

# Solar Panel Alignment Guide

Orpheus Audio Player | GaiaForge Technology

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Proper solar panel alignment is critical for keeping your Orpheus running indefinitely in the field. The Orpheus companion app includes a built-in Solar Alignment tool that uses your phone's compass and accelerometer to guide you to the optimal panel position for your location.

## How to Access the Alignment Tool

The Solar Alignment tool is available in two places:

1. Companion App start screen - tap the Solar Alignment icon before connecting to a device
2. Orpheus touchscreen - go to Settings > Solar to access the alignment utility directly on the device

## Aligning Your Panel

### 1. Open the tool

Launch the Solar Alignment screen from the companion app or the Orpheus touchscreen. The app will use GPS to determine your location and calculate the optimal panel direction and tilt angle.

### 2. Place your phone on the panel

Lay your phone flat on the solar panel surface with the screen facing up toward you. The top of the phone should point toward the top edge of the panel (away from you).

### 3. Adjust the compass heading

The screen shows your current heading and the target heading. Rotate the entire panel until the compass indicator aligns with the target. In the Northern Hemisphere, the target is typically due South (180 degrees). In the Southern Hemisphere, the target is due North (0 degrees).

### 4. Adjust the tilt angle

The screen shows your current tilt and the optimal tilt angle for your latitude. Prop the panel up or adjust its mounting bracket until the tilt indicator matches the target. As a general rule, tilt the panel to approximately the same angle as your latitude (e.g., 50 degrees latitude = 50 degree tilt).

### 5. Verify alignment

When both heading and tilt match the targets, the indicators will turn green. Secure the panel in position. The alignment does not need to be exact - within 10 degrees on either axis will still provide excellent charging performance.

### Tips for Optimal Solar Performance

- Avoid placing panels in areas that are shaded during any part of the day
- Clean the panel surface periodically to remove dust, pollen, or bird droppings
- In winter, increase the tilt angle by 10-15 degrees for lower sun; decrease in summer
- Even partial shade on one cell can significantly reduce total panel output
- Re-check alignment seasonally if the mounting is adjustable

*For detailed power management information including deep sleep configuration and battery monitoring, see the full Orpheus User Manual at [gaiaforge.tech/orpheus](https://gaiaforge.tech/orpheus).*

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