
Small is the new black: The netbook phenomenon

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Netbooks are increasingly popular for their portability and ease of use. Being smaller does have its drawbacks as well as advantages in computing terms. So how does having and using a netbook compare to the larger laptop and desktop options?

THE BIRTH OF NETBOOKS

History repeats itself with monotonous regularity. In 1984, the Tandy company introduced a portable computer called the Tandy TRS-80 Model 200 (yes, they already had confusing names back then). It was roughly the size of a paperback textbook, with a clamshell design, a small screen in one half and a small keyboard on the other.

It wasn't yet time for the Tandy 200. The screen was purely text-based, it wouldn't run Windows and you couldn't plug in a mouse. Computer evolution rushed off in a different direction, towards bigger boxes with hard disks and CD drives, and lots of sockets to support mice, external keyboards and monitors. When laptops finally reappeared around 1998, they started big and got bigger, rather than smaller, as their screen sizes grew. It wasn't until 2007 that someone – specifically, the Japanese company Asus – had a bright idea: make the keyboard as small as possible; shrink the screen; and market the result as a new kind of computer – one you could carry around easily, on the off-chance that you might need it, rather than requiring a special bag and several weeks of weight training. Other companies – notably Acer, Dell, Toshiba and Hewlett-Packard – scrambled onto the same bandwagon. And the netbook computer was born.

The word “netbook” itself has an interesting history. Psion, a manufacturer of specialised hand-held computing devices, developed a clamshell-type model in 1999 which they called a “netBook”. When the Intel microprocessor company began using the name in 2008, Psion – by then nearly out of business – sued Intel and various other companies for a reported US\$1.2 billion. The case was “amicably” settled, but not before Microsoft – another party to the suit – had suggested a new name: “low cost small notebook PCs”. Oddly enough, that didn't catch on, and the name “netbook” has stuck.

THE LOWDOWN ON NETBOOKS

Power

The power of a netbook computer rests on five newish technological platforms: a flat, high-resolution LCD screen, a tiny high-capacity hard disk drive, a cooler processing chip that doesn't require special ventilation, longer lasting rechargeable batteries, and – as the name indicates – the ubiquity of wireless networking. Unlike larger laptops, netbooks should run for a whole working day without needing a recharge. With wi-fi built in, cable connections are a thing of the past; and with a touchpad in front of the keyboard, you can even dispense with a mouse. Netbooks are marketed as self-contained, complete computing packages.

Portability

So how portable are they? Current netbook devices have a 10-inch screen and are about a centimetre smaller all-round than an A4 sheet of paper. They weigh between 1.2 and 2.5 kg, roughly as much as a medium-to-large textbook. Like laptop computers, they use a rechargeable battery pack. Spare battery packs can be purchased for less than \$50. Investing in one for home and one for work might be

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a good idea, as most of the models currently available can't quite squeeze out a full day's work from a single charge. Alternatively, you could just plug it into a power point – recharging a netbook typically takes less than two hours.

A comparison test of “light” use by *Australian PC Authority* magazine in September 2009 gave top spot to the Samsung N1100, which kept going for 11 hours and eight minutes, while at the other end of the scale the Dell Latitude 2100 gave up the ghost after two hours and 40 minutes.¹ More intensive use will drain the batteries proportionately faster. Battery life has jumped somewhat recently with a move from four-cell to six-cell battery units, which have a claimed capacity of more than 5,000 mAh.



Sound

Probably the nicest realisation that comes to a netbook owner is how quiet it is. Accurate noise figures are hard to find, but one older model is quoted as ranging between 32 and 36 decibels – more than a whisper, but well below the normal ambient noise level in a public building. My own newer model gave off a faint whirring from the hard disk, which seemed to me about as loud as someone having a shower in a flat next door. It was completely drowned out in use by the comparative roar of the desktop computer nearby.

Capacity

Unlike desktop computers, netbook hard disks and processors are difficult and expensive to replace, so you're likely to keep the same ones for the life of your device. Current hard disks can store up to 250 Gb, although on a Windows 7 system some of that will be taken up with a “recovery” partition – see below. The processor chip will probably be an Intel Atom, a low-power low-temperature family of chips. The speed of these is currently about a half to a third of that of chips in similarly priced desktop systems, so you're not going to find netbooks being used for climate modeling or animating feature films, but they handle the everyday tasks of word processing, spreadsheets and internet connections just fine.

RAM size varies between one and two gigabytes. Network connections can be through wireless or standard ethernet cable. What netbooks *don't* have is a CD/DVD reader or burner – they don't have the space – so if you plan to import or export big files you will need a USB stick, memory card or an external CD/DVD drive with a USB connection. And like most laptops, they don't have a separate numeric keypad, though these can now be bought separately for less than \$20. Also, like most laptops, a netbook can be connected to a standard keyboard, mouse and monitor, effectively turning it into a low-powered but adequate desktop PC, although this will use up most or all of the USB slots. In any event, a separate mouse may be a good idea; little touchpads just don't feel right, at least for me; some people have also complained about the small size of the keys, while others seem able to cope with them. If you have big fingers, and/or want to touch type, you should trial several models to find one that is comfortable.

Screen resolution is typically 1,024 by 600 pixels, though some models are offering 1,280 by 800. One nice feature on my Asus Eee is that the screen can be made to run vertically rather than horizontally, turning the netbook into a kind of one-sided book you can hold up – to read in bed for instance – although unfortunately the touchpad doesn't flip around at the same time.

Software

Until recently, most netbooks were sold with Windows XP installed, as Vista was just too big and slow for them to run effectively. Now Windows 7 is in the shops, most new models are equipped with the Windows 7 Starter Edition – a scaled-down version of the “real” Windows 7. Various users have complained of the limitations imposed by this system, but my only real problem with it in practice was its inability to fully connect with the network running on our main Windows XP and Linux computers.

¹ For more details, see <http://www.tinyurl.com/2dkkqm3> viewed 9 September 2010.

There are workarounds for this shown on the web, so it may be possible to fix that problem. Users who can't cope with the Starter Edition will find a conveniently placed link right there in the Start menu which they can use to purchase a full edition of Windows 7 for download from Microsoft – currently priced at \$140.

One inexcusable omission from both laptops and netbooks sold with Windows 7 is that no Windows installation CD is supplied. On the Asus Eee, if the system crashes you are meant to be able to reinstall Windows from a reserved portion of the disk called a “recovery partition”. But if the recovery partition is also damaged, what then? This in itself seems to me a reason to take Windows off and replace it with an operating system you can reinstall from an external CD or memory stick if it becomes necessary.²

What about Linux? Many netbooks come with Linux installed as an operating system, but these are unlikely to be available over-the-counter in Australia. The Asus Eee is bootable from an external SD card or USB stick, so any operating system that will fit on one of these is available as an alternative. Unfortunately, the current version of Linux Ubuntu doesn't support the wireless driver in my particular model, but hopefully that will be remedied soon. The Aurora project is working on a Linux specifically for netbooks that may do the job.³ Meanwhile, for people who get impatient waiting for Windows 7 to start, the Eee 1005 has a trick up its sleeve – a keyboard switch rapidly boots the PC into a basic Linux operating environment called ExpressGate. This allows for web browsing and checking emails as well as a few other “essential” services like the Skype netphone application, manipulating photos, chatting and playing web games (but no word processor). The same switch, used when Windows is running, allows the user to select a power-saving mode.

Price tag

Netbook prices in Australia range from just over \$300 to just under \$500 depending on age and features. Their small size and weight makes them easy to send through the post, so shopping overseas via eBay or Amazon is also an option. Most notebooks come in a variety of colours – some of these are more popular than others, so buying an unpopular colour may save you 10% or more. Some also come with Bluetooth, so they may be able to talk to your mobile phone or PDA.

THE VERDICT

Does a netbook change your computing habits? It is much easier to sit outside with a netbook and browse or work – and quicker to carry back in when rain threatens. You can take it to conferences and plug it into a standard projector, so you don't have to bother transferring your presentations and applications to someone else's computer. It's quiet enough to run in meetings, if the others don't mind the keyboard noise. You can use it as a portable music platform, although the speaker size doesn't make for a compelling bass line. It's a perfect size for kids to take to school, if you trust them to bring it home in one piece. Library or coffee shop patrons can use them in the location of their choice, rather than having to work at a central computing area. Some energetic people have mounted them on the front of exercise treadmills, so they can browse the web or use YouTube while they work out. It's not ready to replace the desktop or laptop just yet, but it certainly fills a few gaps.

² For instance, users who have an old copy of XP and want to get it running on their netbook can find a comprehensive how to guide at <http://www.tinyurl.com/3429jm> viewed 9 September 2010.

³ See <http://www.tinyurl.com/2uetah6> viewed 9 September 2010.