

Definitions

XP: From external reference to 1PPS in

XO: From 1PPS in to internal reference (i.e. 20 MHz in inverted, delayed by 15.8 ns (Meas 3.1) or 20 MHz out advanced by 2.4 ns (Meas 3.2), first positive zero crossing)

XC, XD: Cables etc... from antenna to receiver (typically XC is long cable, XD is short cable(s) + splitter if needed)

XR: receiver internal delay; XS antenna delay

BIPC values (TM116: June 2002): XR1=281.1 ns; XR2=295.4 ns; XR1+XS1=305.6 ns; XR2+XS2=321.9 ns

Set-up at PTB July 2002

	ITRF 97						
	X	Y	Z	1PPS DA to 1PPS in	Meas 3.1 / ns	Meas 3.2 / ns	Ant. Cable / ns
BIPC	x	y	z	13.0 ns XP = 13.0 ns	13.4 (12.6 to 13.6) Int ref - 1PPSin (XO) = 29.7 ns (3.1: 29.2; 3.2: 30.2)	32.6	XC = 237.6 ns; XD = 5.1 ns (zero base only) Short base: XC+XD = 237.6 ns Zero base: XC+XD = 242.7 ns
PTBB	x	y	z	30.0 ns XP = 30.0 ns	8.8 (8.4 to 9.4) Int ref - 1PPSin (XO) = 24.6 ns	Not available	(short base: XC = 301.7 ns; XD=0) Short base: XC+XD = 301.7 ns Zero base: XC+XD = 249.8 ns (incl. 0.7 ns splitter and 11.5 ns cable)

Observations

Short baseline: doy 197-204 (16-23 July 2002)

Zero baseline: doy 204-212 (23-31 July 2002)

Measurement results

Preliminary: 26/09/2002 (G. Petit) via R2CGGTTS

Short baseline: from Doy 197-203

Delta (-XP-XO+XR1+XC+XD+XS1) (PTBB - BIPC) = +100.7 ns

Delta (-XP-XO+XR2+XC+XD+XS2) (PTBB - BIPC) = +98.8 ns

Zero baseline: from Doy 204-210

Delta (-XP-XO+XR1+XC+XD) (PTBB - BIPC) = +43.5 ns

Delta (-XP-XO+XR2+XC+XD) (PTBB - BIPC) = +43.1 ns

Calibration results

Preliminary: 16/10/2002 (G. Petit)

Short baseline

BIPC: -XP-XO+XR1+XC+XD+XS1 = 500.5 ns

BIPC: -XP-XO+XR2+XC+XD+XS2 = 516.8 ns

PTBB: -XP-XO+XC+XD = 247.1 ns

Therefore

PTBB: XR1+XS1 = 354.1 ns

PTBB: XR2+XS2 = 368.5 ns

Zero baseline

BIPC: -XP-XO+XR1+XC+XD = 481.1 ns

BIPC: -XP-XO+XR2+XC+XD = 495.4 ns

PTBB: -XP-XO+XC+XD = 195.2 ns

Therefore

PTBB: XR1 = 329.4 ns

PTBB: XR2 = 343.3 ns

Therefore

PTBB: XS1 = 24.7 ns

PTBB: XS2 = 25.2 ns