*CIRCULAR T* 229 ISSN 1143-1393
2007 FEBRUARY 13, 14h UTC

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 2006/07 0h UTC | DEC 30 | JAN 4 | JAN 9 | JAN 14 | JAN 19 | JAN 24 | JAN 29 | Uncertainty/ns | | | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MJD | 54099 | 54104 | 54109 | 54114 | 54119 | 54124 | 54129 | $u_A$ | $u_B$ | $u$ | |
| Laboratory *k* | [*UTC-UTC*(*k*)]/ns | | | | | | | | | | |
| AOS (Borowiec) | -17.6 | -12.1 | -8.5 | -7.0 | -12.1 | -8.0 | -9.2 | 1.5 | 5.1 | 5.3 | |
| APL (Laurel) | -9.5 | -9.1 | -4.6 | 2.8 | 3.5 | 12.0 | 0.3 | 1.5 | 5.0 | 5.2 | |
| AUS (Sydney) | -128.5 | -114.1 | -114.1 | -98.3 | -74.7 | -59.5 | -37.1 | 1.5 | 5.1 | 5.3 | |
| BEV (Wien) | -2.2 | -3.6 | -2.8 | -6.8 | -5.3 | -10.3 | -4.3 | 2.0 | 5.1 | 5.4 | |
| BIM (Sofiya) | -4983.2 | -4998.7 | -4991.6 | -5013.5 | -5020.3 | -5053.0 | -5083.0 | 5.0 | 20.0 | 20.6 | (1) |
| BIRM (Beijing) | -2528.0 | -2544.8 | -2556.4 | -2574.7 | -2590.2 | -2597.8 | -2621.4 | 3.5 | 20.0 | 20.3 | |
| CAO (Cagliari) | -896.5 | -892.7 | -856.9 | -841.6 | -853.8 | -845.8 | -862.0 | 1.5 | 7.1 | 7.2 | |
| CH (Bern) | -56.0 | -65.1 | -75.4 | -70.5 | -58.0 | -50.8 | -43.6 | 0.7 | 5.1 | 5.1 | |
| CNM (Queretaro) | -7.9 | -1.4 | -5.5 | -5.3 | -0.5 | -6.0 | -8.7 | 4.9 | 5.1 | 7.1 | |
| CNMP (Panama) | -53.7 | -35.4 | -39.5 | -55.0 | -64.5 | -69.7 | -82.7 | 3.0 | 5.1 | 5.9 | |
| DLR (Oberpfaffenhofen) | - | - | - | - | - | - | - | - | - | - | |
| DTAG (Darmstadt) | - | - | - | - | - | - | - | - | - | - | |
| HKO (Hong Kong) | -24.1 | -28.9 | -19.6 | -18.3 | -7.2 | -4.5 | 3.4 | 2.5 | 5.1 | 5.7 | |
| IFAG (Wettzell) | -367.3 | -360.0 | -352.6 | -355.9 | -350.1 | -344.1 | -340.8 | 0.7 | 5.1 | 5.1 | |
| IGMA (Buenos Aires) | 771.1 | 759.2 | 758.9 | 759.8 | 758.2 | 761.1 | 764.5 | 2.5 | 5.1 | 5.7 | |
| INPL (Jerusalem) | 186.8 | 191.0 | 192.2 | 198.7 | 203.5 | 210.6 | 210.9 | 5.0 | 10.0 | 11.2 | |
| IT (Torino) | 11.5 | 9.9 | -5.1 | -15.5 | -29.9 | -40.2 | -45.6 | 0.6 | 1.5 | 1.6 | |
| JATC (Lintong) | -11.1 | -14.2 | -12.4 | -13.4 | -14.1 | -9.2 | -3.3 | 1.5 | 4.9 | 5.2 | |
| JV (Kjeller) | -1423.9 | -1332.3 | -1274.9 | -1218.3 | -1124.3 | -1064.7 | -982.1 | 5.0 | 20.0 | 20.6 | |
| KRIS (Daejeon) | -15.8 | -11.2 | -19.7 | -23.8 | -16.2 | -15.4 | -19.7 | 0.7 | 5.1 | 5.1 | |
| LDS (Leeds) | 1233.1 | 1251.1 | 1265.3 | 1291.6 | 1309.9 | 1346.4 | 1403.9 | 3.0 | 20.0 | 20.3 | |
| LT (Vilnius) | 80.3 | 113.1 | 124.3 | 106.9 | 107.9 | 99.8 | 75.0 | 1.5 | 5.1 | 5.3 | |
| MIKE (Espoo) | -54.5 | -62.0 | -76.9 | -90.1 | -110.6 | -119.1 | -114.9 | 5.0 | 19.8 | 20.5 | |
| MKEH (Budapest) | 11717.6 | 11726.1 | 11725.8 | 11727.2 | 11738.2 | 11744.9 | 11772.0 | 2.5 | 20.0 | 20.2 | (2) |
| MSL (Lower Hutt) | - | -15.2 | -13.1 | -0.7 | 19.6 | 7.3 | 55.5 | 1.0 | 20.0 | 20.1 | |
| NAO (Mizusawa) | 219.5 | 224.7 | 217.5 | 214.4 | 214.1 | 207.8 | 207.8 | 3.0 | 20.0 | 20.3 | |
| NICT (Tokyo) | -7.7 | -5.6 | -3.6 | -4.0 | -3.0 | -3.6 | -1.2 | 0.7 | 4.8 | 4.9 | |
| NIM (Beijing) | -53.9 | -54.0 | -58.3 | -56.0 | -55.1 | -53.4 | -55.8 | 1.5 | 19.8 | 19.8 | |
| NIMB (Bucharest) | -430.9 | -422.4 | -426.3 | -425.3 | -424.6 | -425.4 | -423.7 | 2.5 | 20.0 | 20.2 | |
| NIMT (Bangkok) | -1210.5 | -1212.5 | -1216.7 | -1223.4 | -1236.0 | -1247.0 | -1252.7 | 1.0 | 20.0 | 20.1 | |

| Date 2006/07 0h UTC | DEC 30 | JAN 4 | JAN 9 | JAN 14 | JAN 19 | JAN 24 | JAN 29 | Uncertainty/ns | | | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MJD | 54099 | 54104 | 54109 | 54114 | 54119 | 54124 | 54129 | $u_A$ | $u_B$ | $u$ | |
| Laboratory *k* | | | | [*UTC*-*UTC*(*k*)]/ns | | | | | | | |
| NIS (Cairo) | 3.1 | -5.3 | -6.0 | -6.8 | -6.6 | -2.2 | -5.9 | 2.5 | 7.1 | 7.5 | |
| NIST (Boulder) | 15.9 | 16.7 | 16.1 | 16.5 | 15.5 | 14.7 | 13.3 | 0.5 | 4.8 | 4.8 | |
| NMIJ (Tsukuba) | 41.0 | 41.3 | 39.7 | 35.3 | 33.6 | 30.8 | 30.9 | 0.7 | 5.1 | 5.1 | |
| NMLS (Sepang) | -682.8 | -687.7 | -694.6 | -694.8 | -702.2 | -705.6 | -703.0 | 2.0 | 20.0 | 20.1 | |
| NPL (Teddington) | 20.3 | 19.1 | 16.6 | 15.7 | 12.9 | 10.0 | 7.8 | 0.6 | 5.1 | 5.1 | |
| NPLI (New-Delhi) | 123.8 | 146.2 | 167.2 | - | -100.7 | -89.5 | -83.9 | 4.0 | 7.1 | 8.1 | (3) |
| NRC (Ottawa) | -58.1 | -65.7 | -77.8 | -80.3 | -77.2 | -74.2 | -65.5 | 0.7 | 5.1 | 5.2 | |
| NTSC (Lintong) | 3.8 | -0.7 | -1.1 | -5.0 | -10.2 | -9.3 | -5.8 | 1.4 | 4.8 | 5.0 | |
| ONBA (Buenos Aires) | -11609.4 | -11688.1 | -11801.2 | -11826.1 | -11320.5 | -11227.0 | -11230.2 | 5.0 | 5.1 | 7.2 | (4) |
| ONRJ (Rio de Janeiro) | -19.0 | -10.2 | -4.1 | -8.5 | -0.6 | 5.3 | 13.7 | 4.0 | 20.0 | 20.4 | |
| OP (Paris) | -23.3 | -21.7 | -13.8 | -13.2 | -14.4 | -11.4 | -17.7 | 0.5 | 1.4 | 1.5 | |
| ORB (Bruxelles) | -21.5 | -22.8 | -25.5 | -27.0 | -27.7 | -28.5 | -29.7 | 0.7 | 5.1 | 5.1 | |
| PL (Warszawa) | 6.4 | 0.5 | -6.3 | -7.9 | -12.9 | -21.1 | -19.0 | 1.4 | 4.8 | 5.1 | |
| PTB (Braunschweig) | -0.9 | -2.3 | -6.2 | -5.2 | -4.5 | -5.3 | -3.6 | 0.3 | 1.1 | 1.1 | |
| ROA (San Fernando) | -25.1 | -31.6 | -38.8 | -40.7 | -49.4 | -44.8 | -44.2 | 0.7 | 5.0 | 5.1 | |
| SCL (Hong Kong) | -14.2 | -14.4 | -11.4 | -3.4 | -0.8 | -9.4 | -7.2 | 4.0 | 9.9 | 10.7 | |
| SG (Singapore) | 65.5 | 75.4 | 74.9 | 79.2 | 80.2 | 78.0 | 67.9 | 2.0 | 5.1 | 5.5 | |
| SMU (Bratislava) | -140.3 | -131.4 | -131.2 | -132.4 | -139.2 | -141.4 | -152.1 | 5.0 | 20.0 | 20.6 | |
| SP (Boras) | -3.5 | -13.0 | -11.3 | -18.8 | -23.7 | -29.6 | -29.0 | 0.5 | 1.4 | 1.5 | |
| SU (Moskva) | -7.1 | -8.0 | -9.2 | -9.5 | -10.6 | -11.8 | -14.1 | 3.0 | 5.1 | 5.9 | |
| TCC (Concepcion) | -3647.8 | -3660.6 | -3656.6 | -3699.4 | -3742.2 | -3743.0 | -3786.0 | 1.5 | 19.9 | 20.0 | |
| TL (Chung-Li) | -2.0 | -3.0 | -3.6 | -5.7 | -7.6 | -6.2 | -5.8 | 0.7 | 4.9 | 5.0 | |
| TP (Praha) | -28.7 | -22.1 | -20.0 | -8.3 | -8.9 | -12.8 | -12.4 | 1.5 | 5.1 | 5.3 | |
| UME (Gebze-Kocaeli) | 9.7 | 14.0 | 18.9 | 15.4 | 18.7 | 18.8 | 23.0 | 1.5 | 7.1 | 7.2 | |
| USNO (Washington DC) | -4.9 | -6.4 | -7.9 | -8.2 | -8.0 | -7.5 | -7.0 | 0.4 | 1.4 | 1.5 | |
| VSL (Delft) | -47.8 | -46.8 | -53.2 | -59.5 | -62.5 | -84.2 | -73.1 | 0.6 | 1.5 | 1.6 | |
| ZA (Pretoria) | - | -2563.4 | -2640.0 | -2702.5 | -2778.4 | -2848.7 | -2904.9 | 2.5 | 20.0 | 20.2 | (5) |
| ZMDM (Belgrade) | 67.7 | 101.6 | 139.8 | 175.2 | 205.0 | 234.3 | 256.8 | 2.0 | 7.1 | 7.3 | |

- Notes on section 1:

(1) BIM : Bulgarian Institute of Metrology, formerly NMC.
(2) MKEH : Hungarian Trade Licensing Office, formerly OMH.
(3) NPLI : Change of master clock on MJD 54119.
(4) ONBA : Apparent time step of [UTC-UTC(ONBA)] of about 500 ns on MJD 54115.
(5) ZA : Stands for Council for Scientific and Industrial Research, South Africa, formerly noted as CSIR.

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

| Date 2006/07 0h UTC | DEC 30 | JAN 4 | JAN 9 | JAN 14 | JAN 19 | JAN 24 | JAN 29 | |
|---|---|---|---|---|---|---|---|---|
| MJD | 54099 | 54104 | 54109 | 54114 | 54119 | 54124 | 54129 | |
| Laboratory *k* | | | | [*TAI-TA*(*k*)]/ns | | | | |
| CH (Bern) | 53748.0 | 53752.0 | 53751.3 | 53751.8 | 53759.9 | 53762.7 | 53765.5 | |
| F (Paris) | 168332.1 | 168330.2 | 168330.0 | 168331.3 | 168328.9 | 168329.2 | 168327.7 | |
| IT (Torino) | 59270.8 | 59403.0 | 59533.1 | 59662.5 | 59790.7 | 59921.8 | 60046.6 | |
| JATC (Lintong) | -41322.1 | -41358.1 | -41391.2 | -41425.9 | -41456.5 | -41488.0 | -41519.3 | |
| KRIS (Daejeon) | 15087.7 | 15165.0 | 15231.2 | 15301.1 | 15381.5 | 15455.8 | 15525.6 | |
| NICT (Tokyo) | -2.4 | -1.9 | -1.1 | -1.2 | -2.7 | -1.5 | -2.9 | |
| NIST (Boulder) | -45301408.7 | -45301600.4 | -45301793.5 | -45301985.6 | -45302178.5 | -45302370.8 | -45302563.7 | |
| NRC (Ottawa) | 30280.0 | 30290.2 | 30299.1 | 30310.6 | 30325.1 | 30333.9 | 30338.0 | |
| NTSC (Lintong) | 3875.1 | 3897.1 | 3921.8 | 3946.2 | 3970.4 | 3993.8 | 4019.5 | |
| ONRJ (Rio de Janeiro | -1133.7 | -1143.4 | -1159.7 | -1177.6 | -1199.4 | -1213.7 | -1225.1 | |
| PL (Warszawa) | -4054.1 | -4054.0 | -4062.4 | -4072.6 | -4080.6 | -4088.8 | -4098.6 | |
| PTB (Braunschweig) | -357935.8 | -357929.5 | -357926.0 | -357917.6 | -357909.3 | -357902.5 | -357893.2 | |
| SU (Moskva) | 27243104.7 | 27243128.8 | 27243152.7 | 27243177.4 | 27243201.4 | 27243225.3 | 27243248.0 | (1) |
| TL (Chung-Li) | 552.0 | 555.1 | 558.5 | 562.1 | 565.6 | 568.8 | 572.3 | |
| USNO (Washington DC) | -34990392.0 | -34990695.2 | -34990999.5 | -34991303.9 | -34991608.0 | -34991912.6 | -34992217.3 | |

- 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 | 54099 - 54129 | $6.806\times10^{-13}$ | (2006 DEC 30 - 2007 JAN 29) |
| New correction | 54129 - 54159 | $6.802\times10^{-13}$ | (2007 JAN 29 - 2007 FEB 28) |
| New correction foreseen | 54159 - 54189 | $6.802\times10^{-13}$ | (2007 FEB 28 - 2007 MAR 30) |

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 $\tau$ in days: (1) a white frequency noise of $3.0 \times 10^{-15} / \sqrt{\tau}$, (2) a flicker frequency noise of $0.5 \times 10^{-15}$ 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 *Annual Report of the BIPM Time Section*.

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 |
|---|---|---|---|---|---|---|---|---|---|---|
| SYRTE-JPO | 54099 | 54129 | 15.0 | 0.7 | 6.3 | T160 | 0.3 | 0.3 | 6.4 | (1) |
| PTB-CS1 | 54099 | 54129 | -3.1 | 5.0 | 8.0 | T148 | 0.0 | 0.2 | 9.4 | (2) |
| PTB-CS2 | 54099 | 54129 | 0.6 | 3.0 | 12.0 | T148 | 0.0 | 0.2 | 12.4 | (2) |

Notes:
(1) Report 9 Feb. 2007 by LNE-SYRTE.
(2) Continuously operating as a clock participating to TAI.

The second table gives the BIPM estimate of *d*, based on all available PFS measurements over the period MJD 53739-54129, 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* | |
|---|---|---|---|
| 54099-54129 | $1.1 \times 10^{-15}$ | $1.3 \times 10^{-15}$ | (2006 DEC 30 - 2007 JAN 29) |

## 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 are 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 are 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 $\sigma_0$ and $\sigma_1$ 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, $\sigma_0$ = 2.2 ns, $\sigma_1$ = 11.2 ns.

Note: $C_0$ between MJD 54045 and 54099 (Circulars T 227 and 228) need to be corrected by +3.6 ns.

| Date 2006/07 0h UTC | MJD | $C_0$/ns | $N_0$ | $C_1$/ns | $N_1$ |
|---|---|---|---|---|---|
| DEC 30 | 54099 | -6.1 | 43 | -461.1 | 70 |
| DEC 31 | 54100 | -5.4 | 46 | -468.7 | 76 |
| JAN 1 | 54101 | -6.2 | 43 | -472.6 | 75 |
| JAN 2 | 54102 | -4.6 | 40 | -459.7 | 77 |
| JAN 3 | 54103 | -5.7 | 43 | -437.2 | 79 |
| JAN 4 | 54104 | -7.6 | 45 | -425.7 | 90 |
| JAN 5 | 54105 | -8.4 | 46 | -420.3 | 85 |
| JAN 6 | 54106 | -7.6 | 46 | -407.0 | 74 |
| JAN 7 | 54107 | -7.7 | 46 | -398.1 | 79 |
| JAN 8 | 54108 | -8.6 | 47 | -386.6 | 71 |
| JAN 9 | 54109 | -9.4 | 46 | -367.6 | 82 |
| JAN 10 | 54110 | -10.8 | 46 | -357.3 | 81 |
| JAN 11 | 54111 | -11.4 | 45 | -350.8 | 89 |
| JAN 12 | 54112 | -9.4 | 47 | -338.4 | 83 |
| JAN 13 | 54113 | -8.8 | 44 | -326.9 | 80 |
| JAN 14 | 54114 | -8.6 | 46 | -324.1 | 88 |
| JAN 15 | 54115 | -8.0 | 45 | -324.4 | 84 |
| JAN 16 | 54116 | -8.3 | 45 | -320.1 | 56 |
| JAN 17 | 54117 | -9.3 | 46 | -330.3 | 83 |
| JAN 18 | 54118 | -9.5 | 45 | -341.4 | 79 |
| JAN 19 | 54119 | -9.1 | 46 | -329.0 | 81 |
| JAN 20 | 54120 | -9.4 | 47 | -320.3 | 80 |
| JAN 21 | 54121 | -8.0 | 46 | -324.0 | 81 |
| JAN 22 | 54122 | -8.3 | 46 | -323.3 | 70 |
| JAN 23 | 54123 | -8.2 | 46 | -324.9 | 76 |
| JAN 24 | 54124 | -6.6 | 47 | -338.1 | 75 |
| JAN 25 | 54125 | -8.7 | 46 | -349.9 | 84 |
| JAN 26 | 54126 | -10.2 | 46 | -351.8 | 80 |
| JAN 27 | 54127 | -9.0 | 46 | -358.0 | 85 |
| JAN 28 | 54128 | -8.8 | 47 | -371.4 | 80 |
| JAN 29 | 54129 | -10.0 | 46 | -376.4 | 82 |

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 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 | GPS MC | 1.5 | 5.0 | GPS EC/GPS EC | 2003 Sep/2004 Jul |
| 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 | 2.0 | 5.0 | GPS EC/GPS EC | 2001 Dec/2004 Jul |
| BIM /PTB | GPS SC | 5.0 | 20.0 | NA /GPS EC | NA /2004 Jul |
| BIRM/PTB | GPS SC | 3.5 | 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 | GPS P3 | 0.7 | 5.0 | GPS EC/GPS EC | 2004 Nov/2004 Aug |
| CNM /PTB | GPS SC | 5.0 | 5.0 | GPS EC/GPS EC | 2005 Nov/2004 Jul |
| CNMP/PTB | GPS MC | 3.0 | 5.0 | GPS EC/GPS EC | 2004 May/2004 Jul |
| DLR /PTB | NA | | | | |
| DTAG/PTB | NA | | | | |
| 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 | GPS MC | 2.5 | 5.0 | GPS EC/GPS EC | 2004 Aug/2004 Jul |
| INPL/PTB | GPS SC | 5.0 | 10.0 | GPS EC/GPS EC | 1987 Jun/2004 Jul |
| IT /PTB | TWSTFT | 0.5 | 1.0 | LC(TWSTFT) | 2005 Nov |
| JATC/NTSC | INT LK | 0.2 | 1.0 | DIC | 2002 Aug |
| JV /PTB | GPS GT | 5.0 | 20.0 | NA /GPS EC | NA /2003 Aug |
| KRIS/PTB | GPS P3 | 0.7 | 5.0 | GPS EC/GPS EC | 2005 Aug/2004 Aug |

| Link | Type | $u_A$/ns | $u_B$/ns | Calibration Type | Calibration Dates |
|---|---|---|---|---|---|
| LDS /PTB | GPS SC | 3.0 | 20.0 | NA /GPS EC | NA /2004 Jul |
| LT /PTB | GPS MC | 1.5 | 5.0 | GPS EC/GPS EC | 2001 Nov/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 | GPS P3 | 0.7 | 5.0 | GPS EC/GPS EC | 2005 Jun/2004 Aug |
| NIM /PTB | GPS MC | 1.5 | 20.0 | NA /GPS EC | NA /2004 Jul |
| NIMB/PTB | GPS MC | 2.5 | 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 | 2.5 | 7.0 | GPS EC/GPS EC | 2005 May/2004 Jul |
| NIST/PTB | TWSTFT | 0.5 | 5.0 | BC(GPS P3) | 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 | TWSTFT | 0.5 | 5.0 | LC(GPS MC) | 2006 Dec |
| NPLI/PTB | GPS MC | 4.0 | 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 |
| NTSC/PTB | GPS MC | 1.5 | 5.0 | GPS EC/GPS EC | 2004 Sep/2004 Jul |
| ONBA/PTB | GPS MC | 5.0 | 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 | LC(TWSTFT) | 2005 Nov |
| 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 P3) | 2005 May |
| SCL /PTB | GPS SC | 4.0 | 10.0 | GPS EC/GPS EC | 1993 May/2004 Jul |
| SG /PTB | GPS MC | 2.0 | 5.0 | GPS EC/GPS EC | 2004 Nov/2004 Jul |
| SMU /PTB | GPS SC | 5.0 | 20.0 | NA /GPS EC | NA /2004 Jul |
| SP /PTB | TWSTFT | 0.5 | 1.0 | LC(TWSTFT) | 2005 Nov |
| 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 MC | 1.5 | 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 | 2.0 | BC(TW X-Band) | 2005 May |
| VSL /PTB | TWSTFT | 0.5 | 1.0 | LC(TWSTFT) | 2005 Nov |
| ZA /PTB | GPS MC | 2.5 | 20.0 | NA /GPS EC | NA /2004 Jul |
| ZMDM/PTB | GPS MC | 2.0 | 7.0 | GPS EC/GPS EC | 2005 Mar/2004 Jul |