Results of differential calibration of geodetic-type receivers at the ORB

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1. General description of the calibration

This report concerns the calibration of the hardware delays incurred by time signals for different geodetic-type GPS systems operated at the ORB in Brussels.
The systems (receiver+antenna) are designated by a 4-letter acronym.
The link between acronym and actual hardware references may be found here.

The results presented in Section 3 should be used for time transfer with other equipment calibrated using the same procedure. The standard uncertainty on such a link calibration is taken to be 5 ns (1 σ).

2. Calibration procedure

The calibration is a differential calibration with respect to a travelling system provided by the BIPM. The travelling system, identified in the table of results, is referenced to the BIPM reference system, presently BP0C, an Ashtech Z12-T (see TM116 for the original calibration of the reference system). See also TM204 for a long-term comparison of the BIPM systems.

The calibration operational procedure is available here. Note that different versions of the document were used, depending on the epoch of calibration, see the annex "Revision history" in the most recent version.

3. Calibration results

System	Period	Calib. dates	Travel	Results P1-P2/ns	Operations report
BRUS	2003/07	52837-52844	BP0C	303.5 – 312.8	Report2003_ORB.pdf
BRUS	2006/05	53877-53882	BP0C	302.6 – 312.2	Report2006_ORB.pdf
BRUX	2012/10	56198-56207	BP0T	53.9 – 49.8	Report2012_ORB.pdf
ZTBR	2004/07	53204-53212	BP0C	308.1 – 321.1	Report2004_ORB.pdf
ZTBR	2006/05	53877-53882	BP0C	309.6 – 323.1[1]	Report2006_ORB.pdf
ZTB1[2]	2012/10	56198-56207	BP0T	314.6 – 327.9	Report2012_ORB.pdf
PLB1	2006/05	53877-53882	BP0C	215.6 – 228.3[1]	Report2006_ORB.pdf
ZTBR[3]	2012/10	56198-56207	BP0T	212.0 – 223.5	Report2012_ORB.pdf
PLB2	2006/05	53877-53882	BP0C	257.4 – 271.1[1]	Report2006_ORB.pdf

[1] Delay values include one antenna splitter.
[2] The system named ZTB1 in 2012 was previously named ZTBR.
[3] The system named ZTBR in 2012 was previously named PLB1.