

SWISS EPHEMERIS for the year 1650
heliocentric

JANUARY 1650 GC

00:00 UT

| Day | Sid.t | Terra | ☾ | ♃ | ♄ | ♅ | ♆ | ♁ | ♂ | ♆ | ♁ | ♁ |
|------|---------|---------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| S 1 | 6 42 54 | 10 ⁵¹ 32 | 10 ⁵⁴ | 24 ⁴¹ | 0 ²³ | 19 ¹⁶ | 26 ⁰ | 27 ²¹ | 14 ⁰ | 14 ⁵⁰ | 10 ¹¹ | 26 ⁵² |
| S 2 | 6 46 50 | 11 ⁵² 44 | 11 ⁵⁴ | 27 ⁵² | 1 ⁵⁹ | 19 ⁵⁴ | 26 ⁴ | 27 ²³ | 14 ¹ | 14 ⁵⁰ | 10 ¹¹ | 26 ⁵⁵ |
| M 3 | 6 50 47 | 12 ⁵³ 55 | 12 ⁵³ | 0 ⁵⁹ | 3 ³⁵ | 20 ³² | 26 ⁹ | 27 ²⁵ | 14 ¹ | 14 ⁵⁰ | 10 ¹¹ | 26 ⁵⁷ |
| T 4 | 6 54 43 | 13 ⁵⁵ 07 | 13 ⁵² | 4 ⁰ | 5 ¹¹ | 21 ¹⁰ | 26 ¹³ | 27 ²⁸ | 14 ² | 14 ⁵¹ | 10 ¹¹ | 27 ⁰ |
| W 5 | 6 58 40 | 14 ⁵⁶ 18 | 14 ⁵¹ | 7 ⁵ | 6 ⁴⁷ | 21 ⁴⁸ | 26 ¹⁸ | 27 ³⁰ | 14 ³ | 14 ⁵¹ | 10 ¹¹ | 27 ³ |
| T 6 | 7 2 37 | 15 ⁵⁷ 28 | 15 ⁵¹ | 10 ³ | 8 ²³ | 22 ²⁶ | 26 ²³ | 27 ³² | 14 ⁴ | 14 ⁵² | 10 ¹² | 27 ⁵ |
| F 7 | 7 6 33 | 16 ⁵⁸ 38 | 16 ⁵¹ | 13 ⁰ | 9 ⁵⁹ | 23 ⁴ | 26 ²⁷ | 27 ³⁴ | 14 ⁴ | 14 ⁵² | 10 ¹² | 27 ⁸ |
| S 8 | 7 10 30 | 17 ⁵⁹ 47 | 17 ⁵¹ | 15 ⁵³ | 11 ³⁵ | 23 ⁴² | 26 ³² | 27 ³⁷ | 14 ⁵ | 14 ⁵² | 10 ¹² | 27 ¹⁰ |
| S 9 | 7 14 26 | 19 ⁰ 55 | 18 ⁵² | 18 ⁴⁵ | 13 ¹¹ | 24 ²⁰ | 26 ³⁶ | 27 ³⁹ | 14 ⁶ | 14 ⁵³ | 10 ¹² | 27 ¹³ |
| M10 | 7 18 23 | 20 ² 03 | 19 ⁵³ | 21 ³⁶ | 14 ⁴⁷ | 24 ⁵⁸ | 26 ⁴¹ | 27 ⁴¹ | 14 ⁶ | 14 ⁵³ | 10 ¹² | 27 ¹⁶ |
| T 11 | 7 22 19 | 21 ³ 09 | 20 ⁵⁴ | 24 ²⁴ | 16 ²³ | 25 ³⁶ | 26 ⁴⁵ | 27 ⁴³ | 14 ⁷ | 14 ⁵³ | 10 ¹² | 27 ¹⁸ |
| W12 | 7 26 16 | 22 ⁴ 16 | 21 ⁵⁶ | 27 ¹² | 17 ⁵⁹ | 26 ¹⁴ | 26 ⁵⁰ | 27 ⁴⁶ | 14 ⁸ | 14 ⁵⁴ | 10 ¹³ | 27 ²¹ |
| T 13 | 7 30 12 | 23 ⁵ 21 | 22 ⁵⁸ | 29 ⁵⁹ | 19 ³⁵ | 26 ⁵² | 26 ⁵⁴ | 27 ⁴⁸ | 14 ⁹ | 14 ⁵⁴ | 10 ¹³ | 27 ²³ |
| F 14 | 7 34 9 | 24 ⁶ 25 | 24 ⁰ | 2 ⁴⁴ | 21 ¹⁰ | 27 ³⁰ | 26 ⁵⁹ | 27 ⁵⁰ | 14 ⁹ | 14 ⁵⁴ | 10 ¹³ | 27 ²⁶ |
| S 15 | 7 38 6 | 25 ⁷ 29 | 25 ³ | 5 ³⁰ | 22 ⁴⁶ | 28 ⁸ | 27 ⁴ | 27 ⁵² | 14 ¹⁰ | 14 ⁵⁵ | 10 ¹³ | 27 ²⁹ |
| S 16 | 7 42 2 | 26 ⁸ 32 | 26 ⁵ | 8 ¹⁴ | 24 ²² | 28 ⁴⁶ | 27 ⁸ | 27 ⁵⁵ | 14 ¹¹ | 14 ⁵⁵ | 10 ¹³ | 27 ³¹ |
| M17 | 7 45 59 | 27 ⁹ 34 | 27 ⁸ | 10 ⁵⁹ | 25 ⁵⁷ | 29 ²⁴ | 27 ¹³ | 27 ⁵⁷ | 14 ¹¹ | 14 ⁵⁵ | 10 ¹³ | 27 ³⁴ |
| T 18 | 7 49 55 | 28 ¹⁰ 36 | 28 ¹¹ | 13 ⁴⁴ | 27 ³³ | 0 ² | 27 ¹⁷ | 27 ⁵⁹ | 14 ¹² | 14 ⁵⁶ | 10 ¹⁴ | 27 ³⁷ |
| W19 | 7 53 52 | 29 ¹¹ 36 | 29 ¹⁴ | 16 ²⁹ | 29 ⁸ | 0 ⁴¹ | 27 ²² | 28 ¹ | 14 ¹³ | 14 ⁵⁶ | 10 ¹⁴ | 27 ³⁹ |
| T 20 | 7 57 48 | 0 ¹² 36 | 0 ¹⁶ | 19 ¹⁴ | 0 ⁴⁴ | 1 ¹⁹ | 27 ²⁶ | 28 ⁴ | 14 ¹⁴ | 14 ⁵⁷ | 10 ¹⁴ | 27 ⁴² |
| F 21 | 8 1 45 | 1 ¹³ 35 | 1 ¹⁹ | 22 ⁰ | 2 ¹⁹ | 1 ⁵⁷ | 27 ³¹ | 28 ⁶ | 14 ¹⁴ | 14 ⁵⁷ | 10 ¹⁴ | 27 ⁴⁴ |
| S 22 | 8 5 42 | 2 ¹⁴ 33 | 2 ²¹ | 24 ⁴⁷ | 3 ⁵⁵ | 2 ³⁵ | 27 ³⁵ | 28 ⁸ | 14 ¹⁵ | 14 ⁵⁷ | 10 ¹⁴ | 27 ⁴⁷ |
| S 23 | 8 9 38 | 3 ¹⁵ 30 | 3 ²³ | 27 ³⁵ | 5 ³⁰ | 3 ¹³ | 27 ⁴⁰ | 28 ¹⁰ | 14 ¹⁶ | 14 ⁵⁸ | 10 ¹⁴ | 27 ⁵⁰ |
| M24 | 8 13 35 | 4 ¹⁶ 27 | 4 ²⁵ | 0 ²⁴ | 7 ⁵ | 3 ⁵¹ | 27 ⁴⁵ | 28 ¹³ | 14 ¹⁶ | 14 ⁵⁸ | 10 ¹⁵ | 27 ⁵² |
| T 25 | 8 17 31 | 5 ¹⁷ 23 | 5 ²⁶ | 3 ¹⁵ | 8 ⁴⁰ | 4 ²⁹ | 27 ⁴⁹ | 28 ¹⁵ | 14 ¹⁷ | 14 ⁵⁸ | 10 ¹⁵ | 27 ⁵⁵ |
| W26 | 8 21 28 | 6 ¹⁸ 18 | 6 ²⁷ | 6 ⁷ | 10 ¹⁶ | 5 ⁷ | 27 ⁵⁴ | 28 ¹⁷ | 14 ¹⁸ | 14 ⁵⁹ | 10 ¹⁵ | 27 ⁵⁷ |
| T 27 | 8 25 24 | 7 ¹⁹ 13 | 7 ²⁷ | 9 ¹ | 11 ⁵¹ | 5 ⁴⁵ | 27 ⁵⁸ | 28 ¹⁹ | 14 ¹⁸ | 14 ⁵⁹ | 10 ¹⁵ | 28 ⁰ |
| F 28 | 8 29 21 | 8 ²⁰ 07 | 8 ²⁷ | 11 ⁵⁸ | 13 ²⁶ | 6 ²³ | 28 ³ | 28 ²² | 14 ¹⁹ | 14 ⁵⁹ | 10 ¹⁵ | 28 ³ |
| S 29 | 8 33 17 | 9 ²¹ 00 | 9 ²⁶ | 14 ⁵⁷ | 15 ¹ | 7 ¹ | 28 ⁷ | 28 ²⁴ | 14 ²⁰ | 15 ⁰ | 10 ¹⁵ | 28 ⁵ |
| S 30 | 8 37 14 | 10 ²¹ 53 | 10 ²⁶ | 17 ⁵⁸ | 16 ³⁶ | 7 ³⁹ | 28 ¹² | 28 ²⁶ | 14 ²¹ | 15 ⁰ | 10 ¹⁶ | 28 ⁸ |
| MB1 | 8 41 11 | 11 ²² 44 | 11 ²⁵ | 21 ³ | 18 ¹² | 8 ¹⁷ | 28 ¹⁷ | 28 ²⁸ | 14 ²¹ | 15 ⁰ | 10 ¹⁶ | 28 ¹⁰ |

Delta T = 46.31 sec.

Greg. Calendar

FEBRUARY 1650 GC

00:00 UT

| Day | Sid.t | Terra | ☾ | ♃ | ♄ | ♅ | ♆ | ♁ | ♂ | ♆ | ♁ | ♁ |
|------|----------|---------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| T 1 | 8 45 7 | 12 ²³ 34 | 12 ²³ | 24 ¹¹ | 19 ⁴⁷ | 8 ⁵⁵ | 28 ²¹ | 28 ³¹ | 14 ²² | 15 ¹ | 10 ¹⁶ | 28 ¹³ |
| W 2 | 8 49 4 | 13 ²⁴ 22 | 13 ²² | 27 ²² | 21 ²² | 9 ³³ | 28 ²⁶ | 28 ³³ | 14 ²³ | 15 ¹ | 10 ¹⁶ | 28 ¹⁶ |
| T 3 | 8 53 0 | 14 ²⁵ 10 | 14 ²¹ | 0 ³⁷ | 22 ⁵⁷ | 10 ¹¹ | 28 ³⁰ | 28 ³⁵ | 14 ²³ | 15 ² | 10 ¹⁶ | 28 ¹⁸ |
| F 4 | 8 56 57 | 15 ²⁵ 55 | 15 ²⁰ | 3 ⁵⁶ | 24 ³² | 10 ⁴⁹ | 28 ³⁵ | 28 ³⁷ | 14 ²⁴ | 15 ² | 10 ¹⁶ | 28 ²¹ |
| S 5 | 9 0 53 | 16 ²⁶ 40 | 16 ²⁰ | 7 ²⁰ | 26 ⁷ | 11 ²⁷ | 28 ³⁹ | 28 ⁴⁰ | 14 ²⁵ | 15 ² | 10 ¹⁶ | 28 ²⁴ |
| S 6 | 9 4 50 | 17 ²⁷ 22 | 17 ¹⁹ | 10 ⁴⁸ | 27 ⁴² | 12 ⁵ | 28 ⁴⁴ | 28 ⁴² | 14 ²⁶ | 15 ³ | 10 ¹⁷ | 28 ²⁶ |
| M 7 | 9 8 46 | 18 ²⁸ 03 | 18 ¹⁹ | 14 ²¹ | 29 ¹⁷ | 12 ⁴³ | 28 ⁴⁸ | 28 ⁴⁴ | 14 ²⁶ | 15 ³ | 10 ¹⁷ | 28 ²⁹ |
| T 8 | 9 12 43 | 19 ²⁸ 42 | 19 ¹⁹ | 18 ⁰ | 0 ⁵² | 13 ²¹ | 28 ⁵³ | 28 ⁴⁶ | 14 ²⁷ | 15 ³ | 10 ¹⁷ | 28 ³¹ |
| W 9 | 9 16 40 | 20 ²⁹ 20 | 20 ²⁰ | 21 ⁴⁴ | 2 ²⁶ | 13 ⁵⁹ | 28 ⁵⁸ | 28 ⁴⁹ | 14 ²⁸ | 15 ⁴ | 10 ¹⁷ | 28 ³⁴ |
| T 10 | 9 20 36 | 21 ²⁹ 56 | 21 ²¹ | 25 ³⁵ | 4 ¹ | 14 ³⁶ | 29 ² | 28 ⁵¹ | 14 ²⁸ | 15 ⁴ | 10 ¹⁷ | 28 ³⁷ |
| F 11 | 9 24 33 | 22 ³⁰ 30 | 22 ²² | 29 ³² | 5 ³⁶ | 15 ¹⁴ | 29 ⁷ | 28 ⁵³ | 14 ²⁹ | 15 ⁴ | 10 ¹⁷ | 28 ³⁹ |
| S 12 | 9 28 29 | 23 ³¹ 03 | 23 ²⁴ | 3 ³⁶ | 7 ¹¹ | 15 ⁵² | 29 ¹¹ | 28 ⁵⁵ | 14 ³⁰ | 15 ⁵ | 10 ¹⁸ | 28 ⁴² |
| S 13 | 9 32 26 | 24 ³¹ 34 | 24 ²⁵ | 7 ⁴⁸ | 8 ⁴⁶ | 16 ³⁰ | 29 ¹⁶ | 28 ⁵⁸ | 14 ³¹ | 15 ⁵ | 10 ¹⁸ | 28 ⁴⁴ |
| M14 | 9 36 22 | 25 ³² 03 | 25 ²⁷ | 12 ⁷ | 10 ²¹ | 17 ⁸ | 29 ²⁰ | 29 ⁰ | 14 ³¹ | 15 ⁵ | 10 ¹⁸ | 28 ⁴⁷ |
| T 15 | 9 40 19 | 26 ³² 30 | 26 ³⁰ | 16 ³⁴ | 11 ⁵⁶ | 17 ⁴⁶ | 29 ²⁵ | 29 ² | 14 ³² | 15 ⁶ | 10 ¹⁸ | 28 ⁵⁰ |
| W16 | 9 44 15 | 27 ³² 55 | 27 ³² | 21 ⁹ | 13 ³¹ | 18 ²³ | 29 ³⁰ | 29 ⁵ | 14 ³³ | 15 ⁶ | 10 ¹⁸ | 28 ⁵² |
| T 17 | 9 48 12 | 28 ³³ 19 | 28 ³⁴ | 25 ⁵³ | 15 ⁵ | 19 ¹ | 29 ³⁴ | 29 ⁷ | 14 ³³ | 15 ⁷ | 10 ¹⁸ | 28 ⁵⁵ |
| F 18 | 9 52 9 | 29 ³³ 41 | 29 ³⁶ | 0 ⁴⁶ | 16 ⁴⁰ | 19 ³⁹ | 29 ³⁹ | 29 ⁹ | 14 ³⁴ | 15 ⁷ | 10 ¹⁹ | 28 ⁵⁸ |
| S 19 | 9 56 5 | 0 ³⁴ 01 | 0 ³⁹ | 5 ⁴⁸ | 18 ¹⁵ | 20 ¹⁶ | 29 ⁴³ | 29 ¹¹ | 14 ³⁵ | 15 ⁷ | 10 ¹⁹ | 29 ⁰ |
| S 20 | 10 0 2 | 1 ³⁴ 20 | 1 ⁴⁰ | 10 ⁵⁸ | 19 ⁵⁰ | 20 ⁵⁴ | 29 ⁴⁸ | 29 ¹⁴ | 14 ³⁶ | 15 ⁸ | 10 ¹⁹ | 29 ³ |
| M21 | 10 3 58 | 2 ³⁴ 38 | 2 ⁴² | 16 ¹⁸ | 21 ²⁵ | 21 ³² | 29 ⁵² | 29 ¹⁶ | 14 ³⁶ | 15 ⁸ | 10 ¹⁹ | 29 ⁵ |
| T 22 | 10 7 55 | 3 ³⁴ 53 | 3 ⁴³ | 21 ⁴⁷ | 22 ⁵⁹ | 22 ⁹ | 29 ⁵⁷ | 29 ¹⁸ | 14 ³⁷ | 15 ⁸ | 10 ¹⁹ | 29 ⁸ |
| W23 | 10 11 51 | 4 ³⁵ 08 | 4 ⁴⁴ | 27 ²⁵ | 24 ³⁴ | 22 ⁴⁷ | 0 ² | 29 ²⁰ | 14 ³⁸ | 15 ⁹ | 10 ¹⁹ | 29 ¹¹ |
| T 24 | 10 15 48 | 5 ³⁵ 21 | 5 ⁴⁴ | 3 ¹¹ | 26 ⁹ | 23 ²⁴ | 0 ⁶ | 29 ²³ | 14 ³⁸ | 15 ⁹ | 10 ²⁰ | 29 ¹³ |
| F 25 | 10 19 44 | 6 ³⁵ 33 | 6 ⁴⁴ | 9 ⁵ | 27 ⁴⁴ | 24 ² | 0 ¹¹ | 29 ²⁵ | 14 ³⁹ | 15 ⁹ | 10 ²⁰ | 29 ¹⁶ |
| S 26 | 10 23 41 | 7 ³⁵ 43 | 7 ⁴³ | 15 ⁶ | 29 ¹⁹ | 24 ³⁹ | 0 ¹⁵ | 29 ²⁷ | 14 ⁴⁰ | 15 ¹⁰ | 10 ²⁰ | 29 ¹⁹ |
| S 27 | 10 27 38 | 8 ³⁵ 51 | 8 ⁴² | 21 ¹³ | 0 ⁵⁴ | 25 ¹⁷ | 0 ²⁰ | 29 ²⁹ | 14 ⁴⁰ | 15 ¹⁰ | 10 ²⁰ | 29 ²¹ |
| M28 | 10 31 34 | 9 ³⁵ 58 | 9 ⁴¹ | 27 ²⁵ | 2 ²⁸ | 25 ⁵⁴ | 0 ²⁴ | 29 ³² | 14 ⁴¹ | 15 ¹⁰ | 10 ²⁰ | 29 ²⁴ |

Delta T = 46.22 sec.

Greg. Calendar

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SWISS EPHEMERIS for the year 1650
heliocentric

MARCH 1650 GC

00:00 UT

| Day | Sid.t | Terra | ☾ | ♃ | ♄ | ♅ | ♆ | ♁ | ♂ | ♆ | ♁ | ♂ |
|------|----------|-----------------------|--------------------|--------------------|--------------------|--------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| T 1 | 10 35 31 | 10 ^h 36'03 | 10 ^m 39 | 3 ^h 41 | 4 ^m 3 | 26 ^h 32 | 0 ^m 29 | 29 ^h 34 | 14 ^h 42 | 15 ^h 11 | 10 ^h 20 | 29 ^h 26 |
| W 2 | 10 39 27 | 11°36'07 | 11°37 | 9°59 | 5°38 | 27° 9 | 0°33 | 29°36 | 14°43 | 15°11 | 10°21 | 29°29 |
| T 3 | 10 43 24 | 12°36'08 | 12°35 | 16°18 | 7°13 | 27°46 | 0°38 | 29°38 | 14°43 | 15°12 | 10°21 | 29°32 |
| F 4 | 10 47 20 | 13°36'07 | 13°33 | 22°37 | 8°48 | 28°24 | 0°43 | 29°41 | 14°44 | 15°12 | 10°21 | 29°34 |
| S 5 | 10 51 17 | 14°36'05 | 14°32 | 28°53 | 10°23 | 29° 1 | 0°47 | 29°43 | 14°45 | 15°12 | 10°21 | 29°37 |
| S 6 | 10 55 13 | 15°36'00 | 15°30 | 5 ^h 6 | 11°58 | 29°38 | 0°52 | 29°45 | 14°45 | 15°13 | 10°21 | 29°40 |
| M 7 | 10 59 10 | 16°35'53 | 16°28 | 11°14 | 13°32 | 0 ^h 15 | 0°56 | 29°47 | 14°46 | 15°13 | 10°21 | 29°42 |
| T 8 | 11 3 6 | 17°35'44 | 17°27 | 17°16 | 15° 7 | 0°52 | 1° 1 | 29°50 | 14°47 | 15°13 | 10°21 | 29°45 |
| W 9 | 11 7 3 | 18°35'33 | 18°27 | 23°11 | 16°42 | 1°29 | 1° 5 | 29°52 | 14°48 | 15°14 | 10°22 | 29°48 |
| T 10 | 11 11 0 | 19°35'19 | 19°26 | 28°58 | 18°17 | 2° 7 | 1°10 | 29°54 | 14°48 | 15°14 | 10°22 | 29°50 |
| F 11 | 11 14 56 | 20°35'04 | 20°26 | 4 ^h 36 | 19°52 | 2°44 | 1°15 | 29°56 | 14°49 | 15°14 | 10°22 | 29°53 |
| S 12 | 11 18 53 | 21°34'46 | 21°26 | 10° 5 | 21°27 | 3°21 | 1°19 | 29°59 | 14°50 | 15°15 | 10°22 | 29°55 |
| S 13 | 11 22 49 | 22°34'26 | 22°26 | 15°25 | 23° 2 | 3°58 | 1°24 | 0 ^h 1 | 14°50 | 15°15 | 10°22 | 29°58 |
| M14 | 11 26 46 | 23°34'03 | 23°27 | 20°35 | 24°37 | 4°34 | 1°28 | 0° 3 | 14°51 | 15°15 | 10°22 | 0 ^m 1 |
| T 15 | 11 30 42 | 24°33'38 | 24°28 | 25°35 | 26°12 | 5°11 | 1°33 | 0° 5 | 14°52 | 15°16 | 10°23 | 0° 3 |
| W16 | 11 34 39 | 25°33'11 | 25°29 | 0 ^m 26 | 27°47 | 5°48 | 1°37 | 0° 8 | 14°53 | 15°16 | 10°23 | 0° 6 |
| T 17 | 11 38 35 | 26°32'42 | 26°31 | 5° 7 | 29°22 | 6°25 | 1°42 | 0°10 | 14°53 | 15°17 | 10°23 | 0° 9 |
| F 18 | 11 42 32 | 27°32'11 | 27°32 | 9°40 | 0 ^h 57 | 7° 2 | 1°47 | 0°12 | 14°54 | 15°17 | 10°23 | 0°11 |
| S 19 | 11 46 29 | 28°31'37 | 28°33 | 14° 3 | 2°32 | 7°38 | 1°51 | 0°14 | 14°55 | 15°17 | 10°23 | 0°14 |
| S 20 | 11 50 25 | 29°31'02 | 29°35 | 18°19 | 4° 7 | 8°15 | 1°56 | 0°17 | 14°55 | 15°18 | 10°23 | 0°17 |
| M21 | 11 54 22 | 0 ^h 30'25 | 0 ^h 36 | 22°26 | 5°42 | 8°52 | 2° 0 | 0°19 | 14°56 | 15°18 | 10°24 | 0°19 |
| T 22 | 11 58 18 | 1°29'46 | 1°36 | 26°26 | 7°18 | 9°28 | 2° 5 | 0°21 | 14°57 | 15°18 | 10°24 | 0°22 |
| W23 | 12 2 15 | 2°29'05 | 2°37 | 0 ^h 19 | 8°53 | 10° 5 | 2° 9 | 0°23 | 14°57 | 15°19 | 10°24 | 0°24 |
| T 24 | 12 6 11 | 3°28'23 | 3°37 | 4° 5 | 10°28 | 10°41 | 2°14 | 0°26 | 14°58 | 15°19 | 10°24 | 0°27 |
| F 25 | 12 10 8 | 4°27'38 | 4°36 | 7°46 | 12° 3 | 11°18 | 2°19 | 0°28 | 14°59 | 15°19 | 10°24 | 0°30 |
| S 26 | 12 14 4 | 5°26'52 | 5°35 | 11°20 | 13°38 | 11°54 | 2°23 | 0°30 | 15° 0 | 15°20 | 10°24 | 0°32 |
| S 27 | 12 18 1 | 6°26'05 | 6°34 | 14°49 | 15°14 | 12°31 | 2°28 | 0°32 | 15° 0 | 15°20 | 10°25 | 0°35 |
| M28 | 12 21 58 | 7°25'15 | 7°32 | 18°13 | 16°49 | 13° 7 | 2°32 | 0°35 | 15° 1 | 15°20 | 10°25 | 0°38 |
| T 29 | 12 25 54 | 8°24'23 | 8°30 | 21°32 | 18°24 | 13°43 | 2°37 | 0°37 | 15° 2 | 15°21 | 10°25 | 0°40 |
| W30 | 12 29 51 | 9°23'30 | 9°27 | 24°47 | 20° 0 | 14°20 | 2°41 | 0°39 | 15° 2 | 15°21 | 10°25 | 0°43 |
| T 31 | 12 33 47 | 10 ^h 22'34 | 10 ^h 25 | 27 ^h 58 | 21 ^h 35 | 14 ^h 56 | 2 ^m 46 | 0 ^h 41 | 15 ^h 3 | 15 ^h 21 | 10 ^h 25 | 0 ^m 46 |

Delta T = 46.15 sec. Greg. Calendar

APRIL 1650 GC

00:00 UT

| Day | Sid.t | Terra | ☾ | ♃ | ♄ | ♅ | ♆ | ♁ | ♂ | ♆ | ♁ | ♂ |
|------|----------|-----------------------|--------------------|--------------------|--------------------|--------------------|-------------------|-------------------|--------------------|--------------------|--------------------|-------------------|
| F 1 | 12 37 44 | 11 ^h 21'37 | 11 ^h 22 | 1 ^h 5 | 23 ^h 10 | 15 ^h 32 | 2 ^m 51 | 0 ^h 44 | 15 ^h 4 | 15 ^h 22 | 10 ^h 25 | 0 ^m 48 |
| S 2 | 12 41 40 | 12°20'38 | 12°19 | 4°10 | 24°46 | 16° 8 | 2°55 | 0°46 | 15° 5 | 15°22 | 10°25 | 0°51 |
| S 3 | 12 45 37 | 13°19'36 | 13°16 | 7°11 | 26°21 | 16°44 | 3° 0 | 0°48 | 15° 5 | 15°23 | 10°26 | 0°54 |
| M 4 | 12 49 33 | 14°18'33 | 14°13 | 10° 9 | 27°56 | 17°20 | 3° 4 | 0°50 | 15° 6 | 15°23 | 10°26 | 0°56 |
| T 5 | 12 53 30 | 15°17'27 | 15°11 | 13° 5 | 29°32 | 17°56 | 3° 9 | 0°53 | 15° 7 | 15°23 | 10°26 | 0°59 |
| W 6 | 12 57 27 | 16°16'19 | 16° 9 | 15°59 | 1 ^h 7 | 18°32 | 3°14 | 0°55 | 15° 7 | 15°24 | 10°26 | 1° 1 |
| T 7 | 13 1 23 | 17°15'09 | 17° 7 | 18°51 | 2°43 | 19° 8 | 3°18 | 0°57 | 15° 8 | 15°24 | 10°26 | 1° 4 |
| F 8 | 13 5 20 | 18°13'56 | 18° 5 | 21°41 | 4°18 | 19°43 | 3°23 | 0°59 | 15° 9 | 15°24 | 10°26 | 1° 7 |
| S 9 | 13 9 16 | 19°12'42 | 19° 4 | 24°30 | 5°54 | 20°19 | 3°27 | 1° 2 | 15°10 | 15°25 | 10°27 | 1° 9 |
| S 10 | 13 13 13 | 20°11'25 | 20° 2 | 27°17 | 7°30 | 20°55 | 3°32 | 1° 4 | 15°10 | 15°25 | 10°27 | 1°12 |
| M11 | 13 17 9 | 21°10'06 | 21° 2 | 0 ^h 4 | 9° 5 | 21°31 | 3°36 | 1° 6 | 15°11 | 15°25 | 10°27 | 1°15 |
| T 12 | 13 21 6 | 22° 8'44 | 22° 1 | 2°50 | 10°41 | 22° 6 | 3°41 | 1° 8 | 15°12 | 15°26 | 10°27 | 1°17 |
| W13 | 13 25 2 | 23° 7'21 | 23° 1 | 5°35 | 12°17 | 22°42 | 3°46 | 1°11 | 15°12 | 15°26 | 10°27 | 1°20 |
| T 14 | 13 28 59 | 24° 5'55 | 24° 1 | 8°20 | 13°52 | 23°17 | 3°50 | 1°13 | 15°13 | 15°26 | 10°27 | 1°23 |
| F 15 | 13 32 56 | 25° 4'27 | 25° 2 | 11° 4 | 15°28 | 23°53 | 3°55 | 1°15 | 15°14 | 15°27 | 10°28 | 1°25 |
| S 16 | 13 36 52 | 26° 2'57 | 26° 2 | 13°49 | 17° 4 | 24°28 | 3°59 | 1°17 | 15°14 | 15°27 | 10°28 | 1°28 |
| S 17 | 13 40 49 | 27° 1'25 | 27° 2 | 16°34 | 18°39 | 25° 3 | 4° 4 | 1°20 | 15°15 | 15°28 | 10°28 | 1°31 |
| M18 | 13 44 45 | 27°59'51 | 28° 3 | 19°19 | 20°15 | 25°39 | 4° 8 | 1°22 | 15°16 | 15°28 | 10°28 | 1°33 |
| T 19 | 13 48 42 | 28°58'16 | 29° 3 | 22° 5 | 21°51 | 26°14 | 4°13 | 1°24 | 15°17 | 15°28 | 10°28 | 1°36 |
| W20 | 13 52 38 | 29°56'39 | 0 ^m 3 | 24°52 | 23°27 | 26°49 | 4°18 | 1°26 | 15°17 | 15°29 | 10°28 | 1°39 |
| T 21 | 13 56 35 | 0 ^m 55'00 | 1° 2 | 27°40 | 25° 3 | 27°24 | 4°22 | 1°29 | 15°18 | 15°29 | 10°29 | 1°41 |
| F 22 | 14 0 31 | 1°53'20 | 2° 1 | 0 ^h 29 | 26°39 | 27°59 | 4°27 | 1°31 | 15°19 | 15°29 | 10°29 | 1°44 |
| S 23 | 14 4 28 | 2°51'38 | 3° 0 | 3°20 | 28°15 | 28°34 | 4°31 | 1°33 | 15°19 | 15°30 | 10°29 | 1°47 |
| S 24 | 14 8 25 | 3°49'55 | 3°58 | 6°12 | 29°51 | 29° 9 | 4°36 | 1°35 | 15°20 | 15°30 | 10°29 | 1°49 |
| M25 | 14 12 21 | 4°48'10 | 4°56 | 9° 7 | 1 ^h 26 | 29°44 | 4°41 | 1°38 | 15°21 | 15°30 | 10°29 | 1°52 |
| T 26 | 14 16 18 | 5°46'23 | 5°54 | 12° 3 | 3° 3 | 0 ^h 19 | 4°45 | 1°40 | 15°22 | 15°31 | 10°29 | 1°55 |
| W27 | 14 20 14 | 6°44'35 | 6°51 | 15° 2 | 4°39 | 0°54 | 4°50 | 1°42 | 15°22 | 15°31 | 10°30 | 1°57 |
| T 28 | 14 24 11 | 7°42'46 | 7°47 | 18° 4 | 6°15 | 1°28 | 4°54 | 1°44 | 15°23 | 15°31 | 10°30 | 2° 0 |
| F 29 | 14 28 7 | 8°40'55 | 8°44 | 21° 9 | 7°51 | 2° 3 | 4°59 | 1°47 | 15°24 | 15°32 | 10°30 | 2° 3 |
| S 30 | 14 32 4 | 9 ^m 39'02 | 9 ^m 40 | 24 ^h 17 | 9 ^h 27 | 2 ^h 38 | 5 ^m 3 | 1 ^h 49 | 15 ^h 24 | 15 ^h 32 | 10 ^h 30 | 2 ^m 5 |

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SWISS EPHEMERIS for the year 1650
heliocentric

MAY 1650 GC

00:00 UT

| Day | Sid.t | Terra | ☾ | ♃ | ♄ | ♅ | ♆ | ♁ | ♂ | ♆ | ♁ | ♃ |
|------|----------|----------|-------|-------|-------|-------|------|------|-------|-------|-------|------|
| S 1 | 14 36 0 | 10♁37°08 | 10♁37 | 27♁28 | 11♁ 3 | 3♁12 | 5♁ 8 | 1♁51 | 15♁25 | 15♁33 | 10♁30 | 2♁ 8 |
| M 2 | 14 39 57 | 11°35'12 | 11°33 | 0♁43 | 12°39 | 3°47 | 5°13 | 1°53 | 15°26 | 15°33 | 10°30 | 2°11 |
| T 3 | 14 43 53 | 12°33'14 | 12°29 | 4° 2 | 14°15 | 4°21 | 5°17 | 1°56 | 15°27 | 15°33 | 10°30 | 2°13 |
| W 4 | 14 47 50 | 13°31'15 | 13°26 | 7°26 | 15°52 | 4°56 | 5°22 | 1°58 | 15°27 | 15°34 | 10°31 | 2°16 |
| T 5 | 14 51 47 | 14°29'14 | 14°22 | 10°55 | 17°28 | 5°30 | 5°26 | 2° 0 | 15°28 | 15°34 | 10°31 | 2°19 |
| F 6 | 14 55 43 | 15°27'11 | 15°19 | 14°28 | 19° 4 | 6° 4 | 5°31 | 2° 2 | 15°29 | 15°34 | 10°31 | 2°21 |
| S 7 | 14 59 40 | 16°25'06 | 16°17 | 18° 7 | 20°40 | 6°38 | 5°36 | 2° 5 | 15°29 | 15°35 | 10°31 | 2°24 |
| S 8 | 15 3 36 | 17°23'00 | 17°14 | 21°52 | 22°17 | 7°13 | 5°40 | 2° 7 | 15°30 | 15°35 | 10°31 | 2°27 |
| M 9 | 15 7 33 | 18°20'51 | 18°12 | 25°43 | 23°53 | 7°47 | 5°45 | 2° 9 | 15°31 | 15°35 | 10°31 | 2°29 |
| T 10 | 15 11 29 | 19°18'41 | 19°10 | 29°40 | 25°30 | 8°21 | 5°49 | 2°11 | 15°31 | 15°36 | 10°32 | 2°32 |
| W11 | 15 15 26 | 20°16'29 | 20° 9 | 3♁44 | 27° 6 | 8°55 | 5°54 | 2°14 | 15°32 | 15°36 | 10°32 | 2°35 |
| T 12 | 15 19 22 | 21°14'16 | 21° 8 | 7°56 | 28°43 | 9°29 | 5°58 | 2°16 | 15°33 | 15°36 | 10°32 | 2°37 |
| F 13 | 15 23 19 | 22°12'00 | 22° 7 | 12°15 | 0♁19 | 10° 3 | 6° 3 | 2°18 | 15°34 | 15°37 | 10°32 | 2°40 |
| S 14 | 15 27 16 | 23° 9'44 | 23° 6 | 16°42 | 1°56 | 10°36 | 6° 8 | 2°20 | 15°34 | 15°37 | 10°32 | 2°43 |
| S 15 | 15 31 12 | 24° 7'25 | 24° 6 | 21°18 | 3°32 | 11°10 | 6°12 | 2°23 | 15°35 | 15°38 | 10°32 | 2°45 |
| M16 | 15 35 9 | 25° 5'06 | 25° 5 | 26° 2 | 5° 9 | 11°44 | 6°17 | 2°25 | 15°36 | 15°38 | 10°33 | 2°48 |
| T 17 | 15 39 5 | 26° 2'45 | 26° 5 | 0♁55 | 6°45 | 12°18 | 6°21 | 2°27 | 15°36 | 15°38 | 10°33 | 2°51 |
| W18 | 15 43 2 | 27° 0'23 | 27° 5 | 5°57 | 8°22 | 12°51 | 6°26 | 2°30 | 15°37 | 15°39 | 10°33 | 2°53 |
| T 19 | 15 46 58 | 27°57'59 | 28° 4 | 11° 8 | 9°59 | 13°25 | 6°31 | 2°32 | 15°38 | 15°39 | 10°33 | 2°56 |
| F 20 | 15 50 55 | 28°55'35 | 29° 3 | 16°29 | 11°35 | 13°58 | 6°35 | 2°34 | 15°39 | 15°39 | 10°33 | 2°59 |
| S 21 | 15 54 52 | 29°53'10 | 0♁ 1 | 21°58 | 13°12 | 14°32 | 6°40 | 2°36 | 15°39 | 15°40 | 10°33 | 3° 1 |
| S 22 | 15 58 48 | 0♁50'44 | 0°59 | 27°36 | 14°49 | 15° 5 | 6°44 | 2°39 | 15°40 | 15°40 | 10°34 | 3° 4 |
| M23 | 16 2 45 | 1°48'17 | 1°57 | 3♁22 | 16°26 | 15°38 | 6°49 | 2°41 | 15°41 | 15°40 | 10°34 | 3° 7 |
| T 24 | 16 6 41 | 2°45'49 | 2°54 | 9°16 | 18° 3 | 16°12 | 6°54 | 2°43 | 15°41 | 15°41 | 10°34 | 3° 9 |
| W25 | 16 10 38 | 3°43'20 | 3°51 | 15°17 | 19°39 | 16°45 | 6°58 | 2°45 | 15°42 | 15°41 | 10°34 | 3°12 |
| T 26 | 16 14 34 | 4°40'50 | 4°48 | 21°24 | 21°16 | 17°18 | 7° 3 | 2°48 | 15°43 | 15°41 | 10°34 | 3°15 |
| F 27 | 16 18 31 | 5°38'20 | 5°44 | 27°37 | 22°53 | 17°51 | 7° 7 | 2°50 | 15°44 | 15°42 | 10°34 | 3°17 |
| S 28 | 16 22 27 | 6°35'49 | 6°40 | 3♁52 | 24°30 | 18°24 | 7°12 | 2°52 | 15°44 | 15°42 | 10°35 | 3°20 |
| S 29 | 16 26 24 | 7°33'16 | 7°36 | 10°11 | 26° 7 | 18°57 | 7°16 | 2°54 | 15°45 | 15°43 | 10°35 | 3°23 |
| M30 | 16 30 21 | 8°30'43 | 8°31 | 16°30 | 27°44 | 19°30 | 7°21 | 2°57 | 15°46 | 15°43 | 10°35 | 3°25 |
| T 31 | 16 34 17 | 9♁28'10 | 9♁27 | 22♁48 | 29♁21 | 20♁ 3 | 7♁26 | 2♁59 | 15♁46 | 15♁43 | 10♁35 | 3♁28 |

Delta T = 45.98 sec. Greg. Calendar

JUNE 1650 GC

00:00 UT

| Day | Sid.t | Terra | ☾ | ♃ | ♄ | ♅ | ♆ | ♁ | ♂ | ♆ | ♁ | ♃ |
|------|----------|----------|-------|-------|-------|-------|------|------|-------|-------|-------|------|
| W 1 | 16 38 14 | 10♁25°35 | 10♁23 | 29♁ 5 | 0♁58 | 20♁36 | 7♁30 | 3♁ 1 | 15♁47 | 15♁44 | 10♁35 | 3♁31 |
| T 2 | 16 42 10 | 11°22'59 | 11°19 | 5♁18 | 2°35 | 21° 9 | 7°35 | 3° 3 | 15°48 | 15°44 | 10°35 | 3°33 |
| F 3 | 16 46 7 | 12°20'22 | 12°15 | 11°26 | 4°13 | 21°41 | 7°39 | 3° 6 | 15°49 | 15°44 | 10°36 | 3°36 |
| S 4 | 16 50 3 | 13°17'44 | 13°11 | 17°28 | 5°50 | 22°14 | 7°44 | 3° 8 | 15°49 | 15°45 | 10°36 | 3°39 |
| S 5 | 16 54 0 | 14°15'06 | 14° 7 | 23°22 | 7°27 | 22°47 | 7°49 | 3°10 | 15°50 | 15°45 | 10°36 | 3°42 |
| M 6 | 16 57 56 | 15°12'26 | 15° 4 | 29° 9 | 9° 4 | 23°19 | 7°53 | 3°12 | 15°51 | 15°45 | 10°36 | 3°44 |
| T 7 | 17 1 53 | 16° 9'45 | 16° 1 | 4♁47 | 10°41 | 23°52 | 7°58 | 3°15 | 15°51 | 15°46 | 10°36 | 3°47 |
| W 8 | 17 5 50 | 17° 7'03 | 16°58 | 10°16 | 12°19 | 24°24 | 8° 2 | 3°17 | 15°52 | 15°46 | 10°36 | 3°50 |
| T 9 | 17 9 46 | 18° 4'20 | 17°56 | 15°35 | 13°56 | 24°56 | 8° 7 | 3°19 | 15°53 | 15°46 | 10°36 | 3°52 |
| F 10 | 17 13 43 | 19° 1'37 | 18°55 | 20°45 | 15°33 | 25°29 | 8°12 | 3°21 | 15°53 | 15°47 | 10°37 | 3°55 |
| S 11 | 17 17 39 | 19°58'52 | 19°53 | 25°45 | 17°10 | 26° 1 | 8°16 | 3°24 | 15°54 | 15°47 | 10°37 | 3°58 |
| S 12 | 17 21 36 | 20°56'07 | 20°52 | 0♁35 | 18°48 | 26°33 | 8°21 | 3°26 | 15°55 | 15°48 | 10°37 | 4° 0 |
| M13 | 17 25 32 | 21°53'21 | 21°51 | 5°16 | 20°25 | 27° 5 | 8°25 | 3°28 | 15°56 | 15°48 | 10°37 | 4° 3 |
| T 14 | 17 29 29 | 22°50'34 | 22°50 | 9°48 | 22° 3 | 27°37 | 8°30 | 3°30 | 15°56 | 15°48 | 10°37 | 4° 6 |
| W15 | 17 33 25 | 23°47'47 | 23°50 | 14°12 | 23°40 | 28° 9 | 8°35 | 3°33 | 15°57 | 15°49 | 10°37 | 4° 8 |
| T 16 | 17 37 22 | 24°45'00 | 24°49 | 18°27 | 25°17 | 28°41 | 8°39 | 3°35 | 15°58 | 15°49 | 10°38 | 4°11 |
| F 17 | 17 41 19 | 25°42'13 | 25°48 | 22°34 | 26°55 | 29°13 | 8°44 | 3°37 | 15°58 | 15°49 | 10°38 | 4°14 |
| S 18 | 17 45 15 | 26°39'25 | 26°46 | 26°34 | 28°32 | 29°45 | 8°48 | 3°39 | 15°59 | 15°50 | 10°38 | 4°16 |
| S 19 | 17 49 12 | 27°36'37 | 27°44 | 0♁27 | 0♁10 | 0♁17 | 8°53 | 3°42 | 16° 0 | 15°50 | 10°38 | 4°19 |
| M20 | 17 53 8 | 28°33'49 | 28°42 | 4°13 | 1°47 | 0°49 | 8°58 | 3°44 | 16° 1 | 15°50 | 10°38 | 4°22 |
| T 21 | 17 57 5 | 29°31'00 | 29°40 | 7°53 | 3°25 | 1°20 | 9° 2 | 3°46 | 16° 1 | 15°51 | 10°38 | 4°25 |
| W22 | 18 1 1 | 0♁28'12 | 0♁37 | 11°27 | 5° 2 | 1°52 | 9° 7 | 3°48 | 16° 2 | 15°51 | 10°39 | 4°27 |
| T 23 | 18 4 58 | 1°25'24 | 1°34 | 14°55 | 6°40 | 2°24 | 9°11 | 3°51 | 16° 3 | 15°51 | 10°39 | 4°30 |
| F 24 | 18 8 54 | 2°22'36 | 2°30 | 18°19 | 8°17 | 2°55 | 9°16 | 3°53 | 16° 3 | 15°52 | 10°39 | 4°33 |
| S 25 | 18 12 51 | 3°19'48 | 3°26 | 21°38 | 9°55 | 3°27 | 9°21 | 3°55 | 16° 4 | 15°52 | 10°39 | 4°35 |
| S 26 | 18 16 48 | 4°17'01 | 4°22 | 24°53 | 11°32 | 3°58 | 9°25 | 3°57 | 16° 5 | 15°53 | 10°39 | 4°38 |
| M27 | 18 20 44 | 5°14'13 | 5°18 | 28° 4 | 13°10 | 4°29 | 9°30 | 4° 0 | 16° 6 | 15°53 | 10°39 | 4°41 |
| T 28 | 18 24 41 | 6°11'25 | 6°13 | 1♁11 | 14°47 | 5° 1 | 9°34 | 4° 2 | 16° 6 | 15°53 | 10°40 | 4°43 |
| W29 | 18 28 37 | 7° 8'38 | 7° 9 | 4°15 | 16°25 | 5°32 | 9°39 | 4° 4 | 16° 7 | 15°54 | 10°40 | 4°46 |
| T 30 | 18 32 34 | 8♁ 5'50 | 8♁ 4 | 7♁17 | 18♁ 3 | 6♁ 3 | 9♁44 | 4♁ 6 | 16♁ 8 | 15♁43 | 10♁40 | 4♁49 |

Delta T = 45.90 sec. Greg. Calendar created from Swiss Ephemeris, Copyright Astrodiens AG [13.11.2015]

SWISS EPHEMERIS for the year 1650
heliocentric

JULY 1650 GC

00:00 UT

| Day | Sid.t | Terra | ☾ | ♃ | ♄ | ♅ | ♆ | ♁ | ♂ | ♆ | ♁ | ♄ |
|------|----------|-----------|--------|--------|--------|--------|--------|-------|--------|--------|--------|-------|
| F 1 | 18 36 30 | 9°3'03" | 9°0' | 10♍15 | 19♌40 | 6♉34 | 9♎48 | 4♄9 | 16♁8 | 15♁54 | 10♉40 | 4♎51 |
| S 2 | 18 40 27 | 10° 0'15" | 9°55' | 13°11' | 21°18' | 7° 5' | 9°53' | 4°11' | 16° 9' | 15°55' | 10°40' | 4°54' |
| S 3 | 18 44 24 | 10°57'27" | 10°51' | 16° 5' | 22°55' | 7°37' | 9°57' | 4°13' | 16°10' | 15°55' | 10°40' | 4°57' |
| M 4 | 18 48 20 | 11°54'40" | 11°47' | 18°56' | 24°33' | 8° 8' | 10° 2' | 4°15' | 16°10' | 15°55' | 10°41' | 5° 0' |
| T 5 | 18 52 17 | 12°51'52" | 12°44' | 21°47' | 26°10' | 8°38' | 10° 7' | 4°18' | 16°11' | 15°56' | 10°41' | 5° 2' |
| W 6 | 18 56 13 | 13°49'04" | 13°41' | 24°35' | 27°48' | 9° 9' | 10°11' | 4°20' | 16°12' | 15°56' | 10°41' | 5° 5' |
| T 7 | 19 0 10 | 14°46'16" | 14°38' | 27°23' | 29°25' | 9°40' | 10°16' | 4°22' | 16°13' | 15°56' | 10°41' | 5° 8' |
| F 8 | 19 4 6 | 15°43'28" | 15°35' | 0♁9 | 1♎3 | 10°11' | 10°20' | 4°24' | 16°13' | 15°57' | 10°41' | 5°10' |
| S 9 | 19 8 3 | 16°40'40" | 16°33' | 2°55' | 2°40' | 10°42' | 10°25' | 4°27' | 16°14' | 15°57' | 10°41' | 5°13' |
| S 10 | 19 11 59 | 17°37'52" | 17°32' | 5°40' | 4°18' | 11°12' | 10°30' | 4°29' | 16°15' | 15°58' | 10°42' | 5°16' |
| M 11 | 19 15 56 | 18°35'04" | 18°30' | 8°25' | 5°55' | 11°43' | 10°34' | 4°31' | 16°15' | 15°58' | 10°42' | 5°18' |
| T 12 | 19 19 53 | 19°32'17" | 19°29' | 11°10' | 7°33' | 12°14' | 10°39' | 4°33' | 16°16' | 15°58' | 10°42' | 5°21' |
| W 13 | 19 23 49 | 20°29'30" | 20°29' | 13°54' | 9°10' | 12°44' | 10°43' | 4°36' | 16°17' | 15°59' | 10°42' | 5°24' |
| T 14 | 19 27 46 | 21°26'43" | 21°28' | 16°39' | 10°48' | 13°15' | 10°48' | 4°38' | 16°18' | 15°59' | 10°42' | 5°27' |
| F 15 | 19 31 42 | 22°23'57" | 22°27' | 19°25' | 12°25' | 13°45' | 10°53' | 4°40' | 16°18' | 15°59' | 10°42' | 5°29' |
| S 16 | 19 35 39 | 23°21'11" | 23°26' | 22°11' | 14° 2' | 14°16' | 10°57' | 4°42' | 16°19' | 16° 0' | 10°42' | 5°32' |
| S 17 | 19 39 35 | 24°18'26" | 24°25' | 24°58' | 15°40' | 14°46' | 11° 2' | 4°45' | 16°20' | 16° 0' | 10°43' | 5°35' |
| M 18 | 19 43 32 | 25°15'42" | 25°23' | 27°46' | 17°17' | 15°16' | 11° 7' | 4°47' | 16°20' | 16° 0' | 10°43' | 5°37' |
| T 19 | 19 47 28 | 26°12'59" | 26°21' | 0♁35 | 18°55' | 15°46' | 11°11' | 4°49' | 16°21' | 16° 1' | 10°43' | 5°40' |
| W 20 | 19 51 25 | 27°10'16" | 27°19' | 3°26' | 20°32' | 16°17' | 11°16' | 4°51' | 16°22' | 16° 1' | 10°43' | 5°43' |
| T 21 | 19 55 22 | 28° 7'35" | 28°17' | 6°18' | 22° 9' | 16°47' | 11°20' | 4°54' | 16°23' | 16° 1' | 10°43' | 5°45' |
| F 22 | 19 59 18 | 29° 4'55" | 29°14' | 9°13' | 23°46' | 17°17' | 11°25' | 4°56' | 16°23' | 16° 2' | 10°43' | 5°48' |
| S 23 | 20 3 15 | 0♁2'15" | 0♁10' | 12° 9' | 25°23' | 17°47' | 11°30' | 4°58' | 16°24' | 16° 2' | 10°44' | 5°51' |
| S 24 | 20 7 11 | 0°59'37" | 1° 7' | 15° 8' | 27° 1' | 18°17' | 11°34' | 5° 0' | 16°25' | 16° 3' | 10°44' | 5°54' |
| M 25 | 20 11 8 | 1°57'00" | 2° 3' | 18°10' | 28°38' | 18°47' | 11°39' | 5° 3' | 16°25' | 16° 3' | 10°44' | 5°56' |
| T 26 | 20 15 4 | 2°54'23" | 2°59' | 21°15' | 0♁15 | 19°17' | 11°43' | 5° 5' | 16°26' | 16° 3' | 10°44' | 5°59' |
| W 27 | 20 19 1 | 3°51'48" | 3°55' | 24°23' | 1°52' | 19°47' | 11°48' | 5° 7' | 16°27' | 16° 4' | 10°44' | 6° 2' |
| T 28 | 20 22 57 | 4°49'14" | 4°50' | 27°34' | 3°29' | 20°17' | 11°53' | 5° 9' | 16°27' | 16° 4' | 10°44' | 6° 4' |
| F 29 | 20 26 54 | 5°46'40" | 5°46' | 0♁50 | 5° 6' | 20°46' | 11°57' | 5°12' | 16°28' | 16° 4' | 10°45' | 6° 7' |
| S 30 | 20 30 51 | 6°44'08" | 6°42' | 4° 9' | 6°43' | 21°16' | 12° 2' | 5°14' | 16°29' | 16° 5' | 10°45' | 6°10' |
| S 31 | 20 34 47 | 7°41'36" | 7°37' | 7♁33 | 8♁20 | 21♉46 | 12♎6 | 5♄16 | 16♁30 | 16♁5 | 10♉45 | 6♎13 |

Delta T = 45.82 sec.

Greg. Calendar

AUGUST 1650 GC

00:00 UT

| Day | Sid.t | Terra | ☾ | ♃ | ♄ | ♅ | ♆ | ♁ | ♂ | ♆ | ♁ | ♄ |
|------|----------|-----------|--------|--------|--------|--------|--------|-------|--------|--------|--------|-------|
| M 1 | 20 38 44 | 8°39'06" | 8°33' | 11♁1 | 9♁57 | 22♉15 | 12♎11 | 5♄18 | 16♁30 | 16♁5 | 10♉45 | 6♎15 |
| T 2 | 20 42 40 | 9°36'36" | 9°30' | 14°35' | 11°33' | 22°45' | 12°16' | 5°21' | 16°31' | 16° 6' | 10°45' | 6°18' |
| W 3 | 20 46 37 | 10°34'07" | 10°26' | 18°14' | 13°10' | 23°15' | 12°20' | 5°23' | 16°32' | 16° 6' | 10°45' | 6°21' |
| T 4 | 20 50 33 | 11°31'38" | 11°23' | 21°59' | 14°47' | 23°44' | 12°25' | 5°25' | 16°32' | 16° 6' | 10°46' | 6°23' |
| F 5 | 20 54 30 | 12°29'11" | 12°21' | 25°50' | 16°24' | 24°14' | 12°30' | 5°27' | 16°33' | 16° 7' | 10°46' | 6°26' |
| S 6 | 20 58 26 | 13°26'45" | 13°19' | 29°48' | 18° 0' | 24°43' | 12°34' | 5°30' | 16°34' | 16° 7' | 10°46' | 6°29' |
| S 7 | 21 2 23 | 14°24'19" | 14°17' | 3♁52 | 19°37' | 25°12' | 12°39' | 5°32' | 16°35' | 16° 8' | 10°46' | 6°32' |
| M 8 | 21 6 20 | 15°21'54" | 15°15' | 8° 4' | 21°13' | 25°42' | 12°43' | 5°34' | 16°35' | 16° 8' | 10°46' | 6°34' |
| T 9 | 21 10 16 | 16°19'31" | 16°14' | 12°24' | 22°50' | 26°11' | 12°48' | 5°36' | 16°36' | 16° 8' | 10°46' | 6°37' |
| W 10 | 21 14 13 | 17°17'08" | 17°14' | 16°51' | 24°26' | 26°40' | 12°53' | 5°39' | 16°37' | 16° 9' | 10°47' | 6°40' |
| T 11 | 21 18 9 | 18°14'47" | 18°13' | 21°27' | 26° 3' | 27° 9' | 12°57' | 5°41' | 16°37' | 16° 9' | 10°47' | 6°42' |
| F 12 | 21 22 6 | 19°12'27" | 19°13' | 26°11' | 27°39' | 27°39' | 13° 2' | 5°43' | 16°38' | 16° 9' | 10°47' | 6°45' |
| S 13 | 21 26 2 | 20°10'08" | 20°13' | 1♁5 | 29°16' | 28° 8' | 13° 6' | 5°45' | 16°39' | 16°10' | 10°47' | 6°48' |
| S 14 | 21 29 59 | 21° 7'50" | 21°12' | 6° 7' | 0♎52 | 28°37' | 13°11' | 5°48' | 16°39' | 16°10' | 10°47' | 6°51' |
| M 15 | 21 33 55 | 22° 5'34" | 22°11' | 11°18' | 2°28' | 29° 6' | 13°16' | 5°50' | 16°40' | 16°10' | 10°47' | 6°53' |
| T 16 | 21 37 52 | 23° 3'20" | 23°11' | 16°39' | 4° 4' | 29°35' | 13°20' | 5°52' | 16°41' | 16°11' | 10°48' | 6°56' |
| W 17 | 21 41 49 | 24° 1'07" | 24° 9' | 22° 8' | 5°41' | 0♄4 | 13°25' | 5°54' | 16°42' | 16°11' | 10°48' | 6°59' |
| T 18 | 21 45 45 | 24°58'56" | 25° 8' | 27°47' | 7°17' | 0°33' | 13°30' | 5°57' | 16°42' | 16°11' | 10°48' | 7° 1' |
| F 19 | 21 49 42 | 25°56'47" | 26° 6' | 3♁33 | 8°53' | 1° 1' | 13°34' | 5°59' | 16°43' | 16°12' | 10°48' | 7° 4' |
| S 20 | 21 53 38 | 26°54'40" | 27° 4' | 9°28' | 10°29' | 1°30' | 13°39' | 6° 1' | 16°44' | 16°12' | 10°48' | 7° 7' |
| S 21 | 21 57 35 | 27°52'35" | 28° 1' | 15°29' | 12° 5' | 1°59' | 13°43' | 6° 3' | 16°44' | 16°13' | 10°48' | 7°10' |
| M 22 | 22 1 31 | 28°50'31" | 28°58' | 21°36' | 13°41' | 2°28' | 13°48' | 6° 6' | 16°45' | 16°13' | 10°48' | 7°12' |
| T 23 | 22 5 28 | 29°48'29" | 29°55' | 27°48' | 15°16' | 2°56' | 13°53' | 6° 8' | 16°46' | 16°13' | 10°49' | 7°15' |
| W 24 | 22 9 24 | 0♁46'29" | 0♁52' | 4♁4 | 16°52' | 3°25' | 13°57' | 6°10' | 16°47' | 16°14' | 10°49' | 7°18' |
| T 25 | 22 13 21 | 1°44'30" | 1°48' | 10°23' | 18°28' | 3°54' | 14° 2' | 6°12' | 16°47' | 16°14' | 10°49' | 7°21' |
| F 26 | 22 17 18 | 2°42'34" | 2°45' | 16°42' | 20° 4' | 4°22' | 14° 7' | 6°15' | 16°48' | 16°14' | 10°49' | 7°23' |
| S 27 | 22 21 14 | 3°40'39" | 3°41' | 23° 0' | 21°39' | 4°51' | 14°11' | 6°17' | 16°49' | 16°15' | 10°49' | 7°26' |
| S 28 | 22 25 11 | 4°38'46" | 4°37' | 29°17' | 23°15' | 5°19' | 14°16' | 6°19' | 16°49' | 16°15' | 10°49' | 7°29' |
| M 29 | 22 29 7 | 5°36'54" | 5°34' | 5♄30 | 24°51' | 5°48' | 14°20' | 6°21' | 16°50' | 16°15' | 10°50' | 7°31' |
| T 30 | 22 33 4 | 6°35'04" | 6°30' | 11°37' | 26°26' | 6°16' | 14°25' | 6°24' | 16°51' | 16°16' | 10°50' | 7°34' |
| W 31 | 22 37 0 | 7°33'15" | 7°27' | 17♁39 | 28♎2 | 6♄45 | 14♎30 | 6♄26 | 16♁52 | 16♁16 | 10♉50 | 7♎37 |

Delta T = 45.73 sec.

Greg. Calendar

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SWISS EPHEMERIS for the year 1650
heliocentric

SEPTEMBER 1650 GC

00:00 UT

| Day | Sid.t | Terra | ☾ | ♃ | ♄ | ♅ | ♆ | ♁ | ♂ | ♆ | ♁ | ♃ |
|------|----------|----------|-------|-------|-------|-------|-------|------|-------|-------|-------|------|
| T 1 | 22 40 57 | 8°31'28 | 8°24 | 23°33 | 29°37 | 7°13 | 14°34 | 6°28 | 16°52 | 16°16 | 10°50 | 7°40 |
| F 2 | 22 44 53 | 9°29'43 | 9°22 | 29°20 | 1°13 | 7°41 | 14°39 | 6°30 | 16°53 | 16°17 | 10°50 | 7°42 |
| S 3 | 22 48 50 | 10°27'59 | 10°20 | 4°58 | 2°48 | 8°10 | 14°43 | 6°33 | 16°54 | 16°17 | 10°50 | 7°45 |
| S 4 | 22 52 47 | 11°26'17 | 11°18 | 10°26 | 4°24 | 8°38 | 14°48 | 6°35 | 16°54 | 16°18 | 10°51 | 7°48 |
| M 5 | 22 56 43 | 12°24'36 | 12°17 | 15°45 | 5°59 | 9°6 | 14°53 | 6°37 | 16°55 | 16°18 | 10°51 | 7°50 |
| T 6 | 23 0 40 | 13°22'57 | 13°16 | 20°54 | 7°34 | 9°34 | 14°57 | 6°39 | 16°56 | 16°18 | 10°51 | 7°53 |
| W 7 | 23 4 36 | 14°21'19 | 14°16 | 25°54 | 9°10 | 10°3 | 15°2 | 6°42 | 16°56 | 16°19 | 10°51 | 7°56 |
| T 8 | 23 8 33 | 15°19'43 | 15°16 | 0°44 | 10°45 | 10°31 | 15°7 | 6°44 | 16°57 | 16°19 | 10°51 | 7°59 |
| F 9 | 23 12 29 | 16°18'09 | 16°16 | 5°25 | 12°20 | 10°59 | 15°11 | 6°46 | 16°58 | 16°19 | 10°51 | 8°1 |
| S 10 | 23 16 26 | 17°16'37 | 17°16 | 9°57 | 13°55 | 11°27 | 15°16 | 6°48 | 16°59 | 16°20 | 10°52 | 8°4 |
| S 11 | 23 20 22 | 18°15'06 | 18°17 | 14°20 | 15°30 | 11°55 | 15°20 | 6°51 | 16°59 | 16°20 | 10°52 | 8°7 |
| M 12 | 23 24 19 | 19°13'37 | 19°17 | 18°35 | 17°5 | 12°23 | 15°25 | 6°53 | 17°0 | 16°20 | 10°52 | 8°10 |
| T 13 | 23 28 16 | 20°12'10 | 20°17 | 22°42 | 18°41 | 12°51 | 15°30 | 6°55 | 17°1 | 16°21 | 10°52 | 8°12 |
| W 14 | 23 32 12 | 21°10'46 | 21°17 | 26°41 | 20°16 | 13°19 | 15°34 | 6°57 | 17°1 | 16°21 | 10°52 | 8°15 |
| T 15 | 23 36 9 | 22°9'24 | 22°17 | 0°34 | 21°51 | 13°47 | 15°39 | 7°0 | 17°2 | 16°21 | 10°52 | 8°18 |
| F 16 | 23 40 5 | 23°8'03 | 23°17 | 4°20 | 23°26 | 14°14 | 15°44 | 7°2 | 17°3 | 16°22 | 10°52 | 8°20 |
| S 17 | 23 44 2 | 24°6'46 | 24°16 | 7°59 | 25°1 | 14°42 | 15°48 | 7°4 | 17°4 | 16°22 | 10°53 | 8°23 |
| S 18 | 23 47 58 | 25°5'30 | 25°15 | 11°33 | 26°36 | 15°10 | 15°53 | 7°6 | 17°4 | 16°23 | 10°53 | 8°26 |
| M 19 | 23 51 55 | 26°4'17 | 26°13 | 15°2 | 28°11 | 15°38 | 15°58 | 7°9 | 17°5 | 16°23 | 10°53 | 8°29 |
| T 20 | 23 55 51 | 27°3'06 | 27°12 | 18°26 | 29°46 | 16°6 | 16°2 | 7°11 | 17°6 | 16°23 | 10°53 | 8°31 |
| W 21 | 23 59 48 | 28°1'57 | 28°9 | 21°45 | 1°21 | 16°33 | 16°7 | 7°13 | 17°6 | 16°24 | 10°53 | 8°34 |
| T 22 | 0 3 45 | 29°0'51 | 29°7 | 24°59 | 2°55 | 17°1 | 16°11 | 7°15 | 17°7 | 16°24 | 10°53 | 8°37 |
| F 23 | 0 7 41 | 29°59'46 | 0°5 | 28°10 | 4°30 | 17°29 | 16°16 | 7°18 | 17°8 | 16°24 | 10°54 | 8°40 |
| S 24 | 0 11 38 | 0°58'44 | 1°2 | 1°17 | 6°5 | 17°56 | 16°21 | 7°20 | 17°8 | 16°25 | 10°54 | 8°42 |
| S 25 | 0 15 34 | 1°57'44 | 1°59 | 4°21 | 7°40 | 18°24 | 16°25 | 7°22 | 17°9 | 16°25 | 10°54 | 8°45 |
| M 26 | 0 19 31 | 2°56'46 | 2°56 | 7°22 | 9°15 | 18°51 | 16°30 | 7°24 | 17°10 | 16°25 | 10°54 | 8°48 |
| T 27 | 0 23 27 | 3°55'50 | 3°53 | 10°21 | 10°50 | 19°19 | 16°35 | 7°27 | 17°11 | 16°26 | 10°54 | 8°51 |
| W 28 | 0 27 24 | 4°54'56 | 4°51 | 13°16 | 12°25 | 19°46 | 16°39 | 7°29 | 17°11 | 16°26 | 10°54 | 8°53 |
| T 29 | 0 31 20 | 5°54'04 | 5°48 | 16°10 | 13°59 | 20°14 | 16°44 | 7°31 | 17°12 | 16°26 | 10°55 | 8°56 |
| F 30 | 0 35 17 | 6°53'14 | 6°46 | 19°12 | 15°34 | 20°54 | 16°48 | 7°33 | 17°13 | 16°27 | 10°55 | 8°59 |

Delta T = 45.65 sec.

Greg. Calendar

OCTOBER 1650 GC

00:00 UT

| Day | Sid.t | Terra | ☾ | ♃ | ♄ | ♅ | ♆ | ♁ | ♂ | ♆ | ♁ | ♃ |
|------|---------|----------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|
| S 1 | 0 39 13 | 7°52'26 | 7°45 | 21°52 | 17°3 | 21°9 | 16°53 | 7°36 | 17°13 | 16°27 | 10°55 | 9°12 |
| S 2 | 0 43 10 | 8°51'39 | 8°43 | 24°41 | 18°44 | 21°36 | 16°58 | 7°38 | 17°14 | 16°28 | 10°55 | 9°4 |
| M 3 | 0 47 7 | 9°50'54 | 9°42 | 27°28 | 20°19 | 22°3 | 17°2 | 7°40 | 17°15 | 16°28 | 10°55 | 9°7 |
| T 4 | 0 51 3 | 10°50'11 | 10°42 | 0°15 | 21°54 | 22°31 | 17°7 | 7°42 | 17°16 | 16°28 | 10°55 | 9°10 |
| W 5 | 0 55 0 | 11°49'30 | 11°42 | 3°0 | 23°28 | 22°58 | 17°12 | 7°45 | 17°16 | 16°29 | 10°56 | 9°12 |
| T 6 | 0 58 56 | 12°48'51 | 12°43 | 5°45 | 25°3 | 23°25 | 17°16 | 7°47 | 17°17 | 16°29 | 10°56 | 9°15 |
| F 7 | 1 2 53 | 13°48'13 | 13°44 | 8°30 | 26°38 | 23°52 | 17°21 | 7°49 | 17°18 | 16°29 | 10°56 | 9°18 |
| S 8 | 1 6 49 | 14°47'37 | 14°45 | 11°15 | 28°13 | 24°20 | 17°26 | 7°51 | 17°18 | 16°30 | 10°56 | 9°21 |
| S 9 | 1 10 46 | 15°47'03 | 15°46 | 14°0 | 29°48 | 24°47 | 17°30 | 7°54 | 17°19 | 16°30 | 10°56 | 9°23 |
| M 10 | 1 14 42 | 16°46'31 | 16°47 | 16°45 | 1°22 | 25°14 | 17°35 | 7°56 | 17°20 | 16°30 | 10°56 | 9°26 |
| T 11 | 1 18 39 | 17°46'01 | 17°49 | 19°30 | 2°57 | 25°41 | 17°39 | 7°58 | 17°20 | 16°31 | 10°57 | 9°29 |
| W 12 | 1 22 36 | 18°45'34 | 18°50 | 22°16 | 4°32 | 26°8 | 17°44 | 8°0 | 17°21 | 16°31 | 10°57 | 9°32 |
| T 13 | 1 26 32 | 19°45'08 | 19°51 | 25°3 | 6°7 | 26°35 | 17°49 | 8°3 | 17°22 | 16°31 | 10°57 | 9°34 |
| F 14 | 1 30 29 | 20°44'45 | 20°52 | 27°51 | 7°42 | 27°3 | 17°53 | 8°5 | 17°23 | 16°32 | 10°57 | 9°37 |
| S 15 | 1 34 25 | 21°44'24 | 21°53 | 0°34 | 9°17 | 27°30 | 17°58 | 8°7 | 17°23 | 16°32 | 10°57 | 9°40 |
| S 16 | 1 38 22 | 22°44'05 | 22°53 | 3°31 | 10°52 | 27°57 | 18°3 | 8°9 | 17°24 | 16°33 | 10°57 | 9°43 |
| M 17 | 1 42 18 | 23°43'49 | 23°53 | 6°24 | 12°26 | 28°24 | 18°7 | 8°12 | 17°25 | 16°33 | 10°57 | 9°45 |
| T 18 | 1 46 15 | 24°43'35 | 24°53 | 9°18 | 14°1 | 28°51 | 18°12 | 8°14 | 17°25 | 16°33 | 10°58 | 9°48 |
| W 19 | 1 50 11 | 25°43'23 | 25°52 | 12°15 | 15°36 | 29°18 | 18°17 | 8°16 | 17°26 | 16°34 | 10°58 | 9°51 |
| T 20 | 1 54 8 | 26°43'13 | 26°51 | 15°14 | 17°11 | 29°45 | 18°21 | 8°18 | 17°27 | 16°34 | 10°58 | 9°54 |
| F 21 | 1 58 5 | 27°43'06 | 27°50 | 18°16 | 18°46 | 0°11 | 18°26 | 8°21 | 17°28 | 16°34 | 10°58 | 9°56 |
| S 22 | 2 2 1 | 28°43'00 | 28°49 | 21°21 | 20°21 | 0°38 | 18°31 | 8°23 | 17°28 | 16°35 | 10°58 | 9°59 |
| S 23 | 2 5 58 | 29°42'57 | 29°47 | 24°29 | 21°56 | 1°5 | 18°35 | 8°25 | 17°29 | 16°35 | 10°58 | 10°2 |
| M 24 | 2 9 54 | 0°42'56 | 0°45 | 27°40 | 23°31 | 1°32 | 18°40 | 8°27 | 17°30 | 16°35 | 10°59 | 10°5 |
| T 25 | 2 13 51 | 1°42'57 | 1°43 | 0°56 | 25°6 | 1°59 | 18°44 | 8°30 | 17°30 | 16°36 | 10°59 | 10°7 |
| W 26 | 2 17 47 | 2°43'00 | 2°41 | 4°15 | 26°41 | 2°26 | 18°49 | 8°32 | 17°31 | 16°36 | 10°59 | 10°10 |
| T 27 | 2 21 44 | 3°43'04 | 3°40 | 7°39 | 28°16 | 2°53 | 18°54 | 8°34 | 17°32 | 16°36 | 10°59 | 10°13 |
| F 28 | 2 25 40 | 4°43'11 | 4°38 | 11°8 | 29°51 | 3°19 | 18°58 | 8°36 | 17°32 | 16°37 | 10°59 | 10°16 |
| S 29 | 2 29 37 | 5°43'19 | 5°37 | 14°42 | 1°26 | 3°46 | 19°3 | 8°39 | 17°33 | 16°37 | 10°59 | 10°18 |
| S 30 | 2 33 34 | 6°43'29 | 6°36 | 18°21 | 3°1 | 4°13 | 19°8 | 8°41 | 17°34 | 16°37 | 11°0 | 10°21 |
| M 31 | 2 37 30 | 7°43'40 | 7°35 | 22°6 | 4°36 | 4°40 | 19°12 | 8°43 | 17°35 | 16°38 | 11°0 | 10°24 |

Delta T = 45.57 sec.

Greg. Calendar

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SWISS EPHEMERIS for the year 1650
heliocentric

NOVEMBER 1650 GC

00:00 UT

| Day | Sid.t | Terra | ☾ | ♃ | ♄ | ♅ | ♆ | ♁ | ♂ | ♆ | ♁ | ♄ |
|------|---------|----------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|
| T 1 | 2 41 27 | 8♃43'53 | 8♃35 | 25♁58 | 6♁12 | 5♁ 6 | 19♁17 | 8♁45 | 17♁35 | 16♁38 | 11♁ 0 | 10♁27 |
| W 2 | 2 45 23 | 9°44'07 | 9°36 | 29°55 | 7°47 | 5°33 | 19°22 | 8°48 | 17°36 | 16°39 | 11° 0 | 10°29 |
| T 3 | 2 49 20 | 10°44'23 | 10°37 | 4♁ 0 | 9°22 | 6° 0 | 19°26 | 8°50 | 17°37 | 16°39 | 11° 0 | 10°32 |
| F 4 | 2 53 16 | 11°44'40 | 11°38 | 8°12 | 10°57 | 6°26 | 19°31 | 8°52 | 17°37 | 16°39 | 11° 0 | 10°35 |
| S 5 | 2 57 13 | 12°44'59 | 12°39 | 12°32 | 12°32 | 6°53 | 19°36 | 8°54 | 17°38 | 16°40 | 11° 1 | 10°38 |
| S 6 | 3 1 9 | 13°45'19 | 13°41 | 17° 0 | 14° 8 | 7°20 | 19°40 | 8°57 | 17°39 | 16°40 | 11° 1 | 10°40 |
| M 7 | 3 5 6 | 14°45'41 | 14°43 | 21°36 | 15°43 | 7°46 | 19°45 | 8°59 | 17°40 | 16°40 | 11° 1 | 10°43 |
| T 8 | 3 9 3 | 15°46'04 | 15°46 | 26°20 | 17°18 | 8°13 | 19°50 | 9° 1 | 17°40 | 16°41 | 11° 1 | 10°46 |
| W 9 | 3 12 59 | 16°46'29 | 16°48 | 1♁14 | 18°53 | 8°39 | 19°54 | 9° 3 | 17°41 | 16°41 | 11° 1 | 10°49 |
| T 10 | 3 16 56 | 17°46'56 | 17°50 | 6°17 | 20°29 | 9° 6 | 19°59 | 9° 6 | 17°42 | 16°41 | 11° 1 | 10°51 |
| F 11 | 3 20 52 | 18°47'25 | 18°52 | 11°28 | 22° 4 | 9°33 | 20° 3 | 9° 8 | 17°42 | 16°42 | 11° 2 | 10°54 |
| S 12 | 3 24 49 | 19°47'55 | 19°54 | 16°49 | 23°39 | 9°59 | 20° 8 | 9°10 | 17°43 | 16°42 | 11° 2 | 10°57 |
| S 13 | 3 28 45 | 20°48'27 | 20°56 | 22°19 | 25°15 | 10°26 | 20°13 | 9°12 | 17°44 | 16°42 | 11° 2 | 11° 0 |
| M14 | 3 32 42 | 21°49'01 | 21°57 | 27°57 | 26°50 | 10°52 | 20°17 | 9°15 | 17°44 | 16°43 | 11° 2 | 11° 2 |
| T 15 | 3 36 38 | 22°49'36 | 22°59 | 3♁44 | 28°26 | 11°19 | 20°22 | 9°17 | 17°45 | 16°43 | 11° 2 | 11° 5 |
| W16 | 3 40 35 | 23°50'13 | 23°59 | 9°39 | 0♁ 1 | 11°45 | 20°27 | 9°19 | 17°46 | 16°44 | 11° 2 | 11° 8 |
| T 17 | 3 44 32 | 24°50'52 | 25° 0 | 15°40 | 1°37 | 12°12 | 20°31 | 9°21 | 17°47 | 16°44 | 11° 3 | 11°11 |
| F 18 | 3 48 28 | 25°51'33 | 26° 0 | 21°48 | 3°12 | 12°38 | 20°36 | 9°24 | 17°47 | 16°44 | 11° 3 | 11°13 |
| S 19 | 3 52 25 | 26°52'15 | 27° 0 | 28° 0 | 4°48 | 13° 4 | 20°41 | 9°26 | 17°48 | 16°45 | 11° 3 | 11°16 |
| S 20 | 3 56 21 | 27°52'58 | 28° 0 | 4♁16 | 6°23 | 13°31 | 20°45 | 9°28 | 17°49 | 16°45 | 11° 3 | 11°19 |
| M21 | 4 0 18 | 28°53'44 | 28°59 | 10°35 | 7°59 | 13°57 | 20°50 | 9°30 | 17°49 | 16°45 | 11° 3 | 11°22 |
| T 22 | 4 4 14 | 29°54'31 | 29°58 | 16°54 | 9°34 | 14°24 | 20°55 | 9°33 | 17°50 | 16°46 | 11° 3 | 11°25 |
| W23 | 4 8 11 | 0♁55'19 | 0♁57 | 23°12 | 11°10 | 14°50 | 20°59 | 9°35 | 17°51 | 16°46 | 11° 3 | 11°27 |
| T 24 | 4 12 7 | 1°56'09 | 1°55 | 29°29 | 12°46 | 15°17 | 21° 4 | 9°37 | 17°52 | 16°46 | 11° 4 | 11°30 |
| F 25 | 4 16 4 | 2°57'00 | 2°54 | 5♁41 | 14°22 | 15°43 | 21° 9 | 9°39 | 17°52 | 16°47 | 11° 4 | 11°33 |
| S 26 | 4 20 1 | 3°57'52 | 3°53 | 11°49 | 15°57 | 16° 9 | 21°13 | 9°42 | 17°53 | 16°47 | 11° 4 | 11°36 |
| S 27 | 4 23 57 | 4°58'45 | 4°53 | 17°50 | 17°33 | 16°36 | 21°18 | 9°44 | 17°54 | 16°47 | 11° 4 | 11°38 |
| M28 | 4 27 54 | 5°59'39 | 5°52 | 23°44 | 19° 9 | 17° 2 | 21°23 | 9°46 | 17°54 | 16°48 | 11° 4 | 11°41 |
| T 29 | 4 31 50 | 7° 0'34 | 6°52 | 29°31 | 20°45 | 17°28 | 21°27 | 9°48 | 17°55 | 16°48 | 11° 4 | 11°44 |
| W30 | 4 35 47 | 8♁ 1'29 | 7♁53 | 5♁ 8 | 22♁20 | 17♁55 | 21♁32 | 9♁51 | 17♁56 | 16♁49 | 11♁ 5 | 11♁47 |

Delta T = 45.48 sec.

Greg. Calendar

DECEMBER 1650 GC

00:00 UT

| Day | Sid.t | Terra | ☾ | ♃ | ♄ | ♅ | ♆ | ♁ | ♂ | ♆ | ♁ | ♄ |
|------|---------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| T 1 | 4 39 43 | 9♁ 2'26 | 8♁54 | 10♁36 | 23♁56 | 18♁21 | 21♁37 | 9♁53 | 17♁56 | 16♁49 | 11♁ 5 | 11♁49 |
| F 2 | 4 43 40 | 10° 3'22 | 9°55 | 15°55 | 25°32 | 18°47 | 21°41 | 9°55 | 17°57 | 16°49 | 11° 5 | 11°52 |
| S 3 | 4 47 37 | 11° 4'20 | 10°57 | 21° 4 | 27° 8 | 19°14 | 21°46 | 9°57 | 17°58 | 16°50 | 11° 5 | 11°55 |
| S 4 | 4 51 33 | 12° 5'18 | 11°59 | 26° 3 | 28°44 | 19°40 | 21°51 | 10° 0 | 17°59 | 16°50 | 11° 5 | 11°58 |
| M 5 | 4 55 30 | 13° 6'17 | 13° 1 | 0♁53 | 0♁20 | 20° 6 | 21°55 | 10° 2 | 17°59 | 16°50 | 11° 5 | 12° 0 |
| T 6 | 4 59 26 | 14° 7'17 | 14° 4 | 5°34 | 1°56 | 20°33 | 22° 0 | 10° 4 | 18° 0 | 16°51 | 11° 6 | 12° 3 |
| W 7 | 5 3 23 | 15° 8'17 | 15° 6 | 10° 5 | 3°32 | 20°59 | 22° 5 | 10° 6 | 18° 1 | 16°51 | 11° 6 | 12° 6 |
| T 8 | 5 7 19 | 16° 9'18 | 16° 9 | 14°28 | 5° 8 | 21°25 | 22° 9 | 10° 9 | 18° 1 | 16°51 | 11° 6 | 12° 9 |
| F 9 | 5 11 16 | 17°10'20 | 17°12 | 18°43 | 6°44 | 21°51 | 22°14 | 10°11 | 18° 2 | 16°52 | 11° 6 | 12°12 |
| S 10 | 5 15 12 | 18°11'23 | 18°15 | 22°49 | 8°20 | 22°18 | 22°19 | 10°13 | 18° 3 | 16°52 | 11° 6 | 12°14 |
| S 11 | 5 19 9 | 19°12'27 | 19°17 | 26°49 | 9°56 | 22°44 | 22°23 | 10°15 | 18° 4 | 16°53 | 11° 6 | 12°17 |
| M12 | 5 23 6 | 20°13'31 | 20°20 | 0♁41 | 11°32 | 23°10 | 22°28 | 10°18 | 18° 4 | 16°53 | 11° 7 | 12°20 |
| T 13 | 5 27 2 | 21°14'36 | 21°22 | 4°27 | 13° 9 | 23°36 | 22°33 | 10°20 | 18° 5 | 16°53 | 11° 7 | 12°23 |
| W14 | 5 30 59 | 22°15'42 | 22°24 | 8° 6 | 14°45 | 24° 3 | 22°37 | 10°22 | 18° 6 | 16°54 | 11° 7 | 12°25 |
| T 15 | 5 34 55 | 23°16'49 | 23°26 | 11°40 | 16°21 | 24°29 | 22°42 | 10°24 | 18° 6 | 16°54 | 11° 7 | 12°28 |
| F 16 | 5 38 52 | 24°17'56 | 24°27 | 15° 8 | 17°57 | 24°55 | 22°47 | 10°27 | 18° 7 | 16°54 | 11° 7 | 12°31 |
| S 17 | 5 42 48 | 25°19'04 | 25°28 | 18°32 | 19°34 | 25°21 | 22°51 | 10°29 | 18° 8 | 16°55 | 11° 7 | 12°34 |
| S 18 | 5 46 45 | 26°20'13 | 26°28 | 21°51 | 21°10 | 25°48 | 22°56 | 10°31 | 18° 8 | 16°55 | 11° 8 | 12°36 |
| M19 | 5 50 41 | 27°21'22 | 27°29 | 25° 5 | 22°46 | 26°14 | 23° 1 | 10°33 | 18° 9 | 16°55 | 11° 8 | 12°39 |
| T 20 | 5 54 38 | 28°22'32 | 28°28 | 28°16 | 24°23 | 26°40 | 23° 5 | 10°36 | 18°10 | 16°56 | 11° 8 | 12°42 |
| W21 | 5 58 35 | 29°23'43 | 29°28 | 1♁23 | 25°59 | 27° 6 | 23°10 | 10°38 | 18°11 | 16°56 | 11° 8 | 12°45 |
| T 22 | 6 2 31 | 0♁24'54 | 0♁27 | 4°27 | 27°36 | 27°32 | 23°15 | 10°40 | 18°11 | 16°56 | 11° 8 | 12°48 |
| F 23 | 6 6 28 | 1°26'06 | 1°26 | 7°28 | 29°12 | 27°59 | 23°19 | 10°42 | 18°12 | 16°57 | 11° 8 | 12°50 |
| S 24 | 6 10 24 | 2°27'18 | 2°25 | 10°26 | 0♁49 | 28°25 | 23°24 | 10°45 | 18°13 | 16°57 | 11° 9 | 12°53 |
| S 25 | 6 14 21 | 3°28'30 | 3°25 | 13°22 | 2°25 | 28°51 | 23°29 | 10°47 | 18°13 | 16°58 | 11° 9 | 12°56 |
| M26 | 6 18 17 | 4°29'42 | 4°24 | 16°16 | 4° 2 | 29°17 | 23°33 | 10°49 | 18°14 | 16°58 | 11° 9 | 12°59 |
| T 27 | 6 22 14 | 5°30'54 | 5°24 | 19° 7 | 5°38 | 29°44 | 23°38 | 10°51 | 18°15 | 16°58 | 11° 9 | 13° 1 |
| W28 | 6 26 11 | 6°32'05 | 6°24 | 21°57 | 7°15 | 0♁10 | 23°43 | 10°54 | 18°16 | 16°59 | 11° 9 | 13° 4 |
| T 29 | 6 30 7 | 7°33'16 | 7°25 | 24°46 | 8°52 | 0°36 | 23°47 | 10°56 | 18°16 | 16°59 | 11° 9 | 13° 7 |
| F 30 | 6 34 4 | 8°34'27 | 8°25 | 27°34 | 10°28 | 1° 2 | 23°52 | 10°58 | 18°17 | 16°59 | 11° 9 | 13°10 |
| S 31 | 6 38 0 | 9♁35'37 | 9♁27 | 0♁20 | 12♁ 5 | 1♁28 | 23♁57 | 11♁ 0 | 18♁18 | 17♁ 0 | 11♁10 | 13♁13 |

Delta T = 45.40 sec.

Greg. Calendar

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