

# Oberon Pi Setup Guide

[Oberon](#) is a complete software environment for personal computers. It includes both the Oberon operating system and the Oberon programming language.

This version of Oberon, named *Oberon Pi*, emulates the Oberon system on a Raspberry Pi 400, using the Raspberry Pi OS as the host operating system.

Oberon Pi runs as an application in the Raspberry Pi OS. When you execute the Oberon Pi command, a window opens on the Pi OS desktop. This window is the Oberon *display*, and it works like a separate computer running the Oberon system, with its own windows, command menus, and file system.

This document explains how to install and configure Oberon Pi.

## SYSTEM REQUIREMENTS

- Raspberry Pi 400 computer
- 32-bit Raspberry Pi OS (bookworm or bullseye)
- Desktop computer monitor (19" or greater)

## INSTALLING OBERON PI

- 1) Copy the Oberon Pi release file "oberon-pi.zip" to the home folder ("/home/<user>") of the Raspberry Pi OS.
- 2) Right-click on the copied file, and choose the menu option *Extract Here*. This extracts the contents of the ZIP file, creating a folder named "Oberon" in the home folder.

## STARTING OBERON PI

To start Oberon Pi, open the "Oberon" folder and double-click on the file "oberon.sh".

In about one second, the Oberon window should appear on the Raspberry Pi OS desktop.

NOTE - If a dialog box titled "Execute File" appears instead, click on the "Execute" button to continue.

## CONFIGURING OBERON PI

Depending on your computer monitor, you *may* need to configure the following elements in Oberon Pi:

- Oberon window size
- Oberon text size

You may also want to create a menu item or desktop shortcut in the Raspberry Pi OS, to start the Oberon system more quickly.

This configuration is described in the following sections.

## WINDOW SIZE

Whenever Oberon Pi starts up, it opens the Oberon window with a fixed window size.

This window size may or may not be optimal for your computer monitor:

- If the window is too small, it reduces the usability of the Oberon system.
- If the window is too large, it may exceed the boundaries of the computer monitor.

The Oberon window size is specified as a command option in the file "oberon.sh" (which is stored in the "Oberon" folder).

To change the window size, open this file in the Raspberry Pi OS text editor, and change the window size values that are specified in the "--size" command option:

```
risc --zoom 1.6 --size 1070x600 --mem ...
```

A good first try for new size values is to subtract the values "850" and "480" respectively from the display resolution of your computer monitor. For instance, the default size values shown in the example above are for a monitor with 1920x1080 display resolution.

Save the file with the new size values, then restart the Oberon system to see how the resized window appears on the desktop.

This is how the Oberon window should ideally appear on the Raspberry Pi OS desktop:



## TEXT SIZE

Depending on your computer monitor, the text that appears in the Oberon display may be too large or too small for your preference.

The Oberon text size is specified as a command option in the file "oberon.sh" (which is stored in the "Oberon" folder).

To change the text size, open this file in the Raspberry Pi OS text editor, and change the text magnification value that is specified in the "--zoom" command option:

```
risc --zoom 1.6 --size 1070x600 --mem ...
```

The useful range for text magnification values is between 1.0 and 1.9. To change the text size, increment or decrement the fractional value accordingly.

Save the file with the new magnification value, then restart the Oberon system to see how the resized text appears in the Oberon display.

## CREATING MENU ITEM OR DESKTOP SHORTCUT

If you plan to use Oberon Pi regularly, consider creating a menu item or desktop shortcut for it, so you can start it more quickly.


To do this, use the Raspberry Pi OS's "Main Menu Editor". This is available in the "Preferences" option of the Raspberry Pi OS application menu.

For details on how to do this, see the following webpage:

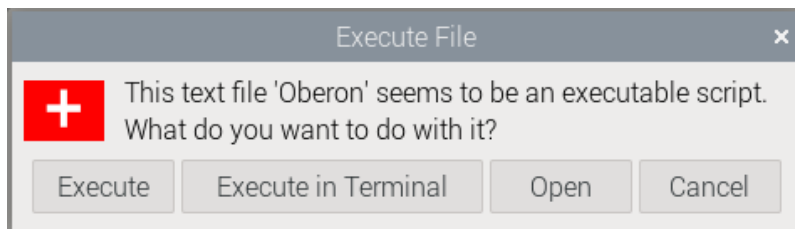
<https://projects.raspberrypi.org/en/projects/raspberry-pi-command/5>

When you create the new menu item, use the following values:

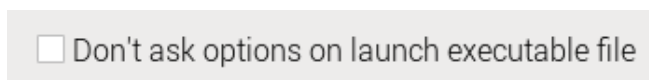
<b>Name</b>	Oberon
<b>Command</b>	/home/<user>/Oberon/oberon.sh
<b>Image</b>	/home/<user>/Oberon/icon.png

NOTE - "icon.png" is the flag of Switzerland: 

The following dialog box may appear every time you start Oberon Pi:



To eliminate this dialog box, select the following item in the Preferences settings of the Raspberry Pi OS's "File Manager":



To access this item, open the File Manager and use the following command:

Edit > Preferences > General

## OBERON PI EMULATOR

The Oberon Pi emulator is an executable C file named "risc" (for "reduced instruction set computer").

This file is stored in the "Oberon" folder in the "Emulator" folder.

NOTE - The emulator is conventionally executed from within the file "oberon.sh".

### Command Usage

```
risc <options> <disk-image>
```

<disk-image>

Pathname of the Oberon disk image file (which is conventionally named "Oberon-System.dsk", and stored in the "Oberon" folder in the "DiskImage" folder).

### Options

```
--zoom <magnification>
```

Control the size of the text in the Oberon display. The parameter is a real number value typically in the range of 1.0 to 1.9. The default value is 1.0.

```
--size <width>x<height>
```

Size (in pixels) of the Oberon window. The parameter includes two integer values which specify the window width and height. Each value must be between 32 and 2048. The default value is 1024x768.

```
--mem <size>
```

Size (in megabytes) allocated by the emulator for the Oberon system RAM. The parameter is an integer value which specifies the memory size. It must be in the range 1 to 32. The default value is 1.

--fullscreen

Maximize the Oberon window so it takes up the entire screen of the computer monitor. Note that the F11 key does the same thing after the Oberon system is running. The default setting is "disabled".

### **Example**

```
risc --zoom 1.6 --size 1070x600 --mem 8 DiskImage/Oberon-System.dsk
```