

SWISS EPHEMERIS for the year 1647
heliocentric

JANUARY 1647 GC

00:00 UT

Day	Sid.t	Terra	☾	♃	♄	♅	♆	♁	♂	♆	♁	♄
T 1	6 41 49	10 ^h 34'38"	10 ^h 42'	28 ^h 45'	14 ^h 12'	23 ^h 20'	1 ^h 48'	16 ^h 31'	0 ^h 54'	8 ^h 20'	7 ^h 15'	16 ^h 22'
W 2	6 45 46	11 ^h 35'49"	11 ^h 42'	3 ^h 44'	15 ^h 47'	23 ^h 47'	1 ^h 52'	16 ^h 33'	0 ^h 55'	8 ^h 20'	7 ^h 15'	16 ^h 24'
T 3	6 49 42	12 ^h 37'00"	12 ^h 42'	8 ^h 51'	17 ^h 22'	24 ^h 15'	1 ^h 57'	16 ^h 35'	0 ^h 56'	8 ^h 20'	7 ^h 15'	16 ^h 26'
F 4	6 53 39	13 ^h 38'11"	13 ^h 42'	14 ^h 7'	18 ^h 57'	24 ^h 42'	2 ^h 2'	16 ^h 38'	0 ^h 57'	8 ^h 21'	7 ^h 15'	16 ^h 27'
S 5	6 57 35	14 ^h 39'21"	14 ^h 41'	19 ^h 33'	20 ^h 32'	25 ^h 9'	2 ^h 7'	16 ^h 40'	0 ^h 57'	8 ^h 21'	7 ^h 15'	16 ^h 29'
S 6	7 1 32	15 ^h 40'32"	15 ^h 40'	25 ^h 7'	22 ^h 7'	25 ^h 36'	2 ^h 12'	16 ^h 42'	0 ^h 58'	8 ^h 21'	7 ^h 16'	16 ^h 31'
M 7	7 5 28	16 ^h 41'42"	16 ^h 40'	0 ^h 50'	23 ^h 42'	26 ^h 3'	2 ^h 16'	16 ^h 44'	0 ^h 59'	8 ^h 22'	7 ^h 16'	16 ^h 33'
T 8	7 9 25	17 ^h 42'52"	17 ^h 39'	6 ^h 40'	25 ^h 17'	26 ^h 30'	2 ^h 21'	16 ^h 46'	1 ^h 0'	8 ^h 22'	7 ^h 16'	16 ^h 35'
W 9	7 13 21	18 ^h 44'01"	18 ^h 39'	12 ^h 39'	26 ^h 52'	26 ^h 57'	2 ^h 26'	16 ^h 49'	1 ^h 0'	8 ^h 23'	7 ^h 16'	16 ^h 37'
T 10	7 17 18	19 ^h 45'09"	19 ^h 39'	18 ^h 43'	28 ^h 27'	27 ^h 25'	2 ^h 31'	16 ^h 51'	1 ^h 1'	8 ^h 23'	7 ^h 16'	16 ^h 38'
F 11	7 21 15	20 ^h 46'17"	20 ^h 39'	24 ^h 53'	0 ^h 2'	27 ^h 52'	2 ^h 36'	16 ^h 53'	1 ^h 2'	8 ^h 23'	7 ^h 16'	16 ^h 40'
S 12	7 25 11	21 ^h 47'24"	21 ^h 39'	1 ^h 11' 8"	1 ^h 37'	28 ^h 19'	2 ^h 40'	16 ^h 55'	1 ^h 2'	8 ^h 24'	7 ^h 16'	16 ^h 42'
S 13	7 29 8	22 ^h 48'30"	22 ^h 40'	7 ^h 25'	3 ^h 12'	28 ^h 46'	2 ^h 45'	16 ^h 57'	1 ^h 3'	8 ^h 24'	7 ^h 17'	16 ^h 44'
M14	7 33 4	23 ^h 49'36"	23 ^h 41'	13 ^h 44'	4 ^h 47'	29 ^h 13'	2 ^h 50'	17 ^h 0'	1 ^h 4'	8 ^h 24'	7 ^h 17'	16 ^h 46'
T 15	7 37 1	24 ^h 50'40"	24 ^h 42'	20 ^h 3'	6 ^h 21'	29 ^h 39'	2 ^h 55'	17 ^h 2'	1 ^h 5'	8 ^h 25'	7 ^h 17'	16 ^h 48'
W16	7 40 57	25 ^h 51'44"	25 ^h 44'	26 ^h 21'	7 ^h 56'	0 ^h 6'	3 ^h 0'	17 ^h 4'	1 ^h 5'	8 ^h 25'	7 ^h 17'	16 ^h 49'
T 17	7 44 54	26 ^h 52'46"	26 ^h 46'	2 ^h 35'	9 ^h 31'	0 ^h 33'	3 ^h 4'	17 ^h 6'	1 ^h 6'	8 ^h 25'	7 ^h 17'	16 ^h 51'
F 18	7 48 50	27 ^h 53'48"	27 ^h 48'	8 ^h 46'	11 ^h 6'	1 ^h 0'	3 ^h 9'	17 ^h 8'	1 ^h 7'	8 ^h 26'	7 ^h 17'	16 ^h 53'
S 19	7 52 47	28 ^h 54'49"	28 ^h 51'	14 ^h 50'	12 ^h 41'	1 ^h 27'	3 ^h 14'	17 ^h 11'	1 ^h 7'	8 ^h 26'	7 ^h 18'	16 ^h 55'
S 20	7 56 44	29 ^h 55'48"	29 ^h 54'	20 ^h 48'	14 ^h 16'	1 ^h 54'	3 ^h 19'	17 ^h 13'	1 ^h 8'	8 ^h 26'	7 ^h 18'	16 ^h 57'
M21	8 0 40	0 ^h 56'47"	0 ^h 57'	26 ^h 38'	15 ^h 50'	2 ^h 21'	3 ^h 24'	17 ^h 15'	1 ^h 9'	8 ^h 27'	7 ^h 18'	16 ^h 59'
T 22	8 4 37	1 ^h 57'45"	2 ^h 0'	2 ^h 20'	17 ^h 25'	2 ^h 48'	3 ^h 28'	17 ^h 17'	1 ^h 10'	8 ^h 27'	7 ^h 18'	17 ^h 1'
W23	8 8 33	2 ^h 58'42"	3 ^h 3'	7 ^h 53'	19 ^h 0'	3 ^h 14'	3 ^h 33'	17 ^h 19'	1 ^h 10'	8 ^h 27'	7 ^h 18'	17 ^h 2'
T 24	8 12 30	3 ^h 59'38"	4 ^h 5'	13 ^h 16'	20 ^h 35'	3 ^h 41'	3 ^h 38'	17 ^h 22'	1 ^h 11'	8 ^h 28'	7 ^h 18'	17 ^h 4'
F 25	8 16 26	5 ^h 0'34"	5 ^h 8'	18 ^h 30'	22 ^h 10'	4 ^h 8'	3 ^h 43'	17 ^h 24'	1 ^h 12'	8 ^h 28'	7 ^h 19'	17 ^h 6'
S 26	8 20 23	6 ^h 1'28"	6 ^h 10'	23 ^h 34'	23 ^h 45'	4 ^h 35'	3 ^h 48'	17 ^h 26'	1 ^h 13'	8 ^h 29'	7 ^h 19'	17 ^h 8'
S 27	8 24 19	7 ^h 2'22"	7 ^h 11'	28 ^h 29'	25 ^h 19'	5 ^h 1'	3 ^h 52'	17 ^h 28'	1 ^h 13'	8 ^h 29'	7 ^h 19'	17 ^h 10'
M28	8 28 16	8 ^h 3'15"	8 ^h 12'	3 ^h 14'	26 ^h 54'	5 ^h 28'	3 ^h 57'	17 ^h 30'	1 ^h 14'	8 ^h 29'	7 ^h 19'	17 ^h 12'
T 29	8 32 13	9 ^h 4'08"	9 ^h 13'	7 ^h 50'	28 ^h 29'	5 ^h 55'	4 ^h 2'	17 ^h 33'	1 ^h 15'	8 ^h 30'	7 ^h 19'	17 ^h 14'
W30	8 36 9	10 ^h 4'59"	10 ^h 13'	12 ^h 17'	0 ^h 4'	6 ^h 21'	4 ^h 7'	17 ^h 35'	1 ^h 15'	8 ^h 30'	7 ^h 19'	17 ^h 15'
T 31	8 40 6	11 ^h 5'50"	11 ^h 13'	16 ^h 35'	1 ^h 39'	6 ^h 48'	4 ^h 12'	17 ^h 37'	1 ^h 16'	8 ^h 30'	7 ^h 20'	17 ^h 17'

Delta T = 49.27 sec. Greg. Calendar

FEBRUARY 1647 GC

00:00 UT

Day	Sid.t	Terra	☾	♃	♄	♅	♆	♁	♂	♆	♁	♄
F 1	8 44 2	12 ^h 6'39"	12 ^h 13'	20 ^h 46'	3 ^h 13'	7 ^h 15'	4 ^h 16'	17 ^h 39'	1 ^h 17'	8 ^h 31'	7 ^h 20'	17 ^h 19'
S 2	8 47 59	13 ^h 7'28"	13 ^h 12'	24 ^h 49'	4 ^h 48'	7 ^h 41'	4 ^h 21'	17 ^h 41'	1 ^h 18'	8 ^h 31'	7 ^h 20'	17 ^h 21'
S 3	8 51 55	14 ^h 8'15"	14 ^h 11'	28 ^h 44'	6 ^h 23'	8 ^h 8'	4 ^h 26'	17 ^h 44'	1 ^h 18'	8 ^h 31'	7 ^h 20'	17 ^h 23'
M 4	8 55 52	15 ^h 9'01"	15 ^h 10'	2 ^h 33'	7 ^h 58'	8 ^h 34'	4 ^h 31'	17 ^h 46'	1 ^h 19'	8 ^h 32'	7 ^h 20'	17 ^h 25'
T 5	8 59 48	16 ^h 9'46"	16 ^h 9'	6 ^h 16'	9 ^h 33'	9 ^h 1'	4 ^h 36'	17 ^h 48'	1 ^h 20'	8 ^h 32'	7 ^h 20'	17 ^h 27'
W 6	9 3 45	17 ^h 10'30"	17 ^h 8'	9 ^h 52'	11 ^h 8'	9 ^h 27'	4 ^h 40'	17 ^h 50'	1 ^h 21'	8 ^h 32'	7 ^h 20'	17 ^h 28'
T 7	9 7 42	18 ^h 11'12"	18 ^h 7'	13 ^h 23'	12 ^h 43'	9 ^h 54'	4 ^h 45'	17 ^h 52'	1 ^h 21'	8 ^h 33'	7 ^h 21'	17 ^h 30'
F 8	9 11 38	19 ^h 11'52"	19 ^h 7'	16 ^h 49'	14 ^h 17'	10 ^h 21'	4 ^h 50'	17 ^h 55'	1 ^h 22'	8 ^h 33'	7 ^h 21'	17 ^h 32'
S 9	9 15 35	20 ^h 12'31"	20 ^h 6'	20 ^h 10'	15 ^h 52'	10 ^h 47'	4 ^h 55'	17 ^h 57'	1 ^h 23'	8 ^h 34'	7 ^h 21'	17 ^h 34'
S 10	9 19 31	21 ^h 13'08"	21 ^h 5'	23 ^h 27'	17 ^h 27'	11 ^h 14'	5 ^h 0'	17 ^h 59'	1 ^h 23'	8 ^h 34'	7 ^h 21'	17 ^h 36'
M11	9 23 28	22 ^h 13'43"	22 ^h 5'	26 ^h 39'	19 ^h 2'	11 ^h 40'	5 ^h 4'	18 ^h 1'	1 ^h 24'	8 ^h 34'	7 ^h 21'	17 ^h 38'
T 12	9 27 24	23 ^h 14'17"	23 ^h 5'	29 ^h 48'	20 ^h 37'	12 ^h 6'	5 ^h 9'	18 ^h 3'	1 ^h 25'	8 ^h 35'	7 ^h 21'	17 ^h 40'
W13	9 31 21	24 ^h 14'49"	24 ^h 6'	2 ^h 54'	22 ^h 12'	12 ^h 33'	5 ^h 14'	18 ^h 6'	1 ^h 26'	8 ^h 35'	7 ^h 22'	17 ^h 41'
T 14	9 35 17	25 ^h 15'19"	25 ^h 7'	5 ^h 56'	23 ^h 47'	12 ^h 59'	5 ^h 19'	18 ^h 8'	1 ^h 26'	8 ^h 35'	7 ^h 22'	17 ^h 43'
F 15	9 39 14	26 ^h 15'47"	26 ^h 8'	8 ^h 56'	25 ^h 22'	13 ^h 26'	5 ^h 23'	18 ^h 10'	1 ^h 27'	8 ^h 36'	7 ^h 22'	17 ^h 45'
S 16	9 43 11	27 ^h 16'13"	27 ^h 10'	11 ^h 53'	26 ^h 57'	13 ^h 52'	5 ^h 28'	18 ^h 12'	1 ^h 28'	8 ^h 36'	7 ^h 22'	17 ^h 47'
S 17	9 47 7	28 ^h 16'38"	28 ^h 12'	14 ^h 47'	28 ^h 32'	14 ^h 19'	5 ^h 33'	18 ^h 14'	1 ^h 28'	8 ^h 36'	7 ^h 22'	17 ^h 49'
M18	9 51 4	29 ^h 17'00"	29 ^h 14'	17 ^h 40'	0 ^h 7'	14 ^h 45'	5 ^h 38'	18 ^h 17'	1 ^h 29'	8 ^h 37'	7 ^h 22'	17 ^h 51'
T 19	9 55 0	0 ^h 17'21"	0 ^h 17'	20 ^h 31'	1 ^h 42'	15 ^h 11'	5 ^h 43'	18 ^h 19'	1 ^h 30'	8 ^h 37'	7 ^h 23'	17 ^h 53'
W20	9 58 57	1 ^h 17'40"	1 ^h 19'	23 ^h 20'	3 ^h 17'	15 ^h 38'	5 ^h 47'	18 ^h 21'	1 ^h 31'	8 ^h 37'	7 ^h 23'	17 ^h 55'
T 21	10 2 53	2 ^h 17'57"	2 ^h 21'	26 ^h 8'	4 ^h 52'	16 ^h 4'	5 ^h 52'	18 ^h 23'	1 ^h 31'	8 ^h 38'	7 ^h 23'	17 ^h 56'
F 22	10 6 50	3 ^h 18'13"	3 ^h 23'	28 ^h 55'	6 ^h 28'	16 ^h 31'	5 ^h 57'	18 ^h 25'	1 ^h 32'	8 ^h 38'	7 ^h 23'	17 ^h 58'
S 23	10 10 46	4 ^h 18'27"	4 ^h 25'	1 ^h 41'	8 ^h 3'	16 ^h 57'	6 ^h 2'	18 ^h 28'	1 ^h 33'	8 ^h 39'	7 ^h 23'	18 ^h 0'
S 24	10 14 43	5 ^h 18'39"	5 ^h 26'	4 ^h 26'	9 ^h 38'	17 ^h 23'	6 ^h 7'	18 ^h 30'	1 ^h 34'	8 ^h 39'	7 ^h 23'	18 ^h 2'
M25	10 18 40	6 ^h 18'50"	6 ^h 27'	7 ^h 11'	11 ^h 13'	17 ^h 50'	6 ^h 11'	18 ^h 32'	1 ^h 34'	8 ^h 39'	7 ^h 24'	18 ^h 4'
T 26	10 22 36	7 ^h 18'59"	7 ^h 28'	9 ^h 56'	12 ^h 48'	18 ^h 16'	6 ^h 16'	18 ^h 34'	1 ^h 35'	8 ^h 40'	7 ^h 24'	18 ^h 6'
W27	10 26 33	8 ^h 19'07"	8 ^h 28'	12 ^h 41'	14 ^h 24'	18 ^h 42'	6 ^h 21'	18 ^h 36'	1 ^h 36'	8 ^h 40'	7 ^h 24'	18 ^h 8'
T 28	10 30 29	9 ^h 19'14"	9 ^h 28'	15 ^h 15'	15 ^h 59'	19 ^h 9'	6 ^h 26'	18 ^h 39'	1 ^h 36'	8 ^h 40'	7 ^h 24'	18 ^h 10'

Delta T = 49.16 sec. Greg. Calendar created from Swiss Ephemeris, Copyright Astrodienst AG [13.11.2015]

SWISS EPHEMERIS for the year 1647
heliocentric

MARCH 1647 GC

00:00 UT

Day	Sid.t	Terra	☾	♁	♂	♄	♃	♆	♅	♁	♂	♄	♃
F 1	10 34 26	10 ^m 19'18	10 ^m 27	18 ^z 10	17 ^h 34	19 ^Ω 35	6 ^Ω 30	18 ^z 41	1 ^z 37	8 ^z 41	7 ^{II} 24	18 ^Ω 11	
S 2	10 38 22	11°19'22	11°27	20°56	19° 9	20° 1	6°35	18°43	1°38	8°41	7°24	18°13	
S 3	10 42 19	12°19'23	12°25	23°43	20°45	20°27	6°40	18°45	1°39	8°41	7°24	18°15	
M 4	10 46 15	13°19'23	13°24	26°30	22°20	20°54	6°45	18°47	1°39	8°42	7°25	18°17	
T 5	10 50 12	14°19'20	14°22	29°19	23°55	21°20	6°50	18°50	1°40	8°42	7°25	18°19	
W 6	10 54 9	15°19'16	15°20	2 ^z 9	25°31	21°46	6°54	18°52	1°41	8°42	7°25	18°21	
T 7	10 58 5	16°19'10	16°18	5° 1	27° 6	22°13	6°59	18°54	1°41	8°43	7°25	18°23	
F 8	11 2 2	17°19'02	17°16	7°54	28°42	22°39	7° 4	18°56	1°42	8°43	7°25	18°25	
S 9	11 5 58	18°18'52	18°15	10°50	0 ^Y 17	23° 5	7° 9	18°58	1°43	8°43	7°25	18°26	
S 10	11 9 55	19°18'40	19°13	13°48	1°53	23°31	7°13	19° 1	1°44	8°44	7°26	18°28	
M 11	11 13 51	20°18'25	20°11	16°49	3°28	23°57	7°18	19° 3	1°44	8°44	7°26	18°30	
T 12	11 17 48	21°18'09	21°10	19°52	5° 4	24°24	7°23	19° 5	1°45	8°45	7°26	18°32	
W 13	11 21 44	22°17'50	22° 9	22°59	6°39	24°50	7°28	19° 7	1°46	8°45	7°26	18°34	
T 14	11 25 41	23°17'29	23° 9	26° 9	8°15	25°16	7°32	19°10	1°47	8°45	7°26	18°36	
F 15	11 29 37	24°17'05	24° 9	29°22	9°50	25°42	7°37	19°12	1°47	8°46	7°26	18°38	
S 16	11 33 34	25°16'40	25° 9	2 ^z 40	11°26	26° 9	7°42	19°14	1°48	8°46	7°27	18°40	
S 17	11 37 31	26°16'12	26°10	6° 2	13° 2	26°35	7°47	19°16	1°49	8°46	7°27	18°42	
M 18	11 41 27	27°15'41	27°11	9°28	14°38	27° 1	7°52	19°18	1°49	8°47	7°27	18°43	
T 19	11 45 24	28°15'08	28°12	13° 0	16°13	27°27	7°56	19°21	1°50	8°47	7°27	18°45	
W 20	11 49 20	29°14'34	29°13	16°36	17°49	27°54	8° 1	19°23	1°51	8°47	7°27	18°47	
T 21	11 53 17	0 ^Ω 13'56	0 ^Ω 14	20°19	19°25	28°20	8° 6	19°25	1°52	8°48	7°27	18°49	
F 22	11 57 13	1°13'17	1°16	24° 7	21° 1	28°46	8°11	19°27	1°52	8°48	7°27	18°51	
S 23	12 1 10	2°12'36	2°17	28° 2	22°36	29°12	8°15	19°29	1°53	8°48	7°28	18°53	
S 24	12 5 6	3°11'53	3°18	2 ^h 3	24°12	29°38	8°20	19°32	1°54	8°49	7°28	18°55	
M 25	12 9 3	4°11'08	4°18	6°12	25°48	0 ^m 5	8°25	19°34	1°54	8°49	7°28	18°57	
T 26	12 13 0	5°10'22	5°19	10°28	27°24	0°31	8°30	19°36	1°55	8°49	7°28	18°59	
W 27	12 16 56	6° 9'34	6°18	14°52	29° 0	0°57	8°34	19°38	1°56	8°50	7°28	19° 0	
T 28	12 20 53	7° 8'43	7°18	19°25	0 ^z 36	1°23	8°39	19°40	1°57	8°50	7°28	19° 2	
F 29	12 24 49	8° 7'52	8°17	24° 5	2°12	1°49	8°44	19°43	1°57	8°51	7°29	19° 4	
S 30	12 28 46	9° 6'58	9°16	28°55	3°48	2°16	8°49	19°45	1°58	8°51	7°29	19° 6	
S 31	12 32 42	10 ^Ω 6'02	10 ^Ω 14	3 ^Y 53	5 ^z 24	2 ^m 42	8 ^Ω 53	19 ^z 47	1 ^z 59	8 ^z 51	7 ^{II} 29	19 ^Ω 8	

Delta T = 49.06 sec.

Greg. Calendar

APRIL 1647 GC

00:00 UT

Day	Sid.t	Terra	☾	♁	♂	♄	♃	♆	♅	♁	♂	♄	♃
M 1	12 36 39	11 ^Ω 5'05	11 ^Ω 12	9 ^Y 1	7 ^z 0	3 ^m 8	8 ^Ω 58	19 ^z 49	2 ^z 0	8 ^z 52	7 ^{II} 29	19 ^Ω 10	
T 2	12 40 35	12° 4'06	12°10	14°17	8°36	3°34	9° 3	19°51	2° 0	8°52	7°29	19°12	
W 3	12 44 32	13° 3'04	13° 7	19°43	10°12	4° 1	9° 8	19°54	2° 1	8°52	7°29	19°14	
T 4	12 48 29	14° 2'01	14° 4	25°18	11°48	4°27	9°12	19°56	2° 2	8°53	7°30	19°16	
F 5	12 52 25	15° 0'56	15° 1	1 ^z 1	13°25	4°53	9°17	19°58	2° 2	8°53	7°30	19°17	
S 6	12 56 22	15°59'49	15°58	6°52	15° 1	5°19	9°22	20° 0	2° 3	8°53	7°30	19°19	
S 7	13 0 18	16°58'40	16°55	12°50	16°37	5°46	9°27	20° 2	2° 4	8°54	7°30	19°21	
M 8	13 4 15	17°57'29	17°53	18°55	18°13	6°12	9°32	20° 5	2° 5	8°54	7°30	19°23	
T 9	13 8 11	18°56'15	18°50	25° 5	19°50	6°38	9°36	20° 7	2° 5	8°54	7°30	19°25	
W 10	13 12 8	19°55'00	19°48	1 ^{II} 20	21°26	7° 4	9°41	20° 9	2° 6	8°55	7°31	19°27	
T 11	13 16 4	20°53'42	20°46	7°37	23° 2	7°31	9°46	20°11	2° 7	8°55	7°31	19°29	
F 12	13 20 1	21°52'22	21°44	13°56	24°39	7°57	9°51	20°13	2° 7	8°56	7°31	19°31	
S 13	13 23 58	22°51'00	22°43	20°15	26°15	8°23	9°55	20°16	2° 8	8°56	7°31	19°33	
S 14	13 27 54	23°49'36	23°42	26°33	27°52	8°49	10° 0	20°18	2° 9	8°56	7°31	19°35	
M 15	13 31 51	24°48'09	24°41	2 ^z 47	29°28	9°16	10° 5	20°20	2°10	8°57	7°31	19°37	
T 16	13 35 47	25°46'40	25°41	8°57	1 ^{II} 5	9°42	10°10	20°22	2°10	8°57	7°31	19°38	
W 17	13 39 44	26°45'09	26°41	15° 2	2°41	10° 8	10°14	20°25	2°11	8°57	7°32	19°40	
T 18	13 43 40	27°43'35	27°41	20°59	4°18	10°35	10°19	20°27	2°12	8°58	7°32	19°42	
F 19	13 47 37	28°42'00	28°42	26°49	5°55	11° 1	10°24	20°29	2°12	8°58	7°32	19°44	
S 20	13 51 33	29°40'23	29°42	2 ^Ω 31	7°31	11°27	10°29	20°31	2°13	8°58	7°32	19°46	
S 21	13 55 30	0 ^m 38'44	0 ^m 42	8° 3	9° 8	11°53	10°33	20°33	2°14	8°59	7°32	19°48	
M 22	13 59 26	1°37'04	1°42	13°26	10°45	12°20	10°38	20°36	2°15	8°59	7°32	19°50	
T 23	14 3 23	2°35'21	2°42	18°40	12°21	12°46	10°43	20°38	2°15	8°59	7°33	19°52	
W 24	14 7 20	3°33'38	3°41	23°43	13°58	13°13	10°48	20°40	2°16	9° 0	7°33	19°54	
T 25	14 11 16	4°31'52	4°40	28°38	15°35	13°39	10°52	20°42	2°17	9° 0	7°33	19°56	
F 26	14 15 13	5°30'06	5°39	3 ^m 23	17°12	14° 5	10°57	20°44	2°18	9° 0	7°33	19°58	
S 27	14 19 9	6°28'17	6°37	7°58	18°49	14°32	11° 2	20°47	2°18	9° 1	7°33	19°59	
S 28	14 23 6	7°26'27	7°35	12°25	20°25	14°58	11° 7	20°49	2°19	9° 1	7°33	20° 1	
M 29	14 27 2	8°24'36	8°33	16°43	22° 2	15°24	11°11	20°51	2°20	9° 2	7°34	20° 3	
T 30	14 30 59	9 ^m 22'43	9 ^m 30	20 ^m 54	23 ^{II} 39	15 ^m 51	11 ^Ω 16	20 ^z 53	2 ^z 20	9 ^z 2	7 ^{II} 34	20 ^Ω 5	

Delta T = 48.96 sec.

Greg. Calendar

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SWISS EPHEMERIS for the year 1647
heliocentric

MAY 1647 GC

00:00 UT

Day	Sid.t	Terra	☾	♃	♄	♅	♆	♁	♂	♆	♁	♂
W 1	14 34 55	10M20'49	10M27	24M56	25II16	16M17	11Q21	20S55	2A21	9A2	7II34	20S7
T 2	14 38 52	11°18'53	11°24	28°52	26°53	16°44	11°25	20°58	2°22	9°3	7°34	20°9
F 3	14 42 49	12°16'56	12°20	2A40	28°30	17°10	11°30	21°0	2°23	9°3	7°34	20°11
S 4	14 46 45	13°14'57	13°16	6°23	0S7	17°37	11°35	21°2	2°23	9°3	7°34	20°13
S 5	14 50 42	14°12'56	14°12	9°59	1°44	18°3	11°40	21°4	2°24	9°4	7°35	20°15
M 6	14 54 38	15°10'55	15°9	13°30	3°22	18°30	11°44	21°6	2°25	9°4	7°35	20°17
T 7	14 58 35	16°8'51	16°5	16°56	4°59	18°56	11°49	21°9	2°25	9°4	7°35	20°19
W 8	15 2 31	17°6'46	17°1	20°17	6°36	19°23	11°54	21°11	2°26	9°5	7°35	20°21
T 9	15 6 28	18°4'39	17°58	23°33	8°13	19°49	11°59	21°13	2°27	9°5	7°35	20°22
F 10	15 10 24	19°2'31	18°55	26°46	9°50	20°16	12°3	21°15	2°28	9°5	7°35	20°24
S 11	15 14 21	20°0'20	19°52	29°54	11°27	20°42	12°8	21°18	2°28	9°6	7°35	20°26
S 12	15 18 18	20°58'08	20°50	3M0	13°5	21°9	12°13	21°20	2°29	9°6	7°36	20°28
M13	15 22 14	21°55'54	21°48	6°2	14°42	21°35	12°18	21°22	2°30	9°7	7°36	20°30
T 14	15 26 11	22°53'38	22°46	9°1	16°19	22°2	12°22	21°24	2°31	9°7	7°36	20°32
W15	15 30 7	23°51'21	23°45	11°58	17°57	22°29	12°27	21°26	2°31	9°7	7°36	20°34
T 16	15 34 4	24°49'02	24°44	14°53	19°34	22°55	12°32	21°29	2°32	9°8	7°36	20°36
F 17	15 38 0	25°46'41	25°44	17°45	21°11	23°22	12°37	21°31	2°33	9°8	7°36	20°38
S 18	15 41 57	26°44'20	26°43	20°36	22°49	23°49	12°41	21°33	2°33	9°8	7°37	20°40
S 19	15 45 53	27°41'57	27°43	23°25	24°26	24°15	12°46	21°35	2°34	9°9	7°37	20°42
M20	15 49 50	28°39'32	28°42	26°13	26°4	24°42	12°51	21°37	2°35	9°9	7°37	20°44
T 21	15 53 47	29°37'07	29°41	29°0	27°41	25°9	12°55	21°40	2°36	9°9	7°37	20°46
W22	15 57 43	0A34'41	0A40	1A46	29°19	25°36	13°0	21°42	2°36	9°10	7°37	20°47
T 23	16 1 40	1°32'13	1°39	4°32	0L56	26°2	13°5	21°44	2°37	9°10	7°37	20°49
F 24	16 5 36	2°29'45	2°38	7°16	2°34	26°29	13°10	21°46	2°38	9°10	7°38	20°51
S 25	16 9 33	3°27'16	3°36	10°1	4°11	26°56	13°14	21°48	2°38	9°11	7°38	20°53
S 26	16 13 29	4°24'46	4°34	12°46	5°49	27°23	13°19	21°51	2°39	9°11	7°38	20°55
M27	16 17 26	5°22'15	5°31	15°31	7°26	27°50	13°24	21°53	2°40	9°12	7°38	20°57
T 28	16 21 22	6°19'43	6°28	18°16	9°4	28°16	13°29	21°55	2°41	9°12	7°38	20°59
W29	16 25 19	7°17'11	7°25	21°2	10°41	28°43	13°33	21°57	2°41	9°12	7°38	21°1
T 30	16 29 16	8°14'37	8°22	23°48	12°19	29°10	13°38	22°0	2°42	9°13	7°39	21°3
F 31	16 33 12	9A12'04	9A18	26A36	13L56	29M37	13L43	22S2	2A43	9A13	7II39	21S5

Delta T = 48.87 sec.

Greg. Calendar

JUNE 1647 GC

00:00 UT

Day	Sid.t	Terra	☾	♃	♄	♅	♆	♁	♂	♆	♁	♂
S 1	16 37 9	10A9'29	10A13	29A24	15L34	0L4	13L48	22S4	2A44	9A13	7II39	21S7
S 2	16 41 5	11°6'54	11°9	2S14	17°11	0°31	13°52	22°6	2°44	9°14	7°39	21°9
M 3	16 45 2	12°4'18	12°5	5°6	18°49	0°58	13°57	22°8	2°45	9°14	7°39	21°11
T 4	16 48 58	13°1'41	13°0	8°0	20°27	1°25	14°2	22°11	2°46	9°14	7°39	21°13
W 5	16 52 55	13°59'03	13°56	10°56	22°4	1°52	14°6	22°13	2°46	9°15	7°40	21°15
T 6	16 56 52	14°56'25	14°51	13°54	23°42	2°19	14°11	22°15	2°47	9°15	7°40	21°17
F 7	17 0 48	15°53'46	15°47	16°55	25°19	2°46	14°16	22°17	2°48	9°15	7°40	21°18
S 8	17 4 45	16°51'05	16°44	19°58	26°57	3°13	14°21	22°19	2°49	9°16	7°40	21°20
S 9	17 8 41	17°48'24	17°40	23°5	28°34	3°40	14°25	22°22	2°49	9°16	7°40	21°22
M10	17 12 38	18°45'41	18°37	26°15	0M12	4°8	14°30	22°24	2°50	9°16	7°40	21°24
T 11	17 16 34	19°42'58	19°35	29°29	1°49	4°35	14°35	22°26	2°51	9°17	7°40	21°26
W12	17 20 31	20°40'14	20°33	2A46	3°27	5°2	14°39	22°28	2°51	9°17	7°41	21°28
T 13	17 24 27	21°37'28	21°31	6°8	5°4	5°29	14°44	22°30	2°52	9°18	7°41	21°30
F 14	17 28 24	22°34'43	22°29	9°35	6°42	5°56	14°49	22°33	2°53	9°18	7°41	21°32
S 15	17 32 21	23°31'56	23°28	13°6	8°19	6°24	14°54	22°35	2°54	9°18	7°41	21°34
S 16	17 36 17	24°29'10	24°27	16°43	9°57	6°51	14°58	22°37	2°54	9°19	7°41	21°36
M17	17 40 14	25°26'22	25°26	20°26	11°34	7°18	15°3	22°39	2°55	9°19	7°41	21°38
T 18	17 44 10	26°23'35	26°25	24°14	13°12	7°46	15°8	22°42	2°56	9°19	7°42	21°40
W19	17 48 7	27°20'47	27°24	28°9	14°49	8°13	15°13	22°44	2°57	9°20	7°42	21°42
T 20	17 52 3	28°17'58	28°23	2A11	16°26	8°40	15°17	22°46	2°57	9°20	7°42	21°44
F 21	17 56 0	29°15'10	29°21	6°20	18°4	9°8	15°22	22°48	2°58	9°20	7°42	21°46
S 22	17 59 56	0S12'21	0S20	10°37	19°41	9°35	15°27	22°50	2°59	9°21	7°42	21°48
S 23	18 3 53	1°9'33	1°18	15°1	21°18	10°3	15°31	22°53	2°59	9°21	7°42	21°50
M24	18 7 50	2°6'44	2°16	19°33	22°56	10°30	15°36	22°55	3°0	9°21	7°43	21°52
T 25	18 11 46	3°3'56	3°13	24°14	24°33	10°58	15°41	22°57	3°1	9°22	7°43	21°54
W26	18 15 43	4°1'07	4°10	29°4	26°10	11°25	15°46	22°59	3°2	9°22	7°43	21°55
T 27	18 19 39	4°58'19	5°7	4Y3	27°47	11°53	15°50	23°1	3°2	9°23	7°43	21°57
F 28	18 23 36	5°55'31	6°3	9°11	29°24	12°21	15°55	23°4	3°3	9°23	7°43	21°59
S 29	18 27 32	6°52'44	6°59	14°27	1L1	12°48	16°0	23°6	3°4	9°23	7°43	22°1
S 30	18 31 29	7S49'56	7S55	19Y53	2L38	13L16	16L4	23S8	3A4	9A24	7II44	22S3

Delta T = 48.78 sec.

Greg. Calendar

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SWISS EPHEMERIS for the year 1647
heliocentric

JULY 1647 GC

00:00 UT

Day	Sid.t	Terra	☾	♃	♄	♅	♆	♁	♂	♆	♁	♄
M 1	18 35 25	8 ³ 47'09	8 ³ 50	25 ¹ 28	4 ¹ 15	13 ¹ 44	16 ¹ 9	23 ¹ 10	3 ¹ 5	9 ¹ 24	7 ¹ 44	22 ¹ 5
T 2	18 39 22	9°44'22	9°45	1 ¹ 12	5°52	14°11	16°14	23°13	3°6	9°24	7°44	22°7
W 3	18 43 19	10°41'35	10°41	7°3	7°29	14°39	16°19	23°15	3°7	9°25	7°44	22°9
T 4	18 47 15	11°38'49	11°36	13°2	9°6	15°7	16°23	23°17	3°7	9°25	7°44	22°11
F 5	18 51 12	12°36'02	12°31	19°7	10°43	15°35	16°28	23°19	3°8	9°25	7°44	22°13
S 6	18 55 8	13°33'15	13°27	25°17	12°20	16°3	16°33	23°21	3°9	9°26	7°44	22°15
S 7	18 59 5	14°30'28	14°23	1 ¹ 32	13°57	16°31	16°37	23°24	3°10	9°26	7°45	22°17
M 8	19 3 1	15°27'41	15°20	7°49	15°33	16°59	16°42	23°26	3°10	9°26	7°45	22°19
T 9	19 6 58	16°24'55	16°16	14°8	17°10	17°27	16°47	23°28	3°11	9°27	7°45	22°21
W10	19 10 54	17°22'08	17°14	20°27	18°47	17°55	16°51	23°30	3°12	9°27	7°45	22°23
T 11	19 14 51	18°19'21	18°11	26°44	20°23	18°23	16°56	23°33	3°12	9°28	7°45	22°25
F 12	19 18 48	19°16'34	19°9	2 ¹ 59	22°0	18°51	17°1	23°35	3°13	9°28	7°45	22°27
S 13	19 22 44	20°13'48	20°8	9°9	23°36	19°19	17°6	23°37	3°14	9°28	7°46	22°29
S 14	19 26 41	21°11'02	21°6	15°13	25°13	19°47	17°10	23°39	3°15	9°29	7°46	22°31
M15	19 30 37	22°8'16	22°5	21°10	26°49	20°15	17°15	23°41	3°15	9°29	7°46	22°33
T 16	19 34 34	23°5'31	23°4	27°0	28°25	20°43	17°20	23°44	3°16	9°29	7°46	22°35
W17	19 38 30	24°2'46	24°3	2 ¹ 41	0 ¹ 2	21°12	17°24	23°46	3°17	9°30	7°46	22°37
T 18	19 42 27	25°0'02	25°2	8°13	1°38	21°40	17°29	23°48	3°17	9°30	7°46	22°39
F 19	19 46 23	25°57'19	26°1	13°36	3°14	22°8	17°34	23°50	3°18	9°30	7°47	22°41
S 20	19 50 20	26°54'36	27°0	18°49	4°50	22°37	17°39	23°52	3°19	9°31	7°47	22°43
S 21	19 54 17	27°51'54	27°58	23°53	6°26	23°5	17°43	23°55	3°20	9°31	7°47	22°45
M22	19 58 13	28°49'13	28°57	28°47	8°3	23°33	17°48	23°57	3°20	9°31	7°47	22°47
T 23	20 2 10	29°46'32	29°55	3 ¹ 31	9°39	24°2	17°53	23°59	3°21	9°32	7°47	22°49
W24	20 6 6	0 ¹ 43'53	0 ¹ 53	8°7	11°15	24°30	17°57	24°1	3°22	9°32	7°47	22°50
T 25	20 10 3	1°41'15	1°50	12°33	12°50	24°59	18°2	24°4	3°23	9°33	7°48	22°52
F 26	20 13 59	2°38'38	2°47	16°51	14°26	25°27	18°7	24°6	3°23	9°33	7°48	22°54
S 27	20 17 56	3°36'02	3°44	21°1	16°2	25°56	18°11	24°8	3°24	9°33	7°48	22°56
S 28	20 21 52	4°33'28	4°40	25°4	17°38	26°25	18°16	24°10	3°25	9°34	7°48	22°58
M29	20 25 49	5°30'54	5°36	28°59	19°14	26°53	18°21	24°12	3°25	9°34	7°48	23°0
T 30	20 29 46	6°28'22	6°32	2 ¹ 48	20°49	27°22	18°26	24°15	3°26	9°34	7°48	23°2
W31	20 33 42	7 ¹ 25'51	7 ¹ 27	6 ¹ 30	22 ¹ 25	27 ¹ 51	18 ¹ 30	24 ¹ 17	3 ¹ 27	9 ¹ 35	7 ¹ 49	23 ¹ 4

Delta T = 48.70 sec.

Greg. Calendar

AUGUST 1647 GC

00:00 UT

Day	Sid.t	Terra	☾	♃	♄	♅	♆	♁	♂	♆	♁	♄
T 1	20 37 39	8 ¹ 23'21	8 ¹ 23	10 ¹ 6	24 ¹ 1	28 ¹ 20	18 ¹ 35	24 ¹ 19	3 ¹ 28	9 ¹ 35	7 ¹ 49	23 ¹ 6
F 2	20 41 35	9°20'52	9°18	13°37	25°36	28°49	18°40	24°21	3°28	9°35	7°49	23°8
S 3	20 45 32	10°18'23	10°14	17°2	27°12	29°18	18°44	24°23	3°29	9°36	7°49	23°10
S 4	20 49 28	11°15'56	11°10	20°23	28°47	29°47	18°49	24°26	3°30	9°36	7°49	23°12
M 5	20 53 25	12°13'29	12°6	23°39	0 ¹ 23	0 ¹ 16	18°54	24°28	3°30	9°36	7°49	23°14
T 6	20 57 21	13°11'04	13°3	26°52	1°58	0°45	18°58	24°30	3°31	9°37	7°49	23°16
W 7	21 1 18	14°8'39	14°0	0 ¹ 0	3°34	1°14	19°3	24°32	3°32	9°37	7°50	23°18
T 8	21 5 15	15°6'15	14°58	3°5	5°9	1°43	19°8	24°35	3°33	9°37	7°50	23°20
F 9	21 9 11	16°3'53	15°56	6°8	6°44	2°12	19°12	24°37	3°33	9°38	7°50	23°22
S 10	21 13 8	17°1'31	16°54	9°7	8°20	2°41	19°17	24°39	3°34	9°38	7°50	23°24
S 11	21 17 4	17°59'10	17°52	12°4	9°55	3°10	19°22	24°41	3°35	9°39	7°50	23°26
M12	21 21 1	18°56'50	18°51	14°58	11°30	3°40	19°27	24°43	3°35	9°39	7°50	23°28
T 13	21 24 57	19°54'32	19°51	17°51	13°5	4°9	19°31	24°46	3°36	9°39	7°51	23°30
W14	21 28 54	20°52'15	20°50	20°42	14°41	4°38	19°36	24°48	3°37	9°40	7°51	23°32
T 15	21 32 50	21°49'59	21°49	23°31	16°16	5°8	19°41	24°50	3°38	9°40	7°51	23°34
F 16	21 36 47	22°47'44	22°49	26°19	17°51	5°37	19°45	24°52	3°38	9°40	7°51	23°36
S 17	21 40 44	23°45'31	23°48	29°6	19°26	6°7	19°50	24°55	3°39	9°41	7°51	23°38
S 18	21 44 40	24°43'19	24°48	1 ¹ 52	21°1	6°36	19°55	24°57	3°40	9°41	7°51	23°40
M19	21 48 37	25°41'09	25°47	4°37	22°36	7°6	19°59	24°59	3°41	9°41	7°52	23°42
T 20	21 52 33	26°39'01	26°46	7°22	24°11	7°35	20°4	25°1	3°41	9°42	7°52	23°44
W21	21 56 30	27°36'54	27°45	10°6	25°46	8°5	20°9	25°3	3°42	9°42	7°52	23°46
T 22	22 0 26	28°34'49	28°43	12°51	27°21	8°35	20°13	25°6	3°43	9°42	7°52	23°48
F 23	22 4 23	29°32'46	29°42	15°36	28°56	9°5	20°18	25°8	3°43	9°43	7°52	23°50
S 24	22 8 19	0 ¹ 30'45	0 ¹ 39	18°21	0 ¹ 31	9°34	20°23	25°10	3°44	9°43	7°52	23°52
S 25	22 12 16	1°28'46	1°37	21°7	2°6	10°4	20°27	25°12	3°45	9°44	7°53	23°54
M26	22 16 13	2°26'48	2°34	23°53	3°41	10°34	20°32	25°14	3°46	9°44	7°53	23°56
T 27	22 20 9	3°24'53	3°31	26°41	5°15	11°4	20°37	25°17	3°46	9°44	7°53	23°58
W28	22 24 6	4°23'00	4°27	29°30	6°50	11°34	20°42	25°19	3°47	9°45	7°53	24°0
T 29	22 28 2	5°21'08	5°23	2 ¹ 20	8°25	12°4	20°46	25°21	3°48	9°45	7°53	24°2
F 30	22 31 59	6°19'18	6°19	5°12	10°0	12°34	20°51	25°23	3°48	9°45	7°53	24°4
S 31	22 35 55	7 ¹ 17'30	7 ¹ 16	8 ¹ 6	11 ¹ 35	13 ¹ 4	20 ¹ 56	25 ¹ 26	3 ¹ 49	9 ¹ 46	7 ¹ 53	24 ¹ 6

Delta T = 48.62 sec.

Greg. Calendar

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SWISS EPHEMERIS for the year 1647
heliocentric

SEPTEMBER 1647 GC

00:00 UT

Day	Sid.t	Terra	☾	♃	♄	♅	♆	♁	♂	♆	♁	♂
S 1	22 39 52	8♂15'43	8♂12	11♂1	13♂10	13♂35	21♂0	25♂28	3♂50	9♂46	7♂54	24♂8
M 2	22 43 48	9°13'58	9° 9	14° 0	14°45	14° 5	21° 5	25°30	3°51	9°46	7°54	24°10
T 3	22 47 45	10°12'15	10° 5	17° 0	16°19	14°35	21°10	25°32	3°51	9°47	7°54	24°12
W 4	22 51 42	11°10'33	11° 3	20° 4	17°54	15° 6	21°14	25°34	3°52	9°47	7°54	24°14
T 5	22 55 38	12° 8'53	12° 0	23°11	19°29	15°36	21°19	25°37	3°53	9°47	7°54	24°16
F 6	22 59 35	13° 7'14	12°58	26°21	21° 4	16° 6	21°24	25°39	3°53	9°48	7°54	24°18
S 7	23 3 31	14° 5'37	13°57	29°35	22°39	16°37	21°28	25°41	3°54	9°48	7°55	24°20
S 8	23 7 28	15° 4'02	14°56	2♂53	24°13	17° 7	21°33	25°43	3°55	9°49	7°55	24°22
M 9	23 11 24	16° 2'28	15°55	6°15	25°48	17°38	21°38	25°46	3°56	9°49	7°55	24°24
T 10	23 15 21	17° 0'56	16°54	9°42	27°23	18° 9	21°42	25°48	3°56	9°49	7°55	24°26
W11	23 19 17	17°59'25	17°54	13°13	28°58	18°39	21°47	25°50	3°57	9°50	7°55	24°28
T 12	23 23 14	18°57'57	18°54	16°50	0♂33	19°10	21°52	25°52	3°58	9°50	7°55	24°30
F 13	23 27 11	19°56'30	19°55	20°33	2° 8	19°41	21°56	25°54	3°59	9°50	7°56	24°32
S 14	23 31 7	20°55'05	20°55	24°22	3°42	20°12	22° 1	25°57	3°59	9°51	7°56	24°34
S 15	23 35 4	21°53'41	21°55	28°17	5°17	20°43	22° 6	25°59	4° 0	9°51	7°56	24°36
M16	23 39 0	22°52'20	22°56	2♂19	6°52	21°14	22°10	26° 1	4° 1	9°51	7°56	24°38
T 17	23 42 57	23°51'01	23°56	6°28	8°27	21°45	22°15	26° 3	4° 1	9°52	7°56	24°40
W18	23 46 53	24°49'44	24°56	10°45	10° 2	22°16	22°20	26° 6	4° 2	9°52	7°56	24°42
T 19	23 50 50	25°48'29	25°56	15° 9	11°37	22°47	22°24	26° 8	4° 3	9°52	7°56	24°44
F 20	23 54 46	26°47'17	26°55	19°42	13°12	23°18	22°29	26°10	4° 4	9°53	7°57	24°46
S 21	23 58 43	27°46'07	27°55	24°23	14°46	23°49	22°34	26°12	4° 4	9°53	7°57	24°48
S 22	0 2 39	28°44'59	28°54	29°13	16°21	24°21	22°38	26°14	4° 5	9°53	7°57	24°50
M23	0 6 36	29°43'53	29°52	4♂12	17°56	24°52	22°43	26°17	4° 6	9°54	7°57	24°52
T 24	0 10 33	0♂42'50	0♂50	9°20	19°31	25°23	22°48	26°19	4° 6	9°54	7°57	24°54
W25	0 14 29	1°41'49	1°48	14°37	21° 6	25°55	22°52	26°21	4° 7	9°55	7°57	24°56
T 26	0 18 26	2°40'51	2°46	20° 4	22°41	26°26	22°57	26°23	4° 8	9°55	7°58	24°58
F 27	0 22 22	3°39'54	3°43	25°39	24°16	26°58	23° 2	26°26	4° 9	9°55	7°58	25° 0
S 28	0 26 19	4°39'00	4°40	1♂22	25°51	27°29	23° 6	26°28	4° 9	9°56	7°58	25° 2
S 29	0 30 15	5°38'07	5°37	7°14	27°26	28° 1	23°11	26°30	4°10	9°56	7°58	25° 4
M30	0 34 12	6♂37'17	6♂34	13♂13	29♂1	28♂33	23♂16	26♂32	4♂11	9♂56	7♂58	25♂6

Delta T = 48.55 sec.

Greg. Calendar

OCTOBER 1647 GC

00:00 UT

Day	Sid.t	Terra	☾	♃	♄	♅	♆	♁	♂	♆	♁	♂
T 1	0 38 8	7♂36'29	7♂32	19♂18	0♂36	29♂4	23♂20	26♂34	4♂11	9♂57	7♂58	25♂8
W 2	0 42 5	8°35'42	8°29	25°28	2°11	29°36	23°25	26°37	4°12	9°57	7°59	25°10
T 3	0 46 2	9°34'58	9°27	1♂43	3°46	0♂7 8	23°30	26°39	4°13	9°57	7°59	25°12
F 4	0 49 58	10°34'15	10°26	8° 1	5°22	0°40	23°34	26°41	4°14	9°58	7°59	25°14
S 5	0 53 55	11°33'34	11°25	14°20	6°57	1°12	23°39	26°43	4°14	9°58	7°59	25°16
S 6	0 57 51	12°32'55	12°24	20°39	8°32	1°44	23°44	26°46	4°15	9°58	7°59	25°18
M 7	1 1 48	13°32'18	13°23	26°56	10° 7	2°16	23°48	26°48	4°16	9°59	7°59	25°20
T 8	1 5 44	14°31'42	14°23	3♂10	11°42	2°48	23°53	26°50	4°17	9°59	8° 0	25°22
W 9	1 9 41	15°31'08	15°24	9°20	13°17	3°21	23°58	26°52	4°17	10° 0	8° 0	25°24
T 10	1 13 37	16°30'36	16°24	15°24	14°53	3°53	24° 2	26°54	4°18	10° 0	8° 0	25°26
F 11	1 17 34	17°30'06	17°25	21°21	16°28	4°25	24° 7	26°57	4°19	10° 0	8° 0	25°29
S 12	1 21 31	18°29'38	18°27	27°11	18° 3	4°57	24°12	26°59	4°19	10° 1	8° 0	25°31
S 13	1 25 27	19°29'11	19°28	2♂52	19°39	5°30	24°16	27° 1	4°20	10° 1	8° 0	25°33
M14	1 29 24	20°28'47	20°29	8°23	21°14	6° 2	24°21	27° 3	4°21	10° 1	8° 0	25°35
T 15	1 33 20	21°28'25	21°31	13°46	22°49	6°35	24°26	27° 6	4°22	10° 2	8° 1	25°37
W16	1 37 17	22°28'05	22°32	18°59	24°25	7° 8	24°30	27° 8	4°22	10° 2	8° 1	25°39
T 17	1 41 13	23°27'46	23°33	24° 2	26° 0	7°40	24°35	27°10	4°23	10° 2	8° 1	25°41
F 18	1 45 10	24°27'31	24°34	28°56	27°35	8°13	24°40	27°12	4°24	10° 3	8° 1	25°43
S 19	1 49 6	25°27'17	25°35	3♂40	29°11	8°46	24°44	27°14	4°24	10° 3	8° 1	25°45
S 20	1 53 3	26°27'06	26°36	8°15	0♂46	9°19	24°49	27°17	4°25	10° 3	8° 1	25°47
M21	1 57 0	27°26'57	27°36	12°41	2°22	9°51	24°54	27°19	4°26	10° 4	8° 2	25°49
T 22	2 0 56	28°26'50	28°35	16°59	3°57	10°24	24°58	27°21	4°27	10° 4	8° 2	25°51
W23	2 4 53	29°26'45	29°35	21° 9	5°33	10°57	25° 3	27°23	4°27	10° 4	8° 2	25°53
T 24	2 8 49	0♂26'43	0♂33	25°11	7° 9	11°30	25° 8	27°26	4°28	10° 5	8° 2	25°55
F 25	2 12 46	1°26'43	1°32	29° 6	8°44	12° 4	25°12	27°28	4°29	10° 5	8° 2	25°57
S 26	2 16 42	2°26'44	2°30	2♂55	10°20	12°37	25°17	27°30	4°29	10° 6	8° 2	25°59
S 27	2 20 39	3°26'48	3°28	6°36	11°55	13°10	25°22	27°32	4°30	10° 6	8° 3	26° 1
M28	2 24 35	4°26'54	4°27	10°12	13°31	13°43	25°26	27°34	4°31	10° 6	8° 3	26° 3
T 29	2 28 32	5°27'02	5°25	13°43	15° 7	14°17	25°31	27°37	4°32	10° 7	8° 3	26° 5
W30	2 32 28	6°27'11	6°23	17° 8	16°43	14°50	25°36	27°39	4°32	10° 7	8° 3	26° 7
T 31	2 36 25	7♂27'23	7♂22	20♂29	18♂18	15♂23	25♂40	27♂41	4♂33	10♂7	8♂3	26♂9

Delta T = 48.48 sec.

Greg. Calendar

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SWISS EPHEMERIS for the year 1647
heliocentric

NOVEMBER 1647 GC

00:00 UT

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

Delta T = 48.41 sec.

Greg. Calendar

DECEMBER 1647 GC

00:00 UT

Day	Sid.t	Terra	☾	♁	♂	♄	♃	♅	♁	♆	♄	♁	♁
S 1	4 38 38	8♁45'45	8♁38	20♁10	8♁ 1	3♁ 9	28♁ 4	28♁50	4♁55	10♁18	8♁ 8	27♁13	
M 2	4 42 35	9°46'42	9°38	23°17	9°37	3°44	28° 9	28°52	4°56	10°19	8° 8	27°15	
T 3	4 46 31	10°47'40	10°39	26°27	11°14	4°19	28°14	28°55	4°57	10°19	8° 9	27°17	
W 4	4 50 28	11°48'39	11°39	29°41	12°51	4°55	28°18	28°57	4°58	10°19	8° 9	27°19	
T 5	4 54 25	12°49'38	12°40	2♁59	14°28	5°30	28°23	28°59	4°58	10°20	8° 9	27°21	
F 6	4 58 21	13°50'38	13°42	6°21	16° 5	6° 6	28°28	29° 1	4°59	10°20	8° 9	27°23	
S 7	5 2 18	14°51'38	14°44	9°48	17°41	6°41	28°32	29° 3	5° 0	10°20	8° 9	27°25	
S 8	5 6 14	15°52'39	15°46	13°20	19°18	7°17	28°37	29° 6	5° 0	10°21	8° 9	27°27	
M 9	5 10 11	16°53'41	16°48	16°57	20°55	7°52	28°41	29° 8	5° 1	10°21	8° 9	27°29	
T 10	5 14 7	17°54'43	17°51	20°40	22°32	8°28	28°46	29°10	5° 2	10°22	8°10	27°31	
W 11	5 18 4	18°55'46	18°54	24°29	24° 9	9° 4	28°51	29°12	5° 3	10°22	8°10	27°34	
T 12	5 22 0	19°56'49	19°57	28°24	25°46	9°39	28°55	29°15	5° 3	10°22	8°10	27°36	
F 13	5 25 57	20°57'53	21° 0	2♁27	27°23	10°15	29° 0	29°17	5° 4	10°23	8°10	27°38	
S 14	5 29 54	21°58'58	22° 3	6°36	29° 0	10°51	29° 5	29°19	5° 5	10°23	8°10	27°40	
S 15	5 33 50	23° 0'03	23° 5	10°53	0♁37	11°27	29° 9	29°21	5° 5	10°23	8°10	27°42	
M 16	5 37 47	24° 1'09	24° 8	15°18	2°14	12° 3	29°14	29°23	5° 6	10°24	8°11	27°44	
T 17	5 41 43	25° 2'16	25°10	19°51	3°51	12°39	29°19	29°26	5° 7	10°24	8°11	27°46	
W 18	5 45 40	26° 3'24	26°12	24°32	5°28	13°15	29°23	29°28	5° 8	10°24	8°11	27°48	
T 19	5 49 36	27° 4'32	27°13	29°22	7° 6	13°51	29°28	29°30	5° 8	10°25	8°11	27°50	
F 20	5 53 33	28° 5'41	28°14	4♁22	8°43	14°27	29°32	29°32	5° 9	10°25	8°11	27°52	
S 21	5 57 29	29° 6'50	29°15	9°30	10°20	15° 4	29°37	29°35	5°10	10°25	8°11	27°54	
S 22	6 1 26	0♁ 8'00	0♁15	14°48	11°57	15°40	29°42	29°37	5°10	10°26	8°12	27°56	
M 23	6 5 23	1° 9'11	1°14	20°14	13°35	16°16	29°46	29°39	5°11	10°26	8°12	27°58	
T 24	6 9 19	2°10'22	2°14	25°49	15°12	16°53	29°51	29°41	5°12	10°27	8°12	28° 1	
W 25	6 13 16	3°11'33	3°13	1♁33	16°49	17°29	29°56	29°44	5°13	10°27	8°12	28° 3	
T 26	6 17 12	4°12'45	4°13	7°25	18°26	18° 6	0♁ 0	29°46	5°13	10°27	8°12	28° 5	
F 27	6 21 9	5°13'57	5°12	13°24	20° 4	18°42	0° 5	29°48	5°14	10°28	8°12	28° 7	
S 28	6 25 5	6°15'08	6°12	19°29	21°41	19°19	0°10	29°50	5°15	10°28	8°13	28° 9	
S 29	6 29 2	7°16'20	7°11	25°40	23°19	19°55	0°14	29°52	5°16	10°28	8°13	28°11	
M 30	6 32 59	8°17'31	8°11	1♁55	24°56	20°32	0°19	29°55	5°16	10°29	8°13	28°13	
T 31	6 36 55	9♁18'43	9♁11	8♁13	26♁33	21♁ 8	0♁23	29♁57	5♁17	10♁29	8♁13	28♁15	

Delta T = 48.35 sec.

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