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BUREAU INTERNATIONAL DES POIDS ET MESURES
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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 2009 January 1, 0h UTC, *TAI-UTC* = 34 s.

Date 2009 0h UTC	MAR 29	APR 3	APR 8	APR 13	APR 18	APR 23	APR 28	Uncertainty/ns			Notes
MJD	54919	54924	54929	54934	54939	54944	54949	u_A	u_B	u	
Laboratory *k*	[*UTC-UTC*(*k*)]/ns										
AOS (Borowiec)	13.2	14.2	14.1	16.7	12.0	12.0	11.2	0.6	5.1	5.1	
APL (Laurel)	11.5	-2.0	-8.8	2.4	17.4	27.1	7.4	1.5	5.0	5.2	
AUS (Sydney)	974.3	974.9	975.2	970.1	969.9	962.0	957.8	1.5	5.1	5.3	
BEV (Wien)	-4.4	8.1	13.0	29.5	34.6	56.2	59.4	1.5	3.2	3.5	
BIM (Sofiya)	-7230.5	-7243.8	-7241.9	-7228.9	-7243.6	-7257.1	-7274.4	2.0	7.1	7.4	
BIRM (Beijing)	-7485.3	-7516.9	-7550.6	-7589.7	-7632.8	-7673.0	-7708.2	2.0	20.0	20.1	
BY (Minsk)	58.8	84.3	113.8	141.8	148.1	147.0	146.1	2.0	20.0	20.1	
CAO (Cagliari)	-2928.0	-2974.4	-2985.4	-2977.7	-3004.6	-3021.9	-3046.0	1.5	7.0	7.2	
CH (Bern)	-9.9	-4.8	0.0	2.6	5.9	7.9	8.7	0.5	1.4	1.5	
CNM (Queretaro)	13.7	18.1	19.0	15.6	5.2	-3.3	-7.8	2.5	5.0	5.6	
CNMP (Panama)	-34.4	-54.9	-77.8	-71.4	-74.6	-79.7	-69.5	3.0	5.1	5.9	
DLR (Oberpfaffenhofen)	-83.0	-90.5	-89.2	-87.9	-92.0	-103.9	-105.0	0.7	5.1	5.1	
DTAG (Frankfurt/M)	-119.1	-138.6	-130.5	-126.6	-139.2	-122.3	-129.6	4.0	10.0	10.7	
EIM (Thessaloniki)	-1.0	6.7	7.2	2.8	3.4	9.1	9.7	2.5	5.1	5.6	
HKO (Hong Kong)	-83.9	-83.2	-75.6	-72.2	-70.9	-69.0	-71.9	2.5	5.1	5.6	
IFAG (Wettzell)	-135.0	-138.1	-142.5	-146.1	-148.1	-148.4	-150.0	0.7	5.0	5.1	
IGMA (Buenos Aires)	-	-	-	-	-	-	-	-	-	-	
INPL (Jerusalem)	-	-	-	-	-	-	-	-	-	-	
INTI (Buenos Aires)	-455.8	-455.4	-445.3	-419.2	-389.1	-364.6	-353.7	4.0	20.0	20.4	
IT (Torino)	4.8	8.3	11.6	13.5	15.8	17.8	21.1	0.5	1.4	1.5	
JATC (Lintong)	4.2	-1.4	3.1	0.0	-1.1	4.8	8.9	1.4	4.9	5.1	
JV (Kjeller)	16023.2	16202.4	16271.4	16386.1	16531.7	16621.4	16746.4	5.0	20.0	20.6	
KIM (Serpong-Tangerang)	-212.6	-234.7	-208.1	-212.7	-217.5	-247.9	-248.2	3.0	20.0	20.3	
KRIS (Daejeon)	0.5	3.8	-7.8	-8.7	0.1	-3.1	-1.8	0.7	5.0	5.1	
KZ (Astana)	-807.0	-857.1	-914.2	-961.0	-1017.1	-1061.9	-1122.5	2.0	20.0	20.1	
LT (Vilnius)	571.1	558.4	554.2	577.8	591.3	587.8	605.7	2.0	5.1	5.5	
LV (Riga)	2983.4	3006.1	3028.6	3053.5	3072.9	3093.4	3113.3	1.5	7.0	7.2	
MIKE (Espoo)	-81.9	-81.8	-93.0	-93.4	-104.4	-100.7	-109.8	5.0	19.9	20.5	
MKEH (Budapest)	-18328.9	-18530.1	-18732.3	-18948.8	-19161.0	-19355.3	-19539.1	2.5	20.0	20.1	
MSL (Lower Hutt)	121.7	156.5	185.2	224.2	248.1	277.7	312.7	1.0	20.0	20.0	

Date 2009 0h UTC	MAR 29	APR 3	APR 8	APR 13	APR 18	APR 23	APR 28	Uncertainty/ns			Notes
MJD	54919	54924	54929	54934	54939	54944	54949	u_A	u_B	u	
Laboratory k				[UTC-$UTC(k)$]/ns							
NAO (Mizusawa)	82.9	78.7	72.8	69.6	66.9	64.7	58.1	3.0	19.7	19.9	
NICT (Tokyo)	14.8	17.5	17.7	18.4	18.5	15.1	18.2	0.5	4.5	4.6	
NIM (Beijing)	44.6	37.2	28.7	22.7	19.6	20.4	16.8	1.0	20.0	20.0	
NIMB (Bucharest)	-308.6	-327.9	-312.7	-305.7	-307.9	-330.3	-336.8	2.0	20.0	20.1	
NIMT (Bangkok)	-27.7	-38.0	-53.0	-59.4	-71.1	-84.5	-93.0	1.0	20.0	20.1	
NIS (Cairo)	29.5	25.7	29.9	27.9	25.9	27.4	26.0	1.5	7.1	7.2	
NIST (Boulder)	7.5	8.2	10.0	9.4	7.0	8.2	9.7	0.5	4.9	5.0	
NMIJ (Tsukuba)	20.7	21.7	22.0	23.2	24.5	26.5	24.9	0.7	5.1	5.1	
NMLS (Sepang)	131.5	124.7	121.1	109.5	96.0	97.7	100.6	2.0	20.0	20.1	
NPL (Teddington)	18.5	46.2	45.0	43.7	44.0	44.5	44.7	0.5	1.4	1.5	(1)
NPLI (New-Delhi)	2.4	12.4	10.7	15.6	27.4	25.9	15.7	2.5	7.1	7.5	
NRC (Ottawa)	50.8	59.6	70.1	68.8	59.1	53.9	43.7	0.7	5.1	5.1	
NRL (Washington DC)	8.2	10.4	11.9	9.9	7.0	8.1	5.7	0.7	5.0	5.1	
NTSC (Lintong)	9.1	12.8	1.3	0.2	2.1	2.3	8.0	1.4	4.8	5.0	
ONBA (Buenos Aires)	-1834.0	-1847.4	-1869.8	-1885.1	-1897.0	-1904.6	-1919.2	2.5	5.1	5.7	
ONRJ (Rio de Janeiro)	-4.3	7.0	1.1	-15.8	-11.7	-6.9	-13.7	3.9	19.6	20.0	
OP (Paris)	-20.4	-16.2	-5.8	-4.0	1.4	7.2	12.6	0.5	1.4	1.5	
ORB (Bruxelles)	4.0	4.4	5.7	7.6	10.2	16.0	19.9	0.7	5.1	5.1	
PL (Warszawa)	-53.9	-46.6	-43.5	-38.9	-39.6	-24.4	-0.4	1.5	4.9	5.1	
PTB (Braunschweig)	-23.4	-19.8	-19.7	-22.3	-22.2	-19.5	-24.0	0.2	1.0	1.0	
ROA (San Fernando)	10.7	12.5	12.0	11.8	4.9	0.6	-1.1	0.7	5.0	5.0	
SCL (Hong Kong)	-36.2	-27.5	-24.2	-30.6	-25.6	-27.7	-28.3	3.0	10.0	10.4	
SG (Singapore)	35.7	35.2	33.8	24.6	31.8	38.7	49.7	2.0	5.1	5.5	
SIQ (Ljubljana)	-951.2	-932.6	-938.9	-933.3	-927.2	-934.9	-911.0	5.0	20.0	20.6	
SMD (Bruxelles)	-2.5	0.3	5.1	4.5	8.6	9.1	7.7	1.5	20.0	20.1	
SMU (Bratislava)	6.1	6.1	-2.9	-5.5	-14.0	-15.1	-13.6	7.0	20.0	21.2	
SP (Boras)	13.9	14.5	13.2	15.7	9.0	10.3	14.4	0.5	1.4	1.5	
SU (Moskva)	16.1	17.0	17.4	15.8	10.3	7.7	3.2	1.5	5.1	5.3	
TCC (Concepcion)	282.2	296.1	303.0	303.8	309.8	301.6	305.7	1.0	19.9	20.0	
TL (Chung-Li)	3.0	5.0	3.9	2.9	1.4	-0.2	-1.3	0.7	4.8	4.9	
TP (Praha)	24.9	17.4	13.0	9.3	7.5	5.2	-11.4	0.9	5.1	5.2	
UA (Kharkov)	-60.3	-41.7	-25.7	-6.6	-7.2	0.2	18.3	2.5	6.1	6.6	
UME (Gebze-Kocaeli)	9.8	21.3	21.7	33.2	36.1	44.9	51.5	1.5	7.1	7.2	
USNO (Washington DC)	3.6	4.0	4.7	4.0	4.7	4.2	5.4	0.4	1.2	1.3	
VMI (Ha Noi)	23.3	14.4	6.2	10.9	16.7	13.3	10.1	1.0	20.0	20.0	
VSL (Delft)	-18.8	-27.6	-29.2	-40.2	-70.8	-92.5	-83.1	0.7	1.4	1.6	
ZA (Pretoria)	-	-	-	-	-	-	-	-	-	-	
ZMDM (Belgrade)	4882.7	4913.7	4936.5	4963.6	4997.1	5031.1	5049.5	2.0	7.0	7.3	

- Note on section 1:
(1) NPL : Time step of UTC(NPL) of -27.8ns on MJD 54922, due to new TW equipment calibration.

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

Date 2009 0h UTC	MAR 29	APR 3	APR 8	APR 13	APR 18	APR 23	APR 28	
MJD	54919	54924	54929	54934	54939	54944	54949	
Laboratory *k*				[*TAI*-*TA*(*k*)]/ns				
CH (Bern)	50239.9	50192.1	50149.2	50101.0	50055.2	50007.5	49959.5	
F (Paris)	168105.2	168102.3	168101.2	168097.3	168093.3	168092.9	168091.2	
IT (Torino)	81003.9	81141.1	81279.8	81421.4	81562.0	81698.5	81835.8	
JATC (Lintong)	-45905.9	-45930.8	-45957.8	-45986.9	-46013.2	-46036.1	-46062.9	
KRIS (Daejeon)	27609.4	27677.5	27731.4	27795.3	27868.0	27930.3	27996.3	
NICT (Tokyo)	121.5	123.9	122.0	120.2	119.4	118.1	118.6	
NIST (Boulder)	-45332758.5	-45332949.3	-45333139.0	-45333330.8	-45333524.2	-45333714.0	-45333903.5	
NRC (Ottawa)	31450.4	31416.9	31384.5	31349.3	31310.0	31275.0	31235.2	
NTSC (Lintong)	8244.7	8271.0	8295.4	8318.4	8343.6	8372.4	8396.4	
ONRJ (Rio de Janeiro)	-4418.7	-4444.9	-4473.7	-4504.3	-4536.8	-4565.3	-4598.5	
PL (Warszawa)	-5276.0	-5289.4	-5302.8	-5313.6	-5325.6	-5339.7	-5347.3	
PTB (Braunschweig)	-356851.6	-356843.0	-356837.7	-356835.3	-356830.2	-356822.6	-356822.1	
SU (Moskva)	27252520.0	27252637.1	27252753.7	27252870.5	27252985.5	27253103.4	27253219.5	(1)
TL (Chung-Li)	173.3	165.9	154.9	141.1	129.4	119.0	106.3	
USNO (Washington DC)	-35039990.1	-35040288.5	-35040586.8	-35040886.9	-35041186.2	-35041486.9	-35041784.6	

- Note on section 2:
(1) 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	54919 - 54949	6.716×10^{-13}	(2009 MAR 29 - 2009 APR 28)
New correction	54949 - 54979	6.711×10^{-13}	(2009 APR 28 - 2009 MAY 28)
New correction foreseen	54979 - 55009	6.706×10^{-13}	(2009 MAY 28 - 2009 JUN 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	54919 54949	6.9	5.0	8.0	T148	0.0	0.1	9.4	(1)
PTB-CS2	54919 54949	5.5	3.0	12.0	T148	0.0	0.1	12.4	(1)
NIST-F1	54924 54939	6.8	0.3	0.3	T214	0.4	0.6	0.9	(2)
NMIJ-F1	54919 54949	6.2	0.7	3.9	T213	0.3	0.5	4.0	(3)
SYRTE-JPO	54919 54949	4.3	0.7	6.3	T160	0.3	0.3	6.4	(4)
SYRTE-FO1	54919 54949	4.7	0.3	0.4	T227	0.1	0.3	0.6	(4)
SYRTE-FO2	54934 54949	5.1	0.5	0.5	T227	0.1	0.6	0.9	(4)
SYRTE-FOM	54919 54944	6.1	0.2	0.7	T184	2.0	0.4	2.2	(5)

Notes:
(1) Continuously operating as a clock participating to TAI
(2) Report 23 APR. 2009 by NIST
(3) Report 28 APR. 2009 by NMIJ
(4) Report 04 MAY. 2009 by LNE-SYRTE
(5) Report 04 MAY. 2009 by LNE-SYRTE. FOM was in operation at CNES in Toulouse and the value u_l/lab also accounts for the GPS time transfer between Toulouse and Paris.

The second table gives the BIPM estimate of *d*, based on all available PFS measurements over the period MJD 54559-54949, 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*	
54919-54949	5.1×10^{-15}	0.4×10^{-15}	(2009 MAR 29 - 2009 APR 28)

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

[*UTC-GPS time*] = -15 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*] = 34 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 = 2.8 ns, σ_1 = 13.6 ns

Date 2009	0h UTC	MJD	C_0/ns	N_0	C_1/ns	N_1
MAR	29	54919	1.5	46	55.5	79
MAR	30	54920	0.6	43	57.8	79
MAR	31	54921	2.6	47	61.7	75
APR	1	54922	5.8	46	66.9	83
APR	2	54923	5.0	46	72.4	82
APR	3	54924	4.3	42	78.7	80
APR	4	54925	3.5	45	76.4	74
APR	5	54926	6.8	47	74.7	75
APR	6	54927	8.0	47	78.0	83
APR	7	54928	4.9	47	80.5	70
APR	8	54929	0.3	47	79.3	70
APR	9	54930	0.1	46	78.3	65
APR	10	54931	-0.5	46	78.8	82
APR	11	54932	-1.1	46	77.8	75
APR	12	54933	1.0	47	75.5	71
APR	13	54934	0.9	44	78.5	77
APR	14	54935	2.8	43	79.2	78
APR	15	54936	2.1	46	68.7	54
APR	16	54937	2.2	48	61.4	63
APR	17	54938	3.6	47	66.1	64
APR	18	54939	1.3	47	69.8	81
APR	19	54940	1.1	43	64.8	77
APR	20	54941	0.2	47	56.8	69
APR	21	54942	1.2	43	50.4	71
APR	22	54943	3.7	41	50.8	81
APR	23	54944	3.8	45	59.5	82
APR	24	54945	4.8	47	60.8	48
APR	25	54946	6.0	45	51.7	79
APR	26	54947	5.8	45	46.0	76
APR	27	54948	4.4	44	46.4	69
APR	28	54949	2.9	47	51.5	80

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/2006 Sep
AUS /PTB	GPS MC	1.5	5.0	GPS EC/GPS EC	2004 Nov/2006 Sep
BEV /PTB	GPS MC	1.5	3.0	BC(TWSTFT)	2008 Jan
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 /2006 Sep
BY /PTB	GPS MC	2.0	20.0	NA /GPS EC	NA /2006 Sep
CAO /PTB	GPS MC	1.5	7.0	GPS EC/GPS EC	2004 Nov/2006 Sep
CH /PTB	TWSTFT	0.5	1.0	LC(TWSTFT)	2008 Sep
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/2006 Sep
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/2006 Sep
EIM /PTB	GPS MC	2.5	5.0	GPS EC/GPS EC	2007 May/2003 Aug
HKO /PTB	GPS MC	2.5	5.0	GPS EC/GPS EC	2004 Sep/2006 Sep
IFAG/PTB	GPS P3	0.7	5.0	GPS EC/GPS EC	2003 Jun/2004 Aug
IGMA/PTB	NA				
INPL/PTB	NA				
INTI/PTB	GPS MC	4.0	20.0	NA /GPS EC	NA /2006 Sep
IT /PTB	TWSTFT	0.5	1.0	LC(TWSTFT)	2008 Sep

Link	Type	u_A/ns	u_B/ns	Calibration Type	Calibration Dates
JATC/NTSC	INT LK	0.2	1.0	DIC	/2006 Sep
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 /2006 Sep
KRIS/PTB	GPS P3	0.7	5.0	GPS EC/GPS EC	2005 Aug/2004 Aug
KZ /PTB	GPS MC	2.0	20.0	NA /GPS EC	NA /2006 Sep
LT /PTB	GPS MC	2.0	5.0	GPS EC/GPS EC	2006 Oct/2006 Sep
LV /PTB	GPS MC	1.5	7.0	GPS EC/GPS EC	2006 Feb/2006 Sep
MIKE/PTB	GPS MC	5.0	20.0	NA /GPS EC	NA /2006 Sep
MKEH/PTB	GPS SC	2.5	20.0	NA /GPS EC	NA /2006 Sep
MSL /PTB	GPS P3	1.0	20.0	NA /GPS EC	NA /2004 Aug
NAO /PTB	GPS MC	3.0	20.0	NA /GPS EC	NA /2006 Sep
NICT/PTB	TWSTFT	0.5	5.0	LC(GPS P3)	2009 Mar
NIM /PTB	GPS P3	1.0	20.0	NA /GPS EC	NA /2004 Aug
NIMB/PTB	GPS MC	2.0	20.0	NA /GPS EC	NA /2006 Sep
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/2006 Sep
NIST/PTB	TWSTFT	0.5	5.0	BC(GPS EC)	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 /2006 Sep
NPL /PTB	TWSTFT	0.5	1.0	LC(TWSTFT)	2008 Sep
NPLI/PTB	GPS MC	2.5	7.0	GPS EC/GPS EC	2005 Jul/2006 Sep
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/2006 Sep
ONBA/PTB	GPS MC	2.5	5.0	GPS EC/GPS EC	2004 Jul/2006 Sep
ONRJ/PTB	GPS MC	4.0	20.0	NA /GPS EC	NA /2006 Sep
OP /PTB	TWSTFT	0.5	1.0	LC(TWSTFT)	2008 Sep
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	2006 Oct/2006 Sep
ROA /PTB	GPS P3	0.7	5.0	LC(TWSTFT)	2005 May
SCL /PTB	GPS MC	3.0	10.0	LC(GPS SC)	1993 May
SG /PTB	GPS MC	2.0	5.0	GPS EC/GPS EC	2004 Nov/2006 Sep
SIQ /PTB	GPS SC	5.0	20.0	NA /GPS EC	NA /2003 Aug
SMD /PTB	GPS MC	1.5	20.0	NA /GPS EC	NA /2006 Sep
SMU /PTB	GPS SC	7.0	20.0	NA /GPS EC	NA /2006 Sep
SP /PTB	TWSTFT	0.5	1.0	BC(GPS PPP)	2006 Mar
SU /PTB	GPS MC	1.5	5.0	GPS EC/GPS EC	2008 Sep/2006 Sep
TCC /PTB	GPS P3	1.0	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)	2006 Sep
UA /PTB	GPS MC	2.5	6.0	GPS EC/GPS EC	2006 Jun/2006 Sep
UME /PTB	GPS MC	1.5	7.0	GPS EC/GPS EC	2005 Dec/2006 Sep
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	0.7	1.0	BC(GPS PPP)	2006 Mar
ZA /PTB	NA				
ZMDM/PTB	GPS MC	2.0	7.0	GPS EC/GPS EC	2007 Jan/2006 Sep