

finding the latitude

On the map side are several locations to choose from, or use them to estimate a position. Set the smaller dial to a position and read the latitude.



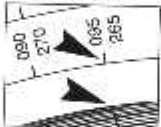
finding the zenith

Turn over to the calendar on the other side, and set the dial to a date. Read the scale below the date and subtract the latitude. The result is the altitude in degrees above the southern horizon at local noon.



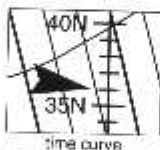
reading the azimuths

Hold the date and find the wide spaced azimuth curve nearest the position latitude on the scale marked AZM. Follow the curve out to the end, and read the azimuths from the scale above the next circle.



reading the half day

Find the close spaced time curve nearest the position latitude on the scale marked HRS. The curves are five minutes apart, with a heavier stroke every fifteen minutes. Follow the curve out to the end, and read the hours and minutes. The total direct sunlight is twice the half day. Twilight extends visibility from about half an hour before sunrise to half an hour after sunset.



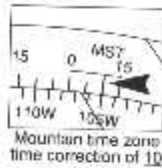
reading the time correction

Inside the small circle in the center is a scale of time corrections. Read the number closest to the HRS scale, and note if it is underlined.



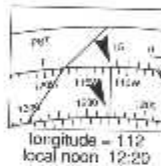
setting standard time

Turn back over to the map side. The tab on the larger dial has a scale of the time corrections. Select a time zone and line up the time correction with the standard time zone mark. Use the underlined side of the scale if the time correction was underlined.



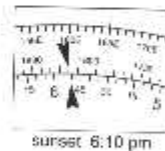
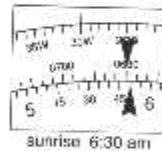
finding local noon

Hold standard time and set the smaller dial to the position. Read longitude and local noon from the dial tab.



reading sunrise and sunset

Look along the first scale outside the map to the right of the 0 and find the half day hours and minutes. Read sunrise time on the scale above. Now look to the left of the 0 and find the half day hours and minutes. Read time of sunset from the scale above.



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