

BUREAU INTERNATIONAL DES POIDS ET MESURES
 (B I P M)

Circular T 9 (1988 October 28)

1 - COORDINATED UNIVERSAL TIME UTC. Computed values of UTC-UTC(k)
 (Since 1988 January 1, 0h UTC, TAI-UTC = 24s)

Date 1988 (0h UTC)	MJD	SEP 5 47409	SEP 15 47419	SEP 25 47429
Laboratory k		UTC-UTC(k)	(Unit = 1 microsecond)	
AOS (Borowiec)		0.45	0.55	0.68
APL (Laurel)	(1)	-0.10	-0.14	-0.17
ASMW (Berlin)		0.08	0.15	0.23
AUS (Canberra)		-15.81	-16.03	-16.34
BEV (Wien)		3.06	2.35	1.67
CAO (Cagliari)		4.51	4.51	4.57
CH (Berne)		0.92	0.88	0.83
CRL (Tokyo)		-1.91	-1.91	-1.89
CSAO (Shaanxi)		1.26	1.41	1.49
FTZ (Darmstadt)		17.88	17.85	17.89
IEN (Torino)		0.75	0.87	1.16
IFAG (Wettzell)		-1.24	-1.09	-0.65
INPL (Jerusalem)		78.57	79.90	81.24
JATC (Xian)		2.50	2.74	2.97
KSRI (Daejeon)		-12.41	-12.98	-13.54
NAOM (Mizusawa)		-34.72	-34.55	-34.55
NBS (Boulder)		-0.59	-0.51	-0.43
NIM (Beijing)		8.54	8.59	8.65
NPL (Teddington)		4.01	3.98	3.94
NPLI (New-Delhi)		-12.04	-11.97	-11.95
NRC (Ottawa)		-9.70	-10.00	-10.29
NRLM (Tsukuba)		-27.78	-28.20	-28.58
OMH (Budapest)		-6.14	-6.24	-
OP (Paris)		-1.52	-1.61	-1.67
ORB (Bruxelles)		-10.63	-10.71	-10.87
PKNM (Warsaw)		2.86	2.63	2.67
PTB (Braunschweig)		4.26	4.25	4.24
ROA (San Fernando)		5.77	5.90	6.06
SO (Shanghai)		1.79	1.84	1.85
STA (Stockholm)		0.16	0.11	-0.03
SU (Moscow)		-	-	-
TAO (Tokyo)		-2.34	-2.38	-2.40
TL (Taiwan)		-5.56	-5.54	-5.61
TP (Praha)		-3.21	-3.27	-3.29
TUG (Graz)		2.71	2.99	3.25
USNO (Washington) (USNO MC)		-2.53	-2.40	-2.27
VSL (Delft)		3.69	3.72	3.72
YUZM (Beograd)		5.87	6.26	6.98
ZIPE (Potsdam)		0.05	0.10	0.13

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

Computed values of TAI-TA(k)

Date 1988 (Oh UTC) MJD	SEP 5 47409	SEP 15 47419	SEP 25 47429
Laboratory k	TAI-TA(k)	(Unit = 1 microsecond)	
AOS (Borowiec)	-126.02	-128.02	-129.99
APL (Laurel) (1)	-0.36	-0.42	-0.47
CH (Berne)	-51.79	-52.01	-52.25
CRL (Tokyo)	-3.60	-3.59	-3.57
CSAO(Shaanxi)	40.24	40.39	40.47
DDR (Berlin)	-30.66	-30.71	-30.76
F (Paris)	60.05	60.47	60.91
JATC(Xian)	1.06	1.19	1.32
NBS (Boulder)	-45114.91	-45115.28	-45115.67
NBS1(Boulder) (2)	-45050.73	-45050.91	-45051.09
NIM (Beijing)	-8.77	-8.79	-8.92
NRC (Ottawa)	21.37	21.07	20.78
PTB (Braunschweig)	-359.14	-359.15	-359.16
SO (Shanghai)	-46.05	-46.04	-45.98
SU (Moscow)	-	-	-
USNO(Washington) (3)	-34564.91	-34565.44	-34565.91

3 - NOTES ON SECTIONS 1 AND 2

(1) APL . BIPM has wrongly applied the time steps of UTC(APL) and TA(APL) on MJD = 47369. The corrected values are as follows

MJD	UTC-UTC(APL)	TAI-TA(APL)
47379	-0.02	-0.22
47389	-0.03	-0.25
47399	-0.07	-0.31

(2) TA(NBS1) designates the scale AT1 of NBS. Previous values are

MJD	TAI-TA(NBS1)	MJD	TAI-TA(NBS1)
47339	-45049.36	47369	-45049.97
47349	-45049.59	47379	-45050.17
47359	-45049.75	47389	-45050.36
		47399	-45050.54

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

4 - MEASUREMENTS OF UTC(j)-UTC(k)

Date 1988	MJD	Time comparisons (Unit : 1 microsecond)	uncert.	source	meth. (1)
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AUG 31 47404.00 UTC(OMH) - UTC(SU) = 23.52 0.05 OMH letter CT

(1) method : CT clock transportation

5 - DURATION OF THE TAI SCALE INTERVAL : 1 second + D (at sea level)

D and its standard deviation s are expressed in 1×10^{-14} second.

Note. In previous issues of Circular T, only the BIPM estimate of D was given, with a conservative estimate of its standard deviation.

Starting with Circular T 9, the following data are given

- for continuously operating primary standards (primary clocks), the average of D for the two previous months, with the last available estimate of the inaccuracy of the standard,
- for occasional measurements, the value of D for the measurement interval, as computed by BIPM (the BIPM uncertainty may be larger than the reported uncertainty on account of the time comparisons),
- the BIPM evaluation from all available measurements (from CRL, NBS, NRC, PTB, SU), with the uncertainty based on those of individual measurements, as reported.

Standards	Interval (MJD)	D	s
PTB-CS1	47369 - 47429	+0.8	3.0
PTB-CS2	47369 - 47429	+4.0	2.2
BIPM estimate	47369 - 47429	+2	2

6 - INFORMATION

The data on time signals published in the BIH Annual Report for 1987, pages C-7 and C-8 must be up-dated as follows

RCH . The given schedule is valid in winter. In summer add one hour.

RTA . The schedule is :

in winter 10 000 Hz 14h 00m to 5h 10m
 15 000 Hz 6h 30m to 13h 10m
 in summer, add one hour.

RWM . Line 4 of "Schedule (UTC)" should read :
 "between minutes 10 and 20".

RTZ . Delete the summer schedule.

UNW3. Add one hour to the summer schedule.

UPD8. The given schedule is valid in winter. In summer add one hour.

USB2. Add one hour to the summer schedule.