Buying a New Computer - 2025

Introduction

This is a revised document (March 2025) that I have been updating from time to time since about 2014.

There is one recent development that is worth mentioning from the start. This is that computer manufacturers are starting to offer machines with a different type of processor than before. These are “Snapdragon” processors from Qualcomm.

ARM-based processors like Snapdragon are often found in "Always Connected PCs" which emphasize battery life and mobile connectivity.

If buying such a machine, be aware that some hardware and software you wish to run may not work.

Check it out first. If in doubt, buy a machine that has an AMD Ryzen, or Intel processor.

Any new Windows computer you buy now will almost certainly have Windows 11 pre-installed. Windows 10 is no longer available and Microsoft will cease support for it in October 2025.

The Windows 11 software may be either the “Home” or “Pro” version. Windows 11 Home is sufficient for most home users. Windows Pro is generally only needed for specific business features or connecting to workplace networks.

If you are intending to connect to a work system then check with them whether you need Windows 11 Pro to do this.

The main aspects of a computer's specification are listed below. I have listed the different aspects in approximate order of importance (with the most important aspects first).

This document is written with my IT Support clients in mind and my knowledge of their usual, typical, requirements and priorities. Your own requirements and priorities may, of course, be different.

Operating System

This should be the first decision to make as you have to buy an Apple computer if you want to run their operating system (OSX).

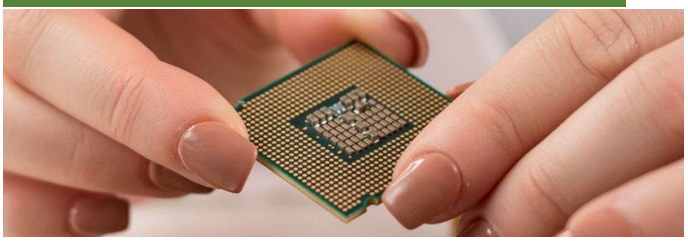
If you want a Chromebook, then the specification of the hardware can be much lower than for a Windows computer as the programs being run will not put such high demands on the hardware.

Consequently, Chromebooks are less expensive. Chromebooks run Chrome OS, which is based on the Linux kernel and which supports Android apps. The Chromebook runs "apps" but not full-blown "programs". While Chromebooks can work offline, their core functionality is heavily reliant on an internet connection.

Chromebooks tend to be inexpensive, but make sure that they will do everything you need before committing to one. Most major manufacturers (as well as Google) now offer Chromebooks as well as Windows computers.

For most people, though, the logical decision will be for a Windows computer. Most new Windows computers now come with Windows 11 pre-installed.

Processor (CPU)



The processor (or Central Processing Unit) is the electronics that we can think of as “the brains”.

Most processors are from Intel. There are several brands of Intel processors, but the most suitable for average laptop and desk-

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top computing is the “Core” brand, although "Core Ultra" processors are becoming more popular.

Within the Core brand are the “sub-brands” of i3, i5, i7 and i9. The higher the number, the more powerful and faster the processor.

Other components are likely to be approximately matched with the processor so that, for instance, an i3 processor might be found on a computer with a smaller SSD , whereas an i7 processor is more likely to be matched with a larger SSD (solid state drive).

The price of the whole ensemble will also reflect the processor (and accompanying matched components) such that computers with i3 processors are the cheapest and i9 the most expensive (with i5 and i7 in the middle). There is some overlap, but we could broadly classify computers (laptops, desktop computers and all-in-ones) as follows:

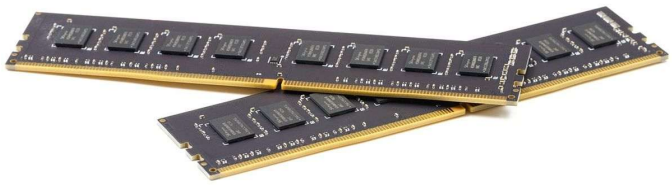
i3 - light use / "entry level"
i5 - average use and performance / "mid range"
i7 - performance, gaming, and/or “heavy use”
i9 - specialist and/or “top end”

However, it is important to note that processor performance is more complex than this simple classification. Within each "i" level, there are different generations and models, and performance can vary significantly. E.g., a newer i3 might outperform an older i5.

Other processors are made by AMD. It is more difficult to classify these along the above lines, although AMD, too, offer 3,5,7, and 9 series in their "Ryzen" brand. When considering an AMD-based machine, it can be helpful to compare its specifications and benchmarks to those of comparable Intel processors to gauge relative performance.

Machines with AMD processors tend to be slightly cheaper than machines with Intel processors.

Memory (RAM)



The more memory the better. I recommend not buying a computer for general use (whether a desktop, all-in-one, or a laptop) with less than 8gb RAM. 16gb is much better - both for speed now and for ensuring that your machine will still be able to cope with the demands put on it in 3-5 years time.

Again, i3 computers will probably have less memory than i5, i7, or i9. A “good” computer will currently have 16gb, 32gb, or even more RAM.

Increasing the amount of memory can significantly increase the overall cost, but will keep the computer running faster for longer.

Storage

Solid state drives (that work more like USB pen drives than traditional hard drives) have now more-or-less replaced hard drives on new machines. I recommend not buying a machine that only has a hard drive unless you are really constrained by budget.

SSDs make a machine much faster to boot up, switch off, and operate. They are generally more responsive and are definitely a good thing. Since they have no moving parts (unlike traditional hard drives), they are more durable and resilient. However, they are still a bit more expensive than traditional hard drives on a byte-for-byte basis.

This means that you either get a smaller drive for the same money or the same size of drive at a higher cost than a traditional drive.

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This, in turn, means that if you buy a machine with an "average" size of SSD, it might only be 500gb. This is only a one quarter to one half the current standard size of traditional hard drives (1tb-2tb - where 1tb = 1000gb). 500gb is plenty big enough for a lot of people, but if you have large photo, music, or movie collections then 500gb will almost certainly be inadequate.

If your needs are mainly confined to web browsing, emails, and little else, then a SSD of 256gb may just be big enough. Personally, I would advise against this as I have seen several clients underestimate their needs. If this happens, you can shunt some data off to an SD card - if the machine can take one. Otherwise, move it to an external hard drive. An SD card is definitely more convenient than a hard drive in this regard.

If you can, check the total amount of space used on your existing machine and make sure that the new machine has at least 50% more storage than you use at the moment. If you are planning on venturing into storing new, large, collections of music, movies, or photos, then also take this into account and increase the required drive size accordingly.

For a while, some new machines came with “hybrid” drives that were part SSD and part traditional drives. If you should happen to come across one on a new machine then I would avoid it.

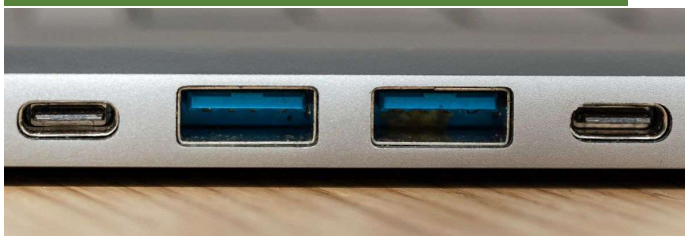
CD/DVD Drive

Laptops almost never have CD/DVD drives any more, although they are still fitted to new desktop (and all-in-one) computers. Their use is diminishing as more programs and content are downloaded or streamed directly from the internet.

Also, removing them saves weight and allows the whole machine to be sleeker and less expensive.

External CD/DVD drives (that plug into USB ports) are widely available and only cost £15-£30. Search Amazon for "external DVD drive".

USB Ports



Ports are sockets for connecting peripheral hardware.

Both laptops and desktop computers may now have a mixture of USB2, USB3, and USB C ports. USB3 is faster then USB2, but it may only be noticed when copying or streaming large amounts of data to/from an external drive.

You can tell USB3 ports apart from USB 2 ports as they are partly blue inside. Alternatively, they may have “SS” written alongside the port itself.

USB C looks completely different. In the illustration above, the outside ports are USB C, the middle two are USB3. USB C is definitely an improvement for several reasons, including:

- USB-C ports can support various protocols, such as USB4 and Thunderbolt, which determine their capabilities.
- The port is much smaller.
- The plug can be fitted into the port either way up.
- USB C ports can also be used to connect the power adaptor.
- USB C ports can also be used to connect an external monitor.
- USB C is faster than USB2 or 3.

USB4 is becoming more common, offering even higher speeds than previous USB specifications.

If a machine only has USB C ports, adaptors for connecting existing USB devices to USB C ports are available (search Amazon for “USB C adaptors”).

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More USB ports (eg four or more) is definitely better than fewer (eg two). You can buy USB hubs to extend the number, but these get unwieldy if you regularly move a laptop, and you shouldn't try to connect an external hard drive via a USB hub as there might not be enough power.

Desktop computers usually have more USB ports than laptops.

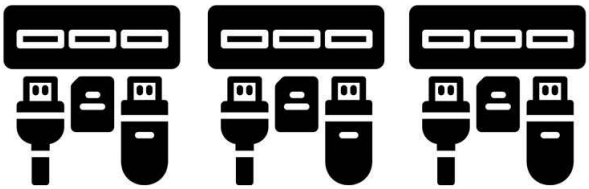
Ethernet Port

Most laptops no longer offer an ethernet port (otherwise known as a LAN port or RJ45 port) for a wired internet connection. Without this, you cannot connect your machine to the internet using a cable from your computer to your router.

Instead, you have to rely on wifi. Actually, this is not strictly true as you can buy an adaptor that offers an ethernet connection via one of your USB ports. Fine for occasional use, but this ties up one of your precious USB ports.

Another option is to buy a USB hub that includes an ethernet port. Search for "USB hubs with ethernet".

OtherPorts



There are several other types of port that you may or may not want, including:

Headphone Port

This is almost always a small circular port for connecting a "3.5mm jack" - the most common way of connecting wired earphones and headphones. Most computers are equipped with this port.

SD Card slot/port

Some laptops include an SD card slot (that typically fits the storage card from a camera). Some have a micro SD card slot (for storage cards of the size used in phones).

SD cards can be extremely useful for laptops where the inbuilt storage has proven insufficient (eg 256gb solid state drives).

HDMI port and DisplayPort

These are different methods of connecting an external monitor.

Screen Size

Screen size is always measured across the diagonal of the screen itself (not including the surrounding bezel) as in the illustration above. The measurement is always in inches.

The most popular screen size on laptops is still about 15.5 inches, but there is now an almost continuous range of sizes available from 10 inches upwards.

17 inch laptops are much less common than they used to be.

If you are buying a laptop as your "main" machine, be very wary of buying one with a screen size (and keyboard) that might prove too small for comfortable all-day use. Personally, I would probably consider 13 inches as the smallest screen that I would like to work on all day and every day.

If you carry your laptop around with you then the weight is important. Weight is, of course, partly a function of screen size, so you may need to compromise on one to optimise the other.

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If you are buying a standalone monitor (for use either with a desktop computer or as an external monitor for a laptop) then the bigger the screen the more comfortable and convenient it is in use.

You can probably re-use an existing external monitor with a new computer, but to connect an external monitor to a laptop you will need either an HDMI port, a displayport, or a USB C port on the laptop and you may also have to find a cable with specific connectors at either end if the monitor only has a VGA interface.

The screen on an external monitor or laptop may or may not be “touch-enabled”. Expect to pay just a bit more for a touch screen.

Battery Life

If you carry a laptop around with you then battery life is important. Aim for seven to eight hours on a single charge, but remember that manufacturers’ claims about battery life may not reflect your actual usage pattern.

To put that more bluntly, my experience is that you probably won’t get what the manufacturer claims in terms of battery life.

Price

It is very difficult to give more than a very, very rough idea of price as there is so much variation depending on many factors, including the exact specification.

For any given specification, there isn't very much difference in price between different manufacturers.

We no longer have the situation, for instance, where Sony build high quality laptops and charge more for them (Sony pulled out of computer manufacture some years ago).

A very, very, rough guide for laptops built around Intel processors might be as listed below. Desktop computers without monitors (but possibly with keyboard and mouse) might be a bit less:

i3 - £250-£400
i5 - £350-£800
i7 & i9 - £600-£3500

Computers with AMD processors tend to be slightly cheaper for any given performanc

Where From?

A good place to start (online) to get a feel for what there is and how much it costs might be https://www.laptopsdirect.co.uk/. Despite the name, they also supply desktop computers. Laptops Direct seem to have a broad range of products on offer.

https://www.johnlewis.com/ often offer a warranty that is longer than that of the manufacturer.

https://www.currys.co.uk/ (that used to be PC World) are OK as far as price and products are concerned. However, I am wary of them as far as technical advice is concerned.

Tottenham Court Road used to be a good place to browse for computers and to buy one. That is much less true nowadays.

If I was going to buy a new Mac then I would go to the Apple store in either Regent Street or Covent Garden. The general hubbub in the shop can be a bit intimidating, but they are helpful and positive.

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The advantages of seeing a machine before buying include being able to assess:

- The feel and size of the keyboard. Some people like a "clicky" feel: others a softer one.
- The screen. In particular, the size, and whether the finish is matte or gloss. Also, screens are available with different resolutions such as Full HD and 4K. Seeing these "in the flesh" will help to tell you whether screen resolution and finish is important to your purchasing decision.
- Perceived speed to boot up and to use.
- Weight.
- Overall build and finish.

It would be nice to judge whether a computer is loud or quiet in operation, but the ambient noise in a shop drowns out the noise from a single PC.

If you do not feel the need to see something in the flesh before buying it then Amazon and Laptops Direct are probably good on price.

My personal experience of buying Dells and HPs direct from their respective websites (both for myself and for clients) has almost always been positive. You can often specify certain aspects of the machine when buying online from the manufacturer (eg Windows Home or Pro, processor, amount of memory and storage).

Summary

If your computer use really is limited to internet browsing, email, and some light word processing, then an i3 machine might be enough.

However, i3 machines, even when new, can be slow to start and can seem sluggish even with light use. After a year or two they can seem tediously slow.

More typical requirements might include all internet activity, Microsoft 365, "light to medium" photo editing, music, movies, et cetera. For these uses, a machine with an i5 or i7 processor is probably more suitable.

If you anticipate editing movies, playing games online, running many programs at once, or a lot of sophisticated photo editing, then I would recommend focusing on i7 machines.

As for make/model, you pays your money and you takes your choice. There are links to many of the major IT organisations on my website at

https://www.davidleonard.london/handy-links-to-it-web-pages/

You can see who the top sellers are at the following Wikipedia page:

https://b.link/BANC2025-vendors

Assistance

The advice provided in this document is intended as general guidance for choosing a computer. It is not a substitute for professional IT support.

If you have specific technical requirements or concerns, then I would be pleased to assist.

My “remote support” rate for telephone advice is £1 per minute (minimum 10 minutes charge).

07961 387564

email@davidleonard.london

For further information on my services, please visit

https:/www.davidleonard.london

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DISCLAIMERS

The information provided in this document is intended for general guidance only and is subject to change without notice. While every effort has been made to ensure accuracy, I do not guarantee the completeness or correctness of the information.

Readers should independently verify any information that is critical to their decision-making as specifications, features, and pricing of computers and related products change frequently. Consult with retailers and manufacturers for the most up-to-date information before making a purchase.

The retailers and manufacturers mentioned in this document are provided for your information, but I do not endorse or recommend any specific companies. Readers should conduct their own research and choose retailers and manufacturers based on their individual needs and preferences.

The processor descriptions (e.g., i3, i5, i7, i9, Ryzen 3, 5, 7, 9) are intended as general guidelines. Actual performance can vary significantly depending on the specific processor model, generation, and other factors. Consult detailed benchmarks and reviews for accurate performance comparisons.

IMAGE ATTRIBUTION

Introduction - https://b.link/BANC2025-intro

Operating System, Battery Life, Price, Where From: David Leonard with Microsoft Designer (https://designer.microsoft.com/)

Processor - https://b.link/BANC2025-processor

Memory - https://b.link/BANC2025-memory

Storage - https://b.link/BANC2025-storage

CD/DVD drive - https://b.link/BANC2025-cddrive

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Other ports - https://b.link/BANC2025-otherports

Screen size - https://b.link/BANC2025-screensize

Summary, Help, Logos, design - David Leonard

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(https://gemini.google.com)

E & OE

David I Leonard BA(Hons)DipM
Computer Support in London
for Small Organisations, Professionals & Home Users
30 Years Pro PC Experience
020 7627 8620 email@davidleonard.london
07961 387564 www.davidleonard.london