

Setting Up Your Board

 minnowboard.org/setup/

Overview

Congratulations on purchasing a MinnowBoard development board. This is the landing page for a developer taking their board out of the box for the first time. This is the right place to be no matter which board you have. At the end of this page you will advance to the specific power-on/setup tutorial for your specific board.

This page is designed to support you in getting the most out of your new board, and to familiarize you with the way the site works and how tutorials are structured. Spend a few moments reading the side bars, header menus and footers, and general layout to enhance your experience as you venture further into this website and explore your MinnowBoard development board.

The instruction steps below introduce the MinnowBoard program and website. If you feel ready to skip straight to power-on, go to instruction step 4, [What should I complete out of box?](#).

The two main tutorial sections: Essentials and Instructions

Essentials

The section immediately below is the **Essentials** section where the critical components that are needed to succeed in a tutorial are listed. They are broken down into Hardware Components, Software Components, and Tools. Not all types are required for all tutorials, like here, where only typical Hardware Components are listed as an example of how these sections work. If there are no required essentials, this section will be absent from the tutorial.

Instructions

Tutorials are broken into smaller steps under the **Instructions** section, including detailed descriptions pertaining to the specific stage in the process. Some steps are optional, and the tutorial will inform you when a step can be skipped.

Sometimes there are links from a given step to more detailed tutorials or Best Practices. Click on these to learn more about the stage you are currently completing, and you can return to this step later.

The instructions in this tutorial answer some questions you might have as you take your board out of the box.

Essentials

Hardware components

Get to Know the ESSENTIALS Section

x1

In all other tutorials, this section will be populated with a list of the “Essentials” required to complete the given tutorial. There are three different categories: Hardware, Software and Tools. For the most part, we target the minimum required, leaving room for the occasional non-essential when it is helpful. See the below instructions with links to the “Getting Started Guides” for your specific board, where you will find the minimum essentials to get started with your board.

Instructions

1. 1 What is in the box?

The box contains a single MinnowBoard development board—a beautifully engineered and designed piece of advanced hardware and technology, and all of it open source! All the design files, firmware, and collateral you need to build a board yourself are freely available from MinnowBoard.org.

The [Getting Started](#) tutorial for each board lists the essential hardware, along with optional accessories and tools to successfully power on your MinnowBoard development board for the first time.

Power supply, video cable, and USB cables are **not** included in the package and have to be obtained separately—the ones you need depend on your particular board and geographic region (and you may already own them).

On our [Where to buy](#) pages, we also list the accessories needed to get a running system with suggested global distributors.

2. 2 What does "open source" mean?

The MinnowBoard.org Foundation is founded on the principles of open source hardware and software. You can find a deeper read on the [About](#) and [Terms of Service](#) pages, especially the Intellectual Property section on licensing. Basically what this means is that the design files are in GitHub and are ready for you to clone and modify them for your project.

Don't get hung up here—the simple explanation is that we want you to get your idea **from prototype to production**. Visit one of the board landing pages in the “path to production” section when you're ready to follow the path.

3. 3 How can I contribute and get help?

Click on the [Support](#) tab to get help via GitHub, email, etc.

In return, we highly desire and appreciate your help! In the spirit of open source, we rely on involvement, support, and feedback from the community. This can be an open source case design in 3D CAD, tutorial contributions, source code enhancements, or

as simple as typo corrections. Please email us at support@minnowboard.org with feedback.

LEARN:

- [Best Practice: Contributions](#)

4. 4 What should I complete out of box?

You now have your board, recommended accessories, and are familiar with the structure of these tutorials—let's get started!

We want every developer that buys a MinnowBoard development board to complete the below out-of-box steps with minimal pain. As such, we include a more-detailed chain of tutorials for this path, and less detail as developers begin to combine elements together for their project.

1. **Complete this Set up page and then navigate to the Getting Started tutorial for your specific board.** (10 minutes)
2. **Getting Started tutorial:** (15 minutes excluding download times)
 1. Power-on
 2. Install OS (from flash or full install)
 3. Hello World
3. **Blink an LED tutorial:** (as little as 5 minutes for on-board LED)
 1. GPIO on-board LED, or
 2. LSE connected via add-on or breadboard
4. **Connect a device to low speed expansion (LSE) header:** (up to 1 hour)
 1. I2C for an accelerometer
 2. PWM servo
 3. SPI, UART
 4. Connect a common accelerometer, modify sample rate, collect data stream. Get introduced to low speed expansion with I2C, SPI, UART, etc.

From the “Next Steps” list below, select the appropriate **Getting Started** tutorial.

These cover all MinnowBoard Turbot variants (dual-core, quad-core, Dual Ethernet dual-core, Dual Ethernet quad-core).
