

## Software & Systems

### Buying a New PC

#### When is it time to replace a PC?

The software developers, who are writing the accountancy packages, upgrade their PCs every 1-2 years. As far as they are concerned every one has a 42" plasma monitor with a 10GHz Quad Core PC!

Most people upgrade a PC if there is a fatal hardware failure or when the PC runs so slowly that it cannot login until lunchtime.

Sometimes just re-installing the Windows operating system could be enough. However, it must be handled by someone who knows a lot about PCs to do this safely.

Do not underestimate the time it will take to migrate data files, My Documents, Favourites, Email etc as well as re-installing the software packages. It may take a long time just to find the original installation disks and then it might have to be upgraded with 5 years worth of updates. The cardboard box that the PC comes in can be a good place to keep everything together in 1 place.

Before starting an upgrade that includes a change of operating system, check that all of the software applications are compatible. This is especially true for bespoke software.

#### Where do you start?

Even if you intend to buy online, it is good to visit at least one high street shop to get a feel for the size of screen and keyboard you want. Big is not always better, especially with laptops!

High street stores like PC World give the buyer an opportunity to see the hardware and some of them have real expert advice.

DELL online [www.dell.co.uk](http://www.dell.co.uk) is probably cheaper than the high street stores and has more choice. However the choice can seem overwhelming.

HelpAccountants have used the Dell web site as an example in this document as that is the site where we have the most experience.

## Laptop or Desktop?

Laptops are excellent when visiting clients. They make data management much easier as there is only 1 copy of the files and the user can have all their information with them. Laptops can also take up significantly less room in an office.

Desktop PCs are faster (for the same price) and more reliable than Laptops. Small hard disks are expensive to make, slower and have less capacity than larger disks. Desktop PCs have bigger cooling fans which allow the CPUs (processors) to run faster.

Docking Stations for Laptops help make a Laptop feel like a Desktop. One of the biggest gains is that they minimise the affects of RSI (repetitive strain injury). It is crucial that the user does not use the laptop for extended periods without connecting a full sized keyboard, external mouse and a preferably also a monitor at the correct height. Many large companies require laptop users to use a separate screen to comply with their RSI requirements.

Custom docking stations are available for most laptops or they can be made using a USB hub. The mouse, keyboard, printer and external hard disk etc can all plug into a USB hub, so the user only has to connect/disconnect one USB cable.

Laptops used to be the expensive alternative and only senior managers were allowed to have them. However, with the temptation to add a large LCD monitor to a desktop PC, the difference has become less. The price of LCDs was one of the dominant factors and these have come down in price.

Desktops can be expanded more easily after purchase by adding more memory, larger disks, additional peripherals etc.

Laptops can be expanded by adding external USB disks but they will not run as fast as disks connected internally.

## Graphics, Network or Essentials?

After deciding to go for a Laptop or Desktop, there is now given the daunting choice of PC type... These change daily, so the following is just an example at the time of writing.

For Desktops PCs

- Graphics Performance
- Network Optimise
- Business Essentials

For Laptops there are

- Mobile Workstations
- Business Class Leaders
- Basic Solutions

What does this mean! The marketing description tries to help select the category the business needs fit into.

Price is perhaps just as good a starting point as trying to decide which category fits. After configuring the PC, check if the result matches the need.

## Memory

PC memory is quoted in MB (Mega Bytes). The information stored in this type of memory is lost when you turn the PC off.

The Software Program and data are copied from the hard disk to memory when starting the application. When exiting from the application or selecting save, the data is copied back to the disk. This is why applications should always be exited correctly.

Up to a point, the more memory, the faster the programs will run.

3GBytes is the minimum for a system running Windows 7 with email and office applications. Complex programs use more memory (especially games!)

Note that the 32-bit version of Windows 7 only recognises 3GBytes of RAM. Buying any more would be a waste. The 64-bit version can recognise more than 3GByte.

The more programs you have running at the same time, the more memory is needed.

The faster the memory, the faster the program will run. Unfortunately it is almost impossible to understand what speed is being purchased. The DELL website has a good, albeit quite technical, help section on this.

Most Desktop PCs and Laptops can be upgraded with additional memory.

## Disk Size

Disk sizes are quoted in GB (Giga Bytes). The information stored on disk is not lost when turning off the PC.

The more disk space, the more programs can be installed.

Adding more disk space does not make the machine faster. It may even make it slower, as the user is tempted to install more programs.

If the PC being purchased can only have one disk, buy the biggest disk that can be afforded. It is very hard to upgrade the disk later on.

The faster the disk drive, the faster the programs will start and run. As with memory, it is almost impossible to understand what is being purchased. Given the choice between 2 disks, chose the one with the highest RPM (revolutions per minute) and the largest cache size.

250GBytes is the minimum that you can buy these days and should be enough for most users unless they are making their own movies!

A word of caution. If your "life" is saved on the hard disk **make sure it is backed up**. PCs and hard disks do go wrong. Losing a days work is one thing, losing 7 years of accounts is another thing altogether.

## LCD Monitor

The monitor is the primary interface to the PC. The more money paid the better it will be! **Not all monitors are born equal...** Beware of "bargain" LCD flat screens.

Ask to see the monitor working with the type of applications the user will be using. Large excel sheets will need a larger screen.

The resolution of the monitor is the number of pixels (dots) that can be displayed. The more pixels, the less *blocky* the text will be and the more can be displayed. I.e. less scrolling on large excel sheets.

If reading emails and browsing the web, then a screen resolution of 1024x768 should be fine.

If the user is opening large excel sheets or wants multiple applications shown on the screen at the same time, then 19200x1200 resolution may be better.

Large LCD monitors on their own do not allow the user to display more. It just means the pixels are bigger. If you want to display more then you also need to check that they have the higher screen resolutions as well.

LCDs are quoted as the diagonal size of the visible area. The older CRT (cathode ray tube) was quoted in terms of the size of the tube. I.e. a 17" LCD would have approximately the same visible area as a 19" CRT.

Contrast Ratio (how different is the brightness of the text from the background). The higher the contrast, the better the LCD.

Speed of response (if the user wants to watch DVD movies they will need an LCD with a fast response)

Connection types – ideally a digital DVI connection, HDMI or D-Port as well as the standard 15-pin VGA connection. Digital will give a crisper display and no “wobble”. Note that a Desktop PC will also need a DVI connector to make use of this.

## **Genuine Microsoft Software**

Advantages of licensed versions of Microsoft SW

Stating the obvious - It is illegal to pirate software!

Microsoft is releasing more and more free software like their anti Spyware software Defender. Before downloading the software, the user will need to validate their copy of Window.

Windows and Office updates (essential part of a secure PC) require genuine versions.

New PCs usually come with a Windows Operating System (Windows 7) but they do not always come with Microsoft Office. I.e. Excel, Word, Outlook.

Office is reasonably expensive, but it is essential for the majority of business users. There are free versions of “office” which provide the same applications as Office. For example [www.openoffice.org](http://www.openoffice.org)

## Support Services

Manufacturers make a lot of money from their Extended Warranties.

However, as the main tool for doing the job the accountant will probably require it.

“Super Saver” adverts in the daily press often quote the price of a system. When entering the code into the web site, the price is more. Looking in more details shows that they have included an on-site warranty, and to get the lower price the buyer must select the 90-day collect and return...

If the business is okay with a 90-day collect and return service then it can save a lot of money. 4-hour on site service is at the other end of the spectrum with an extra £100-£200 to the bottom line.

The on-site service can be very good, and DELL even includes replacing damaged laptop batteries.

On the Dell site, the service levels offered depends if the business started at “Dell Business Users” or “Dell Home Systems”. If it is a genuine business, use Dell Business User as there will be more *bang for your buck!* For the same price, the business PC will have more memory and larger disks.

If you are buying several PCs at the same time, consider buying identical models. This will allow the user to swap the hard disk from a broken PC into a “spare” and be up and running again in minutes.

## Blu-Ray/DVD/CD

Blu-Ray/DVD writers are usually an additional cost to the base model, but it is worth the expense as it simplifies backing up your data.

Beware of confusing descriptions. At the time of going to press combination drives usually play Blu-Ray disks but they are only writers for DVD disks. True Blu-Ray writers caused more.

## Modem

Modems are for the “old” dial-up over the BT telephone network. It is unlikely that you will be able to operate many of the modern web applications over a dial up network speed, so this are probably obsolete now.

## Network Card

Network cards can be used to connect multiple computers together for file transfer or sharing a printer. They can also be used for a shared internet connection, where all the computers connect to an ADSL router. A network card is optional if there is only have one computer and the broadband connection is via a USB broadband box.

The fastest speeds to today are Gigabit (1000Mbit). The other common speeds are 10 and 100Mbit. The majority of equipment is 100Mbit but the high spec equipment comes with Gigabit by default.

To make the most of the Giabit speed, then the PC needs to be connected to a network comprising of Gigabit compatible switches and routers. Note that the Broadband speed will be the bottleneck for internet access.

Gigabit helps if you are streaming movies on your network or if you are backing up your PC to a network attached storage device (NAS).

## Graphics and Sound Cards

Graphics and Sound cards can add a lot to the price of a PC. Unless there is going to be intensive graphics applications (or play games!) then the bundled cards should be fine.

## Floppy Disk Drive

Many PCs do not include a floppy disk drive. Consider including one in the system, as many clients will still use them and they only cost £10.

External floppy drives with USB connectors can be a great way to add a floppy drive to systems which do not have one. I.e. laptops.

USB Pen keys are another alternative to floppy disks. They have much larger capacity and are quicker than floppy disks. However, they can be easily lost or borrowed.

## Keyboard & Mouse

Cheap keyboards and mice are cheap! If unsure, buy branded models. Logitech are good.

Look for a good fit in your hand. Wireless mice are heavier but they work so much better. No more trailing leads. Rechargeable are more expensive initially but non-rechargeable batteries have the problem that they start to fail and the user won't know if the battery is going flat or it is just Windows...

Optical mice are far superior to ball and suffer from "stickiness" much less.

## Printers

This is the business interface with the client. It is worth spending the money.

Scanning, Fax and Printing are so closely related it makes sense to combine them into one box. One mains lead and one USB connection.

It used to make sense to buy separates so if one part broke then only one part had to be replaced. This is not as true as it used to be. The manufacturers make almost no money on the sale of the printers so they are cheap. They make all their money on the ink cartridges.

Look for printers which have ink cartridges that include the print head. When replacing the cartridge the user gets new print heads. HP does this. The print quality is always as good as the day the printer was bought.

With fixed heads, if the printer is not used for a while or non-branded cartridges are used, the ink dries and the whole printer is useless.

## USB Pens/Memory Sticks

USB Pens look like hard disks when plugged into a PC.

They can be used as very high capacity floppy disks to exchange data between machines.

Beware. If the data stored on the pen is the "master copy" then make sure that there is a backup on a traditional hard disk. They are not as reliable as hard disks and they can be easily damaged or lost.

Always use the "safely remove hardware" icon in the icon tray area to eject the pen, before removing it. This ensures that the data has been written. It can take seconds.

Some pens come with Password protection. These will deter casual thieves but they should not be relied upon.

## **Bundled PC SW**

New PCs often have bundled “trial” versions of firewalls and anti virus protection software.

In some cases the trial period is as short as 30 days!

It is not always easy to remove the trial software and you are prompted on every boot to upgrade to an annual subscription.

If you have your own preferred software that you want to use, disconnect from the internet and then remove all references to the software in the “Add or Remove Programs” application in the Control Panel. Install your software and then reconnect to the internet.

If you are not an expert, unfortunately it is easier to just pay...