

target : Jupiter  
 target radius (km) : 71492.00  
 C/A epoch : 2030-01-24T12:07:48.440  
 Event type : Pgt  
 : Jupiter occs: geocentric, topocentric  
 : Not a ringed target  
 Gaia source ID : 6258388677421132032  
 2Mass ID (if available) : 15264887-1743186

Jupiter 2030-01-24T12:07:48 K9.64 G12.11 Pgt

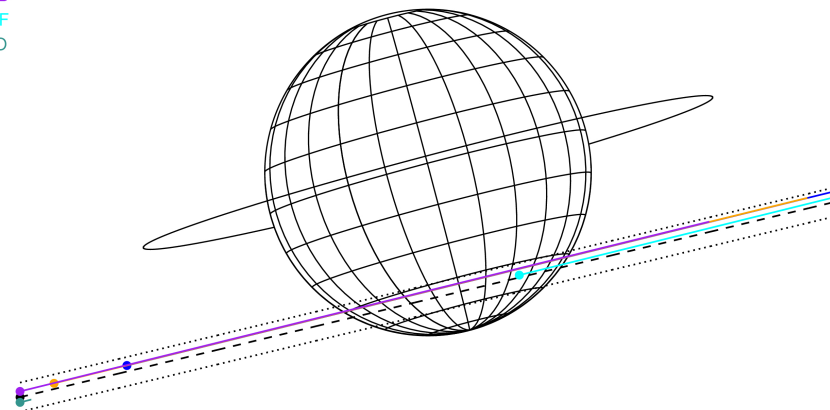
ICRS Star Coord at Epoch: 15h 26m 48.84639s -17:43:18.63211s

RUWE (>1.4 is poor) : 1.09  
 K magnitude : 9.643  
 G magnitude : 12.110  
 RP magnitude : 11.358  
 BP magnitude : 12.727  
 DUPflag : 0  
 Distance (au) : 5.669  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : 22.77  
 Sun-Target sep (deg) : 70.31  
 Sun-Moon sep (deg) : 49.40  
 B (ring opening deg) : -3.19  
 PA of pole (deg) : 14.81  
 Pole direction: RA (deg): 268.05734  
 Dec (deg): 64.49653  
 C/A sky separation (") : 13.146  
 C/A sky separation (km) : 54053.2  
 NAIF SPICE kernels : RAJobs\_U111+rgf15.spk

Jupiter 2030-01-24T12:07:48 K9.64 G12.11  
 Pgt



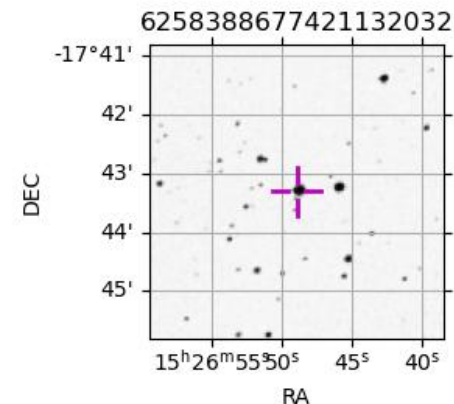
Earth  
 PAL  
 KPNO  
 MCD  
 IRTF  
 ESO



2030-01-24T12:07:48.4400 α: 15 26 48.8464 δ: -17 43 18.632 C/A \*\*\*\*\* PA 13.48 deg v\_sky +22.77 km/s D 05.67 AU  
 Credit: Styled after SORA/Lucky Star

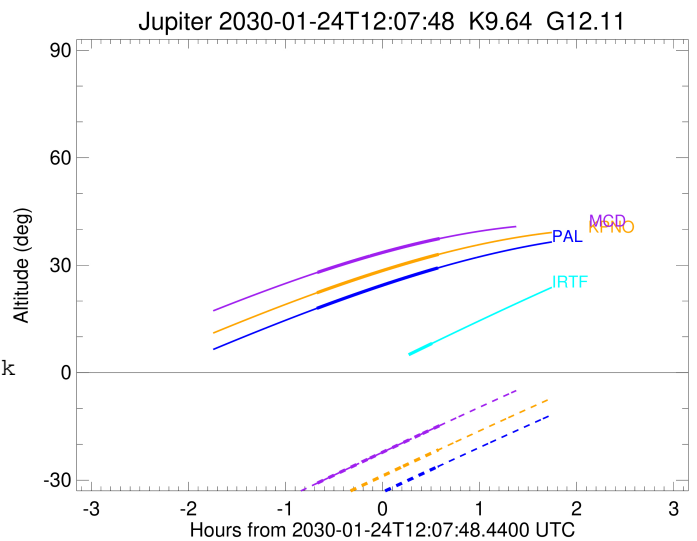
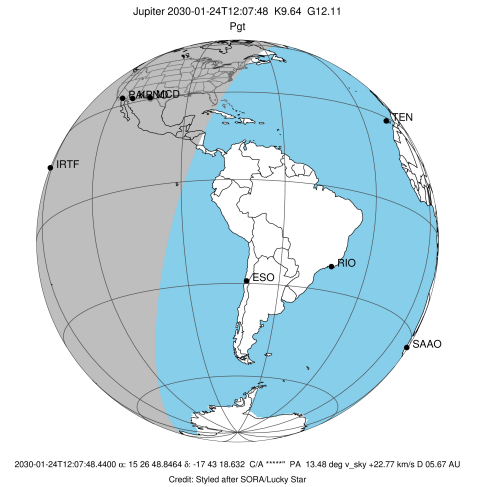
Observable events with sun below -5 deg and altitude above 5 deg

| Obs  | Location                          | lat   | Elon  | Target | Observed Events Interval    | OCode |
|------|-----------------------------------|-------|-------|--------|-----------------------------|-------|
| PIC  | Pic du Midi                       | 42.9  | 0.1   |        |                             | Pnn   |
| PAL  | Palomar Mt (200")                 | 33.4  | 243.1 | + +    | JAN 24 11:27 - JAN 24 12:42 | Pie   |
| PMO  | Purple Mtn Obs. Nanking           | 32.1  | 118.8 |        |                             | Pnn   |
| KPNO | Kitt Peak Natl Obs                | 32.0  | 248.4 | + +    | JAN 24 11:27 - JAN 24 12:42 | Pie   |
| MCD  | McDonald Obs. 2.7m                | 30.7  | 256.0 | + +    | JAN 24 11:27 - JAN 24 12:42 | Pie   |
| TEN  | Teide Obs./Tenerife               | 28.3  | 343.5 |        |                             | Pnn   |
| IRTF | Mauna Kea/IRTF                    | 19.8  | 204.5 |        | JAN 24 12:38 - JAN 24 12:38 | Pne   |
| KAV  | Kavalur Observatory               | 12.6  | 78.8  |        |                             | Pnn   |
| RIO  | Rio de Janeiro                    | -22.9 | 316.8 |        |                             | Pnn   |
| ESO  | European Southern Obs. (3.6m)     | -29.3 | 289.3 |        |                             | Pnn   |
| AAT  | Siding Spring (AAT)               | -31.3 | 149.1 |        |                             | Pnn   |
| SAAO | So. Afr. Astro. Obs. (Sutherland) | -32.4 | 20.8  |        |                             | Pnn   |
| MSO  | Mt. Stromlo Observatory           | -35.3 | 149.0 |        |                             | Pnn   |



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2030-01-24T12:04:38.940
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code        : PAL
Location             : Palomar Mt (200")
Latitude (deg)       : 33.35622
E. Longitude (deg)  : 243.13601
Altitude (km)        : 1.706
Gaia source ID       : 6258388677421132032
2Mass ID (if available) : 15264887-1743186
ICRS Star Coord at Epoch: 15h 26m 48.84639s -17:43:18.63211s
RUWE (>1.4 is poor) : 1.09
K magnitude          : 9.643
G magnitude          : 12.110
RP magnitude         : 11.358
BP magnitude         : 12.727
DUPflag             : 0
Distance (au)        : 5.669
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 22.77
Sun-Target sep (deg) : 70.31
Sun-Moon sep (deg)  : 49.29
B (ring opening deg) : -3.19
PA of pole (deg)    : 14.81
Pole direction: RA (deg): 268.05734
Dec (deg): 64.49653
C/A sky separation ("): 12.290
C/A sky separation (km): 50534.1
NAIF SPICE kernels  : RAJobs_U111+rgf15.spk
URKALLv1.spk
naif0012.tls
nep097.bsp
nep101.bsp
sat4401.bsp
de440.bsp
earth_720101_070426.bpc
jup365.bsp
urall6.bsp
IAU_SATURN_for_RINGFIT.tpc
pck00010.tpc
earth_200101_990628_predict.bpc
uranus_ringframes_rfrench20220627_v1.tf
neptune_ringframes_rfrench20220702a_v1.tf
earth_flat_IAU.spk
    
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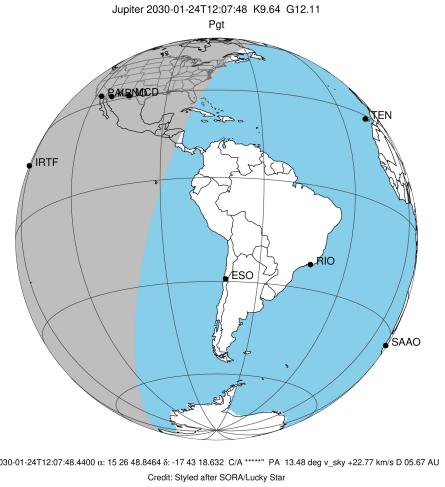


x: target alt < 5.0 deg or sun > -5.0 deg

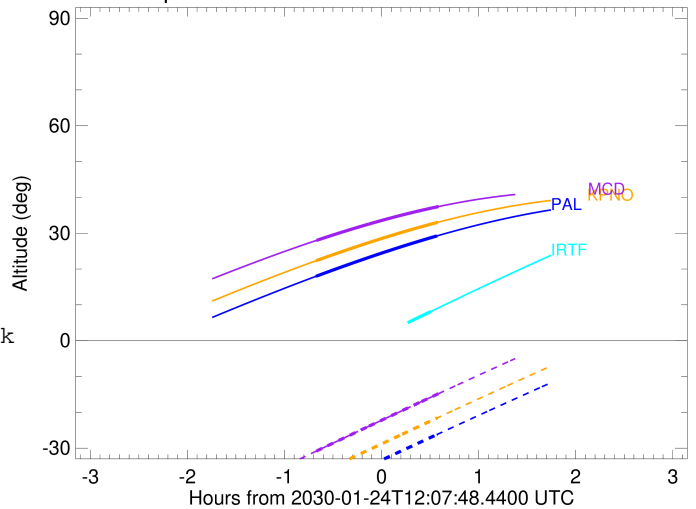
| Target  | I/E | UTC                     | alt   | alt-sun | radius  | lat-geo | lat-geodetic |
|---------|-----|-------------------------|-------|---------|---------|---------|--------------|
| Jupiter | I   | 2030-01-24T11:27:16.927 | 17.96 | -41.82  | 71485.3 | -43.94  | -47.65       |
| Jupiter | E   | 2030-01-24T12:42:06.678 | 29.24 | -26.19  | 71484.8 | -45.86  | -49.55       |

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2030-01-24T12:04:52.600
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : KPNO
Location              : Kitt Peak Natl Obs
Latitude (deg)        : 31.96333
E. Longitude (deg)    : 248.40000
Altitude (km)         : 2.120
Gaia source ID        : 6258388677421132032
2Mass ID (if available) : 15264887-1743186
ICRS Star Coord at Epoch: 15h 26m 48.84639s -17:43:18.63211s
RUWE (>1.4 is poor) : 1.09
K magnitude           : 9.643
G magnitude           : 12.110
RP magnitude          : 11.358
BP magnitude          : 12.727
DUPflag              : 0
Distance (au)         : 5.669
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 22.77
Sun-Target sep (deg) : 70.31
Sun-Moon sep (deg)   : 49.38
B (ring opening deg) : -3.19
PA of pole (deg)     : 14.81
Pole direction: RA (deg): 268.05734
Dec (deg): 64.49653
C/A sky separation (") : 12.273
C/A sky separation (km) : 50463.8
NAIF SPICE kernels   : RAJobs_U111+rgf15.spk
URKALLv1.spk
naif0012.tls
nep097.bsp
nep101.bsp
sat4401.bsp
de440.bsp
earth_720101_070426.bpc
jup365.bsp
urall6.bsp
IAU_SATURN_for_RINGFIT.tpc
pck00010.tpc
earth_200101_990628_predict.bpc
uranus_ringframes_rfrench20220627_v1.tf
neptune_ringframes_rfrench20220702a_v1.tf
earth_flat_IAU.spk
    
```



Jupiter 2030-01-24T12:07:48 K9.64 G12.11

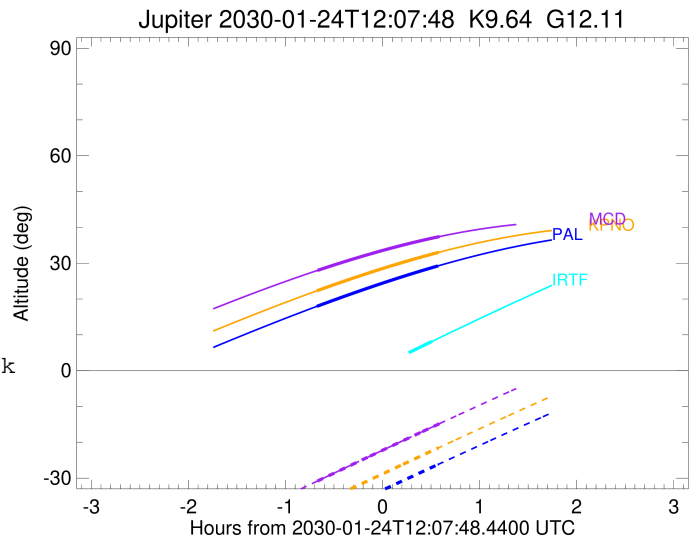
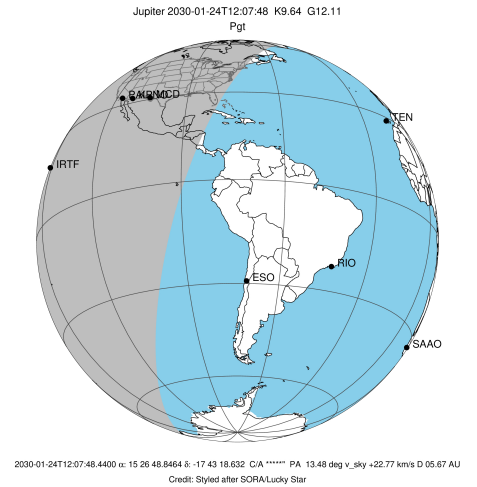


x: target alt < 5.0 deg or sun > -5.0 deg

| Target  | I/E | UTC                     | alt   | alt-sun | radius  | lat-geo | lat-geodetic |
|---------|-----|-------------------------|-------|---------|---------|---------|--------------|
| Jupiter | I   | 2030-01-24T11:27:24.493 | 22.32 | -37.39  | 71485.3 | -43.86  | -47.57       |
| Jupiter | E   | 2030-01-24T12:42:26.129 | 33.01 | -21.53  | 71484.8 | -45.79  | -49.48       |

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2030-01-24T12:05:15.680
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code        : MCD
Location             : McDonald Obs. 2.7m
Latitude (deg)       : 30.67158
E. Longitude (deg)   : 255.97844
Altitude (km)        : 2.075
Gaia source ID       : 6258388677421132032
2Mass ID (if available) : 15264887-1743186
ICRS Star Coord at Epoch: 15h 26m 48.84639s -17:43:18.63211s
RUWE (>1.4 is poor) : 1.09
K magnitude           : 9.643
G magnitude           : 12.110
RP magnitude         : 11.358
BP magnitude         : 12.727
DUPflag              : 0
Distance (au)        : 5.669
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 22.77
Sun-Target sep (deg) : 70.31
Sun-Moon sep (deg)   : 49.49
B (ring opening deg) : -3.19
PA of pole (deg)     : 14.81
Pole direction: RA (deg): 268.05734
Dec (deg): 64.49653
C/A sky separation (") : 12.234
C/A sky separation (km) : 50306.2
NAIF SPICE kernels   : RAJobs_U111+rgf15.spk
URKALLv1.spk
naif0012.tls
nep097.bsp
nep101.bsp
sat4401.bsp
de440.bsp
earth_720101_070426.bpc
jup365.bsp
urall6.bsp
IAU_SATURN_for_RINGFIT.tpc
pck00010.tpc
earth_200101_990628_predict.bpc
uranus_ringframes_rfrench20220627_v1.tf
neptune_ringframes_rfrench20220702a_v1.tf
earth_flat_IAU.spk
    
```

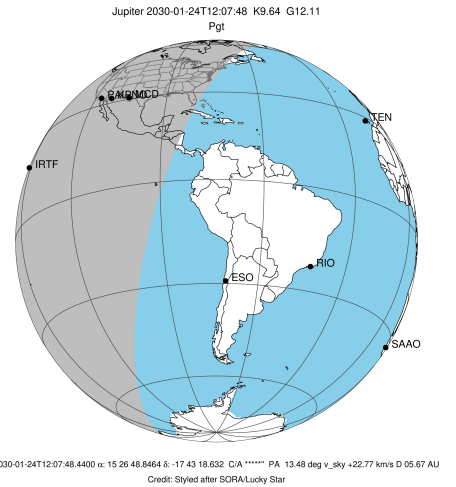


x: target alt < 5.0 deg or sun > -5.0 deg

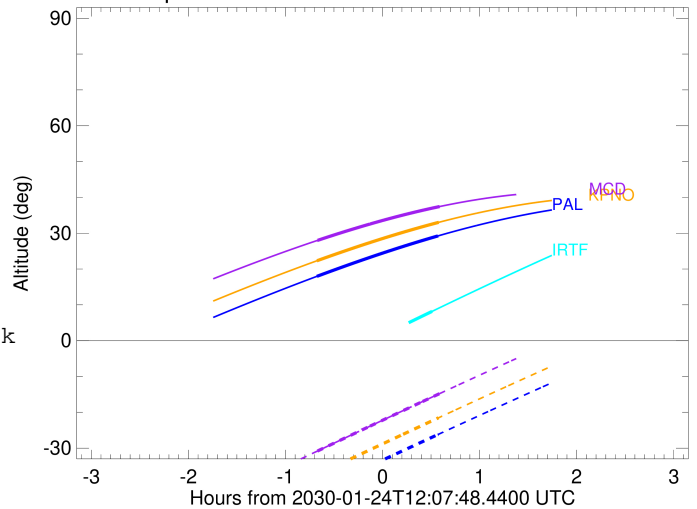
| Target  | I/E | UTC                     | alt   | alt-sun | radius  | lat-geo | lat-geodetic |
|---------|-----|-------------------------|-------|---------|---------|---------|--------------|
| Jupiter | I   | 2030-01-24T11:27:36.810 | 27.98 | -30.81  | 71485.4 | -43.68  | -47.39       |
| Jupiter | E   | 2030-01-24T12:42:59.425 | 37.42 | -14.80  | 71484.9 | -45.62  | -49.32       |

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2030-01-24T12:03:25.310
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code        : IRTF
Location             : Mauna Kea/IRTF
Latitude (deg)       : 19.82622
E. Longitude (deg)   : 204.52800
Altitude (km)        : 4.168
Gaia source ID       : 6258388677421132032
2Mass ID (if available) : 15264887-1743186
ICRS Star Coord at Epoch: 15h 26m 48.84639s -17:43:18.63211s
RUWE (>1.4 is poor) : 1.09
K magnitude          : 9.643
G magnitude          : 12.110
RP magnitude         : 11.358
BP magnitude         : 12.727
DUPflag             : 0
Distance (au)        : 5.669
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 22.77
Sun-Target sep (deg) : 70.31
Sun-Moon sep (deg)   : 48.80
B (ring opening deg) : -3.19
PA of pole (deg)     : 14.81
Pole direction: RA (deg): 268.05734
Dec (deg): 64.49653
C/A sky separation (") : 12.942
C/A sky separation (km) : 53215.0
NAIF SPICE kernels   : RAJobs_U111+rgf15.spk
URKALLv1.spk
naif0012.tls
nep097.bsp
nep101.bsp
sat4401.bsp
de440.bsp
earth_720101_070426.bpc
jup365.bsp
urall6.bsp
IAU_SATURN_for_RINGFIT.tpc
pck00010.tpc
earth_200101_990628_predict.bpc
uranus_ringframes_rfrench20220627_v1.tf
neptune_ringframes_rfrench20220702a_v1.tf
earth_flat_IAU.spk
    
```



Jupiter 2030-01-24T12:07:48 K9.64 G12.11



x: target alt < 5.0 deg or sun > -5.0 deg

| Target  | I/E | UTC                     | alt    | alt-sun | radius  | lat-geo | lat-geodetic |
|---------|-----|-------------------------|--------|---------|---------|---------|--------------|
| Jupiter | I   | 2030-01-24T11:28:30.262 | -7.40x | -77.13  | 71484.5 | -47.02  | -50.69       |
| Jupiter | E   | 2030-01-24T12:38:27.337 | 8.18   | -60.68  | 71484.1 | -48.97  | -52.59       |