ns							
NICT (Tokyo)	7.9	8.1	7.4	9.6	10.0	11.8	11.9	0.5	4.5	4.5	
NIM (Beijing)	87.1	84.0	60.8	41.7	65.3	80.8	85.0	1.5	19.9	20.0	
NIMB (Bucharest)	-270.7	-273.4	-277.3	-274.4	-256.2	-253.0	-257.8	2.0	20.0	20.1	
NIMT (Bangkok)	-1038.9	-1074.7	-1105.4	-1171.1	-1224.3	-1220.4	-1169.9	1.0	20.0	20.1	
NIS (Cairo)	48.9	56.6	53.8	56.9	55.9	-	-	1.5	7.1	7.2	
NIST (Boulder)	-11.2	-10.2	-8.7	-8.4	-8.4	-7.8	-6.2	0.5	4.9	4.9	
NMIJ (Tsukuba)	11.8	19.7	28.2	28.8	29.2	28.2	30.0	0.7	5.0	5.1	
NMLS (Sepang)	-91.8	-83.7	-85.4	-87.9	-85.3	-87.8	-88.2	2.0	20.0	20.1	
NPL (Teddington)	-35.3	-36.0	-37.1	-38.7	-39.1	-44.8	-38.8	1.5	5.1	5.3	
NPLI (New-Delhi)	-25.1	-25.9	-14.0	-7.1	9.8	20.9	18.1	2.5	7.1	7.5	
NRC (Ottawa)	-9.4	-10.8	-13.6	-7.5	5.0	6.2	13.8	0.7	5.0	5.1	
NRL (Washington DC)	32.5	35.7	35.4	23.1	10.5	2.4	-0.7	0.7	5.1	5.2	
NTSC (Lintong)	-0.8	7.5	11.6	2.1	5.8	5.4	1.1	1.4	4.7	4.9	
ONBA (Buenos Aires)	-	-	-911.3	-922.9	-934.0	-952.7	-969.2	2.5	5.1	5.7	
ONRJ (Rio de Janeiro)	-9.1	0.5	-11.1	-0.9	-5.3	-3.7	-8.7	3.9	19.5	19.9	
OP (Paris)	-15.3	-16.3	-23.5	-32.4	-27.6	-32.0	-29.7	0.5	1.4	1.5	
ORB (Bruxelles)	-35.5	-33.5	-34.9	-	-	-	-36.9	0.7	5.1	5.2	
PL (Warszawa)	-2.7	-4.7	-12.3	-13.7	-12.1	-4.5	-4.1	1.5	4.9	5.1	
PTB (Braunschweig)	17.2	18.5	22.0	24.8	27.9	25.4	28.9	0.2	1.0	1.1	
ROA (San Fernando)	40.7	56.4	64.3	63.1	63.4	69.6	74.2	0.7	5.0	5.0	
SCL (Hong Kong)	-41.7	-51.6	-53.4	-45.9	-46.6	-33.5	-29.1	3.0	10.0	10.4	
SG (Singapore)	-10.8	-21.0	-31.1	-41.0	-47.6	-40.2	-29.2	2.0	7.1	7.3	
SIQ (Ljubljana)	-1111.1	-988.1	-870.9	-733.0	-599.9	-489.6	-384.6	5.0	20.0	20.6	
SMU (Bratislava)	-160.3	-147.2	-116.5	-112.5	-96.2	-84.9	-59.7	5.0	20.0	20.6	
SP (Boras)	18.5	20.3	24.1	20.6	19.9	18.1	18.9	0.5	1.4	1.5	
SU (Moskva)	14.4	15.0	14.0	17.2	18.7	14.5	14.5	3.0	5.1	5.9	
TCC (Concepcion)	-8860.6	-8883.3	-8924.1	-8932.7	-8969.4	-9032.7	-9038.3	1.5	20.0	20.1	
TL (Chung-Li)	7.6	7.9	8.6	9.0	7.8	8.2	11.5	0.7	4.9	5.0	
TP (Praha)	48.0	48.4	45.3	39.2	37.5	34.2	35.9	0.9	5.1	5.2	
UME (Gebze-Kocaeli)	142.0	146.0	148.7	151.5	157.7	165.2	169.7	1.5	7.1	7.2	
USNO (Washington DC)	3.4	4.2	4.6	6.8	6.2	5.3	5.4	0.4	1.3	1.3	
VMI (Ha Noi)	-232.7	-221.3	-217.3	-202.0	-185.0	-169.5	-150.0	1.0	20.0	20.1	
VSL (Delft)	9.8	18.6	27.4	36.1	34.2	36.5	43.1	0.6	1.4	1.5	
ZA (Pretoria)	-	-	-	-	-	-	-	-	-	-	
ZMDM (Belgrade)	2923.8	2961.3	2995.9	3031.2	3068.4	3081.2	3110.1	2.0	7.1	7.4	

- Note on section 1:

(1) AUS : Change of master clock on MJD 54587.0.

2 - International Atomic Time TAI and Local atomic time scales TA(k). Computed values of [*TAI-TA*(*k*)].

Date 2008 0h UTC	APR 28	MAY 3	MAY 8	MAY 13	MAY 18	MAY 23	MAY 28	
MJD	54584	54589	54594	54599	54604	54609	54614	
Laboratory *k*				[*TAI-TA*(*k*)]/ns				
CH (Bern)	52926.7	52897.6	52869.3	52841.2	52813.9	52782.5	52752.5	
F (Paris)	168229.3	168225.1	168220.2	168220.3	168223.0	168219.4	168217.9	(1)
IT (Torino)	72005.0	72142.1	72276.9	72412.9	72542.2	72670.1	72800.8	
JATC (Lintong)	-44214.3	-44237.8	-44266.1	-44290.1	-44316.2	-44340.0	-44365.7	
KRIS (Daejeon)	22450.0	22546.1	22626.0	22689.6	22753.1	22864.3	22792.2	
NICT (Tokyo)	61.7	64.1	66.4	69.8	72.0	73.8	75.0	
NIST (Boulder)	-45319914.3	-45320105.3	-45320295.8	-45320487.5	-45320679.9	-45320872.3	-45321063.7	
NRC (Ottawa)	31221.2	31250.9	31269.5	31279.3	31302.9	31307.6	31321.4	
NTSC (Lintong)	6405.5	6435.0	6460.1	6490.9	6519.3	6548.9	6577.2	
ONRJ (Rio de Janeiro	-2598.8	-2621.5	-2646.0	-2673.7	-2698.2	-2721.6	-2749.0	
PL (Warszawa)	-4687.1	-4694.0	-4701.8	-4705.7	-4711.4	-4713.5	-4720.1	
PTB (Braunschweig)	-357297.7	-357291.5	-357282.8	-357275.0	-357266.9	-357264.7	-357255.8	
SU (Moskva)	27247005.1	27247066.2	27247127.0	27247191.9	27247256.5	27247316.7	27247381.9	(2)
TL (Chung-Li)	582.0	579.3	573.6	571.9	566.7	561.3	556.1	
USNO (Washington DC)	-35019843.7	-35020144.5	-35020446.2	-35020747.2	-35021050.0	-35021353.2	-35021654.3	

- Notes on section 2:

(1) F : Corrected values of *TAI-TA*(*F*):

MJD	Value/ns
54559	168242.0
54564	168237.5
54569	168234.4
54574	168231.4
54579	168230.8

(2) SU : Listed values are *TAI-TA*(*SU*) - 2.80 seconds.

3 - Difference between the normalized frequencies of EAL (free atomic time scale) and TAI.

	Interval of validity	*f*(*EAL*)-*f*(*TAI*)	
Steering correction	54584 - 54614	6.763×10^{-13}	(2008 APR 28 - 2008 MAY 28)
New correction	54614 - 54644	6.758×10^{-13}	(2008 MAY 28 - 2008 JUN 27)
New correction foreseen	54644 - 54674	6.753×10^{-13}	(2008 JUN 27 - 2008 JUL 27)

4 - Duration of the TAI scale interval.

TAI is a realization of coordinate time TT. The following tables give the fractional deviation *d* of the scale interval of TAI from that of TT (the SI second on the geoid), i.e. the fractional frequency deviation of TAI with the opposite sign: $d = -y_{TAI}$. In this section, a frequency over a time interval is defined as the ratio of the end-point phase difference to the duration of the interval. Whenever needed, the instability of EAL should be expressed as the quadratic sum of three components with τ in days: (1) a white frequency noise of $3.0 \times 10^{-15} / \sqrt{\tau}$, (2) a flicker frequency noise of 0.5×10^{-15} and (3) a random walk frequency noise of $1.0 \times 10^{-16} \times \sqrt{\tau}$, The relation between EAL and TAI is given in *Circular T* and the *BIPM Annual Report on Time Activities*.

In the first table, *d* is obtained, on the given periods of estimation by comparison of the TAI frequency with that of the given individual Primary Frequency Standards (PFS). In this table: u_A is the uncertainty originating in the instability of the PFS, u_B is the combined uncertainty from systematic effects, Ref(u_B) is a reference giving information on the stated value of u_B or is the *Circular T* where this reference was first given, $u_{l/lab}$ is the uncertainty in the link between the PFS and the clock participating to TAI, including the uncertainty due to the dead-time, $u_{l/TAI}$ is the uncertainty in the link to TAI, *u* is the quadratic sum of all four uncertainty values. All values are expressed in 10^{-15}.

Standard	Period of Estimation	d	u_A	u_B	Ref(u_B)	$u_{l/Lab}$	$u_{l/Tai}$	u	Note
PTB-CS1	54584 54614	5.0	5.0	8.0	T148	0.0	0.1	9.4	(1)
PTB-CS2	54584 54614	0.8	3.0	12.0	T148	0.0	0.1	12.4	(1)
SYRTE-FO1	54589 54599	3.9	0.7	0.6	T227	0.1	0.9	1.3	(2)
SYRTE-FO2	54589 54614	5.2	0.2	0.4	T227	0.3	0.4	0.6	(2)
SYRTE-FOM	54589 54614	4.6	0.2	0.7	T184	0.2	0.4	0.9	(2)
SYRTE-JPO	54589 54614	1.3	0.7	6.3	T160	0.3	0.4	6.4	(2)
IT-CSF1	54604 54614	1.7	1.1	0.5	T233	0.4	0.9	1.5	(3)
NMIJ-F1	54594 54614	1.2	0.8	3.9	T213	0.3	0.7	4.0	(4)

Notes:
(1) Continuously operating as a clock participating to TAI.
(2) Report 5 June 2008 by LNE-SYRTE.
(3) Report 5 June 2008 by INRIM.
(4) Report 6 June 2008 by NMIJ.

The second table gives the BIPM estimate of *d*, based on all available PFS measurements over the period MJD 54224-54614, taking into account their individual uncertainties and characterizing the instability of EAL as noted above. *u* is the computed standard uncertainty of *d*

Period of estimation	d	u	
54584-54614	4.3×10^{-15}	0.5×10^{-15}	(2008 APR 28 - 2008 MAY 28)

5 - Relations of UTC and TAI with GPS time and GLONASS time.

[*UTC-GPS time*] = -14 s + C_0, [*TAI-GPS time*] = 19 s + C_0, global uncertainty is of order 10 ns.
[*UTC-GLONASS time*] = 0 s + C_1, [*TAI-GLONASS time*] = 33 s + C_1, global uncertainty is of order hundreds ns.

The C_0 values provide a realization of GPS time, as obtained using the values [*UTC-UTC*(*OP*)] and the GPS data taken at the Paris Observatory, corrected for IGS precise orbits, clocks and ionosphere maps. The C_1 values provide a realization of GLONASS time, as obtained using the values [*UTC-UTC*(*AOS*)] and the GLONASS data taken at the Astrogeodynamical Observatory Borowiec (AOS). N_0 and N_1 are the numbers of measurements, when N_0 or N_1 is 0, the corresponding values of C_0 or C_1 are interpolated.
The standard deviations σ_0 and σ_1 characterize the dispersion of individual measurements. The actual uncertainty of user's access to GPS and GLONASS times may differ from these values.
For this circular, σ_0 = 2.6 ns, σ_1 = 12.6 ns

Date 2008 0h UTC	MJD	C_0/ns	N_0	C_1/ns	N_1
APR 28	54584	2.0	41	-769.3	65
APR 29	54585	3.1	41	-772.6	75
APR 30	54586	2.3	44	-779.2	73
MAY 1	54587	5.8	47	-765.0	58
MAY 2	54588	5.5	45	-754.4	68
MAY 3	54589	3.8	46	-752.1	78
MAY 4	54590	2.2	46	-746.6	76
MAY 5	54591	2.9	45	-745.7	73
MAY 6	54592	1.5	44	-744.6	70
MAY 7	54593	0.9	44	-739.1	76
MAY 8	54594	3.7	48	-738.3	63
MAY 9	54595	4.5	46	-738.7	81
MAY 10	54596	3.8	47	-735.2	67
MAY 11	54597	3.0	46	-731.7	80
MAY 12	54598	2.3	49	-726.7	67
MAY 13	54599	1.9	44	-723.8	69
MAY 14	54600	2.3	43	-717.9	59
MAY 15	54601	3.0	47	-715.2	62
MAY 16	54602	3.8	49	-712.3	79
MAY 17	54603	5.4	45	-705.9	73
MAY 18	54604	6.2	46	-704.5	72
MAY 19	54605	8.1	48	-701.7	74
MAY 20	54606	9.2	48	-695.4	68
MAY 21	54607	5.7	47	-689.2	57
MAY 22	54608	5.3	45	-687.1	67
MAY 23	54609	2.8	48	-689.4	77
MAY 24	54610	3.2	47	-691.9	78
MAY 25	54611	5.3	47	-685.0	78
MAY 26	54612	4.0	46	-674.5	79
MAY 27	54613	4.4	48	-675.8	81
MAY 28	54614	7.2	49	-675.6	76

6 - Time links used for the computation of TAI and their uncertainties.

The time links used in the elaboration of this *Circular T* are listed in this section. The technique for the link is indicated as follows: GPS SC for GPS all-in-view single-channel C/A data; GPS MC for GPS all-in-view multi-channel C/A data; GPS P3 for GPS all-in-view multi-channel dual-frequency P code data; GPS PPP for GPS Precise Point Positioning technique; GPS GT for 'GPS time' observations; INT LK for internal cable link and TWSTFT for two-way satellite time and frequency transfer data.

For each link, the following uncertainties are provided: u_A is the statistical uncertainty evaluated by taking into account the level of phase noise in the raw data, the interpolation interval between data points and the effects with typical duration between 5 and 30 days. u_B is the estimated uncertainty on the calibration.

The calibration type of the link is indicated as: GPS EC for GPS equipment calibration; TW EC for two-way equipment calibration; LC (technique) for a link calibrated using 'technique'; BC (technique) for a link calibrated using 'technique' to transfer a past equipment calibration through a discontinuity of link operation. DIC is used for direct internal calibration.

The calibration dates indicate: the most recent calibration results for the two laboratories in the case of EC and
the most recent calibration of the link in the case of LC and BC,
NA stands for not available, in this case estimated values are provided

Link	Type	u_A/ns	u_B/ns	Calibration Type	Calibration Dates
AOS /PTB	TWSTFT	0.5	5.0	BC(GPS MC)	2008 May
APL /PTB	GPS MC	1.5	5.0	GPS EC/GPS EC	2003 Dec/2004 Jul
AUS /PTB	GPS MC	1.5	5.0	GPS EC/GPS EC	2004 Nov/2004 Jul
BEV /PTB	GPS MC	1.5	5.0	GPS EC/GPS EC	2001 Dec/2004 Jul
BIM /PTB	GPS MC	2.0	7.0	GPS EC/GPS EC	2007 Nov
BIRM/PTB	GPS MC	2.0	20.0	NA /GPS EC	NA /2004 Jul
BY /PTB	GPS SC	7.0	20.0	NA /GPS EC	NA /2004 Jul
CAO /PTB	GPS MC	1.5	7.0	GPS EC/GPS EC	2004 Nov/2004 Jul
CH /PTB	TWSTFT	0.5	1.0	BC(GPS PPP)	2006 Jun
CNM /PTB	GPS MC	2.5	5.0	BC(GPS SC)	2008 May
CNMP/PTB	GPS MC	3.0	5.0	GPS EC/GPS EC	2004 May/2004 Jul
DLR /PTB	GPS P3	0.7	5.0	GPS EC/GPS EC	2007 Feb/2004 Aug
DTAG/PTB	GPS MC	4.0	10.0	GPS EC/GPS EC	1998 May/2004 Jul
EIM /PTB	GPS MC	3.0	20.0	NA /GPS EC	NA /2003 Aug
HKO /PTB	GPS MC	2.5	5.0	GPS EC/GPS EC	2004 Sep/2004 Jul
IFAG/PTB	GPS P3	0.7	5.0	GPS EC/GPS EC	2003 Jun/2004 Aug
IGMA/PTB	NA				
INPL/PTB	NA				
IT /PTB	TWSTFT	0.5	1.0	BC(TWSTFT)	2006 Mar
JATC/NTSC	INT LK	0.2	1.0	DIC	/2006 Sep

Link	Type	u_A/ns	u_B/ns	Calibration Type	Calibration Dates
JV /PTB	GPS GT	5.0	20.0	NA /GPS EC	NA /2003 Aug
KIM /PTB	GPS MC	3.0	20.0	NA /GPS EC	NA /2004 Jul
KRIS/PTB	GPS P3	0.7	5.0	GPS EC/GPS EC	2005 Aug/2004 Aug
LDS /PTB	NA				
LT /PTB	GPS MC	1.5	5.0	GPS EC/GPS EC	2001 Nov/2004 Jul
LV /PTB	GPS MC	2.0	7.0	GPS EC/GPS EC	2006 Feb/2004 Jul
MIKE/PTB	GPS MC	5.0	20.0	NA /GPS EC	NA /2004 Jul
MKEH/PTB	GPS SC	2.5	20.0	NA /GPS EC	NA /2004 Jul
MSL /PTB	GPS P3	1.0	20.0	NA /GPS EC	NA /2004 Aug
NAO /PTB	GPS SC	3.0	20.0	NA /GPS EC	NA /2004 Jul
NICT/PTB	TWSTFT	0.5	5.0	BC(GPS P3)	2007 Mar
NIM /PTB	GPS MC	1.5	20.0	NA /GPS EC	NA /2004 Jul
NIMB/PTB	GPS MC	2.0	20.0	NA /GPS EC	NA /2004 Jul
NIMT/PTB	GPS P3	1.0	20.0	NA /GPS EC	NA /2004 Aug
NIS /PTB	GPS MC	1.5	7.0	GPS EC/GPS EC	2005 May/2004 Jul
NIST/PTB	TWSTFT	0.5	5.0	BC(TWSTFT)	2005 May
NMIJ/PTB	GPS P3	0.7	5.0	GPS EC/GPS EC	2002 Apr/2004 Aug
NMLS/PTB	GPS MC	2.0	20.0	NA /GPS EC	NA /2004 Jul
NPL /PTB	GPS MC	1.5	5.0	GPS EC/GPS EC	2002 Jun/2004 Jul
NPLI/PTB	GPS MC	2.5	7.0	GPS EC/GPS EC	2005 Jul/2004 Jul
NRC /PTB	GPS P3	0.7	5.0	GPS EC/GPS EC	2003 Nov/2004 Aug
NRL /PTB	GPS P3	0.7	5.0	GPS EC/GPS EC	2002 May/2004 Aug
NTSC/PTB	GPS MC	1.5	5.0	GPS EC/GPS EC	2004 Sep/2004 Jul
ONBA/PTB	GPS MC	2.5	5.0	GPS EC/GPS EC	2004 Jul/2004 Jul
ONRJ/PTB	GPS MC	4.0	20.0	NA /GPS EC	NA /2004 Jul
OP /PTB	TWSTFT	0.5	1.0	BC(TWSTFT)	2006 Mar
ORB /PTB	GPS P3	0.7	5.0	GPS EC/GPS EC	2003 Jul/2004 Aug
PL /PTB	GPS MC	1.5	5.0	GPS EC/GPS EC	2001 Oct/2004 Jul
ROA /PTB	TWSTFT	0.7	5.0	BC(GPS PPP)	2005 May
SCL /PTB	GPS MC	3.0	10.0	LC(GPS SC)	1993 May
SG /PTB	GPS MC	2.0	7.0	GPS EC/GPS EC	2007 Jan/2004 Jul
SIQ /PTB	GPS SC	5.0	20.0	NA /GPS EC	NA /2003 Aug
SMU /PTB	GPS SC	5.0	20.0	NA /GPS EC	NA /2004 Jul
SP /PTB	TWSTFT	0.5	1.0	BC(GPS PPP)	2006 Mar
SU /PTB	GPS SC	3.0	5.0	GPS EC/GPS EC	2003 Apr/2004 Jul
TCC /PTB	GPS P3	1.5	20.0	NA /GPS EC	NA /2004 Aug
TL /PTB	GPS P3	0.7	5.0	GPS EC/GPS EC	2005 May/2004 Aug
TP /PTB	GPS P3	0.9	5.0	LC(GPS SC)	2004 Jul
UME /PTB	GPS MC	1.5	7.0	GPS EC/GPS EC	2005 Dec/2004 Jul
USNO/PTB	TWSTFT	0.5	1.1	BC(TW X-Band)	2005 May
VMI /PTB	GPS P3	1.0	20.0	NA /GPS EC	NA /2004 Aug
VSL /PTB	TWSTFT	0.5	1.0	BC(GPS PPP)	2006 Mar
ZA /PTB	NA				
ZMDM/PTB	GPS MC	2.0	7.0	GPS EC/GPS EC	2005 Mar/2004 Jul