

# Eason's Great and Powerful T420

The MacBook referred for comparisons is the late 2020 M1 Macbook air with 8 GB of RAM and 256GB storage.

## Peripherals

- Keyboard
  - Love the dedicated audio buttons, and the mic/speaker mute indicator. The deep key travel. Having an actual `delete` key was very nice. This key is absent on my mac (and most others I believe)
  - Dedicated keys to navigate to next/prev page right next to arrow keys. This was great for switching pages quickly so I can bind left/right keys to go to tab on right/left. especially useful when there are more than 9 tabs
  - External keyboards worked great, but the laptop keyboard was good enough to practically replace them.
  - Three mouse buttons, connected to the keyboard, was nice to remove dependency on problematic/non-reliable one/two-finger taps. Two buttons are found below the touch pad, but I don't use them due to distance from the keyboard. It was used when I used the touch pad.
  - TrackPoint: I used this the most instead of my touchpad because of the touchpad's limited range and also just because I just wanted to learn to use the TrackPoint more often. It had some amount of drift, especially only while scrolling? (mainly vertical)
- Built-In speakers: The built-in speakers were surprisingly good for its age, as my 2018 Dell latitude and 2019 Huawei Mate 13 both had worse speakers
- External speakers/mic: External audio devices worked quite well, and I used them to listen music often on this laptop. No issues at all.

## Display

- Internal Display (1920x1080@60hz): Colors are fine. Contrast was fine for my use case, I didn't watch movies or work with any visual media there. There were some bright pixels, but usually unnoticeable, and in the 'normal' territory.  
Display brightness (250 nits) is mostly usable, but on a bright afternoon the display is a bit too dark, even in my room. I then usually used it in darker environments.
- External Display (1920x1080@60hz): No issues with using another display through VGA.

## General Performance

- Speed: The 4-core, 8-thread i7-3632QM was quite fast, much faster than I expected, and was fast enough for most things I do with the exception of games. The iGPU was also fast enough so I experienced no stutters at a stable 60fps. The boot time took max around 10 seconds.
- Storage: The 240GB SATA SSD was more than fast enough to even care about it. Using Void Linux, I was barely scratching at most 7GB of total disk usage after two months of use and with all the tools I needed.
- Temps: During daily use with Firefox with 15+ tabs, libreoffice, and kitty, the core temps rarely went above 40. When using all cores to compile a large project, the temps floated around 65-70 deg C.

- Fan Noise: Kept at Auto, I rarely heard any fan noise during normal use. When doing compilation, some whine is heard. Sometimes I disengage the fan which increases the fan's RPM quite a bit, and this usually makes the fan noise loud enough for a classroom to hear it. I have never actually found a use-case to often disengage the fan, so I never use it unless for fun.
- Battery Life: Odd one here. One of my batteries (out of two) seems to have a noticeably longer battery life than the other. So I usually use the former while keeping the latter as a backup. I usually charge my laptop every night, usually at ~20% before plugging in. I did use the laptop quite often many days; on days when I used it less I was able to go 2 days before a charge all on one battery.  
From 0%, it would take about 2 to 2.5 hours to get to a full charge.
- Portability: As the 2kg brick that it was, it was a lot more heavy than my Macbook Air I used to use. During the first few days, my wrong estimation on how many books I could carry resulted in a terribly heavy bag. One would have to cut the amount of books carried by half to cancel out the weight added by the T420. It was the preferred option to actually carry around, because it was a lot more resistant to damage due to its structure frame (or "roll-cage"), with T400s having an additional display frame for even more protection. It was also spill-resistant, as proved by Eason when he spilled a lot of water directly onto the Laptop while working on it, but its drainage holes was able to to its job well and the laptop still worked great. I wouldn't rate it as portable.

## General Use - Ability to do tasks, Experience

- Youtube/streaming: Great, fast, no lag/stutters noticable. As I told before the speakers were great and the display was good.
- Word Processing: The keyboard was quite comfortable to type for a long period of time. Libreoffice has a Wayland-native version, meaning no compatibility issues, and it worked well.  
I used google docs a bit more often as the school doesn't give any other option for most tasks.
- General productivity: Obsidian, the markdown editor I usually use, had some issues on my end. I then either just used google docs, or the helix editor (TUI) if I feel like it. Obsidian has official support for wayland, so I just need to spend some time sorting that out.
- Programming: I mainly use helix for this, as it covers more of my needs, editing, syntax highlighting and a language server. Sometimes I would like to have CLion which has a much more powerful debugger, code analysis that doesn't stay silent unless one is doing something terrible, and dynamic analysis that alerts me about potential/guaranteed segfaults or other issues. Issue is that CLion doesn't seem to have a Wayland-native app as of now, and Xwayland looks pixelated, so I only use it on my mac.
- Gaming: Almost completely off the table. I was able to play slowroads.io at all minimum graphical settings at around 40fps. I have not tried minecraft.
- Web Browsing: Quite good. For some time though I had some issues with firefox taking ages to open, but updating it helped stop that issue.