



Astrodienst Ephemeris Tables for the year 2073

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 2073

geocentric

JANUARY 2073

00:00 UT

| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|---------|-----------|----------|----------|----------|----------|---------|----------|---------|----------|---------|---------|---------|----------|----------|------|
| S 1 | 6 45 4 | 11°3'9'49 | 9°17'17 | 10°33'44 | 28°20'20 | 10°34'41 | 5°R 5 | 22°11'23 | 2°35'52 | 16°R25 | 4°40'40 | 1°R49 | 3°11'7 | 23°41'41 | 11°7'7 | S 1 |
| M 2 | 6 49 1 | 12°10'58 | 23°18'18 | 12°11'11 | 29°18'18 | 11°27'27 | 4°57'57 | 22°29'29 | 2°55'55 | 16°24'24 | 4°41'41 | 1°11'48 | 3°3'3 | 23°47'47 | 11°8'8 | M 2 |
| T 3 | 6 52 57 | 13°12'08 | 7°11'13 | 13°47'47 | 0°11'17 | 12°12'12 | 4°49'49 | 22°34'34 | 2°59'59 | 16°22'22 | 4°41'41 | 1°46'46 | 3°0'0 | 23°54'54 | 11°9'9 | T 3 |
| W 4 | 6 56 54 | 14°13'18 | 20°59'59 | 15°24'24 | 1°14'14 | 12°58'58 | 4°41'41 | 22°40'40 | 3°2'2 | 16°20'20 | 4°42'42 | 1°41'41 | 2°57'57 | 24°1'1 | 11°9'9 | W 4 |
| T 5 | 7 0 50 | 15°14'28 | 4°17'37 | 17°2'2 | 2°12'12 | 13°44'44 | 4°34'34 | 22°45'45 | 3°6'6 | 16°18'18 | 4°42'42 | 1°34'34 | 2°54'54 | 24°7'7 | 11°10'10 | T 5 |
| F 6 | 7 4 47 | 16°15'38 | 18°3'3 | 18°40'40 | 3°8'8 | 14°30'30 | 4°26'26 | 22°50'50 | 3°10'10 | 16°17'17 | 4°42'42 | 1°26'26 | 2°51'51 | 24°14'14 | 11°11'11 | F 6 |
| S 7 | 7 8 43 | 17°16'49 | 1°31'17 | 20°18'18 | 4°4'4 | 15°16'16 | 4°18'18 | 22°55'55 | 3°13'13 | 16°15'15 | 4°43'43 | 1°18'18 | 2°48'48 | 24°21'21 | 11°12'12 | S 7 |
| S 8 | 7 12 40 | 18°17'59 | 14°16'16 | 21°56'56 | 5°0'0 | 16°2'2 | 4°10'10 | 23°0'0 | 3°17'17 | 16°13'13 | 4°43'43 | 1°10'10 | 2°44'44 | 24°27'27 | 11°13'13 | S 8 |
| M 9 | 7 16 37 | 19°19'09 | 27°1'1 | 23°35'35 | 5°55'55 | 16°48'48 | 4°3'3 | 23°5'5 | 3°20'20 | 16°12'12 | 4°44'44 | 1°4'4 | 2°41'41 | 24°34'34 | 11°14'14 | M 9 |
| T 10 | 7 20 33 | 20°20'19 | 9°30'30 | 25°14'14 | 6°49'49 | 17°34'34 | 3°55'55 | 23°10'10 | 3°24'24 | 16°10'10 | 4°44'44 | 1°0'0 | 2°38'38 | 24°41'41 | 11°15'15 | T 10 |
| W 11 | 7 24 30 | 21°21'29 | 21°45'45 | 26°54'54 | 7°42'42 | 18°20'20 | 3°48'48 | 23°15'15 | 3°27'27 | 16°8'8 | 4°45'45 | 0°57'57 | 2°35'35 | 24°47'47 | 11°16'16 | W 11 |
| T 12 | 7 28 26 | 22°22'38 | 3°48'48 | 28°34'34 | 8°35'35 | 19°7'7 | 3°40'40 | 23°20'20 | 3°31'31 | 16°7'7 | 4°45'45 | 0°D57 | 2°32'32 | 24°54'54 | 11°17'17 | T 12 |
| F 13 | 7 32 23 | 23°23'47 | 15°42'42 | 0°14'14 | 9°27'27 | 19°53'53 | 3°33'33 | 23°25'25 | 3°34'34 | 16°5'5 | 4°46'46 | 0°58'58 | 2°29'29 | 25°1'1 | 11°18'18 | F 13 |
| S 14 | 7 36 19 | 24°24'55 | 27°30'30 | 1°55'55 | 10°19'19 | 20°39'39 | 3°26'26 | 23°29'29 | 3°38'38 | 16°3'3 | 4°47'47 | 1°0'0 | 2°25'25 | 25°7'7 | 11°19'19 | S 14 |
| S 15 | 7 40 16 | 25°26'02 | 9°18'18 | 3°36'36 | 11°9'9 | 21°25'25 | 3°19'19 | 23°34'34 | 3°41'41 | 16°2'2 | 4°47'47 | 1°1'1 | 2°22'22 | 25°14'14 | 11°21'21 | S 15 |
| M 16 | 7 44 12 | 26°27'09 | 21°10'10 | 5°17'17 | 11°59'59 | 22°12'12 | 3°12'12 | 23°38'38 | 3°44'44 | 16°0'0 | 4°48'48 | 1°R 3 | 2°19'19 | 25°20'20 | 11°22'22 | M 16 |
| T 17 | 7 48 9 | 27°28'15 | 3°12'12 | 6°58'58 | 12°48'48 | 22°58'58 | 3°5'5 | 23°43'43 | 3°48'48 | 15°58'58 | 4°49'49 | 1°3'3 | 2°16'16 | 25°27'27 | 11°23'23 | T 17 |
| W 18 | 7 52 6 | 28°29'20 | 15°28'28 | 8°40'40 | 13°36'36 | 23°44'44 | 2°58'58 | 23°47'47 | 3°51'51 | 15°57'57 | 4°49'49 | 1°1'1 | 2°13'13 | 25°34'34 | 11°25'25 | W 18 |
| T 19 | 7 56 2 | 29°30'25 | 28°3'3 | 10°21'21 | 14°23'23 | 24°31'31 | 2°52'52 | 23°52'52 | 3°55'55 | 15°55'55 | 4°50'50 | 0°58'58 | 2°9'9 | 25°40'40 | 11°26'26 | T 19 |
| F 20 | 7 59 59 | 0°31'29 | 11°11'11 | 12°2'2 | 15°9'9 | 25°17'17 | 2°45'45 | 23°56'56 | 3°58'58 | 15°53'53 | 4°51'51 | 0°54'54 | 2°6'6 | 25°47'47 | 11°28'28 | F 20 |
| S 21 | 8 3 55 | 1°32'32 | 24°23'23 | 13°43'43 | 15°54'54 | 26°4'4 | 2°39'39 | 24°0'0 | 4°1'1 | 15°52'52 | 4°52'52 | 0°49'49 | 2°3'3 | 25°54'54 | 11°29'29 | S 21 |
| S 22 | 8 7 52 | 2°33'34 | 8°10'10 | 15°24'24 | 16°38'38 | 26°50'50 | 2°33'33 | 24°4'4 | 4°5'5 | 15°50'50 | 4°52'52 | 0°45'45 | 2°0'0 | 26°0'0 | 11°31'31 | S 22 |
| M 23 | 8 11 48 | 3°34'35 | 22°20'20 | 17°4'4 | 17°21'21 | 27°37'37 | 2°27'27 | 24°8'8 | 4°8'8 | 15°48'48 | 4°53'53 | 0°41'41 | 1°57'57 | 26°7'7 | 11°33'33 | M 23 |
| T 24 | 8 15 45 | 4°35'36 | 6°14'14 | 18°43'43 | 18°3'3 | 28°23'23 | 2°21'21 | 24°12'12 | 4°11'11 | 15°47'47 | 4°54'54 | 0°38'38 | 1°54'54 | 26°14'14 | 11°34'34 | T 24 |
| W 25 | 8 19 41 | 5°36'36 | 21°28'28 | 20°21'21 | 18°43'43 | 29°10'10 | 2°15'15 | 24°15'15 | 4°14'14 | 15°45'45 | 4°55'55 | 0°36'36 | 1°50'50 | 26°20'20 | 11°36'36 | W 25 |
| T 26 | 8 23 38 | 6°37'35 | 6°11'11 | 21°58'58 | 19°23'23 | 29°56'56 | 2°10'10 | 24°19'19 | 4°18'18 | 15°44'44 | 4°56'56 | 0°D36 | 1°47'47 | 26°27'27 | 11°38'38 | T 26 |
| F 27 | 8 27 35 | 7°38'33 | 20°56'56 | 23°32'32 | 20°1'1 | 0°43'43 | 2°4'4 | 24°23'23 | 4°21'21 | 15°42'42 | 4°57'57 | 0°37'37 | 1°44'44 | 26°34'34 | 11°40'40 | F 27 |
| S 28 | 8 31 31 | 8°39'31 | 5°12'12 | 25°5'5 | 20°38'38 | 1°30'30 | 1°59'59 | 24°26'26 | 4°24'24 | 15°41'41 | 4°57'57 | 0°38'38 | 1°41'41 | 26°40'40 | 11°42'42 | S 28 |
| S 29 | 8 35 28 | 9°40'28 | 19°55'55 | 26°35'35 | 21°13'13 | 2°16'16 | 1°54'54 | 24°30'30 | 4°27'27 | 15°39'39 | 4°58'58 | 0°40'40 | 1°38'38 | 26°47'47 | 11°44'44 | S 29 |
| M 30 | 8 39 24 | 10°41'24 | 4°11'11 | 28°1'1 | 21°47'47 | 3°3'3 | 1°49'49 | 24°33'33 | 4°30'30 | 15°38'38 | 4°59'59 | 0°41'41 | 1°35'35 | 26°54'54 | 11°46'46 | M 30 |
| T 31 | 8 43 21 | 11°42'20 | 17°11'11 | 29°24'24 | 22°47'47 | 3°50'50 | 1°44'44 | 24°36'36 | 4°33'33 | 15°36'36 | 5°0'0 | 0°R41 | 1°11'11 | 27°0'0 | 11°48'48 | T 31 |

Delta T = 82.08 sec

FEBRUARY 2073

00:00 UT

| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|----------|----------|----------|----------|----------|----------|---------|----------|---------|----------|---------|---------|---------|----------|----------|------|
| W 1 | 8 47 17 | 12°43'15 | 1°17'31 | 0°42'42 | 22°51'51 | 4°37'37 | 1°R40 | 24°11'39 | 4°36'36 | 15°R33 | 5°1'1 | 0°R40 | 1°11'28 | 27°4'7 | 11°50'50 | W 1 |
| T 2 | 8 51 14 | 13°44'10 | 14°51'51 | 1°56'56 | 23°20'20 | 5°24'24 | 1°53'53 | 24°42'42 | 4°39'39 | 15°33'33 | 5°2'2 | 0°11'38 | 1°25'25 | 27°14'14 | 11°52'52 | T 2 |
| F 3 | 8 55 10 | 14°45'03 | 27°55'55 | 3°3'3 | 23°48'48 | 6°10'10 | 1°31'31 | 24°45'45 | 4°42'42 | 15°32'32 | 5°3'3 | 0°36'36 | 1°22'22 | 27°20'20 | 11°54'54 | F 3 |
| S 4 | 8 59 7 | 15°45'56 | 10°34'54 | 4°3'3 | 24°14'14 | 6°57'57 | 1°27'27 | 24°48'48 | 4°45'45 | 15°30'30 | 5°4'4 | 0°33'33 | 1°19'19 | 27°27'27 | 11°57'57 | S 4 |
| S 5 | 9 3 4 | 16°46'48 | 23°22'22 | 4°56'56 | 24°39'39 | 7°44'44 | 1°23'23 | 24°51'51 | 4°48'48 | 15°29'29 | 5°5'5 | 0°31'31 | 1°15'15 | 27°34'34 | 11°59'59 | S 5 |
| M 6 | 9 7 0 | 17°47'39 | 5°47'47 | 5°40'40 | 25°1'1 | 8°31'31 | 1°20'20 | 24°54'54 | 4°51'51 | 15°27'27 | 5°6'6 | 0°30'30 | 1°12'12 | 27°40'40 | 12°1'1 | M 6 |
| T 7 | 9 10 57 | 18°48'29 | 18°2'2 | 6°16'16 | 25°22'22 | 9°18'18 | 1°16'16 | 24°56'56 | 4°54'54 | 15°26'26 | 5°7'7 | 0°29'29 | 1°9'9 | 27°47'47 | 12°3'3 | T 7 |
| W 8 | 9 14 53 | 19°49'17 | 0°11'11 | 6°41'41 | 25°40'40 | 10°5'5 | 1°13'13 | 24°59'59 | 4°57'57 | 15°25'25 | 5°9'9 | 0°D28 | 1°6'6 | 27°54'54 | 12°6'6 | W 8 |
| T 9 | 9 18 50 | 20°50'04 | 12°3'3 | 6°57'57 | 25°57'57 | 10°52'52 | 1°10'10 | 25°1'1 | 5°0'0 | 15°23'23 | 5°10'10 | 0°29'29 | 1°3'3 | 28°0'0 | 12°8'8 | T 9 |
| F 10 | 9 22 46 | 21°50'50 | 23°54'54 | 7°R 2 | 26°11'11 | 11°39'39 | 1°7'7 | 25°4'4 | 5°2'2 | 15°22'22 | 5°11'11 | 0°29'29 | 1°0'0 | 28°7'7 | 12°11'11 | F 10 |
| S 11 | 9 26 43 | 22°51'34 | 5°42'42 | 6°56'56 | 26°24'24 | 12°26'26 | 1°5'5 | 25°6'6 | 5°5'5 | 15°21'21 | 5°12'12 | 0°30'30 | 0°56'56 | 28°14'14 | 12°13'13 | S 11 |
| S 12 | 9 30 39 | 23°52'17 | 17°30'30 | 6°39'39 | 26°34'34 | 13°13'13 | 1°2'2 | 25°8'8 | 5°8'8 | 15°19'19 | 5°13'13 | 0°31'31 | 0°53'53 | 28°20'20 | 12°16'16 | S 12 |
| M 13 | 9 34 36 | 24°52'58 | 29°23'23 | 6°12'12 | 26°42'42 | 14°0'0 | 1°0'0 | 25°10'10 | 5°10'10 | 15°18'18 | 5°14'14 | 0°32'32 | 0°50'50 | 28°27'27 | 12°18'18 | M 13 |
| T 14 | 9 38 32 | 25°53'38 | 11°23'23 | 5°35'35 | 26°47'47 | 14°47'47 | 0°58'58 | 25°12'12 | 5°13'13 | 15°17'17 | 5°15'15 | 0°32'32 | 0°47'47 | 28°34'34 | 12°21'21 | T 14 |
| W 15 | 9 42 29 | 26°54'16 | 23°36'36 | 4°49'49 | 26°50'50 | 15°34'34 | 0°56'56 | 25°14'14 | 5°16'16 | 15°16'16 | 5°17'17 | 0°R32 | 0°44'44 | 28°40'40 | 12°24'24 | W 15 |
| T 16 | 9 46 26 | 27°54'52 | 6°11'11 | 3°56'56 | 26°R51 | 16°21'21 | 0°54'54 | 25°15'15 | 5°18'18 | 15°15'15 | 5°18'18 | 0°32'32 | 0°40'40 | 28°47'47 | 12°26'26 | T 16 |
| F 17 | 9 50 22 | 28°55'27 | 18°58'58 | 2°56'56 | 26°49'49 | 17°8'8 | 0°53'53 | 25°17'17 | 5°21'21 | 15°14'14 | 5°19'19 | 0°32'32 | 0°37'37 | 28°54'54 | 12°29'29 | F 17 |
| S 18 | 9 54 19 | 29°55'59 | 2°15'15 | 1°52'52 | 26°45'45 | 17°55'55 | 0°51'51 | 25°18'18 | 5°23'23 | 15°12'12 | 5°20'20 | 0°32'32 | 0°34'34 | 29°0'0 | 12°32'32 | S 18 |
| S 19 | 9 58 15 | 0°56'30 | 15°58'58 | 0°45'45 | 26°38'38 | 18°42'42 | 0°50'50 | 25°20'20 | 5°26'26 | 15°11'11 | 5°22'22 | 0°D32 | 0°31'31 | 29°7'7 | 12°35'35 | S 19 |
| M 20 | 10 2 12 | 1°57'00 | 0°11'11 | 29°37'37 | 26°29'29 | 19°30'30 | 0°49'49 | 25°21'21 | 5°28'28 | 15°10'10 | 5°23'23 | 0°32'32 | 0°28'28 | 29°14'14 | 12°38'38 | M 20 |
| T 21 | 10 6 8 | 2°57'27 | 14°43'43 | 28°30'30 | 26°17'17 | 20°17'17 | 0°49'49 | 25°22'22 | 5°30'30 | 15°9'9 | 5°24'24 | 0°32'32 | 0°25'25 | 29°20'20 | 12°40'40 | T 21 |
| W 22 | 10 10 5 | 3°57'53 | 29°37'37 | 27°25'25 | 26°2'2 | 21°4'4 | 0°48'48 | 25°23'23 | 5°33'33 | 15°8'8 | 5°25'25 | 0°R32 | 0°21'21 | 29°27'27 | 12°43'43 | W 22 |
| T 23 | 10 14 1 | 4°58'17 | 14°11'11 | 26°24'24 | 25°45'45 | 21°51'51 | 0°48'48 | 25°24'24 | 5°35'35 | 15°7'7 | 5°27'27 | 0°32'32 | 0°18'18 | 29°34'34 | 12°46'46 | T 23 |
| F 24 | 10 17 58 | 5°58'40 | 29°49'49 | 25°28'28 | 25°26'26 | 22°38'38 | 0°D48 | 25°25'25 | 5°37'37 | 15°6'6 | 5°28'28 | 0°32'32 | 0°15'15 | 29°40'40 | 12°49'49 | F 24 |
| S 25 | 10 21 55 | 6°59'01 | 14°15'15 | 24°38'38 | 25°4'4 | 23°25'25 | 0°48'48 | 25°26'26 | 5°39'39 | 15°5'5 | 5°29'29 | 0°31'31 | 0°12'12 | 29°47'47 | 12°52'52 | S 25 |
| S 26 | 10 25 51 | 7°59'20 | 29°36'36 | 23°54'54 | 24°40'40 | 24°12'12 | 0°48'48 | 25°27'27 | 5°42'42 | 15°4'4 | 5°31'31 | 0°30'30 | 0°9'9 | 29°54'54 | 12°55'55 | S 26 |
| M 27 | 10 29 48 | 8°59'38 | 14°11'11 | 23°17'17 | 24°14'14 | 25°0'0 | 0°49'49 | 25°27'27 | 5°44'44 | 15°4'4 | 5°32'32 | 0°29'29 | 0°6'6 | 0°11'11 | 12°58'58 | M 27 |

ASTRODIENST EPHEMERIS for the year 2073
geocentric

MARCH 2073

00:00 UT

| Day | Sid.t | ☉ | ☾ | ♂ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|----------|----------|--------|--------|--------|-------|------|--------|------|--------|------|--------|-------|------|--------|------|
| W 1 | 10 37 41 | 11♂ 0°10 | 11♂ 41 | 22°R25 | 23°R16 | 26♂34 | 0♂50 | 25♂28 | 5♂48 | 15°R 2 | 5♂35 | 0°D29 | 29♂59 | 0♂14 | 13°V 4 | W 1 |
| T 2 | 10 41 37 | 12° 0°24 | 24°56 | 22♂ 9 | 22♂44 | 27°21 | 0°52 | 25°28 | 5°50 | 15♂ 1 | 5°36 | 0♂29 | 29°56 | 0°20 | 13° 7 | T 2 |
| F 3 | 10 45 34 | 13° 0°37 | 7♂49 | 22° 1 | 22°11 | 28° 8 | 0°53 | 25°29 | 5°52 | 15° 0 | 5°38 | 0°30 | 29°53 | 0°27 | 13°11 | F 3 |
| S 4 | 10 49 30 | 14° 0°47 | 20°25 | 21°D59 | 21°37 | 28°56 | 0°54 | 25°R29 | 5°53 | 15° 0 | 5°39 | 0°31 | 29°50 | 0°34 | 13°14 | S 4 |
| S 5 | 10 53 27 | 15° 0°57 | 2♂46 | 22° 4 | 21° 1 | 29°43 | 0°56 | 25°29 | 5°55 | 14°59 | 5°40 | 0°32 | 29°46 | 0°40 | 13°17 | S 5 |
| M 6 | 10 57 24 | 16° 1°04 | 14°56 | 22°15 | 20°24 | 0♂30 | 0°58 | 25°29 | 5°57 | 14°58 | 5°42 | 0°33 | 29°43 | 0°47 | 13°20 | M 6 |
| T 7 | 11 1 20 | 17° 1°10 | 26°57 | 22°32 | 19°47 | 1°17 | 1° 0 | 25°28 | 5°59 | 14°58 | 5°43 | 0°R34 | 29°40 | 0°54 | 13°23 | T 7 |
| W 8 | 11 5 17 | 18° 1°14 | 8♂51 | 22°54 | 19°10 | 2° 5 | 1° 2 | 25°28 | 6° 1 | 14°57 | 5°45 | 0°34 | 29°37 | 1° 0 | 13°27 | W 8 |
| T 9 | 11 9 13 | 19° 1°16 | 20°42 | 23°21 | 18°32 | 2°52 | 1° 5 | 25°27 | 6° 2 | 14°57 | 5°46 | 0°33 | 29°34 | 1° 7 | 13°30 | T 9 |
| F 10 | 11 13 10 | 20° 1°17 | 2♂31 | 23°52 | 17°55 | 3°39 | 1° 7 | 25°27 | 6° 4 | 14°56 | 5°47 | 0°30 | 29°31 | 1°14 | 13°33 | F 10 |
| S 11 | 11 17 6 | 21° 1°15 | 14°20 | 24°28 | 17°18 | 4°26 | 1°10 | 25°26 | 6° 5 | 14°56 | 5°49 | 0°27 | 29°27 | 1°20 | 13°36 | S 11 |
| S 12 | 11 21 3 | 22° 1°11 | 26°11 | 25° 9 | 16°41 | 5°13 | 1°13 | 25°26 | 6° 7 | 14°55 | 5°50 | 0°24 | 29°24 | 1°27 | 13°40 | S 12 |
| M13 | 11 24 59 | 23° 1°06 | 8♂ 6 | 25°53 | 16° 6 | 6° 1 | 1°17 | 25°25 | 6° 8 | 14°55 | 5°52 | 0°20 | 29°21 | 1°34 | 13°43 | M13 |
| T 14 | 11 28 56 | 24° 0°58 | 20°10 | 26°41 | 15°31 | 6°48 | 1°20 | 25°24 | 6°10 | 14°54 | 5°53 | 0°16 | 29°18 | 1°40 | 13°46 | T 14 |
| W15 | 11 32 53 | 25° 0°48 | 2♂23 | 27°32 | 14°58 | 7°35 | 1°24 | 25°23 | 6°11 | 14°54 | 5°55 | 0°14 | 29°15 | 1°47 | 13°50 | W15 |
| T 16 | 11 36 49 | 26° 0°36 | 14°52 | 28°26 | 14°26 | 8°22 | 1°27 | 25°22 | 6°12 | 14°54 | 5°56 | 0°12 | 29°12 | 1°54 | 13°53 | T 16 |
| F 17 | 11 40 46 | 27° 0°22 | 27°38 | 29°23 | 13°56 | 9° 9 | 1°31 | 25°20 | 6°14 | 14°53 | 5°58 | 0°D11 | 29° 8 | 2° 0 | 13°57 | F 17 |
| S 18 | 11 44 42 | 28° 0°05 | 10♂46 | 0♂23 | 13°28 | 9°57 | 1°35 | 25°19 | 6°15 | 14°53 | 5°59 | 0°12 | 29° 5 | 2° 7 | 14° 0 | S 18 |
| S 19 | 11 48 39 | 28°59'46 | 24°19 | 1°26 | 13° 2 | 10°44 | 1°40 | 25°18 | 6°16 | 14°53 | 6° 1 | 0°13 | 29° 2 | 2°14 | 14° 3 | S 19 |
| M20 | 11 52 35 | 29°59'25 | 8♂18 | 2°31 | 12°37 | 11°31 | 1°44 | 25°16 | 6°17 | 14°53 | 6° 2 | 0°15 | 28°59 | 2°20 | 14° 7 | M20 |
| T 21 | 11 56 32 | 0♂59'02 | 22°44 | 3°38 | 12°16 | 12°18 | 1°49 | 25°14 | 6°18 | 14°52 | 6° 4 | 0°R16 | 28°56 | 2°27 | 14°10 | T 21 |
| W22 | 12 0 28 | 1°58'36 | 7♂34 | 4°48 | 11°56 | 13° 5 | 1°54 | 25°13 | 6°19 | 14°52 | 6° 5 | 0°16 | 28°52 | 2°34 | 14°14 | W22 |
| T 23 | 12 4 25 | 2°58'08 | 22°41 | 5°59 | 11°39 | 13°52 | 1°59 | 25°11 | 6°20 | 14°52 | 6° 7 | 0°14 | 28°49 | 2°40 | 14°17 | T 23 |
| F 24 | 12 8 21 | 3°57'38 | 7♂57 | 7°13 | 11°24 | 14°39 | 2° 4 | 25° 9 | 6°21 | 14°52 | 6° 8 | 0°11 | 28°46 | 2°47 | 14°21 | F 24 |
| S 25 | 12 12 18 | 4°57'06 | 23°12 | 8°29 | 11°11 | 15°26 | 2° 9 | 25° 7 | 6°22 | 14°D52 | 6° 9 | 0° 7 | 28°43 | 2°54 | 14°24 | S 25 |
| S 26 | 12 16 15 | 5°56'33 | 8♂15 | 9°46 | 11° 2 | 16°13 | 2°15 | 25° 5 | 6°23 | 14°52 | 6°11 | 0° 1 | 28°40 | 3° 0 | 14°28 | S 26 |
| M27 | 12 20 11 | 6°55'57 | 22°58 | 11° 6 | 10°54 | 17° 1 | 2°20 | 25° 3 | 6°23 | 14°52 | 6°12 | 29♂56 | 28°37 | 3° 7 | 14°31 | M27 |
| T 28 | 12 24 8 | 7°55'20 | 7♂15 | 12°27 | 10°49 | 17°48 | 2°26 | 25° 0 | 6°24 | 14°52 | 6°14 | 29°52 | 28°33 | 3°14 | 14°35 | T 28 |
| W29 | 12 28 4 | 8°54'40 | 21° 2 | 13°49 | 10°47 | 18°35 | 2°32 | 24°58 | 6°25 | 14°52 | 6°15 | 29°49 | 28°30 | 3°20 | 14°38 | W29 |
| T 30 | 12 32 1 | 9°54'00 | 4♂21 | 15°14 | 10°D47 | 19°22 | 2°38 | 24°56 | 6°25 | 14°52 | 6°17 | 29°D47 | 28°27 | 3°27 | 14°42 | T 30 |
| F 31 | 12 35 57 | 10♂53'17 | 17♂15 | 16♂40 | 10♂49 | 20♂ 9 | 2°44 | 24♂53 | 6♂26 | 14♂53 | 6♂18 | 29♂47 | 28♂24 | 3♂34 | 14♂45 | F 31 |

Delta T = 82.14 sec

APRIL 2073

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| Day | Sid.t | ☉ | ☾ | ♂ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|----------|----------|-------|-------|-------|-------|------|--------|-------|-------|------|--------|-------|------|-------|------|
| S 1 | 12 39 54 | 11♂52'33 | 29♂46 | 18♂ 8 | 10♂54 | 20♂56 | 2♂51 | 24°R50 | 6♂26 | 14♂53 | 6♂20 | 29♂48 | 28♂21 | 3♂40 | 14♂49 | S 1 |
| S 2 | 12 43 50 | 12°51'47 | 12♂ 1 | 19°37 | 11° 1 | 21°43 | 2°57 | 24♂48 | 6°27 | 14°53 | 6°21 | 29°50 | 28°17 | 3°47 | 14°52 | S 2 |
| M 3 | 12 47 47 | 13°50'59 | 24° 2 | 21° 7 | 11°10 | 22°30 | 3° 4 | 24°45 | 6°27 | 14°53 | 6°23 | 29°R51 | 28°14 | 3°54 | 14°56 | M 3 |
| T 4 | 12 51 44 | 14°50'09 | 5♂55 | 22°40 | 11°21 | 23°16 | 3°11 | 24°42 | 6°27 | 14°54 | 6°24 | 29°51 | 28°11 | 4° 0 | 14°59 | T 4 |
| W 5 | 12 55 40 | 15°49'17 | 17°44 | 24°13 | 11°35 | 24° 3 | 3°18 | 24°39 | 6°28 | 14°54 | 6°26 | 29°49 | 28° 8 | 4° 7 | 15° 3 | W 5 |
| T 6 | 12 59 37 | 16°48'23 | 29°32 | 25°49 | 11°50 | 24°50 | 3°25 | 24°36 | 6°28 | 14°54 | 6°27 | 29°45 | 28° 5 | 4°14 | 15° 6 | T 6 |
| F 7 | 13 3 33 | 17°47'28 | 11♂20 | 27°25 | 12° 8 | 25°37 | 3°32 | 24°33 | 6°28 | 14°55 | 6°29 | 29°39 | 28° 2 | 4°20 | 15°10 | F 7 |
| S 8 | 13 7 30 | 18°46'30 | 23°13 | 29° 4 | 12°27 | 26°24 | 3°40 | 24°30 | 6°28 | 14°55 | 6°30 | 29°30 | 27°58 | 4°27 | 15°13 | S 8 |
| S 9 | 13 11 26 | 19°45'30 | 5♂10 | 0♂43 | 12°49 | 27°11 | 3°47 | 24°27 | 6°28 | 14°56 | 6°32 | 29°21 | 27°55 | 4°34 | 15°17 | S 9 |
| M10 | 13 15 23 | 20°44'29 | 17°13 | 2°24 | 13°12 | 27°58 | 3°55 | 24°23 | 6°R28 | 14°56 | 6°33 | 29°11 | 27°52 | 4°40 | 15°20 | M10 |
| T 11 | 13 19 19 | 21°43'25 | 29°25 | 4° 7 | 13°36 | 28°44 | 4° 3 | 24°20 | 6°28 | 14°57 | 6°35 | 29° 2 | 27°49 | 4°47 | 15°24 | T 11 |
| W12 | 13 23 16 | 22°42'19 | 11♂46 | 5°51 | 14° 3 | 29°31 | 4°11 | 24°17 | 6°28 | 14°57 | 6°36 | 28°53 | 27°46 | 4°54 | 15°27 | W12 |
| T 13 | 13 27 13 | 23°41'11 | 24°19 | 7°37 | 14°31 | 0♂18 | 4°19 | 24°13 | 6°28 | 14°58 | 6°37 | 28°47 | 27°43 | 5° 0 | 15°31 | T 13 |
| F 14 | 13 31 9 | 24°40'01 | 7♂ 7 | 9°24 | 15° 0 | 1° 4 | 4°27 | 24° 9 | 6°28 | 14°59 | 6°39 | 28°44 | 27°39 | 5° 7 | 15°34 | F 14 |
| S 15 | 13 35 6 | 25°38'48 | 20°11 | 11°13 | 15°31 | 1°51 | 4°36 | 24° 6 | 6°28 | 14°59 | 6°40 | 28°D42 | 27°36 | 5°14 | 15°38 | S 15 |
| S 16 | 13 39 2 | 26°37'33 | 3♂36 | 13° 3 | 16° 4 | 2°38 | 4°44 | 24° 2 | 6°27 | 15° 0 | 6°42 | 28°42 | 27°33 | 5°20 | 15°41 | S 16 |
| M17 | 13 42 59 | 27°36'16 | 17°24 | 14°55 | 16°37 | 3°24 | 4°53 | 23°58 | 6°27 | 15° 1 | 6°43 | 28°43 | 27°30 | 5°27 | 15°45 | M17 |
| T 18 | 13 46 55 | 28°34'57 | 1♂35 | 16°49 | 17°12 | 4°11 | 5° 1 | 23°55 | 6°27 | 15° 1 | 6°45 | 28°R43 | 27°27 | 5°34 | 15°48 | T 18 |
| W19 | 13 50 52 | 29°33'35 | 16°10 | 18°44 | 17°49 | 4°57 | 5°10 | 23°51 | 6°26 | 15° 2 | 6°46 | 28°42 | 27°23 | 5°40 | 15°52 | W19 |
| T 20 | 13 54 48 | 0♂32'11 | 1♂ 3 | 20°40 | 18°26 | 5°44 | 5°19 | 23°47 | 6°26 | 15° 3 | 6°47 | 28°38 | 27°20 | 5°47 | 15°55 | T 20 |
| F 21 | 13 58 45 | 1°30'46 | 16°10 | 22°38 | 19° 5 | 6°30 | 5°28 | 23°43 | 6°25 | 15° 4 | 6°49 | 28°32 | 27°17 | 5°54 | 15°59 | F 21 |
| S 22 | 14 2 42 | 2°29'18 | 1♂21 | 24°38 | 19°45 | 7°17 | 5°38 | 23°39 | 6°25 | 15° 5 | 6°50 | 28°24 | 27°14 | 6° 0 | 16° 2 | S 22 |
| S 23 | 14 6 38 | 3°27'48 | 16°26 | 26°39 | 20°26 | 8° 3 | 5°47 | 23°35 | 6°24 | 15° 6 | 6°51 | 28°15 | 27°11 | 6° 7 | 16° 6 | S 23 |
| M24 | 14 10 35 | 4°26'16 | 1♂14 | 28°41 | 21° 8 | 8°50 | 5°56 | 23°31 | 6°23 | 15° 7 | 6°53 | 28° 5 | 27° 8 | 6°14 | 16° 9 | M24 |
| T 25 | 14 14 31 | 5°24'43 | 15°38 | 0♂45 | 21°51 | 9°36 | 6° 6 | 23°27 | 6°22 | 15° 8 | 6°54 | 27°56 | 27° 4 | 6°20 | 16°12 | T 25 |
| W26 | 14 18 28 | 6°23'08 | 29°34 | 2°50 | 22°35 | 10°22 | 6°15 | 23°22 | 6°22 | 15° 9 | 6°55 | 27°49 | 27° 1 | 6°27 | 16°16 | W26 |
| T 27 | 14 22 24 | 7°21'32 | 13♂ 0 | 4°56 | 23°20 | 11° 8 | 6°25 | 23°18 | 6°21 | 15°10 | 6°57 | 27°44 | 26°58 | 6°34 | 16°19 | T 27 |
| F 28 | 14 26 21 | 8°19'54 | 25°58 | 7° 4 | 24° 6 | 11°55 | 6°35 | 23°14 | 6°20 | 15°11 | 6°58 | 27°42 | 26°55 | 6°40 | 16°22 | F 28 |
| S 29 | 14 30 17 | 9°18'14 | 8♂31 | 9°12 | 24°52 | 12°41 | 6°45 | 23°10 | 6°19 | 15°12 | 6°59 | 27°D41 | 26°52 | 6°47 | 16°26 | S 29 |
| S 30 | 14 34 14 | 10♂16'33 | 20♂46 | 11♂21 | 25♂40 | 13♂27 | 6♂55 | 23♂ 5 | 6♂18 | 15♂13 | 7♂ 1 | 27♂41 | 26♂49 | 6♂54 | 16♂29 | S 30 |

Delta T = 82.17 sec

ASTRODIENST EPHEMERIS for the year 2073

geocentric

MAY 2073

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| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|----------|----------|-------|-------|-------|-------|-------|--------|-------|-------|-------|--------|-------|--------|--------|------|
| M 1 | 14 38 11 | 11♈14°51 | 2♈46 | 13♈30 | 26♈28 | 14♈13 | 7♈5 | 23°R 1 | 6°R17 | 15♈14 | 7°R 2 | 27°R41 | 26♈45 | 7°R 0 | 16♈32 | M 1 |
| T 2 | 14 42 7 | 12°13'06 | 14°38 | 15°39 | 27°17 | 14°59 | 7°15 | 22♈57 | 6♈16 | 15°15 | 7° 3 | 27♈40 | 26°42 | 7° 7 | 16°36 | T 2 |
| W 3 | 14 46 4 | 13°11'21 | 26°25 | 17°49 | 28° 7 | 15°45 | 7°26 | 22°52 | 6°15 | 15°17 | 7° 4 | 27°37 | 26°39 | 7°14 | 16°39 | W 3 |
| T 4 | 14 50 0 | 14° 9'33 | 8♈13 | 19°58 | 28°57 | 16°31 | 7°36 | 22°48 | 6°14 | 15°18 | 7° 6 | 27°31 | 26°36 | 7°20 | 16°42 | T 4 |
| F 5 | 14 53 57 | 15° 7'44 | 20° 5 | 22° 6 | 29°48 | 17°17 | 7°47 | 22°43 | 6°13 | 15°19 | 7° 7 | 27°22 | 26°33 | 7°27 | 16°45 | F 5 |
| S 6 | 14 57 53 | 16° 5'54 | 2♈2 | 24°14 | 0♈40 | 18° 3 | 7°57 | 22°39 | 6°11 | 15°20 | 7° 8 | 27°10 | 26°29 | 7°34 | 16°48 | S 6 |
| S 7 | 15 1 50 | 17° 4'02 | 14° 8 | 26°20 | 1°32 | 18°49 | 8° 8 | 22°34 | 6°10 | 15°22 | 7° 9 | 26°57 | 26°26 | 7°40 | 16°52 | S 7 |
| M 8 | 15 5 46 | 18° 2'08 | 26°23 | 28°25 | 2°25 | 19°35 | 8°19 | 22°30 | 6° 9 | 15°23 | 7°10 | 26°44 | 26°23 | 7°47 | 16°55 | M 8 |
| T 9 | 15 9 43 | 19° 0'13 | 8♈48 | 0♈28 | 3°19 | 20°21 | 8°30 | 22°25 | 6° 7 | 15°24 | 7°12 | 26°31 | 26°20 | 7°54 | 16°58 | T 9 |
| W10 | 15 13 39 | 19°58'16 | 21°24 | 2°29 | 4°13 | 21° 7 | 8°41 | 22°21 | 6° 6 | 15°26 | 7°13 | 26°19 | 26°17 | 8° 1 | 17° 1 | W10 |
| T 11 | 15 17 36 | 20°56'17 | 4♈10 | 4°27 | 5° 7 | 21°52 | 8°52 | 22°16 | 6° 5 | 15°27 | 7°14 | 26°10 | 26°14 | 8° 7 | 17° 4 | T 11 |
| F 12 | 15 21 33 | 21°54'17 | 17° 8 | 6°23 | 6° 2 | 22°38 | 9° 3 | 22°12 | 6° 3 | 15°29 | 7°15 | 26° 4 | 26°10 | 8°14 | 17° 7 | F 12 |
| S 13 | 15 25 29 | 22°52'15 | 0♈20 | 8°17 | 6°58 | 23°23 | 9°14 | 22° 7 | 6° 2 | 15°30 | 7°16 | 26° 1 | 26° 7 | 8°21 | 17°10 | S 13 |
| S 14 | 15 29 26 | 23°50'10 | 13°46 | 10° 8 | 7°54 | 24° 9 | 9°25 | 22° 3 | 6° 0 | 15°32 | 7°17 | 26° 0 | 26° 4 | 8°27 | 17°13 | S 14 |
| M15 | 15 33 22 | 24°48'04 | 27°29 | 11°55 | 8°51 | 24°55 | 9°37 | 21°58 | 5°58 | 15°33 | 7°18 | 26° 0 | 26° 1 | 8°34 | 17°16 | M15 |
| T 16 | 15 37 19 | 25°45'57 | 11♈30 | 13°40 | 9°48 | 25°40 | 9°48 | 21°54 | 5°57 | 15°35 | 7°19 | 25°59 | 25°58 | 8°41 | 17°19 | T 16 |
| W17 | 15 41 15 | 26°43'47 | 25°48 | 15°21 | 10°45 | 26°25 | 10° 0 | 21°49 | 5°55 | 15°36 | 7°20 | 25°57 | 25°54 | 8°47 | 17°22 | W17 |
| T 18 | 15 45 12 | 27°41'36 | 10♈23 | 17° 0 | 11°43 | 27°11 | 10°11 | 21°45 | 5°53 | 15°38 | 7°22 | 25°53 | 25°51 | 8°54 | 17°25 | T 18 |
| F 19 | 15 49 8 | 28°39'23 | 25° 9 | 18°34 | 12°41 | 27°56 | 10°23 | 21°40 | 5°52 | 15°40 | 7°23 | 25°47 | 25°48 | 9° 1 | 17°27 | F 19 |
| S 20 | 15 53 5 | 29°37'08 | 10♈1 | 20° 6 | 13°39 | 28°41 | 10°35 | 21°36 | 5°50 | 15°41 | 7°24 | 25°37 | 25°45 | 9° 7 | 17°30 | S 20 |
| S 21 | 15 57 2 | 0♈34'52 | 24°50 | 21°34 | 14°38 | 29°27 | 10°46 | 21°32 | 5°48 | 15°43 | 7°25 | 25°26 | 25°42 | 9°14 | 17°33 | S 21 |
| M22 | 16 0 58 | 1°32'35 | 9♈27 | 22°59 | 15°38 | 0♈12 | 10°58 | 21°27 | 5°46 | 15°45 | 7°25 | 25°15 | 25°39 | 9°21 | 17°36 | M22 |
| T 23 | 16 4 55 | 2°30'17 | 23°45 | 24°20 | 16°37 | 0°57 | 11°10 | 21°23 | 5°44 | 15°46 | 7°26 | 25° 5 | 25°35 | 9°27 | 17°39 | T 23 |
| W24 | 16 8 51 | 3°27'57 | 7♈39 | 25°37 | 17°37 | 1°42 | 11°22 | 21°18 | 5°42 | 15°48 | 7°27 | 24°56 | 25°32 | 9°34 | 17°41 | W24 |
| T 25 | 16 12 48 | 4°25'36 | 21° 6 | 26°51 | 18°38 | 2°27 | 11°34 | 21°14 | 5°40 | 15°50 | 7°28 | 24°50 | 25°29 | 9°41 | 17°44 | T 25 |
| F 26 | 16 16 44 | 5°23'14 | 4♈6 | 28° 1 | 19°38 | 3°12 | 11°46 | 21°10 | 5°38 | 15°52 | 7°29 | 24°47 | 25°26 | 9°47 | 17°46 | F 26 |
| S 27 | 16 20 41 | 6°20'51 | 16°43 | 29° 7 | 20°39 | 3°57 | 11°58 | 21° 6 | 5°36 | 15°53 | 7°30 | 24°45 | 25°23 | 9°54 | 17°49 | S 27 |
| S 28 | 16 24 38 | 7°18'27 | 29° 0 | 0♈10 | 21°41 | 4°42 | 12°10 | 21° 1 | 5°34 | 15°55 | 7°31 | 24°D45 | 25°20 | 10° 1 | 17°52 | S 28 |
| M29 | 16 28 34 | 8°16'03 | 11♈2 | 1° 9 | 22°42 | 5°27 | 12°23 | 20°57 | 5°32 | 15°57 | 7°32 | 24°R45 | 25°16 | 10° 7 | 17°54 | M29 |
| T 30 | 16 32 31 | 9°13'37 | 22°55 | 2° 4 | 23°44 | 6°11 | 12°35 | 20°53 | 5°30 | 15°59 | 7°33 | 24°44 | 25°13 | 10°14 | 17°57 | T 30 |
| W31 | 16 36 27 | 10♈11'10 | 4♈45 | 2♈54 | 24°46 | 6♈56 | 12°47 | 20♈49 | 5♈28 | 16° 1 | 7°R33 | 24♈42 | 25♈10 | 10°R21 | 17°R59 | W31 |

Delta T = 82.20 sec

JUNE 2073

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| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|----------|----------|-------|-------|-------|-------|-------|--------|-------|-------|-------|--------|-------|--------|--------|------|
| T 1 | 16 40 24 | 11♈8°43 | 16♈35 | 3♈41 | 25♈49 | 7♈41 | 13♈0 | 20°R45 | 5°R26 | 16♈3 | 7°R34 | 24°R37 | 25♈7 | 10°R28 | 18♈1 | T 1 |
| F 2 | 16 44 20 | 12° 6'15 | 28°30 | 4°24 | 26°51 | 8°26 | 13°12 | 20♈41 | 5♈24 | 16° 5 | 7°35 | 24♈29 | 25° 4 | 10°34 | 18° 4 | F 2 |
| S 3 | 16 48 17 | 13° 3'46 | 10♈34 | 5° 2 | 27°54 | 9°10 | 13°25 | 20°37 | 5°22 | 16° 7 | 7°36 | 24°20 | 25° 0 | 10°41 | 18° 6 | S 3 |
| S 4 | 16 52 13 | 14° 1'16 | 22°50 | 5°36 | 28°57 | 9°55 | 13°37 | 20°33 | 5°19 | 16° 8 | 7°36 | 24° 8 | 24°57 | 10°48 | 18° 8 | S 4 |
| M 5 | 16 56 10 | 14°58'45 | 5♈17 | 6° 6 | 0♈1 | 10°39 | 13°50 | 20°29 | 5°17 | 16°10 | 7°37 | 23°56 | 24°54 | 10°54 | 18°11 | M 5 |
| T 6 | 17 0 6 | 15°56'13 | 17°58 | 6°31 | 1° 4 | 11°23 | 14° 3 | 20°25 | 5°15 | 16°12 | 7°38 | 23°44 | 24°51 | 11° 1 | 18°13 | T 6 |
| W 7 | 17 4 3 | 16°53'41 | 0♈52 | 6°52 | 2° 8 | 12° 8 | 14°15 | 20°21 | 5°13 | 16°14 | 7°38 | 23°34 | 24°48 | 11° 8 | 18°15 | W 7 |
| T 8 | 17 8 0 | 17°51'07 | 13°58 | 7° 8 | 3°12 | 12°52 | 14°28 | 20°17 | 5°10 | 16°16 | 7°39 | 23°26 | 24°45 | 11°14 | 18°17 | T 8 |
| F 9 | 17 11 56 | 18°48'33 | 27°15 | 7°20 | 4°16 | 13°36 | 14°41 | 20°14 | 5° 8 | 16°18 | 7°40 | 23°21 | 24°41 | 11°21 | 18°19 | F 9 |
| S 10 | 17 15 53 | 19°45'57 | 10♈44 | 7°27 | 5°20 | 14°20 | 14°54 | 20°10 | 5° 6 | 16°20 | 7°40 | 23°18 | 24°38 | 11°28 | 18°21 | S 10 |
| S 11 | 17 19 49 | 20°43'21 | 24°22 | 7°R29 | 6°25 | 15° 5 | 15° 7 | 20° 6 | 5° 3 | 16°22 | 7°41 | 23°D18 | 24°35 | 11°34 | 18°23 | S 11 |
| M12 | 17 23 46 | 21°40'43 | 8♈12 | 7°27 | 7°30 | 15°49 | 15°19 | 20° 3 | 5° 1 | 16°25 | 7°41 | 23°18 | 24°32 | 11°41 | 18°25 | M12 |
| T 13 | 17 27 42 | 22°38'05 | 22°12 | 7°21 | 8°35 | 16°33 | 15°32 | 20° 0 | 4°59 | 16°27 | 7°42 | 23°R19 | 24°29 | 11°48 | 18°27 | T 13 |
| W14 | 17 31 39 | 23°35'25 | 6♈22 | 7°10 | 9°40 | 17°17 | 15°45 | 19°56 | 4°56 | 16°29 | 7°43 | 23°18 | 24°26 | 11°54 | 18°29 | W14 |
| T 15 | 17 35 36 | 24°32'44 | 20°41 | 6°55 | 10°45 | 18° 0 | 15°58 | 19°53 | 4°54 | 16°31 | 7°43 | 23°15 | 24°22 | 12° 1 | 18°31 | T 15 |
| F 16 | 17 39 32 | 25°30'02 | 5♈6 | 6°36 | 11°51 | 18°44 | 16°11 | 19°50 | 4°52 | 16°33 | 7°44 | 23°11 | 24°19 | 12° 8 | 18°33 | F 16 |
| S 17 | 17 43 29 | 26°27'20 | 19°32 | 6°14 | 12°56 | 19°28 | 16°24 | 19°46 | 4°49 | 16°35 | 7°44 | 23° 4 | 24°16 | 12°15 | 18°35 | S 17 |
| S 18 | 17 47 25 | 27°24'37 | 3♈56 | 5°48 | 14° 2 | 20°12 | 16°38 | 19°43 | 4°47 | 16°37 | 7°44 | 22°56 | 24°13 | 12°21 | 18°36 | S 18 |
| M19 | 17 51 22 | 28°21'53 | 18°10 | 5°20 | 15° 8 | 20°55 | 16°51 | 19°40 | 4°44 | 16°39 | 7°45 | 22°47 | 24°10 | 12°28 | 18°38 | M19 |
| T 20 | 17 55 18 | 29°19'08 | 2♈8 | 4°49 | 16°14 | 21°39 | 17° 4 | 19°37 | 4°42 | 16°41 | 7°45 | 22°39 | 24° 6 | 12°35 | 18°40 | T 20 |
| W21 | 17 59 15 | 0♈16'24 | 15°48 | 4°17 | 17°20 | 22°22 | 17°17 | 19°34 | 4°40 | 16°44 | 7°46 | 22°32 | 24° 3 | 12°41 | 18°41 | W21 |
| T 22 | 18 3 11 | 1°13'38 | 29° 6 | 3°43 | 18°27 | 23° 6 | 17°30 | 19°32 | 4°37 | 16°46 | 7°46 | 22°28 | 24° 0 | 12°48 | 18°43 | T 22 |
| F 23 | 18 7 8 | 2°10'53 | 12♈2 | 3° 8 | 19°33 | 23°49 | 17°43 | 19°29 | 4°35 | 16°48 | 7°46 | 22°25 | 23°57 | 12°55 | 18°44 | F 23 |
| S 24 | 18 11 5 | 3° 8'07 | 24°38 | 2°33 | 20°40 | 24°32 | 17°57 | 19°26 | 4°32 | 16°50 | 7°47 | 22°D25 | 23°54 | 13° 1 | 18°46 | S 24 |
| S 25 | 18 15 1 | 4° 5'21 | 6♈55 | 1°59 | 21°47 | 25°16 | 18°10 | 19°24 | 4°30 | 16°52 | 7°47 | 22°26 | 23°51 | 13° 8 | 18°47 | S 25 |
| M26 | 18 18 58 | 5° 2'34 | 18°59 | 1°26 | 22°53 | 25°59 | 18°23 | 19°21 | 4°27 | 16°54 | 7°47 | 22°27 | 23°47 | 13°15 | 18°48 | M26 |
| T 27 | 18 22 54 | 5°59'48 | 0♈54 | 0°54 | 24° 1 | 26°42 | 18°37 | 19°19 | 4°25 | 16°57 | 7°47 | 22°R28 | 23°44 | 13°21 | 18°50 | T 27 |
| W28 | 18 26 51 | 6°57'02 | 12°45 | 0°25 | 25° 8 | 27°25 | 18°50 | 19°17 | 4°22 | 16°59 | 7°48 | 22°28 | 23°41 | 13°28 | 18°51 | W28 |
| T 29 | 18 30 47 | 7°54'16 | 24°38 | 29♈58 | 26°15 | 28° 8 | 19° 3 | 19°14 | 4°20 | 17° 1 | 7°48 | 22°26 | 23°38 | 13°35 | 18°52 | T 29 |
| F 30 | 18 34 44 | 8°51'29 | 6♈36 | 29♈34 | 27♈23 | 28♈51 | 19°17 | 19♈12 | 4♈18 | 17° 3 | 7°R48 | 22♈23 | 23♈35 | 13°R41 | 18°R53 | F 30 |

Delta T = 82.23 sec

ASTRODIENST EPHEMERIS for the year 2073

geocentric

JULY 2073

00:00 UT

| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|----------|----------|---------|---------|--------|---------|--------|---------|-------|---------|-------|--------|--------|--------|--------|------|
| S 1 | 18 38 40 | 9°48'43 | 18°45 | 29°R14 | 28°R30 | 29°R34 | 19°R30 | 19°R10 | 4°R15 | 17°5 | 7°Y48 | 22°R18 | 23°R32 | 13°Y48 | 18°Y54 | S 1 |
| S 2 | 18 42 37 | 10°45'57 | 1°II 7 | 28°II57 | 29°38 | 0°II17 | 19°43 | 19°M 8 | 4°Z13 | 17° 8 | 7°48 | 22°R12 | 23°28 | 13°55 | 18°55 | S 2 |
| M 3 | 18 46 34 | 11°43'11 | 13°45 | 28°45 | 0°II46 | 0°59 | 19°57 | 19° 6 | 4°10 | 17°10 | 7°48 | 22° 5 | 23°25 | 14° 2 | 18°56 | M 3 |
| T 4 | 18 50 30 | 12°40'25 | 26°40 | 28°38 | 1°54 | 1°42 | 20°10 | 19° 4 | 4° 8 | 17°12 | 7°48 | 21°58 | 23°22 | 14° 8 | 18°57 | T 4 |
| W 5 | 18 54 27 | 13°37'40 | 9°52 | 28°D35 | 3° 2 | 2°25 | 20°24 | 19° 3 | 4° 6 | 17°14 | 7°48 | 21°52 | 23°19 | 14°15 | 18°58 | W 5 |
| T 6 | 18 58 23 | 14°34'54 | 23°19 | 28°37 | 4°10 | 3° 7 | 20°37 | 19° 1 | 4° 3 | 17°17 | 7°49 | 21°48 | 23°16 | 14°22 | 18°59 | T 6 |
| F 7 | 19 2 20 | 15°32'08 | 7°R 0 | 28°44 | 5°18 | 3°50 | 20°50 | 19° 0 | 4° 1 | 17°19 | 7°R49 | 21°45 | 23°12 | 14°28 | 19° 0 | F 7 |
| S 8 | 19 6 16 | 16°29'22 | 20°53 | 28°56 | 6°27 | 4°32 | 21° 4 | 18°58 | 3°58 | 17°21 | 7°49 | 21°D44 | 23° 9 | 14°35 | 19° 0 | S 8 |
| S 9 | 19 10 13 | 17°26'36 | 4°M 54 | 29°13 | 7°35 | 5°14 | 21°17 | 18°57 | 3°56 | 17°23 | 7°49 | 21°45 | 23° 6 | 14°42 | 19° 1 | S 9 |
| M10 | 19 14 9 | 18°23'50 | 19° 0 | 29°35 | 8°44 | 5°57 | 21°31 | 18°56 | 3°54 | 17°25 | 7°48 | 21°46 | 23° 3 | 14°48 | 19° 2 | M10 |
| T 11 | 19 18 6 | 19°21'03 | 3°A 11 | 0°R 3 | 9°52 | 6°39 | 21°44 | 18°55 | 3°51 | 17°28 | 7°48 | 21°47 | 23° 0 | 14°55 | 19° 2 | T 11 |
| W12 | 19 22 3 | 20°18'17 | 17°23 | 0°35 | 11° 1 | 7°21 | 21°58 | 18°53 | 3°49 | 17°30 | 7°48 | 21°R48 | 22°57 | 15° 2 | 19° 3 | W12 |
| T 13 | 19 25 59 | 21°15'30 | 1°M 35 | 1°13 | 12°10 | 8° 3 | 22°11 | 18°53 | 3°47 | 17°32 | 7°48 | 21°48 | 22°53 | 15° 9 | 19° 3 | T 13 |
| F 14 | 19 29 56 | 22°12'43 | 15°45 | 1°56 | 13°19 | 8°45 | 22°25 | 18°52 | 3°44 | 17°34 | 7°48 | 21°46 | 22°50 | 15°15 | 19° 4 | F 14 |
| S 15 | 19 33 52 | 23° 9'57 | 29°50 | 2°44 | 14°28 | 9°27 | 22°38 | 18°51 | 3°42 | 17°37 | 7°48 | 21°43 | 22°47 | 15°22 | 19° 4 | S 15 |
| S 16 | 19 37 49 | 24° 7'10 | 13°A 47 | 3°37 | 15°37 | 10° 9 | 22°52 | 18°50 | 3°40 | 17°39 | 7°48 | 21°40 | 22°44 | 15°29 | 19° 4 | S 16 |
| M17 | 19 41 45 | 25° 4'24 | 27°33 | 4°34 | 16°46 | 10°50 | 23° 5 | 18°50 | 3°38 | 17°41 | 7°47 | 21°36 | 22°41 | 15°35 | 19° 5 | M17 |
| T 18 | 19 45 42 | 26° 1'38 | 11°Z 6 | 5°37 | 17°55 | 11°32 | 23°19 | 18°49 | 3°36 | 17°43 | 7°47 | 21°32 | 22°38 | 15°42 | 19° 5 | T 18 |
| W19 | 19 49 38 | 26°58'52 | 24°24 | 6°45 | 19° 5 | 12°14 | 23°32 | 18°49 | 3°33 | 17°45 | 7°47 | 21°29 | 22°34 | 15°49 | 19° 5 | W19 |
| T 20 | 19 53 35 | 27°56'07 | 7°A 25 | 7°57 | 20°14 | 12°55 | 23°45 | 18°49 | 3°31 | 17°48 | 7°47 | 21°27 | 22°31 | 15°55 | 19° 5 | T 20 |
| F 21 | 19 57 32 | 28°53'22 | 20° 9 | 9°13 | 21°24 | 13°37 | 23°59 | 18°48 | 3°29 | 17°50 | 7°46 | 21°D27 | 22°28 | 16° 2 | 19° 5 | F 21 |
| S 22 | 20 1 28 | 29°50'37 | 2°H 37 | 10°35 | 22°34 | 14°18 | 24°12 | 18°D48 | 3°27 | 17°52 | 7°46 | 21°27 | 22°25 | 16° 9 | 19°R 5 | S 22 |
| S 23 | 20 5 25 | 0°R47'53 | 14°51 | 12° 1 | 23°43 | 15° 0 | 24°26 | 18°48 | 3°25 | 17°54 | 7°46 | 21°28 | 22°22 | 16°15 | 19° 5 | S 23 |
| M24 | 20 9 21 | 1°45'10 | 26°54 | 13°31 | 24°53 | 15°41 | 24°39 | 18°48 | 3°23 | 17°56 | 7°45 | 21°30 | 22°18 | 16°22 | 19° 5 | M24 |
| T 25 | 20 13 18 | 2°42'28 | 8°Y49 | 15° 5 | 26° 3 | 16°22 | 24°53 | 18°49 | 3°21 | 17°59 | 7°45 | 21°31 | 22°15 | 16°29 | 19° 5 | T 25 |
| W26 | 20 17 14 | 3°39'47 | 20°41 | 16°43 | 27°13 | 17° 3 | 25° 6 | 18°49 | 3°19 | 18° 1 | 7°45 | 21°32 | 22°12 | 16°36 | 19° 5 | W26 |
| T 27 | 20 21 11 | 4°37'06 | 2°B 34 | 18°25 | 28°23 | 17°44 | 25°19 | 18°49 | 3°17 | 18° 3 | 7°44 | 21°R33 | 22° 9 | 16°42 | 19° 5 | T 27 |
| F 28 | 20 25 7 | 5°34'26 | 14°33 | 20°11 | 29°33 | 18°25 | 25°33 | 18°50 | 3°15 | 18° 5 | 7°44 | 21°33 | 22° 6 | 16°49 | 19° 4 | F 28 |
| S 29 | 20 29 4 | 6°31'48 | 26°42 | 22° 0 | 0°B44 | 19° 6 | 25°46 | 18°50 | 3°13 | 18° 7 | 7°43 | 21°32 | 22° 3 | 16°56 | 19° 4 | S 29 |
| S 30 | 20 33 1 | 7°29'10 | 9°II 7 | 23°52 | 1°54 | 19°47 | 25°59 | 18°51 | 3°11 | 18° 9 | 7°43 | 21°30 | 21°59 | 17° 2 | 19° 3 | S 30 |
| M31 | 20 36 57 | 8°R26'34 | 21°II49 | 25°A 47 | 3°B 4 | 20°II28 | 26°R13 | 18°M 52 | 3°Z 9 | 18°B 11 | 7°Y42 | 21°R29 | 21°R56 | 17°Y 9 | 19°Y 3 | M31 |

Delta T = 82.26 sec

AUGUST 2073

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| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|----------|-----------|---------|---------|--------|---------|---------|---------|--------|---------|-------|--------|---------|---------|---------|------|
| T 1 | 20 40 54 | 9°R23'58 | 4°B 52 | 27°B 44 | 4°B 15 | 21°II 8 | 26°B 26 | 18°M 53 | 3°R 7 | 18°B 14 | 7°R42 | 21°R27 | 21°R53 | 17°Y16 | 19°R 3 | T 1 |
| W 2 | 20 44 50 | 10°21'24 | 18°16 | 29°43 | 5°26 | 21°49 | 26°39 | 18°54 | 3°Z 6 | 18°16 | 7°Y41 | 21°R25 | 21°50 | 17°22 | 19°Y 2 | W 2 |
| T 3 | 20 48 47 | 11°18'50 | 2°R 1 | 1°R 44 | 6°36 | 22°29 | 26°52 | 18°55 | 3° 4 | 18°18 | 7°41 | 21°25 | 21°47 | 17°29 | 19° 1 | T 3 |
| F 4 | 20 52 43 | 12°16'18 | 16° 5 | 3°47 | 7°47 | 23°10 | 27° 6 | 18°56 | 3° 2 | 18°20 | 7°40 | 21°D24 | 21°44 | 17°36 | 19° 1 | F 4 |
| S 5 | 20 56 40 | 13°13'46 | 0°M 23 | 5°50 | 8°58 | 23°50 | 27°19 | 18°57 | 3° 0 | 18°22 | 7°40 | 21°24 | 21°40 | 17°43 | 19° 0 | S 5 |
| S 6 | 21 0 36 | 14°11'15 | 14°50 | 7°54 | 10° 9 | 24°30 | 27°32 | 18°59 | 2°59 | 18°24 | 7°39 | 21°25 | 21°37 | 17°49 | 18°59 | S 6 |
| M 7 | 21 4 33 | 15° 8'45 | 29°22 | 9°59 | 11°20 | 25°11 | 27°45 | 19° 0 | 2°57 | 18°26 | 7°38 | 21°25 | 21°34 | 17°56 | 18°58 | M 7 |
| T 8 | 21 8 30 | 16° 6'16 | 13°A 53 | 12° 3 | 12°31 | 25°51 | 27°58 | 19° 2 | 2°56 | 18°28 | 7°38 | 21°26 | 21°31 | 18° 3 | 18°58 | T 8 |
| W 9 | 21 12 26 | 17° 3'47 | 28°19 | 14° 8 | 13°42 | 26°31 | 28°11 | 19° 3 | 2°54 | 18°30 | 7°37 | 21°26 | 21°28 | 18° 9 | 18°57 | W 9 |
| T 10 | 21 16 23 | 18° 1'19 | 12°M 35 | 16°12 | 14°53 | 27°11 | 28°24 | 19° 5 | 2°53 | 18°32 | 7°36 | 21°R26 | 21°24 | 18°16 | 18°56 | T 10 |
| F 11 | 21 20 19 | 18°58'52 | 26°39 | 18°15 | 16° 4 | 27°51 | 28°37 | 19° 7 | 2°51 | 18°34 | 7°36 | 21°26 | 21°21 | 18°23 | 18°55 | F 11 |
| S 12 | 21 24 16 | 19°56'26 | 10°A 30 | 20°18 | 17°15 | 28°30 | 28°50 | 19° 9 | 2°50 | 18°36 | 7°35 | 21°26 | 21°18 | 18°29 | 18°54 | S 12 |
| S 13 | 21 28 12 | 20°54'01 | 24° 6 | 22°20 | 18°27 | 29°10 | 29° 3 | 19°11 | 2°48 | 18°38 | 7°34 | 21°D26 | 21°15 | 18°36 | 18°52 | S 13 |
| M14 | 21 32 9 | 21°51'36 | 7°Z 29 | 24°20 | 19°38 | 29°50 | 29°16 | 19°13 | 2°47 | 18°40 | 7°34 | 21°26 | 21°12 | 18°43 | 18°51 | M14 |
| T 15 | 21 36 5 | 22°49'13 | 20°37 | 26°20 | 20°50 | 0°B 29 | 29°29 | 19°15 | 2°46 | 18°42 | 7°33 | 21°26 | 21° 9 | 18°50 | 18°50 | T 15 |
| W16 | 21 40 2 | 23°46'50 | 3°A 31 | 28°18 | 22° 1 | 1° 9 | 29°42 | 19°18 | 2°45 | 18°44 | 7°32 | 21°26 | 21° 5 | 18°56 | 18°49 | W16 |
| T 17 | 21 43 59 | 24°44'29 | 16°12 | 0°M 15 | 23°13 | 1°48 | 29°55 | 19°20 | 2°43 | 18°46 | 7°31 | 21°R26 | 21° 2 | 19° 3 | 18°48 | T 17 |
| F 18 | 21 47 55 | 25°42'09 | 28°40 | 2°11 | 24°25 | 2°27 | 0°R 7 | 19°23 | 2°42 | 18°48 | 7°30 | 21°26 | 20°59 | 19°10 | 18°46 | F 18 |
| S 19 | 21 51 52 | 26°39'50 | 10°H 57 | 4° 5 | 25°36 | 3° 7 | 0°20 | 19°25 | 2°41 | 18°49 | 7°29 | 21°26 | 20°56 | 19°16 | 18°45 | S 19 |
| S 20 | 21 55 48 | 27°37'33 | 23° 4 | 5°58 | 26°48 | 3°46 | 0°33 | 19°28 | 2°40 | 18°51 | 7°29 | 21°25 | 20°53 | 19°23 | 18°43 | S 20 |
| M21 | 21 59 45 | 28°35'17 | 5°Y 3 | 7°49 | 28° 0 | 4°25 | 0°45 | 19°31 | 2°39 | 18°53 | 7°28 | 21°25 | 20°49 | 19°30 | 18°42 | M21 |
| T 22 | 22 3 41 | 29°33'02 | 16°57 | 9°40 | 29°12 | 5° 4 | 0°58 | 19°33 | 2°38 | 18°55 | 7°27 | 21°24 | 20°46 | 19°36 | 18°40 | T 22 |
| W23 | 22 7 38 | 0°M 30'50 | 28°48 | 11°28 | 0°R 24 | 5°42 | 1°10 | 19°36 | 2°37 | 18°57 | 7°26 | 21°22 | 20°43 | 19°43 | 18°39 | W23 |
| T 24 | 22 11 34 | 1°28'38 | 10°B 40 | 13°16 | 1°36 | 6°21 | 1°23 | 19°39 | 2°36 | 18°58 | 7°25 | 21°21 | 20°40 | 19°50 | 18°37 | T 24 |
| F 25 | 22 15 31 | 2°26'29 | 22°38 | 15° 2 | 2°49 | 7° 0 | 1°35 | 19°42 | 2°35 | 19° 0 | 7°24 | 21°21 | 20°37 | 19°57 | 18°36 | F 25 |
| S 26 | 22 19 27 | 3°24'21 | 4°II 46 | 16°46 | 4° 1 | 7°39 | 1°48 | 19°46 | 2°35 | 19° 2 | 7°23 | 21°D21 | 20°34 | 20° 3 | 18°34 | S 26 |
| S 27 | 22 23 24 | 4°22'15 | 17° 8 | 18°30 | 5°13 | 8°17 | 2° 0 | 19°49 | 2°34 | 19° 4 | 7°22 | 21°21 | 20°30 | 20°10 | 18°32 | S 27 |
| M28 | 22 27 21 | 5°20'11 | 29°48 | 20°12 | 6°26 | 8°55 | 2°12 | 19°52 | 2°33 | 19° 5 | 7°21 | 21°22 | 20°27 | 20°17 | 18°30 | M28 |
| T 29 | 22 31 17 | 6°18'09 | 12°B 51 | 21°52 | 7°38 | 9°34 | 2°24 | 19°56 | 2°32 | 19° 7 | 7°20 | 21°23 | 20°24 | 20°23 | 18°29 | T 29 |
| W30 | 22 35 14 | 7°16'08 | 26°18 | 23°32 | 8°51 | 10°12 | 2°37 | 19°59 | 2°32 | 19° 8 | 7°19 | 21°24 | 20°21 | 20°30 | 18°27 | W30 |
| T 31 | 22 39 10 | 8°M 14'09 | 10°R 11 | 25°M 10 | 10°R 3 | 10°B 50 | 2°R 49 | 20°M 3 | 2°Z 31 | 19°B 10 | 7°Y18 | 21°R25 | 20°R 18 | 20°Y 37 | 18°Y 25 | T 31 |

Delta T = 82.29 sec

ASTRODIENST EPHEMERIS for the year 2073

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SEPTEMBER 2073

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| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|----------|------------------------|------------------------|------------------------|------------------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|------------------------|------------------------|------------------------|------|
| F 1 | 22 43 7 | 9 ^h 12'12" | 24 ^h 02'28" | 26 ^h 47'47" | 11 ^h 01'16" | 11 ^h 02'28" | 3 ^h 01'13" | 20 ^h 07'17" | 2 ^h 03'31" | 19 ^h 05'12" | 7 ^h 01'17" | 21 ^h 02'25" | 20 ^h 01'15" | 20 ^h 04'43" | 18 ^h 02'23" | F 1 |
| S 2 | 22 47 3 | 10 ^h 10'17" | 9 ^h 05'57" | 28 ^h 22'22" | 12 ^h 28'28" | 12 ^h 06'06" | 3 ^h 13'33" | 20 ^h 10'10" | 2 ^h 03'30" | 19 ^h 13'13" | 7 ^h 01'16" | 21 ^h 02'25" | 20 ^h 01'11" | 20 ^h 05'50" | 18 ^h 02'21" | S 2 |
| S 3 | 22 51 0 | 11 ^h 08'23" | 23 ^h 05'57" | 29 ^h 05'56" | 13 ^h 41'41" | 12 ^h 44'44" | 3 ^h 25'25" | 20 ^h 14'14" | 2 ^h 03'30" | 19 ^h 15'15" | 7 ^h 01'15" | 21 ^h 02'23" | 20 ^h 00'08" | 20 ^h 05'57" | 18 ^h 01'19" | S 3 |
| M 4 | 22 54 56 | 12 ^h 06'31" | 8 ^h 05'54" | 14 ^h 05'54" | 14 ^h 54'54" | 13 ^h 22'22" | 3 ^h 36'36" | 20 ^h 18'18" | 2 ^h 03'30" | 19 ^h 16'16" | 7 ^h 01'14" | 21 ^h 02'21" | 20 ^h 00'05" | 21 ^h 00'04" | 18 ^h 01'17" | M 4 |
| T 5 | 22 58 53 | 13 ^h 04'40" | 23 ^h 05'50" | 3 ^h 01'16" | 16 ^h 07'13" | 13 ^h 59'59" | 3 ^h 48'48" | 20 ^h 22'22" | 2 ^h 02'29" | 19 ^h 18'18" | 7 ^h 01'13" | 21 ^h 01'18" | 20 ^h 00'02" | 21 ^h 01'10" | 18 ^h 01'15" | T 5 |
| W 6 | 23 2 50 | 14 ^h 02'51" | 8 ^h 05'35" | 4 ^h 03'21" | 17 ^h 20'20" | 14 ^h 37'37" | 4 ^h 00'00" | 20 ^h 26'26" | 2 ^h 02'29" | 19 ^h 19'19" | 7 ^h 01'12" | 21 ^h 01'15" | 19 ^h 05'59" | 21 ^h 01'17" | 18 ^h 01'13" | W 6 |
| T 7 | 23 6 46 | 15 ^h 01'03" | 23 ^h 04'04" | 6 ^h 01'18" | 18 ^h 33'33" | 15 ^h 14'14" | 4 ^h 12'12" | 20 ^h 30'30" | 2 ^h 02'29" | 19 ^h 21'21" | 7 ^h 01'11" | 21 ^h 01'13" | 19 ^h 05'55" | 21 ^h 02'24" | 18 ^h 01'10" | T 7 |
| F 8 | 23 10 43 | 15 ^h 59'17" | 7 ^h 02'13" | 7 ^h 29'29" | 19 ^h 46'46" | 15 ^h 52'52" | 4 ^h 23'23" | 20 ^h 35'35" | 2 ^h 02'29" | 19 ^h 22'22" | 7 ^h 01'10" | 21 ^h 01'11" | 19 ^h 05'52" | 21 ^h 03'30" | 18 ^h 00'08" | F 8 |
| S 9 | 23 14 39 | 16 ^h 57'32" | 21 ^h 01'01" | 8 ^h 05'56" | 20 ^h 59'59" | 16 ^h 29'29" | 4 ^h 35'35" | 20 ^h 39'39" | 2 ^h 02'28" | 19 ^h 23'23" | 7 ^h 00'09" | 21 ^h 01'11" | 19 ^h 04'49" | 21 ^h 03'37" | 18 ^h 00'06" | S 9 |
| S 10 | 23 18 36 | 17 ^h 55'49" | 4 ^h 03'27" | 10 ^h 02'21" | 22 ^h 12'12" | 17 ^h 06'06" | 4 ^h 46'46" | 20 ^h 43'43" | 2 ^h 02'28" | 19 ^h 25'25" | 7 ^h 00'08" | 21 ^h 01'12" | 19 ^h 04'46" | 21 ^h 04'44" | 18 ^h 00'04" | S 10 |
| M 11 | 23 22 32 | 18 ^h 54'07" | 17 ^h 03'34" | 11 ^h 04'46" | 23 ^h 25'25" | 17 ^h 43'43" | 4 ^h 57'57" | 20 ^h 48'48" | 2 ^h 02'28" | 19 ^h 26'26" | 7 ^h 00'07" | 21 ^h 01'14" | 19 ^h 04'43" | 21 ^h 05'51" | 18 ^h 00'02" | M 11 |
| T 12 | 23 26 29 | 19 ^h 52'27" | 0 ^h 00'24" | 13 ^h 08'08" | 24 ^h 39'39" | 18 ^h 20'20" | 5 ^h 09'09" | 20 ^h 52'52" | 2 ^h 02'28" | 19 ^h 27'27" | 7 ^h 00'06" | 21 ^h 01'15" | 19 ^h 04'40" | 21 ^h 05'57" | 17 ^h 59'59" | T 12 |
| W 13 | 23 30 25 | 20 ^h 50'48" | 12 ^h 05'59" | 14 ^h 30'30" | 25 ^h 52'52" | 18 ^h 57'57" | 5 ^h 20'20" | 20 ^h 57'57" | 2 ^h 02'29" | 19 ^h 29'29" | 7 ^h 00'04" | 21 ^h 01'16" | 19 ^h 03'36" | 22 ^h 00'04" | 17 ^h 57'57" | W 13 |
| T 14 | 23 34 22 | 21 ^h 49'11" | 25 ^h 02'22" | 15 ^h 50'50" | 27 ^h 05'05" | 19 ^h 33'33" | 5 ^h 31'31" | 21 ^h 02'02" | 2 ^h 02'29" | 19 ^h 30'30" | 7 ^h 00'03" | 21 ^h 01'17" | 19 ^h 03'33" | 22 ^h 01'11" | 17 ^h 55'55" | T 14 |
| F 15 | 23 38 19 | 22 ^h 47'35" | 7 ^h 03'35" | 17 ^h 09'09" | 28 ^h 19'19" | 20 ^h 10'10" | 5 ^h 42'42" | 21 ^h 07'07" | 2 ^h 02'29" | 19 ^h 31'31" | 7 ^h 00'02" | 21 ^h 01'15" | 19 ^h 03'30" | 22 ^h 02'17" | 17 ^h 52'52" | F 15 |
| S 16 | 23 42 15 | 23 ^h 46'02" | 19 ^h 04'41" | 18 ^h 26'26" | 29 ^h 32'32" | 20 ^h 47'47" | 5 ^h 53'53" | 21 ^h 11'11" | 2 ^h 02'29" | 19 ^h 32'32" | 7 ^h 00'01" | 21 ^h 01'13" | 19 ^h 02'27" | 22 ^h 02'24" | 17 ^h 50'50" | S 16 |
| S 17 | 23 46 12 | 24 ^h 44'30" | 1 ^h 04'40" | 19 ^h 41'41" | 0 ^h 04'46" | 21 ^h 23'23" | 6 ^h 04'04" | 21 ^h 16'16" | 2 ^h 02'29" | 19 ^h 34'34" | 7 ^h 00'00" | 21 ^h 00'08" | 19 ^h 02'24" | 22 ^h 03'31" | 17 ^h 47'47" | S 17 |
| M 18 | 23 50 8 | 25 ^h 43'00" | 13 ^h 35'55" | 20 ^h 55'55" | 1 ^h 59'59" | 21 ^h 59'59" | 6 ^h 15'15" | 21 ^h 21'21" | 2 ^h 03'30" | 19 ^h 35'35" | 6 ^h 59'59" | 21 ^h 00'02" | 19 ^h 02'21" | 22 ^h 03'37" | 17 ^h 45'45" | M 18 |
| T 19 | 23 54 5 | 26 ^h 41'32" | 25 ^h 02'26" | 22 ^h 07'07" | 3 ^h 13'13" | 22 ^h 35'35" | 6 ^h 25'25" | 21 ^h 26'26" | 2 ^h 03'30" | 19 ^h 36'36" | 6 ^h 57'57" | 20 ^h 56'56" | 19 ^h 01'17" | 22 ^h 04'44" | 17 ^h 42'42" | T 19 |
| W 20 | 23 58 1 | 27 ^h 40'06" | 7 ^h 03'18" | 23 ^h 18'18" | 4 ^h 26'26" | 23 ^h 11'11" | 6 ^h 36'36" | 21 ^h 31'31" | 2 ^h 03'31" | 19 ^h 37'37" | 6 ^h 56'56" | 20 ^h 49'49" | 19 ^h 01'14" | 22 ^h 05'51" | 17 ^h 40'40" | W 20 |
| T 21 | 0 1 58 | 28 ^h 38'43" | 19 ^h 10'10" | 24 ^h 27'27" | 5 ^h 40'40" | 23 ^h 47'47" | 6 ^h 46'46" | 21 ^h 36'36" | 2 ^h 03'31" | 19 ^h 38'38" | 6 ^h 55'55" | 20 ^h 43'43" | 19 ^h 01'11" | 22 ^h 05'58" | 17 ^h 37'37" | T 21 |
| F 22 | 0 5 54 | 29 ^h 37'21" | 1 ^h 11'08" | 25 ^h 33'33" | 6 ^h 54'54" | 24 ^h 23'23" | 6 ^h 57'57" | 21 ^h 42'42" | 2 ^h 03'32" | 19 ^h 39'39" | 6 ^h 54'54" | 20 ^h 38'38" | 19 ^h 00'08" | 23 ^h 00'04" | 17 ^h 35'35" | F 22 |
| S 23 | 0 9 51 | 0 ^h 03'02" | 13 ^h 14'14" | 26 ^h 38'38" | 8 ^h 08'08" | 24 ^h 59'59" | 7 ^h 07'07" | 21 ^h 47'47" | 2 ^h 03'32" | 19 ^h 40'40" | 6 ^h 53'53" | 20 ^h 35'35" | 19 ^h 00'05" | 23 ^h 01'11" | 17 ^h 32'32" | S 23 |
| S 24 | 0 13 48 | 1 ^h 34'44" | 25 ^h 33'33" | 27 ^h 40'40" | 9 ^h 22'22" | 25 ^h 34'34" | 7 ^h 17'17" | 21 ^h 52'52" | 2 ^h 03'33" | 19 ^h 41'41" | 6 ^h 52'52" | 20 ^h 33'33" | 19 ^h 00'01" | 23 ^h 01'18" | 17 ^h 30'30" | S 24 |
| M 25 | 0 17 44 | 2 ^h 33'29" | 8 ^h 05'08" | 28 ^h 40'40" | 10 ^h 36'36" | 26 ^h 10'10" | 7 ^h 28'28" | 21 ^h 58'58" | 2 ^h 03'34" | 19 ^h 42'42" | 6 ^h 50'50" | 20 ^h 33'33" | 18 ^h 58'58" | 23 ^h 02'24" | 17 ^h 27'27" | M 25 |
| T 26 | 0 21 41 | 3 ^h 32'17" | 21 ^h 05'05" | 29 ^h 37'37" | 11 ^h 50'50" | 26 ^h 45'45" | 7 ^h 38'38" | 22 ^h 00'03" | 2 ^h 03'34" | 19 ^h 43'43" | 6 ^h 49'49" | 20 ^h 34'34" | 18 ^h 55'55" | 23 ^h 03'31" | 17 ^h 24'24" | T 26 |
| W 27 | 0 25 37 | 4 ^h 31'06" | 4 ^h 02'27" | 0 ^h 03'31" | 13 ^h 04'04" | 27 ^h 20'20" | 7 ^h 48'48" | 22 ^h 00'09" | 2 ^h 03'35" | 19 ^h 44'44" | 6 ^h 48'48" | 20 ^h 35'35" | 18 ^h 52'52" | 23 ^h 03'38" | 17 ^h 22'22" | W 27 |
| T 28 | 0 29 34 | 5 ^h 29'58" | 18 ^h 01'16" | 1 ^h 02'23" | 14 ^h 18'18" | 27 ^h 55'55" | 7 ^h 58'58" | 22 ^h 01'41" | 2 ^h 03'36" | 19 ^h 44'44" | 6 ^h 47'47" | 20 ^h 36'36" | 18 ^h 49'49" | 23 ^h 04'45" | 17 ^h 19'19" | T 28 |
| F 29 | 0 33 30 | 6 ^h 28'52" | 2 ^h 03'33" | 2 ^h 11'11" | 15 ^h 32'32" | 28 ^h 30'30" | 8 ^h 07'07" | 22 ^h 02'20" | 2 ^h 03'37" | 19 ^h 45'45" | 6 ^h 46'46" | 20 ^h 36'36" | 18 ^h 46'46" | 23 ^h 05'51" | 17 ^h 16'16" | F 29 |
| S 30 | 0 37 27 | 7 ^h 02'48" | 17 ^h 05'15" | 2 ^h 05'55" | 16 ^h 04'46" | 29 ^h 05'05" | 8 ^h 01'17" | 22 ^h 02'26" | 2 ^h 03'38" | 19 ^h 04'46" | 6 ^h 45'45" | 20 ^h 33'33" | 18 ^h 04'42" | 23 ^h 05'58" | 17 ^h 14'14" | S 30 |

Delta T = 82.32 sec

OCTOBER 2073

00:00 UT

| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|---------|-------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------|
| S 1 | 0 41 23 | 8 ^h 02'47 | 2 ^h 01'18 | 3 ^h 03'36 | 18 ^h 00'0 | 29 ^h 05'40 | 8 ^h 02'26 | 22 ^h 03'31 | 2 ^h 03'39 | 19 ^h 05'47 | 6 ^h 04'43 | 20 ^h 02'28 | 18 ^h 02'39 | 24 ^h 05'05 | 17 ^h 01'11 | S 1 |
| M 2 | 0 45 20 | 9 ^h 25'47 | 17 ^h 32'12 | 4 ^h 12'12 | 19 ^h 14'14 | 0 ^h 01'14 | 8 ^h 36'36 | 22 ^h 07'07 | 2 ^h 04'40 | 19 ^h 07'47 | 6 ^h 04'42 | 20 ^h 02'22 | 18 ^h 36'36 | 24 ^h 01'11 | 17 ^h 00'08 | M 2 |
| T 3 | 0 49 16 | 10 ^h 24'49 | 2 ^h 04'48 | 4 ^h 44'44 | 20 ^h 29'29 | 0 ^h 04'04 | 8 ^h 45'45 | 22 ^h 10'10 | 2 ^h 04'41 | 19 ^h 08'48 | 6 ^h 04'41 | 20 ^h 01'14 | 18 ^h 33'33 | 24 ^h 01'18 | 17 ^h 00'06 | T 3 |
| W 4 | 0 53 13 | 11 ^h 23'53 | 17 ^h 05'53 | 5 ^h 10'10 | 21 ^h 43'43 | 1 ^h 23'23 | 8 ^h 54'54 | 22 ^h 14'14 | 2 ^h 04'42 | 19 ^h 09'49 | 6 ^h 04'40 | 20 ^h 00'07 | 18 ^h 30'30 | 24 ^h 02'25 | 17 ^h 00'03 | W 4 |
| T 5 | 0 57 10 | 12 ^h 22'59 | 2 ^h 07'39 | 5 ^h 32'32 | 22 ^h 57'57 | 1 ^h 57'57 | 9 ^h 03'03 | 22 ^h 18'18 | 2 ^h 04'44 | 19 ^h 10'49 | 6 ^h 03'39 | 20 ^h 00'00 | 18 ^h 26'26 | 24 ^h 03'32 | 17 ^h 00'00 | T 5 |
| F 6 | 1 1 6 | 13 ^h 22'07 | 1 ^h 07'00 | 5 ^h 47'47 | 24 ^h 12'12 | 2 ^h 31'31 | 9 ^h 12'12 | 23 ^h 01'01 | 2 ^h 04'45 | 19 ^h 11'50 | 6 ^h 03'37 | 19 ^h 55'55 | 18 ^h 23'23 | 24 ^h 03'38 | 16 ^h 58'58 | F 6 |
| S 7 | 1 5 3 | 14 ^h 21'17 | 0 ^h 07'54 | 5 ^h 56'56 | 25 ^h 26'26 | 3 ^h 05'05 | 9 ^h 21'21 | 23 ^h 07'07 | 2 ^h 04'46 | 19 ^h 12'50 | 6 ^h 03'36 | 19 ^h 52'52 | 18 ^h 20'20 | 24 ^h 04'45 | 16 ^h 55'55 | S 7 |
| S 8 | 1 8 59 | 15 ^h 20'28 | 14 ^h 02'21 | 5 ^h 55'55 | 26 ^h 40'40 | 3 ^h 39'39 | 9 ^h 30'30 | 23 ^h 13'13 | 2 ^h 04'48 | 19 ^h 13'51 | 6 ^h 03'35 | 19 ^h 51'51 | 18 ^h 17'17 | 24 ^h 05'52 | 16 ^h 52'52 | S 8 |
| M 9 | 1 12 56 | 16 ^h 19'42 | 27 ^h 23'23 | 5 ^h 54'54 | 27 ^h 55'55 | 4 ^h 12'12 | 9 ^h 39'39 | 23 ^h 19'19 | 2 ^h 04'49 | 19 ^h 14'51 | 6 ^h 03'34 | 19 ^h 52'52 | 18 ^h 14'14 | 24 ^h 05'58 | 16 ^h 49'49 | M 9 |
| T 10 | 1 16 52 | 17 ^h 18'56 | 10 ^h 00'03 | 5 ^h 41'41 | 29 ^h 09'09 | 4 ^h 46'46 | 9 ^h 47'47 | 23 ^h 25'25 | 2 ^h 05'00 | 19 ^h 15'52 | 6 ^h 03'33 | 19 ^h 53'53 | 18 ^h 11'11 | 25 ^h 00'00 | 16 ^h 47'47 | T 10 |
| W 11 | 1 20 49 | 18 ^h 18'13 | 22 ^h 27'27 | 5 ^h 21'21 | 0 ^h 02'44 | 5 ^h 19'19 | 9 ^h 55'55 | 23 ^h 32'32 | 2 ^h 05'02 | 19 ^h 16'54 | 6 ^h 03'32 | 19 ^h 53'53 | 18 ^h 07'07 | 25 ^h 12'12 | 16 ^h 44'44 | W 11 |
| T 12 | 1 24 45 | 19 ^h 17'31 | 4 ^h 07'39 | 4 ^h 52'52 | 1 ^h 39'39 | 5 ^h 52'52 | 10 ^h 04'04 | 23 ^h 38'38 | 2 ^h 05'03 | 19 ^h 17'53 | 6 ^h 03'30 | 19 ^h 52'52 | 18 ^h 04'04 | 25 ^h 18'18 | 16 ^h 41'41 | T 12 |
| F 13 | 1 28 42 | 20 ^h 16'52 | 16 ^h 41'41 | 4 ^h 15'15 | 2 ^h 53'53 | 6 ^h 25'25 | 10 ^h 12'12 | 23 ^h 44'44 | 2 ^h 05'05 | 19 ^h 18'53 | 6 ^h 02'29 | 19 ^h 48'48 | 18 ^h 01'01 | 25 ^h 25'25 | 16 ^h 38'38 | F 13 |
| S 14 | 1 32 39 | 21 ^h 16'14 | 28 ^h 38'38 | 3 ^h 30'30 | 4 ^h 08'08 | 6 ^h 58'58 | 10 ^h 20'20 | 23 ^h 51'51 | 2 ^h 05'07 | 19 ^h 19'53 | 6 ^h 02'28 | 19 ^h 42'42 | 17 ^h 58'58 | 25 ^h 32'32 | 16 ^h 36'36 | S 14 |
| S 15 | 1 36 35 | 22 ^h 15'37 | 10 ^h 07'31 | 2 ^h 37'37 | 5 ^h 23'23 | 7 ^h 30'30 | 10 ^h 28'28 | 23 ^h 57'57 | 2 ^h 05'08 | 19 ^h 20'54 | 6 ^h 02'27 | 19 ^h 33'33 | 17 ^h 55'55 | 25 ^h 39'39 | 16 ^h 33'33 | S 15 |
| M 16 | 1 40 32 | 23 ^h 15'03 | 22 ^h 23'23 | 1 ^h 37'37 | 6 ^h 37'37 | 8 ^h 03'03 | 10 ^h 35'35 | 24 ^h 03'03 | 3 ^h 00'00 | 19 ^h 21'54 | 6 ^h 02'26 | 19 ^h 22'22 | 17 ^h 52'52 | 25 ^h 45'45 | 16 ^h 30'30 | M 16 |
| T 17 | 1 44 28 | 24 ^h 14'31 | 4 ^h 08'15 | 0 ^h 32'32 | 7 ^h 52'52 | 8 ^h 35'35 | 10 ^h 43'43 | 24 ^h 10'10 | 3 ^h 02'02 | 19 ^h 22'54 | 6 ^h 02'25 | 19 ^h 10'10 | 17 ^h 48'48 | 25 ^h 52'52 | 16 ^h 28'28 | T 17 |
| W 18 | 1 48 25 | 25 ^h 14'01 | 16 ^h 09'09 | 29 ^h 02'21 | 9 ^h 07'07 | 9 ^h 07'07 | 10 ^h 50'50 | 24 ^h 16'16 | 3 ^h 04'04 | 19 ^h 23'54 | 6 ^h 02'24 | 18 ^h 57'57 | 17 ^h 45'45 | 25 ^h 59'59 | 16 ^h 25'25 | W 18 |
| T 19 | 1 52 21 | 26 ^h 13'34 | 28 ^h 05'05 | 28 ^h 08'08 | 10 ^h 22'22 | 9 ^h 39'39 | 10 ^h 58'58 | 24 ^h 23'23 | 3 ^h 06'06 | 19 ^h 24'54 | 6 ^h 02'23 | 18 ^h 45'45 | 17 ^h 42'42 | 26 ^h 05'05 | 16 ^h 22'22 | T 19 |
| F 20 | 1 56 18 | 27 ^h 13'08 | 10 ^h 11'11 | 26 ^h 54'54 | 11 ^h 36'36 | 10 ^h 11'11 | 11 ^h 05'05 | 24 ^h 30'30 | 3 ^h 08'08 | 19 ^h 25'54 | 6 ^h 02'21 | 18 ^h 35'35 | 17 ^h 39'39 | 26 ^h 12'12 | 16 ^h 20'20 | F 20 |
| S 21 | 2 0 14 | 28 ^h 12'45 | 22 ^h 16'16 | 25 ^h 41'41 | 12 ^h 51'51 | 10 ^h 43'43 | 11 ^h 12'12 | 24 ^h 36'36 | 3 ^h 10'10 | 19 ^h 26'54 | 6 ^h 02'20 | 18 ^h 27'27 | 17 ^h 36'36 | 26 ^h 19'19 | 16 ^h 17'17 | S 21 |
| S 22 | 2 4 11 | 29 ^h 12'23 | 4 ^h 05'35 | 24 ^h 31'31 | 14 ^h 06'06 | 11 ^h 14'14 | 11 ^h 19'19 | 24 ^h 43'43 | 3 ^h 12'12 | 19 ^h 27'54 | 6 ^h 01'19 | 18 ^h 22'22 | 17 ^h 32'32 | 26 ^h 26'26 | 16 ^h 14'14 | S 22 |
| M 23 | 2 8 8 | 0 ^h 01'12'05 | 17 ^h 09'09 | 23 ^h 27'27 | 15 ^h 21'21 | 11 ^h 45'45 | 11 ^h 25'25 | 24 ^h 50'50 | 3 ^h 14'14 | 19 ^h 28'54 | 6 ^h 01'18 | 18 ^h 19'19 | 17 ^h 29'29 | 26 ^h 32'32 | 16 ^h 12'12 | M 23 |
| T 24 | 2 12 4 | 1 ^h 01'14'48 | 29 ^h 59'59 | 22 ^h 31'31 | 16 ^h 36'36 | 12 ^h 16'16 | 11 ^h 32'32 | 24 ^h 56'56 | 3 ^h 16'16 | 19 ^h 29'54 | 6 ^h 01'17 | 18 ^h 18'18 | 17 ^h 26'26 | 26 ^h 39'39 | 16 ^h 09'09 | T 24 |
| W 25 | 2 16 1 | 2 ^h 01'13'33 | 13 ^h 02'13 | 21 ^h 43'43 | 17 ^h 51'51 | 12 ^h 47'47 | 11 ^h 38'38 | 25 ^h 03'03 | 3 ^h 18'18 | 19 ^h 30'54 | 6 ^h 01'16 | 18 ^h 17'18 | 17 ^h 23'23 | 26 ^h 46'46 | 16 ^h 06'06 | W 25 |
| T 26 | 2 19 57 | 3 ^h 01'11'21 | 26 ^h 52'52 | 21 ^h 06'06 | 19 ^h 06'06 | 13 ^h 18'18 | 11 ^h 45'45 | 25 ^h 10'10 | 3 ^h 20'20 | 19 ^h 31'54 | 6 ^h 01'15 | 18 ^h 16'18 | 17 ^h 20'20 | 26 ^h 52'52 | 16 ^h 04'04 | T 26 |
| F 27 | 2 23 54 | 4 ^h 01'11'11 | 10 ^h 07'58 | 20 ^h 40'40 | 20 ^h 21'21 | 13 ^h 48'48 | 11 ^h 51'51 | 25 ^h 17'17 | 3 ^h 22'22 | 19 ^h 32'54 | 6 ^h 01'14 | 18 ^h 15'16 | 17 ^h 17'17 | 26 ^h 59'59 | 16 ^h 01'01 | F 27 |
| S 28 | 2 27 50 | 5 ^h 01'11'03 | 25 ^h 31'31 | 20 ^h 25'25 | 21 ^h 36'36 | 14 ^h 19'19 | 11 ^h 57'57 | 25 ^h 23'23 | 3 ^h 25'25 | 19 ^h 33'54 | 6 ^h 01'13 | 18 ^h 12'12 | 17 ^h 13'13 | 27 ^h 06'06 | 15 ^h 59'59 | S 28 |
| S 29 | 2 31 47 | 6 ^h 01'05'58 | 10 ^h 02'28 | 20 ^h 02'22 | 22 ^h 51'51 | 14 ^h 49'49 | 12 ^h 03'03 | 25 ^h 30'30 | 3 ^h 27'27 | 19 ^h 34'54 | 6 ^h 01'12 | 18 ^h 05'05 | 17 ^h 10'10 | 27 ^h 13'13 | 15 ^h 56'56 | S 29 |
| M 30 | 2 35 43 | 7 ^h 01'05'54 | 25 ^h 42'42 | 20 ^h 29'29 | 24 ^h 06'06 | 15 ^h 19'19 | 12 ^h 08'08 | 25 ^h 37'37 | 3 ^h 29'29 | 19 ^h 35'54 | 6 ^h 01'11 | 17 ^h 56'56 | 17 ^h 07'07 | 27 ^h 19'19 | 15 ^h 54'54 | M 30 |
| T 31 | 2 39 40 | 8 ^h 01'05'52 | 11 ^h 02'48 | 20 ^h 04'48 | 25 ^h 02'21 | 15 ^h 04'48 | 12 ^h 04'14 | 25 ^h 04'44 | 3 ^h 30'32 | 19 ^h 36'53 | 6 ^h 01'10 | 17 ^h 04'45 | 17 ^h 04'48 | 27 ^h 06'26 | 15 ^h 51'51 | T 31 |

ASTRODIENST EPHEMERIS for the year 2073

geocentric

NOVEMBER 2073

00:00 UT

| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|---------|----------|-------|-------|-------|-------|--------|-------|------|-------|------|--------|-------|-------|-------|------|
| W 1 | 2 43 37 | 9♉10°53 | 26♉16 | 21♉16 | 26♉36 | 16♉18 | 12♉19 | 25♉51 | 3♉34 | 19♉53 | 6♉9 | 17♉34 | 17♉1 | 27♉33 | 15♉49 | W 1 |
| T 2 | 2 47 33 | 10°10'55 | 11♉14 | 21°54 | 27°51 | 16°47 | 12°24 | 25°58 | 3°36 | 19°53 | 6♉8 | 17°23 | 16°57 | 27°39 | 15°46 | T 2 |
| F 3 | 2 51 30 | 11°10'59 | 25°47 | 22°39 | 29°7 | 17°16 | 12°29 | 26°5 | 3°39 | 19°52 | 6°7 | 17°15 | 16°54 | 27°46 | 15°44 | F 3 |
| S 4 | 2 55 26 | 12°11'04 | 9♉51 | 23°33 | 0♉22 | 17°44 | 12°34 | 26°12 | 3°41 | 19°52 | 6°6 | 17°9 | 16°51 | 27°53 | 15°42 | S 4 |
| S 5 | 2 59 23 | 13°11'11 | 23°25 | 24°32 | 1°37 | 18°13 | 12°39 | 26°19 | 3°44 | 19°51 | 6°5 | 17°6 | 16°48 | 28°0 | 15°39 | S 5 |
| M 6 | 3 3 19 | 14°11'20 | 6♉30 | 25°38 | 2°52 | 18°41 | 12°43 | 26°26 | 3°47 | 19°51 | 6°4 | 17°5 | 16°45 | 28°6 | 15°37 | M 6 |
| T 7 | 3 7 16 | 15°11'30 | 19°11 | 26°48 | 4°7 | 19°9 | 12°47 | 26°33 | 3°49 | 19°50 | 6°4 | 17°5 | 16°42 | 28°13 | 15°35 | T 7 |
| W 8 | 3 11 12 | 16°11'42 | 1♉33 | 28°3 | 5°23 | 19°37 | 12°52 | 26°40 | 3°52 | 19°50 | 6°3 | 17°5 | 16°38 | 28°20 | 15°32 | W 8 |
| T 9 | 3 15 9 | 17°11'55 | 13°40 | 29°22 | 6°38 | 20°5 | 12°55 | 26°47 | 3°55 | 19°49 | 6°2 | 17°3 | 16°35 | 28°26 | 15°30 | T 9 |
| F 10 | 3 19 6 | 18°12'09 | 25°37 | 0♉43 | 7°53 | 20°32 | 12°59 | 26°54 | 3°58 | 19°49 | 6°1 | 16°59 | 16°32 | 28°33 | 15°28 | F 10 |
| S 11 | 3 23 2 | 19°12'25 | 7♉30 | 2°7 | 9°8 | 20°59 | 13°3 | 27°1 | 4°0 | 19°48 | 6°0 | 16°52 | 16°29 | 28°40 | 15°26 | S 11 |
| S 12 | 3 26 59 | 20°12'43 | 19°20 | 3°34 | 10°24 | 21°26 | 13°6 | 27°9 | 4°3 | 19°47 | 5°59 | 16°41 | 16°26 | 28°47 | 15°24 | S 12 |
| M 13 | 3 30 55 | 21°13'02 | 1♉12 | 5°2 | 11°39 | 21°52 | 13°9 | 27°16 | 4°6 | 19°47 | 5°59 | 16°29 | 16°23 | 28°53 | 15°21 | M 13 |
| T 14 | 3 34 52 | 22°13'23 | 13°7 | 6°31 | 12°54 | 22°18 | 13°12 | 27°23 | 4°9 | 19°46 | 5°58 | 16°14 | 16°19 | 29°0 | 15°19 | T 14 |
| W 15 | 3 38 48 | 23°13'45 | 25°6 | 8°2 | 14°10 | 22°44 | 13°15 | 27°30 | 4°12 | 19°45 | 5°57 | 16°0 | 16°16 | 29°7 | 15°17 | W 15 |
| T 16 | 3 42 45 | 24°14'09 | 7♉11 | 9°34 | 15°25 | 23°10 | 13°18 | 27°37 | 4°15 | 19°45 | 5°56 | 15°46 | 16°13 | 29°13 | 15°15 | T 16 |
| F 17 | 3 46 41 | 25°14'35 | 19°22 | 11°7 | 16°40 | 23°35 | 13°21 | 27°44 | 4°18 | 19°44 | 5°56 | 15°33 | 16°10 | 29°20 | 15°13 | F 17 |
| S 18 | 3 50 38 | 26°15'02 | 1♉41 | 12°40 | 17°56 | 24°0 | 13°23 | 27°51 | 4°21 | 19°43 | 5°55 | 15°24 | 16°7 | 29°27 | 15°12 | S 18 |
| S 19 | 3 54 35 | 27°15'31 | 14°9 | 14°14 | 19°11 | 24°25 | 13°25 | 27°58 | 4°24 | 19°42 | 5°54 | 15°17 | 16°3 | 29°34 | 15°10 | S 19 |
| M 20 | 3 58 31 | 28°16'02 | 26°49 | 15°48 | 20°26 | 24°49 | 13°27 | 28°6 | 4°27 | 19°41 | 5°54 | 15°14 | 16°0 | 29°40 | 15°8 | M 20 |
| T 21 | 4 2 28 | 29°16'35 | 9♉42 | 17°22 | 21°42 | 25°14 | 13°29 | 28°13 | 4°30 | 19°40 | 5°53 | 15°D13 | 15°57 | 29°47 | 15°6 | T 21 |
| W 22 | 4 6 24 | 0♉17°10 | 22°53 | 18°57 | 22°57 | 25°37 | 13°30 | 28°20 | 4°33 | 19°39 | 5°52 | 15°13 | 15°54 | 29°54 | 15°4 | W 22 |
| T 23 | 4 10 21 | 1°17'46 | 6♉25 | 20°31 | 24°13 | 26°1 | 13°31 | 28°27 | 4°36 | 19°38 | 5°52 | 15°R13 | 15°51 | 0♉1 | 15°3 | T 23 |
| F 24 | 4 14 17 | 2°18'24 | 20°18 | 22°6 | 25°28 | 26°24 | 13°33 | 28°34 | 4°39 | 19°37 | 5°51 | 15°11 | 15°48 | 0°7 | 15°1 | F 24 |
| S 25 | 4 18 14 | 3°19'03 | 4♉36 | 23°41 | 26°43 | 26°47 | 13°34 | 28°41 | 4°43 | 19°36 | 5°51 | 15°8 | 15°44 | 0°14 | 14°59 | S 25 |
| S 26 | 4 22 10 | 4°19'44 | 19°14 | 25°15 | 27°59 | 27°9 | 13°34 | 28°48 | 4°46 | 19°35 | 5°50 | 15°2 | 15°41 | 0°21 | 14°58 | S 26 |
| M 27 | 4 26 7 | 5°20'27 | 4♉10 | 26°50 | 29°14 | 27°31 | 13°35 | 28°56 | 4°49 | 19°34 | 5°50 | 14°53 | 15°38 | 0°27 | 14°56 | M 27 |
| T 28 | 4 30 4 | 6°21'11 | 19°15 | 28°25 | 0♉30 | 27°53 | 13°35 | 29°3 | 4°52 | 19°33 | 5°49 | 14°43 | 15°35 | 0°34 | 14°55 | T 28 |
| W 29 | 4 34 0 | 7°21'57 | 4♉20 | 29°59 | 1°45 | 28°14 | 13°R35 | 29°10 | 4°56 | 19°32 | 5°49 | 14°32 | 15°32 | 0°41 | 14°53 | W 29 |
| T 30 | 4 37 57 | 8♉22°45 | 19♉14 | 1♉34 | 3♉1 | 28♉35 | 13♉35 | 29♉17 | 4♉59 | 19♉31 | 5♉48 | 14♉22 | 15♉29 | 0♉48 | 14♉52 | T 30 |

Delta T = 82.39 sec

DECEMBER 2073

00:00 UT

| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|---------|----------|-------|-------|-------|-------|--------|-------|------|--------|-------|--------|-------|------|--------|------|
| F 1 | 4 41 53 | 9♉23°33 | 3♉48 | 3♉9 | 4♉16 | 28♉55 | 13°R35 | 29♉24 | 5♉2 | 19°R29 | 5°R48 | 14°R14 | 15♉25 | 0♉54 | 14°R51 | F 1 |
| S 2 | 4 45 50 | 10°24'22 | 17°56 | 4°43 | 5°32 | 29°16 | 13♉35 | 29°31 | 5°6 | 19°28 | 5°47 | 14♉9 | 15°22 | 1°1 | 14°49 | S 2 |
| S 3 | 4 49 46 | 11°25'13 | 1♉36 | 6°17 | 6°47 | 29°35 | 13°34 | 29°38 | 5°9 | 19°27 | 5°47 | 14°6 | 15°19 | 1°8 | 14°48 | S 3 |
| M 4 | 4 53 43 | 12°26'04 | 14°48 | 7°52 | 8°3 | 29°55 | 13°33 | 29°45 | 5°12 | 19°26 | 5°47 | 14°D 5 | 15°16 | 1°14 | 14°47 | M 4 |
| T 5 | 4 57 39 | 13°26'56 | 27°35 | 9°26 | 9°18 | 0♉13 | 13°32 | 29°52 | 5°16 | 19°24 | 5°46 | 14°6 | 15°13 | 1°21 | 14°46 | T 5 |
| W 6 | 5 1 36 | 14°27'49 | 10♉0 | 11°0 | 10°34 | 0°32 | 13°31 | 29°59 | 5°19 | 19°23 | 5°46 | 14°R 7 | 15°9 | 1°28 | 14°45 | W 6 |
| T 7 | 5 5 33 | 15°28'43 | 22°9 | 12°34 | 11°49 | 0°50 | 13°30 | 0♉6 | 5°23 | 19°22 | 5°46 | 14°6 | 15°6 | 1°35 | 14°44 | T 7 |
| F 8 | 5 9 29 | 16°29'37 | 4♉7 | 14°9 | 13°5 | 1°7 | 13°28 | 0°13 | 5°26 | 19°20 | 5°45 | 14°5 | 15°3 | 1°41 | 14°43 | F 8 |
| S 9 | 5 13 26 | 17°30'32 | 15°59 | 15°43 | 14°20 | 1°24 | 13°26 | 0°20 | 5°29 | 19°19 | 5°45 | 14°0 | 15°0 | 1°48 | 14°42 | S 9 |
| S 10 | 5 17 22 | 18°31'28 | 27°50 | 17°17 | 15°36 | 1°41 | 13°24 | 0°27 | 5°33 | 19°18 | 5°45 | 13°54 | 14°57 | 1°55 | 14°41 | S 10 |
| M 11 | 5 21 19 | 19°32'25 | 9♉43 | 18°51 | 16°51 | 1°57 | 13°22 | 0°34 | 5°36 | 19°16 | 5°45 | 13°45 | 14°54 | 2°1 | 14°40 | M 11 |
| T 12 | 5 25 15 | 20°33'22 | 21°42 | 20°25 | 18°7 | 2°12 | 13°20 | 0°41 | 5°40 | 19°15 | 5°44 | 13°35 | 14°50 | 2°8 | 14°39 | T 12 |
| W 13 | 5 29 12 | 21°34'20 | 3♉48 | 22°0 | 19°22 | 2°27 | 13°17 | 0°48 | 5°43 | 19°13 | 5°44 | 13°24 | 14°47 | 2°15 | 14°39 | W 13 |
| T 14 | 5 33 8 | 22°35'19 | 16°3 | 23°34 | 20°38 | 2°42 | 13°14 | 0°54 | 5°47 | 19°12 | 5°44 | 13°14 | 14°44 | 2°22 | 14°38 | T 14 |
| F 15 | 5 37 5 | 23°36'18 | 28°27 | 25°9 | 21°53 | 2°56 | 13°11 | 1°1 | 5°51 | 19°10 | 5°44 | 13°6 | 14°41 | 2°28 | 14°37 | F 15 |
| S 16 | 5 41 2 | 24°37'19 | 11♉2 | 26°43 | 23°9 | 3°9 | 13°8 | 1°8 | 5°54 | 19°9 | 5°44 | 12°59 | 14°38 | 2°35 | 14°37 | S 16 |
| S 17 | 5 44 58 | 25°38'20 | 23°48 | 28°18 | 24°24 | 3°22 | 13°5 | 1°15 | 5°58 | 19°7 | 5°44 | 12°55 | 14°35 | 2°42 | 14°36 | S 17 |
| M 18 | 5 48 55 | 26°39'22 | 6♉45 | 29°53 | 25°40 | 3°35 | 13°1 | 1°21 | 6°1 | 19°6 | 5°44 | 12°D53 | 14°31 | 2°49 | 14°36 | M 18 |
| T 19 | 5 52 51 | 27°40'25 | 19°53 | 1♉28 | 26°55 | 3°47 | 12°57 | 1°28 | 6°5 | 19°4 | 5°D44 | 12°53 | 14°28 | 2°55 | 14°35 | T 19 |
| W 20 | 5 56 48 | 28°41'29 | 3♉14 | 3°3 | 28°11 | 3°58 | 12°54 | 1°35 | 6°8 | 19°3 | 5°44 | 12°54 | 14°25 | 3°2 | 14°35 | W 20 |
| T 21 | 6 0 44 | 29°42'33 | 16°50 | 4°38 | 29°26 | 4°8 | 12°49 | 1°41 | 6°12 | 19°1 | 5°44 | 12°55 | 14°22 | 3°9 | 14°35 | T 21 |
| F 22 | 6 4 41 | 0♉43°38 | 0♉40 | 6°14 | 0♉42 | 4°18 | 12°45 | 1°48 | 6°16 | 19°0 | 5°44 | 12°R56 | 14°19 | 3°15 | 14°35 | F 22 |
| S 23 | 6 8 37 | 1°44'44 | 14°46 | 7°50 | 1°57 | 4°28 | 12°41 | 1°54 | 6°19 | 18°58 | 5°44 | 12°55 | 14°15 | 3°22 | 14°34 | S 23 |
| S 24 | 6 12 34 | 2°45'51 | 29°6 | 9°25 | 3°13 | 4°37 | 12°36 | 2°1 | 6°23 | 18°56 | 5°44 | 12°53 | 14°12 | 3°29 | 14°34 | S 24 |
| M 25 | 6 16 31 | 3°46'59 | 13♉37 | 11°1 | 4°28 | 4°45 | 12°31 | 2°7 | 6°26 | 18°55 | 5°44 | 12°48 | 14°9 | 3°36 | 14°D34 | M 25 |
| T 26 | 6 20 27 | 4°48'07 | 28°15 | 12°38 | 5°44 | 4°52 | 12°26 | 2°14 | 6°30 | 18°53 | 5°44 | 12°43 | 14°6 | 3°42 | 14°34 | T 26 |
| W 27 | 6 24 24 | 5°49'16 | 12♉54 | 14°14 | 6°59 | 4°59 | 12°21 | 2°20 | 6°34 | 18°52 | 5°44 | 12°37 | 14°3 | 3°49 | 14°34 | W 27 |
| T 28 | 6 28 20 | 6°50'25 | 27°26 | 15°51 | 8°15 | 5°5 | 12°16 | 2°27 | 6°37 | 18°50 | 5°45 | 12°31 | 14°0 | 3°56 | 14°34 | T 28 |
| F 29 | 6 32 17 | 7°51'35 | 11♉45 | 17°27 | 9°30 | 5°10 | 12°11 | 2°33 | 6°41 | 18°48 | 5°45 | 12°26 | 13°56 | 4°2 | 14°35 | F 29 |
| S 30 | 6 36 13 | 8°52'45 | 25°44 | 19°4 | 10°46 | 5°15 | 12°5 | 2°39 | 6°44 | 18°47 | 5°45 | 12°24 | 13°53 | 4°9 | 14°35 | S 30 |
| S 31 | 6 40 10 | 9♉53°55 | 9♉21 | 20♉41 | 12♉1 | 5♉19 | 11♉59 | 2♉45 | 6♉48 | 18♉45 | 5♉45 | 12°D22 | 13♉50 | 4♉16 | 14♉35 | S 31 |

Delta T = 82.42 sec