55° 50° 45° 40° 35°

NORTH SEA

MERIDIAN OF GREENWICH (LONDON)

MEDITERRANEAN SEA

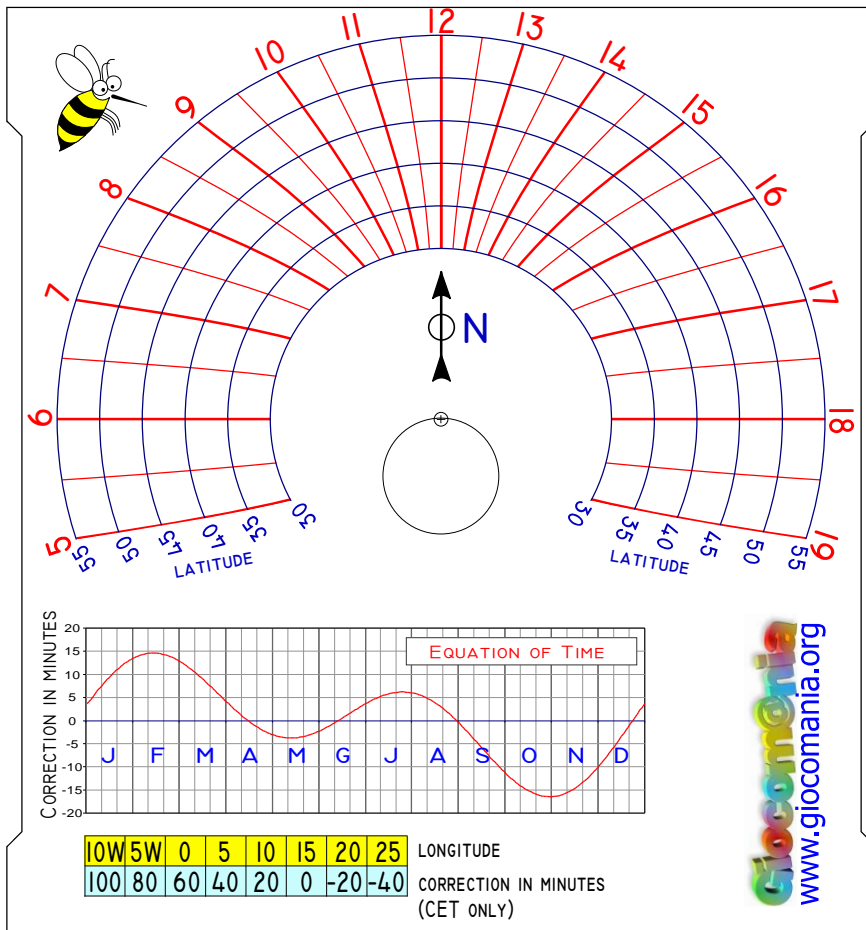5° W   0°   5° E   10°   15°   20°   25°

WESTERN EUROPEAN TIME / WESTERN EUROPEAN SUMMER TIME (UTC+0 / UTC+1).
CENTRAL EUROPEAN TIME / CENTRAL EUROPEAN SUMMER TIME (UTC+1 / UTC+2).
EASTERN EUROPEAN TIME / EASTERN EUROPEAN SUMMER TIME (UTC+2 / UTC+3).
MOSCOW TIME / MOSCOW SUMMER TIME (UTC+3 / UTC+4).

PORTABLE UNIVERSAL SUNDIAL

N

LATITUDE   LATITUDE

EQUATION OF TIME

CORRECTION IN MINUTES
20 15 10 5 0 -5 -10 -15 -20

J F M A M G J A S O N D

www.giocomania.org

10W	5W	0	5	10	15	20	25	LONGITUDE
100	80	60	40	20	0	-20	-40	CORRECTION IN MINUTES (CET ONLY)

PORTABLE UNIVERSAL SunDial

α	%
1	2
2	3
3	5
4	7
5	9
6	11
7	12
8	14
10	18
12	21
14	25
17	31
18	32
20	36
22	40
24	45
27	51
31	60
34	67
35	70
37	75
40	84
42	90
45	100
50	119

To use the quadrant you have to exploit the UPPER EDGE as sight alignment

The SIDE TABLE links the angle alpha with the inclination (percentage of)

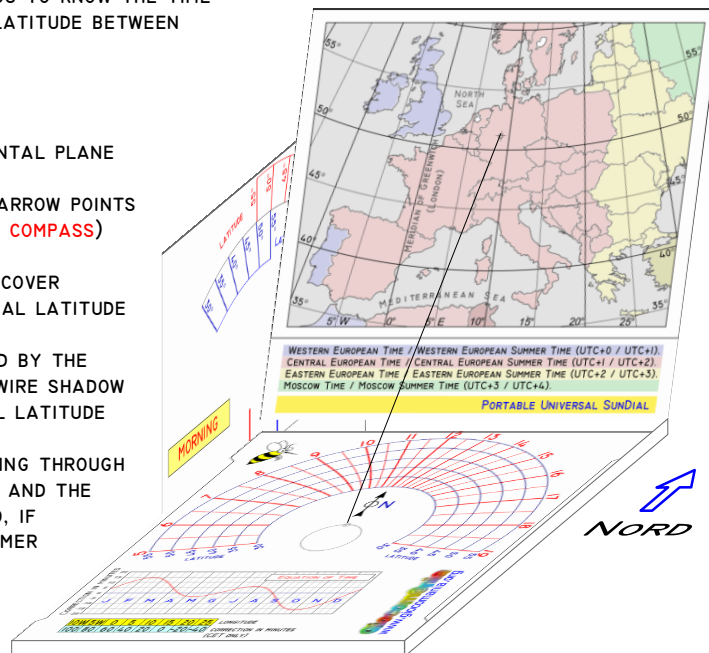The FORMULA allows to compute **h** by knowing **d** or reverse

The sundial is inside, while the user instructions are on the back.

$$h = a + d * \tan \alpha$$
$$d = (h - a) / \tan \alpha$$

height **h**

distance **d**

a

PORTABLE UNIVERSAL SunDial
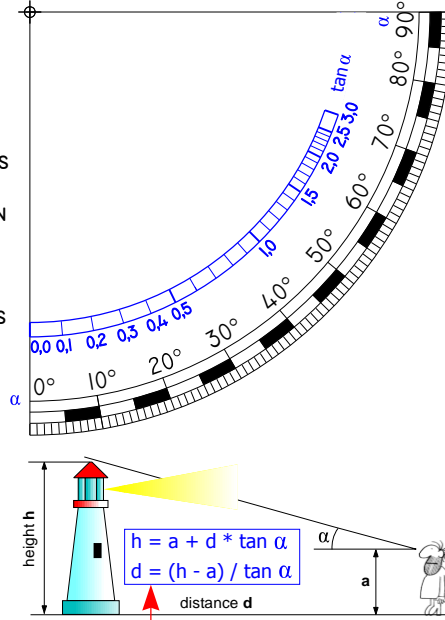
This sundial allows you to know the time in every sites with a latitude between 30° and 55°.

- Open CD box

- Place it on a horizontal plane

- Rotate it until the arrow points toward North (use a compass)

- Incline the vertical cover according to the local latitude

- Read the time marked by the intersection of the wire shadow and the arc of local latitude

- Correct such a reading through the equation of time and the longitude offset and, if needed, also for summer time (DST).

More information: www.giocomania.org

Western European Time / Western European Summer Time (UTC+0 / UTC+1).
Central European Time / Central European Summer Time (UTC+1 / UTC+2).
Eastern European Time / Eastern European Summer Time (UTC+2 / UTC+3).
Moscow Time / Moscow Summer Time (UTC+3 / UTC+4).

Portable Universal SunDial

MORNING

NORD

LATITUDE

LATITUDE

30° 35° 40° 45° 50° 55°

55° 50° 45° 40° 35° 30°

MORNING

AFTERNOON