

Open Air Chassis

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1 Overview

The Open Air chassis purpose is to connect to a 4K monitor through an Nvidia 5080 GPU. Additionally, the network support will allow a peer-to-peer application to run. It uses SFML to display video output. Using tensorflow modules in Python3, machine learning can take place as well.

Optional: A sony playstation controller can be used for mouse and joystick input.

2 Bluetooth

Bluetooth through an add-on card for mouse and joystick input, through a Sony playstation controller. Bluetooth is also used to pair with audio output.

3 Items

3.1 Ordered / To-Order

- V BESTLIFE DIY Self-Assembly ATX/M-ATX/ITX Motherboard Open Chassis Vertical
- CORSAIR Vengeance LPX 64GB (4x16GB) DDR4 3600 (PC4-28800) C18 1.35V Desktop Memory - Black
- Intel Core i7-7700K Kaby Lake Quad-Core LGA 1151 CPU
- Noctua NH-U12S CPU Fan
- Fenvi FV-AXE3000 Wi-Fi card for PCIe x4 slot, with bluetooth capability.
- 10ft HDMI cable for 4k video, using integrated graphics.
- M.2 storage for OS boot and data (application) – Not installed at first.
- NVIDIA 5080 GPU after 1/21/2025 – Not installed at first.

3.2 Already have

- Corsair AX 1200i power supply unit (PSU) with modular cabling.
- PRIME Z270-AR Motherboard - PCI Express 3.0 only. No Wi-Fi included. No bluetooth included.
- USB flash drive for booting Ubuntu LTS Operating System (OS)

3.3 Optional

Some kind of Keyboard-Video-Mouse (KVM) device, may be added later. This isn't really needed if you can Secure Shell into a functioning system.

4 Assembly

1/10/2025

The directions for the **Open Air** case don't mention that you should probably attach the motherboard earlier on in the process. The motherboard standoff screws will require some preparation (tightening) and positioning or alignment. You can also do this later however you will have to slightly disassemble some of the major assemblies, to finish the work.

5 Wi-Fi configuration

6 Bluetooth configuration

7 Application Software / Demos

7.1 Basic demonstration program

A program called **surfacefunc** can be installed, which uses SFML libraries. Python3 and tensorflow could also be installed, thanks to the base installation of the Ubuntu LTS operating system.

It will be important to test the audio output through **paplay**

Finally, the joystick input through bluetooth can be checked as well.

7.2 Final program

8 Links