PINE64 PineTab2 Linux Tablet User Manual

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- USB A to USB-C power cable (x1)

Safety precautions and recycling

Cautions

Before using the PineTab2 please read this manual carefully. Notes for safe operation:

- The PineTab2 should be charged using a 15W (5V 3A) USB-PD power adapter. Charging at a higher voltage may result in damage to the device.
- The PineTab2 will only operate when its internal temperature is between 5°C and 65°C. It should never be operated with an external temperature lower than -20°C or higher than 40°C.
- Do not puncture, disassemble, strike or squeeze the battery. Old batteries need to be disposed of in accordance with local regulations (see section 2.2).
- Do not expose the device to direct sunlight, water or high levels of humidity.
- In the event of overheating, power off the PineTab and let it cool for 15 minutes.
- Comply with local regulation pertaining to using mobile devices. This extends to and includes use of the device in public spaces, when operating motor vehicles and heavy machinery.
- Do not expose the PineTab2 keyboard case to liquid or abrasive material such as sand.

Recycling of components and batteries

Recycling any PineTab2 components should be done according to local regulation. This may require you to dispose of the phone or its parts at a local recycling center or at a designated container. Please consult local legislation for details.

Batteries should never, under any circumstances, be disposed of with general household waste. The end user is legally obliged to return used batteries. Batteries can be returned to us to be disposed of. The batteries are to be returned to the sender – for more information contact us on **info@pine64.org**.

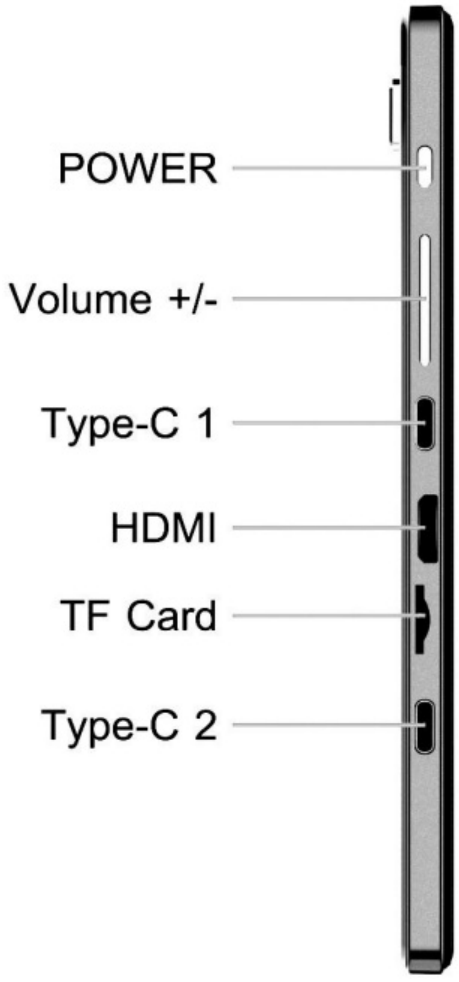
Getting started

About the PineTab2

The PineTab2 is an Arm-based tablet designed to run Linux and other free and open source operating systems. The device is built out of metal with plastic elements and a tempered glass IPS panel with wide viewing angles. The PineTab2 comes with a magnetically attachable keyboard that interfaces with the PineTab2 via a connector (USB 2.0) located at the bottom of the tablet. The keyboard can be folded up and over the LCD panel, and hence doubles up as a carry case.

Device overview

The device features a 10.1 inch 1200×800 LCD IPS panel with capacitive touch input. A front-facing camera is located under the panel glass. When viewed head on, all key IO and button inputs are located on the left leading edge of the tablet. This includes the power ON/OFF button and volume rocker, two USB-C ports (1x USB-2.0 / 1x USB-3.0), microSD card slot and digital video output. A 3.5mm audio jack is found on the top leading edge as are a pair of stereo speakers. Keyboard connector is located at the bottom leading edge of the device. The main camera is located on the back of the device alongside a torch/ flashlight.

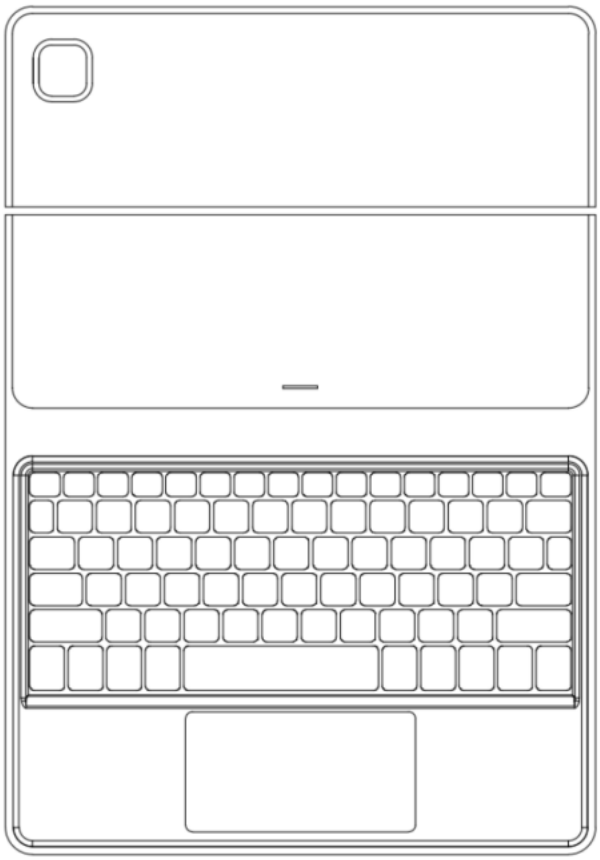


Keyboard cover overview

The keyboard cover attaches magnetically to the PineTab2 and pogo pins make contact with the connector located at the bottom of the device. The PineTab2 is held securely in place using tabs at the top and bottom leading edges. The keyboard follows the ANSI layout closely and features a large multi-touch trackpad. The case includes a very sturdy stand which props up the PineTab2 when in use. The keyboard can be folded over and used as a carry case.

The PineTab2 keyboard cover features a reflashable chipset, identical to that found on the Pinebook Pro. It is possible to flash user-created open firmware to alter the function and layout of the keys.

The keyboard case features a cutout for the main camera in the back and is backlit; the backlight can be enabled using a dedicated button on the keyboard (lightbulb icon) and has two intensity settings.



Using the PineTab2

Initial setup

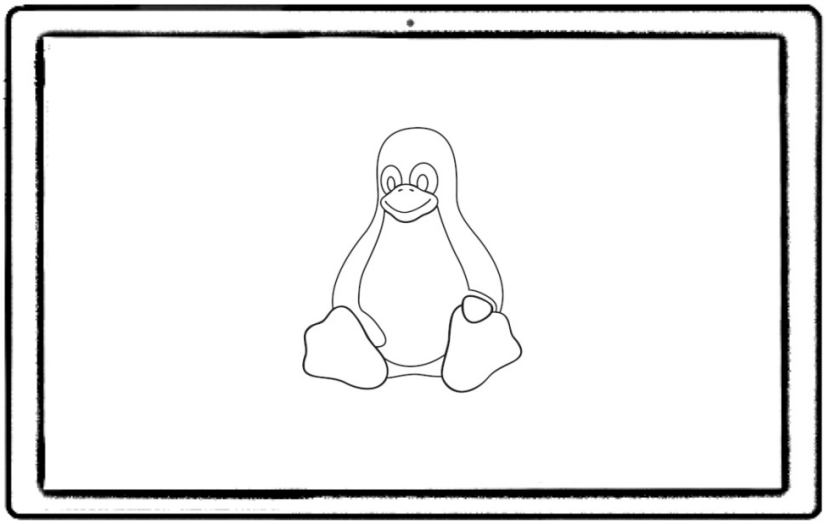
To start the PineTab2 press and hold the power button for 2 seconds. On initial boot, following the initial OS setup, the PineTab2 will power-cycle while the partition table is populated. Make sure not to interrupt this process; interrupting the initial setup may lead to corruption of flash memory and a failed OS installation.

Default operating system

The PineTab2 ships with DanctNix Arch Linux. The default OS installation comes with a pre-set user and password. The default password is: 123456 You can create a new user and set your own password following initial boot. To do so, navigate to system settings -> users and create a new profile using your preferred name and password.

Alternative operating systems

The PineTab2 is capable of running multiple operating systems from internal flash eMMC as well as an SD card. To boot an OS from SD card you need a u-boot bootloader that prioritizes SD card over internal eMMC flash storage. Available PineTab2 operating systems can be found on the Wiki (**https://wiki.pine64.org/wiki/PineTab2**) and on individual partner projects' websites.



All OSes for the PineTab2 are delivered by community developers and partner-projects. PINE64 does not create software for the PineTab2. Aside from the operating system that comes pre-installed on your device, you can install and run any other OS available for the PineTab2. Most if not all operating systems for the PineTab2 are open and free, such as Linux and *BSD.

Usage scenarios

The PineTab2 offers a high degree of versatility supporting both mobile and traditional 'desktop' Linux operating systems.

The PineTab2 can be used with or without the keyboard. When the keyboard is not attached, the primary input method for the tablet is via the touch panel. The tablet can be orientated vertically and horizontally, depending on use case. Please note, not all OSes will support vertical orientation. With the keyboard attached, the PineTab2 serves effectively as a small laptop with a touch panel.

To learn more about the PineTab2, see the FAQ on the Wiki (**https://wiki.pine64.org/wiki/PineTab2#Frequently_Asked_Questions**)

Hardware

Hardware documentation

The hardware for the PineTab2 has been chosen with open and free software in mind. The PineTab2 was designed based on the Quartz64 single board computer by PINE64, which has enjoyed much development from the open source community.

Documentation pertaining to development on the platform, feature enablement, and other related efforts are represented in a matrix which can be found on PINE64's Wiki (**https://wiki.pine64.org/wiki/Quartz64_Development**). This page also contains links to external repositories and external assets.

Documentation concerning the specific components, as well as schematics, datasheets, block diagrams, SDKs and other related information can be found on the main PineTab2 Wiki page (**https://wiki.pine64.org/wiki/PineTab2**). The main site also hosts disclosed vendor information, hardware certifications (e.g. CE and FCC) and peripheral documentation.

Hardware specification

The following lists key hardware specifications of the PineTab2. This is an abbreviated list; for complete hardware overview please see the PineTab2 main Wiki page (**https://wiki.pine64.org/wiki/PineTab2**)

Key hardware:

- **SoC:** Rockchip RK3566
- **CPU:** 4x ARM Cortex-A55 @ 1.8 GHz
- **GPU:** Mali-G52 MP2 @ 800 MHz

  Supported by the open source 'Panfrost' driver in Linux and Mesa

  Supports OpenGL 3.1 and OpenGL ES 3.1 with many newer extensions
- **NPU:** 0.8 TOPS Neural Processing Unit
- **RAM:** 4GB or 8GB LPDDR4
- **Storage:**

  64GB or 128GB internal eMMC (expandable via microSD)
- **Display:** 10.1″ IPS LCD Resolution 1280×800
- **Cameras:**

  Front: 2Mpx, chipset: Galaxycore GC02M2

  Rear: 5Mpx, chipset: Omnivision OV5648

  Battery: 6000 mAh (22.2Wh)

  Buttons: Power, volume up, volume down

  Networking:

  Wi-Fi 2.4/5GHz (AC) and Bluetooth 5.1/ LE
- **I/O:**
  - 1x USB-C 3.0
  - 1x USB-C 2.0
  - 1x MicroHDMI
  - 1x 3.5mm audio jack
  - 1x 5 pin Pogo connector for keyboard

Regulatory compliance

The PineTab2 is CE and **FCC** certified. Device fully compliant with **RED** directive (2014/53/EU) Device fully compliant with **RoHS** directive (2015/65/EU)

Documentation and contact information

Detailed hardware and software documentation, including FCC, CE and RED certifications, can be located on our Wiki (wiki.pine64.org).

FCC Caution

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and

2. this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

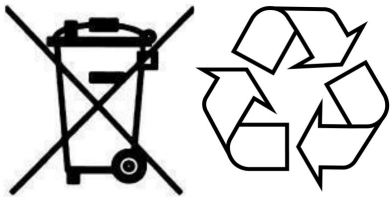
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

Specific Absorption Rate (SAR) information:

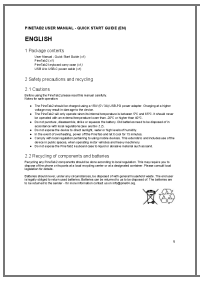
This device meets the government's requirements for exposure to radio waves. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons regardless of age or health. FCC RF Exposure Information and Statement the SAR limit of USA (FCC) is 1.6 W/kg averaged over one gram of tissue. Device types: This device has also been tested against this SAR limit. This device was tested for typical body-worn operations with the back of the This device kept 0mm from the body. To maintain compliance with FCC RF exposure requirements, use accessories that maintain an 0mm separation distance between the user's body and the back of This device. The use of belt clips, holsters and similar accessories should not contain metallic components in its assembly. The use of accessories that do not satisfy these requirements may not comply with FCC RF exposure requirements, and should be avoided.

Symbols



Contact
Sale enquires: sales@pine64.org
Support: support@pine64.org
General enquiries: info@pine64.org

Documents / Resources

	PINE64 PineTab2 Linux Tablet [pdf] User Manual PineTab2 Linux Tablet, PineTab2, Linux Tablet, Tablet

References

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- PineTab2 - PINE64
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- Quartz64 Development - PINE64