

# Instructions for using the Sundial

This is a traditional garden sundial, whose design allows it to be set up for (almost) any latitude.

Remove the bolt from the base. Slot the latitude ring into the base, aligned so that your current latitude line is vertical. If you're in a latitude hidden by a brace then just get as close as you can; you'll only be a couple of degrees off. Reinsert the bolt and tighten only just enough so that the ring stays in position.

Next, add the connector block; remove the bolts and use them to attach the block to the Latitude ring, oriented so the rounded corners are facing down. The Hours ring then fits into the other slot in the block, with the Wavytail logo facing down. The morning hours should be on the left when viewed from above. **BE GENTLE INSERTING THE ACRYLIC** - it is a snug fit. Excess bending force could cause it to snap!



Orient the Sundial so that the gnomon (metal rod) is pointing up towards the North Star, while placed on a level surface. Use True North, not Magnetic North. There are holes in the base you can use to bolt it down if you prefer. Also supplied are some plastic feet; these are optional, but may help if the sundial is on a rough surface. Gently insert these if using, and ensure they are at the same level.

Observe the Sun casting a shadow from the gnomon onto the Hours ring. This is your current Solar Time. Now, there will most likely be some variation between your reading and the actual clock time. Here are some reasons for this:

1) You're probably not going to be situated in the very middle of your time zone. A time zone is 15° wide, and the time will change by 4 minutes for each degree. So if you're at the very edge of your time zone, you might be  $(7.5^\circ \times 4) = 30$  minutes different from the clock time. See below for a link to a time zone map.

2) The Sun moves +/- 15 minutes throughout the year, as its orbit is not a pure circle but an ellipse. Therefore we have printed the Equation of Time

graph on the side of the Sundial. Use this to determine how much variation is shown for the current day and add or subtract accordingly

3) Don't forget daylight savings time! You are measuring local time with the Sundial; your reading will need an hour added on in the summer to match your clock time.

We hope you have many happy hours with your Sundial!

## References:

<https://sundials.org/index.php/teachers-corner/sundial-construction/61-longitude-correction.html>

<https://www.timeanddate.com/time/map/> - time zone map

<https://www.ngdc.noaa.gov/geomag/declination.shtml> - True North/Magnetic deviation explainer/finder

For an extended version of these instructions, please visit: <http://wavytail.com/equatorial-sundial-mk2/> Hardware is 4mm stainless steel hex bolts, if you ever need to replace them. © 2025 Wavytail.com

# Wavytail Equatorial Sundial

Tell the time by the Sun!

