

Noon sight

Ocean Navigator

For want of a chronometer <https://oceannavigator.com/article/for-want-of-a-chronometer/>

May 26 and there is enough clear sky to take a **noon sight**.

DR is S 35° 20' by E 21° 10'.

Noon sight of the lower limb from a height of 20 feet.

Use a declination of the sun of N 21° 12'.

Hs of the sight is 33° 22.7'.

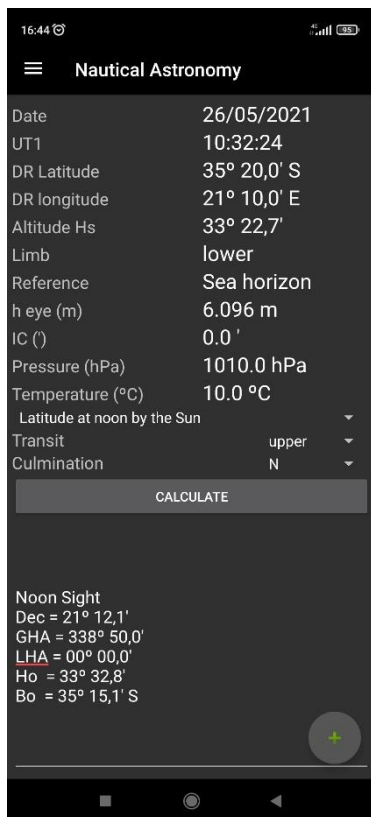
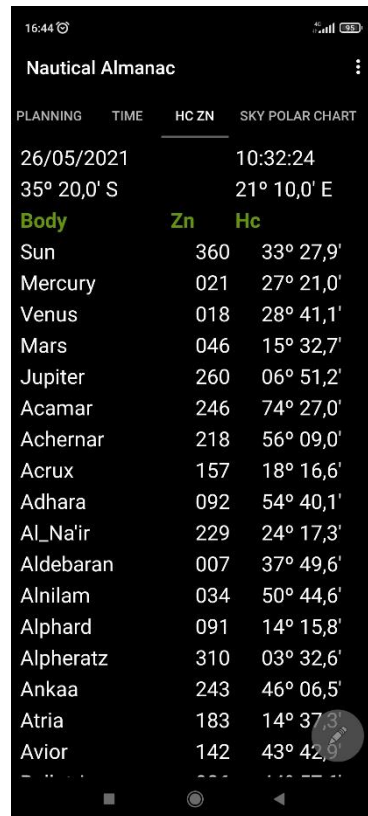
Use the 2021 Nautical Almanac for this sight.

A. What is Ho?

B. Establish the latitude.

Navigational Algorithms – Android Apps

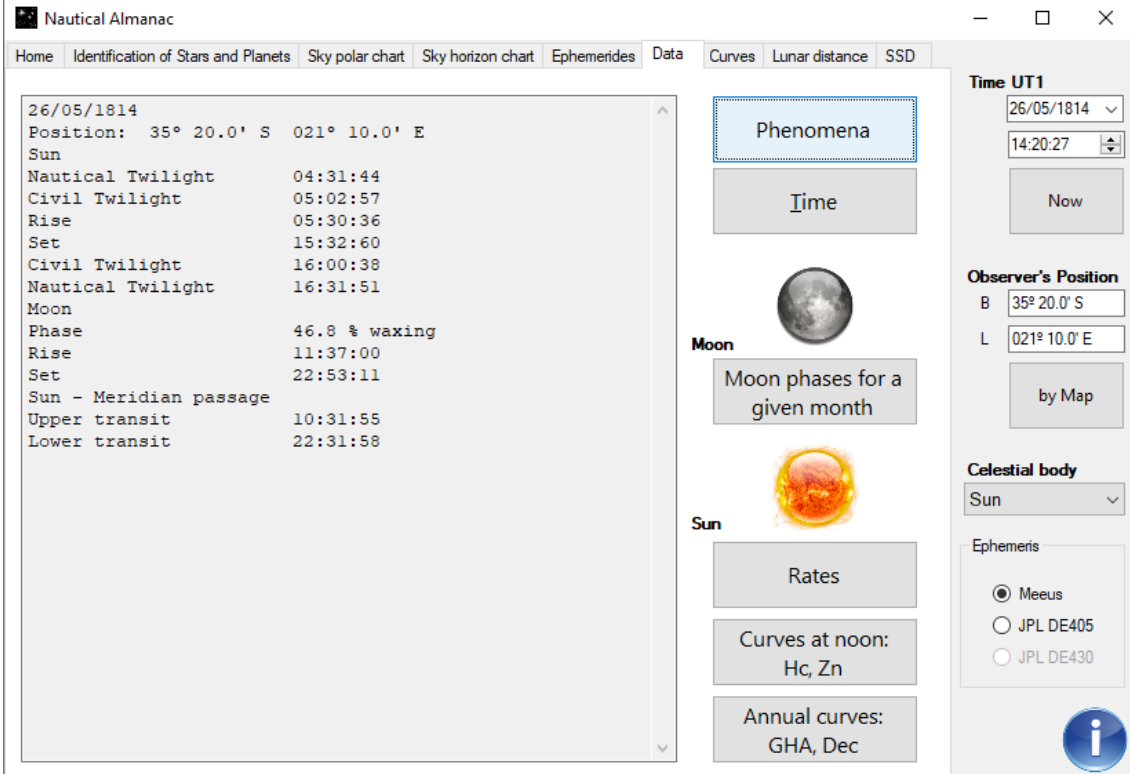
<https://sites.google.com/site/navigationalalgorithms/software/android>



Navigational Algorithms – Windows (.NET)

<https://sites.google.com/site/navigationalalgorithms/software/Windows>

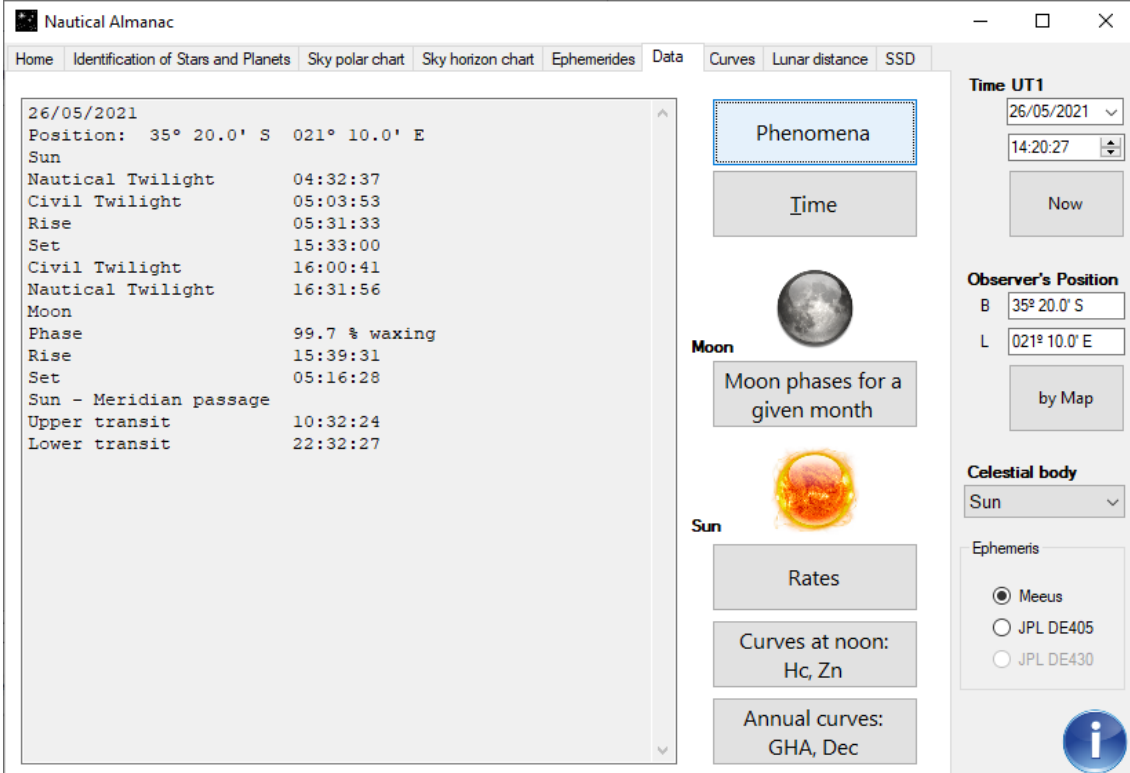
Differences between 1814 and 2021



The screenshot shows the Nautical Almanac software interface for the date 26/05/1814. The main data table is as follows:

26/05/1814	
Position:	35° 20.0' S 021° 10.0' E
Sun	
Nautical Twilight	04:31:44
Civil Twilight	05:02:57
Rise	05:30:36
Set	15:32:60
Civil Twilight	16:00:38
Nautical Twilight	16:31:51
Moon	
Phase	46.8 % waxing
Rise	11:37:00
Set	22:53:11
Sun - Meridian passage	
Upper transit	10:31:55
Lower transit	22:31:58

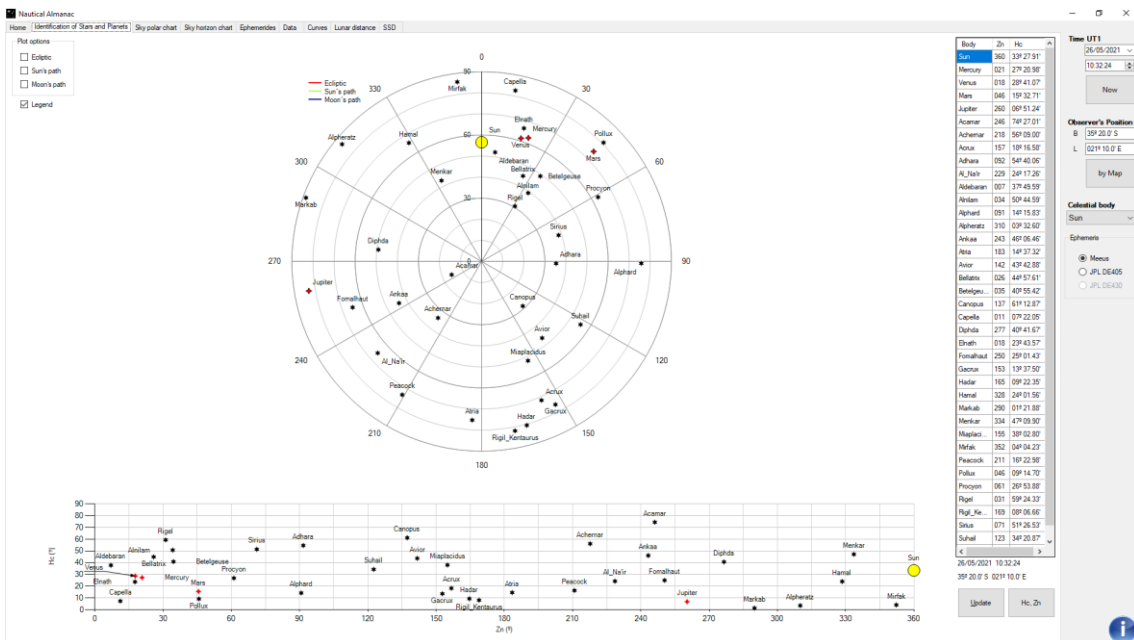
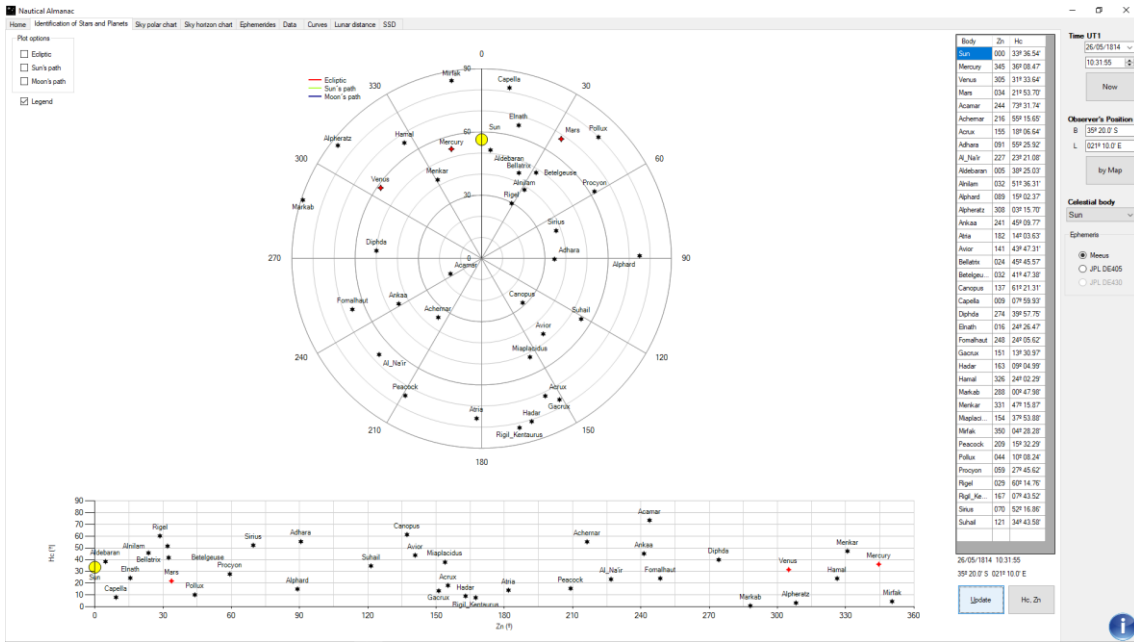
The interface includes a navigation menu at the top (Home, Identification of Stars and Planets, Sky polar chart, Sky horizon chart, Ephemerides, Data, Curves, Lunar distance, SSD) and a right-hand sidebar with controls for Time UT1, Observer's Position, Celestial body, and Ephemeris selection. The 'Phenomena' button is highlighted in the central panel.



The screenshot shows the Nautical Almanac software interface for the date 26/05/2021. The main data table is as follows:

26/05/2021	
Position:	35° 20.0' S 021° 10.0' E
Sun	
Nautical Twilight	04:32:37
Civil Twilight	05:03:53
Rise	05:31:33
Set	15:33:00
Civil Twilight	16:00:41
Nautical Twilight	16:31:56
Moon	
Phase	99.7 % waxing
Rise	15:39:31
Set	05:16:28
Sun - Meridian passage	
Upper transit	10:32:24
Lower transit	22:32:27

The interface is identical to the 1814 version, but the 'Time UT1' dropdown is set to 26/05/2021. The 'Phenomena' button remains highlighted in the central panel.



Nautical Almanac

Home | Identification of Stars and Planets | Sky polar chart | Sky horizon chart | Ephemerides | Data | Curves | Lunar distance | SSD

Date	UT1	Body	GHA	Dec	SD	HP	RA	illumination
26/05/2021	10:32:24	Sun	338° 50.0'	21° 12.1'	15.79	0.14	04:13:56	
26/05/1814	10:32:24	Sun	338° 57.2'	21° 3.5'	15.78	0.14	04:10:02	

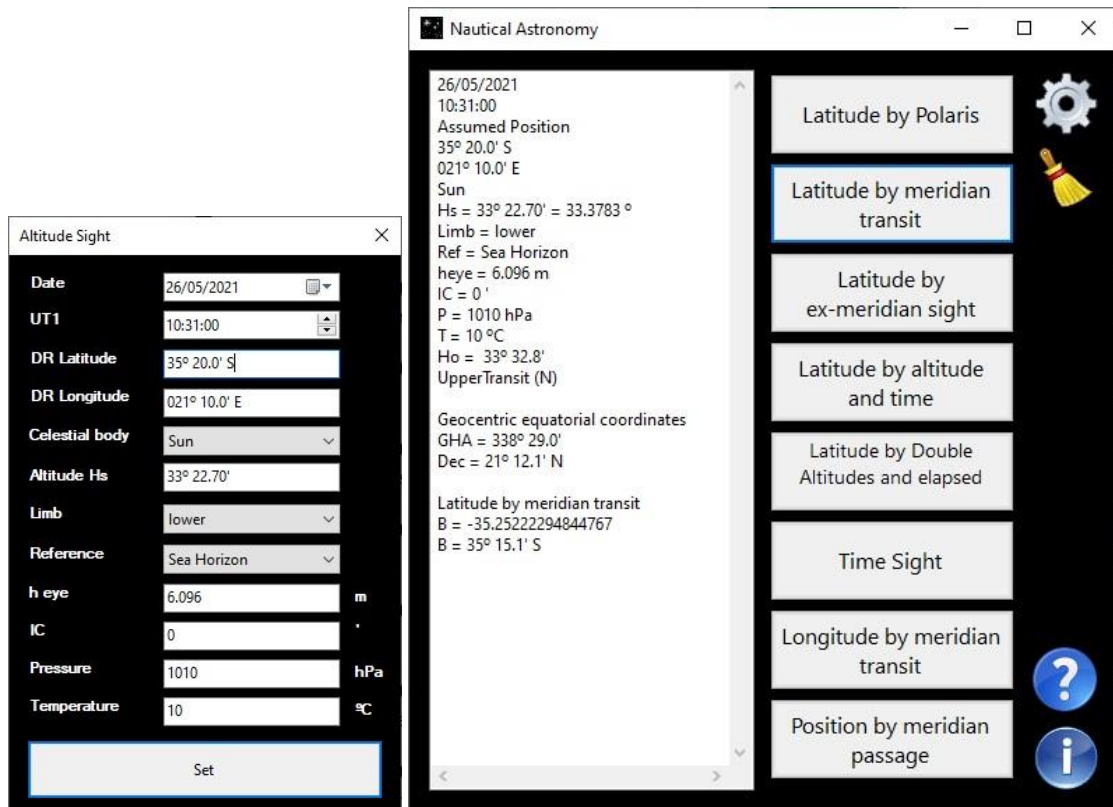
Ephemeris

Aries

One body

Time UT1: 26/05/1814 10:31:55 Now

Observer's Position: B 39° 20' 0" S



26/05/2021
10:32:24
 Assumed Position
 35° 20.0' S
 021° 10.0' E
 Sun
 Hs = 33° 22.70'
 Limb = lower
 Ref = Sea Horizon
 heye = 6.096 m
 IC = 0 '
 P = 1010 hPa
 T = 10 °C
 Ho = 33° 32.8'
 UpperTransit (N)

Geocentric equatorial
 coordinates
 GHA = 338° 50.0'
 Dec = 21° 12.1' N

 Latitude by meridian
 transit
 B = 35° 15.1' S

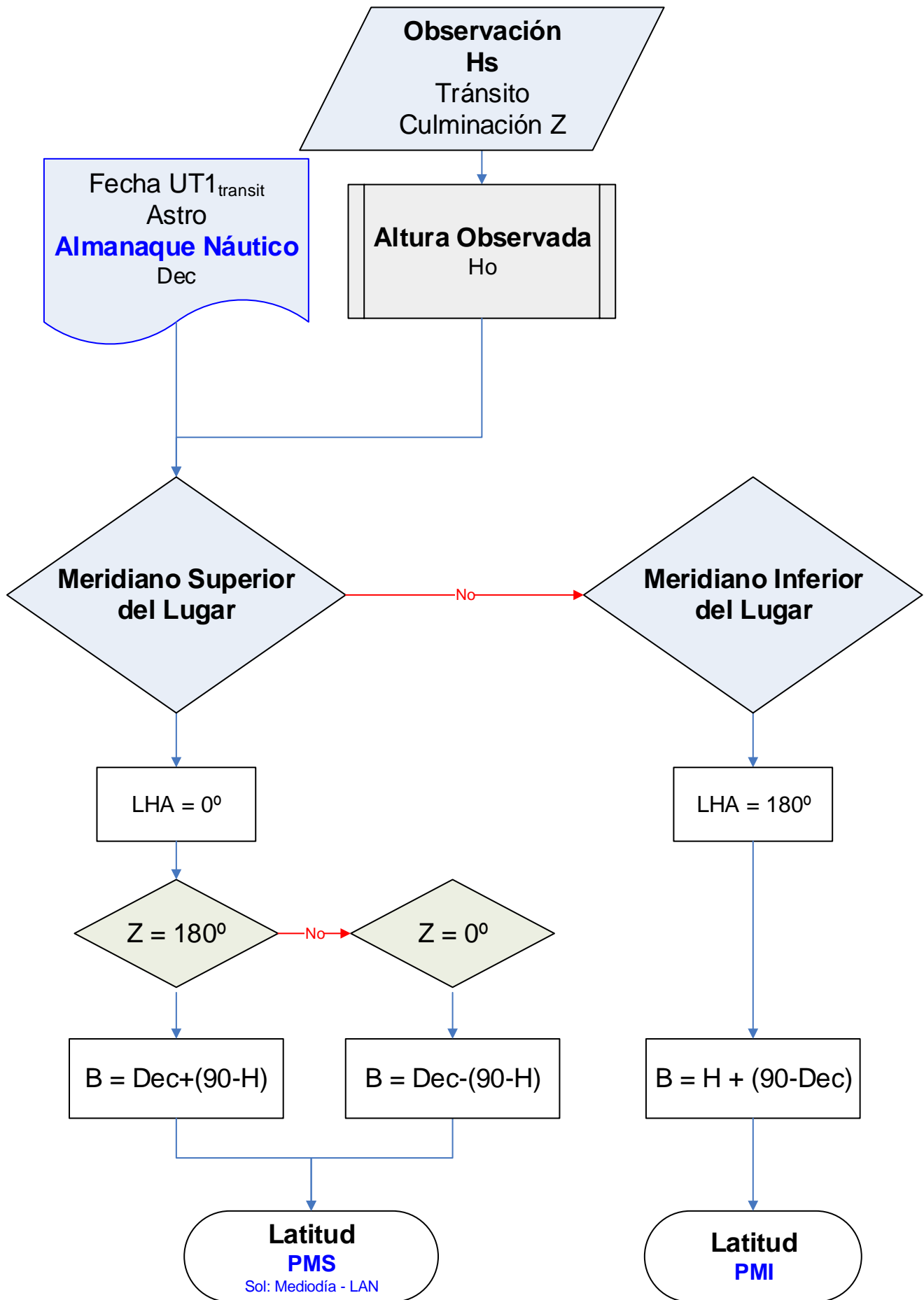
Introducing an error in the time of meridian transit of the Sun

10:00:00
 Geocentric equatorial
 coordinates
 GHA = 330° 44.1'
 Dec = 21° 11.9' N
 Latitude by meridian
 transit
 B = 35° 15.4' S

10:30:00
 Geocentric equatorial
 coordinates
 GHA = 338° 14.0'
 Dec = 21° 12.1' N
 Latitude by meridian
 transit
 B = 35° 15.1' S

10:25:00
 Geocentric equatorial
 coordinates
 GHA = 336° 59.0'
 Dec = 21° 12.0' N
 Latitude by meridian
 transit
 B = 35° 15.2' S

Latitud al paso por el meridiano del lugar



Corrections for Sextant Altitude

