

Hillingdon u3a Computer Club



The Rise of the Mini PC



Types of Personal Computers

- Desktop
- Laptop
- Convertible Laptop (2-in-1)
- All-in One
- Tablet
- Mini-PC
- Stick PC



Desktop Personal Computer



A lot of you may have a **desktop computer**. Used in the office, home and schools. Designed to sit on a desk and typically made of parts including the computer, monitor, keyboard and mouse.

The PC is also made from many parts which typically can be changed, upgraded & replaced.



Why a Desktop Personal Computer



You can buy individually or upgrade the parts, a cheaper option than buying off the shelf.

You can now choose the parts you want or buy to suit a budget. Example: combine a high priced, best spec CPU with budget priced other parts. Choose a case to suit use - desk or tower, want loads of storage. With a laptop you get what is sold.



Typically cheaper but does need confidence & assembly skills. But we have Youtube.



Laptop Computer



Some may also have a **Laptop computer**, generally known as a laptop. These are battery powered and therefore portable. The one case has the computer, monitor, keyboard & mouse (keypad).

Although also made of many parts, these are more difficult and in some cases, impossible, to change or upgrade.



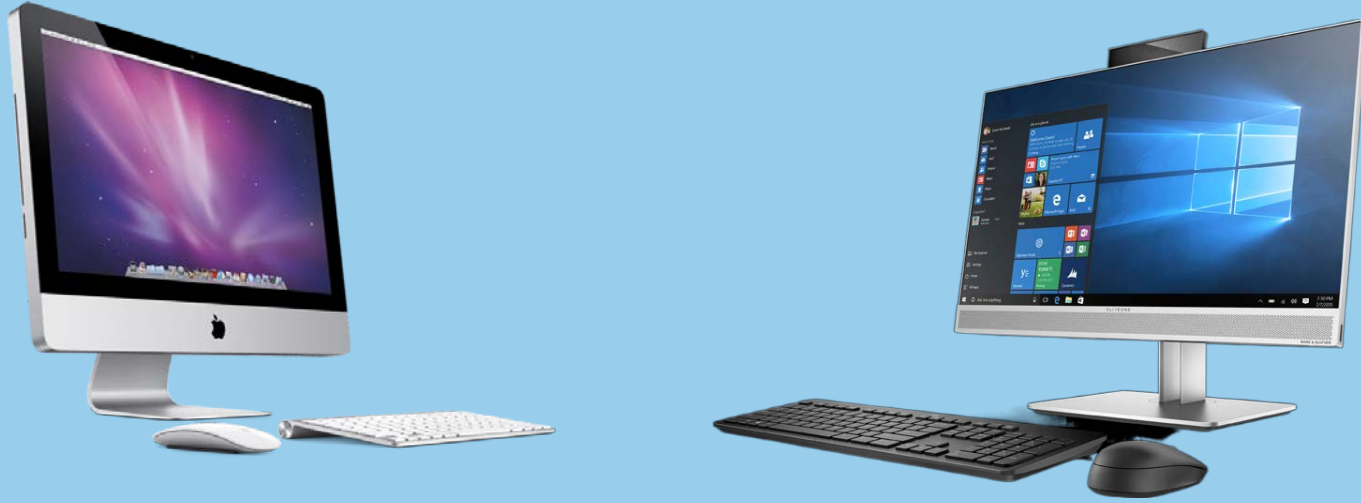
Convertible 2-in-1 Laptop



A laptop and tablet in one device.
Almost impossible to change or upgrade any of the parts.



All-in-One Computer



The All-in-One computer combines all the PC parts e.g. CPU, RAM, SSD, Motherboard etc, into the same case as the monitor. Still has a keyboard and Mouse. Apple's iMac has always been an All-in-One.

May be possible to change or upgrade some parts depending on Manufacturer's design.



Tablet



The **Tablet** is a mobile computer designed to be held in the hand(s). Has a slightly different user interface from a PC (iPadOS & Android). All the parts are contained on the one case and the user interacts via a touch screen. Does all the same things that a PC does.

Normally impossible to change or upgrade parts although some (Android) do have a SD slot to increase storage.



Mini PC Computer



The mini PC combines the performance of a good laptop with the upgradability of a full-size desktop computer together in a package the size of a paperback book.



Stick PC Computer



A stick PC is the ultimate portable PC. Not much bigger than a flash drive, it plugs straight into a TV via it's HDMI connector. Take it out of your pocket, provide power and a keyboard and you have a great low cost family PC, easy to use for Zoom or a media server. However, these are really only suitable for display/signage use or extremely basic applications



Stick PC Computer



Stick PC Computer



The Mini PC



Beelink SER 4800U - £519

Beelink (Chinese) has specialised in Powerful mini PC's for over 10 years.

- 126x113x40mm (HxWxD) & 300g
- AMD 8 core Ryzen 7 4800U processor
- AMD Radeon Vega 8 graphics
- 32GB RAM (other options)
- 500GB SSD
- Windows 11 Pro
- 4x USB 3, 1x USB C, 2x HDMI
- Gb Ethernet, WiFi 6e, Bluetooth.
-



Chillblast WAP Pro V4 - £175

Chillblast (UK) has specialised in All PC devices and overclocking for over 20 years and .

- 125x112x43mm (HxWxD)
- Intel Celeron N4020, 2 Core
- Intel HD Graphics
- 4GB RAM (non upgradable)
- 64GB SSD eMMC (upgradable)
- Windows 11 Pro
- 2x USB 2, 2x USB 3, 2x HDMI
- Gb Ethernet, WiFi 5, Bluetooth.



Apple Mac Mini (2020) - £630

Apple has specialised in graphic and stylish devices for over 50 years.
The mini was first released in 2010.

- 360x197x197mm (HxWxD)
- Apple M1, 8 Core
- Apple GPU, 8 Core
- 8GB RAM (non upgradable)
- 256GB SSD P.2 PCIe (non upgradable)
- Mac OS Big Sur
- 2x USB 3, 2x USB C, HDMI
- Gb Ethernet, WiFi 6, Bluetooth.



Keyboard and Mouse

There are a lot of Keyboard & Mouse options. Bluetooth devices and wired device.

Microsoft wireless keyboard & mouse - £33



Microsoft wired keyboard & mouse - £19



Monitor

There are a lot of Monitor options that connect via HDMI at a vast range in prices.

Firstly, your own current TV might be an option using a HDMI cable connection. FREE.....



Budget Monitors start at just over £100

An example is this 24" Lenovo monitor with HDMI at £119.



What is The Intel® NUC

The **Intel NUC** or "Next Unit of Computing" is Intel's vision for tiny mini PC's built exactly the way you need it. Choose from **ready-to-run** PC's. **barebones kits** for building your own or NUC Elements and Boards for custom applications.

Launched in 2012, Intel has now developed over 10 generations.

The barebones kit consists of the motherboard, case, fan, external PSU & VESA mount.

You then need to purchase & install HDD/SSD, RAM & O/S



The Intel® NUC Kit



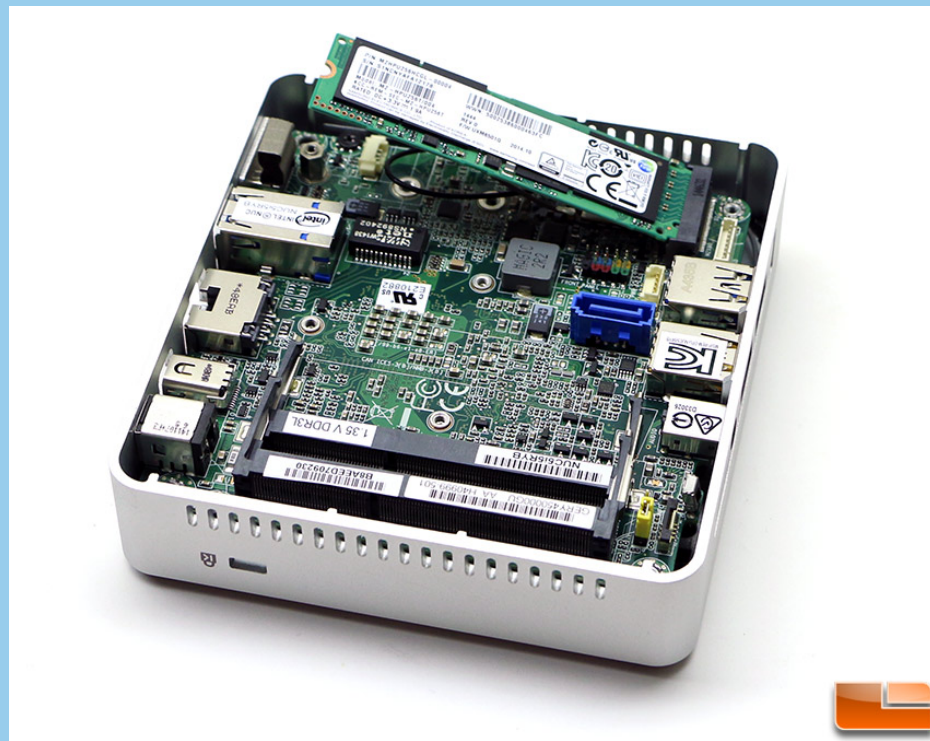
The Intel® NUC Kit



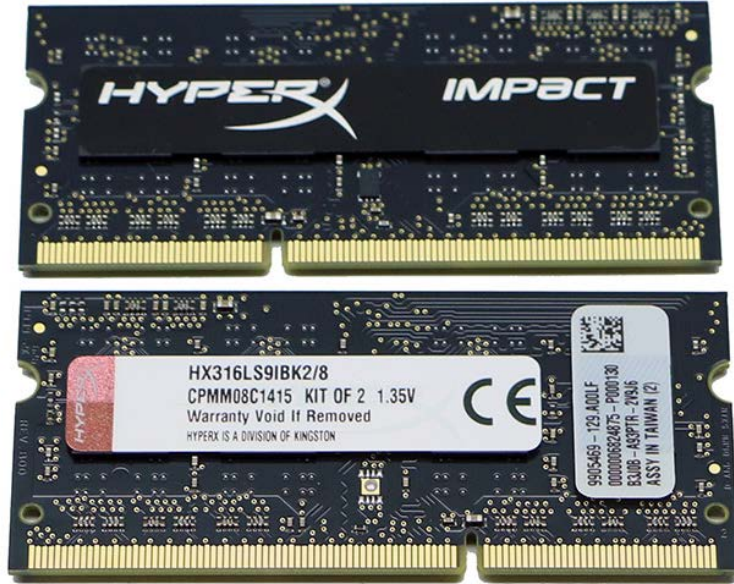
Installing the Storage;

PCIe 2.0 x4 M.2 SSD

This one is 256GB



The Intel® NUC Kit



Installing the Memory;
DDR3L SO-DIMM

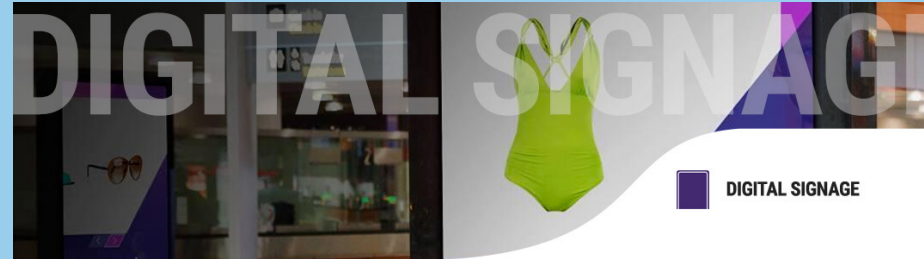


The Intel® NUC Kit

Mount on the back of a TV
to create an *All-in-One*



The Intel® NUC



The Intel® NUC – How to Video



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The End

