

**NISTIR 8167-01**

# **NIST Time and Frequency Bulletin**

Kathryn Stephenson, Editor

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<https://doi.org/10.6028/NIST.IR.8167-01>

**NIST**  
**National Institute of**  
**Standards and Technology**  
U.S. Department of Commerce

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Kathryn Stephenson, Editor  
*Time and Frequency Division*  
*Physical Measurement Laboratory*

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January 2017



National Institute of Standards and Technology  
*Kent Rochford, Acting NIST Director and Under Secretary of Commerce for Standards and Technology*









## 5. UTC(NIST) – AT1 PARAMETERS

The table below lists parameters that are used to define UTC(NIST) with respect to our real-time scale AT1. To find the value of UTC(NIST) - AT1 at any time  $T$  (expressed as a Modified Julian Date, including a fraction if needed), the appropriate equation to use is the one for which the desired  $T$  is greater than or equal to the entry in the  $T_0$  column and less than the entry in the last column. The values of  $x_{ls}$ ,  $x$ , and  $y$  for that month are then used in the equation below to find the desired value. The parameters  $x$  and  $y$  represent the offsets in time and frequency, respectively, between UTC(NIST) and AT1; the parameter  $x_{ls}$  is the number of leap seconds applied to both UTC(NIST) and UTC, as specified by the IERS. Leap seconds are not applied to AT1.

$UTC(NIST) - AT1 = x_{ls} + x + y(T - T_0)$					
Month	$x_{ls}$ (s)	$x$ (ns)	$y$ (ns/d)	$T_0$ (MJD)	Valid until 0000 on: (MJD)
Feb 17	-37	-441029.45	-37.05	57785	57813*
Jan 17	-37	-439880.9	-37.05	57754	57785
Dec 16	-36	-439547.45	-37.05	57745	57754†
Dec 16	-36	-439287.05	-37.2	57738	57745†
Dec 16	-36	-438770.45	-36.90	57724	57738†
Dec 16	-36	-438733.45	-37.00*	57723	57754
Nov 16	-36	-437694.75	-37.00	57704	57723*
Nov 16	-36	-437694.75	-37.30	57695	57704†
Nov 16	-36	-437620.95	-36.90	57693	57695†
Oct 16	-36	-436956.75	-36.90	57675	57693
Oct 16	-36	-436510.35	-37.20	57663	57675†
Oct 16	-36	-436472.9	-37.50	57662	57663†
Sep 16	-36	-435910.4	-37.50	57647	57662
Sep 16	-36	-435350.9	-37.30	57632	57647†
Aug 16	-36	-434936.7	-37.65	57621	57632
Aug 16	-36	-434191.7	-37.25	57601	57621†
Jul 16	-36	-434079.95	-37.25	57598	57601
Jul 16	-36	-433041.2	-37.10	57570	57598†
Jun 16	-36	-431923.7	-37.25	57540	57570
May 16	-36	-431476.7	-37.25	57528	57540
May 16	-36	-430771.8	-37.1	57509	57528†
Apr 16	-36	-430697.6	-37.1	57507	57509
Apr 16	-36	-429931.05	-36.5	57486	57507†
Apr 16	-36	-429672.75	-36.9	57479	57486†
Mar 16	-36	-428636.75	-37.0	57451	57479
Mar 16	-36	-428521.05	-37.3	57448	57451†
Feb 16	-36	-427816.15	-37.3	57429	57448
Feb 16	-36	-427556.45	-37.1	57422	57429†
Feb 16	-36	-427446.05	-36.8	57419	57422†
Jan 16	-36	-427014.25	-36.8	57408	57419
Jan 16	-36	-426313.25	-36.4	57388	57408†
Dec 15	-36	-426056.65	-36.7	57381	57388
Dec 15	-36	-425761.45	-36.9	57373	57381†
Dec 15	-36	-425285.65	-36.6	57360	57373†

† Rate change in mid-month

\*Provisional value