



# Astrodienst Ephemeris Tables for the year 1835

tropical geocentric zodiac

contains Sun, Moon, Mercury, Venus, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto, True Node, Moon's Node, Lilith, Chiron

Programming  
Dieter Koch and Alois Treindl  
based on Swiss Ephemeris  
Code D5EPH

ASTRODIENST EPHEMERIS for the year 1835  
geocentric

JANUARY 1835

00:00 UT

| Day  | Sid.t   | ☉        | ☾     | ♂     | ♀      | ♂      | ♂      | ♂     | ♂     | ♂     | ♂      | ♂       | ♂       | ♂      | ♂      | Day  |
|------|---------|----------|-------|-------|--------|--------|--------|-------|-------|-------|--------|---------|---------|--------|--------|------|
| T 1  | 6 39 42 | 9♂55'07  | 1♂40  | 25♂29 | 23°R50 | 12°R15 | 2°R45  | 22♂18 | 24♂5  | 0♂30  | 11♂47  | 17°R24  | 16♂II20 | 29♂Y39 | 27°R37 | T 1  |
| F 2  | 6 43 39 | 10°56'18 | 15° 1 | 26°59 | 23♂27  | 11♂51  | 2♂II40 | 22°21 | 24° 8 | 0°32  | 11°47  | 17♂II20 | 16°17   | 29°46  | 27♂34  | F 2  |
| S 3  | 6 47 35 | 11°57'29 | 28° 2 | 28°29 | 23° 6  | 11°27  | 2°36   | 22°24 | 24°10 | 0°35  | 11°48  | 17°16   | 16°14   | 29°52  | 27°32  | S 3  |
| S 4  | 6 51 32 | 12°58'40 | 10♂41 | 0♂3   | 0      | 22°48  | 11° 3  | 2°31  | 22°27 | 24°13 | 0°37   | 11°48   | 17°12   | 16°10  | 29°59  | S 4  |
| M 5  | 6 55 29 | 13°59'50 | 23° 2 | 1°32  | 22°32  | 10°39  | 2°27   | 22°30 | 24°16 | 0°39  | 11°48  | 17° 9   | 16° 7   | 0♂6    | 27°28  | M 5  |
| T 6  | 6 59 25 | 15° 1'00 | 5♂9   | 3° 3  | 22°18  | 10°16  | 2°22   | 22°33 | 24°19 | 0°41  | 11°48  | 17° 8   | 16° 4   | 0°12   | 27°26  | T 6  |
| W 7  | 7 3 22  | 16° 2'09 | 17° 5 | 4°36  | 22° 7  | 9°53   | 2°18   | 22°35 | 24°22 | 0°43  | 11°48  | 17°D 7  | 16° 1   | 0°19   | 27°24  | W 7  |
| T 8  | 7 7 18  | 17° 3'18 | 28°56 | 6° 8  | 21°58  | 9°30   | 2°15   | 22°38 | 24°25 | 0°46  | 11°49  | 17° 8   | 15°58   | 0°26   | 27°22  | T 8  |
| F 9  | 7 11 15 | 18° 4'26 | 10♂46 | 7°41  | 21°52  | 9° 7   | 2°11   | 22°41 | 24°27 | 0°48  | 11°49  | 17° 9   | 15°54   | 0°32   | 27°21  | F 9  |
| S 10 | 7 15 11 | 19° 5'34 | 22°41 | 9°15  | 21°48  | 8°45   | 2° 7   | 22°43 | 24°30 | 0°50  | 11°49  | 17°11   | 15°51   | 0°39   | 27°19  | S 10 |
| S 11 | 7 19 8  | 20° 6'41 | 4♂45  | 10°49 | 21°D46 | 8°23   | 2° 4   | 22°45 | 24°33 | 0°52  | 11°50  | 17°13   | 15°48   | 0°46   | 27°17  | S 11 |
| M 12 | 7 23 4  | 21° 7'48 | 17° 2 | 12°23 | 21°48  | 8° 2   | 2° 1   | 22°47 | 24°36 | 0°55  | 11°50  | 17°R14  | 15°45   | 0°52   | 27°15  | M 12 |
| T 13 | 7 27 1  | 22° 8'54 | 29°35 | 13°58 | 21°51  | 7°41   | 1°58   | 22°50 | 24°39 | 0°57  | 11°50  | 17°13   | 15°42   | 0°59   | 27°14  | T 13 |
| W 14 | 7 30 58 | 23°10'00 | 12♂26 | 15°33 | 21°57  | 7°20   | 1°56   | 22°52 | 24°42 | 0°59  | 11°51  | 17°10   | 15°39   | 1° 6   | 27°12  | W 14 |
| T 15 | 7 34 54 | 24°11'05 | 25°34 | 17° 9 | 22° 5  | 7° 1   | 1°53   | 22°53 | 24°46 | 1° 1  | 11°51  | 17° 6   | 15°35   | 1°12   | 27°11  | T 15 |
| F 16 | 7 38 51 | 25°12'10 | 9♂0   | 18°45 | 22°16  | 6°41   | 1°51   | 22°55 | 24°49 | 1° 4  | 11°52  | 17° 0   | 15°32   | 1°19   | 27°10  | F 16 |
| S 17 | 7 42 47 | 26°13'14 | 22°41 | 20°22 | 22°28  | 6°23   | 1°49   | 22°57 | 24°52 | 1° 6  | 11°52  | 16°53   | 15°29   | 1°26   | 27° 8  | S 17 |
| S 18 | 7 46 44 | 27°14'17 | 6♂34  | 22° 0 | 22°43  | 6° 5   | 1°47   | 22°58 | 24°55 | 1° 8  | 11°53  | 16°47   | 15°26   | 1°32   | 27° 7  | S 18 |
| M 19 | 7 50 40 | 28°15'20 | 20°36 | 23°38 | 23° 0  | 5°48   | 1°45   | 23° 0 | 24°58 | 1°10  | 11°53  | 16°41   | 15°23   | 1°39   | 27° 6  | M 19 |
| T 20 | 7 54 37 | 29°16'23 | 4♂42  | 25°16 | 23°19  | 5°31   | 1°44   | 23° 1 | 25° 1 | 1°13  | 11°54  | 16°36   | 15°19   | 1°46   | 27° 5  | T 20 |
| W 21 | 7 58 33 | 0♂17'25  | 18°50 | 26°55 | 23°40  | 5°15   | 1°42   | 23° 3 | 25° 5 | 1°15  | 11°54  | 16°34   | 15°16   | 1°53   | 27° 4  | W 21 |
| T 22 | 8 2 30  | 1°18'27  | 2♂59  | 28°35 | 24° 2  | 5° 0   | 1°41   | 23° 4 | 25° 8 | 1°17  | 11°55  | 16°D33  | 15°13   | 1°59   | 27° 3  | T 22 |
| F 23 | 8 6 27  | 2°19'28  | 17° 5 | 0♂15  | 24°27  | 4°45   | 1°41   | 23° 5 | 25°11 | 1°19  | 11°55  | 16°34   | 15°10   | 2° 6   | 27° 2  | F 23 |
| S 24 | 8 10 23 | 3°20'29  | 1♂9   | 1°56  | 24°53  | 4°32   | 1°40   | 23° 6 | 25°14 | 1°22  | 11°56  | 16°35   | 15° 7   | 2°13   | 27° 1  | S 24 |
| S 25 | 8 14 20 | 4°21'30  | 15° 9 | 3°38  | 25°21  | 4°19   | 1°39   | 23° 7 | 25°18 | 1°24  | 11°57  | 16°R36  | 15° 4   | 2°19   | 27° 0  | S 25 |
| M 26 | 8 18 16 | 5°22'30  | 29° 4 | 5°20  | 25°51  | 4° 7   | 1°39   | 23° 7 | 25°21 | 1°26  | 11°57  | 16°35   | 15° 0   | 2°26   | 27° 0  | M 26 |
| T 27 | 8 22 13 | 6°23'29  | 12♂51 | 7° 3  | 26°22  | 3°55   | 1°D39  | 23° 8 | 25°24 | 1°29  | 11°58  | 16°32   | 14°57   | 2°33   | 26°59  | T 27 |
| W 28 | 8 26 9  | 7°24'27  | 26°27 | 8°47  | 26°55  | 3°45   | 1°39   | 23° 9 | 25°27 | 1°31  | 11°59  | 16°27   | 14°54   | 2°39   | 26°59  | W 28 |
| T 29 | 8 30 6  | 8°25'24  | 9♂52  | 10°31 | 27°29  | 3°35   | 1°40   | 23° 9 | 25°31 | 1°33  | 12° 0  | 16°19   | 14°51   | 2°46   | 26°58  | T 29 |
| F 30 | 8 34 3  | 9°26'20  | 23° 1 | 12°16 | 28° 5  | 3°26   | 1°40   | 23° 9 | 25°34 | 1°35  | 12° 0  | 16°10   | 14°48   | 2°53   | 26°58  | F 30 |
| S 31 | 8 37 59 | 10♂27'15 | 5♂54  | 14♂1  | 28♂41  | 3♂18   | 1♂II41 | 23♂9  | 25♂38 | 1♂38  | 12♂Y 1 | 15♂II59 | 14♂II45 | 2♂59   | 26♂57  | S 31 |

Delta T = 8.42 sec

FEBRUARY 1835

00:00 UT

| Day  | Sid.t    | ☉        | ☾      | ♂     | ♀     | ♂     | ♂      | ♂      | ♂     | ♂    | ♂      | ♂       | ♂       | ♂    | ♂      | Day  |
|------|----------|----------|--------|-------|-------|-------|--------|--------|-------|------|--------|---------|---------|------|--------|------|
| S 1  | 8 41 56  | 11♂28'09 | 18♂29  | 15♂47 | 29♂19 | 3°R11 | 1♂II42 | 23°R10 | 25♂41 | 1♂40 | 12♂Y 2 | 15°R49  | 14♂II41 | 3♂6  | 26°R57 | S 1  |
| M 2  | 8 45 52  | 12°29'02 | 0♂Y49  | 17°34 | 29°59 | 3♂4   | 1°43   | 23♂10  | 25°44 | 1°42 | 12° 3  | 15♂II40 | 14°38   | 3°13 | 26♂57  | M 2  |
| T 3  | 8 49 49  | 13°29'53 | 12°56  | 19°21 | 0♂39  | 2°59  | 1°45   | 23° 9  | 25°48 | 1°44 | 12° 3  | 15°33   | 14°35   | 3°19 | 26°57  | T 3  |
| W 4  | 8 53 45  | 14°30'42 | 24°52  | 21° 8 | 1°21  | 2°54  | 1°46   | 23° 9  | 25°51 | 1°47 | 12° 4  | 15°29   | 14°32   | 3°26 | 26°D57 | W 4  |
| T 5  | 8 57 42  | 15°31'31 | 6♂42   | 22°56 | 2° 4  | 2°50  | 1°48   | 23° 9  | 25°55 | 1°49 | 12° 5  | 15°26   | 14°29   | 3°33 | 26°57  | T 5  |
| F 6  | 9 1 38   | 16°32'18 | 18°31  | 24°44 | 2°47  | 2°47  | 1°50   | 23° 8  | 25°58 | 1°51 | 12° 6  | 15°D26  | 14°25   | 3°39 | 26°57  | F 6  |
| S 7  | 9 5 35   | 17°33'03 | 0♂II25 | 26°32 | 3°32  | 2°44  | 1°52   | 23° 8  | 26° 1 | 1°53 | 12° 7  | 15°26   | 14°22   | 3°46 | 26°57  | S 7  |
| S 8  | 9 9 31   | 18°33'47 | 12°29  | 28°20 | 4°18  | 2°43  | 1°55   | 23° 7  | 26° 5 | 1°56 | 12° 8  | 15°R27  | 14°19   | 3°53 | 26°57  | S 8  |
| M 9  | 9 13 28  | 19°34'29 | 24°48  | 0♂8   | 5° 4  | 2°42  | 1°57   | 23° 6  | 26° 8 | 1°58 | 12° 9  | 15°27   | 14°16   | 3°59 | 26°58  | M 9  |
| T 10 | 9 17 25  | 20°35'10 | 7♂26   | 1°56  | 5°52  | 2°D41 | 2° 0   | 23° 6  | 26°12 | 2° 0 | 12°10  | 15°24   | 14°13   | 4° 6 | 26°58  | T 10 |
| W 11 | 9 21 21  | 21°35'49 | 20°27  | 3°43  | 6°40  | 2°42  | 2° 3   | 23° 5  | 26°15 | 2° 2 | 12°11  | 15°20   | 14°10   | 4°13 | 26°58  | W 11 |
| T 12 | 9 25 18  | 22°36'26 | 3♂51   | 5°29  | 7°29  | 2°43  | 2° 6   | 23° 4  | 26°19 | 2° 4 | 12°12  | 15°12   | 14° 6   | 4°20 | 26°59  | T 12 |
| F 13 | 9 29 14  | 23°37'02 | 17°39  | 7°14  | 8°19  | 2°46  | 2°10   | 23° 2  | 26°22 | 2° 6 | 12°13  | 15° 2   | 14° 3   | 4°26 | 27° 0  | F 13 |
| S 14 | 9 33 11  | 24°37'37 | 1♂46   | 8°57  | 9°10  | 2°48  | 2°13   | 23° 1  | 26°26 | 2° 9 | 12°14  | 14°51   | 14° 0   | 4°33 | 27° 0  | S 14 |
| S 15 | 9 37 7   | 25°38'10 | 16° 8  | 10°38 | 10° 2 | 2°52  | 2°17   | 23° 0  | 26°29 | 2°11 | 12°15  | 14°40   | 13°57   | 4°40 | 27° 1  | S 15 |
| M 16 | 9 41 4   | 26°38'41 | 0♂38   | 12°16 | 10°54 | 2°56  | 2°21   | 22°58  | 26°32 | 2°13 | 12°16  | 14°29   | 13°54   | 4°46 | 27° 2  | M 16 |
| T 17 | 9 45 0   | 27°39'11 | 15°10  | 13°52 | 11°47 | 3° 1  | 2°25   | 22°57  | 26°36 | 2°15 | 12°17  | 14°21   | 13°51   | 4°53 | 27° 3  | T 17 |
| W 18 | 9 48 57  | 28°39'40 | 29°37  | 15°23 | 12°40 | 3° 6  | 2°29   | 22°55  | 26°39 | 2°17 | 12°18  | 14°16   | 13°47   | 5° 0 | 27° 4  | W 18 |
| T 19 | 9 52 54  | 29°40'08 | 13♂55  | 16°51 | 13°34 | 3°12  | 2°34   | 22°53  | 26°43 | 2°19 | 12°19  | 14°13   | 13°44   | 5° 6 | 27° 5  | T 19 |
| F 20 | 9 56 50  | 0♂40'34  | 28° 2  | 18°14 | 14°29 | 3°19  | 2°38   | 22°51  | 26°46 | 2°21 | 12°20  | 14°D12  | 13°41   | 5°13 | 27° 6  | F 20 |
| S 21 | 10 0 47  | 1°40'59  | 11♂58  | 19°31 | 15°24 | 3°27  | 2°43   | 22°49  | 26°50 | 2°23 | 12°21  | 14°R12  | 13°38   | 5°20 | 27° 7  | S 21 |
| S 22 | 10 4 43  | 2°41'23  | 25°42  | 20°42 | 16°20 | 3°35  | 2°48   | 22°47  | 26°53 | 2°25 | 12°23  | 14°12   | 13°35   | 5°26 | 27° 8  | S 22 |
| M 23 | 10 8 40  | 3°41'45  | 9♂15   | 21°46 | 17°16 | 3°44  | 2°53   | 22°45  | 26°57 | 2°27 | 12°24  | 14°10   | 13°31   | 5°33 | 27° 9  | M 23 |
| T 24 | 10 12 36 | 4°42'06  | 22°37  | 22°43 | 18°13 | 3°53  | 2°59   | 22°43  | 27° 0 | 2°29 | 12°25  | 14° 5   | 13°28   | 5°40 | 27°11  | T 24 |
| W 25 | 10 16 33 | 5°42'25  | 5♂49   | 23°32 | 19°11 | 4° 3  | 3° 4   | 22°41  | 27° 4 | 2°31 | 12°26  | 13°57   | 13°25   | 5°46 | 27°12  | W 25 |
| T 26 | 10 20 29 | 6°42'43  | 18°50  | 24°13 | 20° 9 | 4°13  | 3°10   | 22°38  | 27° 7 | 2°33 | 12°27  | 13°47   | 13°22   | 5°53 | 27°14  | T 26 |
| F 27 | 10 24 26 | 7°42'59  | 1♂39   | 24°44 | 21° 7 | 4°24  | 3°16   | 22°36  | 27°10 | 2°35 | 12°28  | 13°34   | 13°19   | 6° 0 | 27°15  | F 27 |
| S 28 | 10 28 23 | 8♂43'13  | 14♂17  | 25♂7  | 22♂6  | 4♂36  | 3♂II22 | 22♂33  | 27♂14 | 2♂37 | 12♂Y30 | 13♂II19 | 13♂II16 | 6♂6  | 27♂17  | S 28 |

Delta T = 8.39 sec

# ASTRODIENST EPHEMERIS for the year 1835

## geocentric

MARCH 1835

00:00 UT

| Day  | Sid.t    | ☉                     | ☽                  | ♀                   | ♂                  | ♂                  | ♂                  | ♂                   | ♂                  | ♂                 | ♂                  | ♂                   | ♂                  | ♂                 | ♂                  | Day  |
|------|----------|-----------------------|--------------------|---------------------|--------------------|--------------------|--------------------|---------------------|--------------------|-------------------|--------------------|---------------------|--------------------|-------------------|--------------------|------|
| S 1  | 10 32 19 | 9 <sup>h</sup> 43'26  | 26 <sup>h</sup> 42 | 25 <sup>h</sup> 19  | 23 <sup>h</sup> 5  | 4 <sup>h</sup> 548 | 3 <sup>h</sup> 128 | 22 <sup>h</sup> R30 | 27 <sup>h</sup> 17 | 2 <sup>h</sup> 39 | 12 <sup>h</sup> 31 | 13 <sup>h</sup> R 5 | 13 <sup>h</sup> 12 | 6 <sup>h</sup> 13 | 27 <sup>h</sup> 18 | S 1  |
| M 2  | 10 36 16 | 10 <sup>h</sup> 43'36 | 8 <sup>h</sup> 55  | 25 <sup>h</sup> R23 | 24 <sup>h</sup> 4  | 5 <sup>h</sup> 1   | 3 <sup>h</sup> 34  | 22 <sup>h</sup> 28  | 27 <sup>h</sup> 21 | 2 <sup>h</sup> 41 | 12 <sup>h</sup> 32 | 12 <sup>h</sup> 53  | 13 <sup>h</sup> 9  | 6 <sup>h</sup> 20 | 27 <sup>h</sup> 20 | M 2  |
| T 3  | 10 40 12 | 11 <sup>h</sup> 43'45 | 20 <sup>h</sup> 57 | 25 <sup>h</sup> 17  | 25 <sup>h</sup> 4  | 5 <sup>h</sup> 14  | 3 <sup>h</sup> 41  | 22 <sup>h</sup> 25  | 27 <sup>h</sup> 24 | 2 <sup>h</sup> 43 | 12 <sup>h</sup> 33 | 12 <sup>h</sup> 42  | 13 <sup>h</sup> 6  | 6 <sup>h</sup> 26 | 27 <sup>h</sup> 22 | T 3  |
| W 4  | 10 44 9  | 12 <sup>h</sup> 43'51 | 21 <sup>h</sup> 51 | 25 <sup>h</sup> 2   | 26 <sup>h</sup> 5  | 5 <sup>h</sup> 27  | 3 <sup>h</sup> 47  | 22 <sup>h</sup> 22  | 27 <sup>h</sup> 27 | 2 <sup>h</sup> 45 | 12 <sup>h</sup> 35 | 12 <sup>h</sup> 34  | 13 <sup>h</sup> 3  | 6 <sup>h</sup> 33 | 27 <sup>h</sup> 24 | W 4  |
| T 5  | 10 48 5  | 13 <sup>h</sup> 43'56 | 14 <sup>h</sup> 39 | 24 <sup>h</sup> 38  | 27 <sup>h</sup> 5  | 5 <sup>h</sup> 42  | 3 <sup>h</sup> 54  | 22 <sup>h</sup> 19  | 27 <sup>h</sup> 31 | 2 <sup>h</sup> 47 | 12 <sup>h</sup> 36 | 12 <sup>h</sup> 30  | 13 <sup>h</sup> 0  | 6 <sup>h</sup> 40 | 27 <sup>h</sup> 26 | T 5  |
| F 6  | 10 52 2  | 14 <sup>h</sup> 43'58 | 26 <sup>h</sup> 27 | 24 <sup>h</sup> 7   | 28 <sup>h</sup> 6  | 5 <sup>h</sup> 56  | 4 <sup>h</sup> 1   | 22 <sup>h</sup> 16  | 27 <sup>h</sup> 34 | 2 <sup>h</sup> 48 | 12 <sup>h</sup> 37 | 12 <sup>h</sup> 27  | 12 <sup>h</sup> 57 | 6 <sup>h</sup> 46 | 27 <sup>h</sup> 28 | F 6  |
| S 7  | 10 55 58 | 15 <sup>h</sup> 43'58 | 8 <sup>h</sup> 19  | 23 <sup>h</sup> 28  | 29 <sup>h</sup> 8  | 6 <sup>h</sup> 11  | 4 <sup>h</sup> 8   | 22 <sup>h</sup> 12  | 27 <sup>h</sup> 37 | 2 <sup>h</sup> 50 | 12 <sup>h</sup> 39 | 12 <sup>h</sup> 27  | 12 <sup>h</sup> 53 | 6 <sup>h</sup> 53 | 27 <sup>h</sup> 30 | S 7  |
| S 8  | 10 59 55 | 16 <sup>h</sup> 43'56 | 20 <sup>h</sup> 20 | 22 <sup>h</sup> 42  | 0 <sup>h</sup> 9   | 6 <sup>h</sup> 27  | 4 <sup>h</sup> 16  | 22 <sup>h</sup> 9   | 27 <sup>h</sup> 41 | 2 <sup>h</sup> 52 | 12 <sup>h</sup> 40 | 12 <sup>h</sup> 27  | 12 <sup>h</sup> 50 | 7 <sup>h</sup> 0  | 27 <sup>h</sup> 32 | S 8  |
| M 9  | 11 3 52  | 17 <sup>h</sup> 43'52 | 2 <sup>h</sup> 37  | 21 <sup>h</sup> 52  | 1 <sup>h</sup> 11  | 6 <sup>h</sup> 43  | 4 <sup>h</sup> 23  | 22 <sup>h</sup> 6   | 27 <sup>h</sup> 44 | 2 <sup>h</sup> 54 | 12 <sup>h</sup> 41 | 12 <sup>h</sup> 26  | 12 <sup>h</sup> 47 | 7 <sup>h</sup> 6  | 27 <sup>h</sup> 34 | M 9  |
| T 10 | 11 7 48  | 18 <sup>h</sup> 43'46 | 15 <sup>h</sup> 14 | 20 <sup>h</sup> 58  | 2 <sup>h</sup> 14  | 7 <sup>h</sup> 0   | 4 <sup>h</sup> 31  | 22 <sup>h</sup> 2   | 27 <sup>h</sup> 47 | 2 <sup>h</sup> 55 | 12 <sup>h</sup> 42 | 12 <sup>h</sup> 24  | 12 <sup>h</sup> 44 | 7 <sup>h</sup> 13 | 27 <sup>h</sup> 37 | T 10 |
| W 11 | 11 11 45 | 19 <sup>h</sup> 43'38 | 28 <sup>h</sup> 16 | 20 <sup>h</sup> 1   | 3 <sup>h</sup> 16  | 7 <sup>h</sup> 17  | 4 <sup>h</sup> 38  | 21 <sup>h</sup> 59  | 27 <sup>h</sup> 51 | 2 <sup>h</sup> 57 | 12 <sup>h</sup> 44 | 12 <sup>h</sup> 19  | 12 <sup>h</sup> 41 | 7 <sup>h</sup> 20 | 27 <sup>h</sup> 39 | W 11 |
| T 12 | 11 15 41 | 20 <sup>h</sup> 43'27 | 11 <sup>h</sup> 24 | 19 <sup>h</sup> 3   | 4 <sup>h</sup> 19  | 7 <sup>h</sup> 34  | 4 <sup>h</sup> 46  | 21 <sup>h</sup> 55  | 27 <sup>h</sup> 54 | 2 <sup>h</sup> 59 | 12 <sup>h</sup> 45 | 12 <sup>h</sup> 12  | 12 <sup>h</sup> 37 | 7 <sup>h</sup> 26 | 27 <sup>h</sup> 41 | T 12 |
| F 13 | 11 19 38 | 21 <sup>h</sup> 43'14 | 25 <sup>h</sup> 42 | 18 <sup>h</sup> 5   | 5 <sup>h</sup> 22  | 7 <sup>h</sup> 52  | 4 <sup>h</sup> 54  | 21 <sup>h</sup> 52  | 27 <sup>h</sup> 57 | 3 <sup>h</sup> 1  | 12 <sup>h</sup> 47 | 12 <sup>h</sup> 2   | 12 <sup>h</sup> 34 | 7 <sup>h</sup> 33 | 27 <sup>h</sup> 44 | F 13 |
| S 14 | 11 23 34 | 22 <sup>h</sup> 42'59 | 10 <sup>h</sup> 19 | 17 <sup>h</sup> 8   | 6 <sup>h</sup> 26  | 8 <sup>h</sup> 10  | 5 <sup>h</sup> 2   | 21 <sup>h</sup> 48  | 28 <sup>h</sup> 0  | 3 <sup>h</sup> 2  | 12 <sup>h</sup> 48 | 11 <sup>h</sup> 51  | 12 <sup>h</sup> 31 | 7 <sup>h</sup> 40 | 27 <sup>h</sup> 46 | S 14 |
| S 15 | 11 27 31 | 23 <sup>h</sup> 42'42 | 24 <sup>h</sup> 48 | 16 <sup>h</sup> 14  | 7 <sup>h</sup> 30  | 8 <sup>h</sup> 28  | 5 <sup>h</sup> 11  | 21 <sup>h</sup> 44  | 28 <sup>h</sup> 4  | 3 <sup>h</sup> 4  | 12 <sup>h</sup> 49 | 11 <sup>h</sup> 39  | 12 <sup>h</sup> 28 | 7 <sup>h</sup> 46 | 27 <sup>h</sup> 49 | S 15 |
| M 16 | 11 31 27 | 24 <sup>h</sup> 42'23 | 9 <sup>h</sup> 42  | 15 <sup>h</sup> 23  | 8 <sup>h</sup> 34  | 8 <sup>h</sup> 47  | 5 <sup>h</sup> 19  | 21 <sup>h</sup> 41  | 28 <sup>h</sup> 7  | 3 <sup>h</sup> 5  | 12 <sup>h</sup> 51 | 11 <sup>h</sup> 29  | 12 <sup>h</sup> 25 | 7 <sup>h</sup> 53 | 27 <sup>h</sup> 51 | M 16 |
| T 17 | 11 35 24 | 25 <sup>h</sup> 42'02 | 24 <sup>h</sup> 40 | 14 <sup>h</sup> 36  | 9 <sup>h</sup> 38  | 9 <sup>h</sup> 7   | 5 <sup>h</sup> 28  | 21 <sup>h</sup> 37  | 28 <sup>h</sup> 10 | 3 <sup>h</sup> 7  | 12 <sup>h</sup> 52 | 11 <sup>h</sup> 20  | 12 <sup>h</sup> 22 | 8 <sup>h</sup> 0  | 27 <sup>h</sup> 54 | T 17 |
| W 18 | 11 39 21 | 26 <sup>h</sup> 41'40 | 9 <sup>h</sup> 13  | 13 <sup>h</sup> 54  | 10 <sup>h</sup> 42 | 9 <sup>h</sup> 26  | 5 <sup>h</sup> 36  | 21 <sup>h</sup> 33  | 28 <sup>h</sup> 13 | 3 <sup>h</sup> 9  | 12 <sup>h</sup> 53 | 11 <sup>h</sup> 14  | 12 <sup>h</sup> 18 | 8 <sup>h</sup> 6  | 27 <sup>h</sup> 57 | W 18 |
| T 19 | 11 43 17 | 27 <sup>h</sup> 41'15 | 24 <sup>h</sup> 9  | 13 <sup>h</sup> 18  | 11 <sup>h</sup> 47 | 9 <sup>h</sup> 46  | 5 <sup>h</sup> 45  | 21 <sup>h</sup> 29  | 28 <sup>h</sup> 16 | 3 <sup>h</sup> 10 | 12 <sup>h</sup> 55 | 11 <sup>h</sup> 11  | 12 <sup>h</sup> 15 | 8 <sup>h</sup> 13 | 28 <sup>h</sup> 0  | T 19 |
| F 20 | 11 47 14 | 28 <sup>h</sup> 40'49 | 8 <sup>h</sup> 30  | 12 <sup>h</sup> 47  | 12 <sup>h</sup> 52 | 10 <sup>h</sup> 7  | 5 <sup>h</sup> 54  | 21 <sup>h</sup> 25  | 28 <sup>h</sup> 19 | 3 <sup>h</sup> 12 | 12 <sup>h</sup> 56 | 11 <sup>h</sup> D10 | 12 <sup>h</sup> 12 | 8 <sup>h</sup> 20 | 28 <sup>h</sup> 2  | F 20 |
| S 21 | 11 51 10 | 29 <sup>h</sup> 40'21 | 22 <sup>h</sup> 31 | 12 <sup>h</sup> 22  | 13 <sup>h</sup> 57 | 10 <sup>h</sup> 27 | 6 <sup>h</sup> 3   | 21 <sup>h</sup> 21  | 28 <sup>h</sup> 22 | 3 <sup>h</sup> 13 | 12 <sup>h</sup> 58 | 11 <sup>h</sup> 10  | 12 <sup>h</sup> 9  | 8 <sup>h</sup> 26 | 28 <sup>h</sup> 5  | S 21 |
| S 22 | 11 55 7  | 0 <sup>h</sup> 39'51  | 6 <sup>h</sup> 13  | 12 <sup>h</sup> 4   | 15 <sup>h</sup> 2  | 10 <sup>h</sup> 48 | 6 <sup>h</sup> 12  | 21 <sup>h</sup> 17  | 28 <sup>h</sup> 26 | 3 <sup>h</sup> 14 | 12 <sup>h</sup> 59 | 11 <sup>h</sup> R10 | 12 <sup>h</sup> 6  | 8 <sup>h</sup> 33 | 28 <sup>h</sup> 8  | S 22 |
| M 23 | 11 59 3  | 1 <sup>h</sup> 39'20  | 19 <sup>h</sup> 38 | 11 <sup>h</sup> 51  | 16 <sup>h</sup> 8  | 11 <sup>h</sup> 10 | 6 <sup>h</sup> 21  | 21 <sup>h</sup> 12  | 28 <sup>h</sup> 29 | 3 <sup>h</sup> 16 | 13 <sup>h</sup> 0  | 11 <sup>h</sup> 9   | 12 <sup>h</sup> 3  | 8 <sup>h</sup> 40 | 28 <sup>h</sup> 11 | M 23 |
| T 24 | 12 3 0   | 2 <sup>h</sup> 38'47  | 2 <sup>h</sup> 46  | 11 <sup>h</sup> 44  | 17 <sup>h</sup> 13 | 11 <sup>h</sup> 31 | 6 <sup>h</sup> 31  | 21 <sup>h</sup> 8   | 28 <sup>h</sup> 32 | 3 <sup>h</sup> 17 | 13 <sup>h</sup> 2  | 11 <sup>h</sup> 5   | 11 <sup>h</sup> 59 | 8 <sup>h</sup> 46 | 28 <sup>h</sup> 14 | T 24 |
| W 25 | 12 6 56  | 3 <sup>h</sup> 38'12  | 15 <sup>h</sup> 40 | 11 <sup>h</sup> D44 | 18 <sup>h</sup> 19 | 11 <sup>h</sup> 53 | 6 <sup>h</sup> 40  | 21 <sup>h</sup> 4   | 28 <sup>h</sup> 35 | 3 <sup>h</sup> 19 | 13 <sup>h</sup> 3  | 10 <sup>h</sup> 59  | 11 <sup>h</sup> 56 | 8 <sup>h</sup> 53 | 28 <sup>h</sup> 17 | W 25 |
| T 26 | 12 10 53 | 4 <sup>h</sup> 37'35  | 28 <sup>h</sup> 22 | 11 <sup>h</sup> 49  | 19 <sup>h</sup> 25 | 12 <sup>h</sup> 16 | 6 <sup>h</sup> 50  | 21 <sup>h</sup> 0   | 28 <sup>h</sup> 38 | 3 <sup>h</sup> 20 | 13 <sup>h</sup> 5  | 10 <sup>h</sup> 50  | 11 <sup>h</sup> 53 | 9 <sup>h</sup> 0  | 28 <sup>h</sup> 21 | T 26 |
| F 27 | 12 14 50 | 5 <sup>h</sup> 36'56  | 10 <sup>h</sup> 53 | 11 <sup>h</sup> 59  | 20 <sup>h</sup> 32 | 12 <sup>h</sup> 38 | 7 <sup>h</sup> 0   | 20 <sup>h</sup> 55  | 28 <sup>h</sup> 40 | 3 <sup>h</sup> 21 | 13 <sup>h</sup> 6  | 10 <sup>h</sup> 39  | 11 <sup>h</sup> 50 | 9 <sup>h</sup> 6  | 28 <sup>h</sup> 24 | F 27 |
| S 28 | 12 18 46 | 6 <sup>h</sup> 36'16  | 23 <sup>h</sup> 14 | 12 <sup>h</sup> 15  | 21 <sup>h</sup> 38 | 13 <sup>h</sup> 1  | 7 <sup>h</sup> 9   | 20 <sup>h</sup> 51  | 28 <sup>h</sup> 43 | 3 <sup>h</sup> 23 | 13 <sup>h</sup> 8  | 10 <sup>h</sup> 27  | 11 <sup>h</sup> 47 | 9 <sup>h</sup> 13 | 28 <sup>h</sup> 27 | S 28 |
| S 29 | 12 22 43 | 7 <sup>h</sup> 35'33  | 5 <sup>h</sup> 25  | 12 <sup>h</sup> 35  | 22 <sup>h</sup> 45 | 13 <sup>h</sup> 24 | 7 <sup>h</sup> 19  | 20 <sup>h</sup> 46  | 28 <sup>h</sup> 46 | 3 <sup>h</sup> 24 | 13 <sup>h</sup> 9  | 10 <sup>h</sup> 15  | 11 <sup>h</sup> 43 | 9 <sup>h</sup> 20 | 28 <sup>h</sup> 30 | S 29 |
| M 30 | 12 26 39 | 8 <sup>h</sup> 34'48  | 17 <sup>h</sup> 28 | 13 <sup>h</sup> 1   | 23 <sup>h</sup> 51 | 13 <sup>h</sup> 48 | 7 <sup>h</sup> 29  | 20 <sup>h</sup> 42  | 28 <sup>h</sup> 49 | 3 <sup>h</sup> 25 | 13 <sup>h</sup> 10 | 10 <sup>h</sup> 4   | 11 <sup>h</sup> 40 | 9 <sup>h</sup> 26 | 28 <sup>h</sup> 34 | M 30 |
| T 31 | 12 30 36 | 9 <sup>h</sup> 34'01  | 29 <sup>h</sup> 24 | 13 <sup>h</sup> 31  | 24 <sup>h</sup> 58 | 14 <sup>h</sup> 51 | 7 <sup>h</sup> 14  | 20 <sup>h</sup> 37  | 28 <sup>h</sup> 52 | 3 <sup>h</sup> 26 | 13 <sup>h</sup> 12 | 9 <sup>h</sup> 15   | 11 <sup>h</sup> 37 | 9 <sup>h</sup> 33 | 28 <sup>h</sup> 37 | T 31 |

Delta T = 8.37 sec

APRIL 1835

00:00 UT

| Day  | Sid.t    | ☉                     | ☽                  | ♀                  | ♂                  | ♂                   | ♂                  | ♂                   | ♂                  | ♂                 | ♂                  | ♂                  | ♂                  | ♂                  | ♂                  | Day  |
|------|----------|-----------------------|--------------------|--------------------|--------------------|---------------------|--------------------|---------------------|--------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|------|
| W 1  | 12 34 32 | 10 <sup>h</sup> 33'13 | 11 <sup>h</sup> 14 | 14 <sup>h</sup> 5  | 26 <sup>h</sup> 5  | 14 <sup>h</sup> 535 | 7 <sup>h</sup> 150 | 20 <sup>h</sup> R33 | 28 <sup>h</sup> 55 | 3 <sup>h</sup> 27 | 13 <sup>h</sup> 13 | 9 <sup>h</sup> R48 | 11 <sup>h</sup> 34 | 9 <sup>h</sup> 40  | 28 <sup>h</sup> 41 | W 1  |
| T 2  | 12 38 29 | 11 <sup>h</sup> 32'21 | 23 <sup>h</sup> 1  | 14 <sup>h</sup> 43 | 27 <sup>h</sup> 12 | 15 <sup>h</sup> 0   | 8 <sup>h</sup> 0   | 20 <sup>h</sup> 28  | 28 <sup>h</sup> 58 | 3 <sup>h</sup> 28 | 13 <sup>h</sup> 15 | 9 <sup>h</sup> 14  | 11 <sup>h</sup> 31 | 9 <sup>h</sup> 46  | 28 <sup>h</sup> 44 | T 2  |
| F 3  | 12 42 25 | 12 <sup>h</sup> 31'28 | 4 <sup>h</sup> 19  | 15 <sup>h</sup> 25 | 28 <sup>h</sup> 20 | 15 <sup>h</sup> 24  | 8 <sup>h</sup> 11  | 20 <sup>h</sup> 24  | 29 <sup>h</sup> 0  | 3 <sup>h</sup> 30 | 13 <sup>h</sup> 16 | 9 <sup>h</sup> D43 | 11 <sup>h</sup> 28 | 9 <sup>h</sup> 53  | 28 <sup>h</sup> 48 | F 3  |
| S 4  | 12 46 22 | 13 <sup>h</sup> 30'33 | 16 <sup>h</sup> 40 | 16 <sup>h</sup> 11 | 29 <sup>h</sup> 27 | 15 <sup>h</sup> 49  | 8 <sup>h</sup> 21  | 20 <sup>h</sup> 19  | 29 <sup>h</sup> 3  | 3 <sup>h</sup> 31 | 13 <sup>h</sup> 18 | 9 <sup>h</sup> 43  | 11 <sup>h</sup> 24 | 10 <sup>h</sup> 0  | 28 <sup>h</sup> 51 | S 4  |
| S 5  | 12 50 18 | 14 <sup>h</sup> 29'35 | 28 <sup>h</sup> 41 | 17 <sup>h</sup> 0  | 0 <sup>h</sup> 35  | 16 <sup>h</sup> 14  | 8 <sup>h</sup> 32  | 20 <sup>h</sup> 15  | 29 <sup>h</sup> 6  | 3 <sup>h</sup> 32 | 13 <sup>h</sup> 19 | 9 <sup>h</sup> 44  | 11 <sup>h</sup> 21 | 10 <sup>h</sup> 6  | 28 <sup>h</sup> 55 | S 5  |
| M 6  | 12 54 15 | 15 <sup>h</sup> 28'35 | 10 <sup>h</sup> 56 | 17 <sup>h</sup> 52 | 1 <sup>h</sup> 42  | 16 <sup>h</sup> 39  | 8 <sup>h</sup> 43  | 20 <sup>h</sup> 10  | 29 <sup>h</sup> 8  | 3 <sup>h</sup> 33 | 13 <sup>h</sup> 20 | 9 <sup>h</sup> R45 | 11 <sup>h</sup> 18 | 10 <sup>h</sup> 13 | 28 <sup>h</sup> 58 | M 6  |
| T 7  | 12 58 12 | 16 <sup>h</sup> 27'33 | 23 <sup>h</sup> 29 | 18 <sup>h</sup> 48 | 2 <sup>h</sup> 50  | 17 <sup>h</sup> 5   | 8 <sup>h</sup> 54  | 20 <sup>h</sup> 5   | 29 <sup>h</sup> 11 | 3 <sup>h</sup> 34 | 13 <sup>h</sup> 22 | 9 <sup>h</sup> 45  | 11 <sup>h</sup> 15 | 10 <sup>h</sup> 20 | 29 <sup>h</sup> 2  | T 7  |
| W 8  | 13 2 8   | 17 <sup>h</sup> 26'28 | 6 <sup>h</sup> 12  | 19 <sup>h</sup> 46 | 3 <sup>h</sup> 58  | 17 <sup>h</sup> 30  | 9 <sup>h</sup> 5   | 20 <sup>h</sup> 1   | 29 <sup>h</sup> 14 | 3 <sup>h</sup> 35 | 13 <sup>h</sup> 23 | 9 <sup>h</sup> 43  | 11 <sup>h</sup> 12 | 10 <sup>h</sup> 26 | 29 <sup>h</sup> 6  | W 8  |
| T 9  | 13 6 5   | 18 <sup>h</sup> 25'21 | 19 <sup>h</sup> 52 | 20 <sup>h</sup> 47 | 5 <sup>h</sup> 6   | 17 <sup>h</sup> 56  | 9 <sup>h</sup> 16  | 19 <sup>h</sup> 56  | 29 <sup>h</sup> 16 | 3 <sup>h</sup> 35 | 13 <sup>h</sup> 25 | 9 <sup>h</sup> 39  | 11 <sup>h</sup> 8  | 10 <sup>h</sup> 33 | 29 <sup>h</sup> 10 | T 9  |
| F 10 | 13 10 1  | 19 <sup>h</sup> 24'12 | 3 <sup>h</sup> 17  | 21 <sup>h</sup> 51 | 6 <sup>h</sup> 14  | 18 <sup>h</sup> 22  | 9 <sup>h</sup> 27  | 19 <sup>h</sup> 52  | 29 <sup>h</sup> 19 | 3 <sup>h</sup> 36 | 13 <sup>h</sup> 26 | 9 <sup>h</sup> 33  | 11 <sup>h</sup> 5  | 10 <sup>h</sup> 40 | 29 <sup>h</sup> 13 | F 10 |
| S 11 | 13 13 58 | 20 <sup>h</sup> 23'00 | 18 <sup>h</sup> 10 | 22 <sup>h</sup> 57 | 7 <sup>h</sup> 23  | 18 <sup>h</sup> 49  | 9 <sup>h</sup> 38  | 19 <sup>h</sup> 47  | 29 <sup>h</sup> 21 | 3 <sup>h</sup> 37 | 13 <sup>h</sup> 28 | 9 <sup>h</sup> 26  | 11 <sup>h</sup> 2  | 10 <sup>h</sup> 46 | 29 <sup>h</sup> 17 | S 11 |
| S 12 | 13 17 54 | 21 <sup>h</sup> 21'47 | 2 <sup>h</sup> 58  | 24 <sup>h</sup> 6  | 8 <sup>h</sup> 31  | 19 <sup>h</sup> 15  | 9 <sup>h</sup> 49  | 19 <sup>h</sup> 42  | 29 <sup>h</sup> 24 | 3 <sup>h</sup> 38 | 13 <sup>h</sup> 29 | 9 <sup>h</sup> 18  | 10 <sup>h</sup> 59 | 10 <sup>h</sup> 53 | 29 <sup>h</sup> 21 | S 12 |
| M 13 | 13 21 51 | 22 <sup>h</sup> 20'31 | 18 <sup>h</sup> 2  | 25 <sup>h</sup> 17 | 9 <sup>h</sup> 39  | 19 <sup>h</sup> 42  | 10 <sup>h</sup> 1  | 19 <sup>h</sup> 38  | 29 <sup>h</sup> 26 | 3 <sup>h</sup> 39 | 13 <sup>h</sup> 31 | 9 <sup>h</sup> 11  | 10 <sup>h</sup> 56 | 11 <sup>h</sup> 0  | 29 <sup>h</sup> 25 | M 13 |
| T 14 | 13 25 47 | 23 <sup>h</sup> 19'13 | 3 <sup>h</sup> 15  | 26 <sup>h</sup> 31 | 10 <sup>h</sup> 48 | 20 <sup>h</sup> 9   | 10 <sup>h</sup> 12 | 19 <sup>h</sup> 33  | 29 <sup>h</sup> 28 | 3 <sup>h</sup> 40 | 13 <sup>h</sup> 32 | 9 <sup>h</sup> 6   | 10 <sup>h</sup> 53 | 11 <sup>h</sup> 6  | 29 <sup>h</sup> 29 | T 14 |
| W 15 | 13 29 44 | 24 <sup>h</sup> 17'53 | 18 <sup>h</sup> 24 | 27 <sup>h</sup> 47 | 11 <sup>h</sup> 57 | 20 <sup>h</sup> 36  | 10 <sup>h</sup> 24 | 19 <sup>h</sup> 29  | 29 <sup>h</sup> 31 | 3 <sup>h</sup> 40 | 13 <sup>h</sup> 33 | 9 <sup>h</sup> 2   | 10 <sup>h</sup> 49 | 11 <sup>h</sup> 13 | 29 <sup>h</sup> 33 | W 15 |
| T 16 | 13 33 41 | 25 <sup>h</sup> 16'32 | 3 <sup>h</sup> 22  | 29 <sup>h</sup> 4  | 13 <sup>h</sup> 5  | 21 <sup>h</sup> 3   | 10 <sup>h</sup> 35 | 19 <sup>h</sup> 24  | 29 <sup>h</sup> 33 | 3 <sup>h</sup> 41 | 13 <sup>h</sup> 35 | 9 <sup>h</sup> D 1 | 10 <sup>h</sup> 46 | 11 <sup>h</sup> 20 | 29 <sup>h</sup> 37 | T 16 |
| F 17 | 13 37 37 | 26 <sup>h</sup> 15'09 | 18 <sup>h</sup> 1  | 0 <sup>h</sup> 12  | 14 <sup>h</sup> 14 | 21 <sup>h</sup> 31  | 10 <sup>h</sup> 47 | 19 <sup>h</sup> 19  | 29 <sup>h</sup> 35 | 3 <sup>h</sup> 42 | 13 <sup>h</sup> 36 | 9 <sup>h</sup> 1   | 10 <sup>h</sup> 43 | 11 <sup>h</sup> 26 | 29 <sup>h</sup> 41 | F 17 |
| S 18 | 13 41 34 | 27 <sup>h</sup> 13'44 | 2 <sup>h</sup> 16  | 1 <sup>h</sup> 46  | 15 <sup>h</sup> 23 | 21 <sup>h</sup> 59  | 10 <sup>h</sup> 59 | 19 <sup>h</sup> 15  | 29 <sup>h</sup> 37 | 3 <sup>h</sup> 42 | 13 <sup>h</sup> 38 | 9 <sup>h</sup> 2   | 10 <sup>h</sup> 40 | 11 <sup>h</sup> 33 | 29 <sup>h</sup> 45 | S 18 |
| S 19 | 13 45 30 | 28 <sup>h</sup> 12'18 | 16 <sup>h</sup> 8  | 3 <sup>h</sup> 10  | 16 <sup>h</sup> 32 | 22 <sup>h</sup> 27  | 11 <sup>h</sup> 11 | 19 <sup>h</sup> 10  | 29 <sup>h</sup> 40 | 3 <sup>h</sup> 43 | 13 <sup>h</sup> 39 | 9 <sup>h</sup> 3   | 10 <sup>h</sup> 37 | 11 <sup>h</sup> 40 | 29 <sup>h</sup> 49 | S 19 |
| M 20 | 13 49 27 | 29 <sup>h</sup> 10'50 | 29 <sup>h</sup> 35 | 4 <sup>h</sup> 35  | 17 <sup>h</sup> 42 | 22 <sup>h</sup> 55  | 11 <sup>h</sup> 23 | 19 <sup>h</sup> 6   | 29 <sup>h</sup> 42 | 3 <sup>h</sup> 43 | 13 <sup>h</sup> 40 | 9 <sup>h</sup> R 4 | 10 <sup>h</sup> 34 | 11 <sup>h</sup> 46 | 29 <sup>h</sup> 54 | M 20 |
| T 21 | 13 53 23 | 0 <sup>h</sup> 9'20   | 12 <sup>h</sup> 41 | 6 <sup>h</sup> 3   | 18 <sup>h</sup> 51 | 23 <sup>h</sup> 23  | 11 <sup>h</sup> 35 | 19 <sup>h</sup> 1   | 29 <sup>h</sup> 44 | 3 <sup>h</sup> 44 | 13 <sup>h</sup> 42 | 9 <sup>h</sup> 3   | 10 <sup>h</sup> 30 | 11 <sup>h</sup> 53 | 29 <sup>h</sup> 58 | T 21 |
| W 22 | 13 57 20 | 1 <sup>h</sup> 7'49   | 25 <sup>h</sup> 28 | 7 <sup>h</sup> 33  | 20 <sup>h</sup> 0  | 23 <sup>h</sup> 51  | 11 <sup>h</sup> 47 | 18 <sup>h</sup> 57  | 29 <sup>h</sup> 46 | 3 <sup>h</sup> 45 | 13 <sup>h</sup> 43 | 9 <sup>h</sup> 0   | 10 <sup>h</sup> 27 | 12 <sup>h</sup> 0  | 0 <sup>h</sup> 11  | W 22 |
| T 23 | 14 1 16  | 2 <sup>h</sup> 6'16   | 7 <sup>h</sup> 59  | 9 <sup>h</sup> 4   | 21 <sup>h</sup> 9  | 24 <sup>h</sup> 20  | 11 <sup>h</sup> 59 | 18 <sup>h</sup> 52  | 29 <sup>h</sup> 48 | 3 <sup>h</sup> 45 | 13 <sup>h</sup> 45 | 8 <sup>h</sup> 56  | 10 <sup>h</sup> 24 | 12 <sup>h</sup> 6  | 0 <sup>h</sup> 6   | T 23 |
| F 24 | 14 5 13  | 3 <sup>h</sup> 4'41   | 20 <sup>h</sup> 18 | 10 <sup>h</sup> 37 | 22 <sup>h</sup> 19 | 24 <sup>h</sup> 48  | 12 <sup>h</sup> 11 | 18 <sup>h</sup> 48  | 29 <sup>h</sup> 50 | 3 <sup>h</sup> 45 | 13 <sup>h</sup> 46 | 8 <sup>h</sup> 51  | 10 <sup>h</sup> 21 | 12 <sup>h</sup> 13 | 0 <sup>h</sup> 11  | F 24 |
| S 25 | 14 9 10  | 4 <sup>h</sup> 3'05   | 2 <sup>h</sup> 16  | 12 <sup>h</sup> 12 | 23 <sup>h</sup> 28 | 25 <sup>h</sup> 17  | 12 <sup>h</sup> 23 | 18 <sup>h</sup> 43  | 29 <sup>h</sup> 52 | 3 <sup>h</sup> 46 | 13 <sup>h</sup> 47 | 8 <sup>h</sup> 45  | 10 <sup>h</sup> 18 | 12 <sup>h</sup> 20 | 0 <sup>h</sup> 15  | S 25 |
| S 26 | 14 13 6  | 5 <sup>h</sup> 1'27   | 14 <sup>h</sup> 26 | 13 <sup>h</sup> 49 | 24 <sup>h</sup> 38 | 25 <sup>h</sup> 46  | 12 <sup>h</sup> 36 | 18 <sup>h</sup> 39  | 29 <sup>h</sup> 54 | 3 <sup>h</sup> 46 | 13 <sup>h</sup> 49 | 8 <sup>h</sup> 38  | 10 <sup>h</sup> 14 | 12 <sup>h</sup> 26 | 0 <sup>h</sup> 19  | S 26 |
| M 27 | 14 17 3  | 5 <sup>h</sup> 59'47  | 26 <sup>h</sup> 20 | 15 <sup>h</sup> 27 | 25 <sup>h</sup> 48 | 26 <sup>h</sup> 15  | 12 <sup>h</sup> 48 | 18 <sup>h</sup> 35  | 29 <sup>h</sup> 56 | 3 <sup>h</sup> 47 | 13 <sup>h</sup> 50 | 8 <sup>h</sup> 33  | 10 <sup>h</sup> 11 | 12 <sup>h</sup> 33 | 0 <sup>h</sup> 24  | M 27 |
| T 28 | 14 20 59 | 6 <sup>h</sup> 58'05  | 8 <sup>h</sup> 10  | 17 <sup>h</sup> 8  | 26 <sup>h</sup> 58 | 26 <sup>h</sup> 45  | 13 <sup>h</sup> 0  | 18 <sup>h</sup> 31  | 29 <sup>h</sup> 58 | 3 <sup>h</sup> 47 | 13 <sup>h</sup> 51 | 8 <sup>h</sup> 28  | 10 <sup>h</sup> 8  | 12 <sup>h</sup> 40 | 0 <sup>h</sup> 28  | T 28 |
| W 29 | 14 24 56 | 7 <sup>h</sup> 56'22  | 19 <sup>h</sup> 58 | 18 <sup>h</sup> 50 | 28 <sup>h</sup> 7  | 27 <sup>h</sup> 14  | 13 <sup>h</sup> 13 | 18 <sup>h</sup> 26  | 29 <sup>h</sup> 59 | 3 <sup>h</sup> 47 | 13 <sup>h</sup> 53 | 8 <sup>h</sup> 25  | 10 <sup>h</sup> 5  | 12 <sup>h</sup> 46 | 0 <sup>h</sup> 32  | W 29 |
| T 30 | 14 28 52 | 8 <sup>h</sup> 54'37  | 1 <sup>h</sup> 14  | 20 <sup>h</sup> 17 | 29 <sup>h</sup> 17 | 27 <sup>h</sup> 54  | 13 <sup>h</sup> 16 | 18 <sup>h</sup> 22  | 0 <sup>h</sup> 1   | 3 <sup>h</sup> 47 | 13 <sup>h</sup> 54 | 8 <sup>h</sup> 11  | 10 <sup>h</sup> 11 | 12 <sup>h</sup> 48 | 0 <sup>h</sup> 33  | T 30 |

## ASTRODIENST EPHEMERIS for the year 1835

geocentric

MAY 1835

00:00 UT

| Day  | Sid.t    | ☉        | ☽     | ♀     | ♂     | ♂     | ♂     | ♂      | ♂    | ♂     | ♂     | ♂     | ♂    | ♂     | ♂    | Day  |
|------|----------|----------|-------|-------|-------|-------|-------|--------|------|-------|-------|-------|------|-------|------|------|
| F 1  | 14 32 49 | 9♂52'50  | 13♂36 | 22♀19 | 0♀27  | 28♂14 | 13♂38 | 18°R18 | 0♂3  | 3♂48  | 13♀55 | 8°D24 | 9♂59 | 13♂0  | 0♂41 | F 1  |
| S 2  | 14 36 45 | 10°51'02 | 25°32 | 24° 7 | 1°37  | 28°44 | 13°51 | 18♂14  | 0° 4 | 3°48  | 13°57 | 8♂25  | 9°55 | 13° 6 | 0°46 | S 2  |
| S 3  | 14 40 42 | 11°49'11 | 7♂36  | 25°56 | 2°47  | 29°14 | 14° 4 | 18°10  | 0° 6 | 3°48  | 13°58 | 8°26  | 9°52 | 13°13 | 0°50 | S 3  |
| M 4  | 14 44 39 | 12°47'19 | 19°53 | 27°48 | 3°57  | 29°44 | 14°16 | 18° 6  | 0° 8 | 3°48  | 13°59 | 8°28  | 9°49 | 13°20 | 0°55 | M 4  |
| T 5  | 14 48 35 | 13°45'24 | 2♂27  | 29°41 | 5° 8  | 0♂14  | 14°29 | 18° 2  | 0° 9 | 3°48  | 14° 1 | 8°29  | 9°46 | 13°26 | 0°59 | T 5  |
| W 6  | 14 52 32 | 14°43'28 | 15°22 | 1♂35  | 6°18  | 0°45  | 14°42 | 17°58  | 0°11 | 3°48  | 14° 2 | 8°R30 | 9°43 | 13°33 | 1° 4 | W 6  |
| T 7  | 14 56 28 | 15°41'29 | 28°42 | 3°32  | 7°28  | 1°15  | 14°55 | 17°54  | 0°12 | 3°R48 | 14° 3 | 8°29  | 9°40 | 13°40 | 1° 8 | T 7  |
| F 8  | 15 0 25  | 16°39'29 | 12♂28 | 5°30  | 8°38  | 1°46  | 15° 8 | 17°50  | 0°13 | 3°48  | 14° 4 | 8°27  | 9°36 | 13°46 | 1°13 | F 8  |
| S 9  | 15 4 21  | 17°37'27 | 26°41 | 7°31  | 9°49  | 2°17  | 15°21 | 17°47  | 0°15 | 3°48  | 14° 6 | 8°25  | 9°33 | 13°53 | 1°17 | S 9  |
| S 10 | 15 8 18  | 18°35'23 | 11♂19 | 9°32  | 10°59 | 2°48  | 15°34 | 17°43  | 0°16 | 3°48  | 14° 7 | 8°23  | 9°30 | 14° 0 | 1°22 | S 10 |
| M 11 | 15 12 14 | 19°33'17 | 26°17 | 11°36 | 12°10 | 3°19  | 15°47 | 17°39  | 0°17 | 3°48  | 14° 8 | 8°20  | 9°27 | 14° 6 | 1°27 | M 11 |
| T 12 | 15 16 11 | 20°31'09 | 11♂28 | 13°41 | 13°20 | 3°50  | 16° 0 | 17°36  | 0°18 | 3°48  | 14° 9 | 8°18  | 9°24 | 14°13 | 1°31 | T 12 |
| W 13 | 15 20 8  | 21°29'01 | 26°41 | 15°47 | 14°31 | 4°21  | 16°13 | 17°33  | 0°20 | 3°47  | 14°10 | 8°17  | 9°20 | 14°20 | 1°36 | W 13 |
| T 14 | 15 24 4  | 22°26'50 | 11♂48 | 17°55 | 15°41 | 4°52  | 16°27 | 17°29  | 0°21 | 3°47  | 14°12 | 8°D17 | 9°17 | 14°26 | 1°40 | T 14 |
| F 15 | 15 28 1  | 23°24'39 | 26°38 | 20° 4 | 16°52 | 5°24  | 16°40 | 17°26  | 0°22 | 3°47  | 14°13 | 8°17  | 9°14 | 14°33 | 1°45 | F 15 |
| S 16 | 15 31 57 | 24°22'26 | 11♂7  | 22°14 | 18° 3 | 5°55  | 16°53 | 17°23  | 0°23 | 3°47  | 14°14 | 8°18  | 9°11 | 14°40 | 1°50 | S 16 |
| S 17 | 15 35 54 | 25°20'12 | 25°10 | 24°25 | 19°13 | 6°27  | 17° 6 | 17°19  | 0°24 | 3°46  | 14°15 | 8°19  | 9° 8 | 14°46 | 1°54 | S 17 |
| M 18 | 15 39 50 | 26°17'56 | 8♂47  | 26°36 | 20°24 | 6°59  | 17°20 | 17°16  | 0°25 | 3°46  | 14°16 | 8°20  | 9° 5 | 14°53 | 1°59 | M 18 |
| T 19 | 15 43 47 | 27°15'40 | 21°58 | 28°47 | 21°35 | 7°31  | 17°33 | 17°13  | 0°26 | 3°46  | 14°17 | 8°R21 | 9° 1 | 15° 0 | 2° 4 | T 19 |
| W 20 | 15 47 43 | 28°13'23 | 4♂46  | 0♂59  | 22°46 | 8° 3  | 17°47 | 17°10  | 0°26 | 3°45  | 14°18 | 8°21  | 8°58 | 15° 6 | 2° 9 | W 20 |
| T 21 | 15 51 40 | 29°11'04 | 17°15 | 3°10  | 23°57 | 8°35  | 18° 0 | 17° 8  | 0°27 | 3°45  | 14°20 | 8°20  | 8°55 | 15°13 | 2°13 | T 21 |
| F 22 | 15 55 37 | 0♂8'44   | 29°28 | 5°21  | 25° 8 | 9° 7  | 18°14 | 17° 5  | 0°28 | 3°44  | 14°21 | 8°20  | 8°52 | 15°19 | 2°18 | F 22 |
| S 23 | 15 59 33 | 1° 6'24  | 11♀30 | 7°31  | 26°19 | 9°40  | 18°27 | 17° 2  | 0°29 | 3°44  | 14°22 | 8°19  | 8°49 | 15°26 | 2°23 | S 23 |
| S 24 | 16 3 30  | 2° 4'02  | 23°23 | 9°40  | 27°30 | 10°12 | 18°41 | 17° 0  | 0°29 | 3°43  | 14°23 | 8°18  | 8°45 | 15°33 | 2°27 | S 24 |
| M 25 | 16 7 26  | 3° 1'39  | 5♂12  | 11°47 | 28°41 | 10°44 | 18°54 | 16°57  | 0°30 | 3°43  | 14°24 | 8°17  | 8°42 | 15°39 | 2°32 | M 25 |
| T 26 | 16 11 23 | 3°59'16  | 17° 0 | 13°53 | 29°52 | 11°17 | 19° 8 | 16°55  | 0°30 | 3°42  | 14°25 | 8°16  | 8°39 | 15°46 | 2°37 | T 26 |
| W 27 | 16 15 19 | 4°56'51  | 28°48 | 15°57 | 1♂3   | 11°50 | 19°21 | 16°52  | 0°31 | 3°41  | 14°26 | 8°16  | 8°36 | 15°53 | 2°41 | W 27 |
| T 28 | 16 19 16 | 5°54'25  | 10♂40 | 17°59 | 2°15  | 12°22 | 19°35 | 16°50  | 0°31 | 3°41  | 14°27 | 8°D16 | 8°33 | 15°59 | 2°46 | T 28 |
| F 29 | 16 23 12 | 6°51'58  | 22°37 | 20° 0 | 3°26  | 12°55 | 19°49 | 16°48  | 0°32 | 3°40  | 14°28 | 8°16  | 8°30 | 16° 6 | 2°51 | F 29 |
| S 30 | 16 27 9  | 7°49'30  | 4♂42  | 21°57 | 4°37  | 13°28 | 20° 2 | 16°46  | 0°32 | 3°39  | 14°29 | 8°R16 | 8°26 | 16°13 | 2°56 | S 30 |
| S 31 | 16 31 6  | 8♂47'01  | 16♂57 | 23♂53 | 5♂49  | 14♂1  | 20♂16 | 16♂44  | 0♂32 | 3♂39  | 14♀30 | 8♂16  | 8♂23 | 16♂19 | 3♂0  | S 31 |

Delta T = 8.32 sec

JUNE 1835

00:00 UT

| Day  | Sid.t    | ☉        | ☽     | ♀     | ♂     | ♂     | ♂     | ♂      | ♂     | ♂     | ♂     | ♂     | ♂    | ♂     | ♂    | Day  |
|------|----------|----------|-------|-------|-------|-------|-------|--------|-------|-------|-------|-------|------|-------|------|------|
| M 1  | 16 35 2  | 9♂44'30  | 29♂24 | 25♂46 | 7♂0   | 14♂35 | 20♂30 | 16°R42 | 0♂32  | 3°R38 | 14♀30 | 8°R16 | 8♂20 | 16♂26 | 3♂5  | M 1  |
| T 2  | 16 38 59 | 10°41'59 | 12♂5  | 27°37 | 8°11  | 15° 8 | 20°43 | 16♂40  | 0°33  | 3♂37  | 14°31 | 8♂16  | 8°17 | 16°33 | 3°10 | T 2  |
| W 3  | 16 42 55 | 11°39'26 | 25° 4 | 29°25 | 9°23  | 15°41 | 20°57 | 16°38  | 0°33  | 3°36  | 14°32 | 8°16  | 8°14 | 16°39 | 3°14 | W 3  |
| T 4  | 16 46 52 | 12°36'52 | 8♂22  | 1♂10  | 10°34 | 16°14 | 21°11 | 16°37  | 0°33  | 3°35  | 14°33 | 8°D16 | 8°11 | 16°46 | 3°19 | T 4  |
| F 5  | 16 50 48 | 13°34'16 | 22° 2 | 2°53  | 11°46 | 16°48 | 21°25 | 16°35  | 0°R33 | 3°35  | 14°34 | 8°16  | 8° 7 | 16°53 | 3°24 | F 5  |
| S 6  | 16 54 45 | 14°31'40 | 6♂3   | 4°33  | 12°57 | 17°22 | 21°38 | 16°34  | 0°33  | 3°34  | 14°35 | 8°16  | 8° 4 | 16°59 | 3°28 | S 6  |
| S 7  | 16 58 41 | 15°29'02 | 20°26 | 6°10  | 14° 9 | 17°55 | 21°52 | 16°33  | 0°33  | 3°33  | 14°36 | 8°16  | 8° 1 | 17° 6 | 3°33 | S 7  |
| M 8  | 17 2 38  | 16°26'23 | 5♂7   | 7°45  | 15°20 | 18°29 | 22° 6 | 16°31  | 0°33  | 3°32  | 14°36 | 8°17  | 7°58 | 17°13 | 3°38 | M 8  |
| T 9  | 17 6 35  | 17°23'43 | 20° 1 | 9°16  | 16°32 | 19° 3 | 22°20 | 16°30  | 0°33  | 3°31  | 14°37 | 8°18  | 7°55 | 17°19 | 3°42 | T 9  |
| W 10 | 17 10 31 | 18°21'03 | 5♂2   | 10°45 | 17°43 | 19°37 | 22°33 | 16°29  | 0°32  | 3°30  | 14°38 | 8°R18 | 7°51 | 17°26 | 3°47 | W 10 |
| T 11 | 17 14 28 | 19°18'21 | 20° 2 | 12°12 | 18°55 | 20°10 | 22°47 | 16°28  | 0°32  | 3°29  | 14°39 | 8°18  | 7°48 | 17°33 | 3°51 | T 11 |
| F 12 | 17 18 24 | 20°15'39 | 4♂51  | 13°35 | 20° 7 | 20°44 | 23° 1 | 16°28  | 0°32  | 3°28  | 14°39 | 8°17  | 7°45 | 17°39 | 3°56 | F 12 |
| S 13 | 17 22 21 | 21°12'57 | 19°23 | 14°56 | 21°19 | 21°19 | 23°15 | 16°27  | 0°31  | 3°27  | 14°40 | 8°16  | 7°42 | 17°46 | 4° 1 | S 13 |
| S 14 | 17 26 17 | 22°10'14 | 3♂32  | 16°13 | 22°30 | 21°53 | 23°28 | 16°26  | 0°31  | 3°26  | 14°41 | 8°14  | 7°39 | 17°53 | 4° 5 | S 14 |
| M 15 | 17 30 14 | 23° 7'30 | 17°16 | 17°28 | 23°42 | 22°27 | 23°42 | 16°26  | 0°31  | 3°24  | 14°41 | 8°12  | 7°36 | 17°59 | 4°10 | M 15 |
| T 16 | 17 34 11 | 24° 4'46 | 0♂33  | 18°40 | 24°54 | 23° 1 | 23°56 | 16°25  | 0°30  | 3°23  | 14°42 | 8°11  | 7°32 | 18° 6 | 4°14 | T 16 |
| W 17 | 17 38 7  | 25° 2'02 | 13°26 | 19°48 | 26° 6 | 23°36 | 24°10 | 16°25  | 0°30  | 3°22  | 14°43 | 8°10  | 7°29 | 18°13 | 4°19 | W 17 |
| T 18 | 17 42 4  | 25°59'17 | 25°56 | 20°54 | 27°18 | 24°10 | 24°24 | 16°25  | 0°29  | 3°21  | 14°43 | 8°D 9 | 7°26 | 18°19 | 4°23 | T 18 |
| F 19 | 17 46 0  | 26°56'33 | 8♀9   | 21°56 | 28°30 | 24°45 | 24°37 | 16°24  | 0°28  | 3°20  | 14°44 | 8°10  | 7°23 | 18°26 | 4°28 | F 19 |
| S 20 | 17 49 57 | 27°53'48 | 20°10 | 22°55 | 29°42 | 25°19 | 24°51 | 16°D24 | 0°28  | 3°19  | 14°44 | 8°11  | 7°20 | 18°32 | 4°32 | S 20 |
| S 21 | 17 53 53 | 28°51'03 | 2♂1   | 23°51 | 0♂54  | 25°54 | 25° 5 | 16°24  | 0°27  | 3°17  | 14°45 | 8°12  | 7°17 | 18°39 | 4°37 | S 21 |
| M 22 | 17 57 50 | 29°48'17 | 13°49 | 24°43 | 2° 6  | 26°29 | 25°19 | 16°25  | 0°26  | 3°16  | 14°45 | 8°14  | 7°13 | 18°46 | 4°41 | M 22 |
| T 23 | 18 1 46  | 0♂45'32  | 25°37 | 25°32 | 3°18  | 27° 3 | 25°32 | 16°25  | 0°25  | 3°15  | 14°46 | 8°15  | 7°10 | 18°52 | 4°45 | T 23 |
| W 24 | 18 5 43  | 1°42'47  | 7♂29  | 26°16 | 4°30  | 27°38 | 25°46 | 16°25  | 0°25  | 3°13  | 14°46 | 8°R16 | 7° 7 | 18°59 | 4°50 | W 24 |
| T 25 | 18 9 40  | 2°40'01  | 19°27 | 26°58 | 5°42  | 28°13 | 26° 0 | 16°26  | 0°24  | 3°12  | 14°47 | 8°15  | 7° 4 | 19° 6 | 4°54 | T 25 |
| F 26 | 18 13 36 | 3°37'15  | 1♂35  | 27°35 | 6°54  | 28°48 | 26°14 | 16°26  | 0°23  | 3°11  | 14°47 | 8°13  | 7° 1 | 19°12 | 4°58 | F 26 |
| S 27 | 18 17 33 | 4°34'29  | 13°53 | 28° 8 | 8° 6  | 29°23 | 26°27 | 16°27  | 0°22  | 3° 9  | 14°48 | 8°11  | 6°57 | 19°19 | 5° 3 | S 27 |
| S 28 | 18 21 29 | 5°31'43  | 26°24 | 28°37 | 9°18  | 29°58 | 26°41 | 16°28  | 0°21  | 3° 8  | 14°48 | 8° 7  | 6°54 | 19°26 | 5° 7 | S 28 |
| M 29 | 18 25 26 | 6°28'56  | 9♂8   | 29° 2 | 10°31 | 0♂34  | 26°55 | 16°29  | 0°20  | 3° 7  | 14°49 | 8° 2  | 6°51 | 19°32 | 5°11 | M 29 |
| T 30 | 18 29 22 | 7♂26'10  | 22♂5  | 29♂22 | 11♂43 | 1♂9   | 27♂8  | 16♂30  | 0♂19  | 3♂5   | 14♀49 | 7♂58  | 6♂48 | 19♂39 | 5♂15 | T 30 |

Delta T = 8.30 sec

ASTRODIENST EPHEMERIS for the year 1835  
geocentric

JULY 1835

00:00 UT

| Day  | Sid.t    | ☉        | ☽       | ♂        | ♀        | ♂       | ♂        | ♂        | ♂      | ♂     | ♂      | ♂      | ♂      | ♂      | ♂      | Day  |
|------|----------|----------|---------|----------|----------|---------|----------|----------|--------|-------|--------|--------|--------|--------|--------|------|
| W 1  | 18 33 19 | 8°23'22  | 5°17'17 | 29°53'38 | 12°11'55 | 1°17'44 | 27°11'22 | 16°51'31 | 0°R17  | 3°R 4 | 14°V49 | 7°R54  | 6°II45 | 19°B46 | 5°II20 | W 1  |
| T 2  | 18 37 15 | 9°20'35  | 18°42   | 29°49    | 14° 8    | 2°20    | 27°36    | 16°32    | 0°H16  | 3° 2  | 14°49  | 7°II51 | 6°42   | 19°52  | 5°24   | T 2  |
| F 3  | 18 41 12 | 10°17'47 | 2°52    | 29°56    | 15°20    | 2°55    | 27°49    | 16°33    | 0°15   | 3° 1  | 14°50  | 7°49   | 6°38   | 19°59  | 5°28   | F 3  |
| S 4  | 18 45 9  | 11°14'59 | 16°18   | 29°R58   | 16°32    | 3°31    | 28° 3    | 16°34    | 0°14   | 2°59  | 14°50  | 7°D49  | 6°35   | 20° 6  | 5°32   | S 4  |
| S 5  | 18 49 5  | 12°12'10 | 0°18    | 29°55    | 17°45    | 4° 6    | 28°16    | 16°36    | 0°12   | 2°58  | 14°50  | 7°50   | 6°32   | 20°12  | 5°36   | S 5  |
| M 6  | 18 53 2  | 13° 9'22 | 14°50   | 29°48    | 18°57    | 4°42    | 28°30    | 16°37    | 0°11   | 2°56  | 14°51  | 7°52   | 6°29   | 20°19  | 5°40   | M 6  |
| T 7  | 18 56 58 | 14° 6'33 | 29°23   | 29°36    | 20°10    | 5°18    | 28°44    | 16°39    | 0°10   | 2°55  | 14°51  | 7°53   | 6°26   | 20°26  | 5°44   | T 7  |
| W 8  | 19 0 55  | 15° 3'44 | 14° 1   | 29°20    | 21°22    | 5°53    | 28°57    | 16°41    | 0° 8   | 2°53  | 14°51  | 7°R53  | 6°23   | 20°32  | 5°48   | W 8  |
| T 9  | 19 4 51  | 16° 0'56 | 28°41   | 28°59    | 22°35    | 6°29    | 29°10    | 16°43    | 0° 7   | 2°52  | 14°51  | 7°51   | 6°19   | 20°39  | 5°52   | T 9  |
| F 10 | 19 8 48  | 16°58'07 | 13°51   | 28°34    | 23°47    | 7° 5    | 29°24    | 16°45    | 0° 5   | 2°50  | 14°51  | 7°48   | 6°16   | 20°46  | 5°56   | F 10 |
| S 11 | 19 12 44 | 17°55'19 | 27°37   | 28° 6    | 25° 0    | 7°41    | 29°37    | 16°47    | 0° 4   | 2°49  | 14°51  | 7°43   | 6°13   | 20°52  | 6° 0   | S 11 |
| S 12 | 19 16 41 | 18°52'30 | 11° 41  | 27°34    | 26°13    | 8°17    | 29°51    | 16°49    | 0° 2   | 2°47  | 14°51  | 7°37   | 6°10   | 20°59  | 6° 4   | S 12 |
| M13  | 19 20 38 | 19°49'43 | 25°23   | 26°59    | 27°25    | 8°53    | 0° 4     | 16°51    | 0° 0   | 2°46  | 14°51  | 7°30   | 6° 7   | 21° 5  | 6° 7   | M13  |
| T 14 | 19 24 34 | 20°46'55 | 8° 41   | 26°22    | 28°38    | 9°29    | 0°17     | 16°53    | 29° 59 | 2°44  | 14°52  | 7°24   | 6° 3   | 21°12  | 6°11   | T 14 |
| W15  | 19 28 31 | 21°44'08 | 21°36   | 25°43    | 29°51    | 10° 6   | 0°31     | 16°56    | 29°57  | 2°42  | 14°52  | 7°19   | 6° 0   | 21°19  | 6°15   | W15  |
| T 16 | 19 32 27 | 22°41'22 | 4° 8    | 25° 3    | 1° 4     | 10°42   | 0°44     | 16°58    | 29°55  | 2°41  | 14°R52 | 7°15   | 5°57   | 21°25  | 6°18   | T 16 |
| F 17 | 19 36 24 | 23°38'37 | 16°22   | 24°22    | 2°16     | 11°18   | 0°57     | 17° 1    | 29°54  | 2°39  | 14°52  | 7°13   | 5°54   | 21°32  | 6°22   | F 17 |
| S 18 | 19 40 20 | 24°35'52 | 28°23   | 23°42    | 3°29     | 11°55   | 1°10     | 17° 3    | 29°52  | 2°38  | 14°51  | 7°D13  | 5°51   | 21°39  | 6°26   | S 18 |
| S 19 | 19 44 17 | 25°33'08 | 10° 15  | 23° 2    | 4°42     | 12°31   | 1°23     | 17° 6    | 29°50  | 2°36  | 14°51  | 7°14   | 5°48   | 21°45  | 6°29   | S 19 |
| M20  | 19 48 13 | 26°30'25 | 22° 3   | 22°24    | 5°55     | 13° 8   | 1°36     | 17° 9    | 29°48  | 2°34  | 14°51  | 7°15   | 5°44   | 21°52  | 6°33   | M20  |
| T 21 | 19 52 10 | 27°27'42 | 3° 53   | 21°49    | 7° 8     | 13°44   | 1°49     | 17°12    | 29°46  | 2°33  | 14°51  | 7°R16  | 5°41   | 21°59  | 6°36   | T 21 |
| W22  | 19 56 7  | 28°25'01 | 15°48   | 21°16    | 8°21     | 14°21   | 2° 2     | 17°15    | 29°44  | 2°31  | 14°51  | 7°16   | 5°38   | 22° 5  | 6°39   | W22  |
| T 23 | 20 0 3   | 29°22'20 | 27°54   | 20°47    | 9°34     | 14°57   | 2°15     | 17°18    | 29°42  | 2°30  | 14°51  | 7°14   | 5°35   | 22°12  | 6°43   | T 23 |
| F 24 | 20 4 0   | 0°19'40  | 10°53   | 20°23    | 10°47    | 15°34   | 2°28     | 17°21    | 29°40  | 2°28  | 14°51  | 7° 9   | 5°32   | 22°19  | 6°46   | F 24 |
| S 25 | 20 7 56  | 1°17'01  | 22°47   | 20° 3    | 12° 0    | 16°11   | 2°41     | 17°25    | 29°38  | 2°26  | 14°51  | 7° 3   | 5°29   | 22°25  | 6°49   | S 25 |
| S 26 | 20 11 53 | 2°14'22  | 5° 37   | 19°48    | 13°13    | 16°48   | 2°54     | 17°28    | 29°36  | 2°25  | 14°50  | 6°54   | 5°25   | 22°32  | 6°53   | S 26 |
| M27  | 20 15 49 | 3°11'44  | 18°42   | 19°38    | 14°27    | 17°25   | 3° 7     | 17°31    | 29°34  | 2°23  | 14°50  | 6°45   | 5°22   | 22°39  | 6°56   | M27  |
| T 28 | 20 19 46 | 4° 9'07  | 2° 2    | 19°D34   | 15°40    | 18° 2   | 3°19     | 17°35    | 29°32  | 2°21  | 14°50  | 6°35   | 5°19   | 22°45  | 6°59   | T 28 |
| W29  | 20 23 43 | 5° 6'30  | 15°34   | 19°36    | 16°53    | 18°39   | 3°32     | 17°39    | 29°30  | 2°20  | 14°50  | 6°26   | 5°16   | 22°52  | 7° 2   | W29  |
| T 30 | 20 27 39 | 6° 3'54  | 29°18   | 19°45    | 18° 6    | 19°16   | 3°45     | 17°42    | 29°28  | 2°18  | 14°49  | 6°20   | 5°13   | 22°59  | 7° 5   | T 30 |
| F 31 | 20 31 36 | 7° 1'19  | 13° 9   | 20° 0    | 19°20    | 19°53   | 3°57     | 17° 46   | 29° 26 | 2° 17 | 14°V49 | 6°II15 | 5°II 9 | 23° 5  | 7°II 8 | F 31 |

Delta T = 8.28 sec

AUGUST 1835

00:00 UT

| Day  | Sid.t    | ☉        | ☽      | ♂     | ♀      | ♂     | ♂    | ♂      | ♂      | ♂     | ♂      | ♂      | ♂      | ♂      | ♂      | Day  |
|------|----------|----------|--------|-------|--------|-------|------|--------|--------|-------|--------|--------|--------|--------|--------|------|
| S 1  | 20 35 32 | 7°15'84  | 27° 8  | 20°21 | 20°33  | 20°17 | 4°10 | 17° 50 | 29°R24 | 2°R15 | 14°R49 | 6°R13  | 5°II 6 | 23°B12 | 7°II11 | S 1  |
| S 2  | 20 39 29 | 8°56'10  | 11°18  | 20°48 | 21°46  | 21° 8 | 4°22 | 17°54  | 29° 22 | 2° 13 | 14°V48 | 6°D12  | 5° 3   | 23°18  | 7°14   | S 2  |
| M 3  | 20 43 25 | 9°53'37  | 25°23  | 21°22 | 23° 0  | 21°45 | 4°35 | 17°58  | 29°19  | 2°12  | 14°48  | 6°II13 | 5° 0   | 23°25  | 7°17   | M 3  |
| T 4  | 20 47 22 | 10°51'04 | 9° 36  | 22° 2 | 24°13  | 22°22 | 4°47 | 18° 2  | 29°17  | 2°10  | 14°48  | 6°R13  | 4°57   | 23°32  | 7°19   | T 4  |
| W 5  | 20 51 18 | 11°48'32 | 23°52  | 22°49 | 25°26  | 23° 0 | 4°59 | 18° 6  | 29°15  | 2° 8  | 14°47  | 6°12   | 4°54   | 23°38  | 7°22   | W 5  |
| T 6  | 20 55 15 | 12°46'01 | 8° 6   | 23°42 | 26°40  | 23°37 | 5°11 | 18°11  | 29°13  | 2° 7  | 14°47  | 6° 8   | 4°50   | 23°45  | 7°25   | T 6  |
| F 7  | 20 59 12 | 13°43'31 | 22°16  | 24°41 | 27°53  | 24°15 | 5°24 | 18°15  | 29°10  | 2° 5  | 14°46  | 6° 2   | 4°47   | 23°52  | 7°27   | F 7  |
| S 8  | 21 3 8   | 14°41'01 | 6° 17  | 25°46 | 29° 7  | 24°52 | 5°36 | 18°19  | 29° 8  | 2° 4  | 14°46  | 5°54   | 4°44   | 23°58  | 7°30   | S 8  |
| S 9  | 21 7 5   | 15°38'33 | 20° 4  | 26°57 | 0°12   | 25°30 | 5°48 | 18°24  | 29° 6  | 2° 2  | 14°45  | 5°43   | 4°41   | 24° 5  | 7°32   | S 9  |
| M10  | 21 11 1  | 16°36'06 | 3° 35  | 28°13 | 1°34   | 26° 8 | 6° 0 | 18°28  | 29° 4  | 2° 1  | 14°45  | 5°32   | 4°38   | 24°12  | 7°35   | M10  |
| T 11 | 21 14 58 | 17°33'40 | 16°45  | 29°35 | 2°48   | 26°46 | 6°12 | 18°33  | 29° 1  | 1°59  | 14°44  | 5°21   | 4°35   | 24°18  | 7°37   | T 11 |
| W12  | 21 18 54 | 18°31'15 | 29°35  | 1° 2  | 4° 1   | 27°23 | 6°23 | 18°38  | 28°59  | 1°57  | 14°44  | 5°11   | 4°31   | 24°25  | 7°39   | W12  |
| T 13 | 21 22 51 | 19°28'51 | 12° 6  | 2°34  | 5°15   | 28° 1 | 6°35 | 18°43  | 28°57  | 1°56  | 14°43  | 5° 4   | 4°28   | 24°32  | 7°42   | T 13 |
| F 14 | 21 26 47 | 20°26'30 | 24°19  | 4°10  | 6°29   | 28°39 | 6°47 | 18°47  | 28°54  | 1°54  | 14°43  | 4°59   | 4°25   | 24°38  | 7°44   | F 14 |
| S 15 | 21 30 44 | 21°24'09 | 6° 19  | 5°50  | 7°43   | 29°17 | 6°58 | 18°52  | 28°52  | 1°53  | 14°42  | 4°56   | 4°22   | 24°45  | 7°46   | S 15 |
| S 16 | 21 34 40 | 22°21'50 | 18°11  | 7°34  | 8°57   | 29°55 | 7°10 | 18°57  | 28°49  | 1°51  | 14°41  | 4°D55  | 4°19   | 24°52  | 7°48   | S 16 |
| M17  | 21 38 37 | 23°19'33 | 29°59  | 9°21  | 10°10  | 0° 33 | 7°21 | 19° 2  | 28°47  | 1°50  | 14°41  | 4°R55  | 4°15   | 24°58  | 7°50   | M17  |
| T 18 | 21 42 34 | 24°17'18 | 11° 50 | 11°12 | 11°24  | 1°12  | 7°33 | 19° 8  | 28°45  | 1°48  | 14°40  | 4°55   | 4°12   | 25° 5  | 7°52   | T 18 |
| W19  | 21 46 30 | 25°15'04 | 23°48  | 13° 4 | 12°38  | 1°50  | 7°44 | 19°13  | 28°42  | 1°47  | 14°39  | 4°54   | 4° 9   | 25°11  | 7°54   | W19  |
| T 20 | 21 50 27 | 26°12'52 | 5° 59  | 14°59 | 13°52  | 2°28  | 7°55 | 19°18  | 28°40  | 1°45  | 14°39  | 4°51   | 4° 6   | 25°18  | 7°56   | T 20 |
| F 21 | 21 54 23 | 27°10'41 | 18°26  | 16°55 | 15° 6  | 3° 6  | 8° 6 | 19°23  | 28°38  | 1°44  | 14°38  | 4°45   | 4° 3   | 25°25  | 7°57   | F 21 |
| S 22 | 21 58 20 | 28° 8'32 | 1° 12  | 18°53 | 16°20  | 3°45  | 8°17 | 19°29  | 28°35  | 1°43  | 14°37  | 4°36   | 4° 0   | 25°31  | 7°59   | S 22 |
| S 23 | 22 2 16  | 29° 6'25 | 14°19  | 20°52 | 17°34  | 4°23  | 8°28 | 19°34  | 28°33  | 1°41  | 14°37  | 4°26   | 3°56   | 25°38  | 8° 1   | S 23 |
| M24  | 22 6 13  | 0° 4'19  | 27°46  | 22°51 | 18°48  | 5° 2  | 8°39 | 19°40  | 28°30  | 1°40  | 14°36  | 4°13   | 3°53   | 25°45  | 8° 2   | M24  |
| T 25 | 22 10 10 | 1° 2'15  | 11° 30 | 24°50 | 20° 2  | 5°40  | 8°50 | 19°45  | 28°28  | 1°38  | 14°35  | 4° 1   | 3°50   | 25°51  | 8° 4   | T 25 |
| W26  | 22 14 6  | 2° 0'12  | 25°28  | 26°49 | 21°16  | 6°19  | 9° 0 | 19°51  | 28°26  | 1°37  | 14°34  | 3°50   | 3°47   | 25°58  | 8° 5   | W26  |
| T 27 | 22 18 3  | 2°58'10  | 9° 36  | 28°48 | 22°31  | 6°58  | 9°11 | 19°57  | 28°23  | 1°36  | 14°33  | 3°41   | 3°44   | 26° 5  | 8° 7   | T 27 |
| F 28 | 22 21 59 | 3°56'10  | 23°48  | 0° 47 | 23°45  | 7°37  | 9°21 | 20° 2  | 28°21  | 1°34  | 14°33  | 3°34   | 3°41   | 26°11  | 8° 8   | F 28 |
| S 29 | 22 25 56 | 4°54'11  | 8° 2   | 2°45  | 24°59  | 8°15  | 9°32 | 20° 8  | 28°18  | 1°33  | 14°32  | 3°31   | 3°37   | 26°18  | 8° 9   | S 29 |
| S 30 | 22 29 52 | 5°52'14  | 22°13  | 4°43  | 26°13  | 8°54  | 9°42 | 20°14  | 28°16  | 1°32  | 14°31  | 3°29   | 3°34   | 26°25  | 8°10   | S 30 |
| M31  | 22 33 49 | 6° 50'18 | 6° 21  | 6° 39 | 27° 27 | 9° 33 | 9°52 | 20° 20 | 28° 14 | 1° 31 | 14°V30 | 3°II29 | 3°II31 | 26°B31 | 8°II11 | M31  |

Delta T = 8.25 sec

ASTRODIENST EPHEMERIS for the year 1835  
geocentric

SEPTEMBER 1835

00:00 UT

| Day  | Sid.t    | ☉        | ☽     | ♀     | ♂     | ♂     | ♂     | ♂     | ♂      | ♂     | ♂      | ♂     | ♂    | ♂     | ♂     | Day  |
|------|----------|----------|-------|-------|-------|-------|-------|-------|--------|-------|--------|-------|------|-------|-------|------|
| T 1  | 22 37 45 | 7♏48'23  | 20♊25 | 8♏35  | 28♏42 | 10♏12 | 10♏2  | 20♏26 | 28°R11 | 1°R29 | 14°R29 | 3°R29 | 3♏28 | 26♏38 | 8♏12  | T 1  |
| W 2  | 22 41 42 | 8°46'30  | 4♏23  | 10°29 | 29°56 | 10°51 | 10°12 | 20°32 | 28°9   | 1°28  | 14°Y28 | 3♏27  | 3°25 | 26°45 | 8°13  | W 2  |
| T 3  | 22 45 38 | 9°44'39  | 18°16 | 12°23 | 1♏10  | 11°30 | 10°22 | 20°38 | 28°7   | 1°27  | 14°27  | 3°23  | 3°21 | 26°51 | 8°14  | T 3  |
| F 4  | 22 49 35 | 10°42'48 | 2°1   | 14°15 | 2°25  | 12°9  | 10°32 | 20°44 | 28°4   | 1°26  | 14°26  | 3°17  | 3°18 | 26°58 | 8°15  | F 4  |
| S 5  | 22 53 32 | 11°40'59 | 15°36 | 16°7  | 3°39  | 12°49 | 10°42 | 20°50 | 28°2   | 1°25  | 14°25  | 3°7   | 3°15 | 27°4  | 8°16  | S 5  |
| S 6  | 22 57 28 | 12°39'12 | 29°1  | 17°57 | 4°54  | 13°28 | 10°51 | 20°56 | 28°0   | 1°23  | 14°24  | 2°56  | 3°12 | 27°11 | 8°16  | S 6  |
| M 7  | 23 1 25  | 13°37'27 | 12♏11 | 19°46 | 6°8   | 14°7  | 11°0  | 21°3  | 27°57  | 1°22  | 14°24  | 2°43  | 3°9  | 27°18 | 8°17  | M 7  |
| T 8  | 23 5 21  | 14°35'43 | 25°6  | 21°33 | 7°22  | 14°47 | 11°10 | 21°9  | 27°55  | 1°21  | 14°23  | 2°31  | 3°6  | 27°24 | 8°18  | T 8  |
| W 9  | 23 9 18  | 15°34'01 | 7♏45  | 23°20 | 8°37  | 15°26 | 11°19 | 21°15 | 27°53  | 1°20  | 14°22  | 2°20  | 3°2  | 27°31 | 8°18  | W 9  |
| T 10 | 23 13 14 | 16°32'21 | 20°8  | 25°6  | 9°51  | 16°6  | 11°28 | 21°22 | 27°51  | 1°19  | 14°21  | 2°11  | 2°59 | 27°38 | 8°19  | T 10 |
| F 11 | 23 17 11 | 17°30'43 | 2♏17  | 26°50 | 11°6  | 16°45 | 11°37 | 21°28 | 27°48  | 1°18  | 14°20  | 2°5   | 2°56 | 27°44 | 8°19  | F 11 |
| S 12 | 23 21 7  | 18°29'07 | 14°15 | 28°33 | 12°20 | 17°25 | 11°46 | 21°35 | 27°46  | 1°17  | 14°19  | 2°1   | 2°53 | 27°51 | 8°19  | S 12 |
| S 13 | 23 25 4  | 19°27'33 | 26°5  | 0♏16  | 13°35 | 18°4  | 11°55 | 21°41 | 27°44  | 1°16  | 14°17  | 2°0   | 2°50 | 27°58 | 8°19  | S 13 |
| M14  | 23 29 1  | 20°26'01 | 7♏53  | 1°57  | 14°50 | 18°44 | 12°3  | 21°48 | 27°42  | 1°15  | 14°16  | 2°D 0 | 2°46 | 28°4  | 8°19  | M14  |
| T 15 | 23 32 57 | 21°24'32 | 19°43 | 3°37  | 16°4  | 19°24 | 12°12 | 21°54 | 27°40  | 1°14  | 14°15  | 2°R 0 | 2°43 | 28°11 | 8°R20 | T 15 |
| W16  | 23 36 54 | 22°23'04 | 1♏41  | 5°16  | 17°19 | 20°4  | 12°20 | 22°1  | 27°38  | 1°14  | 14°14  | 2°0   | 2°40 | 28°18 | 8°20  | W16  |
| T 17 | 23 40 50 | 23°21'39 | 13°52 | 6°54  | 18°34 | 20°44 | 12°28 | 22°7  | 27°36  | 1°13  | 14°13  | 1°58  | 2°37 | 28°24 | 8°19  | T 17 |
| F 18 | 23 44 47 | 24°20'16 | 26°22 | 8°31  | 19°48 | 21°24 | 12°36 | 22°14 | 27°34  | 1°12  | 14°12  | 1°53  | 2°34 | 28°31 | 8°19  | F 18 |
| S 19 | 23 48 43 | 25°18'56 | 9♏13  | 10°7  | 21°3  | 22°4  | 12°44 | 22°21 | 27°32  | 1°11  | 14°11  | 1°47  | 2°31 | 28°37 | 8°19  | S 19 |
| S 20 | 23 52 40 | 26°17'37 | 22°30 | 11°42 | 22°18 | 22°44 | 12°52 | 22°28 | 27°30  | 1°10  | 14°10  | 1°38  | 2°27 | 28°44 | 8°19  | S 20 |
| M21  | 23 56 36 | 27°16'20 | 6♏10  | 13°16 | 23°32 | 23°24 | 13°0  | 22°35 | 27°28  | 1°10  | 14°9   | 1°28  | 2°24 | 28°51 | 8°18  | M21  |
| T 22 | 0 0 33   | 28°15'06 | 20°14 | 14°49 | 24°47 | 24°4  | 13°7  | 22°41 | 27°26  | 1°9   | 14°8   | 1°17  | 2°21 | 28°57 | 8°18  | T 22 |
| W23  | 0 4 30   | 29°13'53 | 4♏35  | 16°21 | 26°2  | 24°44 | 13°15 | 22°48 | 27°24  | 1°8   | 14°7   | 1°8   | 2°18 | 29°4  | 8°17  | W23  |
| T 24 | 0 8 26   | 0♏12'43  | 19°8  | 17°52 | 27°17 | 25°25 | 13°22 | 22°55 | 27°22  | 1°7   | 14°6   | 1°0   | 2°15 | 29°11 | 8°17  | T 24 |
| F 25 | 0 12 23  | 1°11'34  | 3♏46  | 19°22 | 28°32 | 26°5  | 13°29 | 23°2  | 27°20  | 1°7   | 14°4   | 0°55  | 2°12 | 29°17 | 8°16  | F 25 |
| S 26 | 0 16 19  | 2°10'27  | 18°22 | 20°52 | 29°46 | 26°45 | 13°36 | 23°9  | 27°18  | 1°6   | 14°3   | 0°52  | 2°8  | 29°24 | 8°16  | S 26 |
| S 27 | 0 20 16  | 3°9'22   | 2♏51  | 22°20 | 1♏1   | 27°26 | 13°43 | 23°16 | 27°16  | 1°6   | 14°2   | 0°D51 | 2°5  | 29°31 | 8°15  | S 27 |
| M28  | 0 24 12  | 4°8'19   | 17°10 | 23°47 | 2°16  | 28°7  | 13°49 | 23°23 | 27°14  | 1°5   | 14°1   | 0°52  | 2°2  | 29°37 | 8°14  | M28  |
| T 29 | 0 28 9   | 5°7'18   | 1♏16  | 25°14 | 3°31  | 28°47 | 13°56 | 23°30 | 27°13  | 1°5   | 14°0   | 0°R53 | 1°59 | 29°44 | 8°13  | T 29 |
| W30  | 0 32 5   | 6♏6'18   | 15♏9  | 26♏39 | 4♏46  | 29♏28 | 14♏2  | 23♏37 | 27♏11  | 1°4   | 13°Y59 | 0♏52  | 1♏56 | 29♏51 | 8♏12  | W30  |

Delta T = 8.23 sec

OCTOBER 1835

00:00 UT

| Day  | Sid.t   | ☉        | ☽     | ♀      | ♂     | ♂     | ♂     | ♂     | ♂      | ♂     | ♂      | ♂      | ♂    | ♂     | ♂     | Day  |
|------|---------|----------|-------|--------|-------|-------|-------|-------|--------|-------|--------|--------|------|-------|-------|------|
| T 1  | 0 36 2  | 7♏5'20   | 28♏48 | 28♏3   | 6♏1   | 0♏9   | 14♏9  | 23♏44 | 27°R 9 | 1°R 4 | 13°R58 | 0°R50  | 1♏52 | 29♏57 | 8°R11 | T 1  |
| F 2  | 0 39 59 | 8°4'24   | 12♏14 | 29°26  | 7°16  | 0°49  | 14°15 | 23°51 | 27°8   | 1°3   | 13°Y56 | 0♏46   | 1°49 | 0♏4   | 8♏10  | F 2  |
| S 3  | 0 43 55 | 9°3'29   | 25°28 | 0♏49   | 8°31  | 1°30  | 14°20 | 23°58 | 27°6   | 1°3   | 13°55  | 0°39   | 1°46 | 0°10  | 8°9   | S 3  |
| S 4  | 0 47 52 | 10°2'37  | 8♏29  | 2°10   | 9°46  | 2°11  | 14°26 | 24°5  | 27°5   | 1°3   | 13°54  | 0°31   | 1°43 | 0°17  | 8°7   | S 4  |
| M 5  | 0 51 48 | 11°1'46  | 21°18 | 3°30   | 11°1  | 2°52  | 14°32 | 24°13 | 27°3   | 1°2   | 13°53  | 0°22   | 1°40 | 0°24  | 8°6   | M 5  |
| T 6  | 0 55 45 | 12°0'57  | 3♏Y54 | 4°48   | 12°16 | 3°33  | 14°37 | 24°20 | 27°2   | 1°2   | 13°52  | 0°13   | 1°37 | 0°30  | 8°5   | T 6  |
| W 7  | 0 59 41 | 13°0'10  | 16°18 | 6°6    | 13°31 | 4°14  | 14°42 | 24°27 | 27°0   | 1°2   | 13°51  | 0°5    | 1°33 | 0°37  | 8°3   | W 7  |
| T 8  | 1 3 38  | 13°59'25 | 28°30 | 7°22   | 14°46 | 4°55  | 14°47 | 24°34 | 26°59  | 1°2   | 13°50  | 29♏59  | 1°30 | 0°44  | 8°2   | T 8  |
| F 9  | 1 7 34  | 14°58'43 | 10♏32 | 8°37   | 16°0  | 5°36  | 14°52 | 24°41 | 26°57  | 1°1   | 13°48  | 29°55  | 1°27 | 0°50  | 8°0   | F 9  |
| S 10 | 1 11 31 | 15°58'02 | 22°25 | 9°50   | 17°16 | 6°18  | 14°57 | 24°49 | 26°56  | 1°1   | 13°47  | 29°53  | 1°24 | 0°57  | 7°58  | S 10 |
| S 11 | 1 15 27 | 16°57'24 | 4♏13  | 11°1   | 18°31 | 6°59  | 15°2  | 24°56 | 26°55  | 1°1   | 13°46  | 29°D52 | 1°21 | 1°4   | 7°57  | S 11 |
| M12  | 1 19 24 | 17°56'48 | 16°0  | 12°11  | 19°46 | 7°40  | 15°6  | 25°3  | 26°54  | 1°1   | 13°45  | 29°54  | 1°18 | 1°10  | 7°55  | M12  |
| T 13 | 1 23 21 | 18°56'14 | 27°49 | 13°19  | 21°1  | 8°22  | 15°10 | 25°10 | 26°52  | 1°1   | 13°44  | 29°55  | 1°14 | 1°17  | 7°53  | T 13 |
| W14  | 1 27 17 | 19°55'43 | 9♏46  | 14°25  | 22°16 | 9°3   | 15°14 | 25°18 | 26°51  | 1°D 1 | 13°43  | 29°57  | 1°11 | 1°24  | 7°51  | W14  |
| T 15 | 1 31 14 | 20°55'14 | 21°55 | 15°29  | 23°31 | 9°45  | 15°18 | 25°25 | 26°50  | 1°1   | 13°41  | 29°R57 | 1°8  | 1°30  | 7°49  | T 15 |
| F 16 | 1 35 10 | 21°54'47 | 4♏22  | 16°30  | 24°46 | 10°26 | 15°22 | 25°32 | 26°49  | 1°1   | 13°40  | 29°56  | 1°5  | 1°37  | 7°47  | F 16 |
| S 17 | 1 39 7  | 22°54'23 | 17°12 | 17°28  | 26°1  | 11°8  | 15°25 | 25°39 | 26°48  | 1°1   | 13°39  | 29°54  | 1°2  | 1°44  | 7°45  | S 17 |
| S 18 | 1 43 3  | 23°54'00 | 0♏27  | 18°23  | 27°16 | 11°50 | 15°29 | 25°47 | 26°47  | 1°1   | 13°38  | 29°50  | 0°58 | 1°50  | 7°43  | S 18 |
| M19  | 1 47 0  | 24°53'40 | 14°10 | 19°16  | 28°31 | 12°31 | 15°32 | 25°54 | 26°46  | 1°2   | 13°37  | 29°45  | 0°55 | 1°57  | 7°41  | M19  |
| T 20 | 1 50 56 | 25°53'22 | 28°19 | 20°4   | 29°46 | 13°13 | 15°35 | 26°1  | 26°45  | 1°2   | 13°36  | 29°39  | 0°52 | 2°3   | 7°39  | T 20 |
| W21  | 1 54 53 | 26°53'07 | 12♏52 | 20°49  | 1♏1   | 13°55 | 15°37 | 26°9  | 26°44  | 1°2   | 13°35  | 29°34  | 0°49 | 2°10  | 7°36  | W21  |
| T 22 | 1 58 50 | 27°52'53 | 27°42 | 21°29  | 2°16  | 14°37 | 15°40 | 26°16 | 26°44  | 1°2   | 13°33  | 29°30  | 0°46 | 2°17  | 7°34  | T 22 |
| F 23 | 2 2 46  | 28°52'42 | 12♏42 | 22°4   | 3°32  | 15°19 | 15°42 | 26°23 | 26°43  | 1°2   | 13°32  | 29°28  | 0°43 | 2°23  | 7°31  | F 23 |
| S 24 | 2 6 43  | 29°52'32 | 27°42 | 22°33  | 4°47  | 16°1  | 15°44 | 26°30 | 26°42  | 1°3   | 13°31  | 29°D27 | 0°39 | 2°30  | 7°29  | S 24 |
| S 25 | 2 10 39 | 0♏52'24  | 12♏34 | 22°57  | 6°2   | 16°43 | 15°46 | 26°38 | 26°41  | 1°3   | 13°30  | 29°27  | 0°36 | 2°37  | 7°26  | S 25 |
| M26  | 2 14 36 | 1°52'18  | 27°12 | 23°14  | 7°17  | 17°25 | 15°48 | 26°45 | 26°41  | 1°4   | 13°29  | 29°29  | 0°33 | 2°43  | 7°24  | M26  |
| T 27 | 2 18 32 | 2°52'14  | 11♏32 | 23°25  | 8°32  | 18°8  | 15°50 | 26°52 | 26°40  | 1°4   | 13°28  | 29°30  | 0°30 | 2°50  | 7°21  | T 27 |
| W28  | 2 22 29 | 3°52'11  | 25°31 | 23°R27 | 9°47  | 18°50 | 15°51 | 26°59 | 26°40  | 1°4   | 13°27  | 29°31  | 0°27 | 2°57  | 7°19  | W28  |
| T 29 | 2 26 26 | 4°52'10  | 9♏10  | 23°21  | 11°2  | 19°32 | 15°52 | 27°7  | 26°39  | 1°5   | 13°26  | 29°R31 | 0°24 | 3°3   | 7°16  | T 29 |
| F 30 | 2 30 22 | 5°52'11  | 22°28 | 23°6   | 12°18 | 20°15 | 15°53 | 27°14 | 26°39  | 1°5   | 13°25  | 29°30  | 0°20 | 3°10  | 7°13  | F 30 |
| S 31 | 2 34 19 | 6♏52'12  | 5♏29  | 22♏42  | 13♏33 | 20♏57 | 15♏54 | 27♏21 | 26°39  | 1°6   | 13°Y24 | 29♏28  | 0♏17 | 3♏17  | 7♏10  | S 31 |

Delta T = 8.21 sec

# ASTRODIENST EPHEMERIS for the year 1835

## geocentric

NOVEMBER 1835

00:00 UT

| Day  | Sid.t   | ☉                    | ☽                  | ♀                  | ♂                  | ♂                  | ♂                  | ♂                  | ♂      | ♂                 | ♂      | ♂      | ♂                 | ♂                 | ♂                 | Day  |
|------|---------|----------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------|-------------------|--------|--------|-------------------|-------------------|-------------------|------|
| S 1  | 2 38 15 | 7 <sup>m</sup> 52'16 | 18 <sup>h</sup> 13 | 22°R 8             | 14 <sup>m</sup> 48 | 21 <sup>m</sup> 40 | 15 <sup>h</sup> 55 | 27 <sup>h</sup> 28 | 26°R38 | 1 <sup>m</sup> 7  | 13°R23 | 29°R25 | 0 <sup>m</sup> 14 | 3 <sup>m</sup> 23 | 7°R 7             | S 1  |
| M 2  | 2 42 12 | 8°52'21              | 0 <sup>h</sup> 44  | 21 <sup>m</sup> 25 | 16° 3              | 22°22              | 15°55              | 27°36              | 26°38  | 1° 7              | 13°Y22 | 29°R22 | 0°11              | 3°30              | 7 <sup>m</sup> 11 | M 2  |
| T 3  | 2 46 8  | 9°52'28              | 13° 3              | 20°32              | 17°18              | 23° 5              | 15°55              | 27°43              | 26°38  | 1° 8              | 13°21  | 29°19  | 0° 8              | 3°36              | 7° 2              | T 3  |
| W 4  | 2 50 5  | 10°52'37             | 25°12              | 19°31              | 18°33              | 23°48              | 15°R55             | 27°50              | 26°38  | 1° 9              | 13°20  | 29°16  | 0° 4              | 3°43              | 6°59              | W 4  |
| T 5  | 2 54 1  | 11°52'47             | 7 <sup>h</sup> 12  | 18°22              | 19°49              | 24°30              | 15°55              | 27°57              | 26°38  | 1° 9              | 13°19  | 29°14  | 0° 1              | 3°50              | 6°56              | T 5  |
| F 6  | 2 57 58 | 12°52'59             | 19° 7              | 17° 8              | 21° 4              | 25°13              | 15°55              | 28° 4              | 26°38  | 1°10              | 13°18  | 29°13  | 29°R58            | 3°56              | 6°53              | F 6  |
| S 7  | 3 1 54  | 13°53'13             | 0 <sup>h</sup> 11  | 15°50              | 22°19              | 25°56              | 15°54              | 28°11              | 26°D38 | 1°11              | 13°17  | 29°D12 | 29°55             | 4° 3              | 6°49              | S 7  |
| S 8  | 3 5 51  | 14°53'29             | 12°43              | 14°30              | 23°34              | 26°39              | 15°53              | 28°18              | 26°38  | 1°12              | 13°16  | 29°13  | 29°52             | 4°10              | 6°46              | S 8  |
| M 9  | 3 9 48  | 15°53'47             | 24°31              | 13°11              | 24°49              | 27°22              | 15°52              | 28°26              | 26°38  | 1°13              | 13°15  | 29°14  | 29°49             | 4°16              | 6°43              | M 9  |
| T 10 | 3 13 44 | 16°54'06             | 6 <sup>h</sup> 22  | 11°57              | 26° 4              | 28° 5              | 15°51              | 28°33              | 26°38  | 1°13              | 13°14  | 29°15  | 29°45             | 4°23              | 6°40              | T 10 |
| W 11 | 3 17 41 | 17°54'28             | 18°20              | 10°48              | 27°20              | 28°48              | 15°50              | 28°40              | 26°38  | 1°14              | 13°13  | 29°16  | 29°42             | 4°30              | 6°37              | W 11 |
| T 12 | 3 21 37 | 18°54'51             | 0 <sup>h</sup> 29  | 9°47               | 28°35              | 29°31              | 15°48              | 28°47              | 26°38  | 1°15              | 13°12  | 29°17  | 29°39             | 4°36              | 6°34              | T 12 |
| F 13 | 3 25 34 | 19°55'17             | 12°53              | 8°56               | 29°50              | 0 <sup>h</sup> 14  | 15°46              | 28°54              | 26°39  | 1°16              | 13°11  | 29°18  | 29°36             | 4°43              | 6°30              | F 13 |
| S 14 | 3 29 30 | 20°55'44             | 25°38              | 8°16               | 1 <sup>h</sup> 5   | 0°58               | 15°44              | 29° 1              | 26°39  | 1°17              | 13°10  | 29°R18 | 29°33             | 4°50              | 6°27              | S 14 |
| S 15 | 3 33 27 | 21°56'13             | 8 <sup>h</sup> 46  | 7°47               | 2°20               | 1°41               | 15°42              | 29° 8              | 26°39  | 1°18              | 13° 9  | 29°17  | 29°29             | 4°56              | 6°24              | S 15 |
| M 16 | 3 37 23 | 22°56'44             | 22°20              | 7°30               | 3°35               | 2°24               | 15°40              | 29°14              | 26°40  | 1°20              | 13° 8  | 29°17  | 29°26             | 5° 3              | 6°20              | M 16 |
| T 17 | 3 41 20 | 23°57'16             | 6 <sup>h</sup> 22  | 7°D25              | 4°51               | 3° 8               | 15°37              | 29°21              | 26°40  | 1°21              | 13° 8  | 29°16  | 29°23             | 5° 9              | 6°17              | T 17 |
| W 18 | 3 45 17 | 24°57'51             | 20°50              | 7°31               | 6° 6               | 3°51               | 15°34              | 29°28              | 26°41  | 1°22              | 13° 7  | 29°16  | 29°20             | 5°16              | 6°13              | W 18 |
| T 19 | 3 49 13 | 25°58'27             | 5 <sup>h</sup> 40  | 7°47               | 7°21               | 4°35               | 15°32              | 29°35              | 26°41  | 1°23              | 13° 6  | 29°15  | 29°17             | 5°23              | 6°10              | T 19 |
| F 20 | 3 53 10 | 26°59'05             | 20°46              | 8°13               | 8°36               | 5°18               | 15°28              | 29°42              | 26°42  | 1°24              | 13° 5  | 29°15  | 29°14             | 5°29              | 6° 7              | F 20 |
| S 21 | 3 57 6  | 27°59'44             | 5 <sup>h</sup> 59  | 8°47               | 9°51               | 6° 2               | 15°25              | 29°48              | 26°43  | 1°25              | 13° 4  | 29°D15 | 29°10             | 5°36              | 6° 3              | S 21 |
| S 22 | 4 1 3   | 29° 0'25             | 21°10              | 9°29               | 11° 7              | 6°46               | 15°21              | 29°55              | 26°44  | 1°27              | 13° 4  | 29°R15 | 29° 7             | 5°43              | 6° 0              | S 22 |
| M 23 | 4 4 59  | 0 <sup>h</sup> 17    | 6 <sup>h</sup> 38  | 10°18              | 12°22              | 7°30               | 15°18              | 0 <sup>h</sup> 12  | 26°44  | 1°28              | 13° 3  | 29°15  | 29° 4             | 5°49              | 5°56              | M 23 |
| T 24 | 4 8 56  | 1° 1'51              | 20°46              | 11°12              | 13°37              | 8°13               | 15°14              | 0° 8               | 26°45  | 1°29              | 13° 2  | 29°15  | 29° 1             | 5°56              | 5°53              | T 24 |
| W 25 | 4 12 53 | 2° 2'35              | 5 <sup>h</sup> 40  | 12°13              | 14°52              | 8°57               | 15°10              | 0°15               | 26°46  | 1°31              | 13° 1  | 29°15  | 28°58             | 6° 3              | 5°49              | W 25 |
| T 26 | 4 16 49 | 3° 3'20              | 18°48              | 13°17              | 16° 7              | 9°41               | 15° 5              | 0°22               | 26°47  | 1°32              | 13° 1  | 29°14  | 28°55             | 6° 9              | 5°46              | T 26 |
| F 27 | 4 20 46 | 4° 4'07              | 2 <sup>h</sup> 10  | 14°26              | 17°23              | 10°25              | 15° 1              | 0°28               | 26°48  | 1°33              | 13° 0  | 29°D14 | 28°51             | 6°16              | 5°42              | F 27 |
| S 28 | 4 24 42 | 5° 4'54              | 15° 8              | 15°38              | 18°38              | 11° 9              | 14°56              | 0°34               | 26°49  | 1°35              | 12°59  | 29°14  | 28°48             | 6°23              | 5°39              | S 28 |
| S 29 | 4 28 39 | 6° 5'42              | 27°46              | 16°53              | 19°53              | 11°53              | 14°51              | 0°41               | 26°50  | 1°36              | 12°59  | 29°15  | 28°45             | 6°29              | 5°35              | S 29 |
| M 30 | 4 32 35 | 7 <sup>h</sup> 6'31  | 10°Y 6             | 18 <sup>m</sup> 11 | 21 <sup>m</sup> 8  | 12 <sup>m</sup> 38 | 14°54              | 0 <sup>h</sup> 47  | 26°52  | 1 <sup>m</sup> 38 | 12°Y58 | 29°R16 | 28°R42            | 6 <sup>m</sup> 36 | 5 <sup>m</sup> 32 | M 30 |

Delta T = 8.19 sec

DECEMBER 1835

00:00 UT

| Day  | Sid.t   | ☉                   | ☽                  | ♀                  | ♂                | ♂                 | ♂      | ♂                 | ♂      | ♂                 | ♂      | ♂      | ♂      | ♂                  | ♂                 | Day  |
|------|---------|---------------------|--------------------|--------------------|------------------|-------------------|--------|-------------------|--------|-------------------|--------|--------|--------|--------------------|-------------------|------|
| T 1  | 4 36 32 | 8 <sup>h</sup> 7'21 | 22°Y14             | 19 <sup>m</sup> 31 | 22°R23           | 13°R22            | 14°R41 | 0 <sup>m</sup> 54 | 26°R53 | 1 <sup>m</sup> 39 | 12°R57 | 29°R16 | 28°R39 | 6 <sup>m</sup> 43  | 5°R28             | T 1  |
| W 2  | 4 40 28 | 9° 8'12             | 4 <sup>h</sup> 12  | 20°52              | 23°39            | 14° 6             | 14°R36 | 1° 0              | 26°54  | 1°41              | 12°Y57 | 29°17  | 28°35  | 6°49               | 5 <sup>m</sup> 11 | W 2  |
| T 3  | 4 44 25 | 10° 9'04            | 16° 4              | 22°15              | 24°54            | 14°50             | 14°31  | 1° 6              | 26°55  | 1°42              | 12°56  | 29°18  | 28°32  | 6°56               | 5°21              | T 3  |
| F 4  | 4 48 22 | 11° 9'57            | 27°52              | 23°40              | 26° 9            | 15°35             | 14°25  | 1°12              | 26°57  | 1°44              | 12°56  | 29°R19 | 28°29  | 7° 2               | 5°18              | F 4  |
| S 5  | 4 52 18 | 12°10'51            | 9 <sup>h</sup> 11  | 25° 6              | 27°24            | 16°19             | 14°19  | 1°18              | 26°58  | 1°46              | 12°55  | 29°18  | 28°26  | 7° 9               | 5°14              | S 5  |
| S 6  | 4 56 15 | 13°11'46            | 21°29              | 26°32              | 28°39            | 17° 3             | 14°13  | 1°24              | 27° 0  | 1°47              | 12°55  | 29°17  | 28°23  | 7°16               | 5°11              | S 6  |
| M 7  | 5 0 11  | 14°12'42            | 3 <sup>h</sup> 21  | 28° 0              | 29°54            | 17°48             | 14° 7  | 1°30              | 27° 1  | 1°49              | 12°54  | 29°16  | 28°20  | 7°22               | 5° 7              | M 7  |
| T 8  | 5 4 8   | 15°13'39            | 15°19              | 29°28              | 1 <sup>h</sup> 9 | 18°33             | 14° 1  | 1°36              | 27° 3  | 1°51              | 12°54  | 29°13  | 28°16  | 7°29               | 5° 4              | T 8  |
| W 9  | 5 8 4   | 16°14'37            | 27°24              | 0 <sup>h</sup> 57  | 2°25             | 19°17             | 13°55  | 1°42              | 27° 4  | 1°52              | 12°53  | 29°10  | 28°13  | 7°36               | 5° 1              | W 9  |
| T 10 | 5 12 1  | 17°15'36            | 9 <sup>h</sup> 29  | 2°26               | 3°40             | 20° 2             | 13°48  | 1°48              | 27° 6  | 1°54              | 12°53  | 29° 8  | 28°10  | 7°42               | 4°57              | T 10 |
| F 11 | 5 15 57 | 18°16'37            | 22° 7              | 3°56               | 4°55             | 20°46             | 13°42  | 1°54              | 27° 8  | 1°56              | 12°53  | 29° 5  | 28° 7  | 7°49               | 4°54              | F 11 |
| S 12 | 5 19 54 | 19°17'38            | 4 <sup>h</sup> 11  | 5°26               | 6°10             | 21°31             | 13°35  | 2° 0              | 27° 9  | 1°58              | 12°52  | 29° 4  | 28° 4  | 7°56               | 4°50              | S 12 |
| S 13 | 5 23 51 | 20°18'40            | 17°53              | 6°57               | 7°25             | 22°16             | 13°28  | 2° 5              | 27°11  | 1°59              | 12°52  | 29°D 3 | 28° 1  | 8° 2               | 4°47              | S 13 |
| M 14 | 5 27 47 | 21°19'43            | 1 <sup>h</sup> 17  | 8°28               | 8°40             | 23° 1             | 13°21  | 2°11              | 27°13  | 2° 1              | 12°52  | 29° 3  | 27°57  | 8° 9               | 4°44              | M 14 |
| T 15 | 5 31 44 | 22°20'47            | 15° 4              | 9°59               | 9°55             | 23°46             | 13°14  | 2°16              | 27°15  | 2° 3              | 12°51  | 29° 4  | 27°54  | 8°16               | 4°40              | T 15 |
| W 16 | 5 35 40 | 23°21'52            | 29°16              | 11°30              | 11°10            | 24°31             | 13° 7  | 2°22              | 27°17  | 2° 5              | 12°51  | 29° 6  | 27°51  | 8°22               | 4°37              | W 16 |
| T 17 | 5 39 37 | 24°22'58            | 13 <sup>m</sup> 51 | 13° 2              | 12°26            | 25°16             | 12°59  | 2°27              | 27°19  | 2° 7              | 12°51  | 29° 7  | 27°48  | 8°29               | 4°34              | T 17 |
| F 18 | 5 43 33 | 25°24'05            | 14°34              | 13°41              | 26° 1            | 12°52             | 12°52  | 2°33              | 27°21  | 2° 9              | 12°50  | 29°R 8 | 27°45  | 8°36               | 4°31              | F 18 |
| S 19 | 5 47 30 | 26°25'13            | 13 <sup>m</sup> 53 | 16° 6              | 14°56            | 26°46             | 12°44  | 2°38              | 27°23  | 2°11              | 12°50  | 29° 7  | 27°41  | 8°42               | 4°28              | S 19 |
| S 20 | 5 51 26 | 27°26'21            | 29° 4              | 17°39              | 16°11            | 27°31             | 12°37  | 2°43              | 27°25  | 2°12              | 12°50  | 29° 5  | 27°38  | 8°49               | 4°24              | S 20 |
| M 21 | 5 55 23 | 28°27'30            | 14 <sup>h</sup> 10 | 19°11              | 17°26            | 28°16             | 12°29  | 2°48              | 27°27  | 2°14              | 12°50  | 29° 1  | 27°35  | 8°55               | 4°21              | M 21 |
| T 22 | 5 59 20 | 29°28'39            | 29° 0              | 20°44              | 18°41            | 29° 2             | 12°22  | 2°53              | 27°29  | 2°16              | 12°50  | 28°57  | 27°32  | 9° 2               | 4°18              | T 22 |
| W 23 | 6 3 16  | 0 <sup>h</sup> 29   | 13 <sup>m</sup> 27 | 22°17              | 19°56            | 29°47             | 12°14  | 2°58              | 27°31  | 2°18              | 12°50  | 28°52  | 27°29  | 9° 9               | 4°15              | W 23 |
| T 24 | 6 7 13  | 1°30'58             | 27°28              | 23°50              | 21°11            | 0 <sup>h</sup> 32 | 12° 6  | 3° 3              | 27°33  | 2°20              | 12°50  | 28°48  | 27°26  | 9°15               | 4°12              | T 24 |
| F 25 | 6 11 9  | 2°32'08             | 10 <sup>h</sup> 59 | 25°24              | 22°26            | 1°18              | 11°58  | 3° 8              | 27°36  | 2°22              | 12°49  | 28°44  | 27°22  | 9°22               | 4° 9              | F 25 |
| S 26 | 6 15 6  | 3°33'17             | 24° 3              | 26°57              | 23°41            | 2° 3              | 11°50  | 3°13              | 27°38  | 2°24              | 12°49  | 28°42  | 27°19  | 9°29               | 4° 6              | S 26 |
| S 27 | 6 19 2  | 4°34'26             | 6°Y42              | 28°31              | 24°56            | 2°48              | 11°42  | 3°17              | 27°40  | 2°27              | 12°49  | 28°D42 | 27°16  | 9°35               | 4° 3              | S 27 |
| M 28 | 6 22 59 | 5°35'36             | 19° 0              | 0 <sup>h</sup> 36  | 26°11            | 3°34              | 11°34  | 3°22              | 27°43  | 2°29              | 12°D49 | 28°42  | 27°13  | 9°42               | 4° 0              | M 28 |
| T 29 | 6 26 55 | 6°36'45             | 1 <sup>h</sup> 4   | 1°40               | 27°26            | 4°20              | 11°26  | 3°27              | 27°45  | 2°31              | 12°49  | 28°44  | 27°10  | 9°49               | 3°58              | T 29 |
| W 30 | 6 30 52 | 7°37'54             | 12°57              | 3°15               | 28°41            | 5° 5              | 11°18  | 3°31              | 27°48  | 2°33              | 12°49  | 28°46  | 27° 7  | 9°55               | 3°55              | W 30 |
| T 31 | 6 34 49 | 8°39'03             | 24°R45             | 4°R50              | 29°R56           | 5°R51             | 11°R10 | 3 <sup>m</sup> 35 | 27°R50 | 2 <sup>m</sup> 35 | 12°Y49 | 28°R47 | 27°R 3 | 10 <sup>m</sup> 11 | 3 <sup>m</sup> 52 | T 31 |

Delta T = 8.17 sec