

BUREAU INTERNATIONAL DES POIDS ET MESURES
(BIPM)

Circular T 7 (1988 September 1)

1 - COORDINATED UNIVERSAL TIME UTC

(Since 1988 January 1, 0h UTC, TAI-UTC = 24s)

A - Computed values of UTC-UTC(k)

Date 1988 (0h UTC)	JUL 7	JUL 17	JUL 27
MJD	47349	47359	47369
Laboratory k	UTC-UTC(k) (Unit = 1 microsecond)		
AOS (Borowiec)	0.10	0.23	0.13
APL (Laurel)	-0.08	-0.11	-0.18
ASMW (Berlin)	-0.32	-0.35	-0.30
AUS (Canberra)	-14.62	-14.81	-14.99
BEV (Wien) (1)	-12.84	6.47	5.77
CAO (Cagliari)	4.09	4.20	4.26
CH (Berne)	1.09	1.05	1.06
CRL (Tokyo)	-1.91	-1.90	-1.88
CSAO (Shaanxi)	0.77	0.87	0.99
FTZ (Darmstadt)	17.74	17.79	17.88
IEN (Torino)	0.74	0.61	0.45
IFAG (Wetzell)	-2.63	-2.44	-2.31
INPL (Jerusalem)	70.83	72.06	73.28
JATC (Xian)	0.86	1.22	1.48
KSRI (Daejeon) (2)	-9.88	-10.25	-10.67
NAOM (Mizusawa) (3)	-35.37	-35.34	-35.29
NBS (Boulder)	-0.93	-0.88	-0.83
NIM (Beijing)	8.67	8.69	8.61
NPL (Teddington)	4.14	4.10	4.05
NPLI (New-Delhi)	-12.12	-12.13	-12.07
NRC (Ottawa)	-9.23	-9.30	-9.36
NRLM (Tsukuba)	-25.75	-26.09	-26.42
OMH (Budapest)	-	-	-
OP (Paris)	-1.00	-1.10	-1.20
ORB (Bruxelles)	-10.15	-10.25	-10.32
PKNM (Warsaw)	2.21	2.31	2.52
PTB (Braunschweig)	4.35	4.30	4.30
ROA (San Fernando) (4)	4.78	4.95	5.14
SO (Shanghai)	1.94	1.99	1.91
STA (Stockholm)	0.14	0.16	0.26
SU (Moscow)	19.34	19.13	18.79
TAO (Tokyo)	-2.12	-2.15	-2.17
TL (Taiwan)	-5.47	-5.40	-5.63
TP (Praha)	2.04	1.30	0.29
TUG (Graz)	1.18	1.40	1.66
USNO (Washington) (USNO MC)	-3.25	-3.13	-3.01
VSL (Delft)	3.68	3.68	3.73
YUZM (Beograd)	2.42	3.35	4.09
ZIPE (Potsdam)	0.26	0.34	0.45

- (1) BEV . Time step of UTC(BEV) of $-20 \mu\text{s}$ on MJD = 47353.35
- (2) KSRI . Time step of UTC-UTC(KSRI) due to introduction of GPS link on MJD = 47349
- (3) NAOM . National Astronomical Observatory, Mizusawa (previously ILOM)
- (4) ROA . Real Instituto y Observatorio de la Armada (previously OMSF)

B - Measurements of UTC(j)-UTC(k) by clock transportation (CT) and by GPS receivers comparisons (GPS)

Date	MJD	Time comparisons	uncert.	source	meth.
1988		(Unit : 1 microsecond)			
JUN 3	47315.03	UTC(NBS) - UTC(TAO)	=-1.222 0.015	NBS letter	GPS
JUN 5	47317.03	UTC(NBS) - UTC(CRL)	=-1.066 0.015	NBS letter	GPS
JUL 19	47361.05	UTC(TAO) - UTC(CRL)	= 0.303 0.005	TAO message	CT
AUG 10	47383.56	UTC(ASMW) - UTC(PTB)	= 3.690 0.020	ASMW telex	CT

2 - INTERNATIONAL ATOMIC TIME TAI AND LOCAL ATOMIC TIME SCALES TA(k)

A - Computed values of TAI-TA(k)

Date 1988 (Oh UTC)	JUL 7	JUL 17	JUL 27
MJD	47349	47359	47369
Laboratory k	TAI-TA(k)	(Unit = 1 microsecond)	
AOS (Borowiec)	-113.77	-115.74	-117.94
APL (Laurel)	-0.08	-0.11	-0.18
CH (Berne)	-50.53	-50.75	-50.92
CRL (Tokyo)	-3.61	-3.60	-3.58
CSAO(Shaanxi)	39.75	39.85	39.98
DDR (Berlin)	-29.94	-30.35	-30.71
F (Paris)	57.30	57.76	58.23
JATC(Xian)	0.44	0.57	0.68
NBS (Boulder)	-45112.70	-45113.05	-45113.42
NIM (Beijing)	-8.37	-8.39	-8.50
NRC (Ottawa)	21.84	21.77	21.71
PTB (Braunschweig)	-359.05	-359.10	-359.10
SO (Shanghai)	-45.73	-45.68	-45.79
SU (Moscow)	2827269.34	2827269.13	2827268.79
USNO(Washington) (1)	-34561.89	-34562.44	-34562.92

(1) TA(USNO) is designated by A1(MEAN) by USNO.

B - Duration of the TAI scale interval (BIPM evaluation)

For JUN.1988-JUL.1988 $1+0.2 \cdot 10^{-13}$ +OR- $1.0 \cdot 10^{-13}$

in SI second at sea level, based on CRL, NBS, NRC, PTB and SU data.