

# SØ vario

## configuration update



### quick hint

To change anything in the vario, you have to rename the main `config.jsonc` file to `config.write.jsonc`.

## introduction

Although we built the SØ vario to be a simple and durable device — one you don't have to think about — it also offers a wide range of configuration options. These options are aimed at more advanced users who are willing to invest some time in learning how it works and tweaking the settings. The SØ vario has many adjustable parameters that let you modify the vario's appearance (by changing layouts) or its overall behaviour.

### **This flexibility doesn't mean you have to change the default settings.**

Every firmware update package also includes a default configuration set that matches the functions added in that release. We spent many hours fine-tuning each release, so you can simply use it as-is and go fly. If you decide to experiment with the settings, the default files are a good starting point.

All config files use a friendly plain-text format rather than a binary one, so you can work with them without any special tool or app. Don't be afraid of `.jsonc` files — they are plain text files, just like the familiar `.txt` files. If possible, we recommend the **Notepad++** app for viewing or editing, since it shows the file structure nicely. If you can't use this app, any text editor on a PC or phone will work.

# configuration structure

All possible settings are located in the **cfg** folder, which contains the main config file **config.jsonc** and two subfolders, **audio** and **layout**. The audio folder contains acoustic profiles; you can select your preferred profile in the **Vario** submenu or in the main **config.jsonc** file. The layout folder contains screen-settings files, which are then accessible in the **Layout** menu.

## how to apply config changes

Before describing individual parameters, we need to explain how to apply **ANY** configuration change. Although the vario uses an SD card as storage, we cannot let the vario depend on the SD card being intact. Therefore all parameters are stored in the vario's internal memory; the SD card is used only as a transfer medium.

To change anything in the vario, you have to rename the main **config.jsonc** file to **config.write.jsonc**. When the vario detects the renamed file, it performs the configuration update and renames the file back to **config.jsonc**. This is a one-time action. **Changes will not be applied unless you rename **config.jsonc** to **config.write.jsonc** each time.** If you decide to change anything in any file manually, it is good practice to save the current state of the file somewhere first — that way, if anything goes wrong, you can easily restore it.

## main config file

The main config.jsonc file contains several sections, each with its own parameters. To keep this document at a reasonable length, we won't describe every parameter in detail here; most of them are documented in the default file generated by the vario after a firmware flash. Please

be careful to preserve the file formatting, including all special characters.

## audio profile file

The vario's acoustics are defined by 21 discrete points covering vertical speeds from  $-10$  to  $+10$  m/s in  $0.5$  m/s steps. Each point has 4 parameters: position on the vario scale, tone frequency, tone duration, and pause. If the pause is 0, the tone is continuous. Between these discrete points, the vario sound is linearly interpolated.

## layout file description

Every layout file is a set of widgets placed on a virtual grid of 25 columns by 31 rows. The grid is derived from the display's  $300 \times 400$  resolution, where each grid cell is  $12 \times 12$  pixels in portrait mode. Some space is reserved for the top status bar.

Landscape mode is slightly more complex. The grid stays at  $25 \times 31$  cells, but the cells are no longer squares — they become rectangles with a 1:1.8 ratio.

Every widget has several general parameters, and some also have special parameters (for example, the thermal assistant).

To make things easier, we built a web-based tool — the widget configurator — where you can create your own layouts or modify the default ones.

[vps.skybean.eu/configuratorSO](https://vps.skybean.eu/configuratorSO)

There is also a file called `layouts.md`, which describes the widgets and their parameters. We recommend opening it in the Notepad++ app for a user-friendly structured view. Any text viewer will work, though, since it is a standard text file.

[vps.skybean.eu/SO\\_repo/layouts.md](https://vps.skybean.eu/SO_repo/layouts.md)

# how to apply default config set

We recommend following these steps when performing a firmware update:

[vps.skybean.eu/SO\\_repo/](https://vps.skybean.eu/SO_repo/)

- Download the config set from the firmware repository
- Remove the SD card from the vario
- Flash the firmware using the STM32CUBE Programmer app
- Disconnect the vario from the computer
- Delete the cfg folder on the SD card
- Copy the new unzipped cfg folder to the SD card
- Eject the SD card from the computer
- Insert the SD card into the vario; the new config should be applied automatically
- If the config wasn't applied automatically, turn the vario OFF and back ON

Here is a useful link:

[vps.skybean.eu/SO\\_vario](https://vps.skybean.eu/SO_vario)

## other information

A more detailed user manual is available here:

[vps.skybean.eu/manuals/](https://vps.skybean.eu/manuals/)

email: [info@skybean.eu](mailto:info@skybean.eu)



[instagram.com/skybean\\_vario](https://www.instagram.com/skybean_vario)



[youtube.com/c/SkyBeanVarios](https://www.youtube.com/c/SkyBeanVarios)



[skybean.eu](https://skybean.eu)

rev. 2605